Lovejoy®

Established 1900

Application Analysis

High Technology Design

Engineered Solutions

24-Hour Quick Ship

Worldwide Support



Power Transmission Products 2016

Table of Contents

Power Transmission Products 2016

About Lovejoy 2-3

Company History..... 4-5

Product Overview..... 6-8

Coupling App.....9

Coupling Preselection 10

Glossary of Terms 11

Drawing Notations.....12

Complete Index.....515

Lovejoy Warranty 520

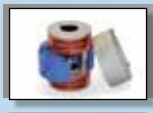
Lovejoy, Inc.
World Headquarters
2655 Wisconsin Avenue
Downers Grove, IL 60515 U.S.A.
Phone: 630-852-0500
Fax: 630-852-2120
info@lovejoy-inc.com

R+L Hydraulics GmbH
Friedrichstrasse 6
D-58791 Werdohl
Germany
Phone +49 (0) 23 92 / 5 09-0
Fax +49 (0) 23 92 / 5 09-509
info@rl-hydraulics.com
www.rl-hydraulics.com

Lovejoy Canada
171 Superior Boulevard
Mississauga, Ontario
Canada L5T 2L6
Phone: 905-670-9421
Fax: 905-670-4594
lovejoycanada@lovejoy-inc.com

Lovejoy® is a registered trademark of Lovejoy, Inc. All other trademarks, brands, and names mentioned in this publication are property of their respective owners.


Jaw Couplings ..... pages 13-39 JW


Jaw In-Shear Couplings..... pages 41-48 JIS


Curved Jaw Couplings..... pages 49-70 CJ


S-Flex Couplings ..... pages 71-92 SF


Motion Control Couplings ..... pages 93-114 MC


Gear Couplings..... pages 115-192 G


High Performance Gear Couplings .... pages 193-212 HP


Grid Couplings ..... pages 213-231 GD


Disc Couplings ..... pages 233-260 D


Torsional Couplings..... pages 261-302 T

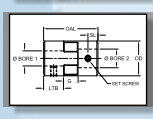

Specialty Products ..... pages 303-330 SP


Universal Joint Couplings ..... pages 331-341 UJ


Variable Speed Drives..... pages 343-410 VSD


RunRight™ Tensioner Devices..... pages 411-462 RR


Shaft Locking Devices ..... pages 463-486 SLD


Engineering Data..... pages 487-509 ED

A Global Force in Couplings

Lovejoy, Inc. is a world leader in the manufacture and sales of standard and specialty couplings.

Founded in 1900, Lovejoy, Inc. offers the largest selection of couplings with more than 20,000 different styles and sizes to address the needs of virtually every industry. Other products include shaft locking devices, motorbases, variable speed drives, hydraulic accessories, vibration and tensioning devices, as well as powder metal sintering services. The people of Lovejoy, Inc. are dedicated to providing the best possible solutions to help their customers achieve success in today's competitive marketplace.

A Century of Invention

With its longstanding reputation for innovation, service and quality-driven work performance, Lovejoy, Inc. has developed the expertise to engineer products that address the complex needs of its customers' applications.

Thomas Lovejoy established this company in 1900 as a manufacturer of tooling and machinery for the railroad and steel industries. Its pioneer work in advancing manufacturing technologies has included the introduction of the industry standard Jaw-style coupling in 1927, as a first, incorporated rubber-in-compression as a power transmission concept. Lovejoy, Inc. added the manufacturing of universal joints and variable speed pulley products in the 1960's. Further expansion in the 1970's led to the manufacture and sales of products that incorporate elastomeric elements into tensioning devices and motorbuses. New product lines continued to be added, such as Torsional, Gear, S-Flex and Disc couplings – many of which address today's demand in providing ease of installation and simple maintenance or even maintenance free applications.

If you have been searching for a single source for all of your coupling needs, you need look no further.

The right coupling for the application comes from the expertise of Lovejoy's engineers who combine their extensive knowledge – using the largest coupling selection in combination with the most advanced computer technology – to develop solutions to address the changing demands of customers' applications.

Global in Reach, Service and Support

Lovejoy, Inc. has grown to become an international market leader by expanding its reach into the global marketplace.

Lovejoy products are available through a network of distributors, which are located in every major market throughout North America and in over 80 other countries. Lovejoy, Inc. ships more than 100,000 components each week. These components are exported globally – going to Africa, Asia, Australia, Eastern and Western Europe, Central and South America, the Caribbean and the Middle East, as well as throughout North America.

World headquarters are in Downers Grove, Illinois, USA with more than 400 employees, as well as business operations located in the United States, Canada, and Germany. In the United States alone, there are more than 30 sales offices and regional warehouses. Among its various divisions is Lovejoy Canada, located in Ontario, which offers sales and customer service for couplings throughout Canada.

In 2003, Lovejoy, Inc. established Raja-Lovejoy, GmbH, which now serves as the hub of European operations. This joint venture with Rahmer and Jansen, then a 50 year old company and a leading European supplier of hydraulic accessories as well as couplings, expands the



manufacturing and distribution capacities to produce couplings that are compatible with European standards and used for equipment built for export markets.

Our Commitment to Customers
Lovejoy, Inc. has a worldwide reputation for building and sustaining long-term customer satisfaction through quality of service, products and design reliability. Lovejoy, Inc. manufactures all of its products to the exacting requirements of international standards such as AGMA, ANSI, SAE, DIN, JIS and Imperial. Lovejoy, Inc. is also an accepted supplier of products that match military specifications.

Lovejoy's first priority is responding to customers' needs all over the world.

For more information about Lovejoy, Inc., visit our website at www.lovejoy-inc.com



A History of Quality and Service



1900

Thomas Lovejoy founds Lovejoy Tool Works, a manufacturer of tooling and machinery for the railroad and steel industries. The original facility is located on Ohio Street in downtown Chicago.



1927

The patent for the Jaw coupling is purchased from Louis Ricefield. This is the reason the original Jaw couplings were referred to as "LR" couplings.



1930

The company moves to Lake Street in Chicago.



1912

W.H. Dangel purchases Lovejoy.



1946

The company begins to manufacture Universal Joints. Merlin W. Dangel serves as President of the company until 1964.



1960

The South Haven, Michigan plant is built and the VSP operations move to that facility.



1947

The Variable Speed Pulley line is purchased, a major acquisition for the company.



1962

Lovejoy begins to manufacture the Uniflex line of couplings.



1963

Lovejoy begins manufacturing the SAGA line of couplings.



1970

Company headquarters are moved to the current Downers Grove, Illinois location.



1971

Lovejoy begins manufacturing a complete line of torsional couplings.



1964

C. Patrick Hennessy serves as President of the company until 1984.

Vibration Institute
A NOT-FOR-PROFIT CORPORATION

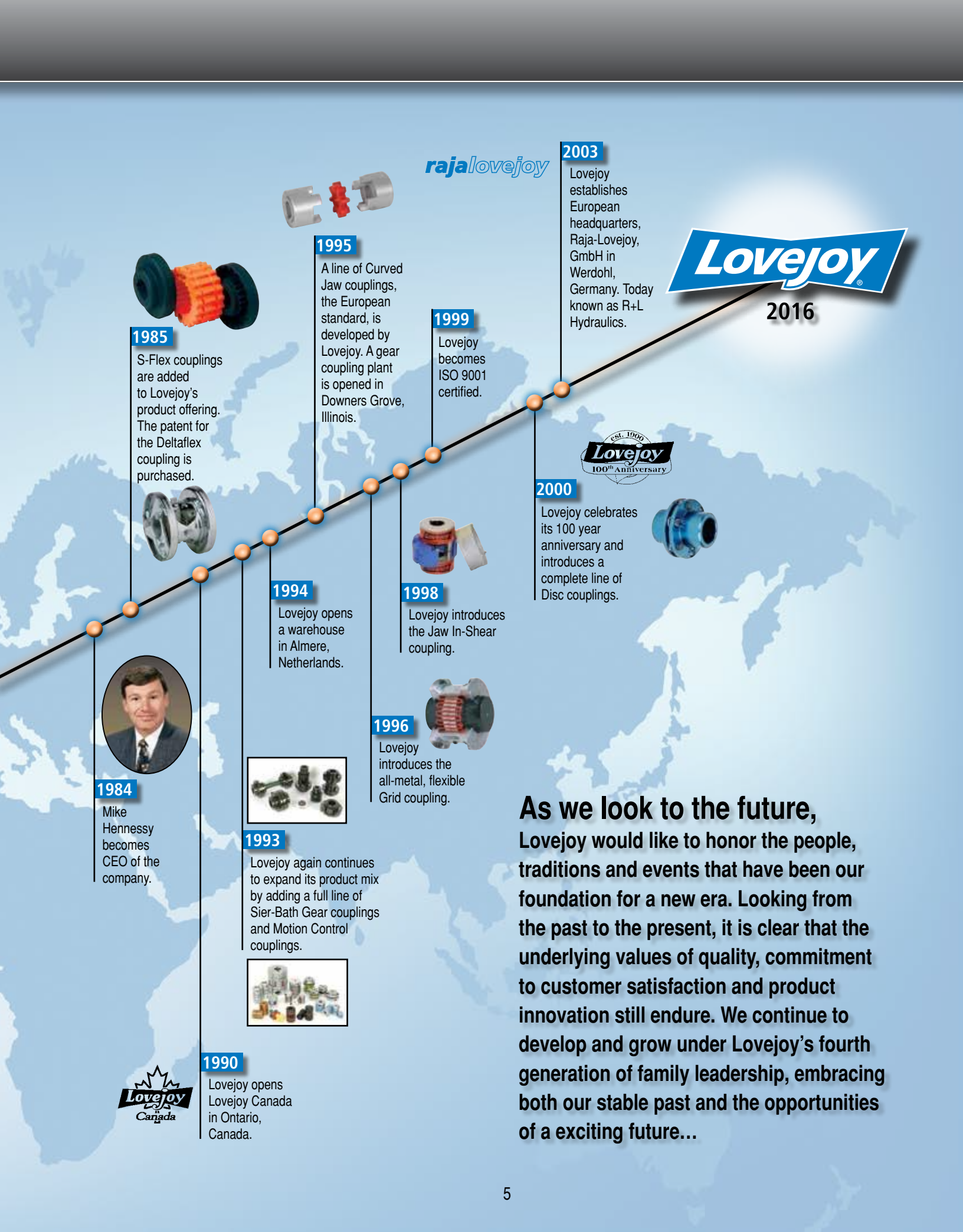
1972

Pat Hennessy incorporates the not-for-profit Vibration Institute, to allow individuals from any industry to exchange data about measuring and analyzing vibration.



1978

Lovejoy adds a new line of elastomer products which function as either a vibration control, spring action, bearing alternative or tensioning device.



As we look to the future,

Lovejoy would like to honor the people, traditions and events that have been our foundation for a new era. Looking from the past to the present, it is clear that the underlying values of quality, commitment to customer satisfaction and product innovation still endure. We continue to develop and grow under Lovejoy's fourth generation of family leadership, embracing both our stable past and the opportunities of a exciting future...

Our Line of Quality Products



Jaw Type Couplings PAGE 13

- Elastomer-in-compression design
- Accommodates angular misalignments up to 2.0° and parallel misalignments up to .086 of an inch
- The industry's largest variety of stock bore/keyway combinations

L Type

- The most commonly used jaw coupling in the USA
- Torque capability to 6,228 in-lbs (704 Nm)
- Maximum bore of 2-7/8 inch (73 mm)
- Four elastomer materials available

AL Type

- Aluminum hubs for lighter weight and corrosion resistance
- Torque capability to 2,268 in-lbs (256 Nm) of torque
- Maximum bore of 1-7/8 inch (48 mm)

C and H Types

- Cast iron or ductile iron hubs for use in medium to heavy duty applications
- Torque range from 2,988 to 170,000 in-lbs (338 to 19 209 Nm)
- Maximum bore of 7 inches (178 mm)

LC, RRS and SW Types

- All use L Type hubs along with radially removable spiders
- RRS Type provides standard spacers for the pump industry
- Wide range of sizes and bores are available

Stainless Steel Type

- Immediate delivery in 5 sizes, rough bore or finished bore and keyway combinations
- Hubs can be used with 4 different insert materials: Buna-N (Sox), Urethane, Hytrel®, and Bronze
- Bore range from 1/4 to 1-7/8 inches

Jaw In-Shear Type

- Unique elastomer and ring used with standard hubs
- 9 sizes available LS090 to CS500, 9 inch maximum bore (228 mm)
- Torque range from 335 in-lbs to 183,333 in-lbs (38 to 20 714 Nm)



S-Flex Couplings PAGE 71

- Elastomer-in-shear design
- Provides dampening of shock loads and vibration
- Torque capabilities up to 72,480 in-lbs (8 189 Nm)
- Maximum bore of 5-1/2 inches (140 mm)
- Three sleeve materials provide flexibility in adapting to application requirements
- Fully interchangeable with industry standards
- Wide selection of both inch and metric finished bores



Curved Jaw Couplings PAGE 49

- The European standard jaw coupling
- Sintered iron or cast iron hubs available
- Torque capability to 309,750 in-lbs (34 996 Nm)
- Maximum bore of 7-5/8 inches (180 mm)



Motion Control Couplings PAGE 93

- Designed for light duty and precision applications
- Suitable for fractional horsepower applications
- Available in seven design types: Beam, Oldham, Mini Soft, Curved Jaw, Bellows, Mini-Disc, and Mini-Jaw



Shaft Locking Devices PAGE 463

- Zero backlash
- Reduced maintenance
- Adjustable for easy radial timing and axial alignment
- Keyless locking of shafts to hubs



Grid Couplings PAGE 213

- All-metal, flexible coupling protects PT systems from vibration and shock
- Tapered grid design provides torsional damping
- Fully interchangeable with industry standards
- Available in 19 sizes with a maximum bore of 13 inches and a maximum torque of 1,500,000 in-lbs
- Both horizontal and vertical split cover designs available
- Drop-out spacers for pumps also in stock
- 5-year Lovejoy Coupling Grease warranty on grid spring
- Coupling grease provided on many sizes



Specialty Products PAGE 303

Deltaflex Couplings

- Use whenever smooth power flow and high misalignment are combined
- Design features flexible links in two planes
- Available in stainless steel spacer and floating shaft styles
- Torque capability to 33,000 in-lbs

Uniflex Couplings

- Suitable for applications with high misalignment, space limitations and / or high temperatures
- Bore sizes from 1/8 to 1-1/2 inches (3 to 28mm)
- Available in stainless steel

Saga Couplings

- Element-in-compression design is torsional and radially soft
- Extremely forgiving to all three forms of misalignment
- Torque capability to 20,000 in-lbs (2 260 Nm)

Rigid Sleeve Couplings

- Available in 11 sizes
- Maximum bore up to 1-3/8 inches

Standard Shaft Collars

- Available in 46 sizes
- Maximum bore up to 3 inches
- Available in Zinc plated and stainless steel

Split Shaft Collars

- 1 and 2 piece split designs
- Available in 42 sizes
- Bore range from 1/8 to 3 inches



Disc Couplings PAGE 233

- Standard and special styles available
- Available in close coupled, spacer, drop out and long shaft styles
- Maximum torque of 3,309,000 in-lbs.
- Bore range to 10.5 inches
- Meets API 610, 671 standards



Torsional Couplings PAGE 261

- Engineered torsional couplings and shafting systems with 15 families of products
- Coupling solutions for any drive train involving diesel power or other sources of torsional excitation
- Handles simultaneously all forms of alignment, drive train geometry, weight transfers and other related conditions
- Torque capacity to 33,000 in-lbs (3 800 Nm)
- Pump mounting plates and housings available to fit various engines



Gear Couplings PAGE 115

- Lovejoy / Sier-Bath designs featuring the patented Vari-Crown® teeth which decreases coupling wear and stresses
- Configuration include spacers, limited end float, mill motor, floating shaft, slide, rigid and specials
- Available in sizes 1 thru 30 with sizes 1 thru 7 interchangeable with other gear couplings half to half
- Torque ranges up to 48,000,000 in-lb (5 340 000 Nm)
- Maximum bore of 44 inches (1117 mm)

C Type Continuous Sleeve

- Simple and inexpensive all steel type of gear coupling constructed with a single sleeve and 2 hubs

F Type Flanged Sleeve

- All steel sleeves and hubs with patented Vari-Crown tooth form for long coupling life

FLA Type Labyrinth Seal

- Alloy steel coupling with All-Metal Labyrinth Seals

FA Type Molded Seal

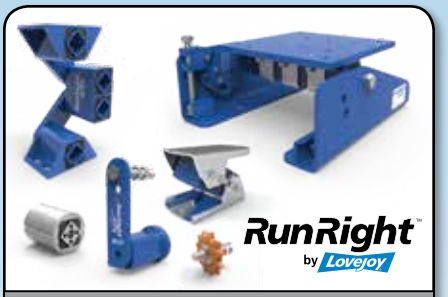
- Alloy steel coupling with molded seals to maintain lubricant retention during misalign conditions

Nylon Sleeve (Nyflex®, Mite® and Dentex®)

- Nylon sleeve couplings are compact and require no lubrication

High Performance Gear Couplings PAGE 193

- Made for extreme high speed applications, with reduced moment, marine, precision or ultra precision balance configurations
- Heavy duty, slow speed couplings and special OEM couplings are also available
- Maximum bores to 44 inches (1117 mm)
- Torque capability to 48,000,000 in-lb (5 240 000 Nm)



RunRight™ Tensioners PAGE 411

RunRight™ elastomeric rubber suspension elements are multipurpose and designed for versatility whether the motion is pull, push or to tension. The component design creates the combined function of a spring, bearing and dampener all in one unit.

RunRight™ Tensioners

- Low maintenance solution that extends the life of belts and chains by applying a constant tension on these drive systems
- Functions as a tension device to a broad spectrum of applications and environment conditions

RunRight™ Motorbases

- Maintenance-free tensioning for drive belts while providing a constant torque transmission with less energy consumption while increasing the life of the drive system
- Sixteen standardized motorbases for NEMA frames 143T through 5810 and IEC frames 90S through 315M while handling motors from 1l2 HP through 700HP
- Controls slippage on startups and shock loads during operation extending belt life
- Allows for easy drive belt replacement in minutes without having to disconnect the drive motor
- Ideal for crushers, shaker screens, pumps and compressor applications

RunRight™ Oscillating Mounts

- Specifically designed to support or suspend vibratory equipment or drive systems
- Ideal for vibrating conveyors, screening systems and gyratory sifters

RunRight™ Rubber Suspension Units

- Versatile design allows for units to function as function of a spring, bearing and dampener all in one unit
- Progressive spring characteristic designed to either absorb transmit oscillating motion
- Oscillation angle up to +/- 30 degrees with oscillation frequencies of 30 – 2,000 per minute

RunRight™ Anti-Vibration Mounts

- Mount in any position, vertically or horizontally on the floor, ceiling or wall
- Designed to absorb tensile, pressure and shear loads while providing effective noise isolation



Universal Joints PAGE 331

- Industrial universal joints designed for low to moderate speed and torque
- Maximum bore of 2 inches (50 mm)
- Many bores available such as round, hex, square and splines
- Suitable for angular misalignments up to 25°, modifiable to allow 45°

D Type

- The basic universal joint design
- Sizes 1 to 14 are fully interchangeable with industry standards
- Five sizes are available in stainless steel for corrosion resistance

NB Type

- Needle bearing design offers higher RPM capability

HD Type

- Twice the life expectancy of the standard D Series

LOJ and JR-4 Types

- Offset pin design for use on hand operated, low torque systems

DD and DDX Types

- Designed with two universal joints mounted back to back or with a shaft in between
- Allows parallel and angular misalignment to be controlled
- Input and output speeds are near constant velocity



Variable Speed Drives PAGE 343

- Designed to provide superior reliability and service
- Available in a wide range of sizes and horsepower ratings
- Special designs available upon request
- Steel and cast-iron Adjustable Motor Bases, Grooved and Flat Companion Sheaves, and Variable Speed Belts are also available

Econoline Series

- Maintenance free design is available in both one-side and two-side moveable configurations
- Uses A, 4L, B and 5L belts

Aluminoline Series

- Lightweight and corrosion resistant design is unique to Lovejoy
- Uses A, 4L, B and 5L belts

WB Series

- Designed to reduce overhung load
- Available in both adjustable and fixed center drive configurations.
- Uses wide variable speed belts

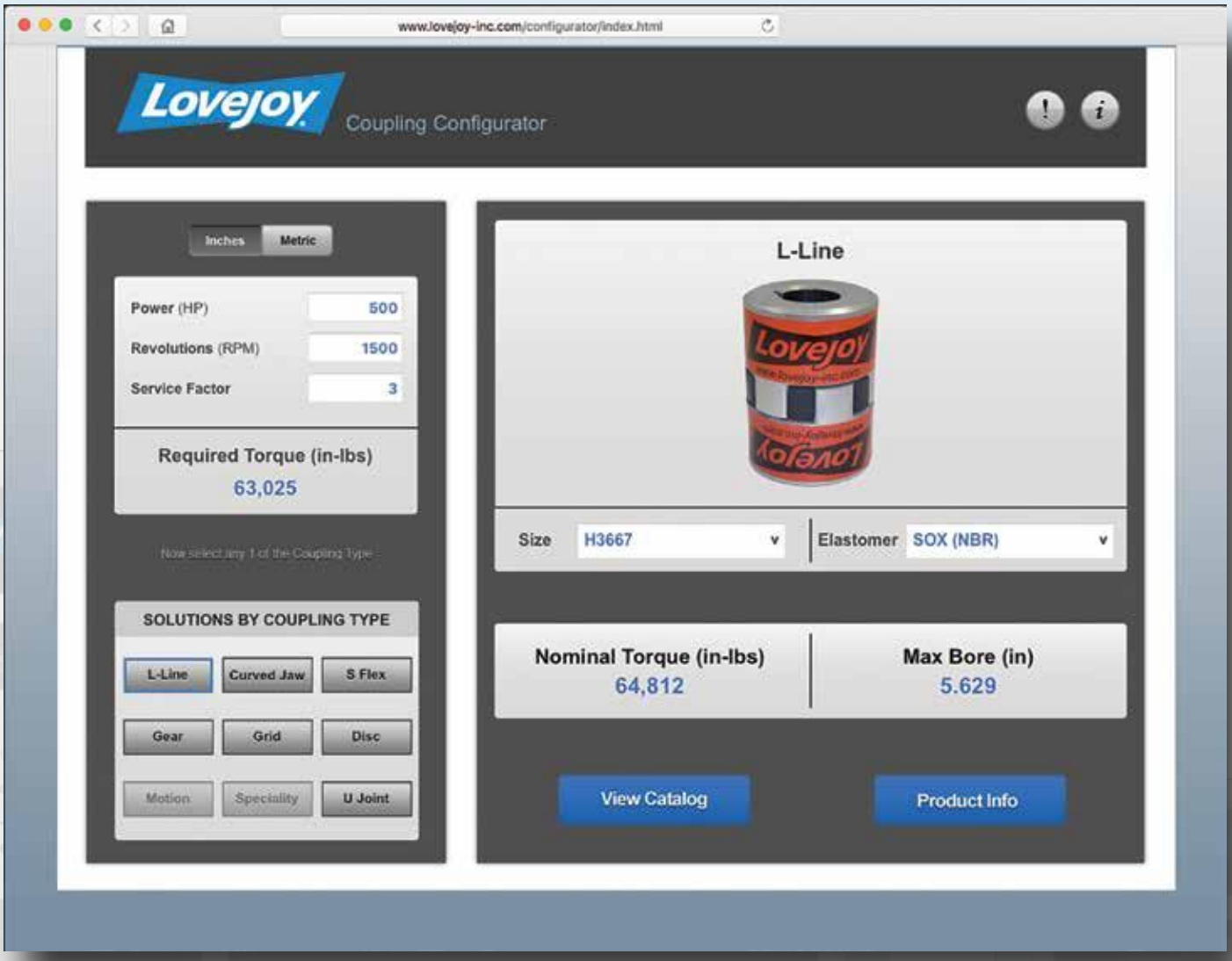
Hi-Ratio Series

- Provides fixed center drive packages with greater speed ratios and lower minimum driven speeds
- Uses Wide variable speed belts

Hexadrive Series

- Maintenance free design offers an exclusive hex center shaft which eliminates drive keys
- Available in both one or two-side moveable styles
- Uses wide variable speed belts

Go online and try the Lovejoy Coupling Configurator today.



http://www.lovejoy-inc.com/configurator/index.html

Coupling Preselection Comparisons

Selection Criterion	COUPLING TYPE											
	Jaw	S-Flex	Motion Control	Nylon Sleeve Gear	Gear	Grid	Disc	Deltaflex	Uniflex	Torsional (Donut)	SAGA	Universal Joints
Shaft Size Range – inch (mm)	.125 to 7.00 (4 to 178)	.375 to 5.50 (9 to 140)	.125 to .50 (3 to 12)	.313 to 1.625 (8 to 41)	.625 to 54.0 (15 to 1372)	.500 to 16.313 (14 to 14)	0 to 15.94 (0 to 400)	.438 to 5 (11 to 127)	.125 to 1.50 (3 to 38)	.31 to 5.00 (7 to 130)	1.188 to 4.750 (30 to 120.65)	.250 to 2.00 (6 to 50)
Torque Range – in-lbs (Nm)	3.5 to 170,000 (10.4 to 19 209)	60 to 72,480 (6.78 to 8 189)	1.35 to 16.5 (0.2 to 1.9)	162 to 1,420 (18 to 160)	2,520 to 54,390,000 (284 to 6 144 982)	422 to 2,700,000 (48 to 306 000)	504 to 7,699,500 (57 to 870 000)	750 to 33,000 (84 to 3 728)	18 to 1,890 (2 to 213.5)	88 to 44,200 (10 to 5 000)	350 to 20,000 (40 to 22.6)	110 to 65,400 (12 to 7 389)
Maximum Angular Misalignment Capability (Degrees)	1° to 1.3°	1°	5°	3° to 5°	1.5°	.25°	.15°	6°	4.5°	3°	3°	25°
Temperature Range (std element)	-40° to 212° F (-40° to 100° C)	-30° to 275° F (-34° to 135° C)	-40° to 200° F (-40° to 93° C)	-13° to 150° F (-25° to 66° C)	-40° to 225° F (-40° to 107° C)	-40° to 250° F (-40° to 121°C)	-40° to 536° F (-40° to 280° C)	-40° to 300° F (-40° to 149° C)	-40° to 250° F (-40° to 121° C)	-40° to 194° F (-40° to 90° C)	-60° to 200° F (-50° to 93° C)	-40° to 225° F (-40° to 107° C)
Reactionary Loads due to Misalignment (Low-Medium-High)	Medium	Low	Low	Medium	Medium	Medium	Low	Low	Low	Medium	Low	High
Torque to OD Capability	Good	Fair	Poor	Fair	Excellent	Good	Excellent	Good	Fair	Good	Fair	Excellent
Speed Capability	Good	Fair	Good	Fair	Excellent	Good	Excellent	Fair	Good	Fair	Good	Fair
Torsional Stiffness (Low-Medium-High)	Low	Low	Medium	High	High	Medium	High	High	Medium	Low	Low	High
Ease of Installation/ Maintenance	Excellent	Excellent	Excellent	Excellent	Fair	Fair	Fair	Fair	Excellent	Fair	Good	Fair
Chemical Resistance	Good	Good	Excellent	Good	Fair	Fair	Excellent	Excellent	Excellent	Fair	Fair	Fair
Adaptable to Several Designs	Excellent	Excellent	Poor	Poor	Excellent	Good	Excellent	Good	Fair	Good	Good	Good
Damping Capacity	Good	Excellent	Poor	Poor	Poor	Good	Poor	Poor	Poor	Excellent	Excellent	Poor

Excellent, Good, Fair and Poor are relative ratings.

630-852-0500

Angular Misalignment - A measure of the angle between two shafts. The angle of error between two shafts is the amount of angular misalignment.

Axial Misalignment - A change in the gap between the shaft ends from their position when the coupling was installed. Also called end float.

Backlash - The amount of free movement between two rotating mating parts. If one half of an elastomeric coupling or universal joint is held rigid, the other half can be turned a slight amount. The freedom of movement, or looseness, is the backlash and may be expressed in degrees, or in thousandths of an inch. Backlash is not the same as stiffness or windup.

Donut - The elastomeric element in Lovejoy Torsional and Saga couplings.

Drop out - The spacer coupling is often referred to as a dropout coupling. The dropout section is the portion that fits between the coupling hubs and is approximately equal in length to the space between shaft ends. It can be removed or "dropped-out" without disturbing the driving or driven equipment.

Elastomer - Resilient materials through which the power is transmitted. They are in some way attached or mated to the coupling halves. They are usually made of rubber, synthetic rubber or plastic materials.

Flex Links - Metallic, flexible members of "all metal" couplings such as Deltaflex which take the place of elastomeric elements. Power is transmitted through these metallic members and they provide for angular, and sometimes parallel, misalignment.

Inserts - The elastomeric flexing element of the coupling. An insert may be referred to as a spider, load cushion, sleeve, donut or elastomer depending on the function or history of the product line.

Load Cushion - Rectangular blocks made of synthetic rubber and certain plastics, which are the elastomeric element in Lovejoy type 'C' and 'H' Jaw couplings.

Open Center - A type of spider with a hole in the middle that allows the shafts of the driver and driven to be positioned within a short distance.

Parallel Misalignment - A measure of the offset between two shafts. Catalog information shows the angular and parallel misalignment tolerable in each coupling group. Both extremes should not exist if the alignment is within the bounds stated.

RSB - Rough Stock Bore, also called pre-bore.

Runout - A measure of the amount that a cylindrical body is off its true center. When a coupling half is rotated on its shaft, the outside diameter of the coupling may be slightly "off to one side". A dial indicator, which measures movement in thousandths of an inch, is used to measure runout. Runout or eccentricity is expressed as Total Indicator Reading (TIR).

Sleeve - The elastomeric element in Lovejoy S-Flex type couplings. This term is also used to describe the flexible element which contains the internal teeth on a Gear coupling. This type of sleeve is either continuous or flanged.

Spacer - The portion of a flexible coupling or universal joint which spans the gap between ends of the shafts. Spacer couplings are used when the distance from one end of a shaft to the next is greater than the distance between a normal coupling spacing. The "normal" spacing of shafts when a jaw type coupling is used is approximately equal to the thickness of a spider or length of the jaw. Special "spacers" may be used when the shaft spacing cannot be bridged by a standard coupling.

Spider - The elastomeric element of a flexible coupling, usually with 4 or 6 "legs".

Standards - Tolerances set by a variety of organizations around the world, such as:

ANSI - American National Standards Institute
ASME - American Society of Mechanical Engineers
SAE - Society of Automotive Engineers
DIN - Deutsches Insitut Für Normung
JIS - Japanese Industrial Standard
AGMA - American Gear Manufacturers Association
NEMA - National Electric Manufacturers Association
IEC - International Electrical Code

Tightening Torque - The torque required to properly seat a set screw, cap screw or bolt in an assembly of any kind. Applied to a set screw, for example, it is the force applied to the wrench multiplied by the approximate length of the wrench in inches or feet. Catalog and instruction sheet values for tightening torque are provided for most Lovejoy products.

Tolerances - The allowable variation in nominal dimensions specified. For example the tolerance in a bore may be plus .001 (One thousandths of an inch.) If the nominal bore is .875 (7/8 of an inch) and the tolerance of .001 of an inch is added, then:

.875
+.001
.876

Thus, the allowable dimension of the bore would be .875 / .876 inches.

Torsional Stiffness - A measure of the torque required to create an amount of deflection about the coupling axis of rotation. It may be visualized as a twisting action. It is most obvious in couplings which transfer torque through rubber or plastic elements; although, "all metal" couplings such as Deltaflex or gear couplings also twist under applied torque. Stiffness is expressed in in-lb/radian.

Windup - The amount of twist of the coupling measured as an angle per unit of torque.

Drawing Notations for all Lovejoy Dimensional Drawings

Notations are found on the top row of Dimensional Data tables.

Notation	Description
A	Spider Outside Diameter
A	Outer Ring to Hub (Torsional)
AA	Snap Wrap Spider Ring Diameter
AD	Alignment Dimension
AP / AP 1 / AP 2 / AP 3	Axial Play / End Float
B	Spider Leg Width
BC	Bolt Circle Diameter
BH	Bolt Hole Size
BR	Bolt Removal Clearance
BSE	Distance Between Shaft Ends
BSE 1	BSE Alternate Configuration
C	Bore Depth
C	Outer Hub to Inner Ring (Torsional)
CBD / CBD 1	Counter Bore Diameter
CD	Collar Diameter
CD	Center Distance (VSD Pulley)
CL	Clearance
d	Pump Plate Inner Diameter
d3	Outer Ring Diameter
D	Diameter
D 1 / D 2	Diameter (VSD Pulley)
D 1	Spacer Shaft Outer Diameter
D 2	Spacer Shaft Inner Diameter
DC / DC 1	Counter Bore Depth
DB	Inner ID of Hub
E	Main Pin Height
E	Hub Ledge Thickness (Torsional)
EP	Pilot to Flywheel
ER	Element Thickness for Radial bolt
ET	Element Thickness for Axial bolt
F	Face to Face
F	Flange Thickness (Curved Jaw)
F	Center Distance Between Pins (Universal Joints)
FBC	Pump Bolt Circle to Flywheel
FD	Flange Diameter
FL / FL 1	Flange Length
FOD	Flange Outer Diameter
FSL	Floating Shaft Length
FW	Flange Width
G	Gap
G	Flywheel to Flywheel Housing (Torsional)
GF	Pump Plate Thickness
GS	Unitized Plate and Ring Thickness
G 1	Alternate Gap
G 1	Hub Gap (Deltaflex)
G 2	Hub Gap (Deltaflex)
H	Hole Size
H	Offset Distance (Torsional)

Notation	Description
HD / HD 1	Hub Diameter
HH	Snap Wrap Spider Hole Diameter
HH	Bolt Head Dimension (Disc)
HL / HL 1	Hub Length
HTS	Hub to Sleeve Dimension
ID / ID 1 / ID 2	Inner Diameter
J	Offset Distance (Torsional)
JD	Jumbo Hub Diameter
L	Total Length (Torsional)
L1	Hub Length (Torsional)
L / L 1 / L 2 / L 3	Length
L 1 / L 2	Length (VSD Pulley)
LF	Pump Plate Through Hole Thickness
LS	Sleeve Length
LS	Unitized Plate and Ring Through Hole Thickness (Torsional)
LTB / LTB 1 / LTB 2	Length thru Bore
ML	Material Length
N1	Hub Outer Diameter
OAL	Overall Length
OAL 1 / OAL 2	OAL Alternate Configuration
OD	Outer Diameter
P / P1	Projection
P / P1	Pilot Diameter (Torsional)
P2	Pilot Diameter
P	Pilot Diameter (Deltaflex)
PBC	Pump Bolt Circle for Pump
PD	Pitch Diameter (VSD Pulley)
PD	Pilot Depth
PW	Pack Width
Q	Pilot Depth (Deltaflex)
R	Removal Clearance
RD	Ring Diameter
S	Spacer Length
S	Mounting Plane to Axial Bolt (Torsional)
SD	Sleeve Diameter
SL	Screw Locations
SL 1	Bolt Location
ST	Spacer Thickness
T	Screw Size
TS	Through Diameter of S – Bolt
TB	Taper Bore
TH	Thickness
TH	Thread Size
TL	Extended Threaded Length
TW	Tooth Width
U	OD Turn Down Length
UJBC	Universal Joint Bolt Circle
W	Width

Jaw

In This Section:

- L Type
- LC Type
- Al Type - Aluminum
- SS Type - Stainless
- RRS and RRSC Types - Spacer
- C and H Type - Medium / Heavy Duty
- RRC Type - Spacer



Jaw

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Jaw

Table of Contents

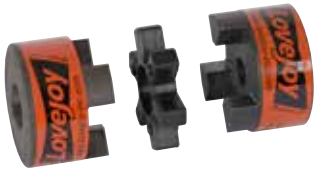
	Running Page No.	Section Page No.
Overview	16	JW-4
Elastomers > Overview	17	JW-5
Selection Process	18	JW-6
Application Service Factors > Selection Data	20	JW-8
Performance Data	21	JW-9
L Type Spiders / Hub Spline Bores > Item Selection	22	JW-10
L Type Inch Bore / Keyway > Item Selection	23	JW-11
L Type Metric Bore / Keyway > Item Selection	24	JW-12
LC Type Inch Bore / Keyway > Item Selection	25	JW-13
LC Type Spiders / Metric Bore / Keyway > Item Selection	26	JW-14
AL and SS Type Inch Bore / Keyway > Item Selection	27	JW-15
AL Type Spiders / Metric Bore / Keyway > Item Selection	28	JW-16
RRS and RRSC Type / Inch Bore / Keyway > Item Selection	29	JW-17
RRS Type Spacer / Metric Bore / Keyway > Item Selection	30	JW-18
C Type Cushions / Collar and Inch / Metric Bore / Keyway	31	JW-19
H Type Cushions / Collar and Inch / Metric Bore / Keyway	32	JW-20
RRC Type Spacer / Adapter Hubs	33	JW-21
L, AL, LC, C, H, and RRS Type Ratings > Performance Data	34	JW-22
Elastomers > Dimensional Data	35	JW-23
L, C and H Type > Dimensional Data	36	JW-24
LC and AL Type > Dimensional Data	37	JW-25
RRS and RRC Type > Dimensional Data	38	JW-26
RRS Type Metric Spacer, L Type Special Lengths > Dimensional Data	39	JW-27

Jaw Type Couplings

The Jaw Type couplings from Lovejoy are offered in the industry's largest variety of stock bore/keyway combinations. These couplings require no lubrication and provide highly reliable service for light, medium, and heavy duty electrical motor and internal combustion power transmission applications.

Features

- Fail-safe – will still perform if elastomer fails
- No metal to metal contact
- Resistant to oil, dirt, sand, moisture and grease
- More than 850,000 combinations of bore sizes
- Most types available from stock in 24 hours



L Type



LC Type

Applications include power transmission to industrial equipment such as pumps, gear boxes, compressors, blowers, mixers, and conveyors. Lovejoy's Jaw Type couplings are available in 24 sizes from a minimum torque rating of 3.5 in–lbs to a maximum torque rating of 170,004 in–lbs and a bore range of .125 inches to 7 inches. Lovejoy's standard bore program covers AGMA, SAE, and DIN bore/keyway and spline bore combinations.

The Lovejoy Jaw Type coupling is available in a variety of metal hub and insert materials. Hubs are offered in sintered metal, aluminum, bronze, steel, stainless steel, and ductile iron.



AL Type Jaw



SS Type

L Type

- Coupling offers standard shaft-to-shaft connection for general industrial duty applications
- Standard L Type coupling hub materials are either sintered iron (L035-L190) or cast iron (L225-L276)

LC Type

- Uses the standard L Type hubs with a snap wrap and collar
- Suited for applications up to 3,600 RPM

AL Type

- Aluminum hubs offer light weight with low overhung load and low inertia
- Excellent resistance to atmospheric conditions, perfect for corrosive environment applications

SS Type

- The SS Type coupling provides maximum protection against harsh environmental conditions
- Sizes SS075-SS150 available from stock, other sizes available on request



RRS Type

RRS Type

- Center "drop out" section of this coupling provides proper shaft separation, while also allowing easy elastomer installation without disturbing the hubs or requiring the realignment of shafts
- Accommodates American and European industry standard pump/motor shaft separations
- The spacer is made of glass reinforced plastic, cast iron, or aluminum



SW Type



C & H Types

SW Type

- Standard L Type coupling with a snap wrap elastomer with retaining ring
- Well suited for standard shaft to shaft connection in general industrial purpose applications under 1,750 RPM

C & H Types

- Couplings provide standard shaft-to-shaft connection for medium (C) and Heavy (H) duty range applications
- Standard C coupling hub is made of cast iron, while the H is constructed of ductile iron

Elastomers In Compression

Lovejoy offers four types of elastomer designs to allow for additional flexibility in addressing specific application requirements. One piece designs are used in the "L" and "AL" models (referred to as spiders) and multiple part "load cushions" are used in the "C" and "H" model couplings. The load cushions are in sets of 6 to 14 pieces depending on coupling size.



Solid Center Spider

- The solid center design is commonly used design when shafts of the driver and driven equipment can be kept separate by a standard gap

Open Center Spider

- The open center design allows for the shafts of the driver and driven to be positioned within a short distance
- Open center spiders offer shaft positioning flexibility but have a lower RPM capacity (1,750 RPM maximum for NBR, 3,600 maximum for Urethane/Hytrel®)

Cushions

- Used exclusively for the C and H Type couplings
- Load cushions are held in place radially by a steel collar which is attached to one of the hubs

Snap Wrap Flexible Spider

- Design allows for easy removal of the spider without moving the hubs
- Allows for close shaft separation all the way up to the hubs maximum bore
- Maximum RPM is 1,750 RPM with the retaining ring, but if used with the LC Type (with collar) a 3,600 RPM rating of the coupling applies
- Style is available in NBR and Urethane only, and in limited sizes

Note: ■ Complete technical data for the new Jaw In-Shear elastomer is contained in the next section of this catalog, labeled "JIS" on the page tabs.

Spider Materials

SOX (NBR) Rubber

- The standard material that is highly flexible material that is oil resistant
- Resembles natural rubber in resilience and elasticity, and operates effectively in temperature ranges of -40° to 212° F (-40° to 100° C)

Urethane

- Has 1.5 times greater torque capacity than NBR
- Good resistance to oil and chemicals
- Material provides less dampening effect and operates at a temperature range of -30° to 160° F

Hytrel

- Flexible elastomer designed for high torque and high temperature operations
- Operates in temperatures of -60° to 250° F (-51° to 121° C)

Bronze

- Rigid, porous, oil-impregnated metal insert exclusively for low speed (max 250 RPM) applications requiring high torque capabilities
- Not affected by water, oil, dirt, or extreme temperatures – operates in temperatures of -40° to 450° F (-40° to 232° C)

WARNING

You must refer to page JW-2 (Page 14) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Jaw Type Coupling Selection Process

The selection process for determining the proper jaw coupling size and elastomer requires using the charts shown on the following pages. There are three components to be selected, two hubs and one elastomer. When the shaft size of the driver and driven of the application are of the same diameter, the hubs selected will be the same. When shaft diameters differ, hubs selected will differ accordingly.

Information necessary before a coupling can be selected:

- HP (or KW) and RPM or Torque of driver
- Shaft sizes of driver and driven equipment and corresponding keyways
- Application description
- Environmental conditions (i.e. extreme temperature, corrosive conditions, space limitations)

List of Charts provided for Selection:

- Chart 1 – Application Service Factors (page JW-8)
- Chart 2 – Spider Performance Data (page JW-9)
- Chart 3 – Jaw Nominal Rated Torque (page JW-9)
- Jaw Type Performance Ratings (page JW-22)

Formulas:

$$\text{Nominal Torque} = \text{in-lb} = \frac{(HP \times 63025)}{RPM}$$

$$\text{Nm} = \frac{(KW \times 9550)}{RPM}$$

Design Torque = Nominal Torque x Application Service Factor

Steps In Selecting A Jaw Coupling

Step 1: Determine the Nominal Torque of your application by using the following formula:

$$\text{Nominal Torque} = \text{in-lb} = \frac{(HP \times 63025)}{RPM}$$

$$\text{Nm} = \frac{(KW \times 9550)}{RPM}$$

Step 2: Using the Application Service Factors Chart 1 (page JW-8) select the service factor which best corresponds to your application.

Step 3: Calculate the Design Torque of your application by multiplying the Nominal Torque calculated in Step 1 by the Application Service Factor determined in Step 2.

Design Torque = Nominal Torque x Application Service Factor

Step 4: Using the Spider Performance Data Chart 2 (page JW-9), select the elastomer material which best corresponds to your application.

Step 5: Using the Jaw Nominal Rated Torque Chart 3 (page JW-9), locate the appropriate elastomer material column for the elastomer selected in Step 4.

Scan down this column to the first entry where the Torque Value in the appropriate column is greater than or equal to the Design Torque calculated in Step 3.

Once this value is located, refer to the corresponding coupling size in the first column of the Jaw Nominal Rated Torque Chart 3 (page JW-9).

Refer to the maximum RPM value (page JW-22) for this elastomer torque capability to ensure that the application requirements are met. If the requirement is not satisfied at this point, another type of coupling may be required for the application. Please consult Lovejoy engineering for assistance.

Step 6: Compare the application driver/driven shaft sizes to the maximum bore size available on the coupling selected. If coupling bore size is not large enough for the shaft diameter, select the next largest coupling that will accommodate the driver/driven shaft diameters. Refer to Chart 3 (page JW-9).

Step 7: Using the UPC number selection table (pages JW-11 or JW-12), find the appropriate Bore and Keyway sizes required and locate the Lovejoy UPC number.

Selection Example

A coupling is needed to connect a 20 HP standard electric motor rated at 1,800 RPM to a rotary pump. The shaft size of the electric motor (driver) is 2.0 inches and the pump (driven) is 1.75 inches. There are no special environmental conditions and the general operating temperature is normal room temperature of 72° F. Less than 1° of misalignment is expected.

Step 1: Determine the Nominal Torque:

$$\text{Nominal Torque} = \frac{(\text{HP} \times 63025)}{\text{RPM}}$$

$$= \frac{(20 \times 63025)}{1800}$$

$$= 700.28 \text{ in-lb}$$

Step 2: Using the Application Service Factors Chart 1 (page JW-8), select the service factor which best corresponds to your application. The Application Service Factor for an electric motor with standard torque driving a rotary pump is 1.25. The value of 1.25 is found under the application category Pumps, Rotary, column: Electric Motor w/Standard Torque in Chart 1.

Step 3: Calculate the Design Torque of your application:

Design Torque = Nominal Torque x Application Service Factor
= 700.28 x 1.25
= 875.35 in-lb

Step 4: Using the Spider Performance Data Chart 2 (page JW-9), select the elastomer material which best corresponds to your application. Since there are no special environmental conditions, the operating temperature is 72° F and less than 1° of angular misalignment is required, the NBR elastomer material is selected.

Step 5: Using the Jaw Nominal Rated Torque Chart 3 (page JW-9), the NBR elastomer column is used to determine the proper coupling size. Scanning down the NBR column, the first entry to accommodate the Design Torque value of 875.35 in-lb is the size L150 with a nominal torque rating of 1,240 in-lb. Referring to page JW-20, the maximum RPM of 1,800 on the electric motor of the application does not exceed the 5,000 RPM maximum allowed for the L150 size coupling with an NBR elastomer.

Step 6: Compare the application driver/driven shaft size to the maximum bore available in the coupling selected (page JW-9). The electric motor (driver) of this application has a shaft size of 2.0 inches and the pump (driven) has a shaft size of 1.75 inches. The L150 coupling has a maximum bore less than the driver shaft size. Continuing down the Maximum Bore column, in Chart 3 (page JW-9), the L190 size is found to have a maximum bore size of 2.125 and is able to accommodate the driver/driven shaft sizes. Therefore, the proper coupling size for this application is a Lovejoy L190 with an NBR elastomer.

Step 7: Using the UPC number Selection table, locate the appropriate Lovejoy UPC numbers. The L Type Spider Table (page JW-10), and the L Type hub table (page JW-11), provides easy reference to the Lovejoy UPC numbers.

Locate the L Type Spider Table (page JW-10).

The spider is selected by scanning down the type column and locating the NBR (Solid) entry. Read across to the L190 column and locate the Lovejoy UPC number of 12274. This number should be prefixed with the Lovejoy UPC number of 685144.

Locate the L Type Hub Table (page JW-11).

The first bore size to be located is for the 2 inch shaft on the electric motor. Scan down the Bore/Keyway column to the 2 inch bore entry. Read across to the L190 column to locate the Lovejoy UPC number of 12303. This number should be prefixed with the Lovejoy UPC number of 685144.

The second bore size to be located is for the 1.75 inch shaft on the pump. Scan down the Bore/Keyway column to the 1-3/4 inch bore entry. Read across to the L190 column to locate the Lovejoy UPC number of 12299. This number should be prefixed with the Lovejoy UPC number of 685144.

Application Service Factors

Chart 1

	Service Factors				
	Electric Motor w/ Standard Torque	Electric Motor w/ High Torque	Steam Turbines & Engines w/4 or more cyl*	Reciprocating Engines*	
				1-Cyl	2-Cyl
Agitators	1.00	1.25	1.00	1.7	1.3
Band Resaw (lumber)	1.50	1.75	1.50	2.2	1.8
Barge Haul Puller	2.00	2.25	2.00	2.7	2.3
Beaters	1.50	1.75	1.50	2.2	1.8
Blowers					
Centrifugal	1.00	1.25	1.00	1.7	1.3
Lobe, Vane	1.25	1.50	1.25	2.0	1.6
Bottling Machinery	1.25	1.50	1.25	2.0	1.6
Brew Kettles (distilling)	1.25	1.50	1.25	2.0	1.6
Can Filling Machinery	1.00	1.25	1.00	1.7	1.3
Car Dumpers	2.50	2.75	2.50	3.2	2.8
Car Pullers	1.50	1.75	1.50	2.2	1.8
Card Machine	1.75	2.00	1.75	2.5	2.0
Chiller (oil)	1.50	2.00	1.25	2.0	2.0
Compressors					
Centrifugal	1.00	1.25	1.00	1.7	1.3
Screw, Lobe	1.25	1.50	1.25	2.0	1.6
Reciprocating	See Note				
Conveyors, Uniformly Fed					
Assembly, Belt, Screw	1.00	1.25	1.00	1.7	1.3
Bucket, Sawdust	1.25	1.50	1.25	2.0	1.6
Live Roll, Shaker, Reciprocating	3.00	3.25	3.00	3.7	3.3
Conveyors, Not Uniformly Fed					
Assembly, Belt, Oven, Screw	1.20	1.45	1.20	1.9	1.5
Reciprocating	2.50	2.75	2.50	3.2	2.8
Shaker	3.00	3.25	3.00	3.7	3.3
Cookers—Brewing, Distilling, Food	1.25	1.50	1.25	2.0	1.6
Cranes & Hoist[1]	2.00	2.25	2.00	2.7	2.3
Crushers—Cane (sugar), Stone, or Ore	3.00	3.25	3.00	3.7	3.3
Dredges					
Cable reels	2.00	2.25	2.00	2.7	2.3
Conveyors, Pumps, Maneuvering Winches	1.50	1.75	1.50	2.2	1.8
Cutter Head Drives	2.50	2.75	2.50	3.2	2.8
Dynamometer	1.50	1.75	1.50	2.2	1.8
Evaporators	1.00	1.25	1.00	1.7	1.3
Fans					
Centrifugal	1.00	1.25	1.00	1.7	1.3
Cooling Towers	2.00	2.25	2.00	2.7	2.3
Forced Draft, Propeller	1.50	1.75	1.50	2.2	1.8
Induced draft w/damper control	2.00	2.25	2.00	2.7	2.3
Induced draft w/o damper control	1.25	1.50	1.25	2.0	1.6
Feeders					
Belt, Screw	1.00	1.25	1.00	1.7	1.3
Reciprocating	2.50	2.75	2.50	3.2	2.8
Filter, Press-oil	1.50	1.75	1.50	2.2	1.8
Generators					
Not Welding	1.00	1.25	1.00	1.7	1.3
Welding	2.00	2.25	2.00	2.7	2.3
Hoist	1.50	1.75	1.50	2.2	1.8
Hammermills	2.00	2.25	2.00	2.7	2.3
Kilns	1.50	1.75	1.50	2.2	1.8
Laundry Washers — Reversing	2.00	2.25	2.00	2.7	2.3
Lumber Machinery					
Barkers, Edger Feeder, Live Roll	2.00	2.25	2.00	2.7	2.3
Planer, Slab Conveyor	2.00	2.25	2.00	2.7	2.3
Machine Tools					
Punch Press-gear Driven, Plate Planer	2.00	2.25	2.00	2.7	2.3
Tapping Machinery, Bending Roll	2.00	2.25	2.00	2.7	2.3
Main Drive	1.50	1.75	1.50	2.2	1.8
Auxiliary Drives	1.00	1.25	1.00	1.7	1.3
Metal Forming Machines					
Draw Bench-carriage & Main Drive	2.00	2.25	2.00	2.7	2.3
Extruder, Forming Machine, Wire Drawing	2.00	2.25	2.00	2.7	2.3
Table Conveyors	2.50	2.75	2.50	3.2	2.8
Wire Winding, Coilers, Slitters	1.50	1.75	1.50	2.2	1.8
Mills, Rotary Type					
Ball, Kilns, Pebble, Rolling, Tube	2.00	2.25	2.00	2.7	2.3
Cement Kilns, Dryers, Coolers	2.00	2.25	2.00	2.7	2.3
Tumbling	1.50	1.75	1.50	2.2	1.8
Mixers					
Concrete, continuous	1.75	2.00	1.75	2.5	2.0
Muller	1.50	1.75	1.50	2.2	1.8
Paper Mills					
Agitator (mixers), Reel, Winder	1.20	1.45	1.20	1.9	1.5
Winder	1.20	1.45	1.20	1.9	1.5
Barker (mechanical), Log Haul, Chipper	2.00	2.25	2.00	2.7	2.3
Barking Drum (spur gear)	2.50	2.75	2.50	3.2	2.8
Beater, Pulper, Jordans, Dresses	2.00	2.25	2.00	2.7	2.3
Calenders, Dryers, Washers, Thickener	1.50	1.75	1.50	2.2	1.8
Converting Machines, Conveyors	1.20	1.45	1.20	1.9	1.5
Printing Presses	1.50	1.75	1.50	1.7	1.3
Pug Mill	1.75	2.00	1.75	2.0	1.6
Pumps					
Centrifugal	1.00	1.25	1.00	1.7	1.3
Gear, Rotary, Vane	1.25	1.50	1.25	2.0	1.6
Reciprocating:					
1–Cyl. Single or Double Acting	2.00	2.25	2.00	2.7	2.3
2–Cyl. Single Acting	2.00	2.25	2.00	2.7	2.3
2–Cyl. Double Acting	1.75	2.00	1.75	2.5	2.0
3 or more Cyl.	1.50	1.75	1.50	2.2	1.8
Rubber Machinery					
Mixers	2.50	2.75	2.50	3.2	2.8
Rubber Calender	2.00	2.25	2.00	2.7	2.3
Screens					
Air washing, Water	1.00	1.25	1.00	1.7	1.3
Rotary—stone or gravel, Dewatering	1.50	1.75	1.50	2.2	1.8
Vibrating	2.50	2.75	2.50	3.2	2.8
Grizzly	2.00	2.25	2.00	2.7	2.3
Shredders	1.50	1.75	1.50	2.2	1.8
Steering Gears	1.00	1.25	1.00	1.7	1.3
Stokers	1.00	1.25	1.00	1.7	1.3
Suction Roll (paper)	1.50	1.75	1.50	2.2	1.8
Textile Machinery					
Dryers, Dyeing Machinery, Mangle	1.20	1.45	1.20	2.0	1.6
Loom, Spinner, Tenter frames	1.50	1.75	1.50	2.2	1.8
Tumbling Barrels	1.75	2.00	1.75	2.5	2.0
Windlass	2.00	2.25	2.00	2.7	2.3
Woodworking Mach.	1.00	1.25	1.00	1.7	1.3

Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Engineering with specific requirements.

Note: ■ 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

Spider Performance Data

Chart 2

Characteristics	Temperature Range	Misalignment		Shore Hardness[1]	Dampening Capacity	Chemical Resistance[2]	Color
		Angular Degree	Parallel Inch				
SOX (NBR) Rubber – Nitrile Butadiene (Buna N) Rubber is a flexible elastomer material that is oil resistant, resembles natural rubber in resilience and elasticity and operates effectively in temperature range of -40° to 212° F (-40° to 100° C). Good resistance to oil. Standard elastomer. (Also applies to SXB Cushions.)	-40° to 212° F -40° to 100° C	1°	.015	80A	HIGH	GOOD	BLACK
URETHANE – Urethane has greater torque capability than NBR (1.5 times), provides less dampening effect, and operates at a temperature range of -30° to 160° F (-34° to 71° C). Good resistance to oil and chemicals. Not recommended for cyclic or start/stop applications.	-30° to 160° F -34° to 71° C	1°	.015	55D L050-L110 90-95A L150-L225	LOW	VERY GOOD	BLUE
HYTREL® – Hytrel is a flexible elastomer designed for high torque and high temperature operations. Hytrel can operate in temperatures of -60° to 250° F (-51° to 121° C) and has an excellent resistance to oil and chemicals. Not recommended for cyclic or start/stop applications.	-60° to 250° F -51° to 121° C	1/2°	.015	55D	LOW	EXCELLENT	TAN
BRONZE – Bronze is a rigid, porous oil-impregnated metal insert exclusively for slow speed (maximum 250 RPM) applications requiring high torque capabilities. Bronze operations are not affected by extreme temperatures, water, oil, or dirt.	-40° to 450° F -40° to 232° C	1/2°	.010	—	NONE	EXCELLENT	BRONZE

Notes: ■ 1 indicates: NBR standard shore hardness is 80A ±5A – Except L035=60A. Other softer or harder designs are available in NBR material; consult Lovejoy.
■ 2 indicates: Chemical Resistance chart shown in Engineering Data Section (page ED-9).

Jaw Nominal Rated Torque Data

Chart 3

Size	Max Bore		Spider Material							
			SOX (NBR) Torque		Urethane Torque		Hytrel Torque		Bronze Torque	
	in	mm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
L035	0.375	9	3.5	0.4	—	—	—	—	—	—
L/AL050	0.625	16	26.3	3.0	39	4.5	50	5.60	50	5.60
L/AL070	0.750	19	43.2	4.9	65	7.3	114	12.90	114	12.90
L/AL075	0.875	22	90.0	10.2	135	15.3	227	25.60	227	25.60
L/AL090	1.000	25	144.0	16.3	216	24.4	401	45.30	401	45.30
L/AL095	1.125	28	194.0	21.9	291	32.9	561	63.40	561	63.40
L/AL099	1.188	30	318.0	35.9	477	53.9	792	89.50	792	89.50
L/AL100	1.375	35	417.0	47.1	626	70.7	1,134	128.00	1,134	128.00
L/AL110	1.625	42	792.0	89.5	1,188	134.0	2,268	256.00	2,268	256.00
L150	1.875	48	1,240.0	140.0	1,860	210.0	3,708	419.00	3,706	419.00
AL150	1.875	48	1,450.0	163.8	—	—	—	—	—	—
L190	2.125	55	1,728.0	195.0	2,592	293.0	4,680	529.00	4,680	529.00
L225	2.625	65	2,340.0	264.0	3,510	397.0	6,228	704.00	6,228	704.00
L276	2.875	73	4,716.0	533.0	—	—	—	—	12,500	1 412.00
C226	2.500	64	2,988.0	338.0	—	—	5,940	671.00	5,940	671.00
C276	2.875	73	4,716.0	533.0	—	—	9,432	1 066.00	—	—
C280	3.000	76	7,560.0	854.0	—	—	13,866	1 567.00	—	—
C285	4.000	102	9,182.0	1 038.0	—	—	16,680	1 882.00	—	—
C295	3.500	89	11,340.0	1 281.0	—	—	22,680	2 563.00	22,680	2 563.00
C2955	4.000	102	18,900.0	2 136.0	—	—	37,800	4 271.00	37,800	4 271.00
H3067	4.500	114	33,395.0	3 774.0	—	—	47,196	5 333.00	47,196	5 333.00
H3567	5.000	127	46,632.0	5 269.0	—	—	63,000	7 119.00	63,000	7 119.00
H3667	5.629	143	64,812.0	7 323.0	—	—	88,200	9 966.00	88,200	9 966.00
H4067	6.250	159	88,224.0	9 969.0	—	—	126,000	14 237.00	126,000	14 237.00
H4567	7.000	178	119,700.0	13 525.0	—	—	170,000	19 209.00	170,000	19 209.00

Note: ■ Bronze has a maximum RPM capability of 250 RPM.

L Type Coupling

- Sizes range from L035 to L276
- Ordering requires selecting UPC numbers for two standard L hubs and one standard open or solid center elastomer (spider)

SW Type Coupling

- Sizes range from L090 to L190
- Ordering requires selecting UPC numbers for two standard L hubs and one snap wrap spider with snap ring
- Both L and SW Type couplings, select hubs from the standard bore and keyway chart (pages JW-11 and JW-12) maximum RPM for SW + Ring is 1,750 RPM
- LC coupling uses a snap wrap spider with a collar instead of a retaining ring



Jaw In-Shear Coupling

- Ordering requires selecting item numbers for two standard hubs, one In-Shear elastomer and one In-Shear ring. See pages JIS-1 through JIS-4

L Type Spider UPC Number Selection Table

Spider Type	Coupling Size										
	L035	L050	L070	L075	L090/095	L099/100	L110	L150	L190	L225	L276
SOX (NBR) (Solid)	10118	10194	10406	10621	11070	11494	11724	12001	12274	12409	—
SOX (NBR) (open center)	—	—	10393	10620	10968	11492	11711	37880	37881	12406	12612
Urethane (Solid)	—	37786	10395	—	—	—	—	—	—	12417	—
Urethane (open center)	—	—	10411	10626	11075	11499	11729	12006	12280	—	—
Hytrel® (Solid)	—	25307	—	—	—	—	11717	11993	12265	12401	—
Hytrel® (open center)	—	—	25308	25309	25310	11486	38097	38098	38099	12400	—
Bronze (open center)	—	10198	10409	10624	11073	11497	11727	12004	12277	34517	25767
Snap Wrap (NBR) w/ring	—	—	—	—	24669	24670	24671	24672	24673	—	—
Snap Wrap (NBR) w/o ring	—	—	—	—	11071	11495	11725	12002	12275	—	—
SOX (NBR) Bulk - pk 25	50115	50116	50117	50118	50119	—	—	—	—	—	—
SOX (NBR) Bulk - pk 10	—	—	—	—	—	50120	50121	50122	—	—	—
Snap Wrap Urethane - solid ring	—	—	—	—	—	41170	41171	—	28284	26093	—
In-Shear Elastomer	—	—	—	—	71706	71707	71708	71709	71710	71711	71712
In-Shear Ring	—	—	—	—	71679	71680	71681	71682	71683	71684	71685

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

L Type Hub - Spline Bore UPC Number Selection Table

Teeth	Pitch	SAE	Spline Bore Diameters		Major	Coupling Size								
			Major	Minor	Dia	L090	L095	L099	L100	L110	L150	L190	L225	L276
9	16/32	A	0.651	0.509	0.625	38568	37900	38571	37904	—	—	—	—	—
11	16/32		0.776	0.631	0.750	38569	37901	38572	37905	37909	37917	37925	—	—
13	16/32	B	0.901	0.754	0.875	38570	37902	38573	37906	37910	37918	37926	37935	—
13	8/16	D, E	1.798	1.506	1.750	—	—	—	—	37915	37923	37931	37940	38576
14	12/24	C	1.289	1.087	1.250	—	—	—	—	37912	37920	37928	37937	38577
15	16/32	BB	1.026	0.877	1.000	—	—	38574	37907	37911	37919	37927	37936	38578
21	16/32		1.401	1.250	1.375	—	—	—	—	37913	37921	37929	37938	—
23	16/32		1.526	1.375	1.500	—	—	—	—	37914	37922	37930	37939	—
27	16/32		1.776	1.625	1.750	—	—	—	—	37916	37924	37932	37941	38579
15	8/16	F	2.048	1.753	2.000	—	—	—	—	—	—	37933	37942	—

Notes: ■ All pressure angles on above splines = 30°. Class 5 fit is standard, unless otherwise specified.
■ All stock spline bore hubs are supplied standard with Lovejoy's exclusive L-LOC Clamping Feature. See page T-7 for description.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

The L Type coupling consists of two standard L Type hubs and one spider. Refer to pages JW-11, JW-12, and JW-10.





Bore	Keyway	L035	L050	L070	L075	L090	L095	L099	L100	L110	L150	L190	L225	L276
1/8	No Keyway	10124	—	—	—	—	—	—	—	—	—	—	—	—
3/16	No Keyway	10126	—	—	—	—	—	—	—	—	—	—	—	—
1/4	No Keyway	10127	10206	10416	10680	10766	—	—	—	—	—	—	—	—
1/4	1/8 x 1/16	—	—	—	35744	—	—	—	—	—	—	—	—	—
5/16	No Keyway	10128	10207	10417	10681	26209	—	—	—	—	—	—	—	—
3/8	No Keyway	24687	10208	10418	10682	10767	—	—	—	—	—	—	—	—
3/8	3/32 x 3/64	—	46121	41985	37234	37235	—	—	—	—	—	—	—	—
3/8	1/8 x 1/16	—	44136	48829	35745	37236	—	—	—	—	—	—	—	—
7/16	No Keyway	—	10209	10419	10683	10768	11082	31297	11505	—	—	—	—	—
7/16	3/32 x 3/64	—	44713	44007	28089	28877	27613	38198	37237	—	—	—	—	—
7/16	1/8 x 1/16	—	—	44066	28875	28878	28879	38199	37238	—	—	—	—	—
1/2	No Keyway	—	10210	10420	10684	10769	11083	11333	11506	—	—	—	—	—
1/2	1/8 x 1/16	—	10211	10421	10685	26087	26088	11334	26089	—	—	—	—	—
9/16	No Keyway	—	10212	52338	10686	24976	37239	11335	11508	—	—	—	—	—
9/16	1/8 x 1/16	—	10213	10423	10687	28876	11084	38200	11509	—	—	—	—	—
5/8	No Keyway	—	10214	24771	44322	46052	41911	44174	44291	11733	12101	—	—	—
5/8	5/32 x 5/64	—	—	51104	37240	37241	37242	38201	37243	37244	37245	—	—	—
5/8	3/16 x 3/32	—	—	10424	10688	10771	11085	11336	11510	26211	26212	—	—	—
11/16	3/16 x 3/32	—	—	10425	10689	10772	11086	11337	11511	11734	12102	—	—	—
3/4	No Keyway	—	—	46116	56140	54282	56887	49705	45212	—	—	12285	12422	—
3/4	1/8 x 1/16	—	—	51719	35881	37246	37074	38202	37247	37248	37249	37250	—	—
3/4	3/16 x 3/32	—	—	10426	10690	10773	11087	11338	11512	11735	12103	38468	35882	—
13/16	3/16 x 3/32	—	—	—	10691	10774	11088	11339	11513	11736	12104	37252	37255	—
7/8	No Keyway	—	—	—	56941	—	—	59063	—	—	—	—	—	12582
7/8	3/16 x 3/32	—	—	—	10692	10775	11089	11340	11514	11737	12105	12286	12423	12585
7/8	1/4 x 1/8	—	—	—	—	38188	35747	38203	35686	35749	35750	37256	35753	54883
15/16	1/4 x 1/8	—	—	—	—	32332	11090	11341	11515	11738	12160	12287	12424	—
1	1/4 x 1/8	—	—	—	—	31296	11091	11342	11516	11739	12107	12288	12425	12586
1	3/16 x 3/32	—	—	—	—	37257	37258	38204	37259	37260	37261	37262	37263	—
1-1/16	1/4 x 1/8	—	—	—	—	—	11092	11343	11517	11740	12108	12289	12426	—
1-1/8	1/4 x 1/8	—	—	—	—	—	11093	11344	11518	11741	12109	12290	12427	12587
1-3/16	1/4 x 1/8	—	—	—	—	—	—	11345	11519	11742	12110	12291	12428	—
1-1/4	1/4 x 1/8	—	—	—	—	—	—	—	11520	11743	12111	12292	12429	12588
1-1/4	5/16 x 5/32	—	—	—	—	—	—	—	35748	35752	35751	37294	35754	12589
1-5/16	5/16 x 5/32	—	—	—	—	—	—	—	11521	11744	12112	12293	26090	—
1-3/8	5/16 x 5/32	—	—	—	—	—	—	—	11522	11745	12113	12294	12430	12590
1-3/8	3/8 x 3/16	—	—	—	—	—	—	—	44348	37265	37266	37267	37568	46758
1-7/16	3/8 x 3/16	—	—	—	—	—	—	—	—	11746	12114	12295	12431	12591
1-1/2	5/16 x 5/32	—	—	—	—	—	—	—	—	37269	37270	37271	37272	—
1-1/2	3/8 x 3/16	—	—	—	—	—	—	—	—	11747	12115	12296	12432	12592
1-9/16	3/8 x 3/16	—	—	—	—	—	—	—	—	11748	12116	37273	12433	45689
1-5/8	3/8 x 3/16	—	—	—	—	—	—	—	—	11749	12117	12297	12434	12593
1-11/16	3/8 x 3/16	—	—	—	—	—	—	—	—	—	12118	12298	12435	60057
1-3/4	3/8 x 3/16	—	—	—	—	—	—	—	—	—	12119	12299	12436	12594
1-3/4	7/16 x 7/32	—	—	—	—	—	—	—	—	—	37274	37275	37276	48250
1-13/16	1/2 x 1/4	—	—	—	—	—	—	—	—	—	12120	12300	26091	—
1-7/8	1/2 x 1/4	—	—	—	—	—	—	—	—	—	12121	12301	12437	12595
1-15/16	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	12302	12438	49762
2	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	12303	12439	12596
2-1/16	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	12304	26092	—
2-1/8	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	12305	12440	12597
2-3/16	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	—	12441	12598
2-1/4	1/2 x 1/4	—	—	—	—	—	—	—	—	—	—	—	12442	12599
2-3/8	5/8 x 5/16	—	—	—	—	—	—	—	—	—	—	—	12443	12602
2-5/8	5/8 x 5/16	—	—	—	—	—	—	—	—	—	—	—	41809	12605
2-7/8	3/4 x 3/8	—	—	—	—	—	—	—	—	—	—	—	—	12607

Notes:
- Tolerances for bore and keyways are found in Engineering Data section (pages ED-10 and ED-11). All hubs supplied standard with one set screw.
- Non-standard bores available – consult Lovejoy Engineering.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

The L Type coupling consists of two standard L Type hubs and one spider. Refer to pages JW-10, JW-12, and JW-10.





L Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	L035	L050	L070	L075	L090	L095	L099	L100	L110	L150	L190	L225	L276
4	No Keyway	41850	—	—	—	—	—	—	—	—	—	—	—	—
5	No Keyway	47419	46214	—	—	—	—	—	—	—	—	—	—	—
6	No Keyway	45872	50351	—	—	—	—	—	—	—	—	—	—	—
7	No Keyway	60679	10215	58803	—	—	—	—	—	—	—	—	—	—
8	No Keyway	55169	41460	46151	—	60945	—	—	—	—	—	—	—	—
9	3 x 1.4	—	41313	56177	44298	—	—	—	—	—	—	—	—	—
10	No Keyway	—	10216	41452	41456	—	—	—	—	—	—	—	—	—
10	3 x 1.4	—	41450	49870	41457	52828	—	—	—	—	—	—	—	—
11	4 x 1.8	—	41314	41453	50811	—	49424	—	—	—	—	—	—	—
12	No Keyway	—	48510	51562	—	48276	—	—	—	—	—	—	—	—
12	4 x 1.8	—	41315	41454	44153	44329	44832	—	55195	—	—	—	—	—
14	No Keyway	—	58036	47505	—	41461	41465	—	—	—	—	—	—	—
14	5 x 2.3	—	41316	41317	41321	51231	41466	60094	45101	—	—	—	—	—
15	No Keyway	—	60708	—	10693	—	46561	52697	41469	—	—	—	—	—
15	5 x 2.3	—	41451	41455	41454	52096	45778	46972	47123	—	—	—	—	—
16	5 x 2.3	—	56176	41318	41322	49198	41325	52098	55534	52092	52471	—	—	—
17	5 x 2.3	—	—	45333	49398	—	49704	—	56178	60067	60156	—	—	—
18	6 x 2.8	—	—	59724	41884	46433	46626	44647	41926	44288	—	—	—	—
19	No Keyway	—	—	—	—	10777	—	—	—	41471	—	—	—	—
19	6 x 2.8	—	—	41319	41323	41462	41326	44157	41329	49700	48821	46717	—	—
20	6 x 2.8	—	—	—	41459	41925	41467	47122	52093	41804	61218	61497	—	—
22	6 x 2.8	—	—	—	58246	41968	44827	41959	44467	45214	44720	—	—	—
24	8 x 3.3	—	—	—	—	41463	41327	41990	41330	48301	48182	59109	—	—
25	8 x 3.3	—	—	—	—	41464	41468	45055	41470	41906	46751	52153	—	—
28	No Keyway	—	—	—	—	—	—	—	—	—	56179	56182	—	—
28	8 x 3.3	—	—	—	—	—	41328	50103	41331	41333	45679	52976	—	—
30	8 x 3.3	—	—	—	—	—	—	47132	48317	45681	41738	44471	48982	—
32	No Keyway	—	—	—	—	—	—	—	—	—	41472	41473	48319	56232
32	10 x 3.3	—	—	—	—	—	—	—	—	41334	41873	45562	41849	41885
35	No Keyway	—	—	—	—	—	—	—	41332	—	56180	56183	56184	—
35	10 x 3.3	—	—	—	—	—	—	—	49925	45682	46562	58035	52197	—
38	10 x 3.3	—	—	—	—	—	—	—	—	41335	41337	41474	49664	52961
40	12 x 3.3	—	—	—	—	—	—	—	—	45683	48318	48320	49605	59308
42	12 x 3.3	—	—	—	—	—	—	—	—	41336	41338	41475	47492	45609
45	14 x 3.8	—	—	—	—	—	—	—	—	—	45102	56017	52674	50292
48	No Keyway	—	—	—	—	—	—	—	—	—	56181	—	—	—
48	14 x 3.8	—	—	—	—	—	—	—	—	—	56227	48322	47569	61202
50	No Keyway	—	—	—	—	—	—	—	—	—	—	56228	56230	56233
50	14 x 3.8	—	—	—	—	—	—	—	—	—	—	44392	48797	45062
55	No Keyway	—	—	—	—	—	—	—	—	—	—	56229	56231	56234
55	16 x 4.3	—	—	—	—	—	—	—	—	—	—	47006	44089	56067
60	No Keyway	—	—	—	—	—	—	—	—	—	—	—	56185	56235
60	18 x 4.4	—	—	—	—	—	—	—	—	—	—	—	44598	56236
65	No Keyway	—	—	—	—	—	—	—	—	—	—	—	—	56237
65	18 x 4.4	—	—	—	—	—	—	—	—	—	—	—	56544	50102
70	20 x 4.9	—	—	—	—	—	—	—	—	—	—	—	—	58268

Notes:
- Tolerances for bore and keyways are found in Engineering Data section (page ED-17 and ED-18). All hubs supplied standard with one set screw.
- Non-standard bores available – consult Lovejoy Engineering.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

LC Type Couplings

The LC Type coupling consists of one standard L Type hub (without collar attachment), one LC Type hub (provides collar attachment), one standard snap wrap center and one collar with screws. Refer to pages JW-11, JW-12 and JW-13 for details.



Features

- Radially removable insert
- Collar allows for maximum speed of 3,600 RPM
- Collar manufactured from 1018 Steel

LC Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	LC090	LC095	LC099	LC100	LC110	LC150	LC190	LC225
1/4	No Keyway	45321	—	—	—	—	—	—	—
3/8	No Keyway	45322	—	—	—	—	—	—	—
1/2	No Keyway	45323	11133	—	11575	—	—	—	—
1/2	1/8 x 1/16	—	—	—	48768	—	—	—	—
5/8	No Keyway	—	—	—	—	11828	45412	—	—
5/8	3/16 x 3/32	45324	11134	48886	11577	—	—	—	—
3/4	No Keyway	—	—	—	—	—	—	12322	12456
3/4	1/8 x 1/16	—	—	—	55466	—	—	—	—
3/4	3/16 x 3/32	45325	11135	—	41920	11829	—	12323	—
13/16	3/16 x 3/32	—	11136	—	—	11830	—	—	—
7/8	3/16 x 3/32	45326	11137	—	11578	11832	—	—	—
7/8	1/4 x 1/8	—	—	56567	49553	56566	60343	—	—
15/16	1/4 x 1/8	—	11138	—	—	11834	—	—	—
1	1/4 x 1/8	45327	11139	52825	11579	11836	12069	44161	50125
1	3/16 x 3/32	—	—	—	—	55552	—	—	—
1-1/8	1/4 x 1/8	—	44156	—	11580	11838	12071	44160	50126
1-3/16	1/4 x 1/8	—	11140	—	—	11840	—	—	—
1-1/4	1/4 x 1/8	—	—	—	11581	11841	12073	12327	12462
1-1/4	5/16 x 5/32	—	—	—	59046	—	48273	—	—
1-3/8	5/16 x 5/32	—	—	—	45257	11842	12075	12329	50127
1-7/16	3/8 x 3/16	—	—	—	—	11844	—	—	12465
1-1/2	5/16 x 5/32	—	—	—	—	—	12077	—	—
1-1/2	3/8 x 3/16	—	—	—	—	11846	—	12332	12466
1-9/16	3/8 x 3/16	—	—	—	—	11848	—	12332	—
1-5/8	3/8 x 3/16	—	—	—	—	11849	12079	12334	12468
1-3/4	3/8 x 3/16	—	—	—	—	—	44159	12336	46818
1-7/8	1/2 x 1/4	—	—	—	—	—	12082	12337	12472
1-15/16	1/2 x 1/4	—	—	—	—	—	—	12339	—
2	1/2 x 1/4	—	—	—	—	—	—	12341	14276
2-1/8	1/2 x 1/4	—	—	—	—	—	—	44064	12477
2-1/4	1/2 x 1/4	—	—	—	—	—	—	—	12480
2-3/8	5/8 x 5/16	—	—	—	—	—	—	—	12482

Notes:
- These “LC” hubs are drilled and tapped to accept collar mounting screws but the collar and hardware are not included.
- See L Type (inch or metric) coupling chart for standard hub.
- Tolerances for bore and keyways are found in Engineering Data section (pages ED-10 and ED-11).
- All hubs are supplied standard with one set screw.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

LC Type Couplings

The LC Type coupling consists of one standard L Type hub (without collar attachment), one LC Type hub (provides collar attachment), one standard snap wrap center and one collar with screws. Refer to pages JW-11, JW-12 and JW-13 for details.



Features

- Radially removable insert
- Collar allows for maximum speed of 3,600 RPM
- Collar manufactured from 1018 Steel

LC Type Wrap Spider / Collar UPC Number Selection Table

	LC090	LC095	LC099	LC100	LC110	LC150	LC190	LC225
Snap Wrap Spider/No Ring	11071	11071	11495	11495	11725	12002	12275	26093[1]
Collar Only w/Screws	48340	48340	45258	45258	47932	47933	47934	47935

Notes:
- 1 indicates: L225 snap wrap spider is urethane, solid ring.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

LC Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	LC090	LC095	LC099	LC100	LC110	LC150	LC190	LC225
12	No Keyway	58596	—	—	—	—	—	—	—
12	4 x 1.8	58597	—	—	—	—	—	—	—
14	No Keyway	58598	58592	—	—	—	—	—	—
14	5 x 2.3	58556	58559	—	—	—	—	—	—
15	5 x 2.3	58599	—	—	—	—	—	—	—
16	5 x 2.3	—	58593	—	—	—	—	—	—
19	6 x 2.8	58557	58560	56197	58563	58566	—	—	—
20	6 x 2.8	—	58594	—	—	—	—	—	—
24	8 x 3.3	58558	58561	58588	58564	58567	—	—	—
25	8 x 3.3	58600	58595	58589	—	—	—	—	—
28	8 x 3.3	—	58562	58590	58565	58568	58571	58575	—
32	10 x 3.3	—	—	—	52806	58587	58585	58586	—
38	10 x 3.3	—	—	—	—	58569	58572	58576	58580
42	12 x 3.3	—	—	—	—	58570	58573	58577	58581
48	14 x 3.8	—	—	—	—	—	58574	58578	58582
55	16 x 4.3	—	—	—	—	—	—	58579	58583
65	No Keyway	—	—	—	—	—	—	—	58584

Notes:
- These “LC” hubs are drilled and tapped to accept collar mounting screws but the collar and hardware are not included.
- See L Type (inch or metric) UPC Number Selection Table for standard hub (pages JW-11 or JW-10).
- Tolerances for bore and keyways are found in Engineering Data section (pages ED-17 and ED-18).
- All hubs are supplied with one set screw.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

AL and SS Type Couplings

The AL Type coupling consists of two hubs and one spider.



Features

- Interchangeable with all hub sizes standard for the L-Line and AL-Line products
- Available in a variety of different finished bore and keyway combinations
- Finished bores passivated for additional rust protection

AL Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	AL050	AL070	AL075	AL090	AL095	AL099	AL100	AL110	AL150
1/4	No Keyway	10252	10463	10630	10791	—	—	—	—	—
5/16	No Keyway	10253	10464	10631	10792	—	—	—	—	—
3/8	No Keyway	10254	10466	10632	10793	—	—	—	—	—
7/16	No Keyway	10256	10469	10633	10794	—	—	—	—	—
1/2	No Keyway	10257	10471	10634	10795	17847	17880	17914	—	—
1/2	1/8 x 1/16	49706	10473	10635	10796	17848	17881	17915	—	—
9/16	No Keyway	—	—	10637	10797	—	—	56473	—	—
9/16	1/8 x 1/16	—	—	10638	4412	37994	44323	17917	—	—
5/8	No Keyway	10259	10480	61817	44004	—	—	—	17977	18035
5/8	3/16 x 3/32	—	10482	10639	10798	17855	17882	17918	38888	44828
11/16	3/16 x 3/32	—	—	45227	10799	17851	45494	17919	44059	46642
3/4	1/8 x 1/16	—	—	47835	47725	46295	—	—	—	—
3/4	3/16 x 3/32	—	10491	10640	10800	17852	17883	17920	17978	18036
13/16	3/16 x 3/32	—	—	10641	10801	17853	17884	17921	—	—
7/8	3/16 x 3/32	—	—	10642	10802	17854	17885	17922	17979	18037
15/16	1/4 x 1/8	—	—	—	—	17855	17886	17923	17980	18038
1	1/4 x 1/8	—	—	—	—	17856	17887	17924	17981	18039
1-1/16	1/4 x 1/8	—	—	—	—	17857	17888	17925	26094	18040
1-1/8	1/4 x 1/8	—	—	—	—	17858	17889	17926	17982	18041
1-3/16	1/4 x 1/8	—	—	—	—	—	17890	17927	17983	18042
1-1/4	1/4 x 1/8	—	—	—	—	—	—	17928	17984	18043
1-5/16	5/16 x 5/32	—	—	—	—	—	—	17929	17985	18044
1-3/8	5/16 x 5/32	—	—	—	—	—	—	17930	17986	18045
1-7/16	3/8 x 3/16	—	—	—	—	—	—	45508	17987	18046
1-1/2	3/8 x 3/16	—	—	—	—	—	—	—	17988	18047
1-9/16	3/8 x 3/16	—	—	—	—	—	—	—	17989	18048
1-5/8	3/8 x 3/16	—	—	—	—	—	—	—	17990	18049
1-11/16	3/8 x 3/16	—	—	—	—	—	—	—	—	18050
1-3/4	3/8 x 3/16	—	—	—	—	—	—	—	—	18051
1-13/16	1/2 x 1/4	—	—	—	—	—	—	—	—	18052
1-7/8	1/2 x 1/4	—	—	—	—	—	—	—	—	18053

Notes:
- Tolerances for bore and keyways are found in Engineering Data section (page ED-10).
- Lovejoy does not recommend reboring AL hubs.
- All hubs are supplied standard with one set screw, except the AL150 which is provided with two set screws.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

SS Type Hub - Inch Bore and Keyway UPC Number Selection Table



Size	RSB	1/4	1/2	5/8	3/4	7/8	1	1-1/8	1-3/8	1-1/2
SS075	70001	70006	70007	70008	70009	70010	—	—	—	—
SS095	70002	70011	70011	70012	70013	70014	70015	70016	—	—
SS100	70003	—	—	—	70017	70018	70019	70020	70022	—
SS110	70004	—	—	—	—	—	70023	70024	70026	70027
SS150	70005	—	—	—	—	—	70029	70030	70032	70033

Note:
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

AL Type Couplings

The AL Type coupling consists of two hubs and one spider. Refer to page JW-10 for spider details.



Features

- Aluminum material is corrosion resistant
- Lightweight
- Hubs compatible with standard Lovejoy hub design (except AL150)

AL Type Spider UPC Number Selection Table

Spider Type	AL050	AL070	AL075	AL090/095	AL099/100	AL110	AL150
SOX (NBR) (solid)	10194	10406	10621	11070	11494	11724	18027
SOX (NBR) (open center)	—	10393	10620	10968	11492	11711	—
Urethane (solid)	37786	10395	—	—	—	—	—
Urethane (open center)	—	10411	10626	11075	11499	11729	—
Hytrel (solid)	25307	—	—	—	—	11717	—
Hytrel (open center)	—	25308	25309	25310	11486	38097	—
Bronze (open center)	10198	10409	10624	11073	11497	11727	—
Snap Wrap w/ring	—	—	—	24669	24670	24671	—
Snap Wrap no ring	—	—	—	11071	11495	11725	—

Notes:
- AL Type couplings use the same spiders as L Type couplings, except AL150 which has four jaws instead of three.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

AL Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	AL050	AL070	AL075	AL090	AL095	AL099	AL100	AL110	AL150
8	No Keyway	—	—	48973	—	—	—	—	—	—
10	3 x 1.4	—	—	41924	56514	—	—	—	—	—
11	4 x 1.8	—	65694	51098	58620	—	—	—	—	—
12	4 x 1.8	—	56487	64655	60429	—	—	—	—	—
14	5 x 2.3	—	65696	47302	58621	56800	58624	—	—	—
15	5 x 2.3	—	62906	49633	58622	56801	—	49629	—	—
16	5 x 2.3	—	—	52221	—	47014	—	45012	—	—
17	5 x 2.3	—	—	—	60887	44712	—	59164	—	—
19	6 x 2.8	—	65698	47427	44679	47012	58625	47253	59064	—
20	No Keyway	—	—	56137	—	—	—	—	—	—
20	6 x 2.8	—	—	59394	61478	48347	49634	49630	49631	60878
22	6 x 2.8	—	—	—	—	47013	—	—	—	—
24	8 x 3.3	—	—	—	—	45736	58626	44058	45690	64634
25	8 x 3.3	—	—	—	—	65469	49709	55687	45933	64633
28	8 x 3.3	—	—	—	—	47015	58627	47393	45463	—
30	8 x 3.3	—	—	—	—	—	52048	58266	49632	45063
32	10 x 3.3	—	—	—	—	—	—	—	54417	44347
35	10 x 3.3	—	—	—	—	—	—	—	46215	64803
36	10 x 3.3	—	—	—	—	—	—	—	—	51737
38	10 x 3.3	—	—	—	—	—	—	—	52692	58215
42	12 x 3.3	—	—	—	—	—	—	—	—	45404
46	14 x 3.8	—	—	—	—	—	—	—	—	64119

Notes:
- Tolerances for bore and keyways are found in Engineering Data section (page ED-17).
- Lovejoy does not recommend reboring AL hubs.
- All hubs are supplied standard with one set screw, except the AL150 which is provided with two set screws.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

JW

RRS and RRSC Type Radially Removable Spacer Couplings



RRS Type couplings range from sizes RRS090 to RRS225. The RRS Type coupling consists of:

RRS090 – RRS110:

2 Standard RRS Hubs
1 Spacer Assembly consisting of:
- 2 snap wrap spiders w/o ring
- 2 collars with screws
- 1 spacer

RRS150 – RRS225:

1 Standard RRS Hub
1 Standard RRSC Hub – Drilled for collar
1 Spacer Assembly consisting of:
- 2 snap wrap spiders w/o ring
- 2 collars with screws
- 1 spacer

RRS Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
7/16	No Keyway	—	41229	52184	41231	—	—	—	—
1/2	No Keyway	41227	50357	41230	52199	—	—	—	—
1/2	1/8 x 1/16	56512	38145	—	38151	—	—	—	—
9/16	3/16 x 3/32	—	44474	—	—	—	—	—	—
5/8	No Keyway	—	—	—	—	38159	45265	—	—
5/8	3/16 x 3/32	38143	38146	38168	38152	—	50163	—	—
3/4	No Keyway	—	—	—	—	—	—	45273	45290
3/4	3/16 x 3/32	38144	38147	38169	38153	38160	45266	—	45292
7/8	1/4 x 1/8	—	—	—	52966	—	—	—	—
7/8	3/16 x 3/32	41228	38148	38170	38154	38161	45267	45274	45291
1	1/4 x 1/8	51672	38149	38171	38155	38162	45268	45275	45294
1-1/8	1/4 x 1/8	—	38150	38172	38156	38163	45153	45276	45295
1-1/8	5/16 x 5/32	—	—	—	—	—	48104	—	—
1-1/4	1/4 x 1/8	—	—	—	38157	38164	45392	48503	50743
1-3/8	5/16 x 5/32	—	—	—	38158	38165	44002	44725	45296
1-7/16	3/8 x 3/16	—	—	—	—	51579	49659	48933	49658
1-1/2	3/8 x 3/16	—	—	—	—	40816	49638	46628	45297
1-5/8	3/8 x 3/16	—	—	—	—	38166	41880	45277	45298
1-3/4	3/8 x 3/16	—	—	—	—	—	45162	45278	45299
1-7/8	1/2 x 1/4	—	—	—	—	—	44214	45279	41953
2	1/2 x 1/4	—	—	—	—	—	—	45280	45300
2-1/8	1/2 x 1/4	—	—	—	—	—	—	—	44724
2-3/8	5/8 x 5/16	—	—	—	—	—	—	—	45106

Notes:
- RRS inch hubs are standard with two set screws, including those with no keyway.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS / RRSC Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRSC150	RRSC190	RRSC225
32	No Keyway	55675	55679	55683
38	10 x 3.3	55676	55680	—
40	12 x 3.3	55677	55681	—
42	12 x 3.3	55678	55682	—

Notes:
- RRS inch hubs are standard with two set screws and are drilled to accept retaining collar. Collars are supplied with spacers.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS / RRSC Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRSC150	RRSC190	RRSC225
5/8	No Keyway	45269	—	—
3/4	No Keyway	—	45281	45301
3/4	3/16 x 3/32	45312	—	45303
7/8	3/16 x 3/32	45270	45282	45293
1	1/4 x 1/8	45271	45283	45305
1-1/8	1/4 x 1/8	44779	45284	45105
1-3/8	5/16 x 5/32	44006	45285	45306
1-1/2	3/8 x 3/16	46939	—	45307
1-5/8	3/8 x 3/16	14881	45286	45308
1-3/4	3/8 x 3/16	—	45287	45309
1-7/8	1/2 x 1/4	45272	45288	41954
2	1/2 x 1/4	—	45289	45310
2-1/8	1/2 x 1/4	—	—	45311

Notes:
- RRS inch hubs are standard with two set screws and are drilled to accept retaining collar. Collars are supplied with spacers.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS Type Radially Removable Spacer Couplings



RRS Type couplings range from sizes RRS090 to RRS225.
The RRS Type coupling consists of:

RRS090 – RRS110:
2 Standard RRS Hubs
1 Spacer Assembly consisting of:
- 2 snap wrap spiders w/o ring
- 2 collars with screws
- 1 spacer

RRS150 – RRS225:
1 Standard RRS Hub
1 Standard RRSC Hub – Drilled for collar
1 Spacer Assembly consisting of:
- 2 snap wrap spiders w/o ring
- 2 collars with screws
- 1 spacer

Note: ■ RRS Type Inch Hubs provided standard with two set screws at 90°.

Features

- Standard API based spacers available
- Radially removable inserts
- Standard Lovejoy hub design with additional set screw at 90°

RRS Type Spacer UPC Number Selection Table

Description		RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
3-1/2 in	Spacer Assembly	12620	12620	12630	12630	12644	12660	12676	12685
5 in	Spacer Assembly	26119	26119	26123	26123	26128	26770	27046	27041
7 in	Spacer Assembly	26120	26120	26124	26124	26129	27044	27043	27039
100mm	Spacer Assembly	55563	55563	55567	55567	55570	61056	61057	61058
140mm	Spacer Assembly	55281	55281	55569	55569	55571	55572	55573	55574
180mm	Spacer Assembly	61055	61055	55575	55575	55576	55577	55578	55579

Notes: ■ Spacer length denotes separation between shaft ends. Assembly includes spacer, two snap wrap spiders w/o ring, and two collars with screws. See page JW-10 for ordering information on spiders.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRS Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	RRS090	RRS095	RRS099	RRS100	RRS110	RRS150	RRS190	RRS225
12	No Keyway	48276	—	—	—	—	—	—	—
14	No Keyway	41461	41465	—	—	—	—	—	—
14	5 x 2.3	51231	41466	60094	45101	—	—	—	—
15	No Keyway	—	46561	52697	41469	—	—	—	—
15	5 x 2.3	52096	45778	46972	47123	—	—	—	—
16	5 x 2.3	49198	41325	52098	55534	52092	52471	—	—
19	No Keyway	10777	—	—	—	41471	—	—	—
19	6 x 2.8	41462	41326	44157	41329	49700	48821	46717	—
20	6 x 2.8	41925	41467	47122	52093	41804	—	61497	—
23	8 x 3.3	50135	—	—	—	—	—	—	—
24	8 x 3.3	41463	41327	41990	41330	48301	48182	59109	—
25	8 x 3.3	41464	41468	45055	41470	41906	46751	52153	—
28	8 x 3.3	—	41328	50103	41331	41333	45679	52976	—
30	8 x 3.3	—	—	47132	48317	45681	41738	44471	48982
32	No Keyway	—	—	—	—	—	41472	41473	48319
32	10 x 3.3	—	—	—	41332	41334	41873	45562	41849
35	10 x 3.3	—	—	—	49925	45682	46562	58035	52197
38	10 x 3.3	—	—	—	—	41335	41337	41474	49664
40	12 x 3.3	—	—	—	—	45683	48318	48320	49605
42	12 x 3.3	—	—	—	—	41336	41338	41475	47492

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

C Type Couplings

The C Type coupling consists of two standard hubs, one cushion set and collar with hardware.



Features

- Greater torque and bore capacity than the L-Line series jaw coupling
- Elastomeric cushions are radially removable
- Cushions available in SXB rubber and Hytrel

C Type Cushions / Collar UPC Number Selection Table

Size	C226	C276	C280	C285	C295	C2955
Number of Cushions	6	6	6	6	6	10
SXB (NBR) cushion set	14547	14633	14712	14771	14805	14856
Hytrel® cushion set	27529	14637	14716	14774	14808	14859
Bronze cushion set	14545	—	—	—	51914	51915
Collar with hardware	40122	40123	40124	40292	40293	40293

Notes:
- Chemical resistance and compatibility for cushions is described in Engineering Data section (page ED-9).
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

C Type Hub - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	C226	C276	C280	C285	C295	C2955
7/8 RSB	No Keyway	40125	40126	—	—	—	—
1-1/8	1/4 x 1/8	26036	26050	—	—	—	—
1-1/4 RSB	No Keyway	—	—	20607	41036	—	—
1-1/4	1/4 x 1/8	26037	26051	48988	47173	—	—
1-3/8	5/16 x 5/32	26038	26052	46278	55546	—	—
1-7/16	3/8 x 3/16	26039	—	—	—	—	—
1-1/2 RSB	No Keyway	—	—	—	—	41037	—
1-1/2	3/8 x 3/16	26040	26053	46277	48366	44824	—
1-5/8	3/8 x 3/16	26041	26054	46194	41892	56078	—
1-3/4 RSB	No Keyway	—	—	—	—	—	41038
1-3/4	3/8 x 3/16	26042	26055	44011	52311	45780	—
1-7/8	1/2 x 1/4	26043	26056	44012	51533	47080	49075
2	1/2 x 1/4	26044	26057	48194	—	—	—
2-1/8	1/2 x 1/4	26045	26058	44370	49809	44711	—
2-1/4	1/2 x 1/4	26046	44547	—	—	—	—
2-3/8	5/8 x 5/16	26047	26060	44014	47288	44825	52703
2-1/2	5/8 x 5/16	26048	46120	51998	56779	45249	48454
2-5/8	5/8 x 5/16	—	46755	44013	—	50145	54549
2-7/8	3/4 x 3/8	—	26064	51525	49456	52702	48108
3	3/4 x 3/8	—	—	48193	—	—	—
3-3/8	7/8 x 7/16	—	—	—	47171	45402	49077
3-1/2	7/8 x 7/16	—	—	—	46844	52988	44545
3-5/8	7/8 x 7/16	—	—	—	—	—	50106
3-3/4	7/8 x 7/16	—	—	—	—	—	58378
3-7/8	1 x 1/2	—	—	—	48247	—	49351
4	1 x 1/2	—	—	—	—	—	55016

Notes:
- RSB (Rough Stock Bore) hub has no keyway or set screw hole, it is not useable as shown and must be machined to proper bore tolerances. Hub includes inside sleeve and is drilled and tapped for collar bolts. Non-standard bores available – consult Lovejoy Engineering.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

C Type Hub - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	C226	C276	C280	C285	C295	C2955
30	8 x 3.3	62792	—	—	—	—	—
35	10 x 3.3	60243	47386	—	—	—	—
38	10 x 3.3	45348	62160	—	—	—	—
40	12 x 3.3	49379	54037	—	—	—	—
42	12 x 3.3	—	45219	—	—	—	—
45	14 x 3.8	52550	44723	58265	—	—	—
48	14 x 3.8	54288	—	52205	—	—	—
55	16 x 4.3	58011	58444	49012	—	—	—
60	18 x 4.4	—	47265	49378	—	—	—
65	18 x 4.4	—	52008	—	—	—	58676
70	20 x 4.9	—	59032	—	56794	54355	58677
75	22 x 5.4	—	—	—	—	47813	58678
80	22 x 5.4	—	—	—	44487	58675	58679
90	25 x 5.4	—	—	—	54363	—	—
95	25 x 5.4	—	—	—	—	—	62695

Notes:
- RSB (Rough Stock Bore) hub has no keyway or set screw hole, it is not useable as shown and must be machined to proper bore tolerances. Hub includes inside sleeve and is drilled and tapped for collar bolts. Non-standard bores available – consult Lovejoy Engineering. For RSB hub part numbers see the C Type Inch Hub table.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

H Type Couplings

The H Type coupling consists of two hubs, two inside sleeves, one cushion set and one collar with hardware. H Type coupling hubs are supplied with an inside sleeve. For technical assistance, please contact Lovejoy Engineering.



Features

- Greater torque and bore capacity than the C-Line series jaw coupling
- Elastomeric cushions are radially removable
- Cushions available in SXB rubber and Hytrel

H Type Cushions / Collar UPC Number Selection Table

Size	H3067	H3567	H3667	H4067	H4567
Number of Cushions	14	14	14	14	14
SXB cushion set	15365	15386	15419	15457	15473
Hytrel® cushion set	15367	15388	45223	15459	55475
Collar with hardware	15361	15381	15411	55472	55476

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

H Type Hubs - Rough Stock Inch Bore UPC Number Selection Table

Bore	H3067	H3567	H3667	H4067	H4567
2-1/8 RSB	48070	—	—	—	—
2-5/8 RSB	—	50883	—	—	—
3 RSB	—	—	47878	—	—
3-1/4 RSB	—	—	—	55473	—
3-1/2 RSB	—	—	—	—	55477

Notes: ■ RSB (Rough Stock Bore) hub has no keyway or set screw hole.
■ RSB bores should not be used as shown and may need additional machinign to reach proper tolerances.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRC Type Radially Removable Spacer Coupling

RRC Type couplings range from sizes RRC226to RRC2955. The RRC Type coupling consists of:

2 RRC Hub Adapters (includes bolts)
1 Spacer assembly consisting of:
- 2 RRC Jaw rings
- 1 collar with hardware
- 1 set of SXB (NBR) cushions

RRC Type Spacer UPC Number Selection Table

Description		RRC226	RRC276	RRC280	RRC285	RRC295	RRC2955
3-1/2 in	Spacer Assembly	55709	55712	55715	55718	—	—
4 in	Spacer Assembly	—	—	—	—	55721	55724
5 in	Spacer Assembly	55710	55713	55716	55719	55722	55751
7 in	Spacer Assembly	55711	55174	55717	55720	55723	55752

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

RRC Type Adapter Hubs - Rough Stock Inch Bore UPC Number Selection Table

Bore	RRC226	RRC276	RRC280	RRC285	RRC295	RRC2955
7/8 RSB	55770	55771	—	—	—	—
1-1/4 RSB	—	—	52030	55772	—	—
1-1/2 RSB	—	—	—	—	55773	—
1-3/4 RSB	—	—	—	—	—	55774

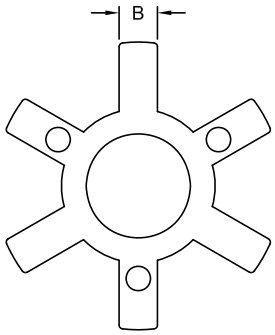
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

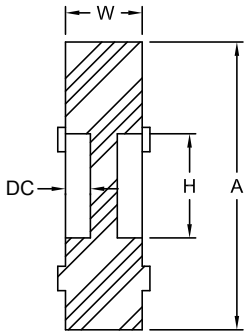
Jaw Type Performance Ratings

Size	Elastomeric Member	Number of Jaws	Basic HP Ratings @ Varying RPM				Torque Rating		Max Bore		Max x1000
			100	1200	1800	3600	in-lbs	Nm	in	mm	RPM
L, AL & LC Type											
L035	SOX (NBR)	2	0.006	0.07	0.10	0.22	3.5	0.40	0.375	9	31.0
L050/AL050	SOX (NBR)	2	0.042	0.50	0.75	1.51	26.3	2.97	0.625	16	18.0
L050/AL050	Hytrel®	2	0.080	0.96	1.43	2.88	50.0	5.65	0.625	16	18.0
L070/AL070	SOX (NBR)	2	0.070	0.84	1.23	2.52	43.2	4.88	0.750	19	14.0
L070/AL070	Hytrel	2	0.180	2.16	3.26	6.48	114.0	12.88	0.750	19	3.6
L075/AL075	SOX (NBR)	3	0.140	1.68	2.57	5.04	90.0	10.17	0.875	22	11.0
L075/AL075	Hytrel	3	0.360	4.32	6.48	12.96	227.0	25.65	0.875	22	3.6
L090/AL090/LC090	SOX (NBR)	3	0.230	2.76	4.11	8.28	144.0	16.27	1.000	25	9.0
L090/AL090	Hytrel	3	0.640	7.68	11.50	23.04	401.0	42.31	1.000	25	3.6
L095/AL095/LC095	SOX (NBR)	3	0.310	3.72	5.50	11.16	194.0	21.92	1.125	32	9.0
L095/AL095	Hytrel	3	0.890	10.68	16.00	32.04	561.0	63.38	1.125	32	3.6
L099/AL099/LC099	SOX (NBR)	3	0.500	6.00	9.10	18.00	318.0	35.93	1.180	30	7.0
L099/AL099	Hytrel	3	1.260	15.12	22.60	45.36	792.0	89.48	1.180	30	3.6
L100/AL100/LC100	SOX (NBR)	3	0.660	7.92	11.90	23.76	417.0	47.11	1.380	35	7.0
L100/AL100	Hytrel	3	1.800	21.60	32.40	64.80	1,134.0	128.12	1.380	35	3.6
L110/AL110/LC110	SOX (NBR)	3	1.260	15.12	23.00	45.36	792.0	89.48	1.620	42	5.0
L110/AL110	Hytrel	3	3.600	43.20	65.00	129.60	2,268.0	256.25	1.620	42	5.0
L150/LC150	SOX (NBR)	3	2.000	24.00	35.00	72.00	1,240.0	140.10	1.880	48	5.0
L150	Hytrel	3	5.900	70.80	106.00	212.40	3,708.0	418.95	1.880	48	5.0
AL-150	SOX (NBR)	4	2.300	27.60	41.40	82.80	1,450.0	163.83	1.880	48	5.0
L190/LC190	SOX (NBR)	3	2.700	32.40	49.00	97.20	1,728.0	195.24	2.120	55	5.0
L190	Hytrel	3	7.400	88.80	134.00	266.40	4,680.0	528.77	2.120	55	5.0
L225/LC225	SOX (NBR)	3	3.700	44.40	67.00	133.20	2,340.0	264.38	2.620	65	4.2
L225	Hytrel	3	9.900	118.80	178.00	356.40	6,228.0	703.67	2.620	65	4.2
L276	SOX (NBR)	3	7.500	90.00	135.00	+	4,716.0	532.84	2.880	73	1.8
C Type											
C226	SXB (NBR)	3	4.700	56.40	85.00	169.20	2,988.0	337.60	2.500	64	4.8
C226	Hytrel	3	9.400	112.80	170.00	338.40	5,940.0	671.13	2.500	64	4.8
C276	SXB (NBR)	3	7.500	90.00	135.00	270.00	4,716.0	532.84	2.880	73	4.2
C276	Hytrel	3	15.000	180.00	269.00	540.00	9,432.0	1065.67	2.880	73	4.2
C280	SXB (NBR)	3	12.000	114.00	216.00	+	7,560.0	854.17	3.000	76	3.5
C280	Hytrel	3	22.000	264.00	396.00	+	13,866.0	1 566.65	3.000	76	3.5
C285	SXB (NBR)	3	14.600	175.20	262.00	+	9,182.0	1 037.43	4.000	102	3.2
C285	Hytrel	3	26.000	312.00	476.00	+	16,680.0	1 882.33	4.000	102	3.2
C295	SXB (NBR)	3	18.000	216.00	324.00	+	11,340.0	1 281.25	3.500	89	2.3
C295	Hytrel	3	36.000	432.00	648.00	+	22,680.0	2 562.50	3.500	89	2.3
C2955	SXB (NBR)	5	30.000	360.00	540.00	+	18,900.0	2 135.42	4.000	102	2.3
C2955	Hytrel	5	60.000	720.00	1,080.00	+	37,800.0	4 270.83	4.000	102	2.3
H Type											
H3067	SXB (NBR)	7	53.000	639.00	954.00	+	33,396.0	3 773.25	4.500	114	2.3
H3067	Hytrel	7	75.000	900.00	1,348.00	+	47,196.0	5 332.44	4.000	102	2.3
H3567	SXB (NBR)	7	74.000	888.00	1,332.00	+	46,632.0	5 268.72	5.000	127	2.1
H3567	Hytrel	7	100.000	1,200.00	1,799.00	+	63,000.0	7 118.06	4.500	114	2.1
H3667	SXB (NBR)	7	103.000	1,236.00	1,851.00	+	64,812.0	7 322.78	5.620	146	1.9
H3667	Hytrel	7	140.000	1,680.00	2,519.00	+	88,200.0	9 965.28	5.000	127	1.9
H4067	SXB (NBR)	7	140.000	1,680.00	2,520.00	+	88,224.0	9 967.99	6.250	159	1.8
H4067	Hytrel	7	200.000	2,400.00	3,600.00	+	126,000.0	14 236.11	5.500	140	1.8
H4567	SXB (NBR)	7	190.000	2,280.00	+	+	119,700.0	13 524.30	7.000	178	1.5
H4567	Hytrel	7	270.000	3,240.00	+	+	170,000.0	19 207.45	6.000	152	1.5
RRS Type											
RRS090	SOX (NBR)	3	0.230	2.76	4.11	8.28	144.0	16.27	1.000	25	3.6
RRS095	SOX (NBR)	3	0.310	3.72	5.50	11.16	194.0	21.92	1.120	28	3.6
RRS099	SOX (NBR)	3	0.500	6.00	9.10	18.00	318.0	35.93	1.180	30	3.6
RRS100	SOX (NBR)	3	0.660	7.92	11.90	23.76	417.0	47.11	1.380	35	3.6
RRS110	SOX (NBR)	3	1.260	15.12	23.00	45.36	792.0	89.48	1.620	42	3.6
RRS150	SOX (NBR)	3	2.000	24.00	35.00	72.00	1,240.0	140.10	1.880	48	3.6
RRS190	SOX (NBR)	3	2.700	32.40	49.00	97.20	1,728.0	195.24	2.120	55	3.6

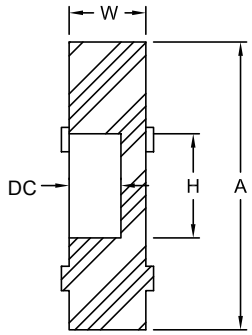
Notes: ■ + indicates: exceeds RPM capacity.
■ See Chart on page JW-9 for Bronze and Urethane ratings.

Elastomers In Compression (Spiders)

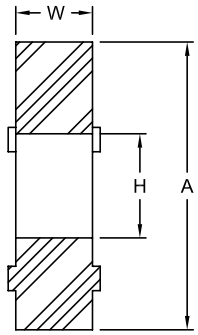




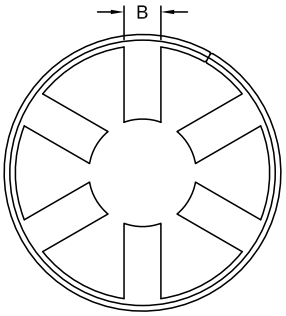
Solid Center

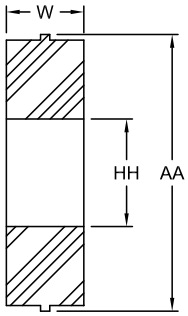


L095 & L225 NBR Only



Open Center





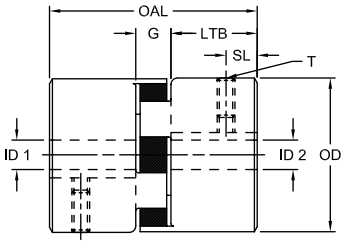
Snap Wrap

Elatomers In Compression (Spiders) Dimensional Data

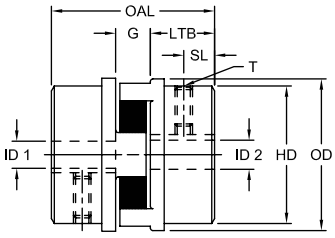
Size	Solid Center Spiders: Material Available NBR SOX	Urethane URE	Hytrel® HYT	Bronze BRZ	A in	DC in	H in	Open Center Spiders: Material Available NBR SOX	Urethane URE	Hytrel® HYT	Bronze BRZ	A in	H: NBR in	URE in	HYT in	BRZ in	Snap Wrap Spiders: Material NBR	AA in	HH in	All: W in	B in
L035	X	—	—	—	0.62	—	—	—	—	—	—	—	—	—	—	—	N/A	—	—	0.28	0.21
L050	X	X	X	—	1.07	—	—	—	—	—	X	1.07	0.31			0.31	N/A	—	—	0.42	0.27
L070	X	X	—	—	1.38	—	—	X	X	X	X	1.38	0.50			0.50	N/A	—	—	0.42	0.27
L075	X	—	—	—	1.75	—	—	X	X	X	X	1.75	0.75			0.75	N/A	—	—	0.44	0.27
L090/L095	X	—	—	—	2.12	0.18	0.88	X	X	X	X	2.12	0.88			0.75	X	2.56	1.06	0.44	0.36
L099/L100	X	—	—	—	2.54	0.25	1.03	X	X	X	X	2.54	1.03			1.03	X	3.08	1.37	0.61	0.43
L110	X	—	X	—	3.31	NBR .25 HYT .18	1.19	X	X	X	X	3.31	1.18			1.38	X	3.87	1.50	0.75	0.45
L150	X	—	X	—	3.75	NBR .31 HYT .21	1.25	X	X	X	X	3.75	1.25			1.125	X	4.56	1.75	0.88	0.59
L190	X	—	X	—	4.50	NBR .31 HYT .18	1.38	X	X	X	X	4.50	1.38			1.38	X	5.18	2.25	0.88	0.60
L225	X	—	X	—	4.98	NBR .38 HYT .18	1.75	X	X	X	X	4.98	1.75			1.75	URE	5.44	2.75	0.88	0.73
L276	—	—	—	—	—	—	—	X	—	—	X	6.19	1.75			1.75	N/A	—	—	1.45	0.75

Notes: ■ X indicates: Applicable.
■ See pages JW-5 and JW-9 for more information on spiders.

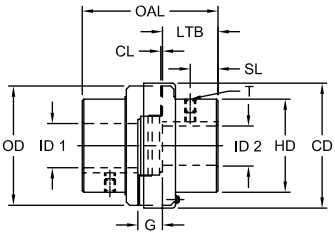
L, C and H Type Couplings



Style 1



Style 2



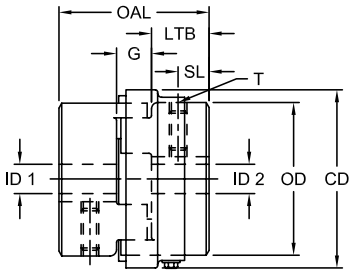
Style 3

L Type, C Type & H Type Dimensional Data

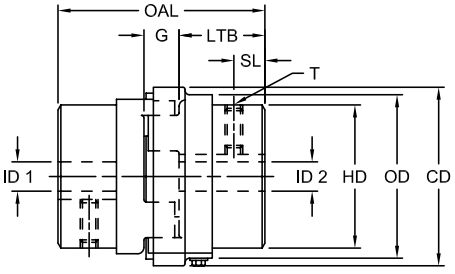
Size	Style No	OAL	G	LTB	SL	CL	T	ID1 - ID2 Min Bore		ID1 - ID2 Max Bore		OD	CD	HD	Weight Min Bore	Weight Max Bore	Moment of Inertia (Solid) WR²
		in	in	in	in	in	in	in	mm	in	mm	in	in	in	lbs	lbs	lb-in²
L Type																	
L035	1	0.81	0.28	0.27	0.13	N/A	#6-32	0.125	3	0.375	9	0.63	N/A	0.63	0.10	0.10	0.003
L050	1	1.71	0.48	0.62	0.31	N/A	1/4-20	0.250	6	0.625*	16	1.08	N/A	1.08	0.30	0.20	0.054
L070	1	1.98	0.48	0.75	0.38	N/A	1/4-20	0.250	6	0.750	19	1.36	N/A	1.36	0.60	0.40	0.115
L075	1	2.13	0.50	0.82	0.31	N/A	1/4-20	0.250	6	0.875	22	1.75	N/A	1.75	1.00	0.80	0.388
L090	1	2.15	0.52	0.82	0.44	N/A	1/4-20	0.250	6	1.000	25	2.11	N/A	2.11	1.50	1.20	0.772
L095	1	2.51	0.52	1.00	0.44	N/A	5/16-18	0.438	12	1.125	29	2.11	N/A	2.11	1.80	1.30	0.890
L099	1	2.84	0.71	1.06	0.44	N/A	5/16-18	0.438	12	1.188	30	2.54	N/A	2.54	2.50	2.00	2.048
L100	1	3.48	0.71	1.38	0.44	N/A	5/16-18	0.438	12	1.375	35	2.54	N/A	2.54	3.20	2.40	2.783
L110	1	4.22	0.88	1.68	0.75	N/A	3/8-16	0.625	16	1.625	42	3.32	N/A	3.32	6.60	5.30	8.993
L150	1	4.50	1.00	1.75	0.75	N/A	3/8-16	0.625	16	1.875	48	3.75	N/A	3.75	8.80	7.00	11.477
L190	2	4.86	1.00	1.94	0.88	N/A	1/2-13	0.750	19	2.125	55	4.50	N/A	4.00	15.30	12.30	39.256
L225	2	5.34	1.00	2.18	1.00	N/A	1/2-13	0.750	19	2.625	67	5.00	N/A	4.25	19.60	15.00	65.000
L276	2	7.82	1.58	3.12	1.56	N/A	1/2-13	0.875	22	2.875	73	6.18	N/A	5.00	40.00	30.50	188.000
C Type																	
C226	3	7.00	1.50	2.75	1.38	0.12	1/2-13	0.875	22	2.500	64	5.15	5.50	4.12	29.00	22.00	74.000
C276	3	7.87	1.63	3.12	1.56	0.12	1/2-13	0.875	22	2.875	73	6.18	6.53	5.00	47.00	36.00	188.000
C280	3	7.87	1.63	3.12	1.56	0.12	1/2-13	1.250	32	3.000	76	7.50	7.81	5.50	61.00	49.00	362.000
C285	3	9.13	1.63	3.75	1.75	0.12	5/8-11	1.250	32	4.000	102	8.50	8.88	6.50	87.00	68.00	642.000
C295	3	9.38	1.88	3.75	1.88	0.12	5/8-11	1.500	38	3.500	89	9.12	9.62	6.25	97.00	78.00	862.000
C2955	3	10.38	1.88	4.25	2.12	0.12	5/8-11	1.750	44	4.000	102	9.12	9.62	7.12	117.00	90.00	932.000
H Type																	
H3067																	
SXB(NBR)	3	11.62	2.12	4.75	2.37	0.12	5/8-11	2.125	54	4.500	114	10.00	10.68	7.00	162.00	123.00	1,485.000
HYTREL®		11.62	2.12	4.75	2.37	0.12	5/8-11	2.125	54	4.000	102	10.00	10.68	7.00	162.00	123.00	1,485.000
H3567																	
SXB(NBR)	3	12.38	2.38	5.00	2.50	0.12	5/8-11	2.625	67	5.000	127	11.00	11.68	7.75	246.00	195.00	2,174.000
HYTREL		12.38	2.38	5.00	2.50	0.12	5/8-11	2.625	67	4.500	114	11.00	11.68	7.75	246.00	195.00	2,174.000
H3667																	
SXB(NBR)	3	13.88	2.62	5.63	2.81	0.12	3/4-10	3.000	76	5.625	143	12.00	12.45	8.75	262.00	190.00	3,591.000
HYTREL		13.88	2.62	5.63	2.81	0.12	3/4-10	3.000	76	5.000	127	12.00	12.45	8.75	262.00	190.00	3,591.000
H4067																	
SXB(NBR)	3	15.38	2.88	6.25	3.12	0.12	3/4-10	3.250	83	6.250	159	13.25	14.00	9.75	390.00	291.00	6,287.000
HYTREL		15.38	2.88	6.25	3.12	0.12	3/4-10	3.250	83	5.500	140	13.25	14.00	9.75	390.00	291.00	6,287.000
H4567																	
SXB(NBR)	3	17.12	3.12	7.00	3.50	0.12	3/4-10	3.500	89	7.000	178	14.50	15.75	10.75	575.00	435.00	10,565.000
HYTREL		17.12	3.12	7.00	3.50	0.12	3/4-10	3.500	89	6.000	152	14.50	15.75	10.75	575.00	435.00	10,565.000

Notes:
- * indicates: Without keyway.
- 2 indicates: Maximum bore is less for H Type couplings with Hytrel due to increased torque capacity.
- N/A indicates: Not Applicable.
- Jaw coupling hubs are standard with one set screw, for two set screws see RRS & RRC sections.
- See pages JW-9 and JW-22 for Performance Data.

LC and AL Type Couplings



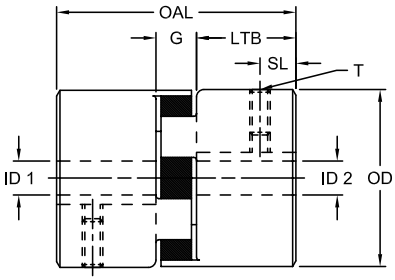
Style 1



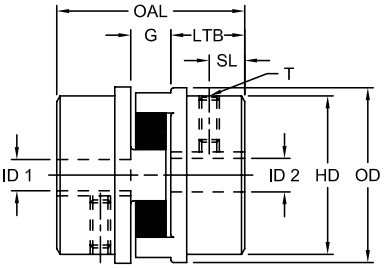
Style 2

LC Type Dimensional Data

Size	Style No	OAL	G	LTB	SL	T	ID1 - ID2 Min Bore		ID1 - ID2 Max Bore		CD	OD	HD	Weight Solid	Weight Max Bore	Moment of Inertia (Solid) WR^2
		in	in	in	in	in	in	mm	in	mm	in	in	in	lbs	lbs	lb-in²
LC090	1	2.12	0.50	0.81	0.44	1/4-20	0.250	6	1.00	25	2.54	2.11	2.11	1.5	1.2	0.772
LC095	1	2.50	0.50	1.00	0.44	5/16-18	0.437	11	1.12	29	2.54	2.11	2.11	1.8	1.3	0.890
LC099	1	2.87	0.75	1.06	0.44	5/16-18	0.437	11	1.18	30	3.11	2.53	2.53	2.5	2.0	2.048
LC100	1	3.50	0.75	1.38	0.44	5/16-18	0.437	11	1.37	35	3.11	2.53	2.53	3.5	2.5	2.783
LC110	1	4.25	0.87	1.69	0.75	3/8-16	0.625	16	1.62	41	3.81	3.31	3.31	6.6	5.0	8.993
LC150	1	4.50	1.00	1.75	0.75	3/8-16	0.625	16	1.88	48	4.41	3.75	3.75	9.1	7.0	11.477
LC190	2	4.88	1.00	1.94	0.88	1/2-13	0.750	19	2.12	54	5.01	4.50	4.00	17.0	13.0	39.256
LC225	2	5.38	1.00	2.19	1.00	1/2-13	0.875	22	2.62	67	5.61	5.00	4.25	23.0	18.0	62.003



Style 1

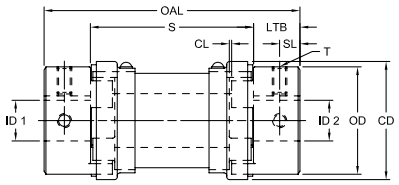


Style 2

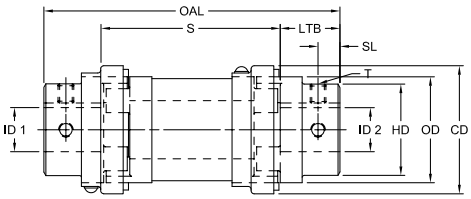
AL Type Dimensional Data

Size	Style No	OAL	G	LTB	SL	T	ID1 - ID2 Min Bore		ID1 - ID2 Max Bore		CD	OD	HD	Weight Solid	Weight Max Bore	Moment of Inertia (Solid) WR^2
		in	in	in	in	in	in	mm	in	mm	in	in	in	lbs	lbs	lb-in²
AL050	1	1.71	0.48	0.62	0.31	1/4-20	0.250	6	0.625	16	N/A	1.08	1.08	0.2	0.2	0.020
AL070	1	2.00	0.50	0.75	0.38	1/4-20	0.250	6	0.750	19	N/A	1.36	1.36	0.3	0.2	0.040
AL075	2	2.12	0.50	0.81	0.31	1/4-20	0.250	6	0.875	22	N/A	1.75	1.53	0.4	0.3	0.121
AL090	2	2.34	0.52	0.91	0.34	1/4-20	0.250	13	0.875	22	N/A	2.12	1.53	0.5	0.4	0.271
AL095	1	2.50	0.50	1.00	0.44	5/16-18	0.500	13	1.125	29	N/A	2.12	2.12	0.8	0.6	0.336
AL099	2	2.81	0.75	1.03	0.44	5/16-18	0.500	13	1.187	30	N/A	2.53	2.06	1.0	0.8	0.644
AL100	1	3.50	0.75	1.37	0.44	5/16-18	0.500	13	1.375	35	N/A	2.53	2.53	1.5	1.1	1.207
AL110	1	4.25	0.87	1.69	0.75	5/16-18	0.625	16	1.625	41	N/A	3.31	3.31	2.7	2.1	3.531
AL150	2	4.50	1.00	1.75	0.63	5/16-18	0.625	16	1.875	48	N/A	4.25	3.19	3.7	2.8	7.002

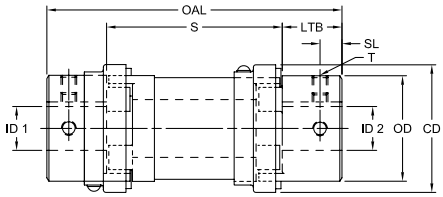
Notes: ■ N/A indicates: Not Applicable.
■ See pages JW-9 and JW-22 for Performance Data.



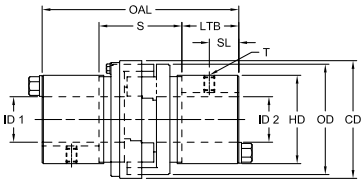
Style 1



Style 2



Style 3



Style 4

RRS & RRC Type Dimensional Data

Size	Style No	OAL in	S in	LTB in	SL in	CL in	T in	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	CD in	OD in	HD in	Weight lbs
RRS090	1	5.12	3.5	0.81	0.43	0.09	1/4-20	0.250	6	1.000	25	2.50	2.11	—	1.7
		6.62	5.0												1.8
		8.62	7.0												1.9
RRS095	1	5.50	3.5	1.00	0.43	0.09	5/16-18	0.437	11	1.125	29	2.50	2.11	—	1.9
		7.00	5.0												2.0
		9.00	7.0												2.1
RRS099	1	5.62	3.5	1.06	0.44	0.12	5/16-18	0.437	11	1.187	30	3.12	2.53	—	2.2
		7.12	5.0												2.5
		9.12	7.0												2.8
RRS100	1	6.25	3.5	1.38	0.44	0.12	5/16-18	0.437	11	1.375	35	3.12	2.53	—	3.2
		7.75	5.0												3.5
		9.75	7.0												3.8
RRS110	1	6.88	3.5	1.68	0.75	0.12	5/16-18	0.625	16	1.625	41	3.81	3.31	—	6.2
		8.36	5.0												6.6
		10.36	7.0												7.2
RRS150	2	7.00	3.5	1.75	0.62	0.12	3/8-16	0.625	16	1.875	48	4.44	3.75	—	12.2
		8.50	5.0												15.7
		10.50	7.0												20.3
RRS190	3	7.38	3.5	1.94	0.88	0.12	1/2-13	0.750	19	2.125	55	5.00	4.50	4.00	23.0
		8.88	5.0												28.2
		10.88	7.0												35.0
RRS225	3	7.88	3.5	2.18	1.00	0.12	1/2-13	0.750	19	2.625	67	5.62	5.00	4.25	26.5
		9.38	5.0												33.0
		11.38	7.0												41.4
RRC226	4	9.19	3.5	2.84	1.38	N/A	1/2-13	0.875	22	2.125	54	5.50	5.16	4.12	37.0
		10.68	5.0												43.0
		12.68	7.0												49.0
RRC276	4	8.60	3.5	2.47	1.00	N/A	1/2-13	0.875	22	2.875	73	6.50	6.18	5.00	52.0
		9.94	5.0												59.0
		11.94	7.0												69.0
RRC280	4	5.50	3.5	2.47	1.00	N/A	1/2-13	1.250	32	3.375	86	7.81	7.50	5.50	66.0
		9.94	5.0												75.0
		11.94	7.0												87.0
RRC285	4	9.31	3.5	2.87	1.00	N/A	1/2-13	1.250	32	4.125	105	8.88	8.50	6.50	92.0
		10.75	5.0												104.0
		12.75	7.0												121.0
RRC295	4	9.50	4.0	2.75	1.38	N/A	1/2-13	1.500	38	4.125	105	9.56	9.12	6.50	100.0
		10.50	5.0												112.0
		12.50	7.0												128.0
RRC2955	4	9.50	4.0	2.75	1.88	N/A	5/8-11	1.750	44	4.125	105	9.56	9.12	6.50	96.0
		10.50	5.0												111.0
		12.50	7.0												132.0

Notes: ■ N/A indicates: Not Applicable.
■ See pages JW-9 and JW-22 for Performance Data.

RRS Type - Metric Spacer Dimensional Data

Size	Style No	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	S mm	OAL mm	Spacer Weight lbs	Spacer Weight Kg
RRS090	1	0.250	11	1.000	25	100	141	0.83	0.38
						140	181	1.21	0.55
						180	221	1.59	0.79
RRS095	1	0.437	11	1.125	28	100	151	0.83	0.38
						140	191	1.21	0.55
						180	231	1.59	0.79
RRS099	1	0.437	11	1.188	30	100	154	1.08	0.49
						140	194	1.63	0.74
						180	234	2.17	0.98
RRS100	1	0.437	11	1.375	35	100	170	1.08	0.49
						140	210	1.63	0.74
						180	250	2.17	0.98
RRS110	1	0.625	16	1.625	41	100	186	1.64	0.74
						140	226	2.55	1.16
						180	266	3.48	1.58
RRS150	2	0.625	16	1.875	48	100	189	5.92	2.69
						140	229	9.54	4.33
						180	269	13.19	5.98
RRS190	2	0.750	19	2.125	54	100	199	8.75	3.97
						140	239	14.00	6.35
						180	277	19.26	8.74
RRS225	2	0.750	19	2.625	67	100	221	10.83	4.91
						140	261	17.49	7.93
						180	291	24.18	10.97

Note: ■ See pages JW-9 and JW-22 for Performance Data.

L Type Hubs - Special Lengths

Size	OAL Standard Dimensions Complete Couplings Overall Length in	LTB Standard Dimensions Hub Length Thru Bore in	OAL Special Dimensions Complete Couplings Overall Length in	LTB Special Dimensions Hub Length Thru Bore in
L050	1.720	0.620	1.10	0.31
			1.34	0.43
			2.24	0.88
L070	2.000	0.750	1.23	0.38
			3.00	1.25
L095	2.500	1.000	3.86	1.68
L100	3.500	1.375	7.99	3.62
L110	4.250	1.690	2.37	0.75
			2.47	0.80
			6.63	2.88

Notes: ■ For ordering information on any special length jaw hub, please contact Lovejoy Customer Service.
■ The Overall Length is calculated using two hubs with the same length thru bore.

Jaw In-Shear

In This Section:

- Jaw In-Shear 6 Pin
- Jaw In-Shear 6 Pin Spacer



Jaw In-Shear

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Jaw In-Shear

Table of Contents

	Running Page No.	Section Page No.
Overview	44	JIS-4
Selection Process	45	JIS-5
Torque Rating > Performance Data	46	JIS-6
6 Pin > Dimensional Data	47	JIS-7
6 Pin Spacer > Dimensional Data	48	JIS-8

JIS

Jaw In-Shear (JIS) 6 Pin Saves Time, Maintenance, and Inventory Costs

- Created through Lovejoy's commitment to continual product improvement
- Unique 6 pin locking system
- Utilizes the standard Lovejoy L and C Type hub design
- The spider is radially removable, so neither hub needs to be removed from their shaft and no tools are needed

Choose from 16 Jaw In-Shear 6 Pin Sizes and New Spacer design

- Available in bore sizes up to 9 inches
- Spacer version designed as a non-lubricates drop-in replacement for a grid spacer coupling
- The JIS 6 Pin spacer coupling is available in sizes LS090-CS350
- Spacer sizes cover BSE (between shaft end measurement) of 3.5, 5, 7, and 9 inches, depending on coupling size



Jaw In-Shear 6 Pin Assembled

Jaw In-Shear 6 Pin Stainless Steel Option

For highly corrosive, heavy washdown environments, the JIS 6 Pin design combined with Lovejoy's stainless steel jaw hubs creates a totally stainless steel coupling.

Features

- 2° angular misalignment capability
- .030 -.094 of an inch parallel misalignment capability
- Torsional wind-up of 5° at full load
- 50D shore Urethane material – maximum temperature of 200° F (93° C)
- The retaining ring is made from #347 cast stainless steel
- Stainless steel hubs are available for sizes SS075-SS150 from stock. All other stainless steel hub sizes are available as made to order
- Can be used with AL Type aluminum jaw coupling hubs for AL090/095, AL099, 100 and AL110
- The Original JIS locking ring is interchangeable with the new JIS 6 Pin elastomer



Jaw In-Shear 6 Pin Element
50D Shore Urethane Material



Jaw In-Shear 6 Pin Ring
Stainless Steel

WARNING

You must refer to page JIS-2 (Page 42) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Jaw In-Shear Coupling Selection Process

The selection process for determining the proper Jaw In-Shear coupling size requires using the charts shown in this section. There are four components to be selected, two hubs, one elastomer spider, and one ring.

Information necessary before a coupling can be selected:

- HP (or KW) and RPM or Torque of Driver
- Shaft sizes of Driver and Driven equipment and
- Corresponding keyways
- Application description, including operation details
- Environmental conditions (temperature, space limitations, or corrosive/chemicals)

List of Charts provided for Selection:

- Chart 1 – Application Service Factor K1 (page JIS-5)
- Chart 2 – Service Factor for Operational Period K2 (page JIS-5)
- Chart 3 – Service Factor for Starts per Hour K3 (page JIS-5)
- Jaw In-Shear Torque Rating Data (page JIS-6)

Steps In Selecting A Jaw In-Shear Coupling

Step 1: Determine the Nominal/Torque (Tkn) of your application:

$$\text{in-lbs} = \text{Tkn} = \frac{\text{HP} \times 63025}{\text{RPM}}$$

$$\text{Nm} = \text{Tkn} = \frac{\text{KW} \times 9550}{\text{RPM}}$$

Step 2: Calculate your Application Service Factor using charts on this page. The total Service Factor (K) will be:

$$K = K1 \times K2 \times K3$$

Step 3: Calculate the Design Torque (Tkmax) of your application. Design Torque = Nominal Torque x Service Factor:

$$Tkmax = Tkn \times K$$

Step 4: Use the Jaw In-Shear Torque Rating table on page JIS-6. Scan down this chart to the first entry where both the Tkn and Tkmax torque values for the coupling size are greater than your application. Once this coupling size is determined, ensure that your application does not exceed the maximum RPM or maximum Bore Size for that hub.

Step 5: Once the coupling size, maximum RPM and maximum Bore has been verified, refer to pages JIS-7 and JIS-8 for dimensional data.

Application Service Factor (K1) — *Chart 1*

Driven Machine Examples	Prime Mover Electric Motor	
	Standard Torque	High Torque
(a) Uniform operation, with small masses to be accelerated. Hydraulic and centrifugal pumps, light generators, blowers, fans, ventilators, belt/screw conveyors	1.0	1.4
(b) Uniform operation, with medium masses to be accelerated. Sheet metal bending machines, wood working machines, mills, textile machines, mixers	1.4	1.8
(c) Medium masses to be accelerated & irregular operation. Rotating ovens, printing presses, generators, shredders, winders, spinning machines, pumps for viscous fluids	1.7	2.0
(d) Medium masses to be accelerated, irregular operation & shocks. Concrete mixers, drop hammers, cable cars, paper mills, compression pumps, propeller pumps, rope winders, centrifuges	2.0	2.2
(e) Large masses to be accelerated, irregular operation & heavy shocks. Excavators, hammer mills, piston pumps, presses, rotary boring machines, shears, forge presses, stamping presses	2.2	2.4
(f) Very large masses to be accelerated, irregular operation & heavy shocks. Piston type compressors and pumps without speed variations, heavy roll sets, welding machines, brick presses, stone crushers	2.3	2.8

Service Factor for Operation Period (K2) — *Chart 2*

Uninterrupted Time of Operation	Factor
Up to 8 hours per day	1.00
More than 8 hours, up to 16 hours/day	1.10
More than 16, up to 24 hours/day	1.15

Service Factor for Starts per Hour (K3) — *Chart 3*

	Operation, Per Table K1:	
	a-c	d-f
Up to 10 starts/stops per hour	1.0	1.0
More than 10, up to 40 per hour	1.4	1.5
More than 40, up to 125 per hour	1.8	2.0
More than 125, up to 250 per hour	2.2	2.5

Easy as 1 - 2 - 3



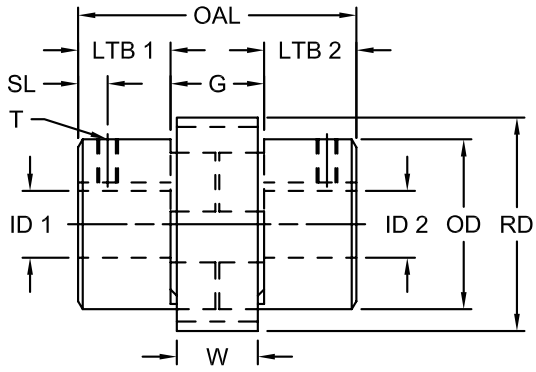
You're Done!

Jaw In-Shear Torque Rating Data

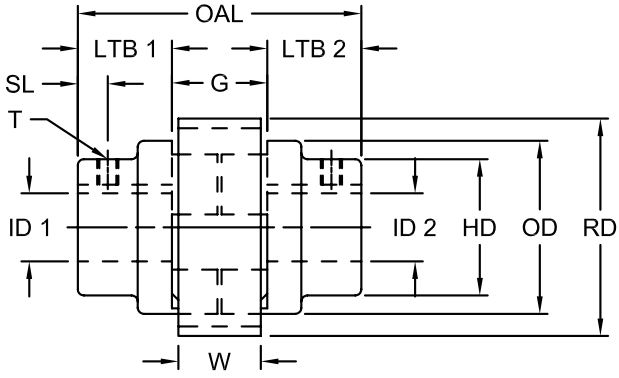
Size	Max Bore		Nominal Torque		Max Torque		Weight	Max Speed
	in	mm	in-lbs	Nm	in-lbs	Nm	lbs	RPM
LS090	1.000	25	335	38	670	76	1.50	9,200
LS095	1.125	28	335	38	670	76	1.50	9,200
LS099	1.188	30	560	63	1,110	125	2.60	7,700
LS100	1.375	35	560	63	1,110	125	2.90	7,700
LS110	1.625	42	1,090	123	2,180	246	5.90	5,900
LS150	1.875	48	1,810	205	3,620	409	8.60	5,200
LS190	2.125	55	2,920	330	5,830	659	14.60	4,300
LS225	2.625	65	4,200	475	8,400	949	17.00	3,900
LS276	2.875	73	7,460	843	14,920	1 686	37.70	3,100
CS280	3.000	76	13,300	1 503	26,600	3 006	53.50	2,600
CS285	4.000	102	18,760	2 120	37,500	4 237	80.60	2,300
CS300	4.875	109	33,000	3 728	66,000	7 457	106.80	2,300
CS310	5.625	143	50,000	5 649	100,000	11 298	139.30	2,100
CS350	6.375	162	83,333	9 415	166,666	18 831	228.20	1,900
CS400	7.375	187	126.667	14 311	256,334	28 623	345.10	1,800
CS500	9.000	229	183,333	20 714	366,666	41 428	589.60	1,500

The Jaw In-Shear Coupling, sizes LS090 – CS285 consists of two hubs, one Jaw In-Shear spider, and one Jaw In-Shear ring.

The Jaw In-Shear Coupling, sizes CS300 – CS500 consists of two hubs, one Jaw In-Shear cushion (set of six) and one Jaw In-Shear ring.



Style 1



Style 2

Jaw In-Shear 6 Pin Dimensional Data

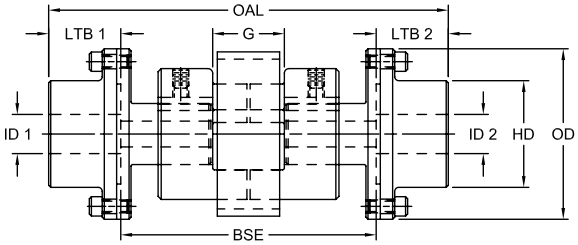
Size	Style	OAL	LTB1 - LTB2	SL	G	T	ID1 - ID2				W	RD	OD	HD
							Min Bore		Max Bore					
		in	in	in	in		in	mm	in	mm	in	in	in	in
LS090	1	2.64	0.82	0.44	1.00	1/4-20	0.25	6	1.00	25	0.83	2.75	2.11	2.11
LS095	1	3.00	1.00	0.44	1.00	5/16-18	0.44	11	1.13	29	0.83	2.75	2.11	2.11
LS099	1	3.52	1.06	0.44	1.40	5/16-18	0.44	11	1.19	30	1.21	3.19	2.54	2.54
LS100	1	4.16	1.38	0.44	1.40	5/16-18	0.44	11	1.38	35	1.21	3.19	2.54	2.54
LS110	1	5.00	1.68	0.75	1.64	3/8-16	0.63	16	1.63	41	1.45	4.00	3.32	3.32
LS150	1	5.44	1.75	0.75	1.94	3/8-16	0.63	16	1.88	48	1.71	4.69	3.75	3.75
LS190	2	5.82	1.94	0.88	1.94	1/2-13	0.75	19	2.13	54	1.71	5.50	4.50	4.00
LS225	2	6.30	2.18	1.00	1.94	1/2-13	0.75	19	2.63	67	1.71	6.13	5.00	4.25
LS276	2	9.43	3.12	1.56	3.19	1/2-13	0.88	22	2.88	73	2.97	7.41	6.18	5.00
CS280	2	9.43	3.12	1.56	3.19	1/2-13	1.25	32	3.00	76	2.97	8.94	7.50	5.50
CS285	2	10.69	3.75	1.75	3.19	5/8-11	1.25	32	4.00	102	2.97	10.00	8.50	6.50
CS300	2	12.25	4.00	2.00	4.25	CSL	1.50	38	4.88	124	5.10	11.07	10.00	7.25
CS310	2	13.25	4.50	2.25	4.25	CSL	1.50	38	5.63	143	5.10	12.07	11.00	8.25
CS350	2	17.64	6.38	3.19	4.88	CSL	1.50	38	6.38	162	5.70	13.57	12.50	9.25
CS400	2	20.14	7.38	3.69	5.38	CSL	1.75	44	7.38	187	6.20	15.33	14.25	10.75
CS500	2	24.38	9.00	4.50	6.38	CSL	1.75	44	9.00	229	7.20	17.57	16.50	13.25

JIS

The Jaw In-Shear Spacer Coupling, sizes LS090 – CS285 consists of:
2 Grid shaft hubs
1 Jaw In-Shear spacer subassembly:
- 2 Jaw In-Shear spacer hubs
- 1 Jaw In-Shear spider
- 1 Jaw In-Shear ring

The Jaw In-Shear Spacer Coupling, sizes CS300 – CS350 consists of:
2 Grid shaft hubs
1 Jaw In-Shear spacer subassembly:
- 2 Jaw In-Shear spacer hubs
- 1 Jaw In-Shear cushion (set of six)
- 1 Jaw In-Shear ring





Jaw In-Shear 6 Pin Spacer Dimensional Data

Size	OAL	LTB1 - LTB2	G	ID1 - ID2				BSE	OD	HD	Grid Hub
				Min Bore		Max Bore					
	in	in	in	in	mm	in	mm	in	in	in	Size
LS090	6.26	1.375	1.000	0.50	12.7	1.375	35	3.5	3.38	2.06	1020
	7.76	1.375	1.000	0.50	12.7	1.375	35	5.0	3.38	2.06	1020
	9.76	1.375	1.000	0.50	12.7	1.375	35	7.0	3.38	2.06	1020
	11.76	1.375	1.000	0.50	12.7	1.375	35	9.0	3.38	2.06	1020
LS095	6.26	1.375	1.000	0.50	12.7	1.375	35	3.5	3.38	2.06	1020
	7.76	1.375	1.000	0.50	12.7	1.375	35	5.0	3.38	2.06	1020
	9.76	1.375	1.000	0.50	12.7	1.375	35	7.0	3.38	2.06	1020
	11.76	1.375	1.000	0.50	12.7	1.375	35	9.0	3.38	2.06	1020
LS099	6.26	1.375	1.400	0.50	12.7	1.375	35	3.5	3.38	2.06	1020
	7.76	1.375	1.400	0.50	12.7	1.375	35	5.0	3.38	2.06	1020
	9.76	1.375	1.400	0.50	12.7	1.375	35	7.0	3.38	2.06	1020
	11.76	1.375	1.400	0.50	12.7	1.375	35	9.0	3.38	2.06	1020
LS100	6.25	1.375	1.400	0.50	12.7	1.375	35	3.5	3.38	2.06	1020
	7.75	1.375	1.400	0.50	12.7	1.375	35	5.0	3.38	2.06	1020
	9.75	1.375	1.400	0.50	12.7	1.375	35	7.0	3.38	2.06	1020
	11.75	1.375	1.400	0.50	12.7	1.375	35	9.0	3.38	2.06	1020
LS110	8.25	1.625	1.640	0.50	12.7	1.625	41	5.0	3.69	2.34	1030
	10.25	1.625	1.640	0.50	12.7	1.625	41	7.0	3.69	2.34	1030
	12.24	1.625	1.640	0.50	12.7	1.625	41	9.0	3.69	2.34	1030
LS150	9.26	2.125	1.940	0.50	12.7	2.125	54	5.0	4.44	3.09	1040
	11.25	2.125	1.940	0.50	12.7	2.125	54	7.0	4.44	3.09	1040
	13.25	2.125	1.940	0.50	12.7	2.125	54	9.0	4.44	3.09	1040
LS190	11.75	2.375	1.940	0.50	12.7	2.375	60	7.0	4.94	3.44	1050
	13.75	2.375	1.940	0.50	12.7	2.375	60	9.0	4.94	3.44	1050
LS225	12.75	2.875	1.940	0.75	19.05	2.875	73	7.0	5.69	4.06	1060
	14.75	2.875	1.940	0.75	19.05	2.875	73	9.0	5.69	4.06	1060
LS276	21.76	3.125	3.190	0.75	19.05	3.125	79	9.0	6.00	4.31	1070
CS280	24.24	3.500	3.190	1.06	26.97	3.500	89	9.0	7.00	4.81	1080
CS285	16.00	3.500	3.190	1.06	26.97	3.500	89	9.0	7.00	4.81	1080
CS300	17.00	4.000	4.250	1.06	26.97	4.000	102	9.0	8.25	5.62	1090
CS310	16.12	3.560	4.898	1.50	38.10	4.750	121	9.0	9.88	6.75	1100
CS350	17.20	4.100	5.380	2.00	50.80	5.500	140	9.0	10.88	7.75	1110

Curved Jaw

In This Section:

- CJ Series
- GS Series



Curved Jaw

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Curved Jaw

CJ

Table of Contents

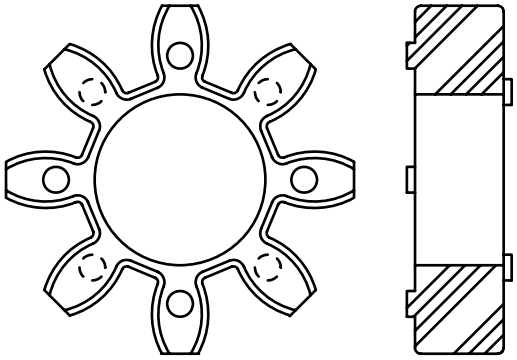
	Running Page No.	Section Page No.
CJ Series Design / Elastomers > Overview	52	CJ-4
CJ Series > Selection Process	53	CJ-5
CJ Series Elastomer Torque Rating > Performance Data	54	CJ-6
CJ Series Spiders > Dimensional Data	56	CJ-8
CJ Series Powder Metal / Steel > Dimensional Data	57	CJ-9
CJ Series Aluminum / Cast Iron / Nodular Iron > Dimensional Data	58	CJ-10
CJ Series Powder Metal / Cast Iron > Item Selection	59	CJ-11
CJ Series Aluminum > Item Selection	60	CJ-12
CJ Series > Displacement / Misalignment	61	CJ-13
CJ Series CJDB / CJSB > Dimensional Data	62	CJ-14
CJ Series CJLFH / CJDLF / CJSFH / CJDSF > Dimensional Data	63	CJ-15
CJ Series CJSPC / CJDSPC > Dimensional Data	64	CJ-16
Taper Lock > Dimensional Data	65	CJ-17
GS Series > Selection Process	66	CJ-18
GS Series > Overview / Performance / Dimensional Data	67	CJ-19
GS Series Performance / Torque Ratings > Performance Data	68	CJ-20
GS Series Hubs > Selection Data	69	CJ-21
GS Series Misalignment > Performance Data	70	CJ-22

The Curved Jaw Design

- Three piece design that is easy to assemble
- The curved jaw design incorporates both radial and axial curvature (crowning) to the elastomer (spider)
- Hubs are offered in sintered iron, steel, aluminum, cast iron and nodular iron materials
- Three different urethane elastomers available
- No metal to metal contact and no lubrication required
- Fail safe design due to the jaw in compression design (continues to function after the elastomer fails)
- The CJ series covers a torque range of 67 to 247,800 in-lbs

Elastomers

- Four types of spiders are available for the CJ Series of couplings
- Urethane spiders provide high abrasion resistance and elasticity, along with good damping characteristics
- The spiders are offered in a variety of shore hardnesses, each providing a different level of torque capacity, damping, and chemical resistance
- The 92A shore insert (yellow in color) is the standard, offering excellent torque carrying capacity
- The 80A shore insert (blue) offers the best damping characteristics
- The 95/98A shore spider (red) offers higher torque than the standard 92 shore, but retains greater damping capacity compared to the 64D shore insert (green)
- The 64D shore insert is offered for high humidity environments, higher temperatures, and offers the highest torque capacity
- The standard curved jaw spider design has a hole in the center to accommodate small between shaft end measurements
- The 80A, 92A, and 95/98A shore spiders have a temperature capacity of 212° F
- The 64D shore spider has a temperature capacity of 230° F
- The curved jaw spider's urethane material also resists oil, dirt, sand, grease, moisture, many solvents, as well as atmospheric effects of ozone



Standard Spider Design

CJ Series Elastomer Recommendation Chart

Spider Type	Application types requiring:
80 shore A (Blue)	Good dampening properties
92 shore A (Yellow)	General & hydraulic applications
95/98 shore A (Red)	High torque requirements
64 shore (Green)	High humidity environments

CJ Series Elastomer Performance Data

Spider Type	Color	Material	Temperature Range		Stock	Misalignment (inches)			Typical Applications
			Normal	Maximum	Sizes	Angular	Parallel	Axial	
80 Shore A	Blue	Polyurethane	-40° to 212° F	-40° to 248° F	14-180	.9 - 1.3 deg	.008 - .027	.039 - .252	Good dampening properties
92 Shore A	Yellow	Polyurethane	-40° to 212° F	-50° to 248° F	14-180	.9 - 1.3 deg	.008 - .027	.039 - .252	General & hydraulic
95/98 Shore A	Red	Polyurethane	-40° to 212° F	-40° to 248° F	14-180	.9 - 1.3 deg	.008 - .027	.039 - .252	High torque requirements

CJ Series Special Elastomer Data

Spider Type	Color	Material	Temperature Range		Stock	Misalignment (inches)			Typical Applications
			Normal	Maximum	Sizes	Angular	Parallel	Axial	
64 Shore D	Green	Polyurethane	-30° to 230° F	-30° to 266° F	14-180	.9 - 1.3 deg	.008 - .027	.039 - .252	High humidity environments

Steps In Selecting A Curved Jaw Coupling

Step 1: Determine the nominal torque of your application:

$$\text{in-lbs} = \text{Tkn} = \frac{\text{HPx63025}}{\text{RPM}}$$

Step 2: Calculate your Application Service Factor using the charts below. The total Service Factor (K) will be:

K = K1 x K2 x K3

Step 3: Calculate the design torque (DTkmax) of your application.

Design Torque (DTkmax) =
Nominal Torque x service factor.

Step 4: Using the Elastomer Torque Ratings Tables on pages CJ-6 and CJ-7 select the urethane shore hardness which best corresponds to your relative damping needs in the application.

Step 5: Next find the columns listing Tkn and Tkmax values listed in Nm and compare them against the DTkmax figure for your application. Make sure that the spider/coupling size values are larger than the application values.

Step 6: Once the size is selected using the torque values, check the table on page CJ-9 to make sure the bore size needed will fit in the coupling.

Step 7: Double check the overall dimensions of the coupling to ensure that it will fit in the space allowed for the coupling in the application.

*This selection process is based on application factors only. A selection process is also available using DIN 740 part 2 standard. Consult with Lovejoy Engineering for details.

CJ

Application Service Factor (K1)

Application Service Factor	Service Factor (K1)
Uniform operation with small masses to be accelerated. Hydraulic and centrifugal pumps, light generators, blowers, fans, ventilators, belt/screw conveyors.	1.0
Uniform operation with medium masses to be accelerated. Sheet metal bending machines, wood working machines, mills, textile machines, mixers.	1.2
Irregular operation, with medium masses to be accelerated. Rotating ovens, printing presses, generators, shredders, winders, spinning machines, pumps for viscous fluids.	1.3
Irregular operation and shocks, with medium masses to be accelerated concrete mixers, drop hammers, cable cars, paper mills, compression pumps, propeller pumps, rope winders, centrifuges.	1.4
Irregular operation and very heavy shocks, with large masses to be accelerated. Excavators, hammer mills, piston pumps, presses, rotary boring machines, shears, forge presses, stone crushers.	1.6
Irregular operation and very heavy shocks, with very large masses to be accelerated. Piston type compressors and pumps without speed variations, heavy roll sets, welding machines, brick presses, stone crushers.	1.8

Note: ■ If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

Application Service Factor for Starts per Hour (K2)

Starts Per Hour	100	200	400	800
Service Factor (K2)	1.0	1.2	1.4	1.6

Application Service Factor for Ambient Temperature (K3)

Ambient Temperature	-30° to 30° C	40° C	60° C	80° C
Service Factor (K3)	1.0	1.2	1.4	1.6

Definition of Terms

Tkn	Rated coupling torque
Tkmax	Maximum torque of the coupling
P[kW]	Power in kilowatts
RPM[1/min]	Revolutions per minute
Nm	Newton meters
DTkmax	Maximum torque of the application
Tkw	Varying load of an application in kilowatts
Pkw	Allowable power loss
BX Hub	Extended length hub

WARNING

You must refer to page CJ-2 (Page 50) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

CJ

CJ Series Elastomer Torque Ratings

Size	Maximum Speed RPM	Wind-Up Angle @ Nominal Torque	Wind-Up Angle @ Maximum Torque	Torque Nominal in-lbs	Torque Maximum in-lbs	Torque Nominal Nm	Torque Maximum Nm	Rated HP @ 1200 RPM	Rated HP @ 1800 RPM
Urethane Spider - 92 Shore A (Yellow)									
14	19,000	6, 4°	10°	66	133	7	15	1.2	1.9
19/24	14,000	3, 2°	5°	88	177	10	20	1.7	2.5
24/32	10,600			310	620	35	70	5.9	8.9
28/38	8,500			840	1,680	95	190	16.0	24.0
38/45	7,100			1,680	3,360	190	380	32.0	45.0
42/55	6,000			2,345	4,690	265	530	45.0	65.0
48/60	5,600			2,740	5,480	310	619	52.0	75.0
55/70	4,750			3,625	7,250	410	819	69.0	100.0
65/75	4,250			5,530	11,060	625	1 250	105.0	150.0
75/90	3,550			11,320	22,650	1 279	2 559	215.0	320.0
90/100	2,800			21,240	42,480	2 400	4 799	400.0	600.0
100/110	2,500			29,200	58,400	3 299	6 598	550.0	825.0
110/125	2,240			42,480	84,960	4 799	9 599	800.0	1,210.0
125/145	2,000			58,850	117,700	6 649	13 298	1,120.0	1,680.0
140	1,800			75,670	151,340	8 549	17 098	1,440.0	2,160.0
160	1,500			113,280	226,560	12 798	25 597	2,150.0	3,230.0
180	1,400			165,050	330,100	18 647	37 295	3,140.0	4,715.0
Urethane Spider - 98/95 Shore A (Red)									
14	19,000	6, 4°	10°	111	221	13	25	2.1	3.2
19/24	14,000	3, 2°	5°	150	300	17	34	2.5	4.0
24/32	10,600			530	1,000	60	113	10.0	15.0
28/38	8,500			1,415	2,830	160	320	25.0	40.0
38/45	7,100			2,875	5,750	325	650	55.0	80.0
42/55	6,000			3,980	7,960	450	899	75.0	110.0
48/60	5,600			4,645	9,290	525	1 050	85.0	125.0
55/70	4,750			6,060	12,120	685	1 369	115.0	170.0
65/75	4,250			8,320	16,640	940	1 880	150.0	225.0
75/90	3,550			16,990	33,980	1 920	3 869	320.0	480.0
90/100	2,800			31,860	63,720	3 600	7 199	600.0	900.0
100/110	2,500			43,805	87,610	4 949	9 898	800.0	1,250.0
110/125	2,240			63,720	127,440	7 199	14 398	1,280.0	1,820.0
125/145	2,000			88,500	177,000	9 999	19 997	1,685.0	2,525.0
140	1,800			113,280	226,560	12 798	25 597	2,150.0	3,235.0
160	1,500			169,920	339,840	19 198	38 395	3,235.0	4,850.0
180	1,400			247,800	495,600	27 996	55 993	4,720.0	7,080.0
Urethane Spider - 80 Shore A Sizes 14 - 38 (Blue)									
14	19,000	6, 4°	10°	35	71	4	8	1.0	2.0
19/24	14,000	3, 2°	5°	43	86	5	10	1.0	3.0
24/32	10,600			151	301	17	34	3.0	9.0
28/38	8,500			407	814	46	92	8.0	12.0
38/45	7,100			823	1,637	93	185	16.0	47.0

CJ Series Elastomer Torque Ratings

Continued

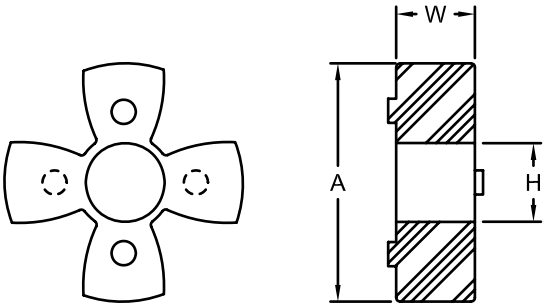
Size	Maximum Speed RPM	Wind-Up Angle @ Nominal Torque	Wind-Up Angle @ Maximum Torque	Torque Nominal in-lbs	Torque Maximum in-lbs	Torque Nominal Nm	Torque Maximum Nm	Rated HP @ 1200 RPM	Rated HP @ 1800 RPM
Urethane Spider 64 Shore D (Green)									
19/24	14,000	2, 5°	3, 6°	185	370	21	42	3.5	5.0
24/32	10,600			660	1,320	75	149	12.5	18.0
28/38	8,500			1,770	3,540	200	400	30.0	50.0
38/45	7,100			3,585	7,170	405	810	65.0	100.0
42/55	6,000			4,955	9,910	560	1 120	90.0	140.0
48/60	5,600			5,795	11,590	655	1 309	110.0	165.0
55/70	4,750			7,300	14,600	825	1 650	125.0	200.0
65/75	4,250			10,395	20,790	1 174	2 349	190.0	290.0
75/90	3,550			21,240	42,480	2 400	4 799	400.0	600.0
90/100	2,800			39,825	79,650	4 499	8 999	750.0	1 125.0
100/110	2,500			54,735	109,470	6 184	12 368	1 040.0	1 550.0
110/125	2,240			79,650	159,300	8 999	17 998	1 515.0	2 275.0
125/145	2,000			110,630	221,260	12 499	24 998	2 100.0	3 160.0
140	1,800			141,600	283,200	15 998	31 996	2 690.0	4 045.0
160	1,500			212,400	424,800	23 997	47 994	4 045.0	6 060.0
180	1,400			309,750	619,500	34 996	69 991	5 900.0	8 850.0

CJ

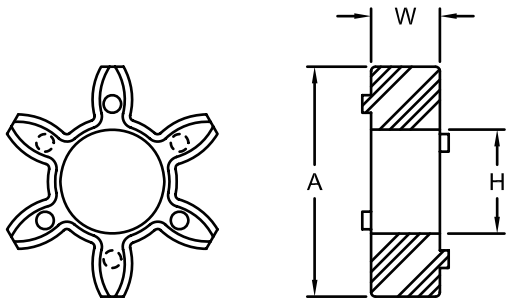
Curved Jaw Coupling Spiders Dimensional Data

Size	A		H		W	
	in	mm	in	mm	in	mm
14	1.18	30	0.39	10	0.39	10
19/24	1.57	40	0.71	18	0.47	12
24/32	2.16	55	1.06	27	0.55	14
28/38	2.56	65	1.15	29	0.59	15
38/45	3.15	80	1.50	38	0.71	18
42/55	3.74	95	1.81	46	0.79	20
48/60	4.13	105	2.01	51	0.83	21
55/70	4.72	120	2.36	60	0.87	22
65/75	5.31	135	2.68	68	1.02	26
75/90	6.30	160	3.15	80	1.18	30
90/100	7.87	200	3.94	100	1.34	34
100/110	8.86	225	4.45	113	1.50	38
110/125	10.04	255	5.00	127	1.65	42
125/145	11.42	290	5.79	147	1.81	46
140	12.60	320	6.50	165	1.97	50
160	14.57	370	7.48	190	2.24	57
180	16.54	420	8.66	220	2.52	64

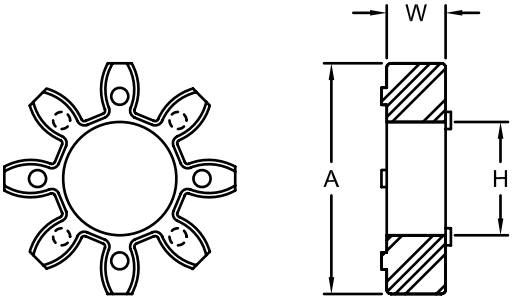




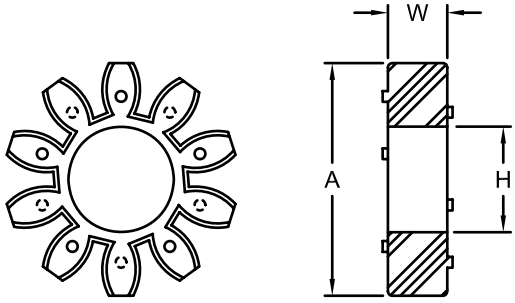
CJ 14



CJ 19/24

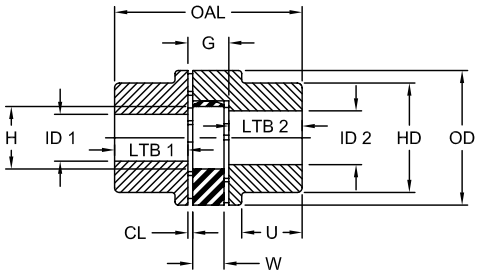


CJ 24/32 - 65/75



CJ 75/90 - 125/145

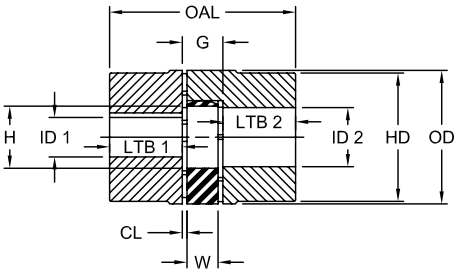
The Curved Jaw coupling consists of two standard hubs and one spider.



Configuration One – 2 A Hubs



Curved Jaw Coupling



Configuration One – 2 B Hubs

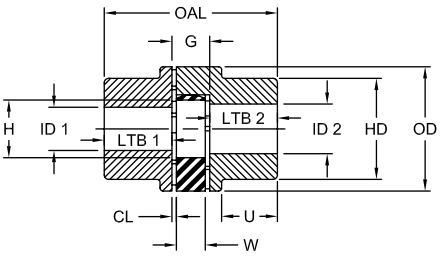
CJ

CJ Series Powder Metal / Steel Dimensional Data

Size	Hub Style	OAL	G	ID1 - ID2				LTB1 - LTB2	H	CL	U	W	OD	HD
				Min Bore		Max Bore*								
		in	in	in	mm	in	mm	in	in	in	in	in	in	in
14	B Style	1.38	0.51	S	S	0.63	16	0.43	0.39	0.06	—	0.39	1.18	—
	BX Style	1.97	0.51	S	S	0.63	16	0.73	0.39	0.06	—	0.39	1.18	—
19/24	A Style	2.60	0.63	S	S	0.75	19	0.98	0.71	0.08	0.79	0.47	1.57	1.26
	B Style	2.60	0.63	0.71	18	0.94	24	0.98	0.71	0.08	—	0.47	1.57	—
	BX Style	3.54	0.63	S	S	0.94	24	1.46	0.71	0.08	—	0.47	1.57	—
24/32	A Style	3.07	0.70	0.47	12	0.95	24	1.18	1.06	0.08	0.94	0.55	2.20	1.57
	B Style	3.07	0.70	0.87	18	1.25	32	1.18	1.06	0.08	—	0.55	2.20	—
	BX Style	4.65	0.70	0.47	12	1.25	32	1.97	1.06	0.08	—	0.55	2.20	—
28/38	A Style	3.54	0.79	0.47	12	1.10	28	1.38	1.18	0.10	1.10	0.59	2.56	1.89
	B Style	3.54	0.79	0.87	22	1.50	38	1.38	1.18	0.10	—	0.59	2.56	—
	BX Style	5.51	0.79	0.47	12	1.50	38	2.36	1.18	0.10	—	0.59	2.56	—
38/45	A Style	4.49	0.94	0.47	12	1.50	38	1.77	1.50	0.12	1.46	0.71	3.15	2.60
	B Style	4.49	0.94	1.38	35	1.75	45	1.77	1.50	0.12	—	0.71	3.15	—
	BX Style	6.46	0.94	0.47	12	1.75	45	2.76	1.50	0.12	—	0.71	3.15	—
42/55	A Style	4.96	1.02	0.47	12	1.65	42	1.97	1.81	0.12	1.57	0.79	3.74	2.95
	B Style	4.96	1.02	1.02	26	2.13	55	1.97	1.81	0.12	—	0.79	3.74	—
	BX Style	6.93	1.02	0.47	12	2.13	55	2.95	1.81	0.12	—	0.79	3.74	—
48/60	A Style	5.51	1.10	0.47	12	1.88	48	2.20	2.01	0.14	1.77	0.83	4.13	3.35
	B Style	5.51	1.10	1.02	26	2.31	60	2.20	2.01	0.14	—	0.83	4.13	—
	BX Style	7.40	1.10	0.47	12	2.31	60	3.15	2.01	0.14	—	0.83	4.13	—
55/70	A Style	6.30	1.18	0.47	12	2.13	55	2.56	2.36	0.16	2.05	0.87	4.72	3.86
	B Style	6.30	1.18	1.89	48	2.75	70	2.56	2.36	0.16	—	0.87	4.72	—
	BX Style	8.27	1.18	0.47	12	2.75	70	3.54	2.36	0.16	—	0.87	4.72	—
65/75	A Style	7.28	1.38	0.47	12	2.50	65	2.95	2.68	0.18	1.85	1.02	5.31	4.53
	B Style	7.28	1.38	2.28	58	2.94	75	2.95	2.68	0.18	—	1.02	5.31	—
	BX Style	9.25	1.38	0.47	12	2.94	75	3.94	2.68	0.18	—	1.02	5.31	—
75/90	A Style	8.27	1.57	0.47	12	2.94	75	3.35	3.15	0.20	2.09	1.18	6.30	5.31
	B Style	8.27	1.57	1.97	50	3.50	90	3.35	3.15	0.20	—	1.18	6.30	—
	BX Style	10.24	1.57	1.97	50	3.50	90	4.33	3.15	0.20	—	1.18	6.30	—
90/100	A Style	9.65	1.77	0.47	12	3.50	90	3.94	3.94	0.22	2.44	1.34	7.87	6.30
	B Style	9.65	1.77	3.11	79	3.94	100	3.94	3.94	0.22	—	1.34	7.87	—
	BX Style	11.61	1.77	3.11	79	3.94	100	4.92	3.94	0.22	—	1.34	7.87	—
140	B Style	14.76	2.56	2.00	51	6.25	160	6.10	6.50	0.30	—	2.56	12.60	10.04
160	B Style	16.73	2.95	2.00	51	7.25	185	6.89	7.48	0.35	—	2.95	14.57	11.42
180	B Style	18.70	3.35	2.00	51	7.63	200	7.68	8.66	0.41	—	3.35	16.54	12.80

Notes:
- * indicates: Maximum bore may be achieved through the use of a shallow keyway.
- CL = Distance between spider and hub face.
- Max Bore refers to maximum straight bore with keyway allowed in hub.
- S = Solid hub with no bore.
- OD is equal to HD for B style aluminum sizes: 19, 24, and 28.
- W = Spider thickness.
- Outside diameter of spider equal to OD.
- H = Inside diameter of spider.

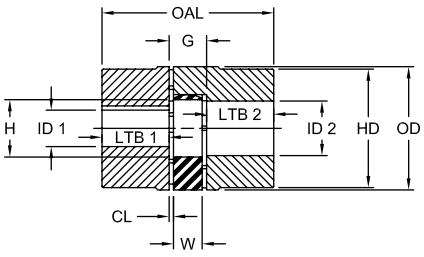
The Curved Jaw coupling consists of two standard hubs and one spider.



Configuration One – 2 A Hubs



Curved Jaw Coupling



Configuration One – 2 B Hubs

CJ Series Aluminum Dimensional Data

Size	Hub Style	OAL in	G in	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore* in	ID1 - ID2 Max Bore* mm	LTB1 - LTB2 in	H in	CL in	U in	W in	OD in	HD in
14	B Style	1.38	0.51	S	S	0.63	16	0.43	0.39	0.06	—	0.39	1.18	—
	BX Style	1.97	0.51	S	S	0.63	16	0.73	0.39	0.06	—	0.39	1.18	—
19/24	A Style	2.60	0.63	S	S	0.75	19	0.98	0.71	0.08	0.79	0.47	1.57	1.26
	B Style	2.60	0.63	S	S	0.94	24	0.98	0.71	0.08	—	0.47	1.57	—
	BX Style	3.54	0.63	S	S	0.94	24	1.46	0.71	0.08	—	0.47	1.57	—
24/32	A Style	3.07	0.70	0.47	12	0.95	24	1.18	1.06	0.08	0.94	0.55	2.20	1.57
	B Style	3.07	0.70	0.87	18	1.25	32	1.18	1.06	0.08	—	0.55	2.20	—
	BX Style	4.65	0.70	0.47	12	1.25	32	1.97	1.06	0.08	—	0.55	2.20	—
28/38	A Style	3.54	0.79	0.47	12	1.10	28	1.38	1.18	0.10	1.10	0.59	2.56	1.89
	B Style	3.54	0.79	0.87	22	1.50	38	1.38	1.18	0.10	—	0.59	2.56	—
	BX Style	5.51	0.79	0.47	12	1.50	38	2.36	1.18	0.10	—	0.59	2.56	—
38/45	A Style	4.49	0.94	0.47	12	1.50	38	1.77	1.50	0.12	1.46	0.71	3.15	2.60
	B Style	4.49	0.94	1.38	35	1.75	45	1.77	1.50	0.12	—	0.71	3.15	—
	BX Style	6.46	0.94	0.47	12	1.75	45	2.76	1.50	0.12	—	0.71	3.15	—
42/55	A Style	4.96	1.02	0.47	12	1.65	42	1.97	1.81	0.12	1.57	0.79	3.74	2.95
	B Style	4.96	1.02	1.02	26	2.13	55	1.97	1.81	0.12	—	0.79	3.74	—
	BX Style	6.93	1.02	0.47	12	2.13	55	2.95	1.81	0.12	—	0.79	3.74	—
48/60	A Style	5.51	1.10	0.47	12	1.88	48	2.20	2.01	0.14	1.77	0.83	4.13	3.35
	B Style	5.51	1.10	1.02	26	2.31	60	2.20	2.01	0.14	—	0.83	4.13	—

CJ Series Cast Iron / Nodular Iron Dimensional Data

Size	Hub Style	OAL in	G in	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore* in	ID1 - ID2 Max Bore* mm	LTB1 - LTB2 in	H in	CL in	U in	W in	OD in	HD in
55/70	A Style	6.30	1.18	0.71	18	2.17	55	2.56	2.36	0.16	2.05	0.87	4.72	3.86
	B Style	6.30	1.18	1.89	48	2.76	70	2.56	2.36	0.16	—	0.87	4.72	—
65/75	A Style	7.28	1.38	0.47	12	2.56	65	2.95	2.68	0.18	1.85	1.02	5.31	4.53
	B Style	7.28	1.38	2.28	58	2.95	75	2.95	2.68	0.18	—	1.02	5.31	—
75/90	A Style	8.27	1.57	0.47	12	2.95	75	3.35	3.15	0.20	2.09	1.18	6.30	5.31
	B Style	8.27	1.57	1.97	50	3.54	90	3.35	3.15	0.20	—	1.18	6.30	—
90/100	A Style	9.65	1.77	0.47	12	3.54	90	3.94	3.94	0.22	2.44	1.34	7.87	6.30
	B Style	9.65	1.77	3.11	79	3.94	100	3.94	3.94	0.22	—	1.34	7.87	—
100	B Style	10.63	1.97	1.57	40	4.33	110	4.33	4.45	0.24	—	1.50	8.86	7.87
110	B Style	11.61	2.17	2.36	60	4.92	125	4.72	5.00	0.26	—	1.65	10.04	9.06
125	B Style	13.39	2.36	2.36	60	5.71	145	5.51	5.79	0.28	—	1.81	11.42	10.43

Notes:
- * indicates: Maximum bore may be achieved through the use of a shallow keyway.
- CL = Distance between spider and hub face.
- Max Bore refers to maximum straight bore with keyway allowed in hub.
- S = Solid hub with no bore.
- OD is equal to HD for B style aluminum sizes: 19, 24, and 28.
- W = Spider thickness.
- Outside diameter of spider equal to OD.
- H = Inside diameter of spider.
- ** = Powder Metal

The Curved Jaw coupling consists of two standard hubs and one spider.

CJ Series – Metric Powder Metal and Cast Iron UPC Number Selection Table

Size	Keyway Size	Powder Metal (PM)						Cast Iron (CI)								
		14	19/24	24/32	28/38	38/45	42/55	48/60			55/70		65/75		75/90	
		B Hub	B Hub	B Hub	B Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub
RSB*		61150	61154	60880	60881	60882	62414	62048	62415	62059	62416	62060	62417	62061	62418	62062
8mm	2 x 1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
9mm	3 x 1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10mm	3 x 1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
11mm	4 x 1.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12mm	4 x 1.8	61151	—	—	70186	—	69805	—	—	—	—	—	—	—	—	—
14mm	5 x 2.3	61152	—	—	69376		—	—	—	—	—	—	—	—	—	—
15mm	5 x 2.3	—	—	—	71983	—	—	—	—	—	—	—	—	—	—	—
16mm	5 x 2.3	—	—	—	68549	—	—	—	—	—	—	—	—	—	—	—
18mm	6 x 2.8	—	—	—	71984	—	—	—	—	—	—	—	—	—	—	—
19mm	6 x 2.8	—	61156	—	61109	—	—	—	—	—	—	—	—	—	—	—
20mm	6 x 2.8	—	65080	—	61164	—	—	—	—	—	—	—	—	—	—	—
22mm	6 x 2.8	—	—	67509	66855	—	—	—	—	—	—	—	—	—	—	—
24mm	8 x 3.3	—	61157	61104	61110	—	—	—	—	—	—	—	—	—	—	—
25mm	8 x 3.3	—	—	61105	61165	—	66257	—	—	—	—	—	—	—	—	—
26mm	8 x 3.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28mm	8 x 3.3	—	—	61106	61111	—	62049	—	—	—	—	—	—	—	—	—
30mm	8 x 3.3	—	—	68739	61112	—	62050	—	72031	—	—	—	—	—	—	—
32mm	10 x 3.3	—	—	—	65320	—	62051	—	66897	—	—	—	—	—	—	—
34mm	10 x 3.3	—	—	—	—	—	67238	—	—	—	—	—	—	—	—	—
35mm	10 x 3.3	—	—	—	67223	—	62052	—	72032	—	72040	—	69563	—	—	—
38mm	10 x 3.3	—	—	—	61113	—	62053	—	68037	—	71385	—	70240	—	—	—
40mm	12 x 3.3	—	—	—	—	69493	66824	70922	69280	—	70056	—	69293	—	—	—
42mm	12 x 3.3	—	—	—	—	60906	69800	62054	72033	—	72041	—	70376	—	—	—
45mm	14 x 3.8	—	—	—	—	66765	—	62055	69326	—	—	—	68074	—	—	—
48mm	14 x 3.8	—	—	—	—	—	—	62056	72034	71933	—	—	70344	—	—	—
50mm	14 x 3.8	—	—	—	—	—	—	62057	72035	66826	72043	—	69481	—	64121	—
55mm	16 x 4.3	—	—	—	—	—	—	62058	—	72036	72044	67513	71739	—	72051	—
60mm	18 x 4.4	—	—	—	—	—	—	—	—	69787	—	69219	68170	—	64744	—
65mm	18 x 4.4	—	—	—	—	—	—	—	—	—	—	66195	72050	67335	72052	—
70mm	20 x 4.9	—	—	—	—	—	—	—	—	—	—	72047	—	70231	65816	—
75mm	20 x 4.9	—	—	—	—	—	—	—	—	—	—	—	—	—	72058	—
80mm	22 x 5.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68826
90mm	25 x 5.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	77760

Notes:
- * indicates: RSB maybe supplied as a solid hub or rough stock bore.
- When referencing a Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

The Curved Jaw coupling consists of two standard hubs and one spider.

CJ Series – Metric Aluminum UPC Number Selection Table

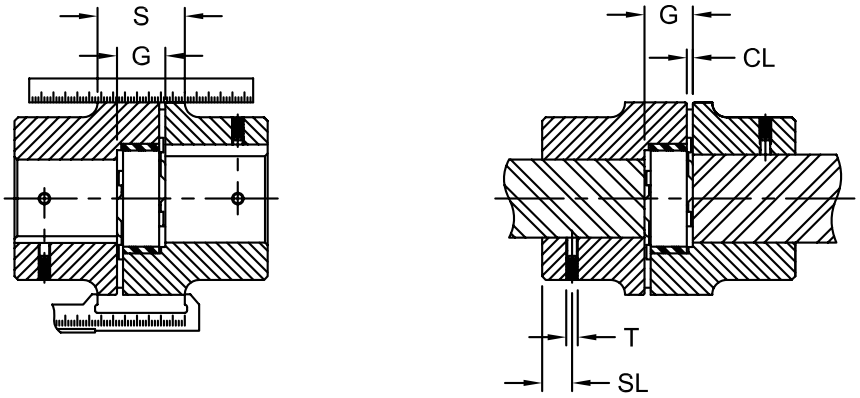
Size	Keyway Size	Aluminum												
		14	19/24		24/32		28/38		38/45		42/55		48/60	
		B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub	A Hub	B Hub
RSB*	No Keyway	71577	71441	71442	71443	71444	71445	71446	71447	71448	71449	71450	71451	71452
6mm	2 x 1	71942	—	—	—	—	—	—	—	—	—	—	—	—
8mm	2 x 1	71943	—	—	—	—	—	—	—	—	—	—	—	—
9mm	3 x 1.4	71944	—	—	—	—	—	—	—	—	—	—	—	—
10mm	3 x 1.4	71945	71951	—	—	—	—	—	—	—	—	—	—	—
11mm	4 x 1.8	71946	71952	—	—	—	—	—	—	—	—	—	—	—
12mm	4 x 1.8	71947	71953	—	—	—	—	—	—	—	—	—	—	—
14mm	5 x 2.3	71948	71954	—	71961	—	71971	—	—	—	—	—	—	—
15mm	5 x 2.3	71949	71950	—	71962	—	—	—	—	—	—	—	—	—
16mm	5 x 2.3	—	71956	—	71963	—	71972	—	—	—	—	—	—	—
18mm	6 x 2.8	—	—	—	71964	—	71973	—	—	—	—	—	—	—
19mm	6 x 2.8	—	71957	—	91765	—	71974	—	—	—	—	—	—	—
20mm	6 x 2.8	—	—	71958	71966	—	71975	—	71986	—	—	—	—	—
24mm	8 x 3.3	—	—	—	71967	—	71976	—	71987	—	—	—	—	—
25mm	8 x 3.3	—	—	71959	—	71968	71977	—	71988	—	—	—	—	—
28mm	8 x 3.3	—	—	—	—	71969	71978	—	71989	—	—	—	—	—
30mm	8 x 3.3	—	—	—	—	—	71979	—	71990	—	—	—	—	—
32mm	10 x 3.3	—	—	—	—	—	—	71980	71991	—	72009	—	—	—
35mm	10 x 3.3	—	—	—	—	—	—	—	71992	—	72010	—	72021	—
38mm	10 x 3.3	—	—	—	—	—	—	71981	71993	—	72011	—	72022	—
40mm	12 x 3.3	—	—	—	—	—	—	71982	—	71994	72012	—	72023	—
42mm	12 x 3.3	—	—	—	—	—	—	—	—	71995	72013	—	72024	—
45mm	14 x 3.8	—	—	—	—	—	—	—	—	—	—	72014	72025	—
48mm	14 x 3.8	—	—	—	—	—	—	—	—	—	—	72015	—	—
50mm	14 x 3.8	—	—	—	—	—	—	—	—	—	—	72016	72026	—
55mm	16 x 4.3	—	—	—	—	—	—	—	—	—	—	72017	72027	72028
60mm	18 x 4.4	—	—	—	—	—	—	—	—	—	—	72019	—	72029
65mm	18 x 4.4	—	—	—	—	—	—	—	—	—	—	72020	—	72030

Notes: ■ * indicates: RSB maybe supplied as a solid hub or rough stock bore.
■ When referencing a Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

CJ Series – Metric Steel BX Style UPC Number Selection Table

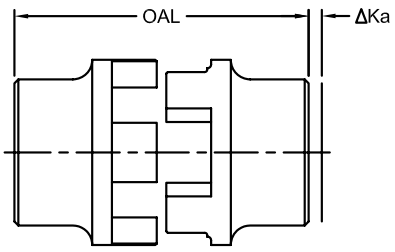
Size	Keyway Size	Steel BX Style							
		14	19/24	24/32	28/38	38/45	42/55	48/60	55/70
Solid	No Keyway	72062	72066	72067	72070	72073	72076	72080	72082
14mm	5 x 2.3	72063	—	—	—	—	—	—	—
19mm	6 x 2.8	—	72064	—	—	—	—	—	—
24mm	8 x 3.3	—	72065	72068	—	—	—	—	—
28mm	8 x 3.3	—	—	72069	—	—	—	—	—
30mm	8 x 3.3	—	—	—	72071	—	—	—	—
40mm	12 x 3.3	—	—	—	72072	72074	—	—	—
45mm	14 x 3.8	—	—	—	—	72075	—	—	—
55mm	16 x 4.3	—	—	—	—	—	72078	—	—

Note: ■ When referencing a Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

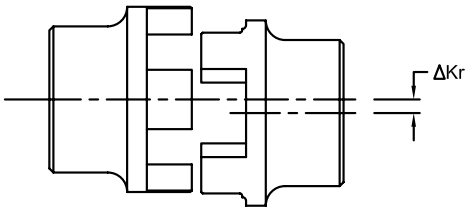


CJ Series Installation and Misalignment Capabilities

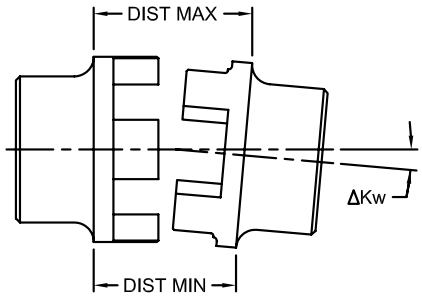
Size: / Dimensions	14	19	24	28	38	42	48	55	65	75	90	100	110	125	140	160	180
G	0.51	0.63	0.70	0.79	0.94	1.02	1.10	1.18	1.38	1.57	1.77	1.97	2.17	2.36	2.56	2.95	3.35
CL	0.06	0.08	0.08	0.1	0.12	0.12	0.14	0.16	0.18	0.20	0.22	0.24	0.26	0.28	0.30	0.35	0.41
H	0.39	0.71	1.06	1.18	1.50	1.81	2.01	2.36	2.68	3.15	3.94	4.45	5.00	5.79	6.50	7.48	8.66
S	—	1.02	1.18	1.34	1.57	1.81	1.97	2.20	2.48	2.83	3.27	3.62	4.06	4.57	5.00	5.71	6.42



Axial Displacement



Radial Displacement



Angular Displacement

CJ Series Displacement For Displacement / Misalignment (inches)

Size:	14	19	24	28	38	42	48	55	65	75	90	100	110	125	140	160	180
Max Axial Displacemnet (Ka)	0.04	0.047	0.055	0.06	0.07	0.079	0.082	0.87	0.102	0.12	0.133	0.15	0.165	0.18	0.19	0.22	0.25
Max Radial Displacement (Kr)	0.007	0.008	0.009	0.01	0.011	0.012	0.014	0.014	0.016	0.018	0.019	0.02	0.021	0.024	0.024	0.025	0.027
Kw Max angular displacement n=1500 [1/min] in deg (Kw)	1, 2	1,2	0, 9	0, 9	1, 0	1, 0	1, 1	1, 1	1, 2	1, 2	1, 2	1, 2	1, 3	1, 3	1, 2	1, 2	1, 2
Angular Displacement	0.03	0.03	0.04	0.05	0.07	0.07	0.08	0.09	0.11	0.13	0.17	0.19	0.22	0.25	0.26	0.3	0.35
Set Screw Information																	
Set Screw Size (T)	8-32	10-24	10-24	5/16-18	5/16-18	5/16-18	5/16-18	3/8-16	3/8-16	3/8-16	3/8-16	1/2-13	5/8-11	5/8-11	—	—	—
Set Screw Location (SL)	0.2	0.39	0.39	0.59	0.59	0.79	0.79	0.79	0.79	0.98	1.18	1.18	1.38	1.57	1.77	1.97	1.97

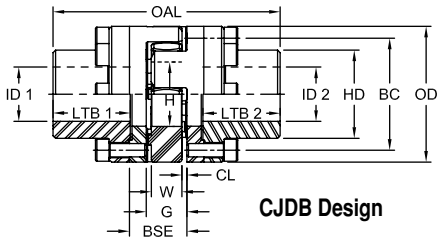
The values regarding displacement are provided assuming normal operating conditions (i.e. temperature, torque with nominal rating of the coupling, speed/ RPM rating of the coupling, and misalignment). Careful installation (i.e. alignment) and periodic inspection should be provided to provide the optimum life of the coupling. Special consideration should be given as to the position of the shafts and the amount of axial movement the coupling will be exposed to. The more accurate the alignment of the coupling, will result in greater life of the elastomer. A coupling guard and rotating equipment safety procedures should always be followed. Please consult the Lovejoy web site at www.lovejoy-inc.com for assembly instructions of the curved jaw coupling.

The Curved Jaw Double Bolt (CJDB) coupling consists of two shaft hubs, two Jaw rings and one spider.

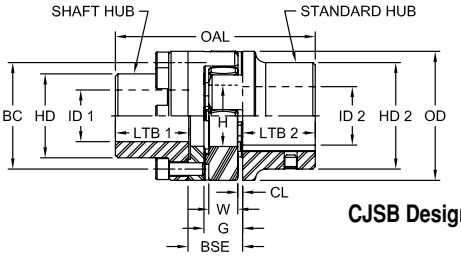
The Curved Jaw Single Bolt (CJSB) coupling consists of one shaft hub, one Jaw ring, one standard hub and one spider.

Features

- Both curved jaw double bolt (CJDB) and single bolt (CJSB)
- Flange is available in steel only



CJDB Design



CJSB Design

CJ Series CJDB and CJSB Dimensional Data

Size	OAL CJDB in	OAL CJSB in	LTB 1 in	LTB 2 in	ID1 Shaft Hub Min Bore in	ID1 Shaft Hub Min Bore mm	ID1 Shaft Hub Max Bore in	ID1 Shaft Hub Max Bore mm	ID2 Standard Hub Min Bore in	ID2 Standard Hub Min Bore mm	ID2 Standard Hub Max Bore in	ID2 Standard Hub Max Bore mm	CL in	W in	G in
24	3.70	3.39	1.18	1.20	S	S	0.94	24	0.47	12	1.10	28	0.08	0.55	0.71
28	4.33	3.94	1.38	1.40	S	S	1.10	28	0.47	12	1.50	38	0.10	0.60	0.79
38	5.28	4.88	1.77	1.79	S	S	1.50	38	0.47	12	1.77	45	0.12	0.71	0.94
42	5.91	5.43	1.97	2.01	S	S	1.65	42	0.47	12	2.17	55	0.12	0.79	1.02
48	6.46	5.98	2.20	2.24	S	S	1.89	48	0.47	12	2.36	60	0.10	0.83	1.10
55	7.56	6.93	2.56	2.60	S	S	2.17	55	0.47	12	2.76	70	0.16	0.87	1.18
65	8.54	7.91	2.95	2.99	S	S	2.56	65	0.47	12	2.95	75	0.18	1.02	1.38
75	9.76	9.02	3.35	3.41	S	S	2.95	75	0.47	12	3.54	90	0.20	1.18	1.57
90	15.16	10.43	3.94	4.00	S	S	3.94	100	0.47	12	3.94	100	0.22	1.34	1.77
100	12.60	11.61	4.33	4.39	S	S	4.33	110	1.58	40	4.33	110	0.24	1.50	1.97
110	13.66	12.64	4.72	4.80	S	S	4.92	125	2.36	60	4.92	125	0.26	1.65	2.17
125	15.75	14.57	5.51	5.59	S	S	5.71	145	2.36	60	5.71	145	0.28	1.81	2.36
140	17.44	16.10	6.10	6.20	S	S	6.50	165	2.01	51	6.30	160	0.30	1.97	2.56
160	19.72	18.23	6.89	6.99	S	S	7.48	190	2.01	51	7.28	185	0.35	2.24	2.95
180	21.85	20.28	7.68	7.80	S	S	8.66	220	2.01	51	7.87	200	0.41	2.56	3.35

Note: ■ S = Solid hub with no bore.

CJ Series CJDB and CJSB Dimensional Data — *Continued*

Size	BSE CJDB in	BSE CJSB in	OD in	H in	HD in	HD2 (A Hub) in	BC in	Capscrew Size mm	# of Capscrews	Pitch	Capscrew Torque in-lbs	Capscrew Torque Nm
24	1.30	1.02	2.17	1.06	1.42	1.57	1.77	M5 x 16	8	8 x 45°	89	10
28	1.54	1.18	2.56	1.18	1.65	1.89	2.13	M6 x 20	8		150	17
38	1.69	1.34	3.15	1.50	2.05	2.60	2.60	M8 x 22	8		363	41
42	1.89	1.50	3.74	1.81	2.44	2.95	3.15	M8 x 25	12	16 x 22.5°	363	41
48	1.97	1.57	4.13	2.01	2.76	3.35	3.54	M8 x 25	12		363	41
55	2.36	1.81	4.72	2.36	3.15	3.86	4.02	M10 x 30	8	8 x 45°	735	83
65	2.56	2.01	5.31	2.44	3.70	4.53	4.57	M12 x 40	12	16 x 22.5°	735	83
75	2.95	2.32	6.30	3.15	4.25	5.31	5.35	M16 x 40	15	20 x 18°	1,062	120
90	3.35	2.56	7.87	3.94	5.59	6.30	6.77	M16 x 50	15		2,611	295
100	3.82	2.95	8.86	4.45	6.22	—	7.68	M20 x 50	15		2,611	295
110	4.06	3.19	10.04	5.00	7.01	—	8.58	M20 x 60	15		5,133	580
125	4.57	3.54	11.42	5.79	8.11	—	9.92	M20 x 60	15		5,133	580
140	5.04	3.90	12.60	6.50	9.25	10.04	11.10	M20 x 60	15		5,133	580
160	5.75	4.45	14.57	7.48	10.63	11.42	12.80	M24 x 70	15		8,850	1 000
180	6.26	4.92	16.54	8.66	12.40	12.80	14.76	M24 x 80	18	24 x 15°	8,850	1 000

The Curved Jaw Large Flange to Hub (CJLFH) coupling consists of one standard hub, one large flange and one spider.

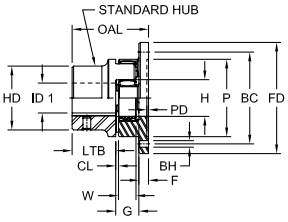
The Curved Jaw Double Large Flange (CJDLF) coupling consists of two large flanges and one spider.

The Curved Jaw Small Flange to Hub (CJSFH) coupling consists of one standard hub, one Jaw ring and one spider.

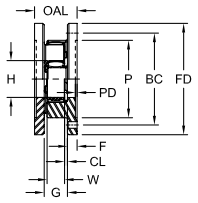
The Curved Jaw Double Small Flange (CJDSF) coupling consists of two Jaw rings and one spider.

Features

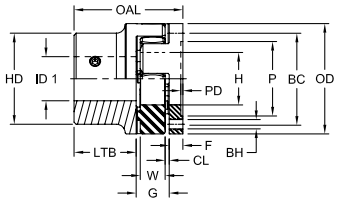
- Flange to Flange design available for applications requiring space saving, compact connections
- Shaft to Flange design is also available for special application situations requiring an alternative connection



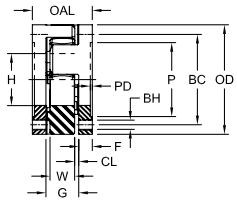
CJLFH Design



CJDLF Design



CJSFH Design



CJDSF Design

CJ Series CJLFH, CJDLF, CJSFH and CJDSF Dimensional Data

Size	ID1 Standard Hub Min Bore in	ID1 Standard Hub Min Bore mm	ID1 Standard Hub Max Bore in	ID1 Standard Hub Max Bore mm	OD General Dimensions in	H General Dimensions in	LTB General Dimensions in	G General Dimensions in	CL General Dimensions in	W General Dimensions in	PD General Dimensions in	F General Dimensions in
24	0.472	12	1.102	28	2.17	1.06	1.18	0.71	0.08	0.55	0.06	0.31
28	0.472	12	1.496	38	2.56	1.18	1.38	0.79	0.01	0.59	0.06	0.39
38	0.472	12	1.772	45	3.15	1.50	1.77	0.94	0.12	0.71	0.06	0.39
42	0.472	12	2.165	55	3.74	1.81	1.97	1.02	0.12	0.79	0.08	0.47
48	0.472	12	2.362	60	4.13	2.01	2.20	1.10	0.14	0.83	0.08	0.47
55	0.472	12	2.756	70	4.72	2.36	2.56	1.18	0.16	0.87	0.08	0.63
65	0.472	12	2.953	75	5.31	2.68	2.95	1.38	0.18	1.02	0.08	0.63
75	0.472	12	3.543	90	6.30	3.15	3.35	1.57	0.20	1.18	0.10	0.75
90	0.472	12	3.937	100	7.87	3.94	3.94	1.77	0.22	1.34	0.12	0.79
100	1.575	40	4.331	110	8.86	4.45	4.33	1.97	0.24	1.50	0.16	0.98
110	2.362	60	4.921	125	10.04	5.00	4.72	2.17	0.26	1.65	0.16	1.02
125	2.362	60	5.709	145	11.42	5.79	5.51	2.36	0.28	1.81	0.20	1.18
140	2.008	51	6.299	160	12.60	6.50	6.10	2.56	0.30	1.97	0.20	1.34
160	2.008	51	7.283	185	14.57	7.48	6.89	2.95	0.35	2.24	0.20	1.50
180	2.008	51	7.874	200	16.54	8.66	7.68	3.35	0.41	2.52	0.22	1.57

CJ Series CJLFH, CJDLF, CJSFH and CJDSF Dimensional Data — *Continued*

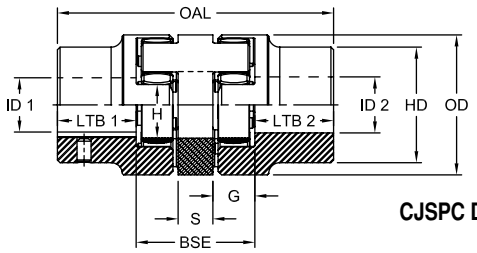
Size	FD CJLFH and CJDLF in	P CJLFH and CJDLF in	BC CJLFH and CJDLF in	# of Bolts CJLFH and CJDLF	BH to DIN 69 CJLFH and CJDLF	OAL CJLFH and CJDLF in	OAL CJDLF in	P CJSFH and CJDSF in	BC CJSFH and CJDSF in	BH CJSFH and CJDSF in	# of Bolts CJSFH and CJDSF	Pitch Z x a CJSFH and CJDSF	OAL CJSFH and CJDSF in	OAL CJDSF in
24	3.15	2.17	2.56	5	0.22	2.20	1.34	1.42	1.77	M5	8		2.20	1.34
28	3.94	2.56	3.15	6	0.26	2.56	1.57	1.73	2.13	M6	8	8 x 45°	2.56	1.57
38	4.53	3.15	3.74	6	0.26	3.11	1.73	2.13	2.60	M8	8		3.11	1.73
42	5.51	3.74	4.53	6	0.35	3.46	1.97	2.56	3.15	M8	12	16 x 22.5°	3.46	1.97
48	5.91	4.13	4.92	8	0.35	3.78	2.05	2.95	3.54	M8	12		3.78	2.05
55	6.89	4.72	5.71	8	0.43	4.37	2.44	3.31	4.02	M10	8	8 x 45°	4.37	2.44
65	7.48	5.31	6.30	10	0.43	4.96	2.64	3.78	4.57	M10	12	16 x 22.5°	4.96	2.64
75	8.46	6.30	7.28	10	0.53	5.67	3.07	4.41	5.35	M12	15		5.67	3.07
90	10.24	7.87	8.86	12	0.69	6.50	3.35	5.71	6.77	M16	15		6.50	3.35
100	11.22	8.86	9.84	12	0.69	7.28	3.94	6.50	7.68	M16	15		7.28	3.94
110	12.99	10.04	11.42	12	0.87	7.91	4.21	7.09	8.58	M20	15	20 x 18°	7.91	4.21
125	14.57	11.42	12.80	16	0.87	9.06	4.72	8.46	9.92	M20	15		9.06	4.72
140	16.14	12.60	14.17	16	0.87	10.00	5.24	9.65	11.10	M20	15		10.00	5.24
160	18.11	14.57	16.14	16	1.02	11.34	5.94	11.02	12.80	M24	15		11.34	5.94
180	20.47	16.54	18.31	16	1.02	12.60	6.50	12.99	14.76	M24	18	24 x 15°	12.60	6.50

The Curved Spacer (CJSPC) coupling consists of two standard hubs, one spacer and two spiders.

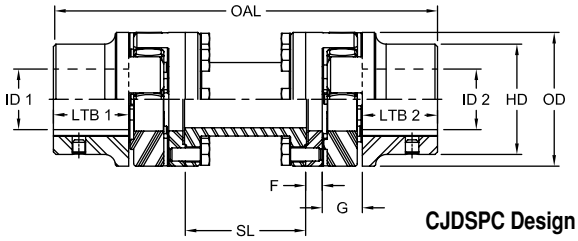
The Curved Drop-out Spacer (CJDSPC) coupling consists of two standard hubs, two Jaw rings, one spacer and two spiders.

Features

- Hubs available in aluminum, sintered iron, cast iron, and steel
- Spacer style features an aluminum spacer piece
- Drop-out style features two inserts for increased damping and parallel misalignment capability
- Center drop-out design provides easy element replacement
- Designed to accommodate a larger shaft separation



CJSPC Design



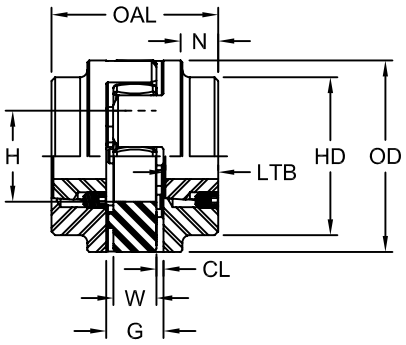
CJDSPC Design

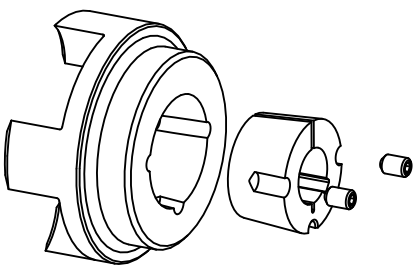
CJ Series CJSPC and CJDSPC Dimensional Data

Size	OAL CJSPC in	OAL CJDSPC in	ID1 - ID2 Standard Hub Min Bore in	Min Bore mm	Max Bore in	Max Bore mm	LTB1 - LTB2 in	H in	G in	S in	BSE in	OD in	HD (A Hub)	F in	SL in
19	3.62	—	S	S	0.94	24	0.98	0.71	0.63	0.39	1.65	1.57	1.26	—	—
24	4.41	BSE+2.36	0.472	12	1.10	28	1.18	1.06	0.71	0.63	2.05	2.17	1.57	0.31	2.05
28	5.04	BSE+2.76	0.472	12	1.50	38	1.38	1.18	0.79	0.71	2.28	2.56	1.89	0.39	2.36
38	6.22	BSE+3.54	0.472	12	1.77	45	1.77	1.50	0.94	0.79	2.68	3.15	2.60	0.39	2.68
42	6.85	BSE+3.94	0.472	12	2.17	55	1.97	1.81	1.02	0.87	2.91	3.74	2.95	0.47	2.99
48	7.56	BSE+4.41	0.472	12	2.36	60	2.20	2.40	1.10	0.94	3.15	4.13	3.35	0.47	3.15
55	8.58	BSE+5.12	0.472	12	2.76	70	2.56	2.36	1.18	1.10	3.46	4.72	3.86	0.63	3.62
65	9.92	BSE+5.91	0.472	12	2.95	75	2.95	2.68	1.38	1.26	4.02	5.31	4.53	0.63	4.02
75	11.26	BSE+6.69	0.472	12	3.54	90	3.35	3.15	1.57	1.42	4.57	6.30	5.31	0.75	4.65
90	12.99	BSE+7.87	0.472	12	3.94	100	3.94	3.94	1.77	1.57	5.12	7.87	6.30	0.79	5.12

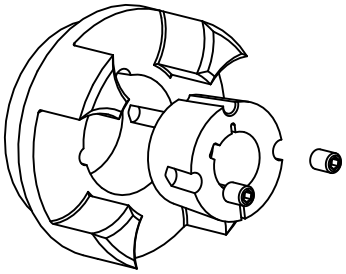
CJ Series CJSPC and CJDSPC Dimensional Data *Continued*

Size	Max radial displacement or max angular displacement l [°] with n = 1500 1/min		Tkn in-lbs	Tkmax in-lbs	Max radial displacement with 1° angular displacement and n = 1500 1/min Spacer for shaft distance dimension BSE 100	140	180	250	Max axial displacement	Hexagon screws DIN 933 8.8 or 10.9 Bolt Size mm	# of Bolts	TA in-lbs	TA Nm
19	0.03	1° 30' each hub	—	—	—	—	—	—	—	—	—	—	—
24	0.04		310	620	0.06	—	—	—	0.06	M5	16	53	6
28	0.04		841	1,682	0.06	—	—	—	0.06	M6	16	124	14
38	0.05		1,682	3,363	0.05	0.08	—	—	0.07	M8	16	310	35
42	0.05		2,345	4,691	—	0.08	—	—	0.08	M8	16	310	35
48	0.05		2,744	5,487	—	0.08	—	—	0.08	M8	16	310	35
55	0.06		3,629	7,257	—	0.07	0.10	0.15	0.09	M10	8	611	69
65	0.07		5,531	11,063	—	—	—	0.15	0.10	M10	12	611	69
75	0.08		11,328	22,656	—	—	0.09	0.15	0.12	M12	15	1,062	120
90	0.01		21,240	42,480	—	—	—	0.14	0.13	M16	15	2,611	295





Reverse Mount



Front Mount

CJ

Taper Loc Dimensional Data

Size	Taper Clamping Bushing	OAL	N	H	LTB	CL	W	G	OD	HD	Fixing screw for taper bushing				
											Diameter	Length	# of Screws	Tightening Torque	
		in	in	in	in	in	in	in	in	in	in	in		in-lbs	Nm
28	1108	2.60	—	1.18	0.91	0.01	0.59	0.79	2.56	2.56	0.25	1/2	2	50	6
38	1108	2.76	0.59	1.50	0.91	0.12	0.71	0.94	3.15	3.07	0.25	1/2	2	50	6
42	1610	3.07	0.63	1.81	1.02	0.12	0.79	1.02	3.74	3.70	0.38	5/8	2	177	20
48	1615	4.17	1.10	2.01	1.54	0.14	0.83	1.10	0.59	4.09	0.38	5/8	2	177	20
55	2012	3.78	0.79	2.36	1.30	0.16	0.87	1.18	4.72	4.65	0.44	7/8	2	274	31
75	2517	5.67	1.42	3.15	2.05	0.20	1.18	1.57	6.30	5.31	0.50	1	2	434	49
	3020										0.63	1-1/4		814	92

Taper Bushing Bore Reference Chart (Taper Loc Bushings Not Provided by Lovejoy)

Size of Taper Bushes	Available Bore Sizes															
1108	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	—	—	—	—	—	—	—
1610	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16	1-1/4	1-5/16	1-3/8	1-7/16
1615	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16	1-1/4	1-5/16	1-3/8	1-7/16
2012	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16	1-1/4	1-5/16	1-3/8	1-7/16
2517	1/2	5/8	11/16	3/4	13/16	7/8	15/16	1	1-1/16	1-1/8	1-3/16	1-1/4	1-5/16	1-3/8	1-7/16	1-1/2
3020	7/8	1-3/16	1	1-1/8	1-3/16	1-1/4	1-5/16	1-5/8	1-7/16	1-1/2	1-9/16	1-5/8	1-11/16	1-3/4	1-13/16	1-7/8

Taper Bushing Bore Reference Chart (Taper Loc Bushings Not Provided by Lovejoy) *Continued*

Size of Taper Bushes	Available Bore Sizes														
1108	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1610	1-1/2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1615	1-1/2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2012	1-1/2	1-9/16	1-5/8	1-11/16	1-3/4	1-13/16	1-7/8	—	—	—	—	—	—	—	—
2517	1-9/16	1-5/8	1-11/16	1-3/4	1-13/16	1-7/8	1-15/16	2	2-1/16	2-1/8	2-3/16	2-1/4	2-5/8	2-3/8	—
3020	1-15/16	2	2-1/16	2-1/8	2-3/16	2-1/4	2-15/16	2-3/8	2-7/16	2-1/2	2-5/8	2-11/16	2-3/4	2-13/16	2-7/8

Typical Applications

Measurement And Control Systems

The torsional stiffness of the GS Series coupling provides zero backlash needed for the accuracy for measurement and control systems. The low torques of these applications gives the GS Series the ability to provide zero backlash due to the elastomer pre-stress.

Servo And Positioning Drives

The GS Series provides a zero backlash, flexible connection for servo and positioning drives. An added benefit of the GS Series is its damping capabilities. For applications that have vibrations at critical speeds, the GS Series coupling can provide a zero backlash solution for vibration problems.

Main Spindle Drives

The GS Series coupling is used in main spindle drives for machine tools. Torque spikes and cyclical loading are handled by the GS Series by damping or by shifting the vibratory frequency range to a non-critical speed range.

GS Series Service Factors

Temperature Factor

	-30° to 30° C	40° C	60° C	80° C
K3	1	1,2	1,4	1,8

Torsional Stiffness Factor

	Main Spindle Drive Of Machine	Positioning Drive	Shaft Encoders, Angle Encoders
K4	2-5	3-8	10

Shock Load Factors

	K5
Light Shock Loads	1,0
Medium Shock Loads	1,4
Heavy Shock Loads	1,8

Calculation Formula

Rated nominal torque $\text{Tkn [in-lbs]} = \frac{\text{HP} \times 63025}{\text{RPM}}$

Rotational inertia coefficient (driver) = $\frac{\text{Moment of inertia (driver)}}{\text{Moment of inertia (driver)} + \text{Moment of inertia (driven)}}$

Rotational inertia coefficient (driven) = $\frac{\text{Moment of inertia (driven)}}{\text{Moment of inertia (driver)} + \text{Moment of inertia (driven)}}$

Check the nominal torque for the application against the rating for the coupling:

Tkn > Rated torque of machine x K3 x K4

Peak Torque

Shock load (driver side) = Peak torque (driver) x rotational inertia coefficient (driver) x K5

Shock load (driven side) = Peak torque (driven) x rotational inertia coefficient (driven) x K5

Check the peak torque for the application against the rating for the coupling (page CJ-20), checking both driver and driven sides:

Tkmax > Peak Torque (driver or driven side) x K3 x K4

The GS Series Curved Jaw coupling offers zero backlash capability in a 3-piece design. The coupling is provided assembled under prestress. The GS Series can be used in a variety of different applications requiring precision and accuracy.

The GS Series spider features a straight center of the spider tooth, providing higher stiffness due to coupling prestress. The crowning of the ends of the spider legs allows for misalignment, while the curved jaws and solid spider center provide high-speed capability.

The jaws of the hubs and the spider legs are chamfered to provide easy assembly. The GS Series coupling design also allows the blind assembly in tight spaces. Raised spider dots on the legs of the spider ensure proper spacing of hubs and spider.

Proper installation of the coupling can provide isolation of electrical currents. Check the CL dimension listed on this page to ensure the proper spacing between spiders and hubs.

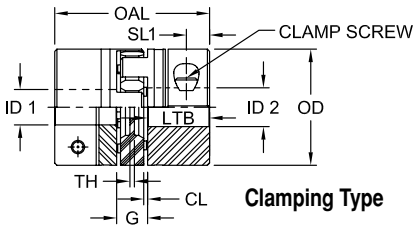
The GS Series coupling has spiders available in four different shore hardnesses. Each spider offers benefits for different vibratory, environmental, and torque transmission requirements.

The GS Curved Jaw coupling consists of two hubs and one spider.

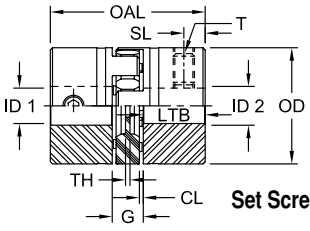


Features

- Simple 3 piece jaw design
- Aluminum and steel material hubs
- Clamping and locking device hubs available
- Four different types of urethane shores to choose from



Clamping Type



Set Screw Type

GS Series Elastomer Performance Data

Spider Type	Color	Material	Temperature Range		Sizes	Typical Applications
			Normal	Maximum	Available	
80 Shore A GS	Blue	Urethane	-50° to 176° F	-80° to 248° F	14-24	Electric measuring systems
92 Shore A GS	Yellow	Urethane	-40° to 194° F	-50° to 248° F	14-55	Electric measuring systems and control systems
95/98 Shore A GS	Red	Urethane	-30° to 194° F	-40° to 248° F	14-55	Positioning drives, main spindle drives, high load applications
64 Shore D GS	Green	Urethane	-20° to 230° F	-30° to 248° F	14-55	High load applications torsionally stiff spider material

GS Series Dimensional Data

		OAL	G	ID1 - ID2				LTB	CL	TH	OD	T	SL		SL1	
				Min Bore		Max Bore						Set Screw Style		Clamping Bolt Style		
Size	Material	in	in	in	mm	in	mm	in	in	in	in	Size in	Location in	Bolt Size mm	Bolt Location in	Torque in-lbs
14	Aluminum	1.38	0.51	S	S	0.625*	16*	0.433	0.06	0.08	1.18	8-32	0.20	M3	0.20	11.39
19/24	Aluminum	2.60	0.63	S	S	0.938	24	0.984	0.08	0.12	1.57	10-24	0.39	M6	0.47	92.93
24/32	Aluminum	3.07	0.71	S	S	1.250	32	1.180	0.08	0.12	2.17	10-24	0.39	M6	0.55	92.93
28/38	Aluminum	3.54	0.79	S	S	1.500	38	1.380	0.10	0.16	2.56	5/16-18	0.59	M8	0.59	221.25
38/45	Aluminum	4.49	0.94	S	S	1.750	44	1.770	0.12	0.16	3.15	5/16-18	0.59	M8	0.79	221.25
42/55	Steel	4.96	1.02	S	S	2.125	54	1.970	0.12	0.16	3.74	5/16-18	0.79	M8	0.79	221.25
48/60	Steel	5.51	1.10	S	S	2.312	59	2.200	0.14	0.16	4.13	5/16-18	0.79	M10	0.87	610.65
55/70	Steel	6.30	1.18	S	S	2.750	70	2.560	0.16	0.18	4.72	3/8-16	0.79	M12	0.98	1062.00
65/75	Steel	5.31	1.38	S	S	2.938	75	2.950	0.18	0.18	5.31	3/8-16	0.19	M16	1.26	2610.75

Notes:
- S = Solid hub with no bore.
- *indicates: Without keyway.
- Specify Bore size ID1 and ID2 when ordering.
- Specify keyway size if needed when ordering.

CJ

GS Series Performance Data

Size	Spider Durometer	Maximum Speed for Clamping Styles: Clamping Hub RPM	Set Screw Hub RPM	Locking Device Hub RPM	Torque: Tkn in-lbs	Tkmax in-lbs	Static Torsional Stiffness [lb in /rad]	Dynamic Torsional Stiffness [lb in /rad]	Radial Stiffness [b/in]	Complete Coupling Max Bore w/o Keyway: Weight lbs	Polar Moment of Inertia J (lb-in2)(x10-6)
14	80 Sh A	12,700	15,900	25,400	35.4	70.8	532.8	1,593	874	0.098	57
	92 Sh A				66.4	132.8	1,014.0	3,044	1,920		
	98 Sh A				110.6	221.3	1,521.0	4,540	3,452		
	64 Sh D				141.6	283.2	2,072.0	6,212	4,892		
19/24	80 Sh A	9,550	11,900	19,000	43.4	86.7	3,042.0	6,115	3,326	0.306	374
	92 Sh A				88.5	177.0	5,071.0	15,222	6,401		
	98 Sh A				150.5	300.9	7,606.0	22,833	11,487		
	64 Sh D				185.9	371.7	70,976.0	32,922	16,745		
24/32	92 Sh A	6,950	8,850	13,800	309.8	619.5	12,673.0	38,019	8,458	0.621	965
	98 Sh A				531.0	1,062.0	18,257.0	54,772	14,630		
	64 Sh D				663.8	1,327.0	26,355.0	79,065	21,123		
28/38	92 Sh A	5,850	7,350	11,700	840.8	1,681.0	20,284.0	60,852	10,173	1.178	3,691
	98 Sh A				1,416.0	2,832.0	30,426.0	91,278	18,288		
	64 Sh D				1,770.0	3,540.0	38,497.0	115,492	24,849		
38/45	92 Sh A	4,750	5,950	9,550	1,681.0	3,363.0	40,568.0	121,705	12,430	2.112	7,485
	98 Sh A				2,876.0	5,752.0	63,366.0	190,151	25,146		
	64 Sh D				3,584.0	7,168.0	93,279.0	279,837	36,999		
42/55	92 Sh A	4,000	5,000	8,050	2,345.0	4,690.0	55,755.0	128,236	13,887	8.324	40,639
	98 Sh A				3,982.0	7,965.0	169,920.0	424,800	31,833		
	64 Sh D				4,956.0	9,912.0	244,083.0	610,207	41,548		
48/60	92 Sh A	3,600	4,550	7,200	2,743.0	5,487.0	69,472.0	159,786	14,745	11.317	68,782
	98 Sh A				4,646.0	9,292.0	197,974.0	494,936	33,890		
	64 Sh D				5,798.0	11,593.0	320,370.0	800,925	47,286		
55/70	92 Sh A	3,150	3,950	6,350	3,628.0	7,257.0	84,075.0	193,372	17,031	16.993	135,334
	98 Sh A				6,062.0	12,124.0	210,630.0	52,675	38,210		
	64 Sh D				7,301.0	14,602.0	366,921.0	917,302	52,852		

Torque Ratings for Clamp Style GS Series Hubs (C and DSC)

Size	5/16 in-lbs	3/8 in-lbs	7/16 in-lbs	1/2 in-lbs	9/16 in-lbs	5/8 in-lbs	11/16 in-lbs	3/4 in-lbs	7/8 in-lbs	15/16 in-lbs	1 in-lbs	1-3/32 in-lbs
19	221	239	239	257	266	274	283	283	310	—	—	—
24	—	301	310	319	336	345	345	345	363	381	398	407
28	—	—	—	708	717	717	743	752	770	805	814	859
38	—	—	—	—	814	832	859	867	876	920	929	965
42	—	—	—	—	—	—	—	—	2,053	2,159	2,177	2,257
48	—	—	—	—	—	—	—	—	—	—	3,478	3,584
55	—	—	—	—	—	—	—	—	—	—	—	—

Torque Ratings for Clamp Style GS Series Hubs (C and DSC) *Continued*

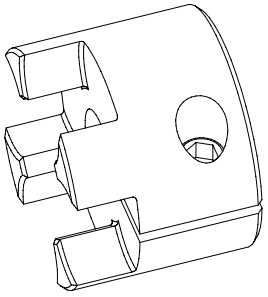
Size	1-3/16 in-lbs	1-1/4 in-lbs	1-3/8 in-lbs	1-1/2 in-lbs	1-9/16 in-lbs	1-5/8 in-lbs	1-3/4 in-lbs	1-7/8 in-lbs	1-15/16 in-lbs	2-1/8 in-lbs	2-5/16 in-lbs	2-1/2 in-lbs
19	—	—	—	—	—	—	—	—	—	—	—	—
24	—	—	—	—	—	—	—	—	—	—	—	—
28	876	903	929	965	—	—	—	—	—	—	—	—
38	991	1,000	1,044	1,080	1,089	1,115	1,151	—	—	—	—	—
42	2,301	2,354	2,425	2,505	2,549	2,602	2,664	2,735	—	—	—	—
48	3,655	3,726	3,841	3,938	4,018	4,089	4,186	4,301	4,372	4,549	—	—
55	—	4,186	4,301	4,407	4,487	4,549	4,655	4,770	4,841	5,018	5,195	5,381

GS Series Hub Design (Descriptions)

The GS Series coupling features different hub designs for different application situations. Each type offers specific benefits for different types of applications. The clamping styles offer the benefit of minimal to zero backlash.

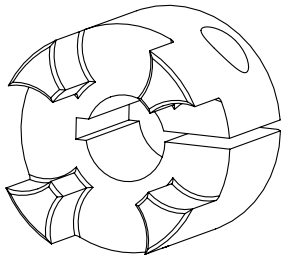
Clamping Hub With Single Slot Without Keyway (C)

Zero backlash, clamping style for torque transmission. Torque capacity of hub depends on bore size. Available standard for sizes GS 14-19.



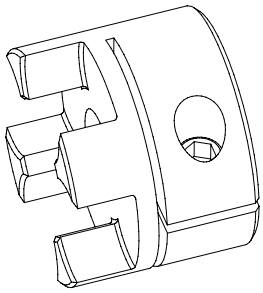
Clamping Hub With Single Slot With Keyway (CWK)

Zero backlash, clamping style with keyway for torque transmission. Usable in applications featuring reversing loads. Available standard for sizes GS 14-19.



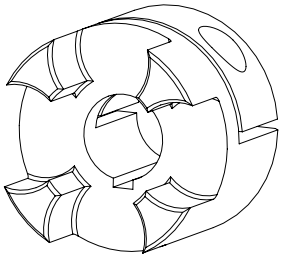
Clamping Hub With Double Slot Without Keyway (DSC)

Transmits torque utilizing a double split clamp to attach hub to shaft. Zero or minimum backlash. Torque capacity of coupling determined by bore size. Available standard for sizes GS 24-55.



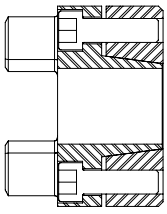
Clamping Hub With Double Slot With Keyway (DSCK)

Transmits torque utilizing a double split clamp to attach hub to shaft. Zero or minimum backlash. Available standard for sizes GS 24-55.



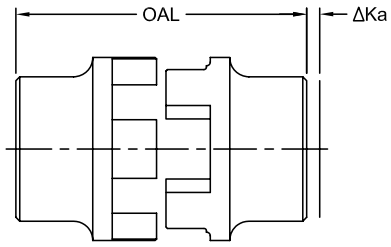
Hub With Frictional Locking (LD)

This hub utilizes a shaft locking device to allow for shaft engagement. This design features bolts tightened on the jaw side of the hub. Available for sizes GS 14-55.



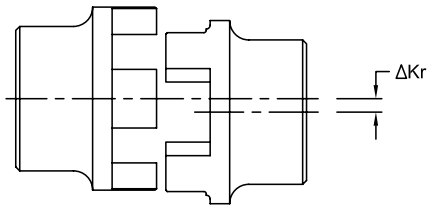
GS Series Misalignment Information

The GS Series coupling handles the following types of misalignment: axial, angular, and radial. The coupling retains its zero backlash properties due to its spider design.



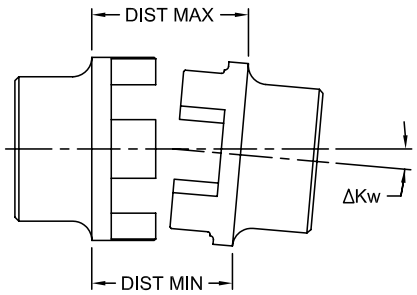
Axial Misalignment

Axial misalignment can be caused by different shaft tolerances or by thermal expansion of shafts. The GS Series coupling handles axial misalignment while keeping reactionary forces low.



Radial Misalignment

Radial misalignment can be defined as a measure of the offset distance between the centerlines of the driving and driven shafts. This type of misalignment, due to the forces involved, causes the highest stress.



Angular Misalignment

Angular misalignment can be defined as a measure of the angle between the centerlines of the driving and driven shafts, where those centerlines would intersect approximately halfway between shaft ends. The GS Series coupling can handle a specific amount of angular misalignment for each given size (refer to chart on right).

GS Series Misalignment Data

Size	Spider Shore	Misalignment		
		Axial	Radial	Angular
14	80	+0.039 -0.019	0.008	1,1
	92		0.006	1,0
	98		0.003	0,9
	64		0.002	0,8
19	80	+0.047 -0.019	0.006	1,1
	92		0.004	1,0
	98		0.002	0,9
	64		0.001	0,8
24	92	+0.055 -0.019	0.005	1,0
	98		0.004	0,9
	64		0.003	0,8
28	92	+0.059 -0.027	0.006	1,0
	98		0.004	0,9
	64		0.003	0,8
38	92	+0.070 -0.027	0.007	1,0
	98		0.005	0,9
	64		0.003	0,8
42	92	+0.078 -0.039	0.007	1,0
	98		0.005	0,9
	64		0.004	0,8
48	92	+0.082 -0.039	0.009	1,0
	98		0.006	0,9
	64		0.004	0,8
55	92	+0.086 -0.039	0.009	1,0
	98		0.007	0,9
	64		0.005	0,8

S-Flex

In This Section:

- J Type
- S Type
- B Type
- SC Type – Spacer
- T Type



S-Flex

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

S-Flex

Table of Contents

	Running Page No.	Section Page No.
Overview	74	SF-4
Elastomer Designs	75	SF-5
Selection Process	76	SF-6
Application Service Factors > Selection Data	77	SF-7
Performance Data	78	SF-8
S Type Inch Bore / Keyway > Item Selection	79	SF-9
Standard Sleeve, J and S Type Metric Bore / Keyway > Item Selection	80	SF-10
J, SC, SCF and SCHS Type > Item Selection	81	SF-11
Ratings > Performance Data	82	SF-12
Sleeves > Dimensional Data	83	SF-13
J Type > Dimensional Data	84	SF-14
S Type > Dimensional Data	85	SF-15
S Type Shallow Keyway > Dimensional Data	86	SF-16
B Type with Bushings > Dimensional Data	87	SF-17
T Type > Dimensional Data	88	SF-18
SC Type > Dimensional Data	89	SF-19
SC Type Flange > Dimensional Data	90	SF-20
SC Type Hub > Dimensional Data	91	SF-21

Elastomer In Shear Type Couplings

The simple design of the S-Flex coupling ensures ease of assembly and reliable performance. No special tools are needed for installation or removal. S-Flex couplings can be used in a wide variety of applications.

Features

- Easy to Install
- Maintenance Free
- No Lubrication
- Dampens Vibration and Controls Shock
- Torsionally Soft
- Double Engagement

Characteristics and Performance Facts

- The S-Flex coupling design is comprised of three parts: two flanges with internal teeth engage an elastomeric flexible sleeve with external teeth
- Torque is transmited through the flanges mounted on both the driver and driven shafts via the sleeve
- Misalignment and torsional shock loads are absorbed by shear deflection in the sleeve
- The shear characteristic of the S-Flex coupling is very well suited to absorb impact loads
- The S-Flex coupling from Lovejoy offers combinations of flanges and sleeves which can be assembled to suit your specific application
- Thirteen sizes are available with torque capabilities that range from 60 in-lbs to 72,480 in-lbs
- The S-Flex flanges are offered in five models which are made from zinc or cast iron
- Sleeves are available in EPDM rubber, Neoprene, or Hytrel® to address a wide variety of application requirements

Flange Types:

J Type — Zinc Die Cast and Cast Iron, Bore Range … 3/8 inch – 1-7/16 inch
S Type — Cast Iron, Bore Range … 1/2 inch – 5-1/2 inch
B Type — Cast Iron with bushing
SC Type — Cast Iron Spacer
T Type — Cast Iron w/Taper-lock bushing

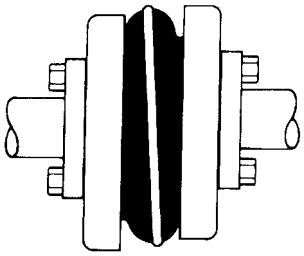
Hubs for SC Type Spacer Coupling:

SCH Type — Powdered Metal or Cast Iron, Standard Length
SCHS Type — Powdered Metal or Cast Iron, Short Length

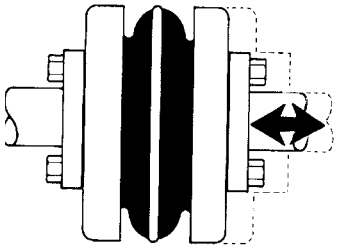
Sleeve Types:

JE –	(EPDM)	1–piece solid
JES –	(EPDM)	1–piece split
JN –	(Neoprene)	1–piece solid
JNS –	(Neoprene)	1–piece split
E –	(EPDM)	2–piece with retaining ring
N –	(Neoprene)	2–piece with retaining ring
H –	(Hytrel)	1–piece
HS –	(Hytrel)	2–piece split

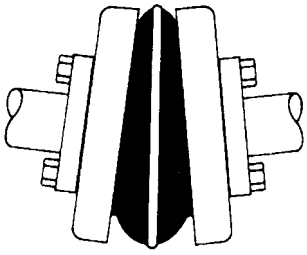
Protection from misalignment, shock, and vibration:



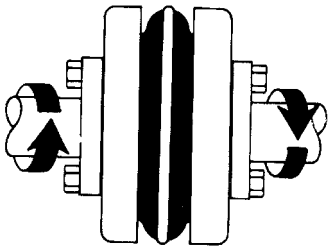
PARALLEL:
The S-Flex coupling accepts up to .062 in of parallel misalignment without wear. The flexible coupling sleeve minimizes the radial loads imposed on equipment bearings, a problem commonly associated with parallel misalignment.



AXIAL:
The S-Flex couplings can be used in applications which require a limited amount of shaft end-float without transferring thrust loads to equipment bearings. Axial movement of approximately 1/8 inch accepted.



ANGULAR:
The flexing action of the elastomeric sleeve and the locking feature of the mating teeth allows the S-Flex coupling to effectively handle angular misalignment up to 1°.



TORSIONAL:
S-Flex couplings effectively dampen torsional shock and vibration to protect connected equipment. The EPDM and Neoprene sleeves have torsional wind-up flexibility of 15° at their rated torque. Hytrel provides 7° wind-up.

WARNING

You must refer to page SF-2 (Page 72) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Elastomer Designs

- Lovejoy offers flexible sleeve for S-Flex coupling in three designs: one-piece solid, one-piece split, and two-piece with retaining ring
- The one-piece split design provides solutions for applications with unique requirements where small shaft separations inhibit the installation of a one-piece solid sleeve
- Pre-molded teeth along the diameter of the sleeve engage with teeth of the coupling flanges
- No clamps or screws are needed to connect the flanges with the flexible sleeve which securely lock together under torque for smooth transmission of power
- Torque is transmitted through shear loading of the sleeve
- All three sleeve materials are highly elastic which permits the S-Flex coupling to protect connected equipment from harmful shock loading, vibration, and shaft misalignment



JE and JN Type



JES and JNS Type



E and N Type



H Type

JE, JN, JES, JNS Sleeve Types

These sleeves feature a one-piece design molded in EPDM & Neoprene rubber. In the case of JES & JNS Types, the one-piece design is split to provide for ease of installation and removal.

E, N Sleeve Types

These sleeves feature a two-piece design with retaining ring. The E Type is molded in EPDM rubber and the N Type is molded in Neoprene. The two-piece design is ideal for applications where there is difficulty in separating the shafts of the driver and driven.

H, HS Sleeve Types

These sleeves feature both a one-piece solid (H) and two-piece split (HS) design and are molded of Hytrel. The sleeves in Hytrel material are designed to transmit power for high torque applications. Because of the design and the properties of the Hytrel molded sleeve, the H and HS sleeves should not be used as direct replacements for EPDM or Neoprene sleeves, and can only be used with S, TF, or SC flanges.

Sleeve Materials

EPDM – Unless otherwise specified, S-Flex couplings are supplied with EPDM flexible sleeves. EPDM has good resistance to commonly used chemicals and is generally not affected by dirt or moisture. Color is black.

NEOPRENE – Neoprene provides very good performance characteristics for most applications and offers a very good resistance to chemical and oil conditions. Color is black with a green dot.

HYTREL® – Hytrel is a polyester elastomer designed for high torque and high temperature applications and offers excellent resistance to chemical and oil conditions. Color is orange.

Notes:
- See page ED-9 for sleeve chemical resistance chart.
- Hytrel is a registered trademarks of E.I. DuPont Nemours & Co.

S-Flex Coupling Selection Process

The selection process for determining the proper S-Flex coupling requires using the charts shown on the following pages. There are three components to be selected, two flanges and one sleeve.

Information necessary before a coupling can be selected:

- HP and RPM of Driver or running torque
- Shaft size of Driver and Driven equipment and corresponding keyways
- Application or equipment description
- Environmental conditions (i.e. extreme temperature, corrosive conditions, space limitations)

List of Charts provided for Selection:

- Chart 1 - Application Service Factors (page SF-7)
- Chart 2 - Sleeve Performance Data (page SF-8)
- Chart 3 - S-Flex Nominal Rated Torque Data (page SF-8)

Formulas:

$$\text{Nominal Torque} = \text{in-lb} = \frac{(HP \times 63025)}{RPM}$$

$$\text{Nm} = \frac{(KW \times 9550)}{RPM}$$

Design Torque = Nominal Torque x Application Service Factor

Steps In Selecting An S-Flex Coupling

Step 1: Determine the Nominal Torque in in-lb of your application by using the following formula:

$$\text{Nominal Torque} = \frac{(HP \times 63025)}{RPM}$$

Step 2: Using the Application Service Factor Chart 1 (page SF-7) select the service factor which best corresponds to your application.

Step 3: Calculate the Design Torque of your application by multiplying the Nominal Torque calculated in Step 1 by the Application Service Factor determined in Step 2.

Design Torque = Nominal Torque x Application Service Factor

Step 4: Using the Sleeve Performance Data Chart 2 (page SF-8) select the sleeve material which best corresponds to your application.

Step 5: Using the S-Flex Nominal Rated Torque Chart 3 (page SF-8) locate the appropriate sleeve material column for the sleeve selected in Step 4.

Step 6: Scan down this column to the first entry where the Torque Value in the column is greater than or equal to the Design Torque calculated in Step 3.

Refer to the maximum RPM value of the coupling size to ensure that the application requirements are met. If the maximum RPM value is less than the application requirement, S-Flex couplings are not recommended for the application.

Note:
- If Nominal Torque is less than 1/4 of the coupling's nominal rated torque, misalignment capacities are reduced by 1/2. Once torque value is located, refer to the corresponding coupling size in the first column of the S-Flex Nominal Rated Torque Data Chart 3 (page SF-8).

Step 7: Compare the application driver/driven shaft sizes to the maximum bore size available on the coupling selected. If coupling max bore is not large enough for the shaft diameter, select the next largest coupling that will accommodate the driver/driven shaft diameters.

Step 8: Using the Item Selection tables, find the appropriate Keyway and Bore size required and locate the Lovejoy UPC number.

Application Service Factors

Chart 1

	Service Factors		
	Electric Motor w/ Standard Torque	Electric Motor w/ High Torque	Turbines, Air & Hydraulic Motors
Agitators	1.25	1.50	1.00
Band Resaw (lumber)	1.50	2.00	1.25
Barge Haul Puller	2.00	2.50	1.50
Barking (lumber)	2.00	2.50	1.50
Bar Screen (sewage)	2.00	2.50	1.50
Batches (textile)	1.25	1.50	1.00
Beater and Pulper (paper)	1.50	2.00	1.25
Bending Roll (metal)	1.50	2.00	1.25
Bleacher (paper)	1.25	1.50	1.00
Blowers			
Centrifugal, Vane	1.25	1.50	1.00
Lobe	1.50	2.00	1.25
Bottling Machinery	1.25	1.50	1.00
Brew Kettles (distilling)	1.25	1.50	1.00
Bucket Elevator or Conveyor	1.50	2.00	1.25
Calenders			
Calender (paper)	1.50	2.00	1.25
Calender (rubber), Calender-super (paper)	2.00	2.50	1.50
Cane Knives (sugar)	1.50	2.00	1.25
Card Machine (textile)	2.00	2.50	1.50
Car Dumpers	2.00	2.50	1.50
Car Pullers	1.50	2.00	1.25
Cement Kiln	2.00	2.50	1.50
Centrifugal, Blower, Fans, Compressors, or Pumps	1.25	1.50	1.00
Chemical Feeders (sewage)	1.25	1.50	1.00
Chiller (oil)	1.50	2.00	1.25
Chipper (paper)	2.00	2.50	1.50
Circular Resaw (lumber)	1.50	2.00	1.25
Clarifier or Classifier	1.25	1.50	1.00
Clay Working M'cery	1.50	2.00	1.25
Collectors (sewage)	1.25	1.50	1.00
Compressors			
Centrifugal, Screw, Lobe	1.25	1.50	1.00
Reciprocating	See Note		
Concrete Mixers	1.50	2.00	1.25
Converting Machine (paper)	1.50	2.00	1.25
Conveyors			
Apron, Assembly, Belt, Flight, Oven, Screw	1.25	1.50	1.00
Bucket	1.50	2.00	1.25
Cookers—Brewing, Distilling, Food	1.25	1.50	1.00
Cooling Tower Fans	2.00	2.50	1.50
Couch (paper)	1.50	2.00	1.25
Cranes & Hoists[1]			
Heavy duty mine	2.00	2.50	1.50
Crushers—Cane (sugar), **Stone, Ore**	2.00	2.50	1.50
Cutter-Paper	2.00	2.50	1.50
Cylinder (paper)	2.00	2.50	1.50
Dewatering Screen (sewage)	1.50	2.00	1.25
Disc Feeder	1.25	1.50	1.00
Dough Mixer	1.50	2.00	1.25
Draw Bench Conveyor & Main Drive	2.00	2.50	1.50
Dredges			
Cable reef, Pumps	1.50	2.00	1.25
Cutter head, Jig, & Screen Drives	2.00	2.50	1.50
Maneuvering & Utility Winch, Stacker	1.50	2.00	1.25
Dynamometer	1.25	1.50	1.00
Dryers (rotary)	1.50	2.00	1.25
Edger (lumber)	2.00	2.50	1.50
Escalators[1]	1.25	1.50	1.00
Extruders (metal)	2.00	2.50	1.50
Fans			
Centrifugal	1.25	1.50	1.00
Cooling Towers	2.00	2.50	1.50
Forced Draft, Large Industrial	1.50	2.00	1.25
Feeders			
Apron, Belt, Disc	1.25	1.50	1.00
Reciprocating	2.00	2.50	1.50
Screw	1.50	2.00	1.25
Filter, Press-Oil	1.50	2.00	1.25
Generators			
Uniform Load	1.25	1.50	1.00
Varying Load, Hoist	1.50	2.00	1.25
Welders	2.00	2.50	1.50
Grit Collector (sewage)	1.25	1.50	1.00
Grizzly	2.00	2.50	1.50
Hammermills			
Light Duty, Intermittent	1.50	2.00	1.25
Heavy Duty, Continuous	2.00	2.50	1.50
Hoists			
Heavy Duty	2.00	2.50	1.50
Medium Duty	1.50	2.00	1.25
Jordan (paper)	2.00	2.50	1.50
Kiln, Rotary	2.00	2.50	1.50
Laundry Washer or Tumbler	2.00	2.50	1.50
Line Shafts	1.25	1.50	1.00
Log Haul (lumber)	2.00	2.50	1.50
Loom (textile)	1.50	2.00	1.25
Machine Tools, Main Drives	1.50	2.00	1.25
Mangle (textile)	1.25	1.50	1.00
Mash Tubs (distilling)	1.25	1.50	1.00
Meat Grinder	1.50	2.00	1.25
Metal Forming Machines	1.50	2.00	1.25
Mills			
Ball, Pebble, Rod, Tube, Rubber, Tumbling	2.00	2.50	1.50
Dryers, Coolers	1.50	2.00	1.25
Mixers			
Concrete, Muller	1.50	2.00	1.25
Banbury	2.00	2.50	1.50
Ore Crusher	2.00	2.50	1.50
Oven Conveyor	1.25	1.50	1.00
Planer (metal or wood)	1.50	2.00	1.25
Pressers			
Brick, Briquette Machine	2.00	2.50	1.50
Notching, Paper, Punch Printing	1.50	2.00	1.25
Pug Mill	1.50	2.00	1.25
Pulp Grinder (paper)	2.00	2.50	1.50
Pulverizers			
Hammermill—Light Duty, Roller	1.50	2.50	1.25
Hammermill—Heavy Duty Hog	2.00	2.50	1.50
Pumps			
Centrifugal, Axial	1.25	1.50	1.00
Gear, Lobe, Vane	1.50	2.00	1.25
Reciprocating—Sgl. or Dbl. Acting Cylinder	2.00	2.50	2.00
Reel, Rewinder (paper)			
Cable	1.50	2.00	1.25
Rod Mill	2.00	2.50	1.50
Saw Dust Conveyor	1.25	1.50	1.00
Screens			
Air Washing, Water	1.25	1.50	1.00
Rotary—Coal or Sand	1.50	2.00	1.25
Vibrating	2.00	2.50	2.00
Screw Conveyor	1.25	1.50	1.00
Slab Conveyor (lumber)	1.50	2.00	1.25
Slitters (metal)	1.50	2.00	1.25
Soapers (textile)	1.25	1.50	1.00
Sorting Table (lumber)	1.50	2.00	1.25
Spinner (textile)	1.50	2.00	1.25
Stoker	1.25	1.50	1.00
Suction Roll (paper)	1.50	2.00	1.25
Tenter Frames (textile)	1.50	2.00	1.25
Tire Building Machines	2.00	2.50	1.50
Tire & Tube Press Opener	1.25	1.50	1.00
Tumbling Barrels	2.00	2.50	1.50
Washer & Thickener (paper)	1.50	2.00	1.25
Winches	1.50	2.00	1.25
Winders—Paper, Textile, Wire	1.50	2.00	1.25
Windlass	1.50	2.00	1.25
Wire			
Drawing	2.00	2.50	1.50
Winding	1.50	2.00	1.25
Woodworking			
Machinery	1.25	1.50	1.00

Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Engineering with specific requirements.

Note: ■ 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

SF

SF

Sleeve Performance Data

Chart 2

Characteristics	Temperature Range		Misalignment Capabilities			Torsoinal Wind-Up
	F°	C°	Angular (in)	Parallel (in)	Axial (in)	in
EDPM – Unless otherwise specified, S-Flex couplings are supplied with EPDM flexible sleeves. EPDM has good resistance to commonly used chemicals and is generally not affected by dirt or moisture. Color is black.	-30° to 275° F	-34° to 135° C	1°	up to .062	.125	up to 15°
NEOPRENE – Neoprene provides very good performance characteristics for most applications and offers a very good resistance to chemical and oil conditions. Color is black with a green dot.	0° to 200° F	-18° to 93° C	1°	up to .062	.125	up to 15°
HYTREL® – Hytrel is a polyester elastomer designed for high torque and high temperature applications and offers excellent resistance to chemical and oil conditions. Color is orange.	-65° to 250° F	-54° to 121° C	.25°	up to .035	.125	up to 7°

S-Flex Nominal Rated Torque Data

Chart 3

Size	ID1 - ID2		EPDM			Neoprene			Hytrel[1]		
	Min Bore	Max Bore	Torque		Max	Torque		Max	Torque		Max
	in	in	in-lb	Nm	RPM	in-lb	Nm	RPM	in-lb	Nm	RPM
3	0.375	0.875	78	8.81	9,200	60	6.78	9,200	N/A	N/A	N/A
4	0.500	1.000	156	17.63	7,600	120	13.56	7,600	N/A	N/A	N/A
5	0.500	1.188	312	35.26	7,600	240	27.12	7,600	N/A	N/A	N/A
6	0.625	1.438	585	66.09	6,000	450	50.84	6,000	1,800	203.37	6,000
7	0.625	1.625	940	106.20	5,250	725	81.91	5,250	2,875	324.83	5,250
8	0.750	1.938	1,475	166.66	4,500	1,135	128.24	4,500	4,530	511.82	4,500
9	0.875	2.375	2,340	264.38	3,750	1,800	203.37	3,750	7,200	813.49	3,750
10	1.125	2.750	3,735	422.00	3,600	2,875	324.83	3,600	11,350	1 282.38	3,600
11	1.250	3.375	5,889	665.37	3,600	4,530	511.82	3,600	18,000	2 033.73	3,600
12	1.500	3.875	9,360	1057.54	2,800	7,200	813.49	2,800	31,500	3 559.03	2,800
13	2.000	4.500	11,350	1 282.38	2,400	11,350	1 282.38	2,400	47,268	5 340.57	2,400
14	2.000	5.000	18,000	2 033.73	2,200	18,000	2 033.73	2,200	72,480	8 189.15	2,200
16	3.000	5.500	47,250	5 338.54	1,500	N/A	N/A	N/A	N/A	N/A	N/A

Note: ■ 1 indicates: Operating Hytrel within a high service factor application is not recommended.

The S Type coupling consists of two flanges and one sleeve.

S Type Flange - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	5S	6S	7S	8S	9S	10S	11S	12S	13S	14S	16S
1/2	No Keyway	36349	—	—	—	—	—	—	—	—	—	—
1/2	7/8 x 1/16	36067	—	—	—	—	—	—	—	—	—	—
5/8	No Keyway	—	36353	36355	—	—	—	—	—	—	—	—
5/8	3/16 x 3/32	36068	36093	36116	—	—	—	—	—	—	—	—
3/4	No Keyway	—	—	—	36357	—	—	—	—	—	—	—
3/4	3/16 x 3/32	36069	36094	36117	36132	—	—	—	—	—	—	—
13/16	3/16 x 3/32	36070	—	—	—	—	—	—	—	—	—	—
7/8	No Keyway	—	—	—	—	36359	—	—	—	—	—	—
7/8	3/16 x 3/32	36071	36095	36118	36133	36151	—	—	—	—	—	—
15/16	1/4 x 1/8	36072	36096	36119	36134	44363	—	—	—	—	—	—
1	1/4 x 1/8	36073	36097	36120	36135	36152	—	—	—	—	—	—
1-1/16	1/4 x 1/8	36074	36098	36121	44364	45742	46612	—	—	—	—	—
1-1/8	No Keyway	—	—	—	—	—	36361	—	—	—	—	—
1-1/8	1/4 x 1/8	36075	36099	36122	36136	36153	36363	—	—	—	—	—
1-3/16	1/4 x 1/8	36076	36100	36123	36137	—	46613	—	—	—	—	—
1-1/4	No Keyway	—	—	—	—	—	—	36365	—	—	—	—
1-1/4	1/4 x 1/16	36077	—	—	—	—	—	—	—	—	—	—
1-1/4	1/4 x 1/8	—	36101	36124	36138	36154	36171	36189	—	—	—	—
1-5/16	5/16 x 5/32	—	36102	36125	36139	—	—	—	—	—	—	—
1-3/8	5/16 x 5/32	—	36103	36126	36140	36155	36172	36190	—	—	—	—
1-7/16	3/8 x 3/16	—	36104	36127	36141	36156	36173	—	—	—	—	—
1-1/2	No Keyway	—	—	—	—	—	—	—	36367	—	—	—
1-1/2	3/8 x 1/8	—	36105	—	—	—	—	—	—	—	—	—
1-1/2	3/8 x 3/16	—	—	36128	36142	36157	36174	36191	36200	—	—	—
1-9/16	3/8 x 3/16	—	—	—	—	36158	36980	55291	—	—	—	—
1-5/8	3/8 x 3/16	—	36106	—	—	—	—	—	—	—	—	—
1-5/8	3/8 x 3/16	—	—	36129	36143	36159	36175	36192	55059	—	—	—
1-11/16	3/8 x 3/16	—	—	—	36144	36160	36176	49451	—	—	—	—
1-3/4	3/8 x 1/8	—	36107	36130	—	—	—	—	—	—	—	—
1-3/4	3/8 x 3/16	—	—	—	36145	36161	36177	36193	41773	—	—	—
1-7/8	1/2 x 1/8	—	—	36131	—	—	—	—	—	—	—	—
1-7/8	1/2 x 1/4	—	—	—	36146	36162	36178	36194	36201	—	—	—
1-15/16	1/2 x 1/4	—	—	—	36147	36163	36179	49816	56796	—	—	—
2 RSB	No Keyway	—	—	—	—	—	—	—	—	35441	35445	—
2	1/2 x 1/4	—	—	—	—	36164	36180	45158	45672	—	—	—
2	1/2 x 3/16	—	—	—	36148	—	—	—	—	—	—	—
2-1/8	1/2 x 3/16	—	—	—	36149	—	—	—	—	—	—	—
2-1/8	1/2 x 1/4	—	—	—	—	36165	36181	36195	36202	55060	55062	—
2-3/16	1/2 x 1/4	—	—	—	—	36166	36182	—	—	—	—	—
2-1/4	1/2 x 1/4	—	—	—	—	36167	36183	45544	55560	—	—	—
2-3/8	5/8 x 1/8	—	—	—	36150	—	—	—	—	—	—	—
2-3/8	5/8 x 5/16	—	—	—	—	36168	36184	36196	36203	35442	55063	—
2-7/16	5/8 x 5/16	—	—	—	—	—	36185	55229	56808	—	—	—
2-1/2	5/8 x 5/16	—	—	—	—	36169	—	—	—	—	—	—
2-1/2	5/8 x 5/16	—	—	—	—	—	36186	56581	47895	—	—	—
2-3/4	5/8 x 5/16	—	—	—	—	46349	46585	45543	54940	—	—	—
2-7/8	3/4 x 1/8	—	—	—	—	36170	36187	—	—	—	—	—
2-7/8	3/4 x 3/8	—	—	—	—	—	—	36197	36204	35443	35446	—
3 RSB	No Keyway	—	—	—	—	—	—	—	—	—	—	35448
3-3/8	7/8 x 3/16	—	—	—	—	—	36188	—	—	—	—	—
3-3/8	7/8 x 7/16	—	—	—	—	—	—	36198	36205	55061	55064	—
3-7/8	1 x 1/4	—	—	—	—	—	—	36199	—	—	—	—
3-7/8	1 x 1/2	—	—	—	—	—	—	—	36206	—	—	—

Notes:
- All standard finished bore keyway flanges have 2 set screws @ 90°. Sizes 13,14 and 16 RSB flanges are suitable for reboring and have two set screws @ 90°. Sizes 5-12 RSB flanges have no set screws.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

Standard Sleeve, J and S Type Metric Bore / Keyway Item Selection

The J and S Type coupling consists of two flanges and one sleeve.

S-Flex Standard Sleeve UPC Number Selection Table

Size	JE	Bulk Pack JE[1]	JES	Bulk Pack JES[1]	JN	JNS	E	Bulk Pack E[1]	N	H	HS
3	36384	52712	36692	52713	35356	36866	—	—	—	—	—
4	35359	52714	36695	52715	35360	36869	—	—	—	—	—
5	35350	52716	36698	52717	35366	36872	35368	52718	35369	—	—
6	35569	52719	36701	52720	36394	36875	35600	52721	36411	40738	40741
7	35570	52722	36704	52723	36398	36878	36414	52724	36416	36848	41704
8	35572	52725	36707	52726	36402	36881	36419	52727	36421	36514	40072
9	36405	—	36864	—	—	—	36424	—	36426	40744	40747
10	35450	—	35451	—	—	—	36429	—	35453	35454	35455
11	—	—	—	—	—	—	36433	—	35457	35458	35459
12	—	—	—	—	—	—	36437	—	35461	35462	35463
13	—	—	—	—	—	—	35464	—	35465	—	35466
14	—	—	—	—	—	—	35467	—	35468	—	35469
16	—	—	—	—	—	—	35470	—	—	—	—

Note: ■ 1 indicates: Bulk pack sizes 3-6 contain ten pieces, sizes 7-8 contain five pieces.

J and S Type - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	3J	4J	5S	6S	7S	8S	9S	10S	11S	12S
9	No Keyway	41485	—	—	—	—	—	—	—	—	—
11	4 x 1.8	41486	—	—	—	—	—	—	—	—	—
12	No Keyway	—	41499	—	—	—	—	—	—	—	—
12	4 x 1.8	41487	—	—	—	—	—	—	—	—	—
14	No Keyway	—	—	41514	—	—	—	—	—	—	—
14	5 x 2.3	41488	41500	41515	—	—	—	—	—	—	—
15	No Keyway	—	—	—	41531	—	—	—	—	—	—
15	5 x 2.3	41489	41501	—	—	—	—	—	—	—	—
16	5 x 2.3	41490	41502	41516	—	—	—	—	—	—	—
19	No Keyway	—	—	—	—	41547	—	—	—	—	—
19	6 x 2.8	41491	41503	41517	41532	56571	—	—	—	—	—
20	6 x 2.8	—	41504	41518	41533	—	—	—	—	—	—
24	No Keyway	—	—	—	—	—	41561	41575	—	—	—
24	8 x 3.3	—	41505	41519	41534	51257	55746	—	—	—	—
25	8 x 3.3	—	—	41520	41535	41548	—	—	—	—	—
28	8 x 3.3	—	—	41521	41536	41549	41562	—	—	—	—
30	8 x 3.3	—	—	—	41537	41550	41563	41576	52258	—	—
32	10 x 3.3	—	—	—	41538	41551	41564	41577	59839	—	—
35	10 x 3.3	—	—	—	41539	49552	—	—	59721	—	—
38	10 x 3.3	—	—	—	55323	41552	41565	41578	45222	59889	—
42	12 x 3.3	—	—	—	—	41553	41566	41579	45883	59888	—
45	14 x 3.8	—	—	—	—	—	41567	46034	48389	—	—
48	14 x 3.8	—	—	—	—	—	41568	41580	59838	59887	—
50	14 x 3.8	—	—	—	—	—	—	—	44380	—	59855
52	16 x 4.3	—	—	—	—	—	—	—	58450	59720	—
55	16 x 4.3	—	—	—	—	—	—	—	45956	64136	—
60	18 x 4.4	—	—	—	—	—	—	—	52009	52711	54955
65	18 x 4.4	—	—	—	—	—	—	—	—	—	54941
70	20 x 4.9	—	—	—	—	—	—	—	—	59886	58725
80	22 x 5.4	—	—	—	—	—	—	—	—	59885	59856
90	25 x 5.4	—	—	—	—	—	—	—	—	—	59857

Notes: ■ Metric Bore / Keyway per DIN specifications. See engineering section for tolerances (page ED-17 and ED-19).
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

The J Type coupling consists of two J flanges and one sleeve.

J Type Flange - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	3J	4J	5J	6J
3/8	No Keyway	36046	—	—	—
1/2	No Keyway	36114	36115	36347	—
1/2	1/8 x 1/16	36047	36051	36057	—
5/8	No Keyway	—	—	—	36351
5/8	3/16 x 3/32	36048	36052	36058	36078
3/4	3/16 x 3/32	36049	36053	36059	36079
7/8	3/16 x 3/32	36050	36054	36060	36080
15/16	1/4 x 1/8	—	36055	36061	36081
1	1/4 x 1/8	—	36056	36062	36082
1-1/16	1/4 x 1/8	—	—	36063	36083
1-1/8	1/4 x 1/8	—	—	36064	36084
1-3/16	1/4 x 1/8	—	—	—	36085
1-1/4	1/4 x 1/8	—	—	—	36086
1-5/16	5/16 x 5/32	—	—	—	36087
1-3/8	5/16 x 5/32	—	—	—	36088

Notes:
- We do not recommend reboring 3J or 4J Flanges.
- See page ED-8 for standard keyway dimensions.



J Type

The SC Type coupling consists of two SCH or SCHS hubs, two SC spacer flanges, and one sleeve.

SC Type Spacer Flanges

For Required Shaft Separation[1]	SC Flange Size	Coupling Size														
		5	6	7	8	8-10	9	9-11	10	10-13	11	11-14	12	12-14	13	14
3-1/2	35	36524	36526	36532	36538	36540	36548	—	—	—	—	—	—	—	—	—
4-3/8	44	—	36528	36534	36542	—	36550	—	—	—	—	—	—	—	—	—
4-3/4	48	—	—	—	—	—	—	—	36560	—	36570	—	—	—	—	—
5	50	—	36530	36536	36544	36546	36552	36554	36562	—	36572	—	—	—	—	—
7	70	—	—	—	—	—	—	36556	—	36564	—	36574	36580	38582	—	—
7-3/4	78	—	—	—	—	—	—	36558	—	36566	—	36576	36584	36586	54200	54202
10	100	—	—	—	—	—	—	—	—	36568	—	36578	—	36588	—	—

Note: ■ 1 indicates: See page SF-22 for other lengths possible thru various combinations.

SCH and SCHS Type - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	5SCH	6SCH	7SCH	8SCH	9SCH	9SCHS	10SCH	10SCHS	11SCH	11SCHS	12SCH	12SCHS	13SCH	13SCHS	14SCH
1/2	No Keyway	36710	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1/2	1/8 x 1/16	36711	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5/8	No Keyway	—	36712	—	36714	—	—	—	—	—	—	—	—	—	—	—
5/8	3/16 x 3/32	36590	36713	36715	—	—	—	—	—	—	—	—	—	—	—	—
3/4	No Keyway	—	—	—	36718	—	—	—	—	—	—	—	—	—	—	—
3/4	3/16 x 3/32	36591	36600	36716	36719	—	—	—	—	—	—	—	—	—	—	—
7/8	No Keyway	—	—	—	—	36721	36910	—	—	—	—	—	—	—	—	—
7/8	3/16 x 3/32	36592	36601	36612	36624	36722	—	—	—	—	—	—	—	—	—	—
1	1/4 x 1/8	36593	36602	36613	36625	36640	—	—	—	—	—	—	—	—	—	—
1-1/8	No Keyway	—	—	—	—	—	—	36729	36912	36737	36914	—	—	—	—	—
1-1/8	1/4 x 1/8	36594	36603	36614	36626	36641	36682	36728	36684	36738	36686	—	—	—	—	—
1-1/4	1/4 x 1/8	—	36604	36717	36720	36723	36725	59905	36733	—	36741	—	—	—	—	—
1-3/8	5/16 x 5/32	—	36605	36615	36627	36642	36726	56486	36734	—	36742	—	—	—	—	—
1-1/2	3/8 x 3/16	—	—	36616	36628	36643	36727	59906	36735	59908	36743	—	—	—	—	—
1-5/8	3/8 x 3/16	—	—	36617	36629	36644	—	36656	36736	54909	36687	—	—	—	—	—
1-3/4	3/8 x 3/16	—	—	—	36630	36645	—	36730	—	59909	—	—	—	—	—	—
1-7/8	1/2 x 1/4	—	—	—	36631	36646	—	36657	—	36664	—	36745	36747	—	—	—
2	1/2 x 1/4	—	—	—	—	36724	—	36731	—	36739	—	—	36748	—	—	—
2-1/8	1/2 x 1/4	—	—	—	—	36647	—	36658	—	36665	—	36672	36749	—	36756	—
2-1/4	1/2 x 1/4	—	—	—	—	—	—	36732	—	36740	—	36746	36750	—	—	—
2-3/8	5/8 x 5/16	—	—	—	—	—	—	36659	—	36666	—	36673	—	36752	36757	36759
2-7/8	3/4 x 3/8	—	—	—	—	—	—	—	—	36667	—	36674	—	36753	—	36760
3-3/8	7/8 x 7/16	—	—	—	—	—	—	—	—	—	—	—	—	36754	—	36761
3-7/8	1 x 1/2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36762

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

SF

S-Flex Performance Ratings

Size	Sleeve Material	Basic HP Ratings @ Varying RPM				Torque Rating		Torsional[1] Stiffness	Max Bore		Max
		100	1200	1800	3600	in-lbs	Nm	in-lb/rad	in	mm	RPM
3	EPDM	0.1	1.4	2.2	4.4	78	8.81	298	0.875	22	9,200
	Neoprene	0.1	1.1	1.7	3.4	60	6.78	229	0.875	22	9,200
4	EPDM	0.2	3.0	4.4	9.0	156	17.63	595	1.000	25	7,600
	Neoprene	0.2	2.3	3.4	6.9	120	13.56	458	1.000	25	7,600
5	EPDM	0.5	6.0	9.0	17.8	312	35.26	1,191	1.188	30	7,600
	Neoprene	0.4	4.6	6.9	13.7	240	27.12	916	1.188	30	7,600
6	EPDM	0.9	11.2	16.8	33.4	585	66.09	2,233	1.438	38	6,000
	Neoprene	0.7	8.6	12.9	25.7	450	50.84	1,718	1.438	38	6,000
6H	Hytrel	2.9	34.0	51.0	103.0	1,800	203.37	10,000	1.438	38	6,000
7	EPDM	1.6	18.2	27.3	53.3	940	106.20	3,600	1.625	42	5,250
	Neoprene	1.2	14.0	21.0	41.0	725	81.91	2,769	1.625	42	5,250
7H	Hytrel	4.6	55.0	82.0	164.0	2,875	324.83	20,000	1.625	42	5,250
8	EPDM	2.3	28.6	41.6	84.5	1,475	166.66	5,636	1.938	49	4,500
	Neoprene	1.8	22.0	32.0	65.0	1,135	128.24	4,335	1.938	49	4,500
8H	Hytrel	7.2	86.0	129.0	259.0	4,530	511.82	30,000	1.938	49	4,500
9	EPDM	3.8	44.2	66.3	133.9	2,340	264.38	8,938	2.375	60	3,750
	Neoprene	2.9	34.0	51.0	103.0	1,800	203.37	6,875	2.375	60	3,750
9H	Hytrel	11.4	137.0	206.0	411.0	7,200	813.49	47,500	2.375	60	3,750
10	EPDM	6.0	71.5	106.6	213.2	3,735	422.00	14,274	2.750	70	3,600
	Neoprene	4.6	55.0	82.0	164.0	2,875	324.83	10,980	2.750	70	3,600
10H	Hytrel	18.0	216.0	324.0	648.0	11,350	1 282.38	100,000	2.750	70	3,600
11	Neoprene	7.2	86.0	129.0	259.0	4,530	511.82	17,300	3.375	86	3,600
	EPDM	9.4	111.8	167.7	336.7	5,889	665.37	22,490	3.375	86	3,600
11H	Hytrel	28.6	343.0	514.0	1,028.0	18,000	2 033.73	12,500	3.375	86	3,600
12	Neoprene	11.4	137.0	206.0	—	7,200	813.49	27,500	3.875	99	2,800
	EPDM	14.8	178.1	267.8	—	9,360	1057.54	35,750	3.875	99	2,800
12H	Hytrel	50.0	600.0	900.0	—	31,500	3 559.03	225,000	3.875	99	2,800
13	EPDM & Neoprene	18.0	216.0	324.0	—	11,350	1 282.38	43,350	4.500	114	2,400
13H	Hytrel	75.0	900.0	1,350.0	—	47,268	5 340.57	368,900	4.500	114	2,400
14	EPDM & Neoprene	28.6	343.0	514.0	—	18,000	2 033.73	68,755	5.000	127	2,200
14H	Hytrel	115.0	1,380.0	2,070.0	—	72,480	8 189.15	593,250	5.000	127	2,200
16	EPDM	75.0	900.0	—	—	47,250	5 338.54	180,480	5.500	140	1,500

Notes:
- 1 indicates: Values shown are for an ambient temperature of 75° F (24° C).
- Coupling ratings are based on sleeve material regardless of flange design.

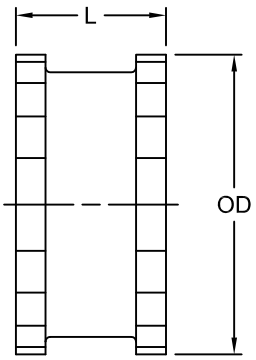
S-Flex Sleeve Types

S-Flex Sleeves

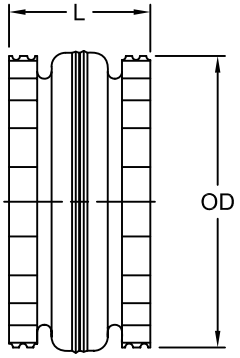
- Flexible sleeves for Lovejoy S-Flex couplings are available in three materials (EPDM, Neoprene, and Hytrel®) and in three basic designs: one piece solid, one-piece split, or two piece

JE, JN, JES and JNS Types

- JE and JN Type sleeves feature a one-piece solid design
- JES and JNS Type sleeves feature a one-piece split design
- JE and JES Type sleeves are molded in EPDM material
- JN and JNS Type sleeves are molded in Neoprene material



JE, JN, JES and JNS Types



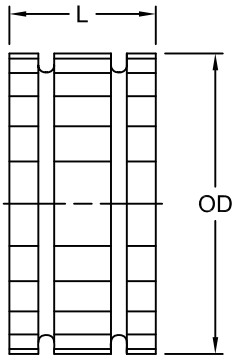
E and N Types

E and N Types

- E and N Type sleeves feature a two-piece design with retaining ring
- E Type sleeves are made from EPDM material and are available in sizes 5-16
- N Type sleeves are made from Neoprene material and are available in sizes 5-14
- Two piece sleeves are ideal for applications where small shaft separations inhibit the installation of a one piece sleeve

H and HS Types

- H and HS Type sleeves are designed for high torque applications, transmitting about 4 times as much power as an equivalent EPDM or Neoprene sleeve
- Hytrel sleeves are available in a one-piece solid (H) or two-piece split (HS) construction
- Hytrel sleeves can be used only with S or SC flanges and can not be used with J or B flanges
- Hytrel sleeves should not be used as direct replacements for EPDM or Neoprene applications
- H and HS Type sleeves are available for sizes 6-14 (sizes 13 and 14 are available in HS only)



H and HS Types

Sleeve Dimensional Data

	L	OD		L	OD		L	OD	
	Types JE, JES, JN & JNS EPDM & Neoprene			Types E & N EPDM & Neoprene			Types H & HS Hytrel		
Size	in	in	Weight lbs	in	in	Weight lbs	in	in	Weight lbs
3	1.00	1.88	0.06	—	—	—	—	—	—
4	1.25	2.31	0.10	—	—	—	—	—	—
5	1.56	2.94	0.20	1.56	2.94	0.25	—	—	—
6	1.88	3.75	0.40	1.88	3.75	0.49	1.88	3.75	0.44
7	2.19	4.34	0.62	2.19	4.34	0.77	2.19	4.34	0.69
8	2.50	5.06	1.13	2.50	5.06	1.40	2.50	5.06	1.40
9	3.00	6.00	1.46	3.00	6.00	2.00	3.00	6.00	1.80
10	3.44	7.06	2.32	3.44	7.06	3.20	3.44	7.06	2.90
11	—	—	—	4.00	8.19	5.10	4.00	8.19	4.50
12	—	—	—	4.69	9.56	8.10	4.69	8.56	7.30
13	—	—	—	5.50	11.19	13.00	5.50	11.19	11.80
14	—	—	—	6.50	13.09	21.10	6.50	13.09	19.30
16	—	—	—	8.75	17.91	45.30	—	—	—

Note: ■ See page SF-12 for Performance Data.

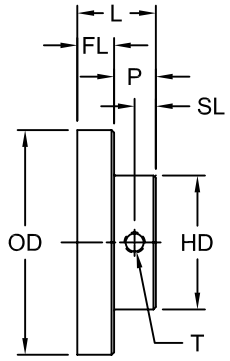
J Type Flanges and J Type Couplings

J Type Flanges

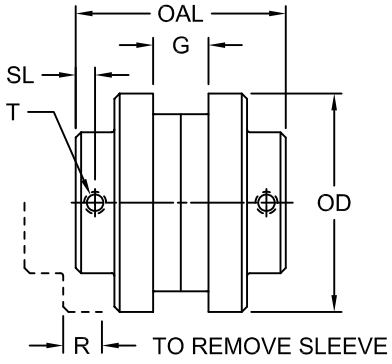
- The J Type flanges in sizes 3J and 4J are made from die cast of high strength zinc alloy (tensile strength of 41,000 psi) and are furnished bore-to-size
- Size 5J is provided in either zinc alloy or cast iron depending on the bore size
- Size 6J is made from cast iron
- J flanges are compatible with EPDM or Neoprene sleeves
- Each flange has a keyway and two set screws (one set screw over the key and one at 90° to the keyway)

J Type Coupling

- Complete S-Flex couplings, with J Type flanges described above, are normally supplied with the one-piece JE sleeve or the one-piece split JES sleeve
  An optional JN (Neoprene, one-piece) sleeve or the one-piece split JNS sleeve
- Sizes 5J and 6J couplings are also available with E and N two piece sleeves



J Type Flange



J Type Coupling

J Type Dimensional Data

Size	Max Bore with Standard Keyway	L	FL	P	SL	OD	T	HD	OAL	G[1]	R	Weight	
												Flange	Coupling
		in	in	in	in	in	in	in	in	in	in	lbs	lbs
3J	0.875	0.81	0.38	0.44	0.25	2.062	1/4-20	1.50	2.00	0.44	0.56	0.30	0.68
4J	1.000	0.88	0.44	0.44	0.25	2.460	1/4-20	1.63	2.38	0.63	0.75	0.40	0.89
5J	1.125	1.06	0.59	0.47	0.29	3.250	1/4-20	1.88	2.88	0.75	0.97	1.10	2.40
6J	1.375	1.31	0.78	0.53	0.29	4.000	5/16-18	2.50	3.50	0.88	1.09	1.90	4.36

Notes:
- 1 indicates: Spacing between shafts should be greater than 1/8 inch and less than OAL minus the sum of the two bore dimensions.
- See page SF-12 for Performance Data.

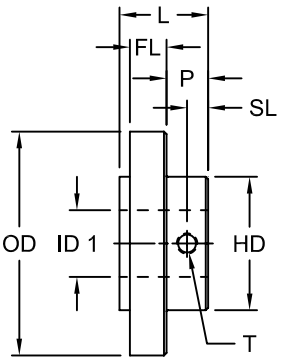
S Type Flanges and S Type Couplings

S Type Flanges

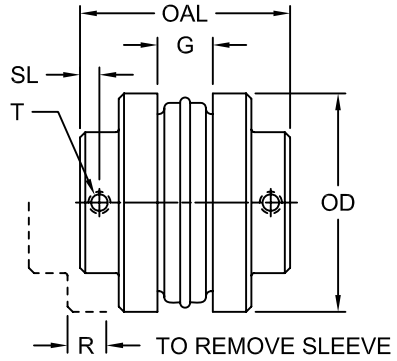
- S flanges are made of high strength cast iron and are bored-to-size for a slip fit on standard shafts
- S flanges are easy to install, are readily available from stock in a wide range of popular bore sizes, and are supplied with two set screws at 90°

S Type Couplings

- S Type couplings, normally supplied with the two-piece E sleeve, can be used with any JE, JN, N, H, or HS sleeves



S Type Flange



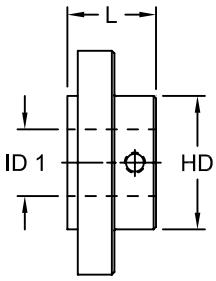
S Type Coupling

SF

S Type Dimensional Data

Size	ID1 Max Bore Standard Keyway in	ID1 Max Bore Shallow Keyway in	L in	FL in	P in	SL in	OD in	T in	HD in	OAL in	G in	R in	Weight Flange lbs
5S	1.188	1.250	1.34	0.59	0.45	0.29	3.250	1/4-20	1.88	2.81	0.75	0.97	1.1
6S	1.438	1.500	1.64	0.78	0.53	0.29	4.000	5/16-18	2.50	3.50	0.88	1.09	1.9
	—	1.750	1.64	0.78	0.53	—	4.000	—	2.50	3.50	0.88	1.09	1.8
7S	1.625	1.875	1.84	0.80	0.67	0.35	4.625	3/8-16	2.81	3.94	1.00	1.31	2.6
8S	1.938	2.250	2.10	0.88	0.75	0.38	5.450	3/8-16	3.25	4.39	1.13	1.50	4.4
	—	2.375	1.94	0.88	1.03	—	5.450	—	3.25	4.95	1.13	1.50	3.7
9S	2.375	2.500	2.41	1.03	0.78	0.41	6.350	1/2-13	3.63	5.06	1.44	1.75	6.5
	—	2.875	2.28	1.03	1.25	—	6.350	—	4.13	6.00	1.44	1.75	6.2
10S	2.750	3.125	2.70	1.22	0.81	0.41	7.500	1/2-13	4.38	5.69	1.63	2.00	10.5
	—	3.375	2.70	1.22	0.81	—	7.500	—	4.75	5.69	1.63	2.00	9.8
11S	3.375	3.625	3.44	1.50	1.13	0.56	8.625	1/2-13	5.25	7.13	1.88	2.38	16.6
	—	3.875	3.06	1.50	1.56	—	8.625	—	5.63	8.00	1.88	2.38	16.4
12S	2.875	—	4.00	1.69	1.28	0.63	10.000	1/2-13	4.88	8.25	2.31	2.69	27.5
	3.875	3.938	4.00	1.69	1.28	—	10.000	—	5.75	8.25	2.31	2.69	26.6
13S	4.500	—	4.38	1.97	1.31	0.81	11.750	5/8-11	6.75	9.25	2.69	3.06	45.0
14S	5.000	—	4.50	2.25	1.06	0.62	13.875	5/8-11	7.50	9.88	3.25	3.50	69.0
16S	5.500	6.000	6.00	2.75	2.00	1.00	18.875	5/8-11	8.00	14.50	4.75	4.25	125.0

Notes:
- Spacing between shafts should be greater than 1/8 inch and less than OAL minus the sum of the two bore dimensions.
- See page SF-12 for Performance Data.
- The sizes with two dimensions listed indicate measurements for standard flanges (1st Line) and modified spacer flanges (2nd Line). See page SF-20.
- To determine shaft separation (BSE), use the formula BSE=OAL–(2xL).





S Type



S Type with E Sleeve

S Type Shallow Keyway Dimensional Data

Size	L	ID1		HD	Shallow Keyway Dimensions								
		Max Bore Standard Keyway	Max Bore Shallow Keyway		Bore	Keyway	Key	Bore	Keyway	Key	Bore	Keyway	Key
	in	in	in	in	in	in	in	in	in	in	in	in	in
5S	1.34	1.188	1.250	1.88	1.25	.25 x .06	.25 x .19 x 1.38	—	—	—	—	—	—
6S	1.63	1.438	1.500	2.50	1.50	.38 x .13	.38 x .31 x 1.5	—	—	—	—	—	—
	1.31	—	1.750	2.50	1.56-1.63	.38 x .13	.38 x .31 x 1.31	1.69-1.75	.38 x .06	.38 x .25 x 1.25	—	—	—
7S	1.84	1.625	1.875	2.81	1.69-1.75	.38 x .13	.38 x .31 x 1.81	1.81-1.88	.5 x .13	.5 x .38 x 1.81	—	—	—
8S	2.09	1.938	2.250	3.25	2-2.25	.5 x .19	.5 x .44 x 2.06	—	—	—	—	—	—
	1.94	—	2.375	3.25	—	—	—	2.31-2.38	.63 x .13	.63 x .44 x 1.88	—	—	—
9S	2.41	2.375	2.500	3.63	2.44-2.5	.63 x .19	.63 x .5 x 2.38	—	—	—	—	—	—
	2.28	—	2.875	4.13	—	—	—	2.56-2.75	.63 x .19	.63 x .5 x 2.25	2.81-2.88	.75 x .13	.75 x .5 x 2.25
10S	2.72	2.750	3.125	4.38	2.81-3.13	.75 x .13	.75 x .5 x 2.75	—	—	—	—	—	—
	2.69	—	3.375	4.75	—	—	—	3.18-3.25	.75 x .13	.75 x .5 x 2.63	3.31-3.38	.88 x .19	.88 x .63 x 2.63
11S	3.44	3.375	3.625	5.25	3.44-3.63	.88 x .19	.88 x .63 x 3.44	—	—	—	—	—	—
	3.06	—	3.875	5.63	—	—	—	3.69-3.75	.88 x .19	.88 x .63 x .3	3.88	1 x .25	1 x .75 x 3
12S	4.00	2.875	—	4.88	—	—	—	—	—	—	—	—	—
	4.00	3.875	3.938	5.75	3.94	1 x .13	1 x .63 x 4	—	—	—	—	—	—
13S	4.38	4.500	—	6.75	—	—	—	—	—	—	—	—	—
14S	4.50	5.000	—	7.50	—	—	—	—	—	—	—	—	—
16S	6.00	5.500	6.000	8.00	5.56-6	1.5 x .25	1.5 x 1 x 6	—	—	—	—	—	—

Notes: ■ Some large bore S Type flanges are supplied with shallow keyways as standard. Rectangular keystock is provided for stock bores only.
■ See page SF-12 for Performance Data.

B Type Flanges For Use With Bushings

B Type Flange

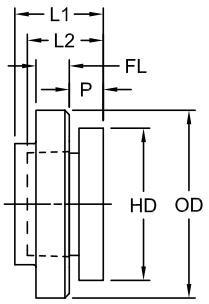
- Model B (bushed) flanges are made of the same high-strength cast iron as the S flanges
- B flanges are designed to accommodate the industry standard bushing for easy installation and removal
- B flanges are available in sizes 6 through 16

Couplings

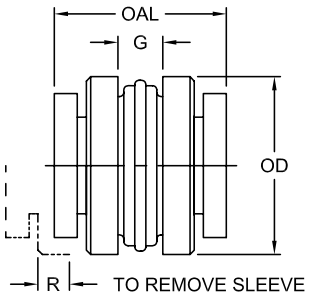
- S-Flex couplings with B flanges (for use with bushings) are normally supplied with the two-piece E sleeve
- The B style flanges can be used with any of the sleeves pictured on SF-5, with the exception of the Hytrel® sleeve
- B flanges can be used in combination with S Type flanges

Bushings

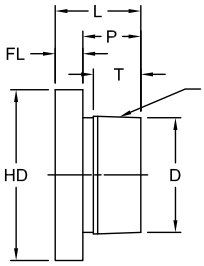
- Bushings have a split design that allow for a compression fit for secure mounting of the flange to the shaft without set screws
- The bushing's clamp like fit creates a one-piece assembly to eliminate wobble, vibration, and fretting corrosion
- Slightly oversized or undersized shafts can be accommodated with the same secure grip
- The design prevents potentially hazardous key drift on applications subject to pulsation or vibration
- B flanges are bored to accept a bushing accommodating many bore sizes, thus reducing inventory and increasing coupling versatility
- Bushing bore availability can be found in current Lovejoy list price books or from your Customer Service Representative

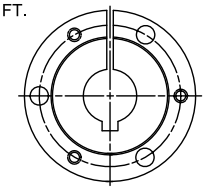


B Type Flange



B Type Coupling





Bushing

SF

B Type Flange and Coupling Dimensional Data

Size	Flange UPC Number	Bushing Required	L1 in	L2 in	FL in	P in	OD in	HD in	OAL in	G in	R Max in	Approx Bore in	Flange Weight lbs
6B	36369	JA	1.53	1.00	0.78	0.44	4.000	2.00	3.31	0.88	1.09	1.19	1.3
7B	36371	JA	1.59	1.00	0.78	0.44	4.625	2.00	3.44	1.00	1.31	1.19	1.9
8B	36373	SH	1.84	1.25	0.91	0.50	5.450	2.69	3.94	1.13	1.50	1.63	2.9
9B	36375	SD	2.19	1.81	1.03	0.56	6.350	3.19	4.63	1.44	1.75	1.94	4.8
10B	35421	SK	1.84	1.88	1.22	0.63	7.500	3.88	5.31	1.63	2.00	2.50	7.8
11B	35432	SF	2.13	2.00	1.50	0.63	8.625	4.63	6.13	1.88	2.38	2.75	12.0
12B	36408	E	2.69	2.63	1.69	0.88	10.000	6.00	7.44	2.31	2.69	3.44	18.0
13B	35444	F	3.69	3.63	1.97	1.00	11.750	6.63	8.63	2.69	3.00	3.94	31.2
14B	35447	F	3.69	3.63	2.25	1.00	13.875	6.63	9.75	3.25	3.50	3.94	51.4
16B	35449	J	4.75	4.50	2.75	1.19	18.875	7.25	12.63	4.75	4.25	4.50	120.0

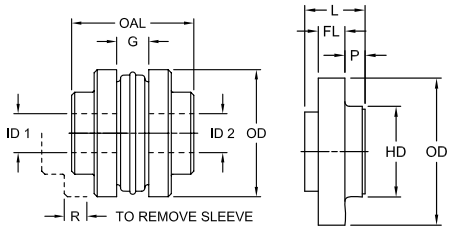
Note: ■ 1 indicates: Spacing between shafts should be greater than 1/8 inch and less than G. Spacing between internal face of flange should be OAL – (2 x L1).

Bushing Dimensional Data

Size	L in	P in	FL in	T in	HD in	D in	ID1 - ID2 Min Bore in	ID1 - ID2 Max Bore Std Keyway in	ID1 - ID2 Max Bore Shallow Keyway2 in	Number & Size of Cap Screws Req Qty	Number & Size of Cap Screws Req Size	Cap Screw Torque ft-lb	Weight lbs
JA	1.00	0.69	0.31	0.56	2.00	1.375	0.50	1.00	1.19	3	#10 - 1	5	0.8
SH	1.25	0.88	0.38	0.81	2.68	1.871	0.50	1.38	1.63	3	1/4 - 1-3/8	9	0.9
SD	1.81	1.38	0.44	1.25	3.18	2.187	0.50	1.63	1.94	3	1/4 - 1-13/16	9	1.6
SK	1.87	1.38	0.50	1.25	3.88	2.812	0.50	2.13	2.50	3	5/16 - 2	15	2.8
SF	2.00	1.50	0.50	1.25	4.63	3.125	0.50	2.31	2.81	3	3/8 - 2	30	3.9
E	2.63	1.88	0.75	1.63	6.00	3.834	0.88	2.88	3.50	3	1/2 - 2-3/4	60	8.5
F	3.63	2.81	0.81	2.50	6.63	4.438	1.00	3.25	3.94	3	9/16 - 3-5/8	75	13.9
J	4.50	3.50	1.00	3.19	7.25	5.148	1.44	3.75	4.50	3	5/8 - 4-1/2	135	21.6

Notes: ■ F and J bushings are not available from Lovejoy. F bushings are available commercially in a bore range of 1 inch to 4 inches, J bushings in a range of 1-7/8 inches to 4-1/2 inches.
■ Rectangular keys are furnished at no charge when shallow keyway is necessary.
■ See page SF-12 for Performance Data.

T Type Flanges For Use With Taper-Lock® Bushings



TF Type Flanges

- Model TF flanges are made from the same high-strength cast iron as the S flanges, but are designed to accommodate the international standard Taper Lock bushing for easy installation and removal
- TF Type flanges allow for mounting the bushing on the front (hub) side of the flange
- TF flanges are available in sizes 6 through 16 and can be used with any style of sleeve as pictured on page SF-5

TR Type Flanges

- TR flanges are similar to the TF style, but allow for the Taper Lock Bushing to be mounted and removed from the reverse or serration side of the flange
- The limited torque ratings of the Taper Lock Bushings allow TR flanges to only be used with EPDM or Neoprene sleeves
- Different bushing sizes are used, so they have different maximum bores than the TF flanges
- Sizes 6 through 16 are available

Taper-Lock Bushings

- The industry standard taper lock bushing is a split design allowing a compression fit of the flange to the shaft without set screws
- The simple design makes the installation and removal easy while the 8° taper grips tight and provides excellent concentricity
- A Reduced level of inventory can be achieved due to the many other power transmission components that use Taper Lock Bushings such as: sheaves, sprockets, and pulleys
- Lovejoy does not offer the Taper-Lock Bushings themselves as these are widely available from other manufacturers

Note: ■ Be sure to determine if the bushing being used has either UNC threads (60°) or British Standard Whitworth B.S.W. threads (55°). In the U.S.A. the UNC type is predominant for both inch and metric bores. Outside of the U.S.A. it is most common to see B.S.W., especially on metric bores.

SF

Taper Dimensional Data (Front Mount)

Size	UNC Flange UPC Number	BSW Flange UPC Number	OAL	G	ID1 - ID2 Max Bore		R	OD	L	FL	P	HD	Bushing Screw Size	Flange Weight	Bushing Required*
			in	in	in	mm	in	in	in	in	in	in	in	lbs	
6TF	62265	62263	4.00	0.88	1.25	31	1.09	4.00	1.56	0.78	0.78	2.81	3/8 -16	1.8	1215/1210
7TF	62269	62267	3.94	1.00	1.25	31	1.31	4.62	1.84	0.78	0.69	2.81	3/8 -16	2.6	1215/1210
8TF	62273	62271	5.00	1.13	1.62	42	1.50	5.45	1.94	0.91	1.03	3.25	3/8 -16	3.7	1615/1610
9TF	62277	62275	6.00	1.44	2.00	50	1.75	6.35	2.28	1.03	1.25	4.13	7/16 - 14	6.2	2012
10TF	62281	62279	7.00	1.63	2.50	64	2.00	7.50	2.69	1.22	1.47	4.75	1/2 - 13	9.8	2517
11TF	62285	62283	8.00	1.88	2.50	64	2.38	8.63	3.06	1.50	1.56	5.63	1/2 - 13	16.4	2517
12TF	62289	62287	8.25	2.31	3.00	76	2.69	10.00	4.00	1.69	1.28	5.75	5/8 - 11	26.6	3030
13TF	62293	62294	9.25	2.69	3.00	76	3.06	11.75	4.38	1.97	1.31	6.75	5/8 - 11	45.0	3030
14TF	62297	62295	9.88	3.25	3.94	100	3.50	13.88	4.50	2.25	1.06	7.50	1/2 - 13	69.0	3535
16TF	62301	62299	14.50	4.75	4.44	112	4.25	18.88	6.00	2.75	2.00	8.00	5/8 - 11	125.0	4040

Taper Dimensional Data (Rear Mount)

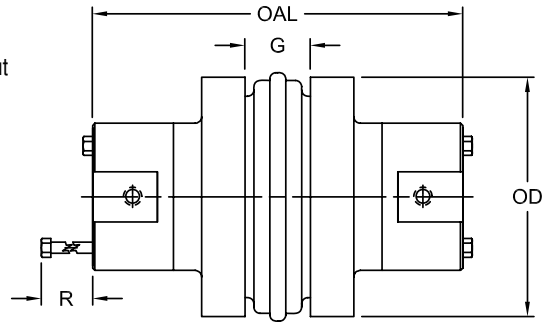
Size	UNC Flange UPC Number	BSW Flange UPC Number	OAL	G	ID1 - ID2 Max Bore		R	OD	L	FL	P	HD	Bushing Screw Size	Flange Weight	Bushing Required*
			in	in	in	mm	in	in	in	in	in	in	in	lbs	
6TR	62266	62264	4.00	0.88	1.00	25	1.09	4.00	1.56	0.78	0.78	2.81	1/4 - 20	1.8	1008
7TR	62270	62268	3.94	1.00	1.12	28	1.31	4.62	1.84	0.78	0.69	2.81	1/4 - 20	2.6	1108
8TR	62274	62272	5.00	1.13	1.25	31	1.50	5.45	1.94	0.91	1.03	3.25	3/8 - 16	3.7	1215/1210
9TR	62278	62276	6.00	1.44	1.62	42	1.75	6.35	2.28	1.03	1.25	4.13	3/8 - 16	6.2	1615/1610
10TR	62282	62280	7.00	1.63	1.62	42	2.00	7.50	2.69	1.22	1.47	4.75	3/8 - 16	9.8	1615/1610
11TR	62286	62284	8.00	1.88	2.50	64	2.38	8.63	3.06	1.50	1.56	5.63	1/2 - 13	16.4	2525
12TR	62290	62288	8.25	2.31	2.50	64	2.69	10.00	4.00	1.69	1.28	5.75	1/2 - 13	26.6	2517
13TR	62294	62292	9.25	2.69	3.00	76	3.06	11.75	4.38	1.97	1.31	6.75	5/8 - 11	45.0	3030
14TR	62298	62296	9.88	3.25	3.00	76	3.50	13.88	4.50	2.25	1.06	7.50	5/8 - 11	69.0	3030
16TR	62302	62300	14.50	4.75	4.44	112	4.25	18.88	6.00	2.75	2.00	8.00	5/8 - 11	125.0	4040

Notes:
- All above data refers to both standard UNC and British Standard Whitworth B.S.W. threads. Flanges are not supplied with screws.
- * indicates that use of a 1210 or 1610 bushing reduces the reserve factor between bushing torque rating and that of the coupling.
- Taper-Lock® is a registered trademark of Reliance Electric Industrial Company in the United States and Canada. It is a registered trademark of JH Fenner and Co. in the United Kingdom.
- See page SF-12 for Performance Data.

SC Type Spacer Couplings

SC Type Spacer Couplings

- Specifically designed for the pump industry, this coupling accommodates industry standard as well as special pump/motor separation
- This shaft separation facilitates easy pump repair of pump packing, bearings, and seals without disturbing pump or motor mounting and alignment
- The SC Type coupling consists of two flanges, a sleeve and two shaft hubs



Quick Coupling Removal

- The center drop out section consists of two flanges and the flexible sleeve
- The flange is bolted to the shaft hub with four hex head cap screws
- The center drop out section can be removed by removing the hex head cap screws
- Flats on each hub provides a convenient grip for a wrench in order to facilitate loosening of the screws and, if desired, turning of the pump/motor shafts
- Once the hub is removed from the pump shaft, maintenance on the pump can be done without disturbing equipment alignment

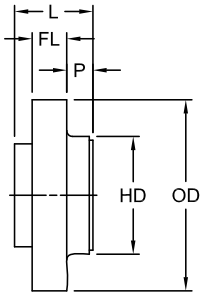
SF

SC Type (Spacer) Dimensional Data

Size	For Required Shaft Separation in	Use Flange Number	Use Hub Number	OAL[2] in	G in	R in	OD in	Weight Complete Coupling[2] lbs
5SC	3.50	5SC35	5SCH	5.63	0.75	0.56	3.250	4.5
6SC	3.50	6SC35	6SCH	5.88	0.88	0.75	4.000	7.3
	4.38	6SC44	6SCH	6.75	0.88	0.75	4.000	8.1
	5.00	6SC50	6SCH	7.38	0.88	0.75	4.000	8.7
7SC	3.50	7SC35	7SCH	6.38	1.00	0.63	4.625	9.9
	4.38	7SC44	7SCH	7.25	1.00	0.63	4.625	10.8
	5.00	7SC50	7SCH	7.88	1.00	0.63	4.625	11.4
8SC	3.50	8SC35	8SCH	6.88	1.13	0.81	5.450	15.2
	3.50	8SC35-10	10SCH[1]	8.13	1.13	0.81	5.450	23.2
	4.38	8SC44	8SCH	7.75	1.13	0.81	5.450	16.4
	5.00	8SC50	8SCH	8.38	1.13	0.81	5.450	17.4
	5.00	8SC50-10	10SCH[1]	9.63	1.13	1.19	5.450	27.2
9SC	3.50	9SC35	9SCH[1]	7.50	1.44	1.06	6.350	18.6
	5.00	9SC50	9SCH[1]	8.88	1.44	1.06	6.350	23.2
	5.00	9SC50-11	11SCH[1]	10.38	1.44	1.19	6.350	40.4
	7.00	9SC70-11	11SCH[1]	12.38	1.44	1.19	6.350	48.2
	7.75	9SC78-11	11SCH[1]	13.13	1.44	1.19	6.350	51.0
10SC	4.75	10SC48	10SCH[1]	9.38	1.63	1.19	7.500	37.6
	5.00	10SC50	10SCH[1]	9.63	1.63	1.19	7.500	38.4
	7.00	10SC70-13	13SCH[1]	13.63	1.63	1.88	7.500	72.0
	7.75	10SC78-13	13SCH[1]	14.38	1.63	1.88	7.500	76.0
	10.00	10SC100-13	13SCH[1]	16.63	1.63	1.88	7.500	88.0
11SC	4.75	11SC48	11SCH[1]	10.31	1.88	1.19	8.625	54.5
	5.00	11SC50	11SCH[1]	10.38	1.88	1.19	8.625	54.7
	7.00	11SC70-14	14SCH	14.63	1.88	2.00	8.625	86.1
	7.75	11SC78-14	14SCH	15.38	1.88	2.00	8.625	90.3
	10.00	11SC100-14	14SCH	17.63	1.88	2.00	8.625	102.7
12SC	7.00	12SC70	12SCH[1]	12.88	2.31	1.50	10.000	88.1
	7.00	12SC70-14	14SCH	14.63	2.31	2.00	10.000	99.1
	7.75	12SC78	12SCH[1]	13.63	2.31	1.50	10.000	91.9
	7.75	12SC78-14	14SCH	15.38	2.31	2.00	10.000	103.3
13SC	7.75	13SC78	13SCH[1]	14.38	2.69	1.88	11.750	129.6
14SC	7.75	14SC78	14SCH	15.38	3.25	2.00	13.875	179.9

Notes :
- 1 indicates: SC Hubs are available in: SC= Standard Length SCHS= Short Length.
- 2 indicates: OAL dimension and weight will vary if one or two short (HS) hubs are used.
- See page SF-12 for Performance Data.



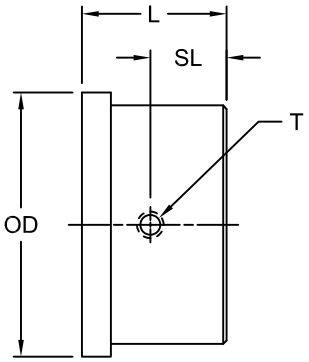


SC Type (Spacer) Flange Dimensional Data

Size	Flange Number	For Required Shaft Separation[1]	SC Hub Number	L in	FL in	P in	OD in	HD in	Weight Each Flange lbs
5SC	5SC35	3.50	5SCH	1.69	0.59	0.80	3.250	2.00	1.3
6SC	6SC35	3.50	6SCH	1.63	0.72	0.59	4.000	2.50	2.0
	6SC44	4.38	6SCH	2.06	0.72	1.03	4.000	2.50	2.4
	6SC50	5.00	6SCH	2.38	0.72	1.34	4.000	2.50	2.7
7SC	7SC35	3.50	7SCH	1.63	0.78	0.47	4.625	2.81	2.5
	7SC44	4.38	7SCH	2.06	0.78	0.91	4.625	2.81	3.0
	7SC50	5.00	7SCH	2.38	0.78	1.22	4.625	2.81	3.3
8SC	8SC35	3.50	8SCH	1.63	0.91	0.28	5.450	3.25	3.7
	8SC35-10	3.50	10SCH(HS)	1.63	0.91	0.28	5.450	4.38	3.5
	8SC44	4.38	8SCH	2.06	0.91	0.72	5.450	3.25	4.3
	8SC50	5.00	8SCH	2.38	0.91	1.03	5.450	3.25	4.8
	8SC50-10	5.00	10SCH(HS)	2.38	0.91	1.03	5.450	4.38	5.5
9SC	9SC35	3.50	9SCH(HS)	1.69	1.03	0.06	6.350	3.63	4.1
	9SC44	4.38	9SCH(HS)	2.06	1.03	0.44	6.350	3.63	5.9
	9SC450	5.00	9SCH(HS)	2.38	1.03	0.75	6.350	3.63	6.4
	9SC50-11	5.00	11SCH(HS)	2.38	1.03	0.75	6.350	5.25	7.0
	9SC70-11	7.00	11SCH(HS)	2.38	1.03	1.75	6.350	5.25	10.9
	9SC78-11	7.75	11SCH(HS)	3.75	1.03	2.13	6.350	5.25	12.3
10SC	10SC48	4.75	10SCH(HS)	2.25	1.22	0.34	7.500	4.38	9.8
	10SC50	5.00	10SCH(HS)	2.38	1.22	0.47	7.500	4.38	10.2
	10SC70-13	7.00	13SCH(HS)	3.38	1.22	1.47	7.500	6.13	14.5
	10SC78-13	7.75	13SCH(HS)	3.75	1.22	1.84	7.500	6.13	16.5
	10SC100-13	10.00	13SCH(HS)	4.88	1.22	2.97	7.500	6.13	22.5
11SC	11SC48	4.75	11SCH(HS)	1.50	1.50	0.03	8.625	5.25	12.5
	11SC50	5.00	11SCH(HS)	1.56	1.50	0.06	8.625	5.25	12.6
	11SC70-14	7.00	14SCH	2.56	1.50	1.06	8.625	6.50	16.3
	11SC78-14	7.75	14SCH	2.94	1.50	1.44	8.625	6.50	18.4
	11SC100-14	10.00	14SCH	4.06	1.50	2.56	8.625	6.50	24.6
12SC	12SC70	7.00	12SCH(HS)	2.47	1.69	0.66	10.000	5.75	23.4
	12SC70-14	7.00	14SCH	2.47	1.69	0.66	10.000	6.50	21.3
	12SC78	7.75	12SCH(HS)	2.84	1.69	1.03	10.000	5.75	25.3
	12SC78-14	7.75	14SCH	2.84	1.69	1.03	10.000	6.50	23.4
	12SC100-14	10.00	14SCH	3.97	1.69	2.16	10.000	6.50	29.6
13SC	13SC78	7.75	13SCH(HS)	3.25	1.97	0.56	11.750	6.13	38.4
14SC	14SC78	7.75	14SCH	2.72	2.25	0.03	13.875	6.50	55.2

Notes:
- 1 indicates: Flanges can be mixed to form different shaft separations.
- Metric Flanges and hubs are also available. Consult Lovejoy Engineering for specific information.
- See page SF-12 for Performance Data.





SC Type (Spacer) Hub Dimensional Data

Size	Hub Number[1]	ID1 - ID2 Max Bore Standard Keyway in	L in	SL in	OD in	T in	Number & Size of Cap Screws Req Qty	Number & Size of Cap Screws Req Size	Weight Hub lbs
5SC	5SCH	1.125	1.09	0.54	2.00	5/16 - 18	4	#10 - 1-1/2	0.8
6SC	6SCH	1.375	1.22	0.61	2.50	5/16 - 18	4	1/4 - 1-3/4	1.4
7SC	7SCH	1.625	1.47	0.71	2.81	5/16 - 18	4	1/4 - 1-7/8	2.0
8SC	8SCH	1.875	1.72	0.66	3.25	3/8 - 16	4	5/16 - 2-1/4	3.2
	10SCH	2.375	2.34	0.63	4.38	1/2 - 13	4	7/16 - 3-1/4	7.4
	10SCHS	1.625	1.66	0.63	4.38	1/2 - 13	4	7/16 - 2-1/2	5.5
9SC	9SCH	2.125	1.97	1.17	3.63	3/8 - 16	4	3/8 - 2-3/4	4.2
	9SCHS	1.500	1.53	0.63	3.63	3/8 - 16	4	5/8 - 4-1/2	3.7
	11SCH	2.875	2.72	1.36	5.25	1/2 - 13	4	1/2 - 3-1/2	12.2
	11SCHS	1.875	1.91	0.75	5.25	1/2 - 13	4	1/2 - 2-3/4	9.3
10SC	10SCH	2.375	2.34	1.17	4.38	1/2 - 13	4	7/16 - 3-1/4	7.4
	10SCHS	1.625	1.66	0.63	4.38	1/2 - 13	4	7/16 - 2-1/2	5.5
	13SCH	3.375	3.34	1.65	6.13	3/4 - 10	4	5/8 - 4-3/4	19.9
	13SCHS	2.500	2.47	1.24	6.13	3/4 - 10	4	5/8 - 3-1/2	16.0
11SC	11SCH	2.875	2.72	1.36	5.25	1/2 - 13	4	1/2 - 3-1/2	12.2
	11SCHS	1.875	1.91	0.75	5.25	1/2 - 13	4	1/2 - 2-3/4	9.3
	14SCH	3.875	3.84	1.92	6.50	3/4 - 10	4	5/8 - 5	24.2
12SC	12SCH	2.875	2.97	1.44	5.75	5/8 -11	4	5/8 - 4	16.6
	12SCHS	2.500	2.53	1.12	5.75	5/8 -11	4	5/8 - 3-1/2	14.1
	14SCH	3.875	3.84	1.92	6.50	3/4 - 10	4	5/8 - 5	24.2
13SC	13SCH	3.375	3.34	1.65	6.13	3/4 - 10	4	5/8 - 4-3/4	19.9
	13SCHS	2.500	2.47	1.24	6.13	3/4 - 10	4	5/8 - 3-1/2	16.0
14SC	14SCH	3.875	3.84	1.92	6.50	3/4 - 10	4	5/8 - 5	24.2

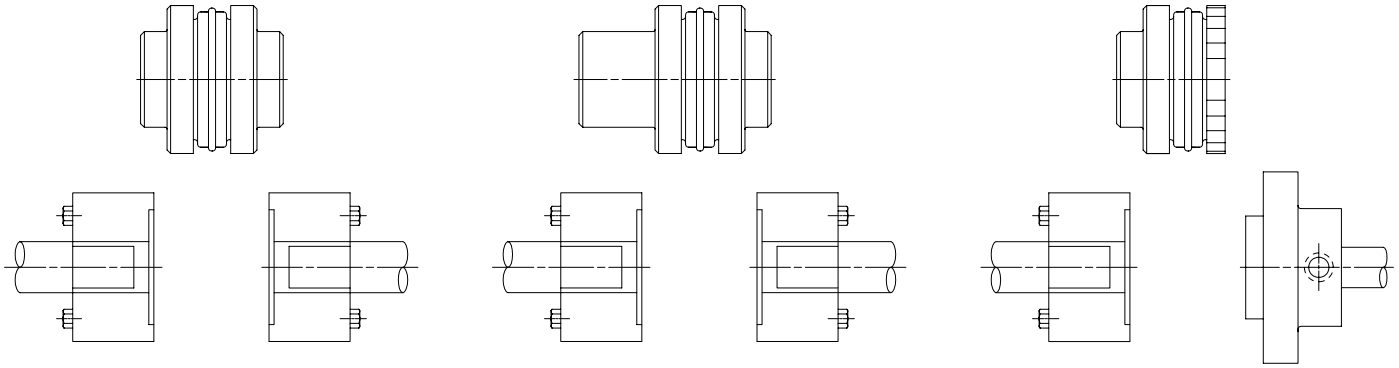
Notes: ■ 1 indicates: SCH = Standard length SCHS = Short length.
■ See page SF-12 for Performance Data.

SC Type (Spacer)

- SC (Spacer) Type couplings are available with the most popular shaft separation distances
- Non standard shaft separations can be achieved by combining different spacer flanges
- The "Standard" column illustrates separations available using identical lengths
- The "Combination" column illustrates combined flanges of different separations
- The "Semi-Spacer" column illustrates combinations of SC (Spacer) flanges and standard S flanges



SF



Standard | Combination | Semi-Spacer

Type SC (Spacer) Dimensional Data

Standard

Spacing	Use Flanges
3-1/2	(2)–SC35
4-3/8	(2)–SC44
5	(2)–SC50
7	(2)–SC70
7-3/4	(2)–SC78
10	(2)–SC100

Combination

Spacing	Use Flanges[1]
3-15/16	SC35 & SC44
4-1/4	SC35 & SC50
5-1/4	SC35 & SC70
5-5/8	SC35 & SC78
5-11/16	SC44 & SC70
6	SC50 & SC70
6-1/16	SC44 & SC78
6-7/16	SC50 & SC78
6-3/4	SC35 & SC100[2]
7-3/16	SC44 & SC100[2]
7-7/16	SC70 & SC78
7-1/2	SC50 & SC100
8-1/2	SC70 & SC100
8-15/16	SC78 & SC100

Semi-Spacer

Spacing	Use Flanges[1]
1-7/8	S & SC35
2-5/16	S & SC44
2-5/8	S & SC50
3-5/8	S & SC70
4	S & SC78
5-1/8	S & SC100

Notes:
- 1 indicates: Check for flange availability of coupling size.
- 2 indicates: Non stock.
- See page SF-12 for Performance Data.

where the world turns for

Lovejoy®

Coupling Solutions

Motion Control

In This Section:

- Beam Style
- Bellows Style
- Mini Disc Style
- Oldham Style
- Mini Soft Style
- Curved Jaw Style
- Miniature Jaw Style



Motion Control

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Motion Control

Table of Contents

	Running Page No.	Section Page No.
Selection Process	96	MC-4
ASB Series > Performance / Dimensional Data	98	MC-6
ES and EC Series > Performance / Dimensional Data	99	MC-7
ADB Series > Performance / Dimensional Data	100	MC-8
BWC Series > Performance / Dimensional Data	101	MC-9
BWLC Series > Performance / Dimensional Data	102	MC-10
MDSD Series > Performance / Dimensional Data	103	MC-11
Quick Reference	104	MC-12
MD Series > Performance / Dimensional Data	106	MC-14
MDS Series > Performance / Dimensional Data	107	MC-15
MOL Series > Performance / Dimensional Data	108	MC-16
MSF Series > Performance / Dimensional Data	109	MC-17
GS Series > Overview	110	MC-18
GS Series > Performance Data	111	MC-19
GS Series > Dimensional Data	112	MC-20
GS Series > Hub Designs	113	MC-21
L Series > Performance / Dimensional Data	114	MC-22

Motion Control Coupling Selection Process

- Beam
- Bellows
- Mini-Disc
- Oldham
- Mini-Soft
- Curved Jaw
- Mini-Jaw



The selection process for determining the proper Motion Control coupling starts with selecting the coupling design that best addresses the application requirements. The Lovejoy Motion Control Coupling Quick Reference Chart (pages MC-12 and MC-13) provides a method of weighing performance characteristics of the Beam, Bellows, Mini-Disc, Oldham, Mini-Soft, Curved Jaw, and Mini-Jaw couplings.

Each coupling is compared side by side in critical categories such as: material, torque, torsional stiffness, bore capacity, maximum RPM, misalignment capacity, maximum temperature and moment of inertia. Once a design is selected, the proper size must be determined based on the capabilities of the particular design.

The Beam, Bellows and Mini Disc designs all have a single piece construction, so only one part needs to be selected. The GS Curved Jaw, Oldham, Mini Soft, and Mini Jaw designs have a three piece constructions, consisting of two hubs and an insert. When the shaft size of the driver and driven are the same diameter, the hubs will be the same. When the shaft diameters differ, the hubs selected will differ accordingly.

The following information is necessary before a coupling can be selected:

1. HP and RPM of the driver
2. Shaft size of the driver and driven
3. Application requirements
4. Environmental conditions (i.e. extreme temperature, corrosive conditions, space limitations)
5. Space Limitations (i.e. maximum outside diameter and overall length for the coupling)

Formulas	***Chart 1***
Nominal Torque =	in-lbs = $\frac{(HP \times 63025)}{RPM}$
	Nm = $\frac{(KW \times 9550)}{RPM}$
Design Torque = Nominal Torque X Application Service Factor	

Steps In Selecting A Motion Control Coupling

Step 1: Determine the nominal torque of your application by using formula in Chart 1.

Step 2: Select a coupling design from the Lovejoy Motion Control Quick Reference Chart (pages MC-12 and MC-13). Proceed to the proper coupling section based on the coupling selected.

Beam Coupling Selection Process

For the Beam coupling, determine if the coupling should be mounted with set screws or by the split/clamp method. The split clamp hub option is recommended for accurate positioning. The Bellows and Mini Disc are available with the clamp style only.

The nominal torque should be treated as the design torque for the Beam coupling design. If the Beam coupling application is non-reversing, the listed torque rating can be used for comparison. If the application is reversing, reduce the nominal torque figure by half. Scan the appropriate column to the first entry where the rated torque value in the column is greater than or equal to the Nominal Torque calculated in Step 1. Over sizing the beam coupling can reduce the amount windup. This can be useful in applications that require close positioning in start/stop/reverse drives.

WARNING

You must refer to page MC-2 (Page 94) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Bellows Coupling Selection Process

For the BWC and BWLC series Bellows coupling, use the following formulas:

Nominal Torque = in-lbs. = HP X 63025 / RPM

$$\text{Design Torque} = \text{SF} \times \text{Nominal Torque (Motor)} \times \frac{\text{Inertia (Driven)}}{\text{Inertia (Driver)} + \text{Inertia (Driven)}}$$

The Service Factors for the BWC and BWLC series should be: 1.5 for uniform movements, 2.0 for non-uniform movements, and 2.5 (maximum) non-uniform/ shock loading movements. The design torque should always be equal to or lower than the nominal rated torque of the coupling. Please consult the allowable misalignment figures on pages MC-9 and MC-10. These figures represent the maximum amount of allowable misalignment.

Mini-Disc Coupling Selection Process

Sizing the Mini-disc coupling, ensure that the maximum torque for the application is under the allowable torque for the particular mini-disc coupling size. Check the maximum bore, misalignment, and torsional stiffness ratings against the requirements of the application.

Oldham, Min-Soft, or Mini-Jaw Coupling Selection Process

When selecting an Oldham style coupling, it should be determined whether a clamp or setscrew style is appropriate. For the Oldham, Mini Soft, or Jaw couplings, refer to the service factor chart below to select the correct service factor for the application. Calculate the design torque by multiplying the nominal torque by the application service factor. Then, select the correct Oldham, Mini Soft, or Jaw size coupling by choosing the size that has a torque rating larger than the calculated design torque.

MC

Oldham, Mini-Soft, and Mini-Jaw Coupling Service Factors

	Constant Torque 0-10 Hrs/Day	Varying Torque 11-24 Hrs/Day	Constant Torque 0-10 Hrs/Day	Varying Torque 11-24 Hrs/Day
Start/Stop = 0-120/Hr Temperature = 50° to 85° F	1.2	1.7	1.7	2.2
Start/Stop=0-120/Hr Temperature = 86° to 104° F	1.4	2.0	2.0	2.6
Start/Stop = 0-120/Hr Temperature = 105° to 140° F	1.7	2.5	2.5	3.2
Start/Stop = 121-240/Hr Temperature = 50° to 85° F	1.5	2.2	2.2	2.8
Start/Stop = 121-240/Hr Temperature = 86° to 104° F	1.8	2.5	2.5	3.3
Start/Stop = 121-240/Hr Temperature = 105° to 140° F	2.2	3.1	3.1	4.1

GS Curved Jaw Coupling Service Factors

Temperature Factor

	-30° to 30° C	40° C	60° C	80° C
K3	1	1,2	1,4	1,8

Torsional Stiffness Factor

	Main Spindle Drive of Machine	Positioning Drive	Shaft Encoders, Angle Encoders
K4	2-5	3-8	10

Shock Load Factors

	K5
Light Shock Loads	1,0
Medium Shock Loads	1,4
Heavy Shock Loads	1,8

GS Curved Jaw Selection Process

$$\text{Rotational inertia coefficient (driver)} = \frac{\text{Moment of inertia (driver)}}{\text{Moment of inertia (driver)} + \text{Moment of inertia (driven)}}$$

$$\text{Rotational inertia coefficient (driven)} = \frac{\text{Moment of inertia (driven)}}{\text{Moment of inertia (driver)} + \text{Moment of inertia (driven)}}$$

Check the nominal torque for the application against the rating for the coupling:

Tkn > Rated torque of machine x K3 x K4

Peak Torque

Shock load (driver side) = Peak torque (driver) x rotational inertia coefficient (driver) x K5
Shock load (driven side) = Peak torque (driven) x rotational inertia coefficient (driven) x K5

Check the peak torque for the application against the rating for the coupling (page MC-19), checking both driver and driven sides:

Tkmax > Peak Torque (driver or driven side) x K3 x K4

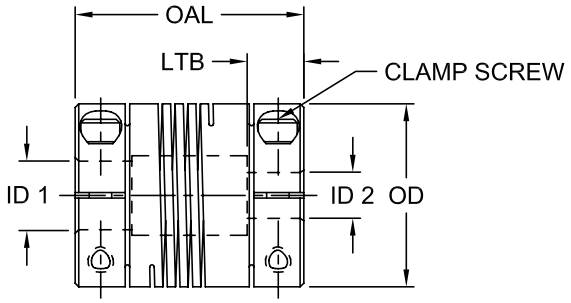
ASB Series - Aluminum Single Beam Clamp Style Coupling

The ASB (Aluminum Single Beam) Series offers additional outside diameter and overall length dimensions to the EC Series of Beam couplings. These options are extremely helpful in applications where the space available for a coupling is limited. The ASB series also offers slightly larger bore capacities than their equivalent size in the EC Series. The 5 sizes of the ASB Series along with the 3 clamping sizes in the EC Series give designers more options for applications with limited coupling space.



Features

- Zero backlash design
- Anodized aluminum material
- Higher torque than the EC/ES series



ASB Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
ASB 3	2.0	318.6	10,000	0.2	5.4	0.000	5°	0.005	± 0.010
ASB 3.5	3.4	557.6	10,000	0.3	8.3	0.001	5°	0.005	± 0.010
ASB 4	5.0	442.5	10,000	0.5	15.1	0.002	5°	0.005	± 0.010
ASB 5	10.0	920.4	10,000	1.4	40.6	0.011	5°	0.005	± 0.010
ASB 6	15.0	1,770.0	10,000	3.0	86.2	0.037	5°	0.005	± 0.010

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- Specify Bore sizes ID1 and ID2 when ordering.

ASB Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Clamp Screw Size mm
ASB 3	0.752	19.1	0.236	6	0.118	3	0.197	5.00	0.500	12.7	M2
ASB 3.5	0.799	20.3	0.236	6	0.157	4	0.250	6.35	0.626	15.9	M2.5
ASB 4	0.902	22.9	0.256	7	0.157	4	0.315	8.00	0.752	19.1	M2.5
ASB 5	1.252	31.8	0.354	9	0.236	6	0.433	11.00	1.000	25.4	M3
ASB 6	1.752	44.5	0.472	12	0.236	6	0.551	14.00	1.252	31.8	M4

ES and EC Series - Single Beam Style Coupling

The Beam flexible coupling is formed from one piece of aluminum rod. A spiral slot is cut through the length of the aluminum tube forming a "spring" center section referred to as a helical coil or beam. The flexure allowed by the beam portion of the coupling is capable of accommodating angular, parallel and axial misalignment while continuing to convey power between the attached shafts. This results in a single piece, true flexible coupling.

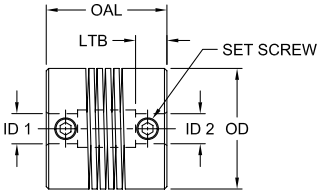
The Miniature Beam coupling is designed for very light power transmission applications where accurate positioning of shafts is an essential requirement. It also has a very high tolerance to heat, chemicals, and corrosion that would be harmful to conventional elastomeric flexible couplings. The Miniature Beam coupling design is very well suited for small shaft applications and the inherent requirements of start/stop/reverse applications where zero backlash and extreme positioning accuracy are important. This coupling operates either clockwise or counter clockwise without sacrificing windup or torque capabilities.



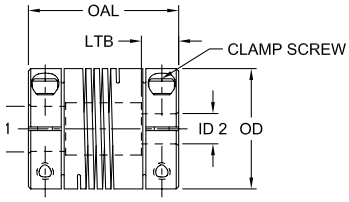
Set Screw Type (ES)



Clamping Type (EC)



Set Screw Type (ES)



Clamping Type (EC)

Features

- All-metal coupling
- Easy to install – one piece
- High angular misalignment capability to 5°
- Anodized aluminum finish
- Zero backlash design

ES and EC Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
ES 050	1.8	42.8	10,000	0.1	3.6	2.73	5°	0.005	± 0.010
EC 050	1.8	42.8	10,000	0.2	5.8	4.10	5°	0.005	± 0.010
ES 075	5.0	119.4	10,000	0.4	12.0	20.16	5°	0.005	± 0.010
EC 075	5.0	119.4	10,000	0.5	15.0	24.95	5°	0.005	± 0.010
ES 100	11.0	286.5	10,000	1.1	30.0	86.80	5°	0.005	± 0.010
EC 100	11.0	286.5	10,000	1.3	38.0	111.74	5°	0.005	± 0.010
ES 112	17.0	409.3	10,000	1.4	39.0	148.99	5°	0.005	± 0.010
EC 112	17.0	409.3	10,000	1.9	54.0	207.08	5°	0.005	± 0.010

Notes: ■ * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
■ Specify Bore sizes ID1 and ID2 when ordering.

ES and EC Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Set Screw or Clamp Screw Size in	Set Screw or Clamp Screw Size mm
ES050	0.512	13	0.118	3	0.118	3	0.188	4	0.512	13	4-40	M2.5
EC050	0.748	19	0.197	5	0.118	3	0.188	4	0.512	13	1-72	M1.6
ES075	0.748	19	0.197	5	0.157	4	0.236	6	0.748	19	8-32	M4
EC075	0.906	23	0.236	6	0.157	4	0.236	6	0.748	19	4-40	M2.5
ES100	0.984	25	0.276	7	0.236	6	0.394	10	0.984	25	10-24	M5
EC100	1.260	32	0.315	8	0.236	6	0.394	10	0.984	25	6-32	M3
ES112	1.102	28	0.276	7	0.315	8	0.472	12	1.102	28	1/4-20	M6
EC112	1.496	38	0.433	11	0.315	8	0.472	12	1.102	28	6-32	M3

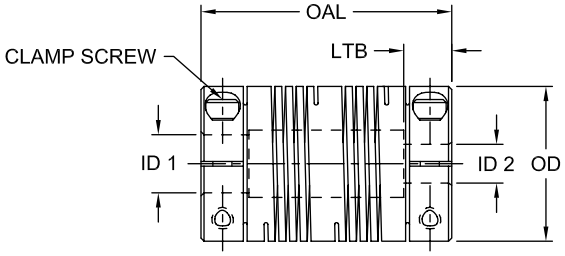
ADB Series - Aluminum Double Beam Clamp Style Coupling

The ADB (Aluminum Double Beam) Series coupling enhances the beam coupling options available from Lovejoy Inc. The longer overall length allows the ADB series to span longer BSE (between shaft end) measurements. The aluminum material used in its construction keeps the coupling's weight low. The ADB design offers two flex points allowing for greater angular misalignment, up to 7°. This design also allows for up to .024 inches of parallel misalignment. The torque capacity ADB series is more than double the range of the single beam designs, with the largest size having a torque capacity of 88 in-lbs.



Features

- Zero backlash design
- Simple one piece assembly
- Aluminum material
- Largest amount of angular misalignment capacity



MC

ADB Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
ADB 3	3.5	1,097	10,000	0.2	6.5	0.001	5°	0.007	± 0.010
ADB 3.5	6.2	2,584	10,000	0.4	11.5	0.001	7°	0.008	± 0.010
ADB 4	12.0	4,460	10,000	0.6	16.7	0.003	7°	0.010	± 0.010
ADB 5	20.0	6,266	10,000	1.6	44.3	0.013	7°	0.015	± 0.010
ADB 6	38.0	15,266	10,000	3.7	105.8	0.049	7°	0.020	± 0.010
ADB 7	88.0	20,514	10,000	6.2	175.1	0.118	7°	0.024	± 0.010

Notes: ■ * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
■ Specify Bore sizes ID1 and ID2 when ordering.

ADB Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Set Screw or Clamp Screw Size mm
ADB 3	0.902	22.9	0.209	5.3	0.118	3.0	0.250	6.35	0.500	12.7	M2
ADB 3.5	1.000	25.4	0.256	6.5	0.197	5.0	0.315	8.00	0.626	15.9	M2.5
ADB 4	1.043	26.5	0.256	6.5	0.236	6.0	0.394	10.00	0.752	19.1	M2.5
ADB 5	1.500	38.1	0.433	11.0	0.295	7.5	0.500	12.70	1.000	25.4	M3
ADB 6	2.252	57.2	0.630	16.0	0.394	10.0	0.630	16.00	1.252	31.8	M4
ADB 7	2.626	66.7	0.709	18.0	0.394	10.0	0.748	19.00	1.500	38.1	M5

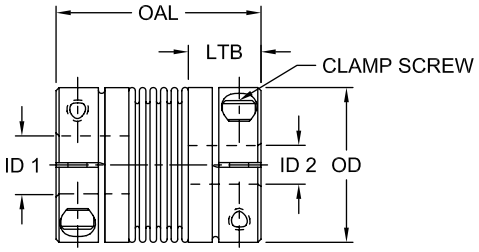
BWC Series - Bellows Clamp Style Coupling

The BWC (Bellows Clamp) Series coupling provides a new range of coupling options with the high torsional stiffness. The higher torsional stiffness provides the benefit of accuracy and repeatability in motion control applications. The BWC series coupling features aluminum hubs and corrosion resistant steel bellow. The compact design also offers the benefit of low inertia. The BWC Series also has a torque capacity of up to 89 in-lbs, with a maximum bore capacity of .748 inches in diameter. The BWC utilizes clamping style hubs that provide easy installation and removal of the coupling. The bellows design also offers up to .016 inches of axial misalignment, with low reactionary loading on bearings.



Features

- High torsional stiffness
- Low reactionary loading
- No maintenance required
- Low inertia



MC

BWC Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
BWC-21	3.54	2,248	15,000	0.3	9	0.009	1.2°	0.004	0.009
BWC-23	7.97	4,487	15,000	0.3	9	0.009	1.2°	0.004	0.008
BWC-26	13.28	6,620	15,000	0.8	22	0.038	1.2°	0.004	0.010
BWC-32	17.70	13,541	15,000	1.3	36	0.085	1.2°	0.004	0.012
BWC-41	39.83	57,083	15,000	2.6	74	0.335	1.2°	0.004	0.012
BWC-47	88.50	71,420	15,000	4.2	120	0.789	1.2°	0.006	0.016

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- Specify Bore sizes ID1 and ID2 when ordering.

BWC Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Clamp Screw Size mm
BWC-21	0.827	21	0.276	7.0	0.118	3	0.256	6.5	0.591	15	M2
BWC-23	0.906	23	0.276	7.0	0.118	3	0.256	6.5	0.591	15	M2
BWC-26	1.024	26	0.354	9.0	0.118	3	0.394	10.0	0.748	19	M2.5
BWC-32	1.260	32	0.472	12.0	0.118	3	0.472	12.0	0.945	24	M3
BWC-41	1.614	41	0.551	14.0	0.236	6	0.630	16.0	1.260	32	M4
BWC-47	1.850	47	0.571	14.5	0.315	8	0.748	19.0	1.575	40	M4

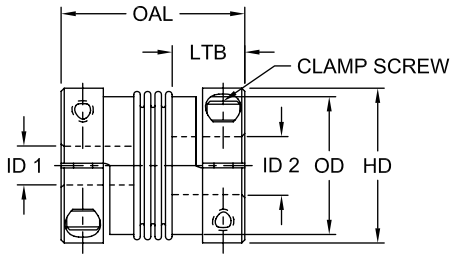
BWLC Series - Bellows Clamp Style Coupling

The BWLC (Bellows Clamp) Series coupling specifically addresses higher torque and bore capacities in the area of motion control. The BWLC Series offers the highest amount of torsional stiffness for accuracy and repeatability. The BWLC Series coupling features a corrosion resistant steel bellow and aluminum or steel hubs. The BWLC Series also has a torque capacity of up to 1,328 in-lbs, with a maximum bore capacity of 1.574 inches in diameter. The larger size of the BWLC allows for a greater amount of axial misalignment of .020 inches, with low reactionary loading on bearings.



Features

- Highest torsional stiffness
- Low reactionary loading
- No maintenance required
- Low inertia



MC

BWLC Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
BWLC-63	159	70,800	12,700	7.05	200	0.273	1.5°	0.008	0.020
BWLC-65	266	318,600	10,200	10.58	300	0.547	1.0°	0.004	0.016
BWLC-78	531	646,050	8,600	21.16	600	1.709	1.0°	0.004	0.016
BWLC-91	1,328	1,336,350	6,800	81.13	2,300	9.561	1.0°	0.008	0.016

Notes: ■ * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
■ Specify Bore sizes ID1 and ID2 when ordering.

BWLC Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	HD** in	HD** mm	OD in	OD mm	Clamp Screw Size mm
BWLC-63	2.480	63	0.472	12.0	0.394	10	0.984	25	1.772	45	1.772	45	M5
BWLC-65	2.559	65	0.591	15.0	0.394	10	0.984	25	1.850 / 2.205	47 / 56	2.205	56	M6
BWLC-78	3.071	78	0.768	19.5	0.551	14	1.378	35	2.244 / 2.598	57 / 66	2.598	66	M8
BWLC-91	3.583	91	0.846	21.5	0.787	20	1.575	40	2.677 / 3.150 3.307	68 / 80 84	3.228	82	M10

Note: ■ ** indicates: Various hub diameters available to accommodate different size bore diameters.

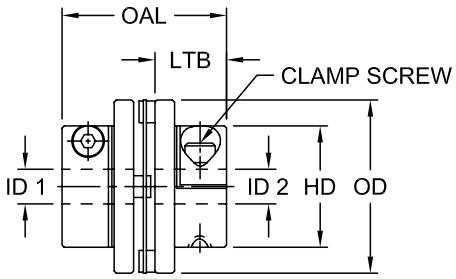
MDSD Series - Mini Disc Single Disc Clamp Style Coupling

The compact design of the MDSD (Mini Disc Single Disc) Series accommodates applications that allow for a minimum amount of space for the coupling. The MDSD Series coupling also features a high torsional stiffness over the MD and MDS Series. The MDSD Series also has the lowest inertia of the mini disc designs.



Features

- Zero backlash design
- Highest torsional stiffness
- Aluminum hubs with stainless steel discs
- Moderate-high torque capabilities
- Low Inertia



MC

MDSD Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
MDSD-32C	18	11,505	4,800	1.34	38	0.015377	1°	N/A	± 0.20
MDSD-40C	35	24,780	3,800	2.33	66	0.041006	1°	N/A	± 0.20
MDSD-50C	66	32,745	3,100	4.23	120	0.126435	1°	N/A	± 0.20
MDSD-63C	89	44,250	2,400	6.70	190	0.287042	1°	N/A	± 0.20

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- N/A indicates: Not Applicable.
- Specify Bore sizes ID1 and ID2 when ordering.

MDSD Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	HD in	HD mm	Clamp Screw Size mm
MDSD-32C	1.260	32	0.539	13.7	0.118	4	0.394	10	1.260	32	0.866	22	M3
MDSD-40C	1.496	38	0.650	16.5	0.236	6	0.551	14	1.575	40	1.102	28	M4
MDSD-50C	1.732	44	0.764	19.4	0.394	10	0.787	20	1.969	50	1.535	39	M5
MDSD-63C	1.969	50	0.878	22.3	0.472	12	0.984	25	2.480	63	1.772	45	M6

Coupling Types	Beam			Bellows	
					
Summary of Design	**ES/EC Series**	**ASB Series**	**ADB Series**	**BWC Series**	**BWLC Series**
	Single beam with setscrew or clamping options	Single beam with clamping style for higher torque applications	Double Beam clamping style coupling	Standard Bellows style coupling	Bellows style coupling
Material Type	Anodized Aluminum	Anodized Aluminum	Aluminum	Aluminum hubs with stainless steel bellows	Aluminum hubs with stainless steel bellows
Torque Capacity (Nominal)	up to 17 in-lbs	up to 15 in-lbs	up to 88 in-lbs	up to 88.5 in-lbs	up to 1,328 in-lbs
Torsional Stiffness	up to 409 in-lb/rad	up to 1,770 in-lb/rad	up to 20,514 in-lb/rad	up to 71,420 in-lb/rad	up to 1,33,350 in-lb/rad
Bore Capacity	up to .500 inches	up to .551 inches	up to .748 inches	up to .748 inches	up to 1.574 inches
Maximum RPM	up to 10,000 RPM	up to 10,000 RPM	up to 10,000 RPM	up to 15,000 RPM	up to 12,700 RPM
Angular Misalignment	up to 5°	up to 5°	up to 7°	up to 1.2°	up to 1.5°
Parallel Misalignment	.005 inches	.005 inches	.024 inches	.006 inches	.008 inches
Axial Misalignment	+/- .010 inches	+/- .010 inches	+/- .010 inches	up to +/- .016 inches	up to +/- .020 inches
Maximum Temperature	200° F	200° F	200° F	212° F	212° F
Moment of Inertia	Up to 207 [lb-in^2]	Up to 0.037 [lb-in^2]	Up to 118 [lb-in^2]	Up to .78937 [lb-in^2]	Up to 9.561 [lb-in^2]

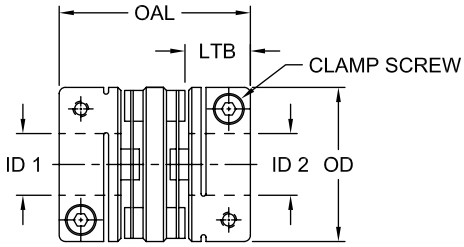
Mini-Disc			Oldham	Mini Soft	GS Curved Jaw	Mini Jaw
						
MD Series	**MDS Series**	**MDSD Series**	**MOL Series**	**MSF Series**	**GS Series**	**L Series**
Standard mini disc configuration utilizing two disc packs	Spacer version of the minidisc style coupling	SIngle disc pack version of the mini disc coupling	Three piece coupling design with Polyacetel insert	Three piece design with Polyurethane sleeve insert	Three piece jaw coupling design with Urethane or Hytrel® insert	Three piece jaw design with buna-N Urethane, or Hytrel® Spider
Aluminum Hubs with stainless steel disc	Aluminum Hubs with stainless steel disc	Aluminum Hubs with stainless steel disc	Aluminum Hubs, Polyacetel insert	Zinc Alloy/ sintered iron hubs, polyurethane	Aluminum or steel hubs, urethane or Hytrel® insert	Sintered iron hubs, Buna-N, Urethane, or Hytrel® Spider
up to 111 in-lbs	up to 89 in-lbs	up to 89 in-lbs	up to 40 in-lbs	up to 27 in-lbs	up to 7301 in-lbs	up to 50 in-lbs
up to 26,550 in-lb/rad	up to 22,125 in-lb/rad	up to 44,250 in-lb/rad	up to 7,877 in-lb/rad	up to 266 in-lb/rad	up to 366,921 in-lb/rad	N/A
up to 1.18 inches	up to 1.00 inches	up to 1.00 inches	up to .500 inches	up to .500 inches	up to 2.75 inches	up to .625 inches
up to 10,000 RPM	up to 4,800 RPM	up to 4,800 RPM	up to 24,000 RPM	up to 24,000 RPM	up to 25,400 RPM	up to 31,000 RPM
up to 1.5°	up to 2°	up to 1°	up to 3°	up to 2°	up to 1.3°	up to 1°
.006 inches	.010 inches	N/A	.100 inches	.010 inches	.027 inches	.015 inches
+/- .020 inches	+/- .031 inches	+/- .008 inches	+/- .008 inches	N/A	N/A	N/A
300° F	300° F	300° F	176° F	140° F	up to 248° F	up to 250° F
Up to .72 [lb-in^2]	Up to .376 [lb-in^2]	Up to .287 [lb-in^2]	Up to .304 [lb-in^2]	Up to .092 [lb-in^2]	Up to .135 [lb-in^2]	Up to .070 [lb-in^2]

MC

MD Series - Mini Disc Clamp Style Coupling

The MD (mini disc) Series coupling features a higher torque capacity over elastomeric coupling types. The MD Series one piece clamping design allows for easy removal and assembly. The Aluminum hubs and stainless steel disc materials allow for excellent resistance to oil and other chemicals. The MD Series design offers moderate torsional stiffness for applications requiring repeatability. The MD Series also offers up to .020 inches of axial misalignment.





Features

- Zero backlash design
- Moderate torsional stiffness
- Aluminum hubs with stainless steel discs
- Moderate-high torque capabilities

MC

MD Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
MD-19C	6	1,770	10,000	0.635	18	0.003	1.5°	0.005	± 0.20
MD-25C	9	3,983	8,000	0.882	25	0.009	1.5°	0.005	± 0.20
MD-32C	22	9,735	6,000	2.116	60	0.033	1.5°	0.006	± 0.20
MD-40C	31	12,390	5,000	3.527	100	0.065	1.5°	0.006	± 0.20
MD-50C	80	19,470	4,000	7.408	210	0.028	1.5°	0.006	± 0.20
MD-63C	111	26,550	3,000	11.993	340	0.718	1.5°	0.006	± 0.20

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- Specify Bore sizes ID1 and ID2 when ordering.

MD Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Clamp Screw Size mm
MD-19C	1.063	27	0.315	8	0.157	4	0.315	8	0.748	19	M2
MD-25C	1.220	31	0.394	10	0.236	6	0.472	12	0.984	25	M2.5
MD-32C	1.575	40	0.472	12	0.315	8	0.591	15	1.260	32	M3
MD-40C	1.732	44	0.551	14	0.315	8	0.787	20	1.575	40	M4
MD-50C	2.244	57	0.709	18	0.551	14	0.984	25	1.969	50	M5
MD-63C	2.402	61	0.787	20	0.591	15	1.181	30	2.480	63	M6

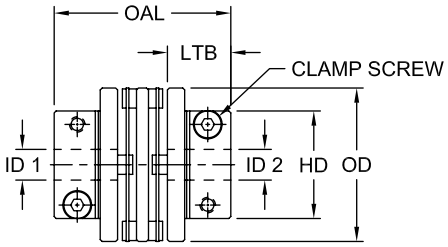
MDS Series – Mini Disc Spacer Clamp Style Coupling

The MDS (mini disc spacer) Series coupling features a higher parallel misalignment capacity over standard MD Series at .006 inches. The MDS Series also has the highest parallel misalignment at .012 inches and angular misalignment at 2° of any of the mini disc couplings.



Features

- Zero backlash design
- High torsional stiffness
- Aluminum hubs with stainless steel discs
- Moderate-high torque capabilities
- Low Inertia



MC

MDS Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
MDS-32C	18	8,850	4,800	1.69	48	0.212	2°	0.006	± 0.016
MDS-40C	35	13,275	3,800	2.86	81	0.055	2°	0.007	± 0.016
MDS-50C	66	17,700	3,100	5.29	150	0.157	2°	0.007	± 0.024
MDS-63C	89	22,125	2,400	8.11	230	0.376	2°	0.012	± 0.031

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- Specify Bore sizes ID1 and ID2 when ordering.

MDS Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	HD in	HD mm	Clamp Screw Size mm
MDS-32C	1.575	40	0.539	13.7	0.236	6	0.394	10	1.260	32	0.866	22	M3
MDS-40C	1.811	46	0.650	16.5	0.315	8	0.551	14	1.575	40	1.102	28	M4
MDS-50C	2.047	52	0.764	19.4	0.472	12	0.787	20	1.969	50	1.535	39	M5
MDS-63C	2.283	58	0.878	22.3	0.591	15	0.984	25	2.480	63	1.772	45	M6

MOL Series - Oldham Style Coupling



The Lovejoy Oldham coupling is a precision engineered, torsionally stiff, three-piece coupling suitable for a great many applications ranging from incremental control of fluid valves to highly dynamic drives in closed loop servo systems. It accommodates misalignment mechanically through a floating disc that engages tenons machined out of the hubs. As the coupling rotates, the floating disc aligns with each hub alternately to an extent demanded by the alignment error.

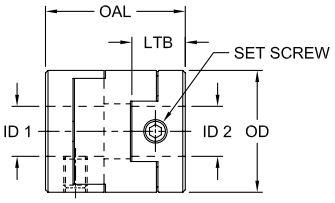
Because parallel misalignment is accommodated by lateral displacement, the Lovejoy Oldham coupling can handle severe alignment errors within a short space envelope. This is a valuable feature in densely packaged and blind assemblies, or where misalignment can accelerate the erosion of shaft bearings.

The Lovejoy Oldham coupling features raised dots on both sides of the floating disc which act as an effective spacer. The dots keep the face of the tenon from contacting the bottom of the floating disc and allows the coupling greater angular misalignment capability. A very important effect is that the spacer dots will greatly reduce the bending load on the shafts because of the freedom of the floating disc.

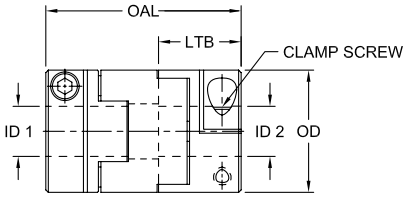
The MOL Coupling consists of two hubs and one center member.

Features

- High torsional stiffness
- Maximum temperature 176° F (80° C)
- Aluminum hubs with a Polyacetal insert
- Available in setscrew or clamping style hubs



Set Screw Type



Clamping Type

MOL Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
MOL-16	6.2	620	24,000	0.2	7	0.001	3°	0.04	N/A
MOL-16C	6.2	620	9,500	0.4	11	0.001	3°	0.04	N/A
MOL-20	10.6	974	19,000	0.5	15	0.003	3°	0.06	N/A
MOL-20C	10.6	974	7,600	0.8	22	0.004	3°	0.06	N/A
MOL-25	17.7	1,770	15,000	1.0	28	0.008	3°	0.08	N/A
MOL-25C	17.7	1,770	6,100	1.4	40	0.011	3°	0.08	N/A
MOL-32	39.8	7,877	12,000	1.9	55	0.025	3°	0.10	N/A
MOL-32C	39.8	7,877	4,800	2.6	75	0.034	3°	0.10	N/A

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- N/A indicates: Not Applicable.
- Specify Bore sizes ID1 and ID2 when ordering.

MOL Series Dimensional Data

Size	Attachment	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Set Screw/ Clamp Screw Size mm
MOL-16	Set Screw	0.709	18	0.276	7.0	0.118	3	0.236	6	0.630	16	M3
MOL-16C	Clamp	1.142	29	0.492	12.5	0.118	3	0.236	6	0.630	16	M2.6
MOL-20	Set Screw	0.906	23	0.354	9.0	0.118	3	0.315	8	0.787	20	M4
MOL-20C	Clamp	1.299	33	0.551	14.0	0.118	3	0.315	8	0.787	20	M2.6
MOL-25	Set Screw	1.102	28	0.433	11.0	0.197	5	0.394	10	0.984	25	M5
MOL-25C	Clamp	1.535	39	0.650	16.5	0.197	5	0.394	10	0.984	25	M3
MOL-32	Set Screw	1.299	33	0.512	13.0	0.315	8	0.551	14	1.260	32	M6
MOL-32C	Clamp	1.772	45	0.748	19.0	0.315	8	0.551	14	1.260	32	M4

MSF Series - Mini Soft Style Coupling



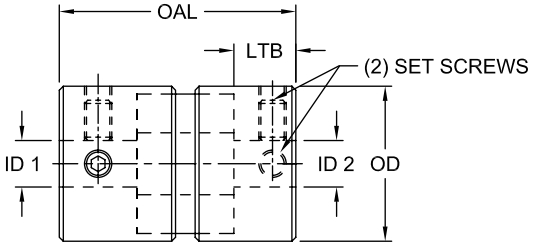
The Lovejoy Mini Soft coupling provides protection from misalignment, vibration and shock loads. The simple design of the coupling ensures ease of assembly, installation and reliable performance. No special tools are needed for installation or removal. No lubrication is needed, and once installed and aligned correctly, no maintenance is required.

The Mini Soft coupling design is comprised of three parts. Two hubs with internal teeth engage an elastomeric flexible center, or sleeve, with external teeth. Misalignment and torsional shock loads are absorbed by shear deflection in the center sleeve element.

The shear characteristic of the coupling is very well suited to absorb impact. The Lovejoy Mini Soft coupling is designed with tooth contact which provides more surfaces carrying the load resulting in less wear at any one point, and torque that flows more smoothly. Additionally, the coupling allows for axial freedom which results in easier assembly and spacing of shafts. This feature is particularly useful in reducing thrust loads on bearings.

When operating within its rating, the coupling is torsionally stiff and will not react with twist during operation. The Polyurethane center member sleeve is known for its toughness and resistance to abrasion, and also provides for good damping and shock load capabilities.

The MSF coupling consists of two hubs and one center member.



Features

- Easy blind assembly
- Good shock load absorption
- Good abrasion resistance
- Zinc alloy hubs
- Polyurethane insert

MSF Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight* oz	Weight* g	Moment of Inertia* lb-in2	Misalignment Angular	Misalignment Parallel in	Misalignment Axial in
MSF-16	4.4	27	24,000	0.8	22	0.003	2°	0.01	N/A
MSF-20	8.9	80	19,000	1.5	43	0.010	2°	0.01	N/A
MSF-25	13.3	106	15,000	3.0	84	0.028	2°	0.01	N/A
MSF-32	26.6	266	12,000	5.6	160	0.092	2°	0.01	N/A

Notes:
- * indicates: Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.
- N/A indicates: Not Applicable.
- Specify Bore sizes ID1 and ID2 when ordering.

MSF Series Dimensional Data

Size	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Set Screw Size mm
MSF-16	1.063	27	0.315	8	0.118	3	0.315	8	0.630	16	M3
MSF-20	1.339	34	0.394	10	0.197	5	0.394	10	0.787	20	M3
MSF-25	1.614	41	0.472	12	0.197	5	0.472	12	0.984	25	M4
MSF-32	1.890	48	0.551	14	0.315	8	0.551	14	1.260	32	M4

GS Series - Curved Jaw Style Coupling

The GS Series curved jaw coupling offers zero backlash capability in a 3-piece design. The coupling is provided assembled under prestress. The GS Series can be used in a variety of different applications requiring precision and accuracy.

The GS Series spider features a straight center of the spider tooth, providing higher stiffness due to coupling prestress. The crowning of the ends of the spider legs allows for misalignment, while the curved jaws and solid spider center provide high-speed capability.



The jaws of the hubs and the spider legs are chamfered to provide easy assembly. The GS Series coupling design also allows the blind assembly in tight spaces. Raised spider dots on the legs of the spider ensure proper spacing of hubs and spider.

The GS Series coupling has spiders available in four different shore hardnesses. Each spider offers benefits for different vibratory, environmental, and torque transmission requirements.

The GS Curved Jaw coupling consists of two hubs and one spider.

Features

- Simple 3 piece jaw design
- Aluminum and steel material hubs
- Clamping and locking device hubs available
- Four different types of urethane shores to chose from

Typical Applications

Measurement And Control Systems

The torsional stiffness of the GS Series coupling provides zero backlash needed for the accuracy for measurement and control systems. The low torques of these applications gives the GS Series the ability to provide zero backlash due to the elastomer pre-stress.

Servo And Positioning Drives

The GS Series provides a zero backlash, flexible connection for servo and positioning drives. An added benefit of the GS Series is its damping capabilities. For applications that have vibrations at critical speeds, the GS Series coupling can provide a zero backlash solution for vibration problems.

Main Spindle Drives

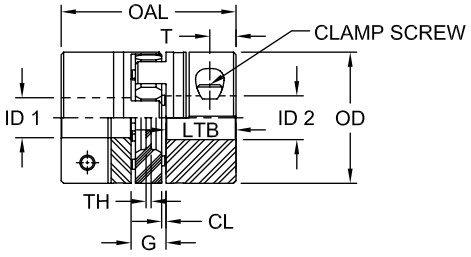
The GS Series coupling is used in main spindle drives for machine tools. Torque spikes and cyclical loading are handled by the GS Series by damping or by shifting the vibratory frequency range to a non-critical speed range.

Elastomer Performance Data

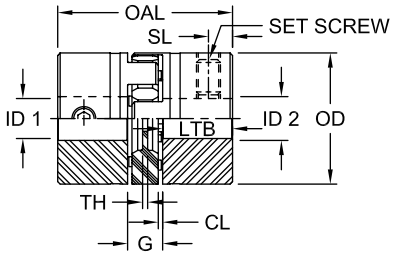
Spider Type	Color	Metal	Temperature Range		Sizes Available	Typical Applications
			Normal	Maximum		
80 Shore A GS	Blue	Urethane	-50° to 176° F	-80° to 248° F	14 - 24	Electric measuring systems
92 Shore A GS	Yellow	Urethane	-40° to 194° F	-50° to 248° F	14 - 55	Electric measuring systems and control systems
95/98 Shore A GS	Red	Urethane	-30° to 194° F	-40° to 248° F	14 - 55	Positioning drives, main spindle drives, high load applications
64 Shore D GS	Green	Urethane	-20° to 230° F	-30° to 248° F	14 - 55	High load applications torsionally stiff spider material

GS Series Performance Data

Size	Spider Durometer	Maximum Speed for Clamping Styles			Torque		Static Torsional Stiffness	Dynamic Torsional Stiffness	Radial Stiffness	Complete Coupling Max Bore w/o Keyway	
		Clamping Hub	Set Screw Hub	Locking Device Hub	Tkn	Tkmax				Weight	Polar Moment of Inertia J
		RPM	RPM	RPM	in-lbs	in-lbs	lb-in/rad	lb-in/rad	b/in	lb	(lb-in2) (x10-6)
14	80 Sh A	12,700	15,900	25,400	35.4	70.8	532.8	1,593	874	0.098	57
	92 Sh A				66.4	132.8	1,014.0	3,044	1,920		
	98 Sh A				110.6	221.3	1,521.0	4,540	3,452		
	64 Sh D				141.6	283.2	2,072.0	6,212	4,892		
19/24	80 Sh A	9,550	11,900	19,000	43.4	86.7	3,042.0	9,115	3,326	0.306	374
	92 Sh A				88.5	177.0	5,071.0	15,222	6,401		
	98 Sh A				150.5	300.9	7,606.0	22,833	11,487		
	64 Sh D				185.9	371.7	10,976.0	32,922	16,745		
24/32	92 Sh A	6,950	8,850	13,800	309.8	619.5	12,673.0	38,019	8,458	0.621	965
	98 Sh A				531.0	1,062.0	18,257.0	54,772	14,630		
	64 Sh D				663.8	1,327.0	26,355.0	79,065	21,123		
28/38	92 Sh A	5,850	7,350	11,700	840.8	1,681.0	20,284.0	60,852	10,173	1.178	3,691
	98 Sh A				1,415.0	2,832.0	30,426.0	91,278	18,288		
	64 Sh D				1,770.0	3,540.0	38,497.0	115,492	24,849		
38/45	92 Sh A	4,750	5,950	9,550	1,681.0	3,363.0	40,586.0	121,705	12,430	2.112	7,485
	98 Sh A				2,876.0	5,752.0	63,366.0	190,151	25,146		
	64 Sh D				3,584.0	7,168.0	93,279.0	279,837	36,999		
42/55	92 Sh A	4,000	5,000	8,050	2,345.0	4,690.0	55,755.0	128,236	13,887	8.324	40,639
	98 Sh A				3,982.0	7,965.0	169,920.0	424,800	31,833		
	64 Sh D				4,956.0	9,912.0	244,083.0	610,207	41,548		
48/60	92 Sh A	3,600	4,550	7,200	2,743.0	5,487.0	69,472.0	159,786	14,745	11.317	68,782
	98 Sh A				4,646.0	9,292.0	197,974.0	494,936	33,890		
	64 Sh D				5,796.0	11,593.0	320,370.0	800,925	47,286		
55/70	92 Sh A	3,150	3,950	6,350	3,628.0	7,257.0	84,075.0	193,372	17,031	16.993	135,334
	98 Sh A				6,062.0	12,124.0	210,630.0	526,575	38,210		
	64 Sh D				7,301.0	14,602.0	366,921.0	917,302	52,852		



Clamping Type



Set Screw Type

GS Series Dimensional Data

Size	Material	OAL in	OAL mm	LTB in	LTB mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD in	OD mm	Set Screw / Clamp Screw Size mm
14	Aluminum	1.378	35	0.433	11	0.197	5	0.625*	16*	1.181	30	M3
19/24	Aluminum	2.598	66	0.984	25	0.315	8	0.945	24	1.575	40	M2.6
24/32	Aluminum	3.071	78	1.181	30	0.472	12	1.260	32	2.165	55	M4
28/38	Aluminum	3.543	90	1.378	35	0.709	18	1.496	38	2.559	65	M2.6
38/45	Aluminum	4.488	114	1.772	45	0.709	18	1.772	45	3.150	80	M5
42/55	Steel	4.961	126	1.969	50	0.709	18	2.165	55	3.740	95	M3
48/60	Steel	5.512	140	2.205	56	0.709	18	2.362	60	4.134	105	M6
55/70	Steel	6.299	160	2.559	65	1.024	26	2.756	70	4.724	120	M4

Notes:
- *indicates: Without keyway.
- Specify keyway size if needed when ordering.
- Specify bore sizes ID1 and ID2 when ordering.

GS Series Dimensional Data *Continued*

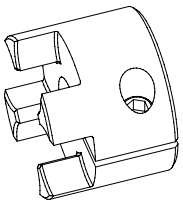
Size	Material	T in	Clamp Screw Size mm	SL in	Set Screw Size in	TH in	TH mm	CL in	CL mm	G in	G mm
14	Aluminum	0.20	M3	0.20	8-32	0.079	2.0	0.039	1.0	0.512	13
19/24	Aluminum	0.47	M2.6	0.39	10-24	0.118	3.0	0.079	2.0	0.630	16
24/32	Aluminum	0.55	M4	0.39	10-24	0.118	3.0	0.079	2.0	0.709	18
28/38	Aluminum	0.59	M2.6	0.59	5/16-18	0.157	4.0	0.098	2.5	0.787	20
38/45	Aluminum	0.79	M5	0.59	5/16-8	0.157	4.0	0.118	3.0	0.945	24
42/55	Steel	0.79	M3	0.79	5/16-8	0.157	4.0	0.118	3.0	1.024	26
48/60	Steel	0.87	M6	0.79	5/16-8	0.157	4.0	0.138	3.5	1.102	28
55/70	Steel	0.98	M4	0.79	3/8-16	0.177	4.5	0.157	4.0	1.181	30

GS Series Hub Design Descriptions

The GS Series coupling features different hub designs for different application situations. Each type offers specific benefits for different types of applications. The clamping styles offer the benefit of minimal to zero backlash.

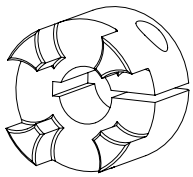
Clamping Hub With Single Slot Without Keyway (C)

Zero backlash, clamping style for torque transmission. Torque capacity of hub depends on bore size. Available standard for sizes GS 14-19.



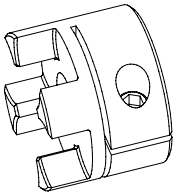
Clamping Hub With Single Slot With Keyway (CWK)

Zero backlash, clamping style with keyway for torque transmission. Usable in applications featuring reversing loads. Available standard for sizes GS 14-19.



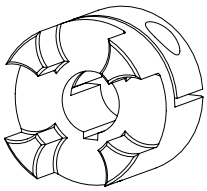
Clamping Hub With Double Slot Without Keyway (DSC)

Transmits torque utilizing a double split clamp to attach hub to shaft. Zero or minimum backlash. Torque capacity of coupling determined by bore size. Available standard for sizes GS 24-55.



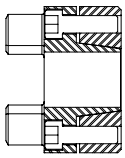
Clamping Hub With Double Slot With Keyway (DSCK)

Transmits torque utilizing a double split clamp to attach hub to shaft. Zero or minimum backlash. Available standard for sizes GS 24-55.



Hub With Frictional Locking (LD)

This hub utilizes a shaft locking device to allow for shaft engagement. This design features bolts tightened on the jaw side of the hub. Available for sizes GS 14-55.



L Series - Miniature Jaw Style Coupling



The Lovejoy Miniature Jaw coupling provides positive engagement resulting in great strength because of the large area of contact of the elastomer or "spider" center member with the interlocking jaws. This Miniature coupling provides "fail safe" operations and is the only coupling that will continue to run, even if the elastomer "spider" fails. Torque will continue to be transmitted through the metal jaw contact.

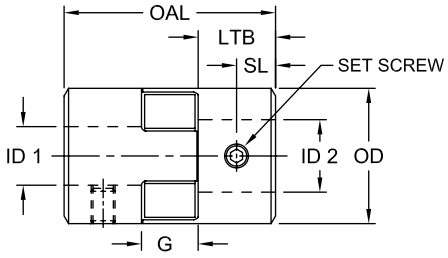
Good torsional stiffness is provided due to high compression loading. Vibration control is provided though the elastomer center member "spider" and its excellent damping ability. Raised "dots", a Lovejoy feature, designed into the elastomer center member "spider", separate the jaw of one hub from the face of the other hub, and automatically set the spacing between the hubs.

The Jaw type coupling design provides rubber in compression which accommodates much more load without failure than rubber in shear or tension.

The Miniature Jaw coupling is radially stiff when misaligned beyond its limits of .015 offset and 1° angular. Radial stiffness results in radial loads on the bearings, called reactionary loads. As the elastomer "set" takes place, the radial loads are eased.

The L-line Miniature Jaw coupling consists of two hubs and one spider.





Elastomer Materials

NBR (SOX) Rubber – Nitrile Butadiene Rubber NBR (SOX) is a flexible insert material that is oil resistant, resembles natural rubber in resilience and elasticity and operates effectively in a temperature range of -40° to 212° F (-40° to 100° C). NBR (SOX) also provides good resistance to oil and is the standard Jaw coupling elastomer.

Urethane – Urethane has greater torque capability (1.5 times)than NBR (SOX), provides less damping effect, and operates at a temperature range of - 30° to 160° F (-34° to 71° C) and has good resistance to oil and chemicals.

Hytrel® – Hytrel is a flexible elastomer designed for high torque and high temperature operations. Hytrel can operate in temperatures of -60° to 250° F (- 51° to 121° C) and has an excellent resistance to oil and chemicals.

Bronze – Bronze is a rigid, porous, oil-impregnated metal insert exclusively for slow speed (maximum 250 RPM) applications requiring high torque capabilities. Bronze operations are not affected by extreme temperatures, water, oil or dirt.

Hub Material:	Sintered iron	
Center Material:	NBR (SOX) Rubber	L035 & L050
	Urethane	L050 only
	Hytrel®	L050 only
	Bronze	L050 only

Features

- Positive engagement with jaw interlocking
- Fail safe
- Good torsional stiffness
- Vibration damping ability
- Easy to install
- Center elastomer dits keep hubs form touching
- Exceptional overload capacity
- Spider arms are in compression
- Widely distributed
- Choice in center elastomer hardness

L Series Dimensional Data

Size	Torque Nominal Sox in-lbs	OAL in	OAL mm	LTB in	LTB mm	SL in	SL mm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm
L-035	3.5	0.752	19.1	0.276	7	33	3	0.118	3	0.394	10
L-050	26.3	1.34	20.3	0.472	12	128	8	0.236	6	0.630*	16

L Series Dimensional Data *Continued*

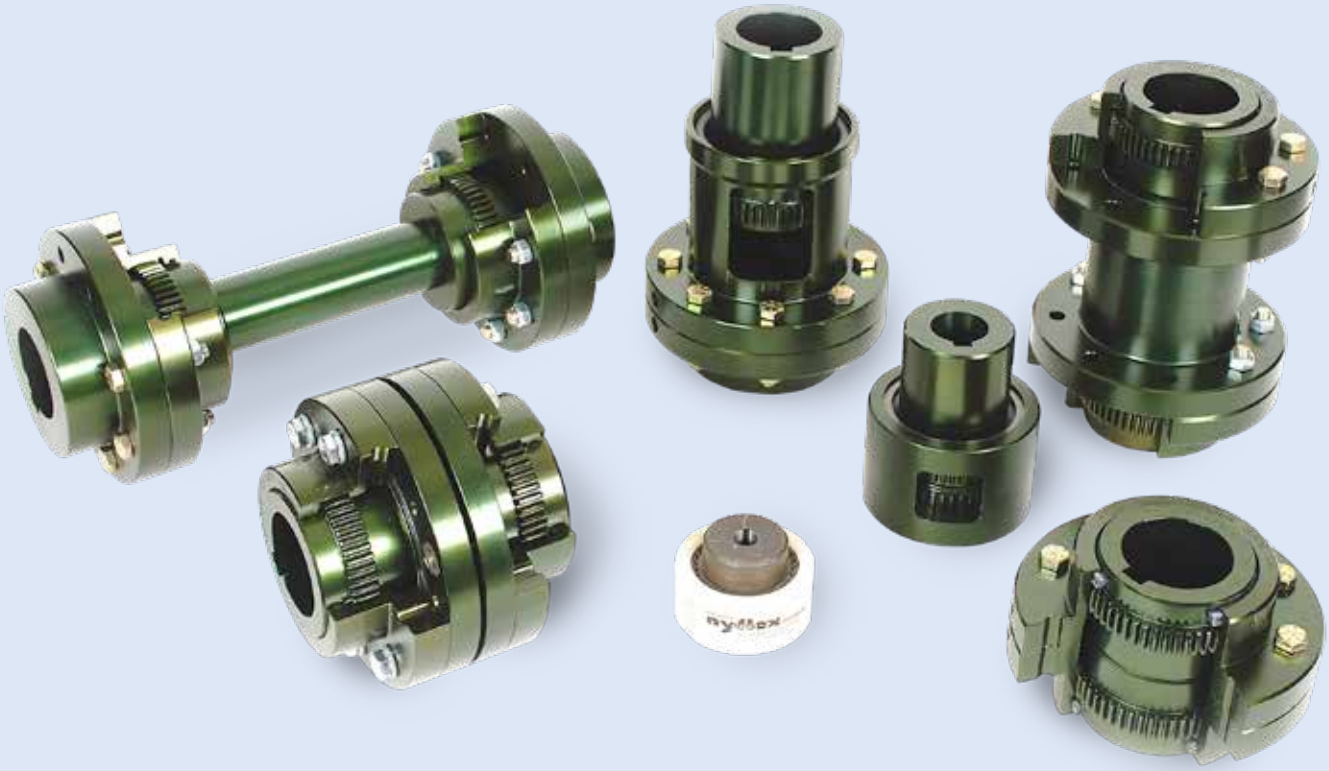
Size	G in	G mm	OD in	OD mm	Approximate Weight (lbs) Solid lbs	Approximate Weight (lbs) Max Bore lbs	Moment of Inertia lb-in² (solid)	Set Screw Size mm
L-035	0.276	7	0.630	16	0.1	0.083	0.003	M2
L-050	0.630	16	1.063	27	0.3	0.240	0.054	M2.5

Notes:
- * indicates: Maximum bore without keyway.
- Specify keyway size if needed when ordering.
- Specify bore sizes ID1 and ID2 when ordering.

Gear

In This Section:

- C Types – Continuous Sleeve
- Nyflex® and Mite®
- Dentex®
- F Types – Flanged Sleeve
- R Types – Rigid Adjustable
- Coupling Grease



Gear

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Gear

Table of Contents

	Running Page No.	Section Page No.
Overview	118	G-4
Selection Process	126	G-12
Application Service Factors > Selection Data	127	G-13
Gear Coupling Selection Worksheet	128	G-14
Continuous Sleeve > Cut Away	129	G-15
C and CFR Type > Performance / Dimensional Data	130	G-16 / 17
CMM Type > Performance / Dimensional Data	132	G-18 / 19
CFS Type > Performance / Dimensional Data	134	G-20 / 21
CSPCR Type > Performance / Dimensional Data	136	G-22 / 23
CCS Type > Performance / Dimensional Data	138	G-24 / 25
CSHP Type > Performance / Dimensional Data	140	G-26 / 27
Nyflex® and Mite® Type > Performance / Dimensional Data	142	G-28 / 29
Dentex® Type > Performance / Dimensional Data	144	G-30 / 31
C Universal Hub > Dimensional Data	146	G-32
Flanged Sleeve > Cut Away	147	G-33
F Type > Performance / Dimensional Data	148	G-34 / 35
FFR Type > Performance / Dimensional Data	150	G-36 / 37
FFS Type > Performance / Dimensional Data	152	G-38 / 39
FHD Type > Performance / Dimensional Data	154	G-40 / 41
FHDFR Type > Performance / Dimensional Data	156	G-42 / 43
FHDFS Type > Performance / Dimensional Data	158	G-44 / 45
FMM Mill Type > Performance / Dimensional Data	160	G-46 / 47
FMM Mill Motor Type > Performance / Dimensional Data	162	G-48 / 49
FSL Type > Performance / Dimensional Data	164	G-50 / 51
FSXL Type > Performance / Dimensional Data	166	G-52 / 53
FSPCR Type > Performance / Dimensional Data	168	G-54 / 55
FLEF Type > Performance / Dimensional Data	170	G-56 / 57
FRR Type > Performance / Dimensional Data	172	G-58 / 59
FLA Type > Performance / Dimensional Data	174	G-60 / 61
FLAFR Type > Performance / Dimensional Data	176	G-62 / 63
FLAMM and FLAMMFR Type > Performance / Dimensional Data	178	G-64 / 65
FA Type > Performance / Dimensional Data	180	G-66 / 67
RA and RAHS Type > Performance / Dimensional Data	182	G-68 / 69
F Universal Hub and Puller Holes > Dimensional Data	184	G-70
F Flange and Hub Gap Details > Dimensional Data	185	G-71
Continuous Sleeve > Overview	186	G-72
Flanged Sleeve > Overview	188	G-74
Standard Flanged Sleeve Maximum Bores Inch / Metric > Dimensional Data	190	G-76
Rigid Hub Maximum Bores – Interference Fit > Dimensional Data	191	G-77
Coupling Grease	192	G-78

Lovejoy / Sier-Bath Continuous Sleeve and Flanged Sleeve Couplings





Continuous Sleeve Series

Features

- Simple and inexpensive all steel type of gear coupling constructed with a single sleeve and 2 hubs
- Comparatively simple installation
- Precision cut 20° pressure angle gear teeth with minimum backlash
- Most standard configurations are available as stock items
- Angular misalignment of 1/2° per gear mesh (flex-plane)
- Sizes 7/8 through 12, to accommodate bore sizes up to and including 12.50 inches
- Interference fit (standard) and Clearance fit on bores are available
- Load Capacities range from 2,500 in-lbs up to 2,520,000 in-lbs
- Designs for applications requiring horizontal and vertical orientation, full-flex, flex-rigid, mill-motor, disengagement, sliding hubs, Shear Pin, floating shaft, and spacers
- Patented and tested BUNA N seal design with reinforced washers bonded to the inside edges which positively retain lubricant and seal the interior from outside contaminants
- Reinforced rubber seals with snap rings to hold in lubricant
- Two snap rings made of hardened spring steel which securely hold the coupling together, are easy to install or remove, yet withstand 100,000 pounds of end thrust
- Inch and Metric bore sizes available

Flanged Sleeve Series

Features

- Patented Vari-Crown® tooth form for long coupling life
- Precision cut 20° pressure angle gear teeth with minimum backlash
- All steel sleeves and hubs (stainless steel available)
- Designs for applications requiring horizontal and vertical orientation
- Most standard configurations are available as stock items
- Angular misalignment of 1-1/2° per gear mesh (flex-plane) up to size 5.5, 3/4° for sizes 6 and above
- Coupling sizes available through size 30 to accommodate bore sizes up to and including 44 inches
- Interference fit (standard) and Clearance fit on bores are available
- Load capacities range from 7,600 in-lbs up to 47,269,000 in-lbs
- Exposed bolts standard on all sizes, shrouded available by request up to size 6
- Standard bolts supplied by Lovejoy are treated to be corrosion resistant
- Flanged sleeve couplings are interchangeable with industry standards
- Piloted gear fit for higher speeds and less vibration
- Labyrinth all steel seal design in FL series
- Inch and Metric bore sizes available

Standard Types and Sizes

Lovejoy / Sier-Bath couplings are stocked in an assortment of configurations which include C and F standard hubs and sleeves, Mill Motor hubs, Vertical style, Floating Shaft, and Spacer designs. Lovejoy's superb engineering staff make it possible to support many additional coupling types such as the Brakedrum type, Sliding Hub type, Shear Pin type, Jordan type, and custom lengths for non standard shaft separations. Additional size ranges and designs to meet unusual application requirements can also be manufactured by Lovejoy to meet market demands. Material can range from standard steel to alloy steel and even stainless steel. The exceptional simplicity of the Lovejoy coupling design make this all possible.

Misalignment and End-Float Capability

The basic principle of Lovejoy / Sier-Bath C and F type couplings is similar to that of other conventional flexible gear couplings. While it is desirable to align shafts as accurately as possible, the purpose of any flexible coupling is to absorb probable angular, parallel, and axial (end-float) misalignment. Lovejoy/Sier-Bath couplings utilize a unique gear tooth geometry developed specifically to resolve issues with shaft misalignment and accommodate from 1/2° to 1-1/2° per gear mesh or flex plane. The hub teeth are fully crowned to provide for a larger contact area and lower stresses under misaligned conditions. The crowned tooth design also eliminates most of the end loading that occurs on straight gear teeth under misalignment.

WARNING

You must refer to page G-2 (Page 116) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Lovejoy / Sier-Bath Nyflex® and Mite®

Lovejoy / Sier-Bath Nylon couplings are compact and require no lubrication. They operate over a wide temperature range at speeds up to 5,000 RPM and are effectively used in applications such as Motor/ Generator sets, pump sets, and many light to medium duty industrial coupling applications.

No lubricants are ever required, eliminating the need for seals. The resilient nature of the nylon material makes the contact of the hubs and sleeves almost frictionless. Since no lubrication is used, the coupling can readily be adapted to many applications including vertical and blind installations where the slip-together components offer easy inspection and adjustment.

Operationally, the coupling offers a minimum backlash solution that will operate in ambient temperature environments from -40° to 150° F. Nylon Sleeve couplings have precision molded sleeves and hubs with no bolts, pins, flanges, or protrusions to affect balance or safety. The nylon sleeve permits misalignment up to 5° for Dentex and Nyflex couplings and 3° for the Mite.

When completely assembled, the Mite coupling weighs less than 1lb and the Nyflex only 3.50 lbs. Weights for Dentex® couplings can be found on page G-30.

Features

- Molded nylon sleeve
- No internal frictional loss or heat buildup
- Minimum backlash
- High ambient temperature allowed
- Resistance to dirt, moisture, most chemicals
- Low maintenance (no seals, lubricant, retainers)
- High torque, low intertia
- Standard bores are available



2 Spirolox Retaining Rings
Sleeve is securely held on the hubs by these spring-steel retaining rings. They can be removed in seconds, yet they'll withstand 5,000 lbs endthrust.

Nylon Sleeve
Resilient, lightweight, abrasion and corrosion resistant nylon is accurately molded to mesh precisely with hubs. Their almost frictionless properties eliminate the need for lubrication.

2 Hubs
Sintered iron is standard in the Nyflex and Mite. Teeth are crowned to provide greater misalignment capacity and to prevent gouging of Nylon sleeve. Maintain 0.13 inch spacing between hubs.

G

Dentex® / Dentex® FL - The Flexible Coupling



Features

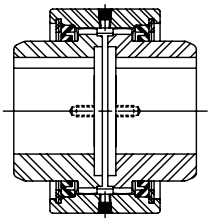
Compensation of axial, radial and angular misalignment of shafts through double cardanic action

- Simple and easy assembly
- High electrical insulating property
- High thermal stability
- No maintenance

Lovejoy / Sier-Bath Continuous Sleeve Series Couplings

Standard C Type

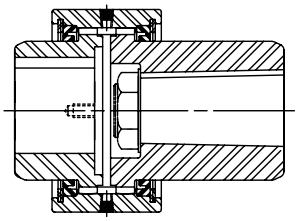
- Basis for all types of Lovejoy / Sier-Bath Continuous Sleeve Couplings
- Low profile compact design is easy to implement
- Single (flex-rigid) or double (flex-flex) engagement



C Type
CFR Type
Section Pages G-16 and G-17

Mill Motor CMM Type

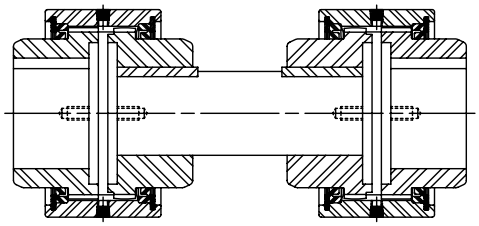
- Designed with longer universal hub on one end to accommodate straight or tapered shafts
- Standard hub and sleeve on the other end
- Universal hub bored to customer specifications
- Available with longer universal hubs on both ends



CMM Type
Section Pages G-18 and G-19

Floating Shaft CFS Type

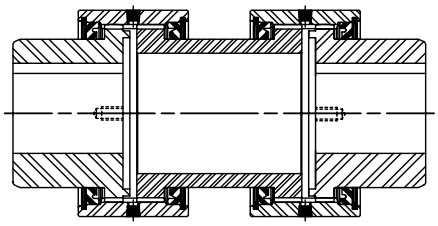
- Two flex-rigid couplings connected by an intermediate shaft
- Increased capability to accommodate parallel misalignment
- Allows for longer shaft separations



CFS Type
Section Pages G-20 and G-21

Spacer CSPCR Type

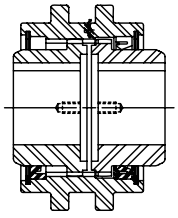
- Drop-out spacer design allows for ease of maintenance without disturbing the equipment mountings
- Spacer has rigid teeth to mate with sleeves on each coupling
- Increased capability to accommodate parallel misalignment
- Allows for longer shaft separations



CSPCR Type
Section Pages G-22 and G-23

Cut-out Shifter CCS Type

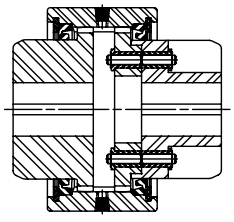
- Designed for quick disengagement between the driver and driven equipment
- Special seal in disengagement hub to prevent undue friction when hub turns in sleeve
- Widely used on dual drive operations and equipment operating in tandem
- Available with pins to maintain sleeve in engaged and disengaged positions
- Shifting mechanisms available upon request



CCS Type
Section Pages G-24 and G-25

Shear Pin CSHP Type

- Designed to limit and protect against excessive torque or sudden shock loads
- Sheer pins designed and manufactured for predetermined loads
- Pins are inserted in hardened bushings to minimize wear
- Easy to install new pins
- For Flanged FSHP Style see page G-8

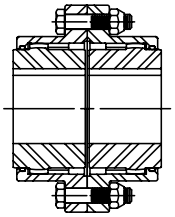


CSHP Type
Section Pages G-26 and G-27

Lovejoy / Sier-Bath Flanged Sleeve Series Couplings

Standard F Type

- Double engagement ('F' flex-flex) for parallel and angular misalignment
- Single engagement ('FFR' flex-rigid) accommodates angular misalignment only and is ideal for floating shaft applications
- Industry standard flange bolt patterns
- FHD Type standard for sizes 10 through 30 (other sizes available upon request)



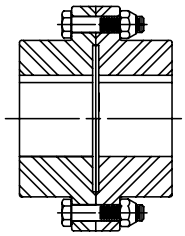
F Type Section Pages G-34 and G-35
FFR Type Section Pages G-36 and G-37
FHD Type Section Pages G-40 and G-41

Rigid-Rigid FRR Type

- Designed for connecting two rigidly mounted shafts with no misalignment capability

Alloy Rigid-Rigid FARR Type

- Longer piloted hubs maintain rigidity and concentricity
- Used for cantilevered loads such as gear boxes that hang off conveyor systems
- Alloy steel available for greater strength (FARR)

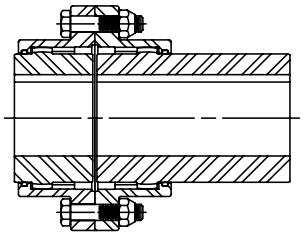


FRR Type Section Pages G-58 and G-59
FARR Type Contact Lovejoy Technical Support

G

Mill Motor FMM Type

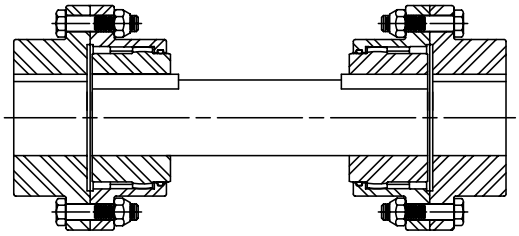
- First hub designed with longer universal hub on one end to accommodate straight or tapered shafts
- Second hub bored to customer specifications
- Standard design accommodates AISE Mill Motor frame sizes
- Sleeves and second hub are standard



FMM Type Section Pages G-46, G-47, G-48 and G-49

Floating Shaft FFS Type

- Two flex-rigid couplings connected by an intermediate shaft
- Increased ability to accommodate parallel misalignment
- Accommodate longer shaft separations
- Standard construction with rigid hubs on outboard (equipment) shafts, flex on inboard (floating) shaft
- Rigid hubs inboard (on floating shaft) available upon request

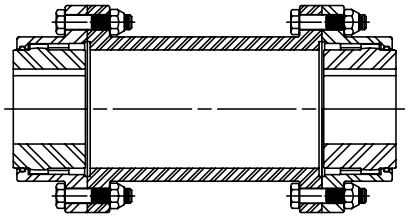


FFS Type
Section Pages G-38 and G-39

FHDFS Type
Section Pages G-44 and G-45

Spacer FSPCR Type

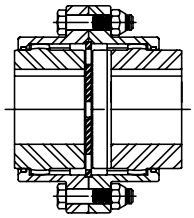
- Drop-out spacer design allows for ease of maintenance without disturbing the equipment mountings
- Lightweight construction reduces load on equipment bearings



FSPCR Type
Section Pages G-54 and G-55

Slide FSL and FSLX Types

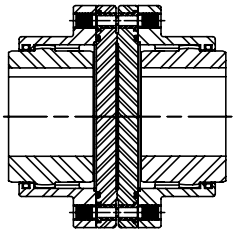
- Allows for a predetermined amount of axial slide
- Longer hubs and sleeves available to accommodate additional slide capacity
- Custom slide lengths available



FSL Type **Section pages G-50, G-51,**
FSLX Type **G-52 and G-53**

Shear Pin FSHP and FSHPB Types

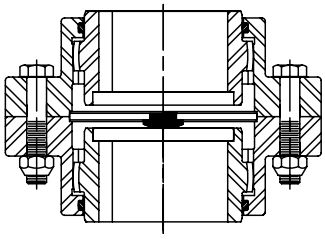
- Designed to limit and protect equipment against excessive torque or sudden shock loads
- Shear pins designed and manufactured to shear at predetermined torque loads
- Pins are inserted in hardened bushings to minimize wear
- Easy to install new pins
- Available with bearing support to maintain alignment after the pins shear



FSHP and FSHPB Type
Contact Lovejoy Technical Support

Standard Vertical FVX Type

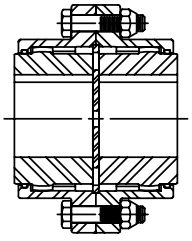
- Designed for use with vertical shafts
- Vertical kit prevents shafts from contacting each other
- Maintains ability to accommodate misalignment
- Available in vertical floating shaft design



FV and FVX Type
Contact Lovejoy Technical Support

Limited End Float FLEF Type

- Designed for equipment with sleeve bearings
- Designed to limit axial travel of the rotor in the motor and prevent the rotor from coming into contact and damaging sleeve bearings



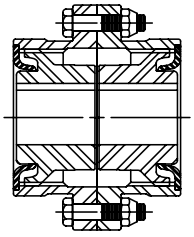
FLEF Type **Section pages G-56 and G-57**

Lovejoy / Sier-Bath All Metal Labyrinth Seal Series Couplings

- All AISI 4140 Alloy Steel Design
- No rubber seals – metal labyrinth design
- Standard with exposed bolts
- Fully interchangeable with Industry standards
- Ideal for higher temperature applications

Standard FLA Type

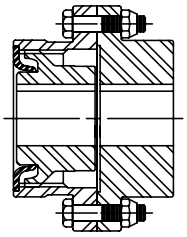
- Double engagement ('F' flex-flex) for parallel and angular misalignment
- Industry standard flange bolt patterns



FLA Type **Section Pages G-60 and G-61**

Single Engagement FLAFR Type

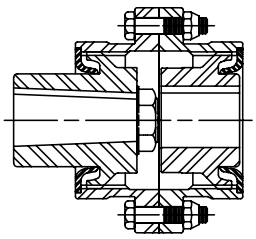
- Single engagement ('FFR' flex-rigid) accommodates angular misalignment only and is ideal for floating shaft applications



FLAFR Type **Section Pages G-62 and G-63**

Mill Motor FLAMM Type

- First hub designed with longer universal hub on one end to accommodate straight or tapered shafts
- Second hub bored to customer specifications
- Standard design accommodates AISE Mill Motor frame sizes
- Sleeves and second hub are standard

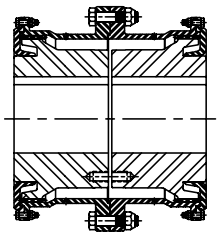


FLAMM Type **Section Pages G-64 and G-65**

Lovejoy Forged Steel Series

Standard FLHD Type

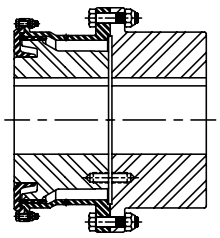
- Piloted Sleeves
- Exposed Bolts Standard
- Excellent for high torque at low speeds
- Bore range from 7.75 inches up to 44.88 inches
- Torque capacity up to 54,390,000 in-lbs
- Alloy Steel (AISI 4140) construction available



FLHD Type **Contact Lovejoy Technical Support**

Single Engagement FLHDFR Type

- Capacities the same as FHD
- Ideal for heavy duty floating shaft applications



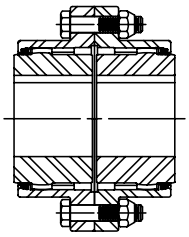
FLHDFR Type **Contact Lovejoy Technical Support**

Lovejoy Alloy Steel Series Couplings

- All alloy steel construction
- Fully molded seals maintain lubricant retention under misalignment conditions
- Exposed bolts are standard, shrouded bolts are optional

Standard FA Type

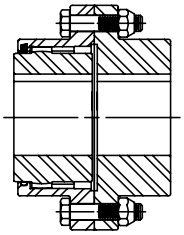
- Double engagement ('F' flex-flex) for parallel and angular misalignment
- Industry standard flange bolt patterns



FA Type **Section Pages G-66 and G-67**

Single engagement FAFR Type

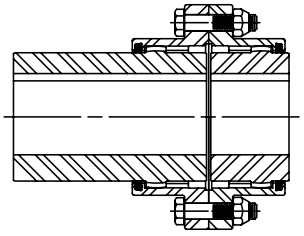
- Single engagement ('FFR' Flex-Rigid) accommodates angular misalignment only and is ideal for floating shaft applications



FAFR Type **Contact Lovejoy Technical Support**

Mill Motor FAMM Type

- First hub designed with longer universal hub on one end to accommodate straight or tapered shafts
- Second hub bored to customer specifications
- Standard design accommodates AISE Mill Motor frame sizes
- Sleeves and second hub are standard

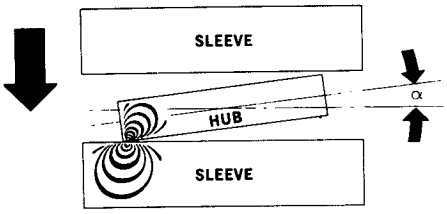


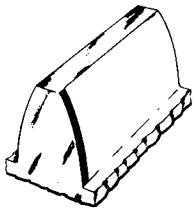
FAMM Type **Contact Lovejoy Technical Support**

Additional Specialty Coupling Types

- Stainless Steel
- Nylon Sleeves
- High Speed RAHS Type
- Brake Drum FBD and FBW Types
- Insulated FI Type
- Vertical Floating Shaft FVFS Type
- F Style Cutout Shifter FCS Type

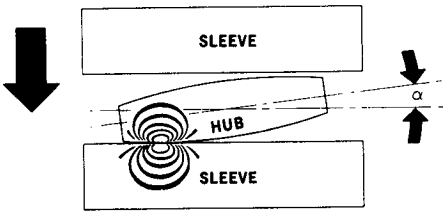
Vari-Crown® Tooth Form

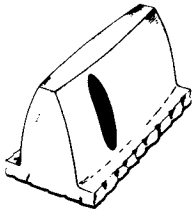




Straight

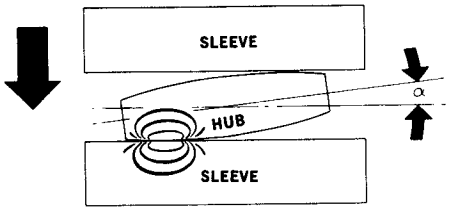
With straight hub teeth, there is a high concentration of load under misaligned conditions. As misalignment increases, more of the load is carried by the ends of the teeth, resulting in premature breakdown and coupling failure.

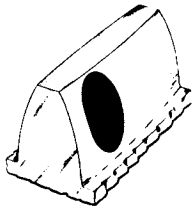




Conventional Crown

Some manufacturers use a conventionally crowned hub tooth known by various trade names. Regardless of the nomenclature, however, the contour of the tooth is a segment of an arc. Under all operating conditions, equal or similar contact areas between the hub teeth and the sleeve teeth exist.





Lovejoy / Sier-Bath Vari-Crown®

The Sier-Bath Vari-Crown tooth form has a crown at the center of the tooth which is similar to a conventionally crowned tooth coupling. However, as soon as misalignment occurs, the transmitted torque is carried on a flattened area of the hub tooth which is considerably broader and stronger than the conventionally crowned tooth form. Note the larger contact area and reduced stress area of the Vari-Crown tooth form.

Patented Vari-Crown® Tooth Form for Long Life

Facts

- It can be shown[1] that bodies with the smallest relative curvature have the largest area of contact under load, or specifically, a body with the largest radius of curvature has the largest area of contact with another body when under load. More importantly, under a given load the bodies with the greater radii of curvature have lower induced surface contact stresses.
- Gear tooth couplings have fewer teeth in contact as misalignment increases.

Lower Stresses

Lovejoy / Sier-Bath's solution to these facts was the development of the patented Vari-Crown tooth form. The Vari-Crown tooth form is a curve with constantly changing radii of curvature. The tooth contact area under misaligned conditions has a much larger radius of curvature than conventional crowning. The contact area is larger, thus reducing the unit stress.

Constant Velocity Power Transmission

Lovejoy / Sier-Bath produces the Vari-Crown tooth form by a generating method maintaining the necessary characteristics for conjugate tooth action, which are:

1. Constant normal base pitch at any position on the crowned teeth.
2. Correct pressure angle matching of the normal to the curved surface and the sleeve surface at any position of misalignment.

Less Backlash

The tooth design requires less backlash for a given angle of misalignment than the conventional or circular arc crown. In many applications this is a desirable feature in a gear tooth coupling.

Note: ■ 1 indicates: Hertz's study of contact stresses of curved surfaces.

Gear Coupling Selection Process

Factors Affecting Selection

The following is a list of the information necessary to assist in making a coupling selection. Not all of these items will come into play in all selection processes. These items include, but are not limited to:

Application related:

- Application details
- Type of motor and driven equipment
- Motor horsepower or KW
- Operating/coupling speed
- Shaft sizes and separation
- Space and size constraints
- Environment (temperature, chemicals, etc)
- Balance requirements
- Special modifications

Steps In Selecting A Gear Coupling

Refer to the gear coupling specifications charts displayed with each type of coupling throughout the Gear Coupling Products section of this catalog. The pictures and charts provide visualization, specifications, and dimensional data for Lovejoy's wide range of gear coupling products. Typically start with an F Type flanged gear coupling (page G-34) or a C Type continuous sleeve gear coupling (page G-16) and proceed from there.

Step 1: Review the gear coupling series and type as selected to ensure the selection meets application requirements.

Step 2: Determine the nominal application torque in in–lbs by using the following formula:

$$\text{Application Torque (in–lb)} = \frac{\text{HP x 63025}}{\text{RPM}}$$

or

$$\text{Nm} = \frac{\text{KW x 9550}}{\text{RPM}}$$

Step 3: Review the Application Service Factor chart for the service factor number associated with the application where this coupling will be used. Multiply the application torque by the application service factor to determine the total torque required for the coupling selection.

Step 4: Compare the required total torque value with the nominal torque capacity listed in the Gear Coupling Selection chart for the desired coupling type.

Step 5: Check that the maximum bore size and the maximum RPM of the coupling type selected to ensure the coupling will meet these application requirements.

Step 6: Note any special requirements including the BSE dimension for floating shaft and spacer types, shear pin torque, slide coupling details, mill motor tapered shaft data, and any other pertinent information.

Consult with Lovejoy Technical support or Engineering for any unique application concerns.

Selection Example (Flanged Gear Coupling)

Application Data: This sample application calls for a coupling to connect the output side of a reducer gearbox to a dredge pump. There is a 400 HP electric motor, running at 3,600 RPM driving the gearbox which has a 10:1 speed reduction. The gearbox has a 6 inch diameter shaft, the pump has a 6-1/2 inch diameter shaft. There is an angular misalignment potential of slightly more than 1°.

Step 1: Since C Type gear couplings are only capable of 1/2° misalignment per flex plane, the F Type coupling is selected. The F Type coupling is capable of accommodating 1-1/2° per flex plane. Note, it is highly recommended that couplings are installed at no more than 20% of the allowable misalignment since the alignment often changes during operation.

Step 2: Refer to page G-34 and G-35 for Flanged series (F Type) double engagement, or flex-flex, coupling information. The bore size and torque should be addressed interactively when selecting a coupling size.

Step 3: The application service factor can be found on page G-13. Application service factors are multipliers assigned to assorted applications for the purpose of guiding the coupling selection process to a torque rating that will prevent premature failure caused by the characteristics of that application. For this sample application, note that the service factor for a dredge pump application is 2.0.

Step 4: Calculate the torque requirements for the application using the formula:

$$\text{Design Torque (in–lbs)} = \frac{\text{HP x 63025}}{\text{RPM}}$$

or

$$\text{Nm} = \frac{\text{KW x 9550}}{\text{RPM}}$$

$$\text{Selection Torque} = \text{Application Torque} \times \text{Service Factor}$$

In this example, a gearbox is in use that reduces the operating speed where the coupling is being used from 3,600 RPM on the input side to 360 RPM on the gearbox output side.

Please note that any speed decrease at the reducer (gear box) will cause an increase in the application torque.

$$\text{Application Torque (in-lbs)} = \frac{\text{HP x 63025}}{\text{RPM}} = \frac{\text{400 x 63025}}{\text{360}} = \text{70,028 in-lbs}$$

$$\text{Selection Torque} = \text{Application Torque x Service Factor} = \text{70,028} \times \text{2.0} = \text{140,056 in-lbs}$$

An F 3.5 coupling is rated at 151,200 in-lbs and could easily accommodate the torque requirement, however, to accommodate the 6-1/2 inch pump shaft diameter the selection of an F 5E size coupling will be necessary. The F 5 coupling is rated at 434,700 in-lbs and may seem to be too large or overrated for this application, but the larger size is necessary to accommodate the shaft size.

Step 5: Confirm that the RPM is within range specified for the selected coupling. The chart shows the F 5 has a 2,500 RPM maximum speed and this will accommodate the 360 RPM speed requirement on the output side of the gearbox.

Step 6: Please refer to the coupling specifications on page G-34 and G-35. Note that F 5E couplings are manufactured with interference fits and exposed bolts as standard. When contacting your sales representative, the description for this coupling would be an F 5E gear coupling and include the bore size, keyway information, and shaft separation. Also, provide a list of any requirements that might supersede the coupling defaults.

Special Note: If the shaft separation is greater than specified in the chart on Page G-35, refer to the Floating shaft or Spacer style couplings on pages G-39 or G-55. If the desired shaft separation, or BSE, is not listed, contact Lovejoy Technical Support for assistance.

Please refer to the Lovejoy website for installation instructions and lubrication requirements for gear couplings.

Application Service Factors

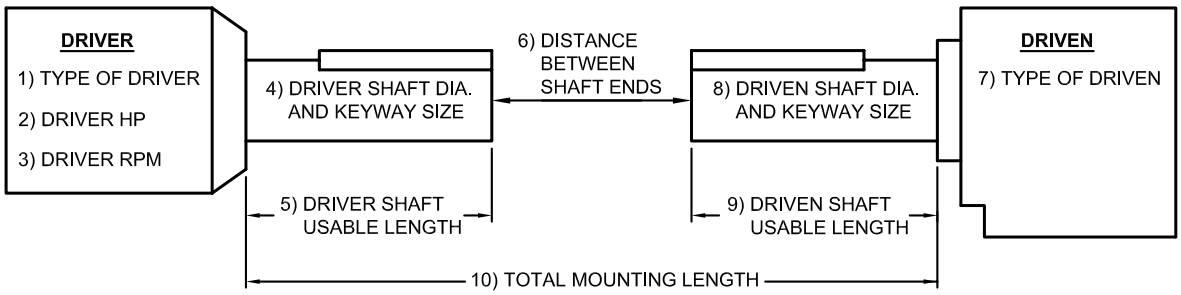
Agitators	
Pure Liquids	1.0
Liquids—Variable Density	1.0
Blowers	
Centrifugal	1.0
Lobe	1.2
Can Filling Machines	1.0
Car Dumpers	2.0
Car Pullers, Intermittent Duty	1.5
Compressors	
Centrifugal	1.0
Reciprocating	2.2
Multi-Cylinder	2.0
Single Cylinder	2.0
Conveyors, Uniformly Loaded or Fed	
Assembly	1.2
Belt	1.2
Screw	1.2
Conveyors, Heavy Duty	
Not Uniformly Fed Assembly	1.5
Belt	1.5
Oven	1.5
Reciprocating	2.0
Screw	1.5
Shaker	1.5
Cranes and Hoists[1]	
Main Hoists	2.0
Reversing	2.0
Skip Hoists	2.0
Trolley Drive	2.0
Bridge Drive	2.0
Crushers	
Ore	3.0
Stone	3.0
Dredges	
Conveyors	2.0
Cutter Head Drives	2.0
Maneuvering Winches	2.0
Pumps	2.0
Fans	
Centrifugal	1.0
Cooling Towers Forced Draft	1.5
Feeders	
Screw	1.5
Generators	
Not Welding	1.0
Welding	1.5
Hammer Mills	2.0
Laundry Washers	
Reversing	1.5
Lumber Industry	
Barkers—Drum Type	2.0
Edger Feed	2.0
Live Rolls	2.0
Log Haul—Incline	2.0
Log Haul—Well Type	2.0
Off Bearing Rolls	2.0
Planer Feed Chains	1.75
Planer Tilting Hoist	1.75
Planer Floor Chains	1.75
Slab Conveyor	1.5
Sorting Table	1.5
Trimmer Feed	1.5
Machine Tools	
Bending Roll	2.0
Punch Press, Gear Driven	2.0
Tapping Machines	2.0
Main Drives	1.5
Auxiliary Drives	1.5
Metal Mills	
Draw Bench—Carriage	2.0
Draw Bench—Main Drive	2.0
Forming Machines	2.0
Slitters	1.5
Table Conveyors	
Non-Reversing	2.25
Reversing	2.5
Wire Drawing & Flattening Machine	2.0
Wire Winding Machine	1.75
Metal Rolling Mills	
Blooming Mills	2.5
Coilers, hot mill	2.0
Coilers, cold mill	1.5
Cold Mills	2.0
Cooling Beds	1.75
Door Openers	2.0
Draw Benches	2.0
Edger Drives	1.75
Feed Rolls, Reversing Mills	3.5
Furnace Pushers	2.5
Hot Mills	3.0
Ingot Cars	2.5
Kick-outs	2.5
Manipulators	3.0
Merchant Mills	3.0
Piercers	3.0
Pusher Rams	2.5
Reel Drives	1.75
Reel Drums	2.0
Reelers	3.0
Rod and Bar Mills	3.0
Roughing Mill Delivery Table	3.0
Runout Tables	2.5
Saws, hot & cold	2.5
Screwdown Drives	3.0
Skelp Mills	3.0
Slitters	3.0
Slabing Mills	1.75
Soaking Pit Cover Drives	3.0
Straighteners	2.5
Tables, transfer & runout	2.5
Thrust Block	3.0
Traction Drive	3.0
Tube Conveyor Rolls	2.5
Unscramblers	2.5
Wire Drawing	1.75
Mills, Rotary Type	
Ball	2.25
Dryers & Coolers	2.0
Hammer	1.75
Kilns	2.0
Pebble & Rod	2.0
Pug	1.75
Tumbling Barrels	2.0
Mixers	
Concrete Mixers, Continuous	1.5
Concrete Mixers, Intermittent	2.0
Oil Industry	
Oil Well Pumping	2.0
Rotary Kilns	2.0
Paper Mills	
Agitators, Mixers	1.5
Barker Auxiliaries, Hydraulic	2.0
Barker Mechanical	2.0
Barking Drum Spur Gear Only	2.0
Beater & Pulper	1.75
Bleacher	1.0
Calenders	2.0
Calenders, Super	1.5
Chippers	2.5
Coaters	1.0
Converting Machines, except Cutters, Platers	1.5
Conveyors	1.5
Couch Roll	1.75
Cutters, Platters	2.0
Cylinders	1.75
Disc Refiners	1.75
Dryers	1.75
Felt Stretcher	1.25
Felt Whipper	2.0
Jordans	1.75
Line Shaft	1.5
Log Haul	2.0
Pulp Grinder	1.75
Press Roll	2.0
Reel	1.5
Stock Chests	1.5
Suction Roll	1.75
Washers & Thickeners	1.5
Winders	1.5
Printing Presses	1.5
Pumps	
Centrifugal	1.0
Reciprocating	
Single Acting 3 or more Cylinders	1.5
Double Acting 2 or more Cylinders	2.0
Rotary, Gear Type, Lobe Vane	1.5
Rubber Industry	
Mixer	2.0
Rubber Calender	2.0
Screens	
Rotary, Stone or Gravel	1.5
Steering Gear	1.0
Stokers	1.0
Textile Industry	
Dryers	1.5
Dyeing Machinery	1.5
Windlass	2.0

Notes:
- 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.
- Values contained in the table should be used as a general guide and are to be applied to smooth power sources such as electric motors and steam turbines.
- For drives involving internal combustion engines add 1.0 to the values listed.

Selection Worksheet

Customer Name:_____ **Contact Name:** _____

Phone Number:_____ **Email Address:**_____



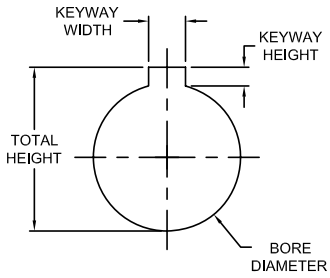
1. Type of Driver (Electric Motor, Combustion Engine, Gearbox, etc.) : _____

For combustion engines, define type
Gasoline, Diesel, Natural Gas, etc. : _____ Number of cylinders _____

2. Driver Horse Power : _____ 3. Driver or Gearbox output RPM : _____

Retrieve the Application Service Factor from Page G-13 : _____ then calculate the Selection Torque using the following formula:

Torque (in-lbs) = $\frac{\text{HP x 63025}}{\text{RPM}}$ x Service Factor = Selection Torque = _____ in-lbs



For additional bore and keyway information, see the Engineering Data Section of the Power Transmission Products Catalog

4. Driver Shaft Diameter : _____ Keyway size : KW Width _____ KW Height _____

Specify Clearance Fit, Interference Fit, Metric (P7, H7, etc), Shaft Locking Device, and Set Screw or No Set Screw

5. Driver Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

6. Distance between shaft ends (BSE) : _____

7. Type of Driven Equipment : _____

8. Driven Shaft Diameter : _____ Keyway size : KW Weight _____ KW Height _____

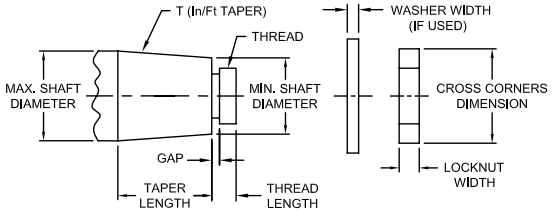
Specify Clearance Fit, Interference Fit, Metric (P7, H7, etc), Shaft Locking Device, and Set Screw or No Set Screw

9. Driven Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

10. Total Mounting Length : _____ (Advise of any obstructions, walls, beams, guards, pipes, etc.)

11. For Tapered Shafts specify the following:

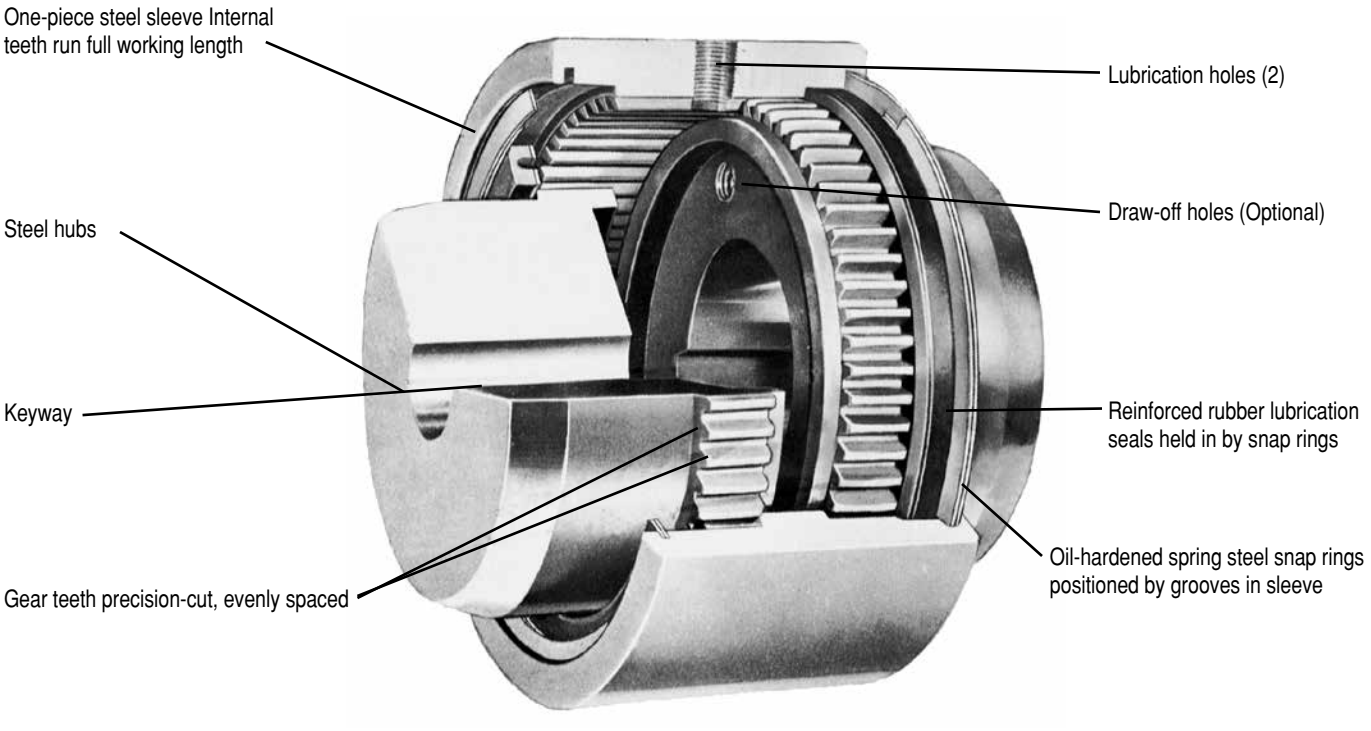
Minimum or Maximum Taper diameter: _____
Taper Length: _____ T (Taper Inch per Foot) : _____
Gap or Hub Overhang amount: _____
Locknut Width: _____ Size of nut cross corners: _____
Thread Size: _____ Thread Length: _____
Washer Diameter (if used) : _____ Washer Width: _____



Lovejoy, Inc.
World Headquarters
2655 Wisconsin Avenue
Downers Grove, IL 60515

Send this form to:
appleng@lovejoy-inc.com
or fax to: 800-446-0878

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings



The One-Piece Sleeve Gear Coupling

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings





C Type Flex-Flex Couplings

The C Type coupling consists of two flex hubs, one sleeve and one accessory kit consisting of seals and snap rings.

CFR Type Flex-Rigid Couplings

The CFR Type coupling consist of one flex hub, one rigid hub, one sleeve, one accessory kit consisting of seals and snap rings.

Features

- Simple and inexpensive type of gear coupling
- All steel sleves and hubs
- Reinforced rubber seals with snap rings to hold lubricant in place
- Available as vertical and horizontal couplings
- Wide variety of special variations such as full-flex, flex-rigid mill motor
- Standard configurations are available of the shelf

G

C - CFR Performance Data

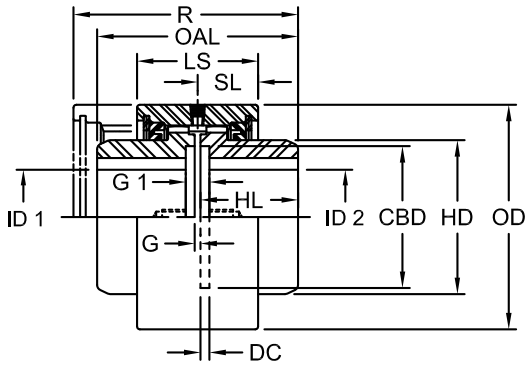
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Flex & Rigid Max Bore		ID1 - ID2 Flex & Rigid Rough Stock Bore		Weight		Parallel Misalignment		Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
7/8	2,500	300	6,000	18,000	1.25	31	Solid with Center		5	2	0.005	0.13	1/2° per Mesh
1.5	7,600	900	5,000	15,000	1.63	42			8	4	0.007	0.18	
2	20,200	2 300	4,200	12,600	2.13	56			13	6	0.007	0.18	
2.5	30,200	3 400	3,750	11,250	2.63	70			20	9	0.007	0.18	
3	50,400	5 700	3,600	9,000	3.13	84			33	15	0.010	0.30	
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32	63	29	0.012	0.30	
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	91	41	0.012	0.30	1/4° per Mesh
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60	126	57	0.007	0.18	
5	270,900	30 600	2,100	6,300	5.75	160	2.88	73	195	89	0.007	0.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99	267	121	0.009	0.23	
7	598,500	67 600	1,000	3,000	7.50	200	4.69	119	320	145	0.010	0.25	
9	1,260,000	142 400	800	2,400	9.50	240	5.88	149	520	236	0.011	0.28	
11	2,205,000	249 200	600	1,800	11.50	305	7.75	197	925	420	0.013	0.33	
12	2,520,000	284 700	550	1,650	12.50	330	9.75	248	1,200	545	0.014	0.36	

Ordering Information

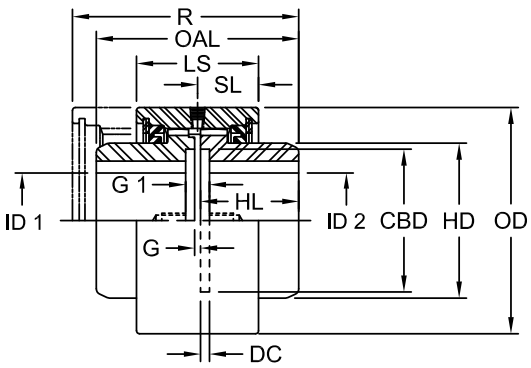
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

C and CFR Type Couplings



C Type Flex-Flex Coupling



CFR Type Flex-Rigid Coupling

G

C and CFR Type Dimensional Data

Size	R in	OAL in	LS in	SL in	ID1 - ID2 Flex & Rigid Max Bore in	ID1 - ID2 Flex & Rigid Max Bore mm	ID1 - ID2 Flex & Rigid Rough Stock Bore in	ID1 - ID2 Flex & Rigid Rough Stock Bore mm	HL in	DC in	BSE G in	BSE G1 in	OD in	HD in	CBD in
7/8	3.75	3.13	2.00	1.00	1.25	31	Solid with Center		1.50	0.13	0.13	0.38	3.31	2.00	1.94
1.5	4.59	3.75	2.53	1.27	1.63	42			1.81	0.19	0.13	0.50	3.75	2.38	2.25
2	4.88	4.25	2.56	1.28	2.13	56			2.06	0.19	0.13	0.50	4.75	3.25	3.00
2.5	5.72	4.75	3.06	1.53	2.63	70			2.25	0.25	0.25	0.75	5.50	3.94	3.75
3	6.88	5.50	3.75	1.88	3.13	84			2.63	0.25	0.25	0.75	6.63	4.75	4.75
3.5	9.25	8.75	4.00	2.00	3.63	97	1.25	30	4.25	0.25	0.25	0.75	7.50	5.38	5.50
4	9.50	9.00	4.63	2.31	4.13	111	1.75	44	4.38	0.25	0.25	0.75	8.75	6.25	6.50
4.5	10.38	10.25	4.88	2.44	4.75	130	2.38	60	5.00	0.25	0.25	0.75	9.50	7.25	7.25
5	12.25	12.25	5.75	2.88	5.75	160	2.88	73	6.00	0.25	0.25	0.75	10.75	8.25	8.12
6	13.38	13.00	6.50	3.25	6.75	186	3.88	99	6.38	0.25	0.25	0.75	12.25	9.50	9.25
7	15.38	14.88	7.50	3.75	7.50	200	4.69	119	7.25	0.25	0.38	0.88	14.00	10.50	9.75
9	19.00	19.00	8.13	4.06	9.50	240	5.88	149	9.25	0.25	0.50	1.00	16.25	12.63	12.25
11	22.50	22.50	8.13	4.06	11.50	305	7.75	197	11.00	0.25	0.50	1.00	19.25	15.63	15.00
12	25.00	25.00	8.38	4.19	12.50	330	9.75	248	12.25	0.25	0.50	1.00	20.50	16.50	16.00

Ordering Information

- Puller Holes are standard on sizes 4 through 12.
- Puller Holes are available for sizes 7/8 through 3.5 at an additional charge.
- The BSE (distance Between Shaft Ends) may vary between G and G1.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CMM Type Mill Motor Couplings

The CMM Type coupling consists of one standard flex hub, one universal hub, one standard sleeve and one accessary kit consisting of seals and snap rings.



Features

- Specifically designed for mill motors with tapered bores
- Universal hub counterbored for the nut on the end of the motor shaft
- One piece cylindrical sleeve for smoother, faster, quieter and and safer operation
- Quick assembly and disassembly

CMM Type Performance Data

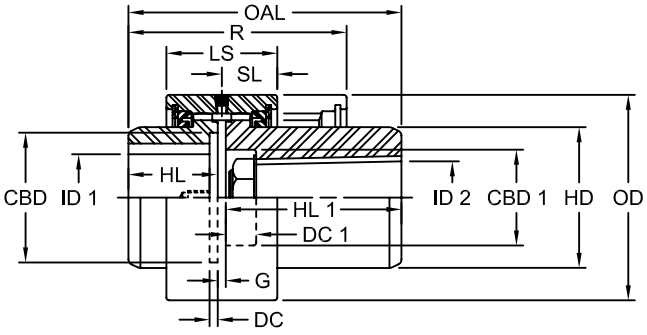
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11	7	3.2	0.005	.13	
1.5	7,600	900	5,000	15,000	1.63	42	0.63	16	11	5.0	0.007	.18	
2	20,200	2 300	4,200	12,600	2.13	56	0.73	19	19	8.6	0.007	.18	1/2°
2.5	30,200	3 400	3,750	11,250	2.63	70	0.88	22	29	13.0	0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84	1.19	30	46	21.0	0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32	77	35.0	0.012	.30	
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	109	49.0	0.012	.30	
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60	155	70.0	0.007	.18	1/4°
5	270,000	30 600	2,100	6,300	5.75	160	2.88	73	220	100.0	0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99	315	143.0	0.009	.23	

Ordering Information

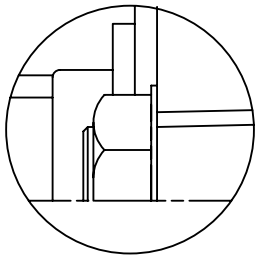
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Length and taper per foot of Mill Motor shaft.
- Size of nut to be used on Mill Motor (DC1 and CBD1).
- Specify if keyways are to be parallel to shaft axis or tapered.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CMM Type Mill Motor Couplings



Standard Type



Alternative Type

CMM Type Dimensional Data

Size	OAL	R	LS	SL	ID1 - ID2				HL	HL1	DC	DC1	G	OD	HD	CBD	CBD 1
					Max Bore		Rough Stock Bore										
	in	in	in	in	in	mm	in	mm	in	in	in	in	in	in	in	in	in
7/8	Determined by Length of Mill Motor Hub	3.75	2.00	1.00	1.25	31	0.44	11	1.50	3.75	0.13	Determined by Customer Specifications	0.13	3.31	2.00	1.94	1.63
1.5		4.59	2.53	1.27	1.63	42	0.63	16	1.81	4.00	0.19		0.13	3.75	2.38	2.25	1.88
2		4.88	2.56	1.28	2.13	56	0.73	19	2.06	4.63	0.19		0.13	4.75	3.25	3.00	2.75
2.5		5.72	3.06	1.53	2.63	70	0.88	22	2.25	5.13	0.25		0.25	5.50	3.94	3.75	3.25
3		6.88	3.75	1.88	3.13	84	1.19	30	2.63	5.75	0.25		0.25	6.63	4.75	4.75	3.88
3.5		9.25	4.00	2.00	3.63	97	1.25	32	4.25	6.50	0.25		0.25	7.50	5.38	5.50	4.50
4		9.50	4.63	2.31	4.13	111	1.75	44	4.38	6.63	0.25		0.25	8.75	6.25	6.50	5.13
4.5		10.38	4.88	2.44	4.75	130	2.38	60	5.00	7.75	0.25		0.25	9.50	7.25	7.25	5.50
5		12.25	5.75	2.88	5.75	160	2.88	73	6.00	7.88	0.25		0.25	10.75	8.25	8.13	6.50
6		13.38	6.50	3.25	6.75	186	3.88	99	6.38	9.25	0.25		0.25	12.25	9.50	9.25	7.75

Ordering Information

- HL1 Dimensions are the maximum lengths of Universal hubs kept in stock and altered to customer specifications. Longer length hubs are made to order.
- Dimension CBD1 as shown is the maximum safe counterbore. Diameter of this counterbore is to customer specifications.
- Rough bore mill motor hubs are manufactured to HL1 length with straight bores.
- Puller Holes are standard on sizes 4 through 12.
- Puller Holes are available for sizes 7/8 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CFS Type Floating Shaft Coupling

The CFS Type coupling consists of two flex-rigid (CFR) couplings with a shaft between them. Normally the driver and driven ends are rigid while the two center hubs connected by the center shaft are flexible. These hubs can be reversed if necessary without sacrificing ease of installation or disassembly.



G

CFS Type Performance Data

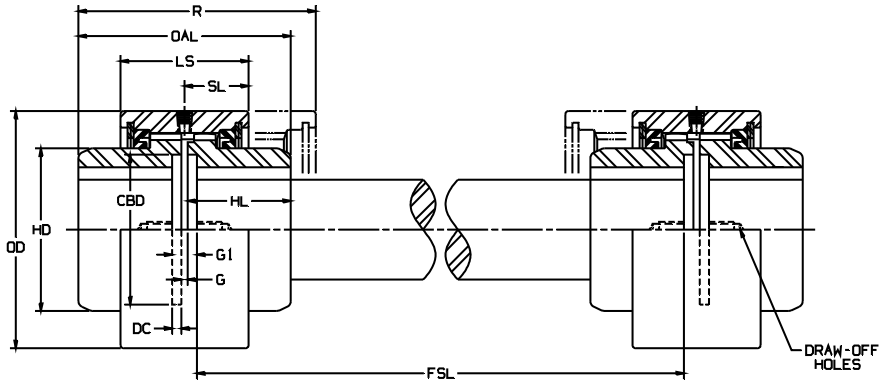
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Flex & Rigid Max Bore		ID1 - ID2 Flex & Rigid Rough Stock Bore		Weight Coupling Only		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11	10	4.5	0.005	.13	
1.5	7,600	900	5,000	15,000	1.63	42	0.63	16	16	7.3	0.007	.18	
2	20,200	2 300	4,200	12,600	2.13	56	0.73	19	26	12.0	0.007	.18	1/2°
2.5	30,200	3 400	3,750	11,250	2.63	70	0.88	22	40	18.0	0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84	1.19	30	66	30.0	0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32	126	57.0	0.012	.30	
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	182	83.0	0.012	.30	
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60	252	114.0	0.007	.18	1/4°
5	270,000	30 600	2,100	6,300	5.75	160	2.88	73	390	177.0	0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99	534	242.0	0.009	.23	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CFS Type Floating Shaft Couplings



CFS Type Dimensional Data

Size	R	OAL	LS	SL	ID1 - ID2 Flex & Rigid Max Bore		ID1 - ID2 Flex & Rigid Rough Stock Bore		HL	DC	BSE Min	G	G1	OD	HD	CBD
	in	in	in	in	in	mm	in	mm	in	in	in	in	in	in	in	in
7/8	3.75	3.13	2.00	1.00	1.25	31	0.44	11	1.50	0.13	3.75	0.13	0.38	3.31	2.00	1.94
1.5	4.59	3.75	2.53	1.27	1.63	42	0.63	16	1.81	0.19	4.63	0.13	0.50	3.75	2.38	2.25
2	4.88	4.25	2.56	1.28	2.13	56	0.73	19	2.06	0.19	5.13	0.13	0.50	4.75	3.25	3.00
2.5	5.72	4.75	3.06	1.53	2.63	70	0.88	22	2.25	0.25	6.00	0.25	0.75	5.50	3.94	3.75
3	6.88	5.50	3.75	1.88	3.13	84	1.19	30	2.63	0.25	6.75	0.25	0.75	6.63	4.75	4.75
3.5	9.25	8.75	4.00	2.00	3.63	97	1.25	32	4.25	0.25	9.50	0.25	0.75	7.50	5.38	5.50
4	9.50	9.00	4.63	2.31	4.13	111	1.75	44	4.38	0.25	9.75	0.25	0.75	8.75	6.25	6.50
4.5	10.38	10.25	4.88	2.44	4.75	130	2.38	60	5.00	0.25	11.00	0.25	0.75	9.50	7.25	7.25
5	12.25	12.25	5.75	2.88	5.75	160	2.88	73	6.00	0.25	13.00	0.25	0.75	10.75	8.25	8.13
6	13.38	13.00	6.50	3.25	6.75	186	3.88	99	6.38	0.25	13.75	0.25	0.75	12.25	9.50	9.25

Notes:
- FSL Dimension is the minimum length of the floating shaft.
- The BSE (distance Between Shaft Ends) vary between G and G1.
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 7/8 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings



CSPCR Type Spacer Couplings

The CSPCR Type coupling consists of two flex hubs, two sleeves, one spacer, one accessory kit, two split seals and two lock rings.

Features

- Easy removal of hubs without disturbing the mounting of connected units
- Spacer teeth are rigid with a slight interference fit with the mating flex hub
- Split seals on the spacer

CSPCR Type Performance Data

Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed[1] Unbal RPM	Maximum Speed[1] Bal RPM	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	Weight Couplings Only lbs	Weight Couplings Only kg	Parallel Misalignment in	Parallel Misalignment mm	Max Angular Misalignment Degrees
7/8	2,500	300	6,000	18,000	1.25	31	Solid		7	3.2	0.005	.13	1/2° per Mesh
1.5	7,600	900	5,000	15,000	1.63	42			11	5.0	0.007	.18	
2	20,200	2 300	4,200	12,600	2.13	56			16	7.3	0.007	.18	
2.5	30,200	3 400	3,750	11,250	2.63	70			26	12.0	0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84			43	20.0	0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97			79	36.0	0.012	.30	1/4° per mesh
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	115	52.0	0.012	.30	
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60	158	72.0	0.007	.18	
5	270,000	30 600	2,100	6,300	5.75	160	2.88	73	248	113.0	0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99	340	154.0	0.009	.23	

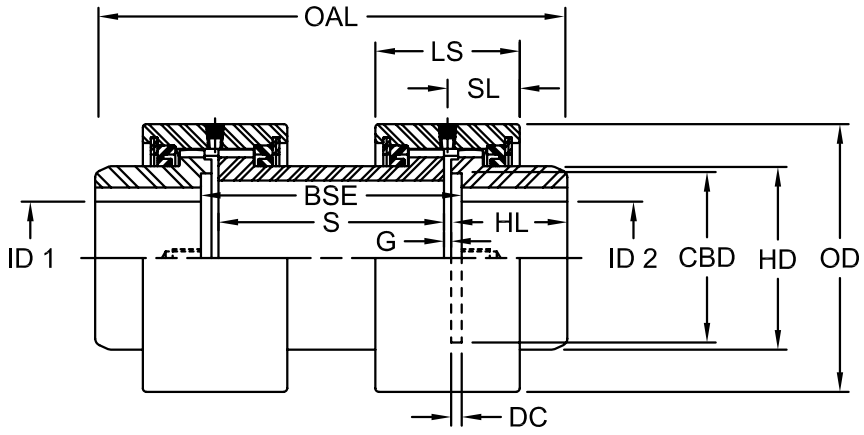
Note: ■ 1 indicates: Maximum RPM of spacer coupling determined by critical speed of spacer shaft.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CSPCR Type Spacer Couplings



CSPCR Type Dimensional Data

Size	OAL Min in	LS in	SL in	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	BSE Min in	S Min in	HL in	G in	DC in	OD in	HD in	CBD in
7/8	6.76	2.00	1.00	1.25	31	Solid		4.00	3.50	1.50	0.13	0.13	3.31	2.00	1.94
1.5	7.38	2.53	1.27	1.63	42			4.13	3.50	1.81	0.13	0.19	3.75	2.38	2.25
2	8.51	2.56	1.28	2.13	56			4.75	4.13	2.06	0.13	0.19	4.75	3.25	3.00
2.5	9.50	3.06	1.53	2.63	70			5.50	4.50	2.25	0.25	0.25	5.50	3.94	3.75
3	11.01	3.75	1.88	3.13	84			6.25	5.25	2.63	0.25	0.25	6.63	4.75	4.75
3.5	15.00	4.00	2.00	3.63	97			7.00	6.00	4.25	0.25	0.25	7.50	5.38	5.50
4	15.89	4.63	2.31	4.13	111	1.75	44	7.63	6.63	4.38	0.25	0.25	8.75	6.25	6.50
4.5	17.38	4.88	2.44	4.75	130	2.38	60	7.88	6.88	5.00	0.25	0.25	9.50	7.25	7.25
5	20.25	5.75	2.88	5.75	160	2.88	73	8.75	7.75	6.00	0.25	0.25	10.75	8.25	8.13
6	21.76	6.50	3.25	6.75	186	3.88	99	9.50	8.50	6.38	0.25	0.25	12.25	9.50	9.25

Notes:
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 7/8 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CCS Type Cut-Out Shifter Couplings

The CCS Type coupling consists of two flex hubs, one special sleeve without lubrication holes and one accessory kit which includes a special seal for the hub that disengages to elliminate undue friction when the disengaged hub is turning in the sleeve. Standard hub is hand packed with grease.



Features

- Permits quick disengagement of driver and driven shafts without disassembling the coupling
- Widely used on dual drives and equipment operated in tandem
- Special seal for disengaging hub
- Also available with pins to maintain sleeve in both engaged and disengaged positions

G

CCS Type Performance Data

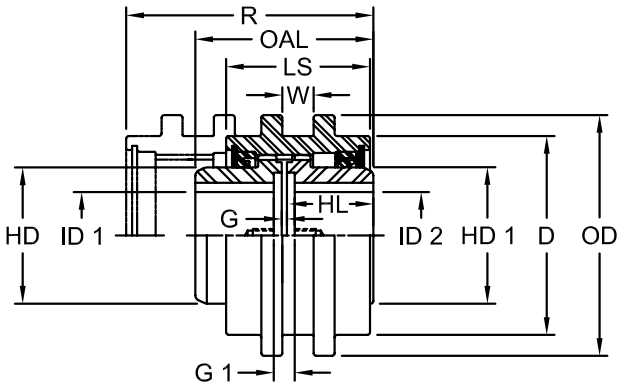
Size	Nominal Torque in-lb	Nm	Maximum Speed Unbal RPM	Bal RPM	ID1 - ID2 Max Bore in	mm	Rough Stock Bore in	mm	Weight lbs	kg	Parallel Misalignment in	mm	Max Angular Misalignment Degrees
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11			0.005	.13	
1.5	7,600	900	5,000	15,000	1.63	42	0.63	16	Weight		0.007	.18	
2	20,200	2 300	4,200	12,600	2.13	56	0.73	19	Determined		0.007	.18	1/2°
2.5	30,200	3 400	3,750	11,250	2.63	70	0.88	22	by		0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84	1.19	30	W & OD		0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32	Dimensions		0.012	.30	
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	supplied		0.012	.30	
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60	by		0.007	.18	1/4°
5	270,000	30 600	2,100	6,300	5.75	160	2.88	73	Customer		0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99			0.009	.23	

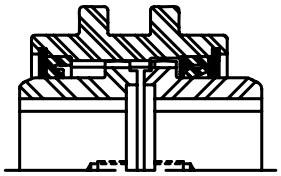
Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Dimensions of Shifter Groove (width and outside diameter).
- Specify which hub will be stationary when coupling is disengaged.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CCS Type Cut-Out Shifter Couplings





Disengaged Position

CCS Type Dimensional Data

Size	R in	OAL in	LS in	W in	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	HL in	BSE G in	BSE G1 in	OD in	D in	HD1 in	HD in	T[1] in
7/8	4.31	3.13	2.56		1.25	31	0.44	11	1.50	0.13	0.38		3.31	1.985	2.00	0.38
1.5	5.38	3.75	3.31	Per	1.63	42	0.63	16	1.81	0.13	0.50	Per	3.75	2.365	2.38	0.63
2	5.75	4.25	3.44	Cust	2.13	56	0.73	19	2.06	0.13	0.50	Cust	4.75	3.235	3.25	0.56
2.5	6.41	4.75	3.88	Specs	2.63	70	0.88	22	2.25	0.25	0.75	Specs	5.50	3.925	3.94	0.69
3	7.69	5.50	4.63		3.13	84	1.19	30	2.63	0.25	0.75		6.63	4.735	4.75	0.75
3.5	9.63	8.75	4.88		3.63	97	1.25	32	4.25	0.25	0.75		7.50	5.365	5.38	0.81
4	10.69	9.00	5.81		4.13	111	1.75	44	4.38	0.25	0.75		8.75	6.235	6.25	1.00
4.5	11.44	10.25	5.94		4.75	130	2.38	60	5.00	0.25	0.75		9.50	7.235	7.25	1.00
5	14.00	12.25	7.50		5.75	160	2.88	73	6.00	0.25	0.75		10.75	8.235	8.25	1.50
6	15.44	13.00	8.56		6.75	186	3.88	99	6.38	0.25	0.75		12.25	9.485	9.50	1.88

Notes:
- 1 indicates: T is the length of travel to disengage sleeve.
- The BSE (distance Between Shaft Ends) vary between G and G1.
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 7/8 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings



CSHP Type Shear Pin Couplings

The CSHP Type coupling consists of one standard flex hub, two piece shear hub and one set of shear pins, one standard sleeve and accessory kit.

Features

- Designed to prevent damage to connected equipment
- Manufactured to shear at predetermined loads
- New Pins can be quickly inserted

CSHP Type Performance Data

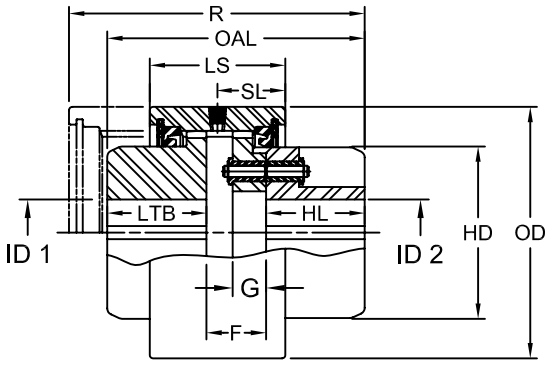
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Flex or Rigid Max Bore		ID1 - ID2 Shear Hub Max Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1.5	7,600	900	5,000	15,000	1.63	42	0.938	24	8	4	0.007	.18	1/2°
2	20,200	2 300	4,200	12,600	2.13	56	1.500	38	10	5	0.007	.18	
2.5	30,200	3 400	3,750	11,250	2.63	70	1.750	44	15	7	0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84	2.250	57	23	10	0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97	2.625	66	47	21	0.012	.30	1/4°
4	126,000	14 200	2,400	7,200	4.13	111	3.625	92	90	41	0.012	.30	
4.5	184,000	20 800	2,200	6,600	4.75	130	4.125	104	112	51	0.007	.18	
5	270,000	30 600	2,100	6,300	5.75	160	4.500	114	177	80	0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	5.875	149	250	114	0.009	.23	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Specify which is the Shear Pin hub.
- Specify the required shear torque.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

CSHP Type Spacer Couplings



CSHP Type Dimensional Data

Size	R in	OAL in	LS in	SL in	ID1 Flex or Rigid Max Bore in	ID1 Flex or Rigid Max Bore m	ID2 Shear Hub Max Bore in	ID2 Shear Hub Max Bore mm	LTB in	HL in	G in	F in	OD in	HD in
1.5	5.28	4.38	2.53	1.27	1.63	42	0.938	24	1.63	2.25	0.50	1.13	3.75	2.38
2	5.56	4.88	2.56	1.28	2.13	56	1.500	38	1.88	2.50	0.50	1.13	4.75	3.25
2.5	6.50	5.44	3.06	1.53	2.63	70	1.750	44	2.00	2.69	0.75	1.50	5.50	3.94
3	7.75	6.38	3.75	1.88	3.13	84	2.250	57	2.38	3.25	0.75	1.63	6.63	4.75
3.5	8.13	8.13	4.00	2.00	3.63	97	2.625	66	4.00	3.38	0.75	1.75	7.50	5.38
4	9.50	9.00	4.63	2.31	4.13	111	3.625	92	4.13	4.13	0.75	2.00	8.75	6.25
4.5	9.88	9.75	4.88	2.44	4.75	130	4.125	104	4.75	4.25	0.75	2.00	9.50	7.25
5	11.50	11.50	5.75	2.88	5.75	160	4.500	114	5.75	5.00	0.75	2.25	10.75	8.25
6	13.13	13.00	6.50	3.25	6.75	186	5.875	149	6.13	6.13	0.75	2.88	12.25	9.50

Notes:
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 1.5 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bores and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.
- Larger sizes are available, please consult Lovejoy Technical Support.

Lovejoy / Sier-Bath Nylon Sleeve Gear Couplings

Nyflex® and Mite® Type Couplings

The Nyflex and Mite coupling consists of two sintered iron flex hubs, one Nylon sleeve and two Spiirolox rings.



Features

- No lubrication required elliminating the need for seals
- Sintered Iron hubs with crowned teeth to provider greater misalignment and gouging of nylon sleeve
- Resilient, lightweight, abrasion and corrosion resistant nylon sleeve accurately molded to mesh with hubs elliminating friction and need of lubrication
- Center groove in sleeves readily permits their use in vertical applications and for blind assembly
- Securely held hubs and sleeves by spring-steel retaing rings yet capable of easy removal and still withstand a 5,000 lbs end thrust
- Minimum backlash operating in an ambient temperture environment of -40 to 150° F

G

Nyflex and Mite Type Performance Data

Speed	Nyflex			Mite		
		Torque			Torque	
RPM	HP	in-lb	Nm	HP	in	Nm
100	2.25	1,420	164	0.60	360	40.7
500	9.50	1,190	135	2.40	307	34.7
1,000	18.00	1,125	127	4.50	285	32.2
1,150	20.30	1,110	125	5.10	282	31.9
1,500	24.00	970	110	6.40	274	30.9
1,750	25.00	900	102	7.50	270	30.5
2,000	26.60	840	95	8.40	267	30.2
2,500	29.80	750	85	11.10	262	29.6
3,000	32.50	680	77	12.10	256	28.9
3,500	35.30	630	76	13.80	254	28.7
4,000	37.50	590	67	17.60	251	28.3
5,000	42.00	530	60	19.40	243	27.4

Notes:
- Angular Misalignment: Nyflex 5°; Mite 3°.
- Clearence fit bores standard through 1.250 inch bores.
- Interference fit bores standard over 1.250 inch bores.

Nyflex		Mite	
Bore	Keyway	Bore	Keyway
in	in	in	in
0.375*	No Keyway	0.312**	No Keyway
0.500	1/8 x 1/16	0.500	1/8 x 1/16
0.625	3/16 x 3/32	0.625	3/16 x 3/32
0.750	3/16 x 3/32	0.750	3/16 x 3/32
0.875	3/16 x 3/32	0.875	3/16 x 3/32
0.937	1/4 x 1/8	0.937	1/4 x 1/8
1.000	1/4 x 1/8	1.000	1/4 x 1/8
1.125	1/4 x 1/8	1.125	1/4 x 1/8
1.187	1/4 x 1/8		
1.250	1/4 x 1/8		
1.312	5/16 x 5/32		
1.375	5/16 x 5/32		
1.437	3/8 x 3/16		
1.500	3/8 x 3/16		
1.625	3/8 x 3/16		

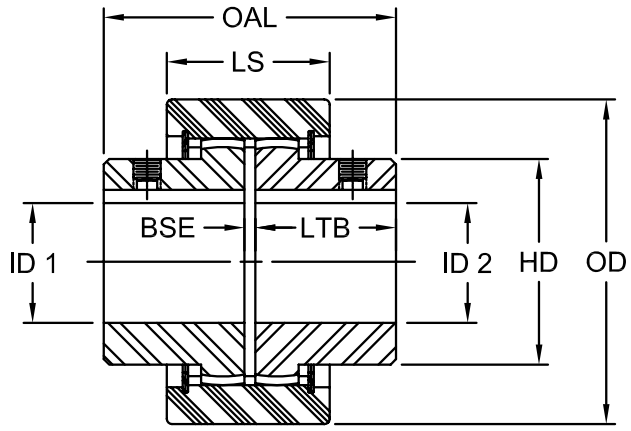
Notes:
- * indicates: Rough Stock Bore .375 – .390 inches.
- ** indicates: Rough Stock Bore .312 – .327 inches.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.

Lovejoy / Sier-Bath Nylon Sleeve Gear Couplings

Nyflex® and Mite® Type Couplings



Nyflex and Mite Type Dimensional Data

Size	ID1 - ID2 Max Bore in	OAL in	LS in	LTB in	BSE in	OD in	HD in	Weight lbs
Nyflex	1.625	3.38	1.88	1.63	0.13	3.75	2.38	3.50
Mite	1.125	2.38	1.31	1.13	0.13	2.88	1.75	1.00

Notes:
- Clearence fit bores with set screw over keyway is standard through 1.250 inch bores.
- Interference fit bores with no set screw is standard for bores over 1.250 inch.
- Bore and keyway tolerances conform to ANSI / AGMA 9002-B04.

Dentex® Nylon Sleeve Series Flexible Couplings

The series is a standard coupling with two hubs, a nylon sleeve, and retaining rings depending on the model selected. The coupling has a precision molded nylon sleeve and powder metal hub with no bolts, pins, flanges, or protrusions that could have an effect on balance or operational safety. Since no lubrication is used, the couplings can readily be adapted to many applications including vertical and blind installations.



Features

- Compact in size
- Maintenance Free – No Lubrication required
- Can accommodate axial, angular, and parallel misalignment
- Easy to assemble
- Electrically insulating
- Can be used in temperature ranges from -25° to 80° C (optional 140° C)
- Nylon sleeve has high resistance to condensation and water, hydrocarbon based petroleums, and alcohols
- Not ideal for use with acids, benzyl based products, cresol, or glycols

Dentex® B - Series Performance Data

	Torque Capacity				Max Speed	Misalignment					Weight[1]		ID1 - ID2[2]			
	Nominal		Maximum			Angular	Axial		Parallel				Min Bore		Max Bore	
Size	in-lbs	Nm	in-lbs	Nm	RPM	Degrees	in	mm	in	mm	kg	lbs	in	mm	in	mm
B 14	89	10	177	20	8,000	1° Per Hub	+/-.039	+/-1	0.012	0.3	0.2	0.4	0.25	6	0.56	14
B 19	142	16	283	32	8,000				0.012	0.3	0.3	0.7	0.38	9	0.75	19
B 24	177	20	354	40	8,000				0.016	0.4	0.3	0.7	0.44	10	0.94	24
B 28	398	45	797	90	8,000				0.016	0.4	0.7	1.6	0.44	10	1.13	28
B 32	531	60	1,062	120	7,000				0.016	0.4	1.0	2.1	0.50	12	1.25	32
B 38	708	80	1,416	160	6,000				0.016	0.4	1.2	2.7	0.56	14	1.38	38
B 42	885	100	1,770	200	5,400				0.016	0.4	1.5	3.3	0.81	20	1.56	42
B 48	1,239	140	2,478	280	5,000				0.016	0.4	1.8	4.0	0.81	20	1.75	48
B 55	2,213	250	4,425	500	4,000				0.016	0.4	3.5	7.6	1.00	25	2.06	55
B 65	3,452	390	6,903	780	3,800				0.024	0.6	5.2	11.4	1.25	32	2.38	65
B 80	6,195	700	12,390	1 400	3,000				0.028	0.7	11.5	25.3	1.19	30	3.00	80
B 100	11,063	1 250	22,125	2 500	2,400				0.031	0.8	20.5	45.2	1.62	40	3.75	100

Notes: ■ 1 indicates: Weight is calculated using maximum bore and no keyway.
■ 2 indicates: Minimum and maximum bore sizes are given for straight bores. For Taper bores and splines, contact Lovejoy Technical Support.

Dentex® B4R - Series Performance Data

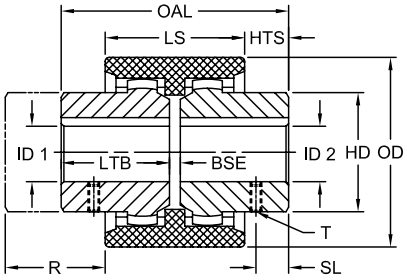
	Torque Capacity				Max Speed	Misalignment					Weight 1		ID1 - ID2 2			
	Nominal		Maximum			Angular	Axial		Parallel				Min Bore		Max Bore	
Size	in-lbs	Nm	in-lbs	Nm	RPM	Degrees	in	mm	in	mm	kg	lbs	in	mm	in	mm
B4R 32	708	80	1,416	160	7,000	1° Per Hub	+/-.039	+/-1	0.016	0.4	1.1	2.4	0.50	12	1.25	32
B4R 45	1,239	140	2,478	280	5,000				0.016	0.4	1.5	3.3	0.81	20	1.56	42
B4R 65	3,452	390	6,903	780	3,800				0.024	0.6	5.4	11.9	1.00	25	2.38	65
B4R 80	6,195	700	12,390	1 400	3,000				0.028	0.7	11.7	25.8	1.19	30	3.00	80
B4R 100	11,063	1 250	22,125	2 400	2,400				0.031	0.8	20.8	45.9	1.62	40	3.75	100

Notes: ■ 1 indicates: Weight is calculated using maximum bore and no keyway.
■ 2 indicates: Minimum and maximum bore sizes are given for straight bores. For Taper bores and splines, contact Lovejoy Technical Support.

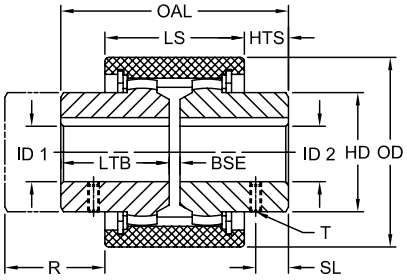
Dentex® B3R - Series Performance Data

	Torque Capacity				Max Speed	Misalignment					Weight 1		ID1 - ID2 2			
	Nominal		Maximum			Angular	Axial		Parallel				Min Bore		Max Bore	
Size	in-lbs	Nm	in-lbs	Nm	RPM	Degrees	in	mm	in	mm	kg	lbs	in	mm	in	mm
B3R 24	177	20	354	40	10,200	1° Per Hub	+/-.039	+/-1	0.016	0.4	0.3	0.7	0.44	10	0.94	24
B3R 28	398	45	797	90	8,300				0.016	0.4	0.8	1.8	0.44	10	1.13	28
B3R 32	708	80	1,416	160	7,000				0.016	0.4	1.1	2.4	0.50	12	1.25	32
B3R 45	1,239	140	2,478	280	5,000				0.016	0.4	1.5	3.3	0.81	20	1.56	42
B3R 65	3,452	390	6,903	780	3,800				0.024	0.6	5.4	11.9	1.25	32	2.38	65
B3R 80	6,195	700	12,390	1 400	3,000				0.028	0.7	11.6	25.6	1.19	30	3.00	80
B3R 100	11,063	1 250	22,125	2 400	2,400				0.031	0.8	20.7	45.6	1.62	40	3.75	100

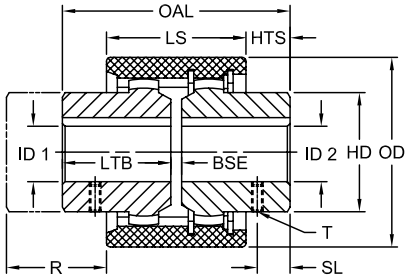
Notes: ■ 1 indicates: Weight is calculated using maximum bore and no keyway.
■ 2 indicates: Minimum and maximum bore sizes are given for straight bores. For Taper bores and splines, contact Lovejoy Technical Support.



B



B4R



B3R

Dentex® B - Series Dimensional Data

Size	OAL in	OAL mm	LS in	LS mm	HTS in	HTS mm	LTB in	LTB mm	BSE in	BSE mm	OD in	OD mm	HD in	HD mm	R (Clearance) in	R (Clearance) mm	T - Metric Set Screw Size	T - Metric Set Screw SL (mm)	T - Inch Set Screw Size	T - Inch Set Screw SL (in)
B 14	1.97	50	1.46	37	0.26	6.5	0.91	23	0.16	4	1.57	40	0.98	25	0.65	16.5	M5	6	10-24	0.24
B 19	2.13	54	1.46	37	0.28	7.0	0.98	25	0.16	4	1.89	48	1.26	32	0.71	18.0	M5	6	10-24	0.24
B 24	2.20	56	1.61	41	0.30	7.5	1.02	26	0.16	4	2.05	52	1.42	36	0.73	18.5	M5	6	10-24	0.24
B 28	3.31	84	1.81	46	0.75	19.0	1.57	40	0.16	4	2.60	66	1.73	44	0.83	21.0	M8	10	5/16-18	0.39
B 32	3.31	84	1.89	48	0.71	18.0	1.57	40	0.16	4	2.99	76	1.97	50	0.87	22.0	M8	10	5/16-18	0.39
B 38	3.31	84	1.89	48	0.71	18.0	1.57	40	0.16	4	3.27	83	2.28	58	0.87	22.0	M8	10	5/16-18	0.39
B 42	3.46	88	1.97	50	0.75	19.0	1.65	42	0.16	4	3.62	92	2.56	65	0.91	23.0	M8	10	5/16-18	0.39
B 48	4.09	104	1.97	50	1.06	27.0	1.97	50	0.16	4	3.94	100	2.68	68	0.91	23.0	M8	10	5/16-18	0.39
B 55	4.88	124	2.56	65	1.16	29.5	2.36	60	0.16	4	4.92	125	3.27	83	1.20	30.5	M10	20	3/8-16	0.79
B 65	5.67	144	2.83	72	1.42	36.0	2.76	70	0.16	4	5.51	140	3.78	96	1.34	34.0	M10	20	3/8-16	0.79
B 80	7.32	186	3.66	93	1.83	46.5	3.54	90	0.24	6	6.89	175	4.88	124	1.71	43.5	M10	20	3/8-16	0.79
B 100	8.98	228	4.02	102	2.48	63.0	4.33	110	0.31	8	8.27	210	5.98	152	1.85	47.0	M12	30	3/8-16	1.18

Dentex® B4R - Series Dimensional Data

Size	OAL in	OAL mm	LS in	LS mm	HTS in	HTS mm	LTB in	LTB mm	BSE in	BSE mm	OD in	OD mm	HD in	HD mm	R (Clearance) in	R (Clearance) mm	T - Metric Set Screw Size	T - Metric Set Screw SL (mm)	T - Inch Set Screw Size	T - Inch Set Screw SL (in)
B4R 32	3.31	84	2.28	58	0.51	13.0	1.57	40	0.16	4	3.31	84	1.97	50	1.06	27.0	M8	10	5/16-18	0.39
B4R 45	3.46	88	2.36	60	0.55	14.0	1.65	42	0.16	4	3.94	100	2.56	65	1.10	28.0	M8	10	5/16-18	0.39
B4R 65	5.67	144	3.31	84	1.18	30.0	2.76	70	0.16	4	5.51	140	3.78	96	1.57	40.0	M10	20	3/8-16	0.79
B4R 80	7.32	186	3.66	93	1.83	46.5	3.54	90	0.24	6	6.89	175	4.88	124	1.71	43.5	M10	20	3/8-16	0.79
B4R 100	8.98	228	4.02	102	2.48	63.0	4.33	110	0.31	8	8.27	210	5.98	152	1.85	47.0	M12	30	3/8-16	0.79

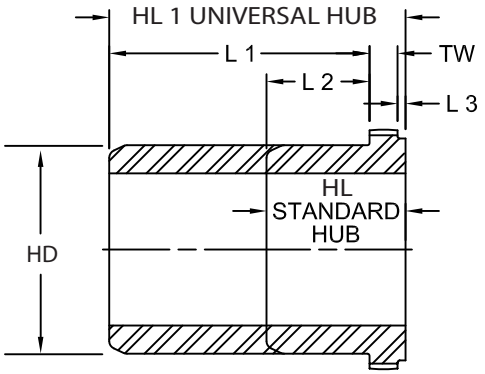
Dentex® B3R - Series Dimensional Data

Size	OAL in	OAL mm	LS in	LS mm	HTS in	HTS mm	LTB in	LTB mm	BSE in	BSE mm	OD in	OD mm	HD in	HD mm	R (Clearance) in	R (Clearance) mm	T - Metric Set Screw Size	T - Metric Set Screw SL (mm)	T - Inch Set Screw Size	T - Inch Set Screw SL (in)
B3R 24	2.20	56	2.01	51	0.10	2.5	1.02	26	0.16	4	2.28	58	1.42	36	0.93	23.5	M5	6	10-24	0.24
B3R 28	3.31	84	2.20	56	0.55	14.0	1.57	40	0.16	4	2.76	70	1.73	44	1.02	26.0	M8	10	5/16-18	0.39
B3R 32	3.31	84	2.28	58	0.51	13.0	1.57	40	0.16	4	3.31	84	1.97	50	1.06	27.0	M8	10	5/16-18	0.39
B3R 45	3.46	88	2.36	60	0.55	14.0	1.65	42	0.16	4	3.94	100	2.56	65	1.10	28.0	M8	10	5/16-18	0.39
B3R 65	5.67	144	3.31	84	1.18	30.0	2.76	70	0.16	4	5.51	140	3.78	96	1.57	40.0	M10	20	3/8-16	0.39
B3R 80	7.32	186	3.66	93	1.83	46.5	3.54	90	0.24	6	6.89	175	4.88	124	1.71	43.5	M10	20	3/8-16	0.39
B3R 100	8.98	228	4.02	102	2.48	63.0	4.33	110	0.31	8	8.27	210	5.98	152	1.85	47.0	M12	30	3/8-16	0.39

Notes:
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- Metric bores and keyway tolerances conform to ISO 286 and ANSI / AGMA 9112-A04.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

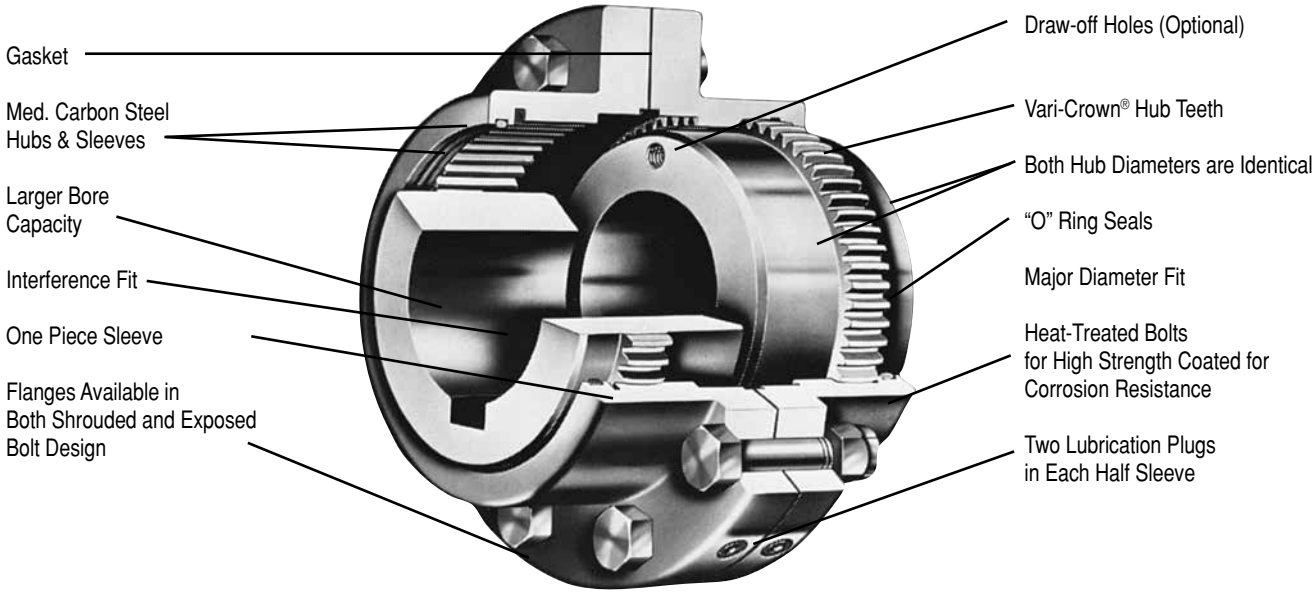
C Type Universal Hub



C Standard and Universal Hub Dimensions

Size	L1 in	L2 in	L3 in	TW in	HL STD HUB in	HL 1 UNIV HUB in	HD in
7/8	3.38	1.13	0.13	0.25	1.50	3.75	2.00
1.5	3.36	1.17	0.13	0.52	1.81	4.00	2.38
2	4.06	1.50	0.13	0.44	2.06	4.63	3.25
2.5	4.39	1.52	0.16	0.58	2.25	5.13	3.94
3	4.89	1.77	0.25	0.61	2.63	5.75	4.75
3.5	5.58	3.33	0.25	0.67	4.25	6.50	5.38
4	5.52	3.27	0.25	0.86	4.38	6.63	6/25
4.5	6.64	3.89	0.25	0.86	5.00	7.75	7.25
5	6.39	4.52	0.25	1.23	6.00	7.88	8.25
6	7.64	4.52	0.25	1.61	6.38	9.50	9.50

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



F Type Flex-Flex Couplings

The F Type coupling consists of two flex hubs, two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards

G

F Type Performance Data

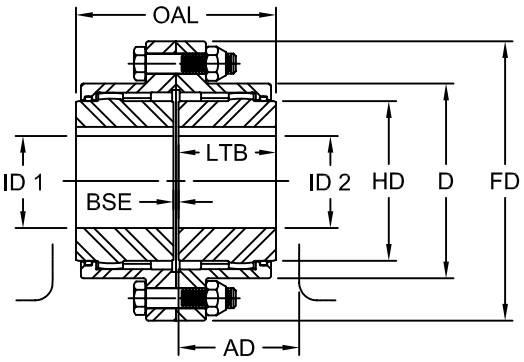
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Axial Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	0.060	1.5	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	0.085	2.2	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	54	25	0.105	2.7	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	80	36	0.115	2.9	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	130	59	0.130	3.3	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	190	86	0.150	3.8	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	250	114	0.175	4.4	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	380	173	0.200	5.1	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	520	236	0.220	5.6	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	650	295	0.120	3.0	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	9.500	255	5.00	127	950	431	0.135	3.4	
8	1,323,000	149 500	1,900	2,850	11.500	310	6.00	152	1,560	708	0.160	4.1	
9	1,827,000	206 400	1,800	2,700	12.500	340	7.00	177	2,015	915	0.165	4.2	

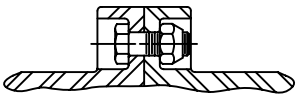
Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

F Type Flex-Flex Couplings





Shrouded bolt design
also available

F Type Dimensional Data

Size	OAL	ID1 - ID2				LTB	BSE	AD	FD	D	HD
		Max Bore		Rough Stock Bore							
	in	in	mm	in	mm	in	in	in	in	in	in
1	3.50	1.625	42	0.44	11	1.69	0.13	2.04	4.56	3.06	2.31
1.5	4.00	2.125	56	0.69	18	1.94	0.13	2.32	6.00	3.97	3.00
2	5.00	2.750	73	0.94	24	2.44	0.13	2.94	7.00	4.86	4.00
2.5	6.25	3.250	85	1.44	37	3.03	0.19	3.47	8.38	5.84	4.63
3	7.38	4.000	107	1.44	37	3.59	0.19	3.97	9.44	6.84	5.63
3.5	8.63	4.625	125	1.81	46	4.19	0.25	4.57	11.00	7.91	6.50
4	9.75	5.375	145	2.44	62	4.75	0.25	5.00	12.50	9.25	7.50
4.5	10.94	6.000	165	3.00	76	5.31	0.31	5.50	13.63	10.38	8.50
5	12.38	6.500	180	3.00	76	6.03	0.31	6.34	15.31	11.56	9.50
5.5	14.13	7.500	200	4.00	101	6.91	0.31	7.04	16.75	12.72	10.50
6	15.13	8.250	225	4.00	101	7.41	0.31	8.35	18.00	14.00	11.50
7	17.75	9.500	255	5.00	127	8.69	0.38	9.82	20.75	15.75	13.00
8	22.38	11.500	310	6.00	152	11.00	0.38	12.31	23.25	18.34	15.50
9	23.50	12.500	340	7.00	177	11.50	0.50	13.00	26.00	20.38	17.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FFR Single Engagement (Flex-Rigid)

The FRR Type coupling consists of one flex hub, one rigid hub, one sleeve and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- Patented Vari-Crown® tooth form on the Flex Hub for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Accommodates angular misalignment only
- Half coupling interchangeable with industry standards

G

FFR Type Performance Data

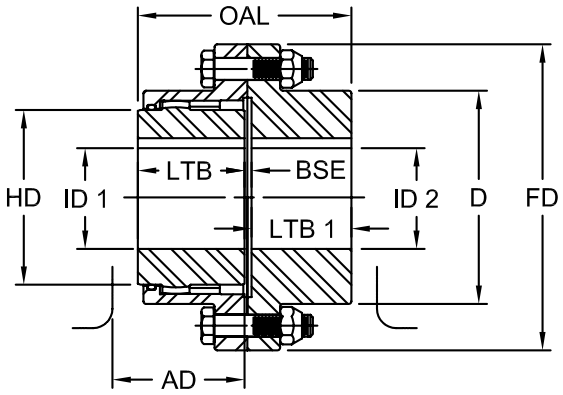
Size	Nominal Torque		Maximum Speed		ID1				ID2				Weight		Max Angular Misalignment
					Flex Hubs Max Bore		Flex Hubs Rough Stock Bore		Rigid Hubs Max Bore		Rigid Hubs Rough Stock Bore				
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	in	mm	in	mm	lbs	kg	Degrees
1	7,600	850	6,000	9,000	1.625	42	0.44	11	2.125	56	solid	solid	9	4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	2.813	76	solid	solid	17	8	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	3.500	95	solid	solid	34	15	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	4.250	114	solid	solid	55	25	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	4.875	134	solid	solid	86	39	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	5.625	150	solid	solid	125	61	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	6.500	176	solid	solid	195	89	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	7.625	202	solid	solid	268	122	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	8.750	230	4.00	101	394	179	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	9.500	260	4.50	114	526	239	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	10.500	285	5.50	127	687	312	
7	1,008,000	113 900	2,000	3,000	9.500	255	5.00	127	12.000	320	5.75	139	1,017	462	
8	1,323,000	149 500	1,900	2,850	11.500	310	6.00	152	14.000	375	6.50	165	1,609	730	0.75° Per Gear Mesh
9	1,827,000	206 400	1,800	2,700	12.500	340	7.00	177	15.500	415	7.50	190	2,128	966	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FFR Type Flex-Rigid Couplings



G

FFR Type Dimensional Data

	OAL	ID1				ID2				LTB	LTB 1	BSE	AD	FD	D	HD
		Flex Hubs Max Bore		Flex Hubs Rough Stock Bore		Rigid Hubs Max Bore		Rigid Hubs Rough Stock Bore								
Size	in	in	mm	in	mm	in	mm	in	mm	in	in	in	in	in	in	in
1	3.41	1.625	42	0.44	11	2.125	56	solid	solid	1.69	1.56	0.16	2.19	4.56	3.06	2.31
1.5	3.94	2.125	56	0.69	18	2.813	76	solid	solid	1.94	1.84	0.16	2.47	6.00	3.97	3.00
2	4.88	2.750	73	0.94	24	3.500	95	solid	solid	2.44	2.28	0.16	3.10	7.00	4.86	4.00
2.5	6.13	3.250	85	1.44	37	4.250	114	solid	solid	3.03	2.91	0.19	3.65	8.38	5.84	4.63
3	7.19	4.000	107	1.44	37	4.875	134	solid	solid	3.59	3.41	0.19	4.15	9.44	6.84	5.63
3.5	8.38	4.625	125	1.81	46	5.625	150	solid	solid	4.19	3.97	0.22	4.78	11.00	7.91	6.50
4	9.50	5.375	145	2.44	62	6.500	176	solid	solid	4.75	4.43	0.31	5.31	12.50	9.25	7.50
4.5	10.68	6.000	165	3.00	76	7.625	202	solid	solid	5.31	5.03	0.34	5.97	13.63	10.38	8.50
5	12.06	6.500	180	3.00	76	8.750	230	4.00	101	6.03	5.69	0.34	6.69	15.31	11.56	9.50
5.5	13.40	7.500	200	4.00	101	9.500	260	4.50	114	6.91	6.15	0.34	7.34	16.75	12.72	10.50
6	15.23	8.250	225	4.00	101	10.500	285	5.50	127	7.41	7.41	0.41	8.78	18.00	14.00	11.50
7	17.88	9.500	255	5.00	127	12.000	322	5.75	139	8.69	8.69	0.50	10.31	20.75	15.75	13.00
8	22.50	11.500	310	6.00	152	14.000	375	6.50	165	11.00	11.00	0.50	12.81	23.25	18.50	15.50
9	23.56	12.500	340	7.00	177	15.500	415	7.50	190	11.50	11.50	0.56	13.56	26.00	20.38	17.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FFS – Floating Shaft Gear Coupling

The FFS Type coupling consists of two flex-rigid couplings and one floating shaft. This coupling is supplied with rigid hubs outboard unless otherwise specified. Exposed bolts are standard. Shrouded bolts are available upon request tru sizes 5.5.



Features

- Patented Vari-Crown® tooth form on Flex Hubs for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Accommodates angular, parallel, and axial misalignment
- Removal of center assembly allows for ease of maintenance without repositioning machinery
- Rigid hubs outboard allows for larger shaft diameters

G

FFS Type Performance Data

Size	Nominal Torque		Maximum Speed[1]		ID1 - ID2 Rigid Hubs Max Bore		ID1 - ID2 Rigid Hubs Rough Stock Bore		ID1 - ID2 Flex Hubs Max Bore		ID1 - ID2 Flex Hubs Rough Stock Bore		Weight		Angular Misalignment Max Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	2.125	56	Solid w/Center		1.625	42	0.44	11	9	4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.813	76			2.125	56	0.69	18	19	9	
2	31,500	3 560	5,000	7,500	3.500	95			2.750	73	0.94	24	34	15	
2.5	56,700	6 410	4,400	6,600	4.250	114			3.250	85	1.44	37	54	25	
3	94,500	10 700	4,000	6,000	4.875	134			4.000	107	1.44	37	80	36	
3.5	151,200	17 100	3,500	5,250	5.625	150			4.625	125	1.81	46	130	59	
4	220,500	24 900	3,000	4,500	6.500	176			5.375	145	2.44	62	190	86	
4.5	302,400	34 200	2,700	4,050	7.625	202			6.000	165	3.00	76	250	114	
5	434,700	49 100	2,500	3,750	8.750	231	4.000	101	6.500	180	3.00	76	380	173	
5.5	573,300	64 800	2,200	3,300	9.500	260	4.500	114	7.500	200	4.00	101	520	236	
6	749,700	84 700	2,100	3,150	10.500	288	5.500	127	8.250	225	4.00	101	650	295	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	12.000	318	5.750	139	9.500	255	5.00	127	950	431	
8	1,323,000	149 500	1,900	2,850	14.000	380	6.500	165	11.500	310	6.00	152	1,560	708	
9	1,827,000	206 400	1,800	2,700	15.500	418	7.500	190	12.500	340	7.00	177	2,015	915	

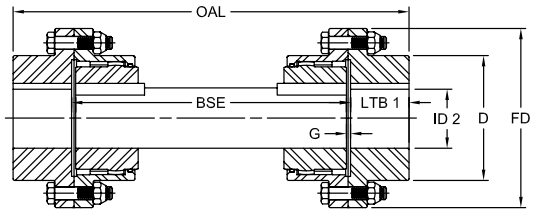
Note: ■ 1 indicates: Maximum RPM of floating shaft set determined by critical speed of floating shaft.

Ordering Information

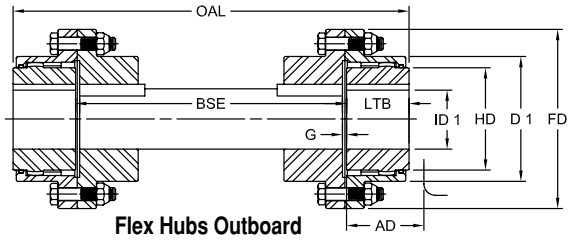
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Equipment shaft sizes.
- Specify which hubs are to be used on the equipment (Rigid or Flex).
- Rigid hubs will be used on the equipment unless otherwise specified.

Lovejoy / Sier-Bath Flanged Gear Couplings

FFS Type Floating Shaft Couplings



Rigid Hubs Outboard



Flex Hubs Outboard

Maximum RPM of floating shaft set determined by critical speed of floating shaft

FFS Type Dimensional Data

Size	OAL Min in	BSE Min in	ID1 - ID2 Rigid Hubs Max Bore in	mm	ID1 - ID2 Rigid Hubs Rough Stock Bore in	mm	ID1 - ID2 Flex Hubs Max Bore in	mm	ID1 - ID2 Flex Hubs Rough Stock Bore in	mm	LTB 1 in	LTB in	G in	AD in	FD in	D in	D 1 in	HD in
1	8.07	4.94	2.125	56	Solid w/Center		1.625	42	0.44	11	1.56	1.69	0.16	2.06	4.56	3.06	3.06	2.31
1.5	9.19	5.50	2.813	76			2.125	56	0.69	18	1.84	1.94	0.16	2.37	6.00	3.97	3.97	3.00
2	12.06	7.50	3.500	95			2.750	73	0.94	24	2.28	2.44	0.16	2.94	7.00	4.84	4.91	4.00
2.5	14.37	8.56	4.250	114			3.250	85	1.44	37	2.91	3.03	0.19	3.53	8.38	5.84	5.91	4.63
3	16.69	9.88	4.875	134			4.000	107	1.44	37	3.41	3.59	0.19	3.97	9.44	6.84	6.91	5.63
3.5	19.25	11.31	5.625	150			4.625	125	1.81	46	3.97	4.19	0.22	4.56	11.00	7.91	7.91	6.50
4	21.82	12.94	6.500	176			5.375	145	2.44	62	4.44	4.75	0.31	5.00	12.50	9.25	9.25	7.50
4.5	24.69	14.63	7.625	202			6.000	165	3.00	76	5.03	5.31	0.34	5.69	13.63	10.38	10.38	8.50
5	28.07	16.69	8.750	231	4.000	101	6.500	180	3.00	76	5.69	6.03	0.34	6.35	15.31	11.56	11.56	9.50
5.5	30.87	18.56	9.500	260	4.500	114	7.500	200	4.00	101	6.16	6.91	0.34	6.59	16.75	12.72	12.81	10.50
6	35.37	20.56	10.500	288	5.500	127	8.250	225	4.00	101	7.41	7.41	0.41	8.78	18.00	14.00	14.00	11.50
7	40.63	23.25	12.000	318	5.750	139	9.500	255	5.00	127	8.69	8.69	0.50	10.31	20.75	15.75	15.75	13.00
8	49.63	27.63	14.000	380	6.500	165	11.500	310	6.00	152	11.00	11.00	0.50	12.81	23.25	18.50	18.50	15.50
9	52.13	29.13	15.500	418	7.500	190	12.500	340	7.00	177	11.50	11.50	0.56	13.56	26.00	20.38	20.38	17.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bores and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHD Type Flex-Flex Couplings



The FHD Type coupling consists of two flex hubs, two sleeves with bolt-on seal carriers and one accessory kit. This coupling is supplied with exposed bolts only.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Designed for high-torque low-speed applications that occur in mill operations

G

FHD Type Performance Data

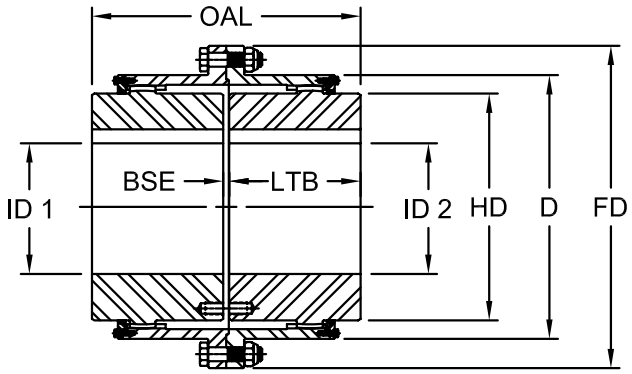
Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 - ID2 Max Bore Standard Keyway in	ID1 - ID2 Max Bore Standard Keyway mm	Weight lbs	Weight kg	Parallel Misalignment in	Parallel Misalignment mm	Angular Misalignment Degrees
7	1,008,000	113 900	2,000	3,000	9.500	255	950	431	0.135	3.429	0.75° Per Gear Mesh
8	1,323,500	149 000	1,900	2,850	11.500	310	1,560	708	0.160	4.064	
9	1,827,700	206 400	1,750	2,625	12.500	340	2,015	915	0.165	4.191	
10	2,521,000	280 000	1,550	2,325	13.750	355	2,500	1,135	0.180	4.572	
11	3,466,000	390 000	1,400	2,100	15.500	410	3,380	1,535	0.205	5.207	
12	4,412,000	500 000	1,300	1,950	17.000	435	4,165	1,891	0.210	5.334	
13	5,249,000	600 000	1,150	1,725	18.250	480	5,215	2,368	0.230	5.842	
14	6,429,000	730 000	1,050	1,575	19.500	—	6,400	2,906	0.255	6.477	
15	7,752,000	880 000	900	1,350	21.000	—	7,710	3,500	0.280	7.112	
16	9,454,000	1 070 000	800	1,200	22.500	—	9,250	4,200	0.295	7.493	
18	12,605,000	1 420 000	550	825	25.500	—	11,890	5,398	0.295	7.493	
20	17,017,000	1 920 000	450	675	28.000	—	16,830	7,641	0.280	7.112	
22	21,429,000	2 420 000	380	570	31.000	—	21,970	9,974	0.310	7.874	
24	26,471,000	2 990 000	325	485	34.000	—	27,735	12,592	0.300	7.620	
26	32,773,000	3 700 000	280	420	37.000	—	34,370	15,604	0.300	7.620	
28	39,076,000	4 410 000	240	360	40.000	—	40,910	18,573	0.320	8.128	
30	47,269,000	5 340 000	220	330	42.000	—	47,470	21,551	0.320	8.128	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHD Type Flex-Flex Couplings



G

FHD Type Dimensional Data

Size	OAL	ID1 - ID2 Max Bore Standard Keyway		1 Rectangular Keyway Width	1 Rectangular Keyway Depth	LTB	BSE	FD	D	HD
	in	in	mm	in	in	in	in	in	in	in
7	17.76	9.500	255	2.5000	0.8750	8.69	0.38	20.75	15.75	13.00
8	22.38	11.500	310	3.0000	1.0000	11.00	0.38	23.25	18.34	15.50
9	23.50	12.500	340	3.0000	1.0000	11.50	0.50	26.00	20.38	17.00
10	24.50	13.750	355	3.5000	1.2500	12.00	0.50	28.00	22.31	18.50
11	26.75	15.500	410	4.0000	1.5000	13.13	0.50	30.50	24.36	21.00
12	28.25	17.000	435	4.0000	1.5000	13.88	0.50	33.00	26.63	22.75
13	30.00	18.250	480	5.0000	1.7500	14.63	0.75	35.75	28.88	24.75
14	31.75	19.500	—	5.0000	1.7500	15.50	0.75	38.00	31.68	26.50
15	33.75	21.000	—	5.0000	1.7500	16.50	0.75	40.50	32.97	28.50
16	35.75	22.500	—	6.0000	2.0000	17.38	1.00	43.00	35.13	30.38
18	37.00	25.500	—	6.0000	2.0000	18.00	1.00	47.25	39.25	34.25
20	43.25	28.000	—	7.0000	2.5000	21.13	1.00	53.50	43.50	38.00
22	47.00	31.000	—	8.0000	2.7500	23.00	1.00	59.00	47.63	41.81
24	50.50	34.000	—	9.0000	3.0000	24.75	1.00	64.25	51.75	45.50
26	54.00	37.000	—	9.0000	3.0000	26.50	1.00	68.50	55.88	49.38
28	55.25	40.000	—	10.0000	3.5000	27.13	1.00	73.75	60.00	53.00
30	56.25	42.000	—	10.0000	3.5000	27.63	1.00	78.00	64.13	57.00

Notes:
- Exposed Bolt Design is standard.
- Puller Holes are standard.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04, for bores above 18 inches, keyways conform to ANSI B17.1.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFR Type Flex-Rigid Couplings

The FHDFR Type coupling consists of one flex hub, one sleeve with bolt-on seal carrier, one rigid hub and one accessory kit. This coupling is supplied with exposed bolts only.



Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Designed for high-torque low-speed applications that occur in mill operations

G

FHDFR Type Performance Data

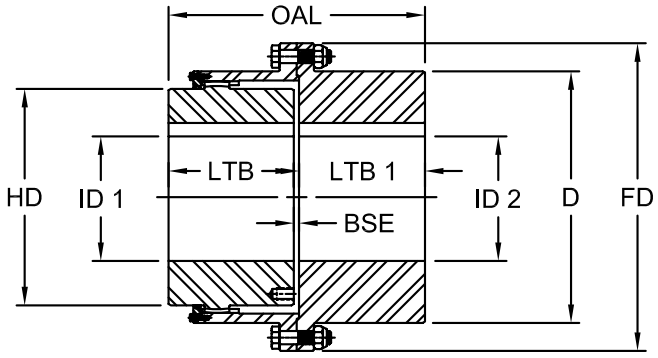
Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 Flex Hubs Max Bore Std Keyway in	ID1 Flex Hubs Max Bore Std Keyway mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 Rigid Hubs Max Bore Std Keyway mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
7	1,008,000	113 900	2,000	3,000	9.500	255	12.000	320	1,017	462	0.75° Per Gear Mesh
8	1,323,500	149 000	1,900	2,850	11.500	310	14.000	375	1,609	730	
9	1,827,700	206 400	1,750	2,625	12.500	340	15.500	415	2,128	966	
10	2,521,000	280 000	1,550	2,325	13.750	355	17.000	455	2,723	1,236	
11	3,466,000	390 000	1,400	2,100	15.500	410	18.500	500	3,640	1,653	
12	4,412,000	500 000	1,300	1,950	17.000	435	20.250	—	4,508	2,047	
13	5,249,000	600 000	1,150	1,725	18.250	480	22.000	—	5,600	2,542	
14	6,429,000	730 000	1,050	1,575	19.500	—	23.500	—	6,837	3,104	
15	7,752,000	880 000	900	1,350	21.000	—	24.250	—	8,244	3,743	
16	9,454,000	1 070 000	800	1,200	22.500	—	26.000	—	9,848	4,471	
18	12,605,000	1 420 000	550	825	25.500	—	28.000	—	12,673	5,754	
20	17,017,000	1 920 000	450	675	28.000	—	31.000	—	18,113	8,223	
22	21,429,000	2 420 000	380	570	31.000	—	34.000	—	23,671	10,747	
24	26,471,000	2 990 000	325	485	34.000	—	37.000	—	29,958	13,601	
26	32,773,000	3 700 000	280	420	37.000	—	40.000	—	37,014	16,845	
28	39,076,000	4 410 000	240	360	40.000	—	43.000	—	44,012	19,981	
30	47,269,000	5 340 000	220	330	42.000	—	46.000	—	51,065	23,184	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFR Type Flex-Rigid Couplings



FHDFR Type Dimensional Data

Size	OAL	ID1 Flex Hubs Max Bore Std Keyway		ID2 Rigid Hubs Max Bore Std Keyway		LTB	LTB1	BSE	FD	D	HD
	in	in	mm	in	mm	in	in	in	in	in	in
7	17.81	9.500	255	12.000	320	8.69	8.69	0.50	20.75	15.75	13.00
8	22.50	11.500	310	14.000	375	11.00	11.00	0.50	23.25	18.50	15.50
9	23.56	12.500	340	15.500	415	11.50	11.50	0.56	26.00	20.38	17.00
10	24.63	13.750	355	17.000	455	12.00	12.00	0.63	28.00	22.31	18.50
11	26.88	15.500	410	18.500	500	13.13	13.13	0.63	30.50	24.36	21.00
12	28.38	17.000	435	20.250	—	13.88	13.88	0.63	33.00	26.63	22.75
13	30.00	18.250	480	22.000	—	14.63	14.63	0.75	35.75	28.88	24.75
14	31.75	19.500	—	23.500	—	15.50	15.50	0.75	38.00	31.00	26.50
15	33.75	21.000	—	24.250	—	16.50	16.50	0.75	40.50	32.97	28.50
16	35.75	22.500	—	26.000	—	17.38	17.38	1.00	43.00	35.13	30.38
18	37.00	25.500	—	28.000	—	18.00	18.00	1.00	47.25	39.25	34.25
20	43.25	28.000	—	31.000	—	21.13	21.13	1.00	53.50	43.50	38.00
22	47.13	31.000	—	34.000	—	23.00	23.00	1.13	59.00	47.63	41.81
24	50.63	34.000	—	37.000	—	24.75	24.75	1.13	64.25	51.75	45.50
26	54.13	37.000	—	40.000	—	26.50	26.50	1.13	68.50	55.88	49.38
28	55.38	40.000	—	43.000	—	27.13	27.13	1.13	73.75	60.00	53.00
30	56.38	42.000	—	46.000	—	27.63	27.63	1.13	78.00	64.13	57.00

Notes:
- Exposed Bolt Design is standard.
- Puller Holes are standard.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04, for bores above 18 inches, keyways are to ANSI B17.1.
- Metric bore and keyway tolerances conform to ISO 286 and ANSI / AGMA 9112-A04.
- Consult Lovejoy Technical Support for metric bores larger than 500mm.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFS Type Floating Shaft Couplings

The FHDFS Type coupling consists of two flex-rigid couplings and one floating shaft. The coupling is supplied with the rigid hubs outboard unless otherwise specified. The coupling comes with exposed bolts only.

Features

- Patented Vari-Crown® tooth form on Flex Hubs for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Accommodates parallel and angular misalignment
- Removal of center assembly allows forease of maintenance without repositioning machinery
- Rigid hubs outboard allows for larger shaft diameters
- Designed for high-torque low-speed applications that occur in mill operations

G

FHDFS Type Performance Data

Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed[1] Unbal RPM	Maximum Speed[1] Bal RPM	ID1 Flex Hubs Max Bore Std Keyway in	ID1 Flex Hubs Max Bore Std Keyway mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 Rigid Hubs Max Bore Std Keyway mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
7	1,008,000	113 900	2,000	3,000	9.500	255	12.000	320	1,017	462	0.75° Per Gear Mesh
8	1,323,000	149 000	1,900	2,850	11.500	310	14.000	375	1,609	730	
9	1,827,000	206 400	1,750	2,625	12.500	340	15.500	415	2,128	966	
10	2,521,000	280 000	1,550	2,325	13.750	355	17.000	455	2,723	1,236	
11	3,500,000	390 000	1,400	2,100	15.500	410	18.500	500	3,640	1,653	
12	4,400,000	500 000	1,300	1,950	17.000	435	20.250	—	4,508	2,047	
13	5,300,000	600 000	1,150	1,725	18.250	480	22.000	—	5,600	2,542	
14	6,400,000	730 000	1,050	1,575	19.500	—	23.500	—	6,837	3,104	
15	7,700,000	880 000	900	1,350	21.000	—	24.250	—	8,244	3,743	
16	9,500,000	1 070 000	800	1,200	22.500	—	26.000	—	9,848	4,471	
18	12,600,000	1 420 000	550	825	25.500	—	28.000	—	12,673	5,754	
20	17,000,000	1 920 000	450	675	28.000	—	31.000	—	18,113	8,223	
22	21,400,000	2 420 000	380	570	31.000	—	34.000	—	23,671	10,747	
24	26,500,000	2 990 000	325	488	34.000	—	37.000	—	29,958	13,601	
26	32,800,000	3 700 000	280	420	37.000	—	40.000	—	37,104	16,845	
28	39,100,000	4 410 000	240	360	40.000	—	43.000	—	44,012	19,981	
30	47,300,000	5 340 000	220	330	42.000	—	46.000	—	51,065	23,184	

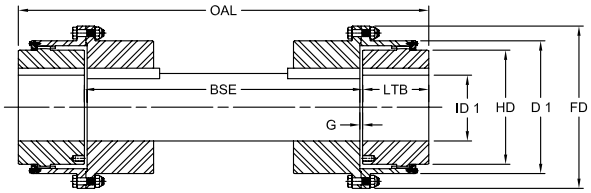
Note: ■ 1 indicates: Maximum RPM of floating shaft set determined by critical speed of floating shaft.

Ordering Information

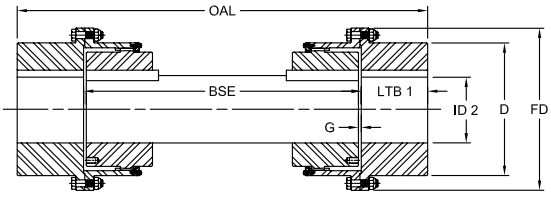
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Connecting equipment shaft sizes.
- Specify which hubs are to be used on the equipment (Rigid or Flex).
- Rigid hubs will be used on the equipment unless otherwise specified.
- Length of floating shaft may affect max angular misalignment.

Lovejoy / Sier-Bath Heavy Duty Flanged Sleeve Gear Couplings

FHDFS Type Floating Shaft Couplings



Flex Hubs Outboard



Rigid Hubs Outboard

Maximum RPM of floating shaft set determined by critical speed of floating shaft

G

FHDFS Type Dimensional Data

Size	OAL in	BSE in	ID1 Flex Hubs Max Bore Std Keyway in	ID1 mm	ID2 Rigid Hubs Max Bore Std Keyway in	ID2 mm	LTB 1 in	LTB in	G in	FD in	D in	D 1 in	HD in
7	To Be Determined From Customer Specifications		9.500	255	12.000	320	8.69	8.69	0.50	20.75	15.75	15.75	13.00
8			11.500	310	14.000	375	11.00	11.00	0.50	23.25	18.50	18.50	15.50
9			12.500	340	15.500	415	11.50	11.50	0.56	26.00	20.38	20.38	17.00
10			13.750	355	17.000	455	12.00	12.00	0.63	28.00	22.31	22.38	18.50
11			15.500	410	18.500	500	13.13	13.13	0.63	30.50	24.36	24.50	21.00
12			17.000	435	20.250	—	13.88	13.88	0.63	33.00	26.63	26.63	22.75
13			18.250	480	22.000	—	14.63	14.63	0.75	35.75	28.88	28.88	24.75
14			19.500	—	23.500	—	15.50	15.50	0.75	38.00	31.00	31.00	26.50
15			21.000	—	24.250	—	16.50	16.50	0.75	40.50	32.97	33.13	28.50
16			22.500	—	26.000	—	17.38	17.38	1.00	43.00	35.13	35.13	30.38
18			25.500	—	28.000	—	18.00	18.00	1.00	47.25	39.25	39.25	34.25
20			28.000	—	31.000	—	21.13	21.13	1.00	53.50	43.50	43.50	38.00
22			31.000	—	34.000	—	23.00	23.00	1.13	59.00	47.63	47.63	41.81
24			34.000	—	37.000	—	24.75	24.75	1.13	64.25	51.75	51.75	45.50
26			37.000	—	40.000	—	26.50	26.50	1.13	68.50	55.88	55.88	49.38
28			40.000	—	43.000	—	27.13	27.13	1.13	73.75	60.00	60.00	53.00
30			42.000	—	46.000	—	27.63	27.63	1.13	78.00	64.13	64.13	57.00

Notes:
- Exposed Bolt Design is standard.
- Puller Holes are standard.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04, for bores about 18 inches, keyways are to ANSI B17.1.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.
- Consult Lovejoy Technical Support for metric bores larger than 500mm.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FMM Type Mill Couplings

The FMM Type coupling consists of one standard flex hub, one universal straight bored hub as standard, two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.



Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards
- Long Universal Hub supplied to customer specifications with straight or tapered bores

G

FMM Type Performance Data

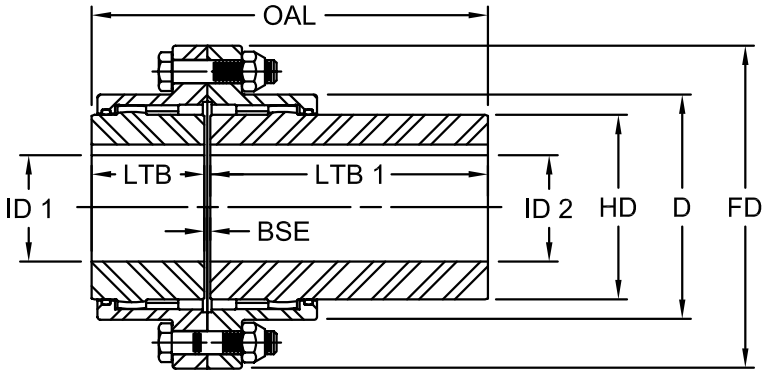
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	12	5	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	24	11	0.060	1.5	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	45	20	0.085	2.2	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	71	32	0.105	2.7	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	104	47	0.115	2.9	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	151	69	0.130	3.3	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	234	86	0.150	3.8	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	310	141	0.175	4.4	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	450	204	0.200	5.1	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	609	276	0.220	5.6	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	764	347	0.120	3.0	0.75° Per Gear Mesh

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Taper per foot and length of taper if tapered bore is required.
- Specify counterbore dimensions if desired.
- Submit a drawing if available.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FMM Type Mill Couplings



FMM Type Dimensional Data

Size	OAL	ID1 - ID2				LTB	LTB1 Max	BSE	FD	D	HD
		Max Bore		Rough Stock Bore							
	in	in	mm	in	mm	in	in	in	in	in	in
1	5.81	1.625	42	0.44	11	1.69	4.00	0.13	4.56	3.06	2.31
1.5	6.56	2.125	56	0.69	18	1.94	4.50	0.13	6.00	3.97	3.00
2	8.06	2.750	73	0.94	24	2.44	5.50	0.13	7.00	4.86	4.00
2.5	9.72	3.250	85	1.44	37	3.03	6.50	0.19	8.38	5.84	4.63
3	10.78	4.000	107	1.44	37	3.59	7.00	0.19	9.44	6.84	5.63
3.5	11.94	4.625	125	1.81	46	4.19	7.50	0.25	11.00	7.91	6.50
4	13.25	5.375	145	2.44	62	4.75	8.25	0.25	12.50	9.25	7.50
4.5	14.63	6.000	165	3.00	76	5.31	9.00	0.31	13.63	10.38	8.50
5	15.84	6.500	180	3.00	76	6.03	9.50	0.31	15.31	11.56	9.50
5.5	17.72	7.500	200	4.00	101	6.91	10.50	0.31	16.75	12.72	10.50
6	18.97	8.250	225	4.00	101	7.41	11.25	0.31	18.00	14.00	11.50

Notes:
- LTB1 Dimensions are the maximum lengths of Universal Hubs kept in stock and altered to customer specifications. Longer length hubs are made to order.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FMM Type Mill Motor Couplings

The FMM Type coupling consists of one standard flex hub, one universal straight bored hub as standard, two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.



Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards
- Long Universal Hub used for AISE Motor Frames

G

FMM Type Mill Motor Performance Data

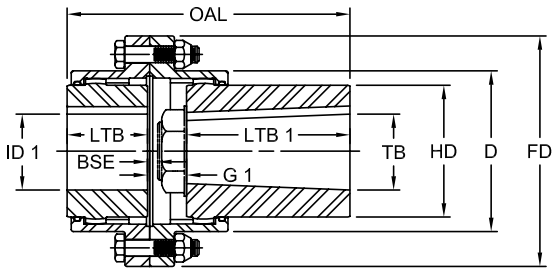
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	12	5	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	24	11	0.060	1.5	
2	31,500	3 560	5,000	7,500	2.75	73	0.94	24	45	20	0.085	2.2	
2.5	56,700	6 410	4,400	6,600	3.25	85	1.44	37	71	32	0.105	2.7	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	104	47	0.115	2.9	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	151	69	0.130	3.3	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	234	86	0.150	3.8	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	310	141	0.175	4.4	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	450	204	0.200	5.1	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	609	276	0.220	5.6	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	764	347	0.120	3.0	0.75° Per Gear Mesh

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Mill Motor frame size.
- Submit a drawing if available.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FMM Type Mill Motor Couplings



FMM Type Mill Motor Dimensional Data

Size	AISE Frame No	OAL in	ID1 in	LTB in	LTB1 in	G1	BSE in	FD in	D in	HD in	TB in	Mill Motor Hub Kw W in	Mill Motor Hub Kw H in
1.5	602/802 603/803 604/804	6.00 6.56 6.56	2.125	1.94	3.00 3.50 3.50	1.06 * 1.13 * 1.13 *	0.13	6.00	3.97	3.00	1.7485 - 1.7495 1.998 - 1.999 1.998 - 1.999	0.50 0.50 0.50	0.25 0.25 0.25
2	603/803 604/804 606/806	7.06 7.06 7.69	2.750	2.44	3.50 3.50 4.00	1.13 1.13 1.25	0.13	7.00	4.86	4.00	1.998 - 1.999 1.998 - 1.999 2.498 - 2.499	0.50 0.50 0.50	0.25 0.25 0.25
2.5	603/803 604/804 606/806 608/808	7.72 7.72 8.34 8.34	3.250	3.03	3.50 3.50 4.00 4.50	1.19 1.19 1.31 1.44	0.19	8.38	5.84	4.63	1.998 - 1.999 1.998 - 1.999 2.498 - 2.499 2.998 - 2.999	0.50 0.50 0.50 0.75	0.25 0.25 0.25 0.25
3	606/806 608/808 610/810 612/812	8.91 9.53 9.66 10.28	4.000	3.59	4.00 4.50 4.50 5.00	1.31 1.44 1.56 1.69	0.19	9.44	6.84	5.63	2.498 - 2.499 2.998 - 2.999 3.248 - 3.249 3.623 - 3.624	0.50 0.75 0.75 0.75	0.25 0.25 0.25 0.25
3.5	608/808 610/810 612/812 614/814	10.19 10.31 10.94 11.06	4.625	4.19	4.50 4.50 5.00 5.00	1.50 1.63 1.75 1.88	0.25	11.00	7.91	6.50	2.998 - 2.999 3.248 - 3.249 3.623 - 3.624 4.270 - 4.2485	0.75 0.75 0.75 1.00	0.25 0.25 0.25 0.38
4	610/810 612/812 614/814 616/816 618/818	10.88 11.50 11.63 12.25 12.31	5.375	4.75	4.50 5.00 5.00 5.50 6.00	1.63 1.75 1.88 2.00 1.56	0.25	12.50	9.25	7.50	3.248 - 3.249 3.623 - 3.624 4.2470 - 4.2485 4.6220 - 4.6235 4.9970 - 4.9985	0.75 0.75 1.00 1.25 1.25	0.25 0.25 0.38 0.38 0.50
4.5	614/814 616/816 618/818	12.25 12.88 12.94	6.000	5.31	5.00 5.50 6.00	1.94 2.06 1.63	0.31	13.63	10.38	8.50	4.2470 - 4.2485 4.6220 - 4.6235 4.9970 - 4.9985	1.00 1.25 1.25	0.38 0.38 0.50
5	614/814 616/816 618/818 620	12.97 13.59 13.66 14.84	6.500	6.03	5.00 5.50 6.00 6.75	1.94 2.06 1.63 2.06	0.31	15.31	11.56	9.50	4.2470 - 4.2485 4.6220 - 4.6235 4.9970 - 4.9985 5.8720 - 5.8735	1.00 1.25 1.25 1.50	0.38 0.38 0.50 0.75
5.5	616/816 618/818 620 622	14.47 14.53 15.72 16.84	7.500	6.91	5.50 6.00 6.75 7.25	2.06 1.63 2.06 2.69	0.31	16.75	12.72	10.50	4.6220 - 4.6235 4.9970 - 4.9985 5.8720 - 5.8735 6.2470 - 6.2485	1.25 1.25 1.50 1.50	0.38 0.50 0.75 0.75
6	616/816 618/818 620 622	14.97 15.03 16.22 17.34	8.250	7.41	5.50 6.00 6.75 7.25	2.06 1.63 2.06 2.69	0.31	18.00	14.00	11.50	4.6220 - 4.6235 4.9970 - 4.9985 5.8720 - 5.8735 6.2470 - 6.2485	1.25 1.25 1.50 1.50	0.38 0.50 0.75 0.75

Notes:
- * indicates: That a counterbore is required.
- Bore taper is 1-1/4 inch per foot on diameter.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1.5 through 5.5.
- Puller Holes are standard on sizes 4 through 6.
- Puller Holes are available for sizes 1.5 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to ANSI / AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.
- 1/4 inch hub standoff.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FSL Type Slide Coupling

The FSL Type coupling consists of one or two modified flex hubs depending on the maximum slide required, two sleeves, one plate with lube holes and one accessory kit. The coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Assembled to suit a wide range of axial movement
- Plates with lube holes so both halves of the coupling will be adequately lubricated

G

FSL Type Performance Data

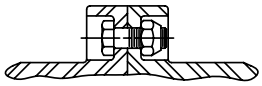
Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	54	25	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	80	36	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	130	59	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	190	86	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	250	114	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	380	173	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	520	236	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	650	295	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	9.500	255	5.75	139	950	431	

Ordering Information

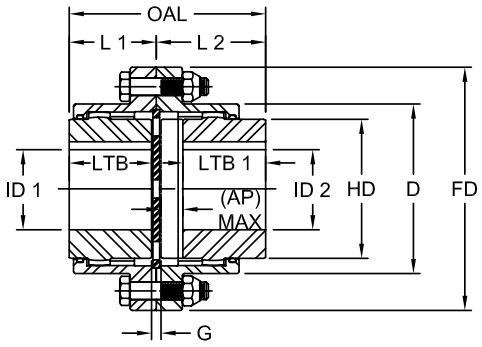
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (maximum-minimum shaft separation).
- Shaft sizes.
- Amount of slide required.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

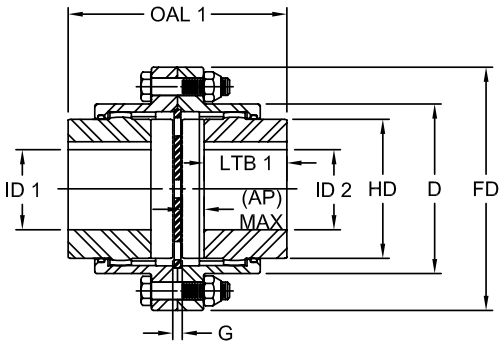
FSL Type Slide Couplings



Shrouded Bolt Design
Also Available



1 Hub Reversed
And Modified



2 Hubs Reversed
And Modified

FSL Type Dimensional Data

Size	OAL One Hub Reversed in	OAL1 Two Hubs Reversed in	L1 Std Hub in	L2 Slide Half in	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	LTB Std Hub in	LTB1 Slide Hub in	AP[1] Max in	G Min in	FD in	D in	HD in
1	3.81	4.13	1.75	2.06	1.625	42	0.44	11	1.59	1.50	0.41	0.31	4.56	3.06	2.31
1.5	4.25	4.50	2.00	2.25	2.125	56	0.69	18	1.84	1.75	0.34	0.31	6.00	3.97	3.00
2	5.69	6.38	2.50	3.19	2.750	73	0.94	24	2.34	2.25	0.78	0.31	7.00	4.86	4.00
2.5	7.03	7.81	3.13	3.91	3.250	85	1.44	37	2.94	2.78	0.94	0.38	8.38	5.84	4.63
3	8.03	8.69	3.69	4.34	4.000	107	1.44	37	3.50	3.13	1.03	0.38	9.44	6.84	5.63
3.5	9.19	9.75	4.31	4.88	4.625	125	1.81	46	4.09	3.59	1.06	0.44	11.00	7.91	6.50
4	10.44	11.13	4.88	5.56	5.375	145	2.44	62	4.56	3.94	1.31	0.63	12.50	9.25	7.50
4.5	12.00	13.06	5.47	6.53	6.000	165	3.00	76	5.13	4.50	1.69	0.69	13.63	10.38	8.50
5	13.72	15.06	6.19	7.53	6.500	180	3.00	76	5.84	5.22	1.97	0.69	15.31	11.56	9.50
5.5	15.34	16.56	7.06	8.28	7.500	200	4.00	101	6.72	5.88	2.06	0.69	16.75	12.72	10.50
6	16.53	17.94	7.56	8.97	8.250	225	4.00	101	7.16	7.09	1.47	0.81	18.00	14.00	11.50
7	19.06	20.38	8.88	10.19	9.500	255	5.75	139	8.38	7.78	1.91	1.00	20.75	15.75	13.00

Notes:
- 1 indicates: AP Max = Maximum slide per coupling half.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FSLX Type Long Slide Couplings

The FSLX Type basic coupling consists of a standard flex half and a custom designed long slide half. The standard flex half can be replaced by a reversed and modified hub for additional slide requirement. These couplings are also supplied with a plate with lube holes. The coupling is supplied with exposed bolts as standard. Shrouded bolts available upon request through size 5.5.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Assembled to suit a wide range of axial movement
- Plates with lube holes so both halves of the coupling will be adequately lubricated

G

FSLX Type Performance Data

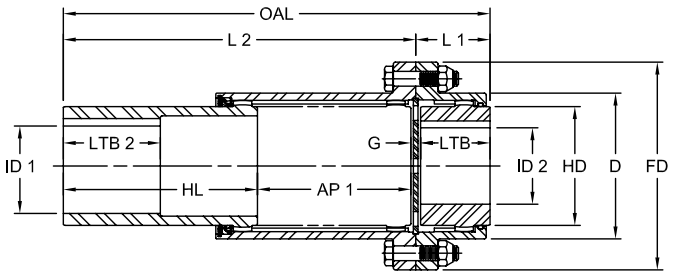
Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	1.5° Per Gear Mesh
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	54	25	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	80	36	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	130	59	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	190	86	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	250	114	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	380	173	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	520	236	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	650	295	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	9.500	255	5.75	139	950	431	

Ordering Information

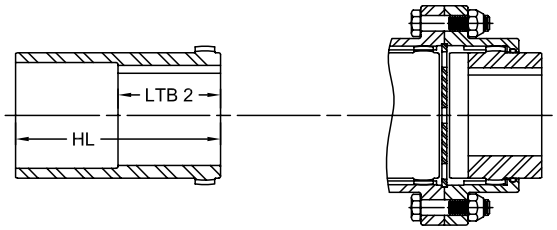
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (maximum-minimum shaft separation).
- Shaft sizes.
- Amount of slide required.
- HL Dimension.
- LTB2 Dimension.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FSLX Type Long Slide Couplings



Long Slide Half Standard Half



Alternate Type hub shaft contact is deep inside hub One Hub reversed with long slide half

G

FSLX Type Dimensional Data

Size	OAL	L1 Std Hub	L2 Slide Half	ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		LTB Std Hub	LTB2 Slide Hub	G Min	AP1 Long Slide Max	AP2 Long Slide w/one Hub Reversed Max	AP3 Long Slide Both Ends Max	HL	FD	D	HD
	in	in	in	in	mm	in	mm	in	in	in	in	in	in	in	in	in	in
1.5	10.41	2.00	8.41	2.125	56	0.69	18	1.84	2.19	0.31	3.38	3.72	6.75	4.88	6.00	3.97	3.00
2	10.88	2.50	8.38	2.750	73	0.94	24	2.34	2.69	0.31	3.31	4.09	6.63	4.91	7.00	4.86	4.00
2.5	13.59	3.13	10.47	3.250	85	1.44	37	2.94	3.28	0.38	4.16	5.09	8.31	6.13	8.83	5.84	4.63
3	21.72	3.69	18.03	4.000	107	1.44	37	3.50	3.84	0.38	7.78	8.81	15.56	10.06	9.44	6.84	5.63
3.5	22.38	4.31	18.06	4.625	125	1.81	46	4.09	4.44	0.44	7.66	8.72	15.31	10.19	11.00	7.91	6.50
4	23.00	4.88	18.13	5.375	145	2.44	62	4.56	5.00	0.63	7.50	8.81	15.00	10.31	12.50	9.25	7.50
4.5	23.75	5.47	18.28	6.000	165	3.00	76	5.13	5.56	0.69	7.38	9.06	14.75	10.56	13.63	10.38	8.50
5	24.16	6.19	17.97	6.500	180	3.00	76	5.84	6.28	0.69	7.06	9.03	14.13	10.56	15.31	11.56	9.50
5.5	25.09	7.06	18.03	7.500	200	4.00	101	6.72	6.88	0.69	6.81	8.88	13.63	10.88	16.75	12.72	10.50
6	25.66	7.56	18.09	8.250	225	4.00	101	7.16	7.66	0.81	6.81	8.28	13.63	10.88	18.00	14.00	11.50
7	27.06	8.88	18.19	9.500	255	5.75	139	8.38	8.94	1.00	6.81	8.72	13.63	10.88	20.75	15.75	13.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FSPCR Type Spacer Couplings

The FSPCR Type coupling consists of two flex hubs, two sleeves, one spacer and two accessory kits. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Removal of spacer provides adequate space for the removal of either coupling half without moving the driver or driven units

G

FSPCR Type Performance Data

Size	Nominal Torque		Maximum Speed[1]		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight Less Spacer		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	54	25	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	80	36	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	130	59	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	190	86	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	250	114	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	380	173	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	520	236	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	650	295	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	9.500	255	5.00	127	950	431	

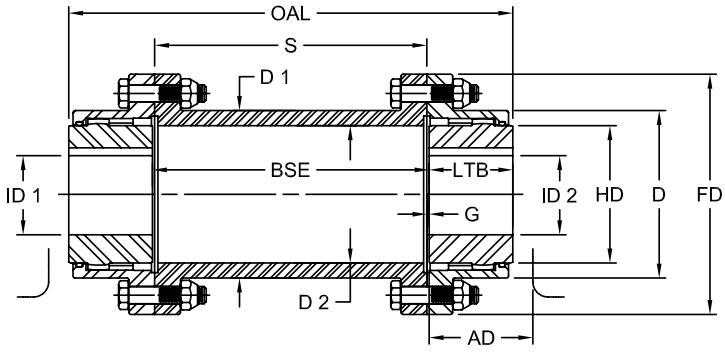
Note: ■ 1 indicates: Maximum RPM of spacer set determined by critical speed of spacer.

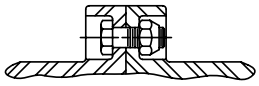
Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FSPCR Type Spacer Couplings





Shrouded bolt design also available

G

FSPCR Type Dimensional Data

Size	OAL	S	AD	ID1 - ID2				LTB	BSE	G	FD	D	HD	D1	D2
				Max Bore		Rough Stock Bore									
	in	in	in	in	mm	in	mm	in	in	in	in	in	in	in	in
1			2.04	1.625	42	0.44	11	1.69		0.06	4.56	3.06	2.31	3.00	2.41
1.5	Determined		2.32	2.125	56	0.69	18	1.94	Determined	0.06	6.00	3.97	3.00	3.75	3.13
2	by		2.94	2.750	73	0.94	24	2.44	by	0.06	7.00	4.86	4.00	4.75	4.00
2.5	Shaft		3.47	3.250	85	1.44	37	3.03	Customer	0.09	8.38	5.84	4.63	5.50	4.78
3	Separation		3.97	4.000	107	1.44	37	3.59	Specs	0.09	9.44	6.84	5.63	6.50	5.75
3.5			4.57	4.625	125	1.81	46	4.19		0.13	11.00	7.91	6.50	7.38	6.63
4			5.00	5.375	145	2.44	62	4.75		0.13	12.50	9.25	7.50	8.63	7.75
4.5			5.50	6.000	165	3.00	76	5.31		0.16	13.63	10.38	8.50	9.38	8.50
5			6.34	6.500	180	3.00	76	6.03		0.16	15.31	11.56	9.50	10.38	9.56
5.5			7.04	7.500	200	4.00	101	6.91		0.16	16.75	12.72	10.50	11.44	10.56
6			8.35	8.250	225	4.00	101	7.41		0.16	18.00	14.00	11.50	12.38	11.44
7			9.82	9.500	255	5.00	127	8.69		0.19	20.75	15.75	13.00	14.00	13.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FLEF Type Limited End Float Couplings

The FLEF Type coupling consists of two flex hubs, two sleeves, one accessory kit and a steel plate to limit the movement. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.



Features

- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides and maintains restriced end float in sleeve bearings and rotor systems where thrust is not permitted
- Optional flow-through steel plate with lube holes available

G

FLEF Type Performance Data

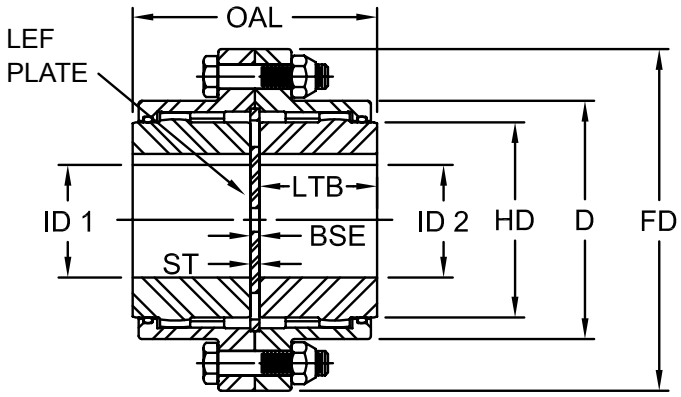
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	0.060	1.5	
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	0.085	2.2	
2.5	56,700	6 410	4,400	6,600	3.250	85	1.44	37	54	25	0.105	2.7	
3	94,500	10 700	4,000	6,000	4.000	107	1.44	37	80	36	0.115	2.9	
3.5	151,200	17 100	3,500	5,250	4.625	125	1.81	46	130	59	0.130	3.3	
4	220,500	24 900	3,000	4,500	5.375	145	2.44	62	190	86	0.150	3.8	
4.5	302,400	34 200	2,700	4,050	6.000	165	3.00	76	250	114	0.175	4.4	
5	434,700	49 100	2,500	3,750	6.500	180	3.00	76	380	173	0.200	5.1	
5.5	573,300	64 800	2,200	3,300	7.500	200	4.00	101	520	236	0.220	5.6	
6	749,700	84 700	2,100	3,150	8.250	225	4.00	101	650	295	0.120	3.0	0.75° Per Gear Mesh
7	1,008,000	113 900	2,000	3,000	9.500	255	5.00	127	950	431	0.135	3.4	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Amount of thrust on either or both shafts.
- Submit a drawing if available.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FLEF Type Limited End Float Couplings



FLEF Type Dimensional Data

Size	OAL	ID1 - ID2				LTB	BSE	F[1] (ref)	ST	FD	D	HD
		Max Bore		Rough Stock Bore								
	in	in	mm	in	mm	in	in	in	in	in	in	in
1	3.56	1.625	42	0.44	11	1.69	0.19	0.13	0.13	4.56	3.06	2.31
1.5	4.06	2.125	56	0.69	18	1.94	0.19	0.13	0.13	6.00	3.97	3.00
2	5.06	2.750	73	0.94	24	2.44	0.19	0.13	0.13	7.00	4.86	4.00
2.5	6.34	3.250	85	1.44	37	3.03	0.28	0.19	0.19	8.38	5.84	4.63
3	7.47	4.000	107	1.44	37	3.59	0.28	0.19	0.19	9.44	6.84	5.63
3.5	8.69	4.625	125	1.81	46	4.19	0.31	0.25	0.19	11.00	7.91	6.50
4	9.88	5.375	145	2.44	62	4.75	0.38	0.25	0.25	12.50	9.25	7.50
4.5	11.06	6.000	165	3.00	76	5.31	0.44	0.25	0.31	13.63	10.38	8.50
5	12.59	6.500	180	3.00	76	6.03	0.53	0.31	0.38	15.31	11.56	9.50
5.5	14.34	7.500	200	4.00	101	6.91	0.53	0.31	0.38	16.75	12.72	10.50
6	15.28	8.250	225	4.00	101	7.41	0.47	0.31	0.31	18.00	14.00	11.50
7	17.94	9.500	255	5.00	127	8.69	0.56	0.38	0.38	20.75	15.75	13.00

Notes:
- 1 indicates: F is the total end float. (May be modified.)
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 9.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FRR Type Rigid-Rigid Couplings

The F Type coupling consists of two rigid hubs and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- All Steel construction
- Torque capacities that exceed the mild steel shafts to be coupled
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Rigid Half coupling interchangeable with industry standards

G

FRR Type Performance Data

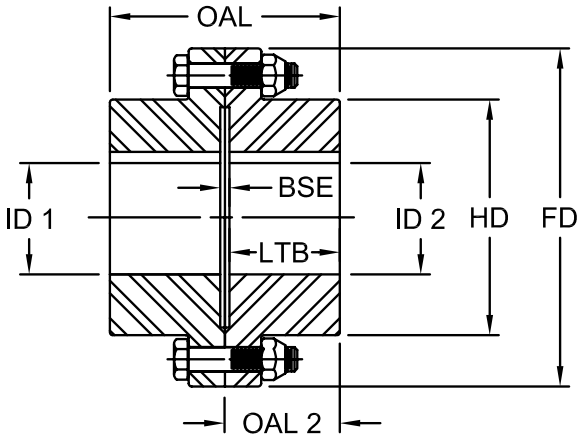
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore		ID1 - ID2 Rough Stock Bore		Weight		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	2.125	56	solid	solid	10	5	0°
1.5	18,900	2 140	5,500	8,250	2.813	76	solid	solid	20	9	
2	31,500	3 560	5,000	7,500	3.500	95	solid	solid	34	15	
2.5	56,700	6 410	4,400	6,600	4.250	114	solid	solid	60	27	
3	94,500	10 700	4,000	6,000	4.875	134	solid	solid	91	41	
3.5	151,200	17 100	3,500	5,250	5.625	150	solid	solid	143	65	
4	220,500	24 900	3,000	4,500	6.500	176	solid	solid	211	96	
4.5	302,400	34 200	2,700	4,050	7.625	202	solid	solid	289	131	
5	434,700	49 100	2,500	3,750	8.750	230	4.00	101	417	189	
5.5	573,300	64 800	2,200	3,300	9.500	260	4.50	114	541	246	
6	749,700	84 700	2,100	3,150	10.500	285	5.50	127	724	329	
7	1,008,000	113 900	2,000	3,000	12.000	320	5.75	139	1,084	492	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Submit drawing if available.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FRR Type Rigid-Rigid Couplings



G

FRR Type Dimensional Data

Size	OAL in	OAL2 in	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	LTB in	BSE in	FD in	HD in
1	3.31	1.66	2.125	56	solid	solid	1.56	0.19	4.56	3.06
1.5	3.88	1.94	2.813	76	solid	solid	1.84	0.19	6.00	3.97
2	4.75	2.38	3.500	95	solid	solid	2.28	0.19	7.00	4.86
2.5	6.00	3.00	4.250	114	solid	solid	2.91	0.19	8.38	5.84
3	7.00	3.50	4.875	134	solid	solid	3.41	0.19	9.44	6.84
3.5	8.13	4.07	5.625	150	solid	solid	3.97	0.19	11.00	7.91
4	9.25	4.63	6.500	176	solid	solid	4.44	0.38	12.50	9.25
4.5	10.44	5.22	7.625	202	solid	solid	5.03	0.38	13.63	10.38
5	11.75	5.88	8.750	230	4.00	101	5.69	0.38	15.31	11.56
5.5	12.69	6.35	9.500	260	4.50	114	6.16	0.38	16.75	12.72
6	14.88	7.44	10.500	285	5.50	127	7.41	0.50	18.00	14.00
7	18.00	9.00	12.000	320	5.75	139	8.69	0.63	20.75	15.75

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 7.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FLA Type Flex-Flex All-Metal Labyrinth Seal Couplings

The FLA Type coupling consists of two special flex hubs, Two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- All-Metal Labyrinth Seals
- AISI 4140 Alloy Steel Construction
- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards

G

FLA Type Performance Data

Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore Standard Keyway		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1.5	15,000	1 700	12,000	18,000	1.625	41	0.38	9	17.6	8	0.028	0.7	0.5° Per Gear Mesh
2	35,500	4 000	9,300	13,950	2.125	53	0.5	12	29.1	13	0.035	0.9	
2.5	69,300	7 800	7,900	11,850	2.750	69	0.75	19	50.9	23	0.044	1.1	
3	118,900	13 400	6,800	10,200	3.125	79	1.13	28	74.4	34	0.052	1.3	
3.5	188,500	21 300	6,000	9,000	3.750	95	1.50	38	120	55	0.061	1.5	
4	283,800	32 100	5,260	7,890	4.250	107	1.50	38	185	84	0.070	1.8	
4.5	393,800	44 500	4,770	7,155	4.750	120	1.50	38	240	109	0.079	2.0	
5	551,300	62 300	4,300	6,450	5.500	139	2.50	63	365	166	0.087	2.2	
5.5	732,500	82 800	3,880	5,820	5.875	149	3.00	76	435	198	0.096	2.4	
6	952,500	107 600	3,600	5,400	6.500	165	4.00	101	538	244	0.105	2.7	
7	1,512,500	170 900	3,000	4,500	8.000[1]	203	4.50	114	860	390	0.122	3.1	

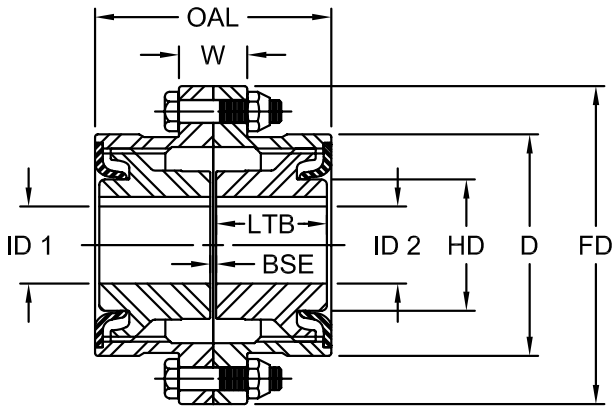
Note: ■ 1 Indicates: Maximum bore for square keyway.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FLA Type All Metal Labyrinth Seal Couplings



G

FLA Type Dimensional Data

Size	OAL in	W in	ID1 - ID2 Max Bore Standard Keyway in	ID1 - ID2 Max Bore Standard Keyway mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	LTB in	BSE in	FD in	D in	HD in	C/L - C/L of Teeth* in	Puller Holes
1.5	4.19	1.50	1.625	41	0.38	9	1.94	0.13	6.00	3.97	2.19	3.25	1/4-20
2	5.19	1.50	2.125	53	0.50	12	2.44	0.13	7.00	4.91	2.88	4.00	38-16
2.5	6.44	1.75	2.750	69	0.75	19	3.03	0.19	8.38	5.91	3.63	5.00	1/2-13
3	7.69	1.75	3.125	79	1.13	28	3.59	0.19	9.44	6.91	4.25	6.00	5/8-11
3.5	8.88	2.25	3.750	95	1.50	38	4.19	0.25	11.00	7.91	5.00	7.00	5/8-11
4	10.13	2.50	4.250	107	1.50	38	4.75	0.25	12.50	9.25	5.75	8.00	7/8-9
4.5	11.38	2.50	4.750	120	1.50	38	5.31	0.31	13.63	10.38	6.50	9.00	1-8
5	12.63	3.00	5.500	139	2.50	63	6.03	0.31	15.31	11.56	7.31	10.00	1-8
5.5	14.13	1.88	5.875	149	3.00	76	6.91	0.31	16.75	12.81	8.00	11.00	1-8
6	15.13	2.00	6.500	165	4.00	101	7.41	0.31	18.00	14.00	8.81	12.00	1-8
7	17.75	2.25	8.000[1]	203	4.50	114	8.69	0.38	20.75	15.75	10.31	14.00	1 1/4-7

Notes:
- 1 indicates: Maximum bore for square keyway.
- * indicates: Center line to center line of teeth.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.
- Puller Holes are standard on sizes 4 through 7.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FLAFR Type Flex-Rigid All-Metal Labyrinth Seal Couplings

The FLAFR Type coupling consists of one special flex hub, one rigid hub, one sleeve and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- All-metal labyrinth seal
- AISI 4140 alloy steel construction (flex half)
- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides angular misalignment only
- Flex Half coupling interchangeable with industry standards

G

FLAFR Type Performance Data

Size	Nominal Torque in-lb	Nominal Torque Nm	Maximum Speed Unbal RPM	Maximum Speed Bal RPM	ID1 Flex Hubs Max Bore Standard Keyway in	ID1 Flex Hubs Max Bore Standard Keyway mm	ID2 Flex Hubs Rough Stock Bore in	ID2 Flex Hubs Rough Stock Bore mm	ID1 Rigid Hubs Max Bore Standard Keyway in	ID1 Rigid Hubs Max Bore Standard Keyway mm	ID2 Rigid Hubs Rough Stock Bore in	ID2 Rigid Hubs Rough Stock Bore mm	Weight lbs	Weight kg	Max Angular Misalignment Degrees
1.5	15,000	1 700	12,000	18,000	1.625	41	0.38	9	2.813	76	0.75	19	19	8	0.5° Per Gear Mesh
2	35,500	4 000	9,300	13,950	2.125	53	0.50	12	3.500	95	1.00	25	31	14	
2.5	69,300	7 800	7,900	11,850	2.750	69	0.75	19	4.250	114	1.50	38	55	25	
3	118,900	13 400	6,800	10,200	3.125	79	1.13	28	4.875	134	1.75	44	83	38	
3.5	188,500	21 300	6,000	9,000	3.750	95	1.50	38	5.625	150	2.50	63	131	60	
4	283,800	32 100	5,260	7,890	4.250	107	1.50	38	6.500	176	3.00	76	193	88	
4.5	393,800	44 500	4,770	7,155	4.750	120	1.50	38	7.625	202	3.50	88	258	117	
5	551,300	62 300	4,300	6,450	5.500	139	2.50	63	8.750	230	4.00	101	383	174	
5.5	732,500	82 800	3,880	5,820	5.875	149	3.00	76	9.500	260	4.50	114	436	198	
6	952,500	107 600	3,600	5,400	6.500	165	4.00	101	10.500	285	5.00	127	536	243	
7	1,512,500	170 900	3,000	4,500	8.000[1]	203	4.50	114	12.000	320	5.50	139	851	386	

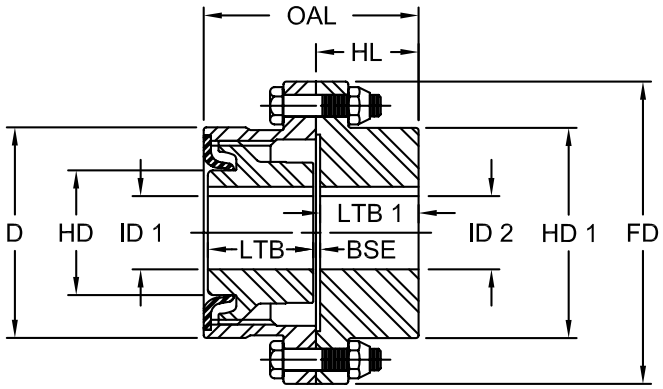
Note: ■ 1 indicates: Maximum bore for square keyway.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FLAFR Type Flex-Rigid All Metal Labyrinth Seal Couplings



FLAFR Type Dimensional Data

Size	OAL	HL	ID1 Flex Hubs Max Bore Standard Keyway		ID2 Flex Hubs Rough Stock Bore		ID1 Rigid Hubs Max Bore Standard Keyway		ID2 Rigid Hubs Rough Stock Bore		LTB	LTB1	BSE	FD	HD1	HD	D	Puller Holes Flex Hub	Puller Holes Rigid Hub
	in	in	in	mm	in	mm	in	mm	in	mm	in	in	in	in	in	in	in	in	in
1.5	4.03	1.94	1.625	41	0.38	9	2.813	76	0.75	19	1.94	1.84	0.16	6.00	3.97	2.19	3.97	1/4-20	None
2	4.97	2.38	2.125	53	0.50	12	3.500	95	1.00	25	2.44	2.28	0.16	7.00	4.86	2.88	4.91	38-16	5/16-18
2.5	6.22	3.00	2.750	69	0.75	19	4.250	114	1.50	38	3.03	2.91	0.19	8.38	5.84	3.63	5.91	1/2-13	3/8-16
3	7.41	3.50	3.125	79	1.13	28	4.875	134	1.75	44	3.59	3.41	0.19	9.44	6.84	4.25	6.91	5/8-11	1/2-13
3.5	8.56	4.06	3.750	95	1.50	38	5.625	150	2.50	63	4.19	3.97	0.22	11.00	7.91	5.00	7.91	5/8-11	1/2-13
4	9.69	4.63	4.250	107	1.50	38	6.500	176	3.00	76	4.75	4.44	0.31	12.50	9.25	5.75	9.25	7/8-9	5/8-11
4.5	10.91	5.22	4.750	120	1.50	38	7.625	202	3.50	88	5.31	5.03	0.34	13.63	10.38	6.50	10.38	1-8	5/8-11
5	12.19	5.88	5.500	139	2.50	63	8.750	230	4.00	101	6.03	5.69	0.34	15.31	11.56	7.31	11.56	1-8	3/4-10
5.5	13.41	6.34	5.875	149	3.00	76	9.500	260	4.50	114	6.91	6.16	0.34	16.75	12.72	8.00	12.81	1-8	1-8
6	15.22	7.66	6.500	165	4.00	101	10.500	285	5.00	127	7.41	7.41	0.41	18.00	14.00	8.81	14.00	1-8	1-8
7	17.88	9.00	8.000[1]	203	4.50	114	12.000	320	5.50	139	8.69	8.69	0.50	20.75	15.75	10.31	15.75	1 1/4-7	1-8

Notes:
- 1 indicates: Maximum bore for square keyway.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.
- Puller Holes are standard on sizes 4 through 7.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FLAMM Type Flex-Flex Mill Motor Couplings

The FLAMM Type coupling consists of one standard FLA flex hub, one universal flex hub bored to an A.I.S.E. frame size, two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

FLAMMFR Type Flex-Rigid Mill Motor Couplings

The FLAMMFR Type coupling consists of a rigid hub, one universal flex hub bored to A.I.S.E. frame size, one sleeve and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.



Features

- Patented Vari-Crown® tooth form for long life on Flex Half
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards
- Long Universal Hub used for A.I.S.E. Motor Frames

G

FLAMM and FLAMMFR Type Performance Data

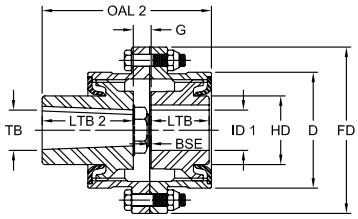
Size	Nominal Torque		Max Speed		ID1 Flex Hub Max Bore Standard Keyway		ID2 Flex Hub Rough Stock Bore		ID1 Rigid Hub Max Bore Standard Keyway		ID2 Rigid Hub Rough Stock Bore		Weight		Parallel Misalignment FLAMM only		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	in	mm	in	mm	lbs	kg	in	mm	
1.5	18,900	2 140	5,500	8,250	1.625	41	0.38	9	2.813	76	solid	solid	24	11	0.28	0.7	0.5° Per Gear Mesh
2	31,500	3 560	5,000	7,500	2.125	53	0.50	12	3.500	95	solid	solid	45	20	0.35	0.9	
2.5	56,700	6 410	4,400	6,600	2.750	69	0.75	19	4.250	114	solid	solid	71	32	0.44	1.1	
3	94,500	10 700	4,000	6,000	3.125	79	1.13	28	4.875	134	solid	solid	104	47	0.52	1.3	
3.5	151,200	17 100	3,500	5,250	3.750	95	1.50	38	5.625	150	solid	solid	151	69	0.61	1.5	
4	220,500	24 900	3,000	4,500	4.250	17	1.50	38	6.500	176	solid	solid	234	86	0.70	1.8	
4.5	302,400	34 200	2,700	4,050	4.750	120	1.50	38	7.625	202	solid	solid	310	141	0.79	2.0	
5	434,700	49 100	2,500	3,750	5.500	139	2.50	63	8.750	230	4.00	101	450	204	0.87	2.2	
5.5	573,300	64 800	2,200	3,300	5.875	149	3.00	76	9.500	260	4.50	114	609	276	0.96	2.4	
6	749,700	84 700	2,100	3,150	6.500	165	4.00	101	10.500	285	5.50	127	764	347	0.105	2.7	
7	1,008,000	113 900	2,000	3,000	8.000[1]	203	4.50	114	12.000	320	5.75	139	1,212	551	0.122	3.1	

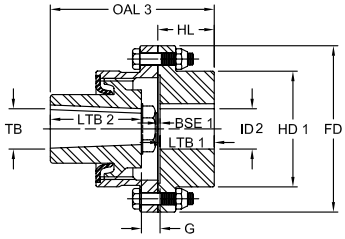
Notes:
- 1 indicates: Maximum bore for square keyway.
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Mill Motor frame size.
- Submit a drawing if available.

Lovejoy / Seir-Bath Flanged Sleeve Gear Couplings

FLAMM and FLAMMFR Type

All Metal Labyrinth Seal Mill Motor Couplings





FLAMM and FLAMMFR Type Dimensional Data

Size	AISE Frame No	OAL 2 in	OAL 3 in	LTB in	LTB1 in	LTB2 in	G in	BSE in	BSE 1 in	FD in	D in	HD in	HD 1 in	TB in	Mill Mtr Hub Kw W in	Mill Mtr Hub Kw H in
1.5	602/802	6.00	5.91	1.94	1.84	3.00	1.06	0.13	0.16	6.00	3.97	2.19	3.97	1.7485 - 1.7495	0.50	0.13
2	602/802	6.50	6.34	2.44	2.28	3.00	1.06	0.13	0.16	7.00	4.91	2.88	4.86	1.7485 - 1.7495	0.50	0.25
	603/803	7.06	6.91			3.50	1.13							1.998 - 1.999	0.50	0.25
	604/804	7.06	6.91			3.50	1.13							1.998 - 1.999	0.50	0.25
2.5	602/802	7.16	7.03	3.03	2.28	3.00	1.13	0.19	0.19	8.38	5.91	3.63	5.84	1.7485 - 1.7495	0.50	0.25
	603/803	7.72	7.59			3.50	1.19							1.998 - 1.999	0.50	0.25
	604/804	7.72	7.59			3.50	1.19							1.998 - 1.999	0.50	0.25
	606/806	8.34	8.22			4.00	1.31							2.498 - 2.499	0.50	0.25
3	602/802	7.72	7.53	3.59	2.91	3.00	1.13	0.19	0.19	9.44	6.91	4.25	6.84	1.7485 - 1.7495	0.50	0.25
	603/803	8.28	8.09			3.50	1.19							1.998 - 1.999	0.50	0.25
	604/804	8.28	8.09			3.50	1.19							1.998 - 1.999	0.50	0.25
	606/806	8.91	8.72			4.00	1.31							2.498 - 2.499	0.50	0.25
	608/808	9.53	9.34			4.50	1.44							2.998 - 2.999	0.75	0.25
	610/810	9.66	9.47			4.50	1.56							3.248 - 3.249	0.75	0.25
3.5	603/803	8.88	8.66	4.19	3.97	3.50	1.19	0.25	0.22	11.00	7.91	5.00	7.91	1.998 - 1.999	0.50	0.25
	604/804	8.88	8.66			3.50	1.19							1.998 - 1.999	0.50	0.25
	606/806	9.50	9.28			4.00	1.31							2.498 - 2.499	0.50	0.25
	608/808	10.13	9.91			4.50	1.44							2.998 - 2.999	0.75	0.25
	610/810	10.25	10.03			4.50	1.56							3.248 - 3.249	0.75	0.25
	612/812	10.94	10.72			5.00	1.75							3.623 - 3.624	0.75	0.25
4	606/806	10.13	9.81	4.75	4.44	4.00	1.38	0.25	0.31	12.50	9.25	5.75	9.25	2.498 - 2.499	0.50	0.25
	608/808	10.75	10.44			4.50	1.50							2.998 - 2.999	0.75	0.25
	610/810	10.88	10.56			4.50	1.63							3.248 - 3.249	0.75	0.25
	612/812	11.50	11.19			5.00	1.75							3.623 - 3.624	0.75	0.25
	614/814	11.63	11.31			5.00	1.88							4.2470 - 4.2485	1.00	0.38
	616/816	12.25	11.94			5.00	2.00							4.6220 - 4.6235	1.25	0.28
4.5	610/810	11.50	11.22	5.31	5.03	4.50	1.69	0.31	0.34	13.63	10.38	6.50	10.38	3.248 - 3.249	0.75	0.25
	612/812	12.12	11.84			5.00	1.81							6.623 - 3.624	0.75	0.25
	614/814	12.25	11.97			5.00	1.94							4.2470 - 4.2485	1.00	0.38
	616/816	12.88	12.59			5.50	2.06							4.6220 - 4.6235	1.25	0.38
	618/818	12.94	12.66			6.00	1.63							4.9970 - 4.9985	1.25	0.50
5	612/812	12.84	12.50	6.03	5.69	5.00	1.81	0.31	0.34	15.31	11.56	7.31	11.56	3.623 - 3.624	0.75	0.25
	614/814	12.97	12.63			5.00	1.94							4.2470 - 4.2485	1.00	0.38
	616/816	13.59	13.25			5.50	2.06							4.6220 - 4.6235	1.25	0.38
	618/818	13.66	13.31			6.00	1.63							4.9970 - 4.9985	1.25	0.50
5.5	616/816	14.47	13.72	6.91	6.16	5.50	2.06	0.31	0.34	16.75	12.81	8.00	12.72	4.6220 - 4.6235	1.25	0.38
	618/818	14.53	13.78			6.00	1.63							4.9970 - 4.9985	1.25	0.50
	620	15.72	14.97			6.75	2.06							5.8720 - 5.8735	1.50	0.75
	622	16.84	16.09			7.25	2.69							6.2470 - 6.2485	1.50	0.56
6	620	16.22	16.22	7.41	7.41	6.75	2.06	0.31	0.41	18.00	14.00	8.81	14.00	5.8720 - 5.8735	1.50	0.75
	622	17.34	17.34			7.25	2.69							6.2470 - 6.2485	1.50	0.75
	624	19.34	19.34			9.25	2.69							6.9970 - 6.9985	1.50	0.50
7	622	18.69	18.69	8.69	8.69	7.25	2.75	0.38	0.50	20.75	15.75	10.31	15.75	6.2470 - 6.2485	1.50	0.75
	624	20.69	20.69			9.25	2.75							6.9970 - 6.9985	1.50	0.75

Notes:
- Bore taper is 1-1/4 inch per foot on diameter.
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1.5 through 5.
- Puller Holes are standard on sizes 4 through 7.
- Puller Holes are available for sizes 1.5 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



FA Type Alloy Steel Flex-Flex Couplings

The FA Type coupling consists of two flex hubs, two sleeves and one accessory kit. This coupling is supplied with exposed bolts as standard. Shrouded bolts are available upon request through size 5.5.

Features

- Molded seals maintain proper lubricant retention during misalignment conditions
- AISI 4140 Alloy Steel Construction
- Patented Vari-Crown® tooth form for long life
- Standard 20° pressure angle
- Heat treated bolts for greater strength
- Corrosion resistant bolts and nuts for ease of maintenance
- Provides parallel, angular misalignment and end float
- Flex Half coupling interchangeable with industry standards

G

FA Type Performance Data

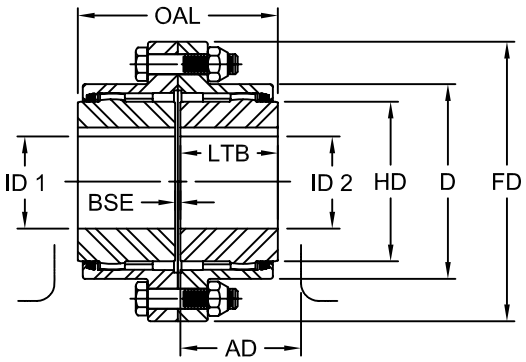
Size	Nominal Torque		Maximum Speed		ID1 - ID2 Max Bore Standard Keyway		ID1 - ID2 Rough Stock Bore		Weight		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	11,300	1 280	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	22,700	2 560	5,500	8,250	2.125	56	0.69	18	19	9	0.060	1.5	
2	39,000	4 410	5,000	7,500	2.75	73	0.94	24	34	15	0.085	2.2	
2.5	69,300	7 930	4,400	6,600	3.25	88	1.44	37	54	25	0.105	2.7	
3	118,000	13 300	4,000	6,000	4.000	107	1.44	37	80	36	0.115	2.9	
3.5	177,000	20 000	3,500	5,250	4.625	124	1.81	46	130	59	0.130	3.3	
4	263,400	29 760	3,000	4,500	5.375	147	2.44	62	190	86	0.150	3.8	
4.5	354,000	40 000	2,700	4,050	6.000	167	3.00	76	250	114	0.175	4.4	
5	508,600	57 470	2,500	3,750	6.500	176	3.00	76	380	173	0.200	5.1	
5.5	670,700	75 790	2,200	3,300	7.500	202	4.00	101	520	236	0.220	5.6	
6	877,100	99 110	2,100	3,150	8.250	225	4.00	101	650	295	0.120	3.0	0.75° Per Gear Mesh
7	1,179,300	133 243	2,000	3,000	9.500	255	5.00	127	950	431	0.135	3.4	

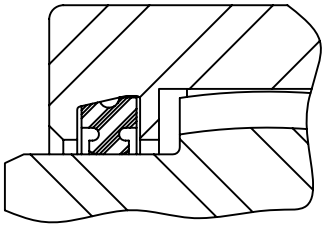
Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horspower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FA Type Alloy Steel Couplings





G

FA Type Dimensional Data

Size	OAL in	AD in	ID1 - ID2 Max Bore Standard Keyway in	ID1 - ID2 Max Bore Standard Keyway mm	ID1 - ID2 Rough Stock Bore in	ID1 - ID2 Rough Stock Bore mm	LTB in	BSE in	FD in	D in	HD in
1	3.50	4.19	1.625	42	0.44	11	1.69	0.13	4.56	3.06	2.31
1.5	4.00	4.75	2.125	56	0.69	18	1.94	0.13	6.00	3.97	3.00
2	5.00	6.00	2.750	73	0.94	24	2.44	0.13	7.00	4.86	4.00
2.5	6.25	7.13	3.250	88	1.44	37	3.03	0.19	8.38	5.84	4.63
3	7.38	8.13	4.000	107	1.44	37	3.59	0.19	9.44	6.84	5.63
3.5	8.63	9.38	4.625	124	1.81	46	4.19	0.25	11.00	7.91	6.50
4	9.75	10.25	5.375	147	2.44	62	4.75	0.25	12.50	9.25	7.50
4.5	10.94	11.50	6.000	167	3.00	76	5.31	0.31	13.63	10.38	8.50
5	12.38	13.00	6.500	176	3.00	76	6.03	0.31	15.31	11.56	9.50
5.5	14.13	14.38	7.500	202	4.00	101	6.91	0.31	16.75	12.72	10.50
6	15.13	17.00	8.250	225	4.00	101	7.41	0.31	18.00	14.00	11.50
7	17.75	20.00	9.500	255	5.00	127	8.69	0.38	20.75	15.75	13.00

Notes:
- Exposed Bolt Design is standard.
- Shrouded Bolt Design available upon request for sizes 1 through 5.5.
- Puller Holes are standard on sizes 4 through 7.
- Puller Holes are available for sizes 1 through 3.5 at an additional charge.
- Interference bores with no set screws are standard unless otherwise specified.
- Inch bore and keyway tolerances conform to AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.

Lovejoy / Sier-Bath Rigid Adjustable Couplings

RA and RAHS Type Rigid Adjustable Couplings

The RA and RAHS couplings are offered in two different styles. Type II coupling consists of two rigid hubs, adjusting nut and split ring and split ring for motor hub. Type IV coupling consists of two rigid hubs, adjusting nut, split ring for motor hub and spacer.



Features

- Axial positioning of the pump impeller in vertical pump applications
- Clearance fit bores allows for easy installation and maintenance for pump and/or motor
- Easily adjustable for vertical clearance
- Removable spacer for easy maintenance
- AISI 1045 Steel
- Stainless Steel coupling also available

G

RA and RAHS Type Performance Data

Size	HP/100 RPM	Nominal Torque in-lb	Thrust Capacity lbs	Motor & Pump Hubs Min Bore in	Motor & Pump Hubs Min Bore mm	Motor & Pump Hubs Max Bore in	Motor & Pump Hubs Max Bore mm
1125	2.7	1,702	4,500	0.44	11	1.125	29
1625	8.0	5,042	11,000	0.63	16	1.625	42
2125	17.9	11,282	31,000	0.73	18	2.125	56
2625	33.8	21,302	31,000	0.88	22	2.625	70
2875	44.4	27,983	31,000	0.88	22	2.875	77
3125	57.0	35,924	41,000	1.19	30	3.125	84
3875	109.0	68,697	73,000	1.25	31	3.875	103
5000	310.0	195,378	160,000	2.38	60	5.000	135
6000	404.0	254,621	300,000	2.88	73	6.000	167
7250	712.0	448,738	300,000	4.00	101	7.250	194
8500	1148.0	723,527	350,000	4.00	101	8.500	225
10500	2164.0	1,363,861	400,000	5.00	127	10.500	276

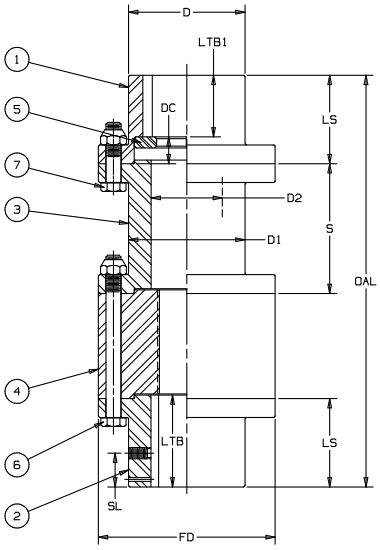
Ordering Information

- Application: Driver and Driven.
- Power: Motor horspower or torque requirement.
- Speed: Motor Speed or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Adjusting nut threads.
- Amount of trust on either or both shafts.
- Submit drawing if available.

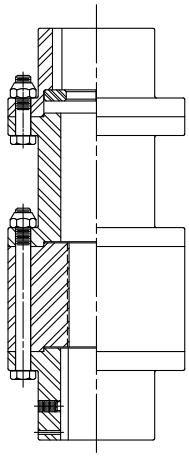
Lovejoy / Sier-Bath Rigid Adjustable Couplings

RA and RAHS Type Rigid Adjustable Couplings

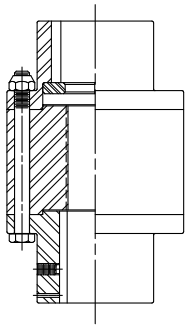
Item	Description
1	Upper Hub - Motor
2	Lower hub - Pump
3	Spacer
4	Adjusting Nut, Threaded
5	Washer, Split
6	RA and RAHS Accessory Kit
7	RA and RAHS Accessory Kit



RA & RAHS SPACER COUPLING
TYPE IV



RA & RAHS COUPLING
TYPE II

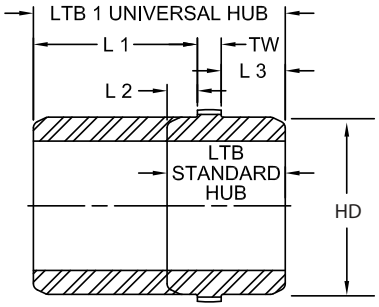


RA and RAHS Type Dimensional Data

Size	STD OAL Type II	STD OAL Type IV	FD	D	LTB	LTB1	LS	DC	N	SL	D1	D2	S Std	S Min	BOLTS Qty	BOLTS Size	B.C. Dia
	in	in	in	in	in	in	in	in	in	in	in	in	in	in			in
1125	5.25	9.56	3.00	1.75	2.13	1.11	2.00	0.89	1.25	0.88	1.75	1.25	4.44	1.63	4	1/4 - 28	2.375
1625	6.00	10.31	4.00	2.50	2.38	1.36	2.25	0.89	1.50	0.88	2.50	1.75	4.44	1.75	6	5/16 - 24	3.250
2125	7.13	11.44	5.13	3.13	2.81	1.80	2.69	0.89	1.75	1.00	3.13	2.25	4.44	2.63	6	1/2 - 20	4.250
2625	9.38	13.69	5.88	3.88	3.06	2.05	2.94	0.89	3.50	1.13	3.88	2.75	4.44	2.63	6	1/2 - 20	4.938
2875	10.38	14.69	6.38	4.38	3.56	2.55	3.44	0.89	3.50	1.38	4.38	3.00	4.44	2.88	6	1/2 - 20	5.438
3125	11.50	15.81	6.75	4.63	4.13	3.11	4.00	0.89	3.50	1.63	4.63	3.25	4.44	2.88	8	1/2 - 20	5.813
3875	12.75	17.06	8.94	5.88	4.50	3.48	4.38	0.89	4.00	1.75	5.88	4.00	4.44	3.13	6	3/4 - 16	7.625
5000	15.00	NO STD	11.75	7.50	6.25	4.63	6.00	1.38	3.00	2.44	7.50	5.13	NO STD	4.50	8	1 - 14	10.000
6000	20.88	NO STD	13.25	9.00	9.50	7.63	9.25	1.63	2.38	4.00	9.00	6.13	NO STD	4.75	10	1 - 14	11.500
7250	25.19	NO STD	15.00	10.75	11.06	8.81	10.75	1.94	3.69	4.75	10.75	7.38	NO STD	7.06	14	1 - 14	13.250
7500	33.56	NO STD	17.25	12.50	15.31	13.06	15.00	1.94	3.56	6.63	12.50	8.63	NO STD	7.31	12	1-1/8 - 12	15.000
10500	40.94	NO STD	20.50	15.00	18.69	16.44	18.38	1.94	4.19	8.13	15.00	10.63	NO STD	8.31	12	1-1/8 - 12	18.000

Notes:
- Clearence fit bores with set screw are standard.
- RA couplings meet standard tolerances.
- Inch bore and keyway tolerances conform to AINSI / AGMA 9002-B04.
- For metric bore and keyway tolerances, consult Lovejoy Engineering Section.
- RAHS couplings conform to API 610 8th edition tolerances.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

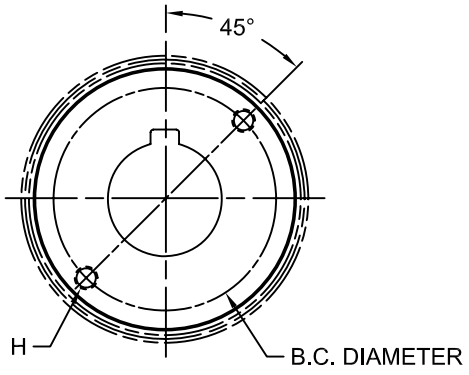


F Type Standard and Universal Hub Dimensions

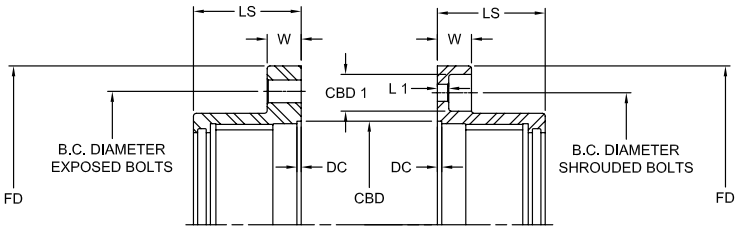
Size	L1 in	L2 in	L3 in	TW in	LTB STD in	LTB1 UNIV HUB in	HD in
1	2.75	0.44	0.75	0.50	1.69	4.00	2.31
1.5	3.13	0.56	0.81	0.56	1.94	4.50	3.00
2	3.63	0.56	1.25	0.63	2.44	5.50	4.00
2.5	4.22	0.75	1.53	0.75	3.03	6.50	4.63
3	4.44	1.03	1.69	0.88	3.59	7.00	5.63
3.5	4.63	1.31	1.88	1.00	4.19	7.50	6.50
4	4.97	1.47	2.16	1.13	4.75	8.25	7.50
4.5	5.19	1.50	2.56	1.25	5.31	9.00	8.50
5	5.06	1.59	2.94	1.50	6.03	9.50	9.50
5.5	5.56	1.97	3.19	1.75	6.91	10.50	10.50

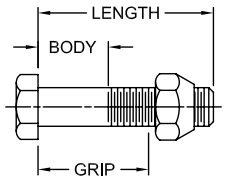
Flex Hubs Puller Bolt Holes

Size	B.C. Diameter in	Tap Size	
		UNC	Depth
1	None	None	None
1.5	None	None	None
2	3.38	5/16 - 18	0.50
2.5	3.94	3/8 - 16	0.56
3	4.94	1/2 - 13	0.75
3.5	5.56	1/2 - 13	0.75
4	6.44	5/8 - 11	0.94
4.5	7.38	5/8 - 11	0.94
5	8.00	3/4 - 10	1.13
5.5	9.00	1 - 8	1.50
6	9.75	1 - 8	1.50
7	11.63	1 - 8	1.50
8	14.00	1 - 8	1.50
9	15.25	1-1/4 - 7	1.88



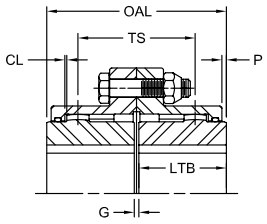
Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



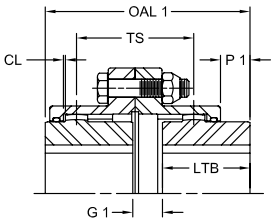


Flange Details

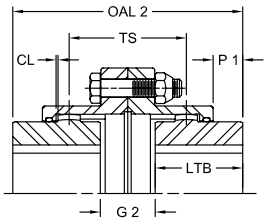
Size	LS in	W in	DC in	FD in	CBD in	B.C. Dia Exposed Bolts in	Exposed Bolts Qty	Exposed Bolts Size	Exposed Bolts Length in	Exposed Bolts Min Body in	Exposed Bolts Max Grip in	B.C. Dia Shrouded Bolts in	Shrouded Bolts Qty	Shrouded Bolts Size	Shrouded Bolts Length in	Shrouded Bolts Min Body in	Shrouded Bolts Max Grip in	CBD 1 in	L1 in
1	1.66	0.56	0.09	4.56	2.812	3.750	6	1/4-28	1-1/2	3/4	1	3.750	6	1/4-28	3/4	9/32	7/16	0.64	0.25
1.5	1.88	0.75	0.09	6.00	3.562	4.812	8	3/8-24	2	15/16	1-1/4	4.812	8	3/8-24	1	9/32	7/16	0.81	0.25
2	2.38	0.75	0.09	7.00	4.562	5.875	6	1/2-20	2-1/4	15/16	1-1/4	5.812	10	3/8-24	1	9/32	7/16	0.81	0.25
2.5	2.88	0.88	0.09	8.38	5.437	7.125	6	5/8-18	2-3/4	7/8	1-1/4	7.000	10	1/2-20	1-1/8	3/8	1/2	1.06	0.31
3	3.31	0.88	0.09	9.44	6.437	8.125	8	5/8-18	2-3/4	7/8	1-1/4	8.000	12	1/2-20	1-1/8	3/8	1/2	1.06	0.31
3.5	3.81	1.13	0.09	11.00	7.375	9.500	8	3/4-16	3-1/4	1	1-7/16	9.281	12	5/8-18	1-3/8	7/16	5/8	1.31	0.38
4	4.25	1.13	0.19	12.50	8.750	11.000	8	3/4-16	3-1/4	1	1-7/16	10.625	14	5/8-18	1-3/8	7/16	5/8	1.31	0.38
4.5	4.81	1.13	0.19	13.63	9.750	12.000	10	3/4-16	3-1/4	1-1/4	1-7/16	11.750	14	5/8-18	1-3/8	7/16	5/8	1.31	0.38
5	5.50	1.50	0.19	15.31	10.750	13.500	8	7/8-14	4-1/4	1-3/4	2-1/4	13.188	14	3/4-16	1-7/8	5/8	1	1.56	0.56
5.5	6.00	1.50	0.19	16.75	12.125	14.500	14	7/8-14	4-1/4	1-3/4	2-1/4	14.437	16	3/4-16	1-7/8	5/8	1	1.56	0.56
6	6.69	1.00	0.25	18.00	13.000	15.750	14	7/8-14	3-1/2	23/32	1-1/4	EXPOSED BOLTS ONLY							
7	7.38	1.13	0.31	20.75	14.625	18.250	16	1-14	3-1/2	5/8	1-1/4								
8	8.38	1.31	0.31	23.75	17.750	20.750	16	1-1/8-12	—	—	—								
9	9.00	1.50	0.31	26.00	19.000	23.250	18	1-1/4-12	—	—	—								



Normal Hub Arrangement



1 Hub Reversed



2 Hubs Reversed

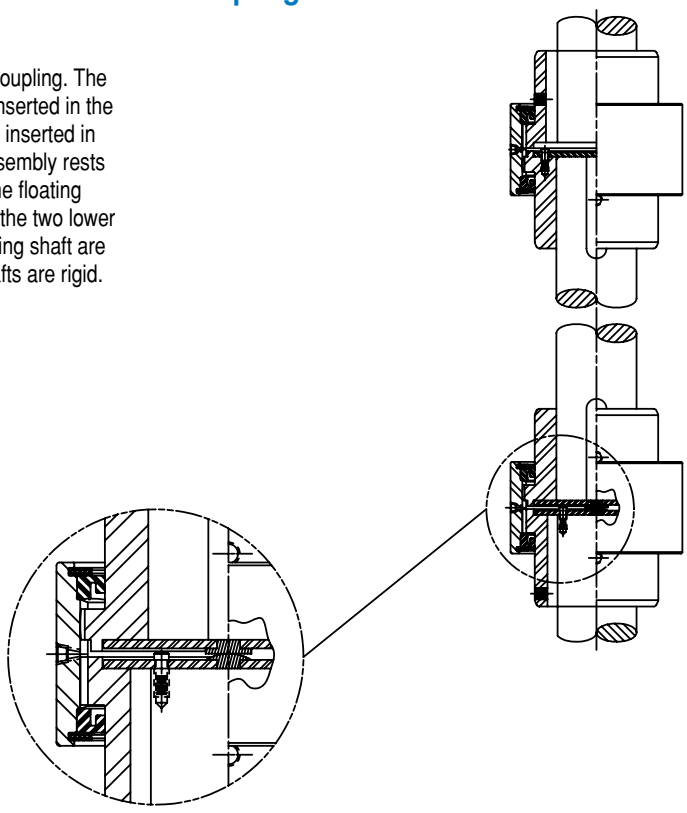
Minimum and Maximum Hub Gaps

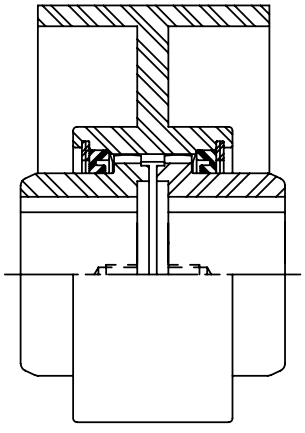
Size	OAL in	OAL1 in	OAL2 in	TS in	CL in	P in	P1 in	LTB in	G in	G1 in	G2 in
1	3.50	3.81	4.13	2.13	0.06	0.09	0.41	1.69	0.13	0.44	0.75
1.5	4.00	4.25	4.50	2.31	0.06	0.13	0.38	1.94	0.13	0.38	0.63
2	5.00	5.81	6.38	3.25	0.06	0.13	0.81	2.44	0.13	0.81	1.50
2.5	6.25	7.03	7.81	4.00	0.09	0.25	1.03	3.03	0.19	0.97	1.75
3	7.38	8.03	8.69	4.44	0.09	0.38	1.03	3.59	0.19	0.84	1.50
3.5	8.63	9.19	9.75	5.00	0.09	0.50	1.06	4.19	0.25	0.81	1.38
4	9.75	10.44	11.13	5.69	0.13	0.63	1.31	4.75	0.25	0.94	1.63
4.5	10.94	12.00	13.06	6.69	0.13	0.66	1.72	5.31	0.31	1.38	2.44
5	12.38	13.72	15.06	7.69	0.19	0.69	2.03	6.03	0.31	1.66	3.00
5.5	14.13	15.34	16.56	8.44	0.19	1.06	2.38	6.91	0.31	1.53	2.75
6	15.13	16.53	17.94	9.13	0.16	0.88	2.28	7.41	0.31	1.72	3.13
7	17.75	19.06	20.38	10.38	0.19	1.50	2.81	8.69	0.38	1.69	3.00
8	22.38	23.13	23.88	12.13	0.19	2.81	3.56	11.00	0.38	1.13	1.88
9	23.50	24.25	25.00	12.75	0.38	2.75	3.50	11.50	0.50	1.25	2.00

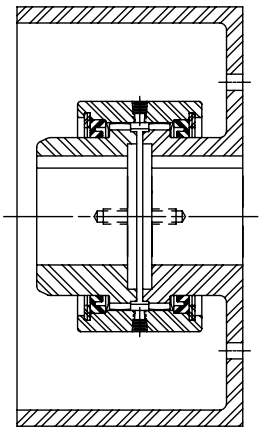
Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

Vertical Floating Shaft Type

The upper coupling is a Standard Vertical Type coupling. The lower coupling has a hardened crowned button inserted in the plate of the lower hub and a hardened flat button inserted in the plate of the upper hub. The entire floating assembly rests on these two buttons which carry the weight of the floating assembly thus maintaining the spacing between the two lower hubs allowing for flexibility. The hubs on the floating shaft are flexible and the hubs of the driver and driven shafts are rigid.

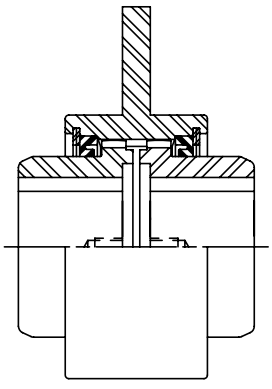


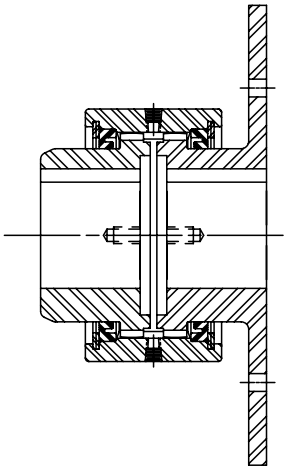




Brakedrum Type

Two different designs of brakedrum couplings are illustrated. One shows the brakedrum as an intergal part of the sleeve and the two hybs are standard. The other design utilizes one standard hub and a standard sleeve with the brakedrum as part of a special hub.

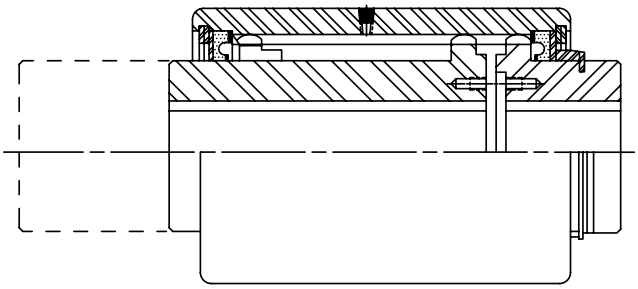




Brake Disc Type

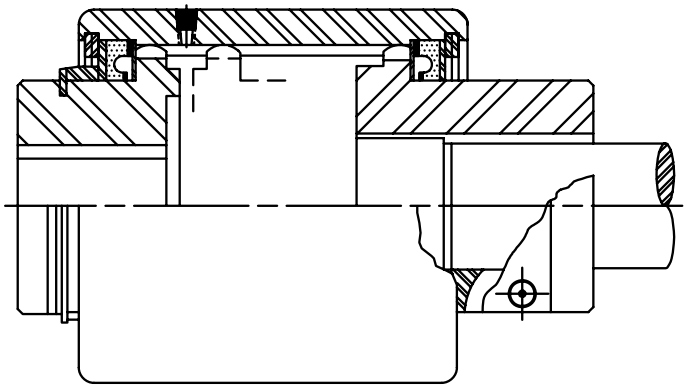
Two different designs of brake disc couplings are illustrated. One shows the brake disc as an intergal part of the sleeve and the two hybs are standard. The other design utilizes one standard hub and a standard sleeve with the brakedrum as part of a special hub.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings



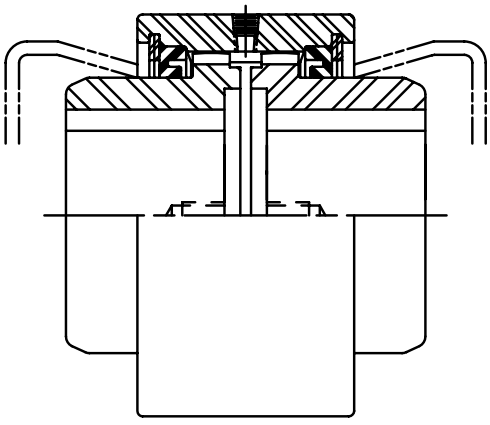
Sliding Hub Type

The sleeve is longer than standard and is designed to allow for a predetermined amount of axial travel on one shaft. The short hub is secured to the sleeve by means of a spacer washer and snap ring which prevents travel. This type is also manufactured to allow for travel of both hubs in the sleeve. This coupling is also available with a rigid type short hub.



Jordan Type

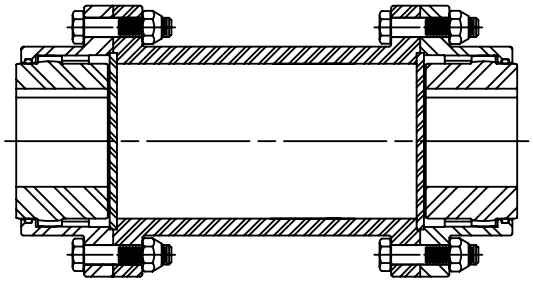
Used on Jordan machines and refiners, this design is similar to the Sliding Hub Type coupling except the long hub is split and secured to the shaft with a bolt. This permits for quick axial adjustment of the Jordan shafts in the hub.



Continuous Lubricated Type

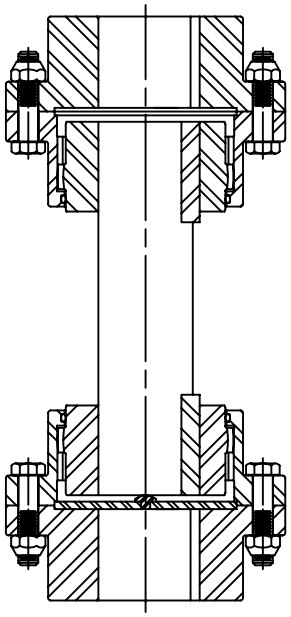
This coupling is adapted from our Standard Type coupling, except the standard seals have been replaced with the special spacer washers. These washers have a snug fit in the sleeve with sufficient clearance on the hub OD to allow for injection of a continuous stream of lubricant.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



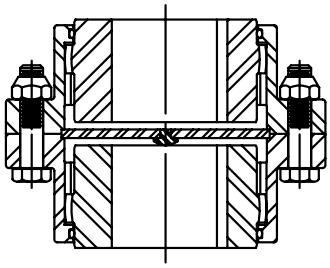
Limited End Float Spacer Type

The addition of plates restricts axial travel to the drive or driven shaft. The spacer makes it possible to remove the hubs from either shaft without disturbing the connected units.



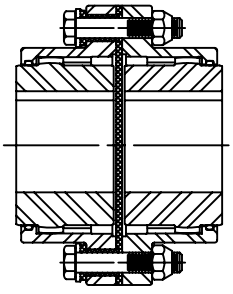
Vertical Floating Shaft Type

The lower coupling has a hardened crowned button inserted in the plate of the lower hub. The entire floating assembly rest on the button. Optional construction of the upper coupling would be a rigid hub on the floating shaft with a flex half on the top.



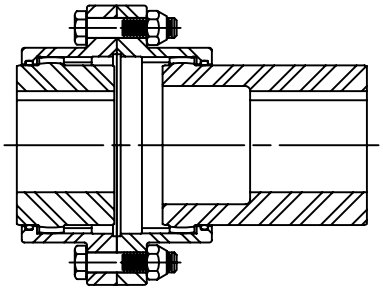
Vertical Type

This coupling has the same horsepower, RPM and misalignment capabilities as the standard couplings of corresponding sizes. A plate with a hardened crowned button rests on the lower shaft which supports the weight of the sleeve.



Insulated Type

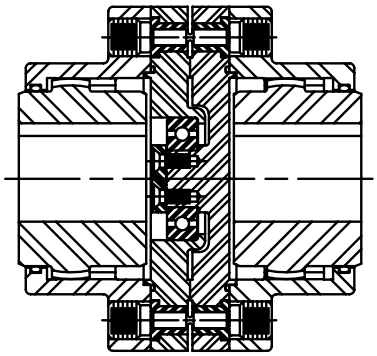
Use of a non-metallic material between flanges and around the bolts prevents any stray currents from one shaft to the other.



Jordan Type

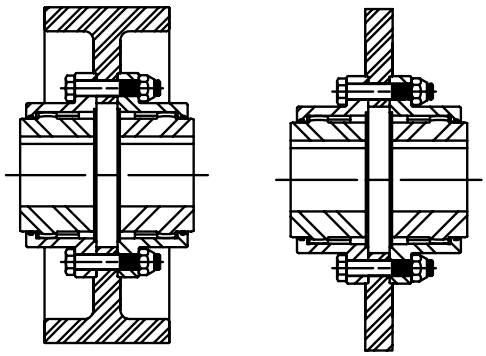
Used on Jordan machines and refiners, this design is similar to the slide type coupling except the long hub is split and secured to the shaft with a bolt clamp. This permits quick axial adjustment of the Jordan shafts i this hub.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



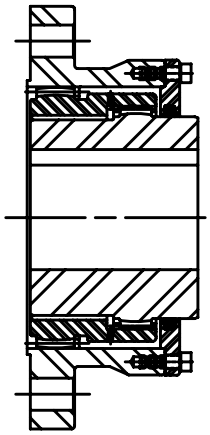
Engineered Shear Pin Type

Shear pin couplings are primarily used to limit transmitted torque to a redetermined load. THis in turn disconnectes the driver and driven shafts if torque exceeds the specified limits. They are especially suited to protect equipment when jams occur. Components are re-useable after pins shear. The coupling will retain lubricant for a short period to allow equipment to be shut down.



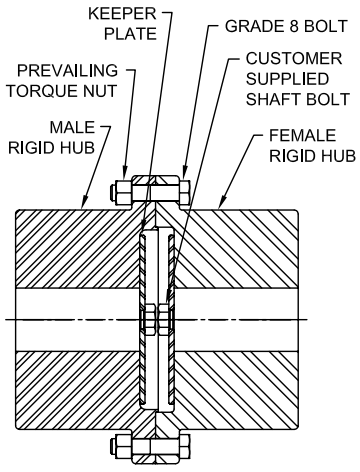
Brakewheel and Brake Disc Type

Replaceable brakewheel and brake disc piloted on the outside diameter of a standard sleeve and/or rigid hub. Offers a choice of applying braking effort to the load or driving motor.



Double Engagement Half Gear Type

Both internal and external teeth in a single sleeve. Can be bolted to a rotating flywheel, shaft or drum to connect driver or driven machine with a shaft extension. This coupling has the same features, ratings and misalignment capability as the standard group of couplings.



Rigid Alloy Steel FARR Type

Male/Female piloted rigid coupling coupling with keeper plates. This coupling is used when a rigid connection is required between the low speed shaft of a gearbox and the head shaft of a conveyor, bucket elevator, mixer or any overhung or suspended load.

Standard Flanged Sleeve Maximum Bores - Inches and Millimeters

Flex Hub Maximum Bores - Interference Fit

	Inch						Metric		
	Max Bore	1 Square Keyway		Max Bore	1 Rectangular Keyway		Max Bore	Metric Keyway	
Size	in	Width in	Depth in	in	Width in	Depth in	mm	Width mm	Depth mm
1	1.625	0.375	0.188	1.750	0.375	0.125	42	12	3.3
1.5	2.125	0.500	0.250	2.250	0.500	0.188	56	16	4.3
2	2.750	0.625	0.313	2.875	0.750	0.250	73	20	4.9
2.5	3.250	0.750	0.375	3.375	0.875	0.313	85	25	5.4
3	4.000	1.000	0.500	4.250	1.000	0.375	107	28	6.4
3.5	4.625	1.250	0.625	4.875	1.250	0.438	125	32	7.4
4	5.375	1.250	0.625	5.625	1.500	0.500	145	36	8.4
4.5	6.000	1.500	0.750	6.500	1.500	0.500	165	40	9.4
5	6.500	1.500	0.750	7.000	1.750	0.750	180	45	10.4
5.5	7.250	1.750	0.875	7.500	1.750	0.750	200	45	10.4
6	8.000	2.000	1.000	8.250	2.000	0.750	225	50	11.4
7	9.000	2.000	1.000	9.500	2.500	0.875	255	56	12.4
8	11.000	2.500	1.250	11.500	3.000	1.000	310	70	14.4
9	12.000	3.000	1.500	12.500	3.000	1.000	340	80	15.4
10				13.750	3.500	1.250	355	80	15.4
11				15.500	4.000	1.500	410	90	17.4
12				17.000	4.000	1.500	435	90	17.4
13				18.250	5.000	1.750	480	100	19.5
14				19.500	5.000	1.750			
15				21.000	5.000	1.750			
16				22.500	6.000	2.000			
18				25.500	6.000	2.000			
20				28.000	7.000	2.500			
22				31.000	8.000	2.750			
24				34.000	9.000	3.000			
26				37.000	9.000	3.000			
28				40.000	10.000	3.500			
30				42.000	10.000	3.500			

Notes: ■ Rectangular (reduced) keyways preferred for bores above 6-1/2 inches.
■ Maximum bores may be reduced for clearance fit bore applications.

Rigid Hub Maximum Bores – Interference Fit

Rigid Hub Maximum Bores - Interference Fit

	Inch						Metric		
	Max Bore	1 Square Keyway		Max Bore	1 Rectangular Keyway		Max Bore	Metric Keyway	
		Width	Depth		Width	Depth		Width	Depth
Size	in	in	in	in	in	in	mm	mm	mm
1	2.125	0.500	0.250	2.250	0.500	0.188	56	16	4.3
1.5	2.813	0.750	0.375	3.062	0.750	0.250	76	22	5.4
2	3.500	0.875	0.438	3.750	0.875	0.313	95	25	5.4
2.5	4.250	1.000	0.500	4.500	1.000	0.375	114	32	7.4
3	4.875	1.250	0.625	5.250	1.250	0.438	134	36	8.4
3.5	5.625	1.500	0.750	5.875	1.500	0.500	150	36	8.4
4	6.500	1.500	0.750	6.500	1.500	0.500	176	45	10.4
4.5	7.375	1.750	0.875	7.625	2.000	0.750	202	50	11.4
5	8.375	2.000	1.000	8.750	2.000	0.750	230	50	11.4
5.5	9.250	2.500	1.250	9.500	2.500	0.875	260	56	12.4
6	10.125	2.500	1.250	10.500	2.500	0.875	285	63	12.4
7	11.250	3.000	1.500	12.000	3.000	1.000	320	70	14.4
8	13.500	3.500	1.750	14.000	3.500	1.250	375	80	15.4
9	15.000	3.500	1.750	15.500	4.000	1.500	415	90	17.4
10				17.000	4.000	1.500	455	100	19.5
11				18.500	5.000	1.750	500	100	19.5
12				20.250	5.000	1.750			
13				22.000	5.000	1.750			
14				23.500	6.000	2.000			
15				24.250	6.000	2.000			
16				26.000	6.000	2.000			
18				28.000	7.000	2.500			
20				31.000	8.000	2.750			
22				34.000	8.000	2.750			
24				37.000	9.000	3.000			
26				40.000	10.000	3.500			
28				43.000	11.000	3.750			
30				46.000	11.000	3.750			

Notes: ■ Rectangular (reduced) keyways preferred for bores above 6-1/2 inches.
■ Maximum bores may be reduced for clearance fit bore applications.

G

Why Coupling Grease?

Adequate lubrication is essential for satisfactory gear coupling operation. Lovejoy Gear Coupling Grease is specifically designed for gear coupling applications to increase coupling life while drastically reducing maintenance time. Its high viscosity base oil and tackifier combine to keep the grease in place and prevent separation and it is in complete compliance with NSI/AGMA 9001-B97 lubrication recommendations.

Lovejoy Coupling Grease is dark brown in color and manufactured with a lithium soap/polymer thickener, which has superior resistance to oil separation when subjected to high centrifugal forces normally found in couplings. Bearing or general purpose greases tend to separate and lose effectiveness due to high centrifugal forces on the various ingredients at high rotational speeds. These high centrifugal forces encountered in couplings separate the base oil from the thickeners. Heavy thickeners, which have no lubrication qualities, accumulate in the gear tooth mesh area resulting in premature coupling failure. Lovejoy Gear Coupling Grease is designed to highly resistant to centrifugal separation of the oil and thickener, which allows the lubricant to be used for a relatively long period of time.

One of the secrets to the success of Lovejoy Gear Coupling Grease is the variable consistency throughout the working cycle of the application. The consistency of our gear coupling grease changes with the operating conditions. Working of the lubricant under actual service conditions causes the grease to become semi-fluid, functionally solash lubricating the wear surfaces of the coupling. As the grease cools, it returns to the original consistency, thereby preventing leakage.

Lovejoy Gear Coupling Grease is available from stock in 14 oz. cartridges, 1 lb. and 5 lb. cans.

Features

- Minimizing of coupling wear
- Resistance to water washing
- Corrosion and rust protection
- High load carrying capabilities
- Extended relubrication frequency
- Use at temperatures up to 325° F
- Staying in place under high speeds
- Resistance to centrifugal separation
- Reduction in down time & maintenance cost

Lovejoy Gear Coupling Grease has a consistency which overlaps the NLGI grades 0 and 1. This grease is specially formulated with a lithium/polymer thickener and fortified with corrosion, oxidation, extreme pressure, and a effective rust inhibitor additive package.



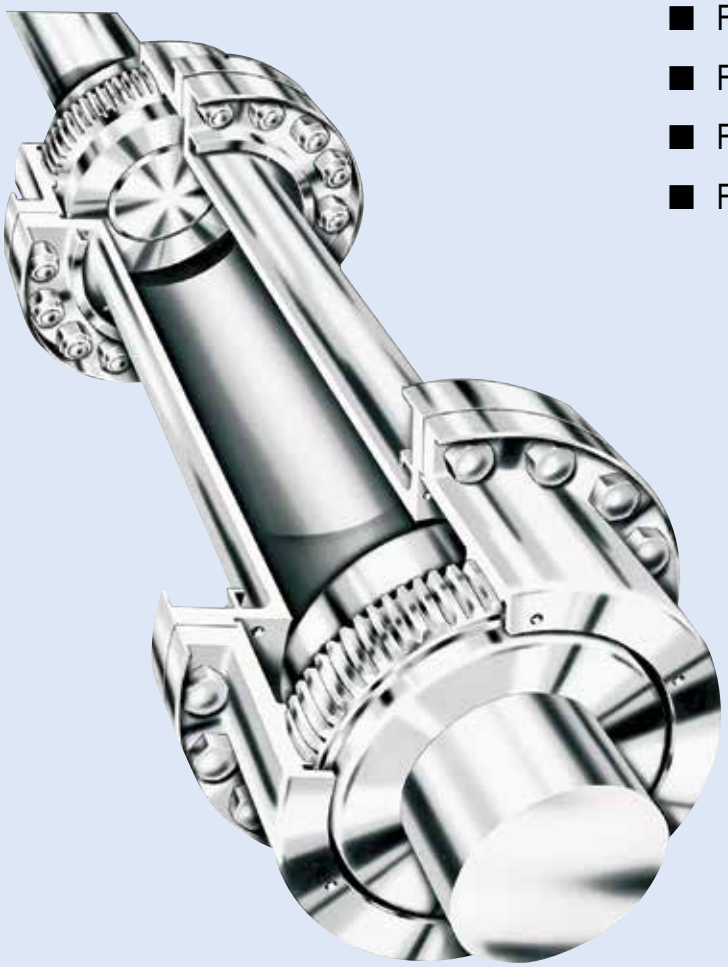
Typical Properties of Lovejoy Gear Coupling Grease

NLGI Grade	0/1
Appearance	Dark Brown, Tacky
Lithium Soap / Polymer, wt%	10.0
Viscosity	
@ 40° C, cST	>3200
@ 100° C, cSt	>50
Penetration. Dmm	
Worked, 60x	350
Worked, 10,000, % Change	10
Dropping Point, ° F	320° (160° C)
Centrifugal Oil Separation, vol%	None
Water Spray-Off, wt%	>3
Rust Protection	Pass
Timken, OK Load, lbs	40+
Four-Bal EP	
Load Wear Index, kgf	68
Weld Point, kgf	400
Four-Ball Wear, mm	
1 hr, 75° C, 1200 RPM, 40 kgf	0.4
Guide to Usable Temperature	
Min, ° F	Below -20° (-29° C)
Continuous Service, Max, ° F	250° (121° C)
Short Exposure, Max, ° F	325° (163° C)

High Performance Gear

In This Section:

- FHS Type - High Speed Close Coupled
- FHSA Type - High Speed Standard
- FHSAA Type - High Speed Precision
- FHSPAA Type - High Speed Ultra Precision
- FHSMA Type - High Speed Marine
- FAC Type - High Speed Centrifugal Pump



High Performance Gear

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

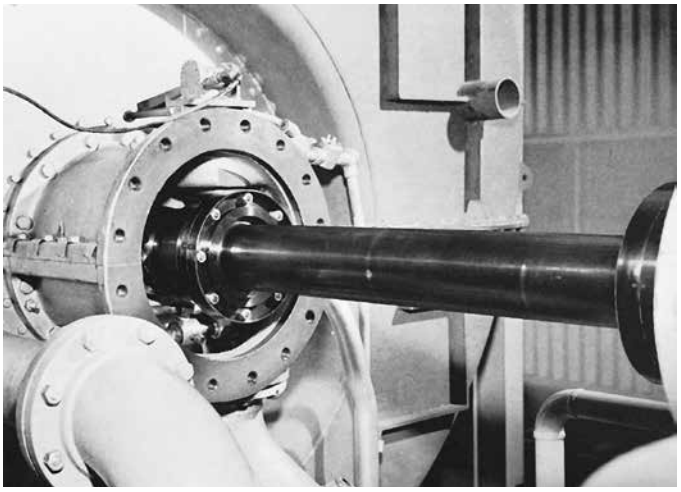
High Performance Gear

Table of Contents

	Running Page No.	Section Page No.
Overview	196	HP-4
FHS Type > Performance Data	198	HP-6
FHS Type > Dimensional Data	199	HP-7
FHSA Type > Performance Data	200	HP-8
FHSA Type > Dimensional Data	201	HP-9
FHSAA Type > Performance Data	202	HP-10
FHSAA Type > Dimensional Data	203	HP-11
FHSPAA Type > Performance Data	204	HP-12
FHSPAA Type > Dimensional Data	205	HP-13
FHSMA Type > Performance Data	206	HP-14
FHSMA Type > Dimensional Data	207	HP-15
FAC Type > Performance Data	208	HP-16
FAC Type > Dimensional Data	209	HP-17
High Speed Standard Couplings > Overview	210	HP-18
High Speed Special Couplings > Overview	211	HP-19
High Speed Spindle Couplings > Overview	212	HP-20

Lovejoy High Speed and Engineered Special Gear Couplings

The High Performance group of gear couplings consists of coupling designs that require additional engineering. While standard components do exist, the unique requirements of individual applications will customize a coupling design.



Lovejoy / Sier-Bath High Speed Couplings

The Lovejoy / Sier-Bath F Series High Speed gear couplings are designed for exacting high speed, high efficiency performance beyond the ranges and limits of standard coupling specifications. Typical applications include high speed centrifugal and axial flow compressors, gas turbines, steam turbines, test stands, etc.

High speed couplings are dynamically balanced as assemblies and match marked. Fasteners are weigh balanced in sets. Major diameter fit gear teeth, precision machined tolerances, and high quality components help to reduce the potential unbalance in the coupling assembly.

Features

- Dynamically balanced
- Fasteners are weigh balanced
- Body fitted bolts in reamed holes
- Precision manufactured close tolerances
- Piloted gear fit
- Hubs, sleeves, and spacers are alloy steel

HP

Lovejoy Engineered Couplings

Our other product lines of engineered couplings are designed to suit special applications. Many of the components are standardized, but the special requirements of certain applications will customize each design. These couplings require specific customer input to properly design the coupling to suit the application.

Features

- Custom design assistance
- Components are standardized, yet design flexibility allows for modifications to specific applications
- Available in sizes from 1 through 30 depending on model

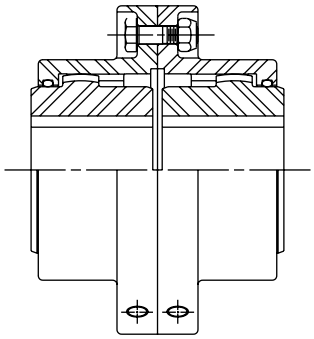
WARNING

You must refer to page HP-2 (Page 194) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Lovejoy / Sier-Bath F Type High Speed Couplings

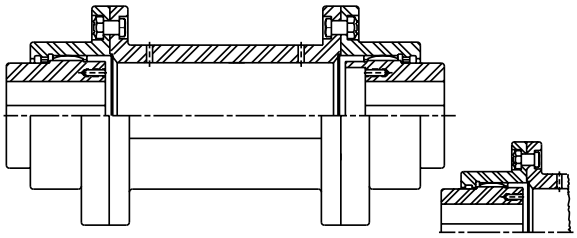
FHS High Speed Close Coupled

This coupling is made from AISI 1045 steel. The design is similar to the standard “F” except the components are machined to tighter tolerances and controlled fits to allow higher operating speeds. The maximum speed is for assembly balanced couplings. Component balancing is available and may result in lower maximum speeds.



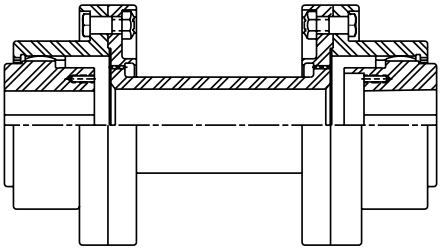
FHSA High Speed Standard

The Lovejoy / Sier-Bath High Speed Standard gear couplings are made of alloy steel with a core hardness of R_C30-35, and they are magnetic particle inspected. They are precision manufactured with ground bores and concentricity for dynamic stability. In addition, gear couplings are dynamically balanced, have a piloted gear fit, and have body-fitted bolts in reamed holes. For nitrided gear teeth, specify Class AN and a surface hardness of 85.5 minimum on the Rockwell 15N scale.



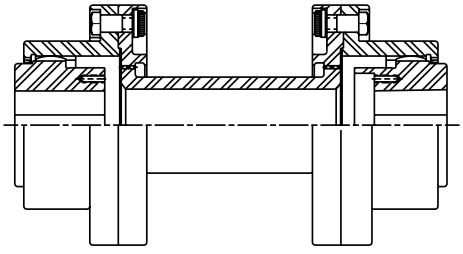
FHSAA High Speed Precision

The Lovejoy / Sier-Bath High Speed Precision gear couplings are made of alloy steel with a core hardness of R_C 30-35 and are magnetic particle inspected. They have close tolerances and precision manufactured mating surfaces with bores ground to accurate tolerances. In addition, gear couplings are dynamically balanced, have a piloted gear fit, and have body-fitted bolts in reamed holes. The low overhung moment reduces bearing loads. They also have low moment of inertia and are extremely light weight. Balancing bands will be included, if required. For nitrided gear teeth, specify Class AAN and a surface hardness of 85.5 minimum on the Rockwell 15N scale.



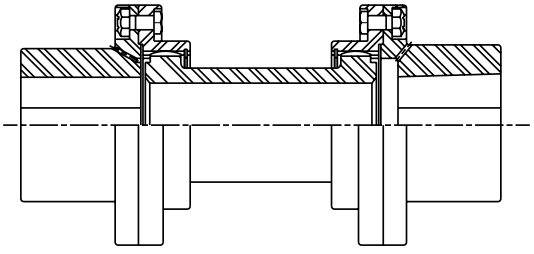
FHSPAA High Speed Ultra Precision

The Lovejoy / Sier-Bath High Speed Ultra Precision gear couplings are made of Nitralloy 135 modified with a core hardness of R_C 32-36 and they are magnetic particle inspected. They have close tolerances and precision manufactured mating surfaces with bores precision-ground for extremely high accuracy. In addition, they have body-fitted bolts with reamed holes. These gear couplings are dynamically balanced and have a piloted gear fit to insure balance integrity during operation. The low overhung moment reduces bearing loads. They also have low moment of inertia and are extremely lightweight. Balancing bands will be included, if required. For nitrided gear teeth, specify Class PAAN and a surface hardness of 90 minimum on the Rockwell 15N scale.



FHSMA High Speed Marine

The Lovejoy / Sier-Bath High Speed Marine gear couplings have a core hardness of R_C 30-35 and are magnetic particle inspected. They are precision manufactured with ground bores and close concentricity for dynamic stability. These couplings are dynamically balanced, have piloted gear fit, and have body-fitted bolts in reamed holes. They also have a larger shaft capacity. For nitrided gear teeth, specify Class MAN and a surface hardness of 85.5 minimum on the Rockwell 15N scale.



HP

Lovejoy / Sier-Bath High Speed Gear Couplings

FHS Type High Speed Close Coupled Couplings

This coupling is made from AISI 4140 steel. The design is similar to the standard F except the components are machined to tighter tolerances and controlled fits to allow higher operating speeds. The maximum speed is for assembly balanced couplings. Component balance is available and may result in lower maximum speeds.

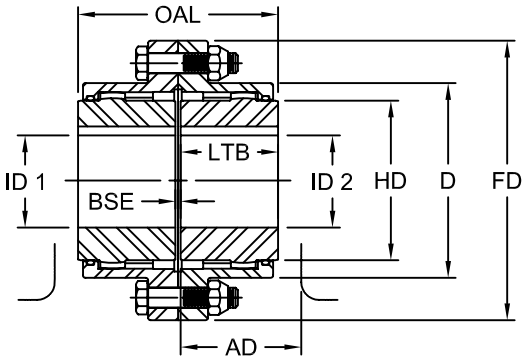
FHS Type High Speed Close Coupled Performance Data

Size	Torque in-lb x 10^3	Torque Nm x 10^3	Max Speed[1] RPM	ID1 - ID2 Max Bore Square Keyway in	Standard Keyway in	Metric Keyway mm	Weight lb	Weight kg	Inertia WR^2 lb-in^2	Inertia GD^2 Nm^2	Torsional Stiffness in-lb/rad x 10^6	Torsional Stiffness Nm/rad x 10^6	Parallel Misalignment in	Parallel Misalignment mm	Max Angular Misalignment Degrees
1	7.6	0.86	14,200	1.625	1.750	42	9	4	18.9	0.2	0.91	0.10	0.003	0.7	
1.5	18.9	2.14	10,800	2.125	2.250	56	19	9	64.9	0.7	3.58	0.40	0.030	0.8	
2	31.5	3.56	9,300	2.750	2.875	73	34	15	149.8	1.7	8.33	0.94	0.043	1.1	
2.5	56.7	6.41	7,800	3.250	3.375	85	54	25	339.8	3.9	15.61	1.76	0.052	1.3	
3	94.5	10.68	6,900	4.000	4.250	107	80	35	656.4	7.5	28.04	3.17	0.058	1.5	
3.5	151.2	17.08	5,900	4.625	4.875	125	130	59	1,482.6	17.0	43.99	4.97	0.066	1.7	3/4°
4	220.5	24.92	5,200	5.375	5.625	145	190	86	2,722.0	31.2	66.09	7.47	0.075	1.9	
4.5	302.4	34.17	4,800	6.000	6.500	165	250	114	4,285.7	49.2	93.31	10.54	0.088	2.2	
5	434.7	49.12	4,200	6.500	7.000	180	380	173	8,262.5	94.8	128.00	14.46	0.101	2.6	
5.5	573.3	64.78	3,900	7.250	7.500	200	520	236	12,779.9	146.7	161.00	18.19	0.111	2.8	
6	749.7	84.71	3,600	8.000	8.250	225	650	295	17,258.7	198.1	222.00	25.08	0.080	2.0	
7	1,008.0	113.90	3,100	9.000	9.500	255	950	431	32,162.1	369.2	341.00	38.53	0.091	2.3	1/2°

Notes:
- 1 indicates: Maximum Speed is based on safe rim stresses and assembly balanced.
- Angular misalignment is reduced to +/- 3/4° per gear mesh for sizes 1 thru 5.5 and +/- 1/2° per gear mesh for sizes 6 and 7.
- Weight and inertia are based on maximum bore. Torsional Stiffness is based on nominal bore equal to coupling size.

Lovejoy / Sier-Bath High Speed Gear Couplings

FHS Type High Speed Close Coupled Couplings



FHS Type Dimensional Data

Size	OAL	ID1 - ID2 Max Bore Square Keyway	ID1 - ID2 Max Bore Standard Keyway	ID1 - ID2 Max Bore Metric Keyway	LTB	BSE	AD	FD	D	HD
	in	in	in	mm	in	in	in	in	in	in
1	3.50	1.625	1.750	42	1.69	0.13	2.04	4.56	3.06	2.31
1.5	4.00	2.125	2.250	56	1.94	0.13	2.32	6.00	3.97	3.00
2	5.00	2.750	2.875	73	2.44	0.13	2.94	7.00	4.86	4.00
2.5	6.25	3.250	3.375	85	3.03	0.19	3.47	8.38	5.84	4.63
3	7.38	4.000	4.250	107	3.59	0.19	3.97	9.44	6.84	5.63
3.5	8.63	4.625	4.875	125	4.19	0.25	4.57	11.00	7.91	6.50
4	9.75	5.375	5.625	145	4.75	0.25	5.00	12.50	9.25	7.50
4.5	10.94	6.000	6.500	165	5.31	0.31	5.50	13.63	10.38	8.50
5	12.38	6.500	7.000	180	6.03	0.31	6.34	15.31	11.56	9.50
5.5	14.13	7.250	7.500	200	6.91	0.31	7.04	16.75	12.72	10.50
6	15.13	8.000	8.250	225	7.41	0.31	8.35	18.00	14.00	11.50
7	17.75	9.000	9.500	255	8.69	0.38	9.82	20.75	15.75	13.00

Note: ■ Shrouded bolt available on sizes 1 – 5 and recommended for speeds greater than 3600 RPM.

HP

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSA Type High Speed Standard

The High Speed Standard gear couplings are made of alloy steel with a core hardness of HRC 30-35 and are magnetic particle inspected. They are precision manufactured with ground bores and concentricity for dynamic stability. In addition, the gear couplings are dynamically balanced, have a piloted gear fit and have body fitted bolts in reamed holes. For nitrided gear teeth specify Class AN and a surface hardness of 85.5 minimum on the Rockwell 15N scale.

FHSA Type High Speed Standard Performance Data

Size	Torque in-lb x 10^3	Torque Nm x 10^3	Max Speed RPM	ID1 - ID2 Max Bore Square Keyway in	ID1 - ID2 Max Bore Metric Keyway mm	Nominal BSE in	Nominal BSE mm	Weight lb	Weight kg	Inertia WR^2 lb-in^2	Inertia GD^2 Nm^2	Torsional Stiffness in-lb/rad x 10^6	Torsional Stiffness Nm/rad x 10^6	Max Angular Misalignment Degrees
1.5	12.6	1.42	18,000	1.5	38	5	127.00	12.0	5.4	25.7	0.3	2.0	0.23	
2	22.6	2.55	17,000	2.0	52	5	127.00	20.1	9.1	85.4	1.0	5.1	0.58	
2.5	46.6	5.27	16,000	2.5	65	5	127.00	35.2	16.0	163.5	1.9	10.8	1.22	
3	68.0	7.68	15,000	3.0	81	5	127.00	56.0	25.4	325.0	3.7	18.3	2.07	
3.5	135.5	15.31	14,000	3.5	95	5	127.00	77.1	35.0	706.4	8.1	31.0	3.50	1/2°
4	209.9	23.72	13,000	4.0	107	7	177.80	128.7	58.4	1,573.9	18.1	43.7	4.94	
4.5	310.7	35.11	11,000	4.5	114	7	177.80	184.8	83.8	2,997.3	34.4	68.9	7.79	
5	441.0	49.83	10,000	5.0	137	7	177.80	242.6	110.0	4,639.7	53.3	89.7	10.14	
5.5	590.5	66.72	9,600	5.5	150	8	203.20	362.1	164.2	8,758.4	100.5	120.0	13.56	
6	731.0	82.60	9,000	6.0	162	8	203.20	470.1	231.2	13,797.7	158.4	157.3	17.77	

FHSA Type High Speed Standard Performance Data

Size	Weight Hub lb	Weight Sleeve lb	Weight Spacer Per Dim S lb	Weight Bolts & Nuts Per Flange lb	Weight Complete Cplg Per Dim BSE lb	Weight Spacer Body Per Inch lb	WR^2 Hub lb-in^2	WR^2 Sleeve lb-in^2	WR^2 Spacer Per Dim S lb-in^2	WR^2 Complete Cplg Per Dim BSE lb-in^2	WR^2 Spacer Body Per Inch lb-in^2	Torsional Stiffness Spacer Cplg Per BSE (ksi) in-lb/rad x 10^6	Torsional Stiffness Spacer Body Per Inch (ki) in-lb/rad x 10^6
1.5	1.48	1.84	5.10	0.13	12.00	0.71	1.4	5.2	12.5	25.7	1.3	2.0	55
2	2.48	2.83	7.76	0.51	20.12	0.95	4.9	18.9	37.8	85.4	2.8	5.1	120
2.5	6.23	4.83	11.78	0.63	35.16	1.46	17.2	27.1	74.9	163.5	70.0	10.8	298
3	10.03	8.68	15.64	1.47	56.00	1.64	39.1	49.5	147.8	325.0	10.9	18.3	462
3.5	18.02	10.80	15.97	1.76	77.13	2.04	100.1	145.3	215.6	706.4	19.2	31.0	815
4	26.94	17.79	32.09	3.58	128.71	2.33	195.9	318.2	545.7	1,573.9	28.6	43.7	1,215
4.5	41.12	27.03	40.15	4.18	184.81	3.18	393.2	632.7	945.5	2,997.3	53.5	68.9	2,269
5	62.41	31.09	47.24	4.18	242.60	3.48	767.1	901.1	1,303.3	4,639.7	69.5	89.7	2,950
5.5	86.69	51.34	72.53	6.77	362.10	3.60	1,308.0	1,846.0	2,450.4	8,758.4	89.5	120.0	3,799
6	120.66	63.27	86.78	7.74	470.12	4.28	2,225.0	2,787.0	3,773.7	13,979.7	129.6	157.3	5,499

Notes:
- All weights, WR^2 and Torsional Stiffness are based on maximum bore.
- To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:

  Let kx = new stiffness factor
  n = number of additional inches of spacer
  ks = stiffness factor for standard coupling from table
  ki = stiffness factor for 1 inch length of standard spacer body from table

  Then 1/ks + n 1/ki

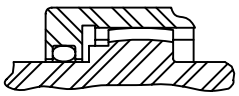
  Example: What is the new stiffness factor for a size 1.5 coupling if the spacer length is 3 inches longer than standard?

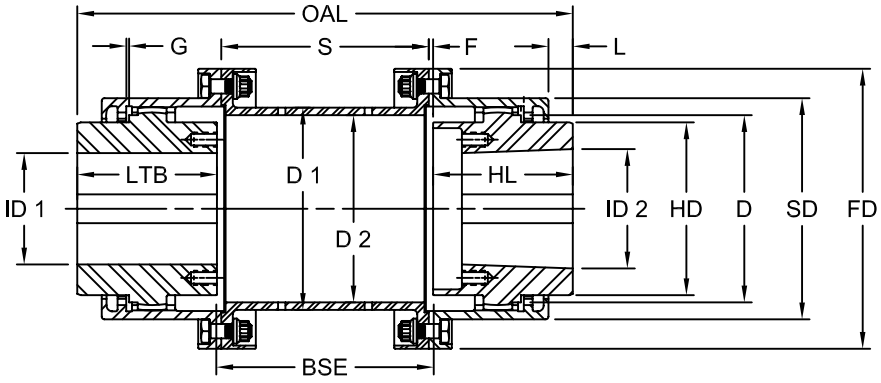
  1/kx = 1/2 + 3 x 1/55 = 0.55454..kx = 1.803

  If coupling spacer is shorter than standard, the formula becomes 1/kx = 1/ks - n 1/ki.

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSA Type High Speed Standard Couplings





FHSA Type Dimensional Data

Size	OAL in	S in	L in	G in	F in	ID1 - ID2 Max Bore in	LTB in	HL in	BSE in	FD in	SD in	D in	HD in	D1 in	D2 in	Bolts Per Flange Qty	Bolts Per Flange Size
1.5	9.13	4.81	0.50	0.06	0.09	1.5	2.06	2.06	5	4.56	3.06	2.38	2.19	3.00	2.41	6	1/4
2	8.88	4.81	0.66	0.06	0.09	2.0	2.44	2.44	5	6.00	3.97	3.06	2.88	3.75	3.13	8	3/8
2.5	11.06	4.81	0.75	0.06	0.09	2.5	3.03	3.03	5	7.00	4.91	3.88	3.63	4.75	4.00	10	3/8
3	12.19	4.81	0.81	0.09	0.09	3.0	3.59	3.59	5	8.38	5.91	4.69	4.25	5.50	4.78	10	1/2
3.5	13.38	4.81	1.00	0.09	0.09	3.5	4.19	4.19	5	9.44	6.91	5.63	5.25	6.50	5.75	12	1/2
4	16.50	6.75	1.06	0.09	0.13	4.0	4.75	4.75	7	11.00	7.91	6.38	6.00	7.38	6.63	12	5/8
4.5	17.63	6.75	1.13	0.13	0.13	4.5	5.31	5.31	7	12.50	9.25	7.25	6.88	8.63	7.75	14	5/8
5	19.06	6.75	1.31	0.13	0.13	5.0	6.03	6.03	7	13.63	10.38	8.25	7.75	9.38	8.50	14	5/8
5.5	21.25	7.75	1.38	0.13	0.13	5.5	6.63	6.63	8	15.31	11.56	9.25	8.75	10.38	9.96	14	5/8
6	22.75	7.75	1.50	0.13	0.13	6.0	7.38	7.38	8	16.75	12.81	10.25	9.63	11.44	10.96	16	3/4

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSAA Type High Speed Precision

The High Speed Precision gear couplings are made of alloy steel with a core hardness of HRC 30-35 and are magnetic particle inspected. They have close tolerances and precision manufactured mating surfaces with bores ground to accurated tolerance. In addition, gear couplings are dynamically balanced, have a piloted gear fit and have body fitted bolts in reamed holes. The low overhung moment reduces bearing loads. They also have a low moment of inertia and are extremely light weight. Balancing bands will be included if required. For nitrided gear teeth, specify ANN and a surface hardness of 85.56 minimum in the Rockwell 15N scale.

FHSAA Type High Speed Precision Performance Data

Size	Torque in-lb x 10^3	Torque Nm x 10^3	Max Speed RPM	ID1 - ID2 Max Bore Square Keyway in	ID1 - ID2 Max Bore Metric Keyway mm	Nominal BSE in	Nominal BSE mm	Weight lb	Weight kg	Inertia WR^2 lb-in^2	Inertia GD^2 Nm^2	Torsional Stiffness in-lb/rad x 10^6	Torsional Stiffness Nm/rad x 10^6	Max Angular Misalignment Degrees
1.5	18.9	2.14	20,000	1.625	42	5	127.0	15.2	6.9	35.5	0.4	1.7	19.00	1/2°
2	28.3	3.20	18,700	2.125	56	5	127.0	25.9	11.8	76.9	0.9	4.0	0.45	
2.5	63.0	7.12	17,600	2.625	70	5	127.0	36.9	16.8	189.8	2.2	9.0	1.02	
3	100.8	11.39	16,500	3.125	84	7	177.8	60.2	27.3	389.8	4.5	12.2	1.38	
3.5	151.2	17.08	15,400	3.625	97	7	177.8	78.5	35.6	659.3	7.6	20.2	2.28	
4	220.6	24.93	14,300	4.125	111	8	203.2	113.3	51.4	1,169.4	13.4	29.7	3.36	
4.5	330.8	37.38	12,100	4.625	124	8	203.2	163.2	74.0	2,178.2	25.0	47.2	5.33	
5	479.0	54.12	11,000	5.125	140	10	254.0	239.5	108.6	4,116.6	47.3	69.4	7.84	
5.5	617.6	69.79	10,500	5.625	150	10	254.0	317.6	144.1	6,719.7	77.1	92.1	10.41	
6	813.0	91.86	9,900	6.125	170	10	254.0	398.4	180.7	8,993.1	103.2	123.3	13.93	

FHSAA Type High Speed Precision Performance Data

Size	Weight Hub lb	Weight Sleeve lb	Weight Spacer Per Dim S lb	Weight Bolts & Nuts Per Flange lb	Weight Complete Cplg Per Dim BSE lb	Weight Spacer Body Per Inch lb	WR^2 Hub lb-in^2	WR^2 Sleeve lb-in^2	WR^2 Spacer Per Dim S lb-in^2	WR^2 Complete Cplg Per Dim BSE lb-in^2	WR^2 Spacer Body Per Inch lb-in^2	Torsional Stiffness Spacer Cplg Per BSE (ksi) in-lb/rad x 10^6	Torsional Stiffness Spacer Body Per Inch (ki) in-lb/rad x 10^6
1.5	2.22	2.18	5.48	0.47	15.22	0.39	2.8	7.5	14.9	35.5	0.3	1.7	12
2	3.81	5.00	7.28	0.51	25.92	0.52	7.7	16.2	29.1	76.9	0.7	4.0	31
2.5	6.96	5.63	10.50	0.63	36.94	0.69	23.7	40.0	62.4	189.8	1.7	9.0	72
3	11.79	8.69	16.32	1.47	60.22	1.02	51.1	82.7	122.2	389.8	3.5	12.2	148
3.5	18.31	10.34	17.72	1.76	78.54	1.27	104.6	141.1	167.9	659.3	6.6	20.2	281
4	25.50	13.80	25.20	3.58	113.32	1.54	218.0	204.7	324.0	1,169.4	11.9	29.7	508
4.5	39.99	19.76	36.50	4.18	163.16	2.36	387.3	408.5	586.4	2,178.2	21.7	47.2	923
5	59.32	29.48	52.54	4.15	239.50	3.23	738.9	797.8	1,043.1	4,116.6	42.5	69.4	1,804
5.5	79.84	38.06	68.26	6.77	317.60	3.56	1,196.3	1,259.6	1,807.7	6,719.7	57.1	92.1	2,422
6	99.66	52.87	77.86	7.74	398.40	3.89	1,774.2	2,089.4	2,465.8	8,993.1	74.6	123.3	3,167

Notes:
- All weights, WR^2 and Torsional Stiffness are based on maximum bore.
- To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:

  Let kx = new stiffness factor
  n = number of additional inches of spacer
  ks = stiffness factor for standard coupling from table
  ki = stiffness factor for 1 inch length of standard spacer body from table

  Then 1/ks + n 1/ki

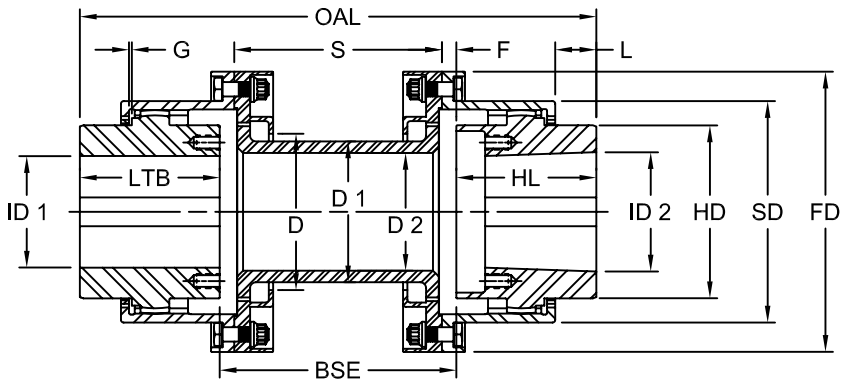
  Example: What is the new stiffness factor for a size 1.5 coupling if the spacer length is 3 inches longer than standard?

  1/kx = 1/21.7 + 3 x 1/12 = 0.83823..kx = 1.192

  If coupling spacer is shorter than standard, the formula becomes 1/kx = 1/ks - n 1/ki.

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSAA Type High Speed Precision Couplings



FHSAA Type Dimensional Data

Size	OAL in	L in	F in	S in	G in	ID1-ID2 Max Bore in	HL in	LTB in	BSE in	FD in	SD in	D in	HD in	D1 in	D2 in	Bolts Per Flange Qty	Bolts Per Flange Size
1.5	9.25	0.19	0.09	4.44	0.06	1.625	2.13	2.13	5	5.00	3.50	2.50	2.56	2.00	1.50	8	5/16
2	10.00	0.25	0.09	4.44	0.06	2.125	2.50	2.50	5	5.88	4.31	3.19	3.19	2.63	2.13	8	3/8
2.5	11.25	0.25	0.09	4.44	0.06	2.625	3.13	3.13	5	6.88	5.31	4.00	4.00	3.38	2.88	10	3/8
3	14.25	0.25	0.09	6.44	0.09	3.125	3.63	3.63	7	8.19	6.13	4.69	4.75	4.00	3.38	10	1/2
3.5	15.50	0.25	0.09	6.44	0.09	3.625	4.25	4.25	7	9.00	7.00	5.56	5.50	4.88	4.25	12	1/2
4	17.75	0.25	0.09	7.44	0.09	4.125	4.88	4.88	8	10.00	7.88	6.75	6.38	5.88	5.25	12	5/8
4.5	19.00	0.38	0.09	7.44	0.09	4.625	5.50	5.50	8	11.63	9.13	7.38	7.00	6.50	5.63	12	5/8
5	22.50	0.50	0.09	9.44	0.09	5.125	6.25	6.25	10	13.00	10.50	8.75	7.13	7.75	6.75	14	5/8
5.5	23.50	0.50	0.09	9.44	0.09	5.625	6.75	6.75	10	14.50	11.50	9.50	8.75	8.50	7.50	14	3/4
6	24.50	0.50	0.09	9.44	0.09	6.125	7.25	7.25	10	15.75	12.75	10.44	9.38	9.25	8.25	16	3/4

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSPAA Type High Speed Ultra Precision

The High Speed Ultra Precision gear couplings are made of Nitalloy 135 modified with a core hardness of HRC 32-36 and are magnetic particle inspected. They have close tolerances and precision manufactured mating surfaces with bores precision-ground for extremely high accuracy. In addition, they have body fitted bolts with reamed holes. These gear couplings are dynamically balanced and have a piloted gear fit to insure balance integrity during operation. The low overhung moment reduces bearing loads. They also have low moment of inertia and are extremely lightweight. Balancing bands will be included, if required. For nitrided teeth, specify class PAAN and a surface hardness of 90 minimum on the Rockwell 15N scale.

FHSPAA Type High Speed Ultra Precision Performance Data

Size	Torque in-lb x 10^3	Torque Nm x 10^3	Max Speed RPM	ID1 - ID2 Max Bore Square Keyway in	ID1 - ID2 Max Bore Metric Keyway mm	Nominal BSE in	Nominal BSE mm	Weight lb	Weight kg	Inertia WR^2 lb-in^2	Inertia GD^2 Nm^2	Torsional Stiffness in-lb/rad x 10^6	Torsional Stiffness Nm/rad x 10^6	Max Angular Misalignment Degrees
1.5	18.9	2.14	20,000	1.625	42	5	127.0	15.2	6.9	35.5	0.4	1.7	0.19	1/2°
2	28.3	3.20	18,700	2.125	56	5	127.0	25.9	11.8	76.9	0.9	4.0	0.45	
2.5	63.0	7.12	17,600	2.625	70	5	127.0	36.9	16.8	189.8	2.2	9.0	1.02	
3	100.8	11.39	16,500	3.125	84	7	177.8	60.2	27.3	389.8	4.5	12.2	1.38	
3.5	151.2	17.08	15,400	3.625	97	7	177.8	78.5	35.6	659.3	7.6	20.2	2.28	
4	220.6	24.93	14,300	4.125	111	8	203.2	113.3	51.4	1,169.4	13.4	29.7	3.86	
4.5	330.8	37.36	12,100	4.625	124	8	203.2	163.2	74.0	2,178.0	25.0	17.2	5.33	
5	479.0	54.12	11,000	5.125	140	10	254.0	239.5	108.6	4,116.6	47.3	69.4	7.84	
5.5	617.6	69.79	10,500	5.625	150	10	254.0	317.6	144.1	6,719.7	77.1	92.1	10.41	
6	813.0	91.86	9,900	6.125	170	10	254.0	398.4	180.7	8,993.1	103.2	123.3	13.93	

FHSPAA Type High Speed Ultra Precision Performance Data

Size	Weight Hub lb	Weight Sleeve lb	Weight Spacer Per Dim S lb	Weight Bolts & Nuts Per Flange lb	Weight Complete Cplg Per Dim BSE lb	Weight Spacer Body Per Inch lb	WR^2 Hub lb-in^2	WR^2 Sleeve lb-in^2	WR^2 Spacer Per Dim S lb-in^2	WR^2 Complete Cplg Per Dim BSE lb-in^2	WR^2 Spacer Body Per Inch lb-in^2	Torsional Stiffness Spacer Cplg Per BSE (ksi) in-lb/rad x 10^6	Torsional Stiffness Spacer Body Per Inch (ki) in-lb/rad x 10^6
1.5	2.22	2.18	5.48	0.47	15.22	0.39	2.8	7.5	14.9	35.5	0.3	1.7	12
2	3.81	5.00	7.28	0.51	25.92	0.52	7.7	16.2	29.1	76.9	0.7	4.0	31
2.5	6.96	5.63	10.50	0.63	36.94	0.69	23.7	40.0	62.4	189.8	1.7	9.0	72
3	11.79	8.69	16.32	1.47	60.22	1.02	51.1	82.7	122.2	389.8	3.5	12.2	148
3.5	18.31	10.34	17.72	1.76	78.54	1.27	104.6	141.1	167.9	659.3	6.6	20.2	281
4	28.50	13.80	25.20	3.58	113.32	1.54	218.0	204.7	324.0	1,169.4	11.9	29.7	508
4.5	39.99	19.76	36.50	4.18	163.16	2.36	387.3	408.5	586.4	2,178.2	21.7	47.2	923
5	59.82	29.48	52.54	4.18	239.50	3.23	738.9	797.8	1,043.1	4,116.6	42.5	69.4	1,804
5.5	79.84	38.06	68.26	6.77	317.60	3.56	1,196.3	1,259.6	1,807.7	6,719.7	57.1	92.1	2,422
6	99.66	52.87	77.86	7.74	398.40	3.89	1,774.2	2,089.4	2,465.8	8,993.1	74.6	123.3	3,167

Notes:
- All weights, WR^2 and Torsional Stiffness are based on maximum bore.
- To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:

  Let kx = new stiffness factor
  n = number of additional inches of spacer
  ks = stiffness factor for standard coupling from table
  ki = stiffness factor for 1 inch length of standard spacer body from table

  Then 1/ks + n 1/ki

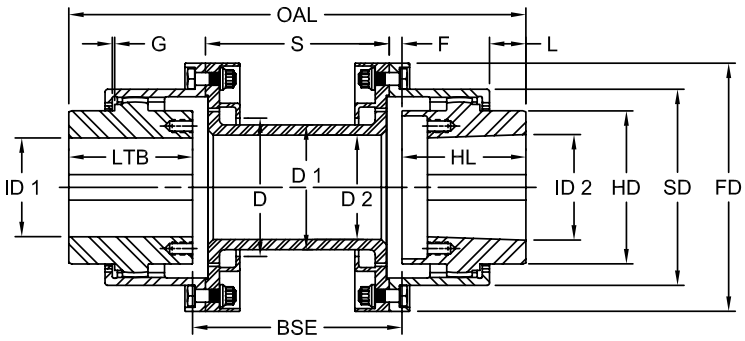
  Example: What is the new stiffness factor for a size 1.5 coupling if the spacer length is 3 inches longer than standard?

  1/kx = 1/1.7 + 3 x 1/12 = 0.83823..kx = 1.192

  If coupling spacer is shorter than standard, the formula becomes 1/kx = 1/ks - n 1/ki.

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSPAA Type High Speed Ultra Precision Couplings



FHSPAA Type Dimensional Data

Size	OAL in	L in	F in	S in	G in	ID1 - ID2 Max Bore in	HL in	LTB in	BSE in	FD in	SD in	HD in	D in	D1 in	D2 in	Bolts Per Flange Qty	Bolts Per Flange Size
1.5	9.25	0.19	0.09	4.44	0.06	1.625	2.13	2.13	5	5.00	3.50	2.56	2.50	2.00	1.50	8	5/16
2	10.00	0.25	0.09	4.44	0.06	2.125	2.50	2.50	5	5.88	4.31	3.19	3.19	2.63	2.13	8	3/8
2.5	11.25	0.25	0.09	4.44	0.06	2.625	3.13	3.13	5	6.88	5.31	4.00	4.00	3.38	2.88	10	3/8
3	14.25	0.25	0.09	6.44	0.09	3.125	3.63	3.63	7	8.19	6.13	4.75	4.69	4.00	3.38	10	1/2
3.5	15.50	0.25	0.09	6.44	0.09	3.625	4.25	4.25	7	9.00	7.00	5.50	5.56	4.88	4.25	12	1/2
4	17.75	0.25	0.09	7.44	0.09	4.125	4.88	4.88	8	10.00	7.88	6.38	6.75	5.88	5.25	12	5/8
4.5	19.00	0.38	0.09	7.44	0.09	4.625	5.50	5.50	8	11.63	9.13	7.00	7.38	6.50	5.63	12	5/8
5	22.50	0.50	0.09	9.44	0.09	5.125	6.25	6.25	10	13.00	10.50	7.13	8.75	7.75	6.75	14	5/8
5.5	23.50	0.50	0.09	9.44	0.09	5.625	6.75	6.75	10	14.50	11.50	8.75	9.50	8.50	7.50	14	3/4
6	24.50	0.50	0.09	9.44	0.09	6.125	7.25	7.25	10	15.75	12.75	9.38	10.44	9.25	8.25	16	3/4

Lovejoy / Sier-Bath Type High Speed Gear Couplings

FHSMA Type High Speed Marine

The High Speed Marine gear couplings have a core hardness of HRC 30-35 and are magnetic particle inspected. They are precision manufactured with ground bores and close concentricity for dynamic stability. These couplings are dynamically balanced, have piloted gear fit, and have body fitted bolts and reamed holes. They also have a larger shaft capacity. For nitrided gear teeth, specify Class MAN and a surface hardness of 85.5 minimum on the Rockwell 15N scale.

FHSMA Type High Speed Marine Performance Data

Size	Torque in-lb x 10^3	Torque Nm x 10^3	Max Speed RPM	ID1 - ID2 Max Bore Square Keyway in	ID1 - ID2 Max Bore Metric Keyway mm	Nominal BSE in	Nominal BSE mm	Weight lb	Weight kg	Inertia WR^2 lb-in^2	Inertia GD^2 Nm^2	Torsional Stiffness in-lb/rad x 10^6	Torsional Stiffness Nm/rad x 10^6	Max Angular Misalignment Degrees
1.5	18.9	2.14	18,000	2.125	56	5	127.0	16.6	7.5	41.2	0.5	3.3	0.37	1/2°
2	28.3	3.20	17,000	2.625	70	5	127.0	26.6	12.1	95.0	1.1	7.0	0.79	
2.5	63.0	7.12	16,000	3.125	84	5	127.0	43.0	19.5	219.6	2.5	13.7	1.55	
3	100.8	11.39	15,000	3.625	97	7	177.8	68.2	30.9	464.0	5.3	20.4	2.31	
3.5	151.2	17.08	14,000	4.625	124	7	177.8	95.1	43.2	885.2	10.2	34.2	3.86	
4	220.6	24.93	13,000	5.125	140	8	203.2	156.3	70.9	1,926.0	22.1	54.6	6.17	
4.5	330.8	37.38	11,000	5.625	150	8	203.2	229.9	104.3	3,695.7	42.4	86.2	9.74	
5	479.0	54.12	10,000	6.625	186	10	254.0	301.3	136.7	6,459.5	74.2	118.1	13.34	
5.5	617.6	69.79	9,600	7.125	192	10	254.0	396.6	179.9	10,200.7	117.1	165.8	18.73	
6	813.0	91.86	9,000	7.625	208	10	254.0	596.3	270.5	19,736.0	226.6	216.7	24.49	

FHSMA Type High Speed Marine Performance Data

Size	Weight Hub lb	Weight Sleeve lb	Weight Spacer Per Dim S lb	Weight Bolts & Nuts Per Flange lb	Weight Complete Cplg Per Dim BSE lb	Weight Spacer Body Per Inch lb	WR^2 Hub lb-in^2	WR^2 Sleeve lb-in^2	WR^2 Spacer Per Dim S lb-in^2	WR^2 Complete Cplg Per Dim BSE lb-in^2	WR^2 Spacer Body Per Inch lb-in^2	Torsional Stiffness Spacer Cplg Per BSE (ksi) in-lb/rad x 10^6	Torsional Stiffness Spacer Body Per Inch (ki) in-lb/rad x 10^6
1.5	4.03	1.92	3.72	0.47	16.56	0.57	10.9	7.3	4.8	41.2	0.62	3.3	26
2	7.39	2.82	5.20	0.51	26.64	0.75	27.2	14.7	11.2	95.0	1.37	7.0	57
2.5	13.2	3.84	7.70	0.63	43.04	0.95	67.3	28.8	27.4	219.6	2.85	13.7	120
3	20.32	5.54	13.52	1.47	68.18	1.38	141.7	57.7	65.2	464.0	5.90	20.4	250
3.5	31.03	5.92	17.72	1.76	95.14	1.59	305.9	78.1	117.2	885.2	8.99	34.2	381
4	49.66	11.06	27.70	3.58	156.30	2.45	635.4	208.4	238.4	1,926.0	18.64	54.6	790
4.5	76.53	15.50	37.44	4.18	229.86	3.22	1248.4	378.7	411.5	3,696.7	33.60	86.2	1,425
5	98.66	19.12	57.40	4.18	301.32	3.61	2216.7	578.3	869.5	6,459.5	46.70	118.1	1,980
5.5	123.24	32.42	69.72	6.77	396.56	4.52	3,190.6	1,249.5	1,320.5	10,200.7	74.95	165.8	3,178
6	209.2	39.42	83.54	7.74	596.26	4.93	7,096.1	1,807.1	1,929.6	19,736.0	97.58	216.7	4,139

Notes:
- All weights, WR^2 and Torsional Stiffness are based on maximum bore.
- To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:

  Let kx = new stiffness factor
  n = number of additional inches of spacer
  ks = stiffness factor for standard coupling from table
  ki = stiffness factor for 1 inch length of standard spacer body from table

  Then 1/ks + n 1/ki

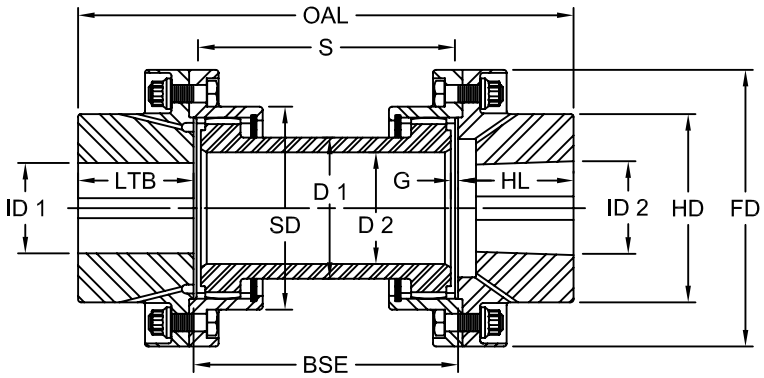
  Example: What is the new stiffness factor for a size 1.5 coupling if the spacer length is 3 inches longer than standard?

  1/kx = 1/3.3 + 3 x 1/26 = 0.41841..kx = 2.389

  If coupling spacer is shorter than standard, the formula becomes 1/kx = 1/ks - n 1/ki.

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSMA Type High Speed Marine Couplings



FHSMA Type Dimensional Data

Size	OAL in	S in	G in	ID1 - ID2 Max Bore in	HL in	LTB in	BSE in	FD in	HD in	SD in	D1 in	D2 in	Bolts Per Flange Qty	Bolts Per Flange Size
1.5	10.00	4.81	0.09	2.125	2.50	2.50	5	5.00	3.19	3.50	2.38	1.75	8	5/16
2	11.25	4.81	0.09	2.625	3.13	3.13	5	5.88	4.00	4.31	3.00	2.38	8	3/8
2.5	12.25	4.81	0.09	3.125	3.63	3.63	5	6.88	5.00	5.31	3.75	3.13	10	3/8
3	15.50	6.81	0.09	3.625	4.25	4.25	7	8.19	5.75	6.13	4.50	3.75	10	1/2
3.5	17.50	6.75	0.13	4.625	5.25	5.25	7	9.44	6.75	7.00	5.13	4.38	12	1/2
4	20.00	7.75	0.13	5.125	6.00	6.00	8	11.00	7.75	7.88	6.00	5.00	12	5/8
4.5	21.25	7.75	0.13	5.625	6.63	6.63	8	12.50	9.00	9.13	7.00	5.88	12	5/8
5	24.25	9.69	0.16	6.625	7.13	7.13	10	13.63	10.13	10.50	7.75	6.63	14	5/8
5.5	26.00	9.69	0.16	7.125	8.00	8.00	10	15.31	11.00	11.50	8.50	7.50	14	3/4
6	27.50	9.69	0.16	7.625	8.75	8.75	10	16.75	12.50	12.75	9.25	8.25	16	3/4

Lovejoy / Sier-Bath High Speed Gear Couplings

FAC Type Engineered Centrifugal Pump Couplings

This coupling is designed specifically for centrifugal pumps and compressors. It is easy to install and replace, efficiently designed to reduce spare part inventory and is precision manufactured.

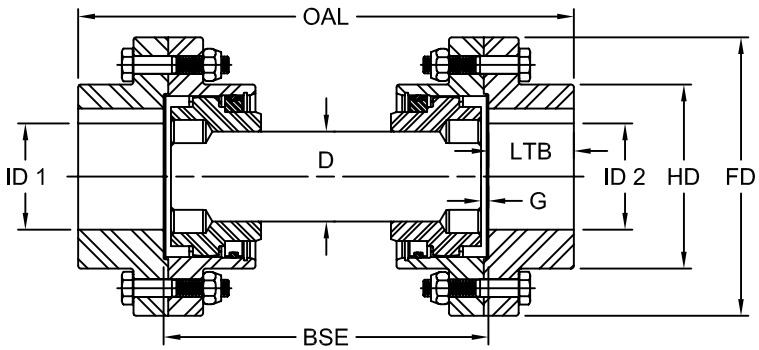
Individual components are easy to assemble and easy to replace. Component balanced parts eliminate your need to keep complete couplings in stock. Grease seals are replaceable without major disassembly. Four sizes accommodate 80% of all normally used shaft diameters. Other features include extended time between lubrications, infinitely adjustable BSE, M-F pilot for proper fit, vertical modification, center assembly independently replaceable, and conforms to API 610 - 6th edition. Its precision balanced parts are made of high strength alloy 4140 steel. Bolts are weigh-balanced as sets.

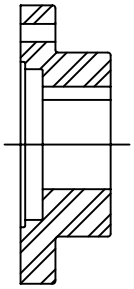
FAC Type Engineered Centrifugal Pump Performance Data

	Torque		Max Speed		ID1 - ID2 Max Bore			Nominal BSE		Weight Solid		Inertia		Max Bore Parallel Misalignment		Max Angular Misalignment
	in-lb	Nm	Bal	Unbal	Square Keyway	Standard Keyway	Metric Keyway					WR^2	GD^2			
Size	x 10^3	x 10^3	RPM	RPM	in	in	mm	in	mm	lb	kg	lb-in^2	Nm^2	in	mm	Degrees
1	11.3	1.28	16,700	10,500	2.125	2.250	56	5	127.0	19.4	8.8	37.1	0.4	0.04	1.0	1/2°
1.5	22.7	2.56	12,700	9,000	2.813	3.000	76	7	177.8	42.2	19.1	138.9	1.6	0.06	1.5	
2	39.0	4.41	10,900	8,100	3.500	3.750	95	7	177.8	68.7	31.2	298.7	3.4	0.06	1.5	
2.5	69.3	7.83	9,100	7,200	4.250	4.500	114	7	177.8	122.0	55.3	767.3	8.8	0.06	1.5	
3	118.0	13.33	8,100	6,500	4.875	5.250	134	10	254.0	184.8	83.8	1,398.1	16.0	0.06	2.0	
3.5	177.0	20.00	6,900	5,950	5.625	6.125	157	10	254.0	288.0	130.6	3,052.7	35.0	0.06	2.0	

Lovejoy / Sier-Bath High Speed Gear Couplings

FAC Type Engineered Centrifugal Pump Couplings





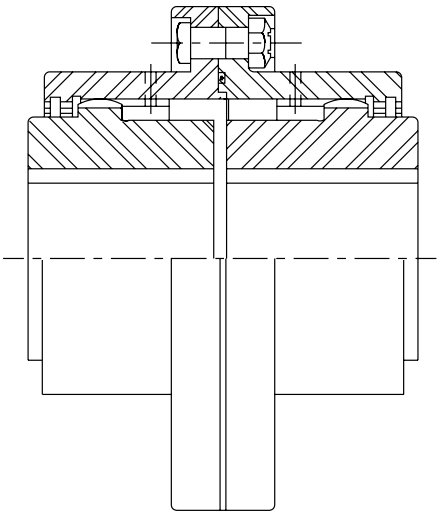
Optional Rigid Hub Design

FAC Type Dimensional Data

Size	OAL in	ID1 - ID2 Max Bore Square Keyway in	ID1 - ID2 Max Bore Metric Keyway mm	LTB in	G in	BSE in	FD in	HD in	D in
1	8.12	2.125	56	1.56	0.16	5	4.56	3.06	1.25
1.5	10.69	2.813	76	1.84	0.16	7	6.00	3.97	1.94
2	11.56	3.500	95	2.28	0.16	7	7.00	4.91	2.50
2.5	12.81	4.250	114	2.91	0.19	7	8.38	5.91	3.00
3	16.81	4.875	134	3.41	0.19	10	9.44	6.91	3.75
3.5	17.88	5.625	157	3.97	0.22	10	11.00	7.91	4.50

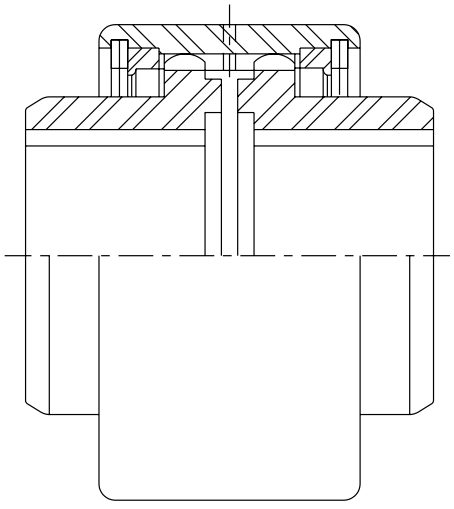
Lovejoy / Sier-Bath F Type High Speed Standard Couplings

Additional Standard Designs



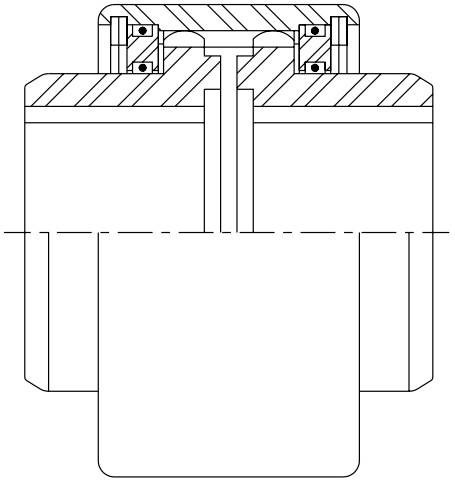
Standard High Speed Flanged Coupling
Continuously Lubricated

For close coupled, continuously lubricated, high speed applications. Sizes and specifications similar to those shown on the previous pages.



Standard High Speed Continuous Sleeve Coupling
Continuously Lubricated

For lighter weight, close coupled, continuously lubricated applications where flange joint is not required. Materials, heat treatments, and precision manufacturing methods outlined on previous pages apply.



Standard High Speed Continuous Sleeve Coupling
Grease Packed

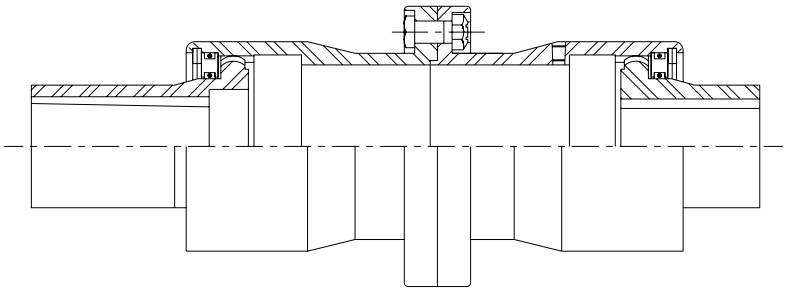
For lighter weight, close coupled, grease packed applications where flange joint is not required. Materials, heat treatments, and precision manufacturing methods outlined on previous pages apply.

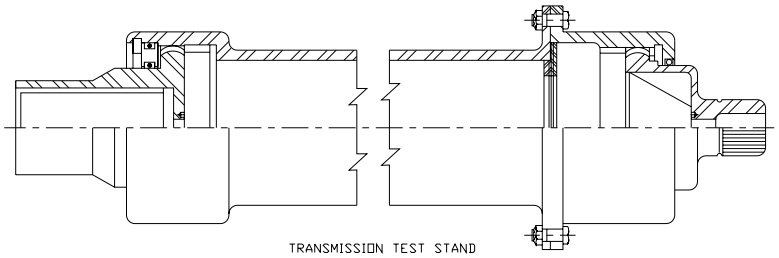
Lovejoy / Sier-Bath F Type High Speed Standard Couplings

Transmission Test Stand

High Speed Spacer Coupling

Self-contained oil lubrication, normal speed 16,000 RPM, maximum speed 25,000 RPM. The dimensions are similar to a size 2.5, with an overall length of 35 inches and a total weight of 29 lbs.





TRANSMISSION TEST STAND

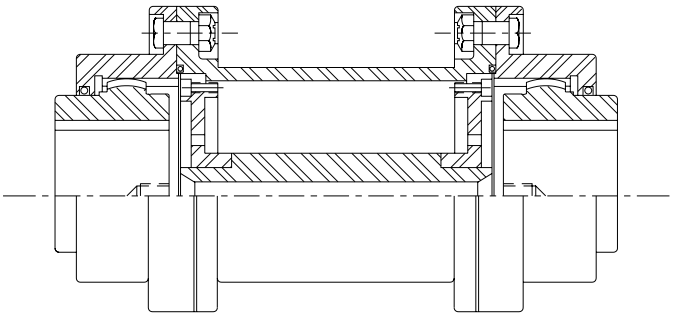
Light Weight Coupling

Made of extremely light weight, vacuum melted, AMS material with magnetic particle inspection. The overall length is 29.5 inches and the weight is 19.4 lbs.

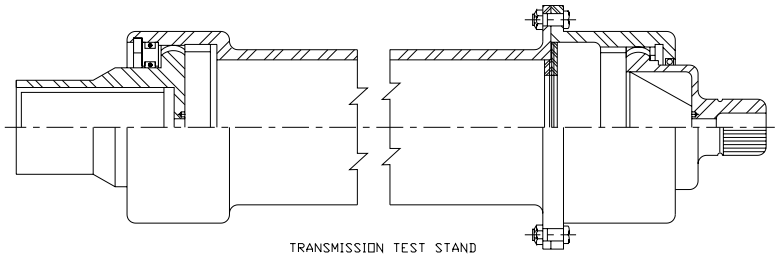
HP

Test Stand

High Speed Spacer coupling with internal support for instrumentation wires. Maximum speed of 7,000 RPM.



TEST STAND HIGH SPEED SPACER COUPLING



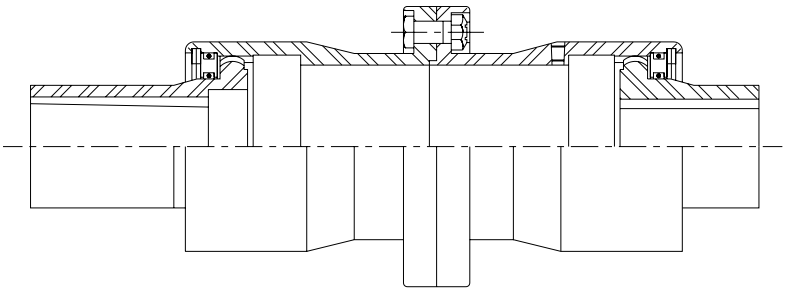
TRANSMISSION TEST STAND

Transmission Test Stand

This High Speed Spacer coupling is grease packed and operates at a maximum speed of 6,000 RPM. Based on a size 3, the overall length is 55 inches.

Single Flange

This High Speed Spacer coupling is grease packed and operates at a maximum speed of 8,000 RPM. The total assembly weight is 19 lbs with an overall length of 19 inches.

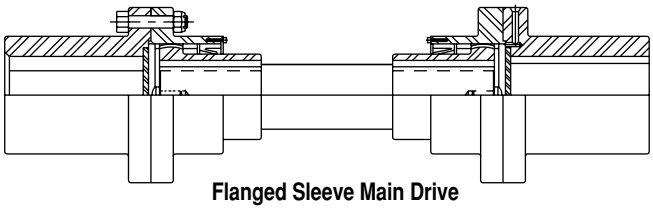


Lovejoy / Sier-Bath Flanged Sleeve Type Spindle Couplings

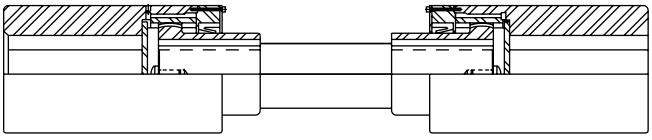
Special Load and No Load Applications

For cases where a spindle coupling operates under a load at a given misalignment angle and requires a higher no load misalignment angle, we design special Vari-Crown® tooth forms. Such forms have compound curvature wherein the Vari-Crown is used for maximum radii of curvature at the load angle. At no load conditions the tooth ends are designed to eliminate edge loading and give proper tangential contact.

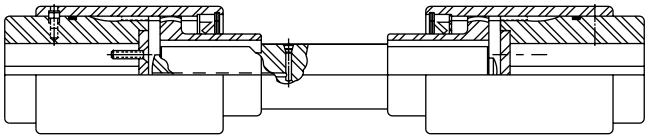
Available in several designs up to 40-inch diameter. Any variations of the designs shown can be incorporated to fit your application.



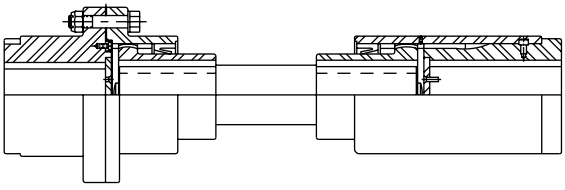
Flanged Sleeve Main Drive
Spindle Coupling



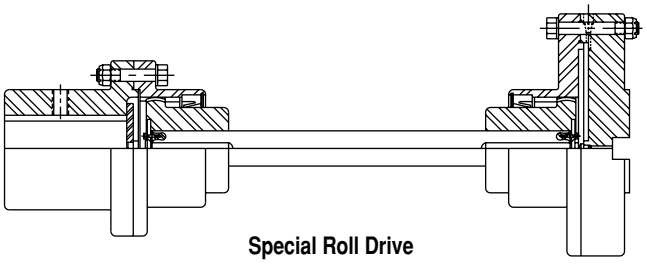
Replaceable Gearing
Spindle Coupling



Leveling and Pinch Roll
Spindle Coupling



Special Indexing
Spindle Coupling



Special Roll Drive
Spindle Coupling

Only a few special types of couplings are illustrated. Additional special types are available on request.

where the world turns for

Lovejoy®

Coupling Solutions

Grid

In This Section:

- Horizontal Cover Style
- Vertical Cover Style
- Full Spacer Style
- Half Spacer Style



Grid

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Grid

Table of Contents

	Running Page No.	Section Page No.
Overview	216	GD-4
Selection Process	217	GD-5
Application Service Factors > Selection Data	219	GD-7
Grid Coupling Selection Worksheet	221	GD-9
Standard Coupling > Performance Data	222	GD-10
Standard Coupling > Dimensional Data	223	GD-11
Spacer Style > Performance / Dimensional Data	224	GD-12
Spacer Style > Spacer Hub Selection	225	GD-13
Misalignment Capability > Item Selection	226	GD-14
Industry Standard Interchange Chart > Item Selection	227	GD-15
Grid Coupling Hubs – Inch Bore / Keyway > Item Selection	228	GD-16
Grid Coupling Hubs – Metric Bore / Keyway > Item Selection	229	GD-17
Grid Coupling – Taper Lock Hubs > Item Selection	230	GD-18
Grid Coupling – Component Part Numbers > Item Selection	231	GD-19

The Power of Torsional Dampening

Lovejoy is pleased to be able to provide quality grid couplings covering a large number of industry standard sizes and lengths. The Lovejoy grid style coupling has proven itself in performance and popularity over a wide range of applications.

Lovejoy's grid style coupling design has demonstrated its ability to dampen vibration by as much as 30% and can cushion shock loads that could cause damage to both the driving and driven equipment. The tapered grid spring design absorbs impact energy by spreading the energy out over the full length of the grid spring thus reducing the magnitude of the torque spikes.

The Lovejoy design uses a curved hub tooth profile which creates a progressive contact with the flexible grid spring as the application torque increases. This feature provides a more effective and efficient transmission of power in properly aligned couplings.

Lovejoy's versatile design of industry standard hubs and grid springs for both horizontal and vertical cover styles allow Lovejoy couplings to be interchangeable with other industry standard grid couplings and components.

Proper grid coupling installation and maintenance can add to a longer coupling life. Grid spring replacement is simple and can be performed at a fraction of the cost and time of a complete coupling.

GD

Features

- High tensile, shot-peened alloy steel grid springs and precision machined hubs ensure superior coupling performance and long life.
- Lovejoy's grid couplings with tapered grids are designed to be interchangeable with other industry standard grid couplings with both horizontal and vertical grid covers.
- Lovejoy grid couplings are designed for ease of installation and maintenance reducing labor and downtime costs.
- The torsional flexibility and resilience of Lovejoy grid couplings helps reduce vibration and cushions shock and impact loads.
- Cover fasteners can be provided in either Inch or Metric sizes.
- Excellent for use in applications where the equipment is close coupled or spaced apart requiring a spacer style coupling arrangement.
- Stock spacer designs are available or requests for custom spacer lengths can be addressed by Lovejoy engineering.

WARNING

You must refer to page GD-2 (page 214) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions could lead to severe injury or death.



Horizontal Split Cover Design

- Ideal for limited space
- Allows easy access to the grid spring
- Well suited for reversing applications
- Lightweight die-cast aluminum grid cover



Vertical Split Cover Design

- Ideal for higher operating speeds
- Allows easy access to the grid spring
- Cover is manufactured from stamped steel for strength



Full Spacer Design – Horizontal Cover

- Drop-out design ideal for pump applications and servicing
- Stock sizes 1020 thru 1090
- Lightweight die-cast aluminum grid cover



Half Spacer Design – Horizontal Cover

- Offers additional BSE dimensions
- Lightweight die-cast aluminum grid cover

Grid Coupling Selection Process

The following information is necessary when making a Grid coupling selection:

- Description of motor or engine, the horse power (or KW), and RPM at slowest coupling speed while under load
- Description of the driven equipment
- Shaft and keyway sizes and the type of fit for driver and driven equipment (clearance or interference)**
- Shaft separation (BSE)
- Physical space limitations (see Application Worksheet)
- Determine what the environmental conditions will be, such as temperature, corrosive conditions, interference from surrounding structures, etc.

** By default, sizes 1020 – 1090 will be clearance fit, sizes 1100 – 1200 will be interference fit.

** Lovejoy machines all bores and keyways to meet the dimensional and tolerance specifications per ANSI/AGMA 9002-B04 for inch bores, or ISO 286-2 for metric bores.

Typical grid couplings consist of two grid hubs, a grid spring, and a cover assembly. When the shaft separation requires a spacer style coupling, the coupling will consist of two shaft hubs, two spacer hubs, a grid spring, and a horizontal cover assembly.

The following charts are available to assist in making the best possible grid coupling selection:

- Coupling Selection Worksheet, Page GD-9
- Grid Standard Interchange Chart, Page GD-15
- Application Service Factors, Pages GD-7 and GD-8
- General Service Factors, Page GD-6 (bottom)
- Performance and Dimensional Data for Standard Grid Couplings Page GD-10 thru GD-11
- Performance and Dimensional Data for Spacer Grid Couplings Page GD-12
- Grid Coupling Part Numbers for Standard Components Page GD-16 thru GD19

Formulas Used To Calculate Torque:

$$\text{Application Torque (in-lbs)} = \left(\frac{\text{horse power} \times 63025}{\text{RPM}}\right)$$

$$\text{Application Torque (Nm)} = \left(\frac{\text{horse power} \times 9550}{\text{RPM}}\right)$$

$$\text{Selection Torque} = \text{Application Torque} \times \text{Service Factor}$$

High Peak Loads and Brake Applications

For applications where high peak loads or high braking torques might be present, the following additional information will be necessary:

- System peak torque and frequency
- Duty cycle
- Brake torque rating

The selection torque formula is similar to the formula shown above except that the application torque should be doubled prior to applying the service factor.

$$\text{Application Torque (in-lbs)} = \left(\frac{\text{horse power} \times 63025}{\text{RPM}}\right)$$

$$\text{Application Torque (Nm)} = \left(\frac{\text{horse power} \times 9550}{\text{RPM}}\right)$$

$$\text{Selection Torque} = \frac{2 \times \text{Application Torque}}{} \times \text{Service Factor}$$

Please feel free to contact Lovejoy Application Engineering or Technical Support for assistance with additional grid coupling questions.

GD

Steps In Selecting A Grid Coupling

Step 1: Determine the application torque using the formula shown above.

Step 2: Select the Service Factor from the charts on pages GD-7 and GD-8. For applications not displayed use the chart shown to the right. Determine the Selection Torque using the formula shown above.

Step 3: Using the selection torque as calculated, refer to the Performance Chart on page GD-10 to determine the minimum size grid coupling that will accommodate the torque.

Step 4: Compare the maximum bore for the size selected and ensure the required bore sizes do not exceed the maximum allowable. If the required bore size is larger, step up to the next size coupling and check to see if the bore sizes will fit.

Step 5: Using the selected coupling size, compare the bore and keyway sizes with the charts located on pages GD-16 thru GD-17 for UPC part numbers.

Step 6: Contact your local industrial supplier with the part numbers to place your order.

See the Selection Example process on the next page.

Selection Example

Application Description

A company would like to use a grid coupling to connect a standard AC electric motor to a rotary lobe compressor. The electric motor is rated for 60 horsepower running at 1,760 RPM. The shaft size on the electric motor (driver) is 2-1/8 inches with a standard 1/2" square key. The shaft size on the compressor (driven) is 48 millimeters with a standard 14mm key. Both the motor and compressor shaft are 3 inches long and the gap (BSE) between the shaft ends is 1/8 inch.

The following steps provide an excellent selection process that will work for most standard grid coupling selections. For assistance in this selection process, feel free to contact Lovejoy Application Engineering or Technical Support.

Step 1: Using the information provided by the customer, determine the application torque:

$$\text{Application Torque (in-lbs)} = \left(\frac{\text{horse power x 63025}}{\text{RPM}}\right)$$

for this example:

$$\text{Application Torque (in-lbs)} = \left(\frac{60 \text{ x } 63025}{1{,}760}\right) = 2{,}149 \text{ in-lbs}$$

Step 2: Select the application service factor from the chart on pages GD-7 and GD-8 to determine which value best corresponds to an electric motor driven rotary lobe style compressor. In the charts find the application category 'Compressors', 'Rotary lobe and vane', and under the column for 'Electric Motors', is the service factor number 1.25.

If the service factor did not appear on the service factor charts for the defined application, a generic value could be selected from the chart located on the right side of this page.

Step 3: Calculate the Selection Torque for the application:

Selection Torque = Application Torque x Service Factor

Selection Torque = 2,149 in-lbs x 1.25 = 2,687 in-lbs

Step 4: Reference the Grid Coupling Performance and Dimensional data on pages GD-10 and GD-11. Use the Selection Torque to make an initial selection based on the nominal torque allowed for the coupling size. The first coupling size that can accommodate 2,687 in-lbs or torque is the size 1050 grid coupling with a nominal torque rating of 3,850 in-lbs.

Step 5: Note, that the electric motor's 2-1/8 inch shaft diameter exceeds the maximum allowable bore size for a size 1050 coupling which is 1-7/8 inches. Using the same chart, scan the column for maximum bore sizes and find the first coupling size larger than the 1050 that will accommodate the 2-1/8 inch bore size. The size 1060 coupling will accommodate the 2-1/8 inch bore. The horizontal cover can be selected since the application speed of 1,760 RPM does not exceed the coupling's maximum speed of 4,350 RPM.

Step 6: Prior to finalizing the 1060 selection, it is always a good idea to review all of the coupling details to ensure the correct coupling has been selected. The following are the comparisons usually made.

	1060 Coupling	Application	Acceptable?
Torque:	6,050 in-lbs	2,687 in-lbs	yes
Bore Size:	2-1/8" max	2-1/8"	yes
BSE	0.13"	1/8"	yes
Speed	4,350 RPM	1,760 RPM	yes
Mount length	5.13" OAL	6-1/8"	yes

Check the Grid Series Misalignment Chart to ensure the application meets the misalignment requirements. If the items above are acceptable and the application misalignment falls within the allowable range of the 1060 grid coupling, the 1060 grid coupling appears to be the correct coupling for this application.

Step 7: Using the UPC Selection tables on Pages GD-16 thru GD-19, find the required hubs for the corresponding coupling size and the required Cover and Grid Assembly.

1060 Hub Bore 2-1/8"	see page GD-16, use 05491
1060 Hub Bore 48mm	see page GD-17, use 05815
1060 Horizontal Cover and Grid assembly with inch hardware	see page GD-18, use 05353

Prefix all grid coupling part numbers with 697904

General Service Factors

Typical Applications for Electric Motor or Turbine Driven Equipment	Typical Service Factor
Constant Torque such as Centrifugal Pumps, Blowers, and Compressors.	1.0
Continuous Duty with some torque variations including Printing Presses, Extruders, Forced Draft Fans.	1.5
Light shock loads from Briquetting Machine, Rubber Calendar, or Crane and Hoist.	2.0
Moderate shock loading as expected from a Car Dumper, Reciprocating Feeder, or Vibrating Screen.	2.5
Heavy Shock load with some negative torques from Crushers, Manipulators, and Braking Drum.	3.0
For applications like Reciprocating Compressors with frequent torque reversals which do not necessarily cause reverse rotations, contact Lovejoy Technical Support.	

Application Service Factors

Chart 1

	Service Factors		
	Electric Motor w/ Standard Torque	Reciprocating Engines-4/5 Cylinder	Reciprocating Engines-6 or more Cyl
Aggregate Processing, Cement, Mining Kilns; Tube, Rod and Ball Mills			
Dryer, Rotary, Hammermill or Hog,Tumbling Mill or Barrel, Direct or on L.S. Shaft of Reducer, with Final Drive of Single Helical or Herringbone Gears	1.75	2.75	2.25
Grizzly, Direct or on L.S. Shaft of Reducer, with Final Drive of Machined Spur Gears	2.00	3.00	2.50
Crushers, Ore or Stone	2.50	*	*
Brewing and Distilling			
Bottle and Can Filling Machines, Brew Kettle	1.00	2.00	1.50
Cookers, Continuous Duty, Mash Tub	1.25	2.25	1.75
Lauter Tub	1.50	2.50	2.00
Scale Hopper, Frequent Peaks	1.75	2.75	2.25
Clay Working Industry			
Brick Press, Briquette Machine, Clay Working Machine, Plug Mill	1.75	2.75	2.25
Dredges			
Conveyors	1.25	2.25	1.75
Maneuvering Winch, Pumps (Uniform Load), Utility Winch	1.50	2.50	2.00
Cable Reel, Screen Drive, Stacker	1.75	2.75	2.25
Cutter Head, Jig Drive	2.00	3.00	2.50
Food Industry			
Bottling, Can Filling Machine	1.00	2.00	1.50
Cereal Cooker	1.25	2.25	1.75
Beet Slicer, Dough Mixer, Meat Grinder	1.75	2.75	2.25
Lumber			
Rolls, Non-Reversing, Sawdust Conveyor	1.25	2.25	1.75
Band Resaw, Sorting Table	1.50	2.50	2.00
Circular Resaw, Cut-off, Planer, Slab Conveyor, Trimmer	1.75	2.75	2.25
Edger, Head Rig, Hog, Log Haul, Rolls, Reversing	2.00	3.00	2.50
Gang Saw (Reciprocating)	Refer To Lovejoy		
Metal Rolling Mills[1]			
Soaking Pit Cover Drives - Lift	1.00	2.00	1.50
Coilers (Up or Down) Cold Mills only, Cooling Beds, Mill Tables Hot Bed or Transfer, Non-Reversing	1.50	2.50	2.00
Reel Drives, Slitters, Steel Mill only, Wire Drawing Machinery	1.75	2.75	2.25
Coilers (Up or Down) Hot Mills only, Coke Plants Door Opener, Drawbench, Furnace Pushers, Hot and Cold Saws, Ingot Cars, Mill Tables Runout, Non-Reversing, Non-Plugging, Screwdown, Seamless Tube Mills -Thrust Block, Tube Conveyor Rolls, Reeler, Kick Out, Soaking Pit Cover Drives - Travel, Straighteners, Unscramblers	2.00	3.00	2.50
Coke Plants Pusher Ram Drive,	2.50	*	*
Coke Plants Pusher or Larry Car Traction Drive, Feed Rolls-Blooming Mills, Manipulators, Mill Tables Roughing Breakdown Mills, Runout, Reversing, Seamless Tube Mills Piercer, Sideguards	3.00	*	*
Cold Mills, Hot Mills, Merchant Mills, Rod Mills, Skelp Mills	Refer To Lovejoy		
Oil Industry			
Chiller	1.25	2.25	1.75
Paraffin Filter Press	1.50	2.50	2.00
Oilwell Pumping (not over 150% Peak Torque), Rotary Kiln	2.00	3.00	2.50
Paper Mills			
Bleachers, Coaters, Stock Pumps, Centrifugal Constant Speed	1.00	2.00	2.50
Converting Machine, Felt Stretcher, Stock Pumps, Centrifugal Frequent Speed Changes Under Load	1.25	2.25	1.75
Line Shaft, Reel, Rewinder, Winder, Stock Chest, Washer, Thickener	1.50	2.50	2.00
Beater, Pulper, Calender, Couch, Cylinder, Dryer, Pulp Grinder, Fourdrinier, Press, Suction Roll	1.75	2.75	2.25
Barker Auxiliary, Hydraulic, Mechanical, Barking Drum L.S. Shaft of Reducer with Final Drive-Helical or Herringbone Gear, Cutter, Felt Whipper, Jordan, Log Haul	2.00	3.00	2.50
Barking Drum L.S. Shaft of Reducer with Final Drive-Machined Spur Gear, Chipper	2.50	*	*
Barking Drum L.S. Shaft of Reducer with Final Drive-Cast Tooth Spur Gear	3.00	*	*
Rubber Industry			
Tire/Tube Press Opener (Peak Torque)	1.00	2.00	1.50
Extruder, Mixing Mill, Refiner or Sheeter (Five or More in Line), Tuber, Strainer, Pelletizer, Warming Mill (Three or More in Line)	1.75	2.75	2.25
Calender, Mixing Mill, Refiner or Sheeter (Three/Four in Line), Warming Mill (One/Two in Line)	2.00	3.00	2.50
Cracker, Plasticator, Mixing Mill, Refiner or Sheeter (One/Two in line), Intensive or Banbury Mixer, Tire Building Machine, Washer	2.50	*	*
Sewage Disposal Equipment			
Bar Screen, Chemical Feeders, Collectors, Dewatering Screen, Grit Collector	1.00	2.00	1.50
Sugar Industry			
Mill Stands, Turbine Driven with all Helical or Herringbone Gears	1.50	2.50	2.00
Cane Carrier & Leveler, Electric Drive or Steam Engine Drive with Helical Herringbone, or Spur Gears with any Prime Mover	1.75	2.75	2.25
Cane Knife & Crusher	2.00	3.00	2.50

Notes:
- 1 indicates: For high peak load applications, please refer to selection process on page GD-5.
- * indicates: That Lovejoy Application Engineering should be consulted with specific requirements.
- Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Application Engineering with specific requirements.

GD

Application Service Factors

Chart 1, Continued

	Electric Motor w/ Standard Torque	Reciprocating Engines-4/5 Cylinder	Reciprocating Engines-6 or more Cyl
Textile Industry			
Batcher, Dyeing Machinery, Mangle, Napper, Soaper	1.25	2.25	1.75
Calender, Card Machine, Cloth Finishing Machine, Dry Can, Loom, Spinner, Tenter Frame, Winder	1.50	2.50	2.00
Knitting Machine	Refer To Lovejoy		
Applications			
Aerator	2.00	3.00	2.50
Agitators			
Vertical/Horizontal Screw, Propeller, Paddle	1.00	2.00	1.50
Barge Haul Puller	1.50	2.50	2.00
Blowers			
Centrifugal	1.00	2.00	1.50
Lobe, Vane	1.25	2.25	1.75
Car Dumpers	2.50	*	*
Car Pullers	1.50	2.50	2.00
Clarifier, Classifier	1.00	2.00	1.50
Compressors			
Centrifugal, Rotary, Screw	1.00	2.00	1.50
Rotary, Lobe or Vane	1.25	2.25	1.75
Reciprocating with Flywheel and Gear between Compressor and Prime Mover 4 or More Cyl. Single/Double Acting	1.75	2.75	2.25
Reciprocating with flywheel and Gear between Compressor and Prime Mover Cyl. Double Acting	2.00	3.00	2.50
Reciprocating with Flywheel and Gear between Compressor and Prime Mover 1/2 Cyl. Single/ Double Acting and 3 cyl. Single Acting	3.00	*	*
Reciprocating Direct Connected, Without Flywheels	Refer To Lovejoy		
Conveyors[2]			
Apron, Assembly, Belt, Chain, Flight, Screw	1.00	2.00	1.50
Bucket	1.25	2.25	1.75
Live Roll, Shaker, Reciprocating	3.00	*	*
Cranes, Hoist[1, 2]			
Slope	1.50	2.50	2.00
Main or Skip Hoist, Bridge, Travel, Trolley[2]	1.75	2.75	2.25
Dynamometer	1.00	2.00	1.50
Elevators[2]			
Bucket, Centrifugal, Discharge, Gravity Discharge	1.25	2.25	1.75
Freight or Passenger	NOT APPROVED		
Escalators	NOT APPROVED		
Exciter, Generator	1.00	2.00	1.50
Extruder, Plastic	1.50	2.50	2.00
Fans			
Centrifugal, Forced Draft Motor Driven thru Fluid or Electric Slip Clutch	1.00	2.00	1.50
Induced Draft with Damper Control or Blade Cleaner	1.25	2.25	1.75
Forced Draft-Across the Line start, Gas Recirculating	1.50	2.50	2.00
Cooling Tower, Induced Draft without Controls	2.00	3.00	2.50
Feeders			
Apron, Belt, Disc, Screw	1.00	2.00	1.50
Reciprocating	2.50	*	*
Generators			
Even Load	1.00	2.00	1.50
Hoist or Railway Service	1.50	2.50	2.00
Welder Load	2.00	3.00	2.50
Hammermill	1.75	2.75	2.25
Laundrywasher or Tumbler	2.00	3.00	2.50
Line Shafts			
Any Processing Machinery	1.50	2.50	2.00
Machine Tools			
Auxiliary, Traverse Drive	1.00	2.00	1.50
Main Drive	1.50	2.50	2.00
Bending Roll, Notching Press, Punch Press, Planer, Plate Reversing	1.75	2.75	2.25
Manlifts	NOT APPROVED		
Metal Forming Machines			
Slitters	1.00	2.00	1.50
Wire Winder, Coilers, Uncoilers	1.50	2.50	2.00
Wire Drawing, Flattening	1.75	2.75	2.25
Draw Bench Carriage, Main Drive, Extruder, Forming Machine, Forming Mills	2.00	3.00	2.50
Mixers (see Agitators)			
Muller	1.50	2.50	2.00
Concrete	1.75	2.75	2.25
Printing Press	1.50	2.50	2.00
Pug Mill	1.75	2.75	2.25
Pulverizers			
Roller	1.50	2.50	2.00
Hammermill, Hog	1.75	2.75	2.25
Pumps			
Centrifugal Constant Speed	1.00	2.00	1.50
Centrifugal Frequent Speed Changes under Load, Descaling, w/ Accumulators, Gear, Rotary, Vane	1.25	2.25	1.75
Reciprocating, 3 or more Cylinders	1.50	2.50	2.00
Reciprocating, 2 Cyl. Double Acting	1.75	2.75	2.25
Reciprocating, 2 Cyl. Single Acting	2.00	3.00	2.50
Reciprocating, 1 Cyl. Single/ Double Acting	3.00	*	*
Screens			
Air Washing, Water	1.00	2.00	1.50
Rotary Coal, Sand	1.50	2.50	2.00
Grizzly	2.00	3.00	2.50
Vibrating	2.50	*	*
Ski Tows, Lifts	NOT APPROVED		
Steering Gear	1.00	2.00	1.50
Stoker	1.00	2.00	1.50
Tumbling Barrel	1.75	2.75	2.25
Winch, Maneuvering			
Dredge, Marine	1.50	2.50	2.00
Windlass	1.50	2.50	2.00
Woodworking Machinery	1.00	2.00	1.50
Work Lift Platforms	NOT APPROVED		

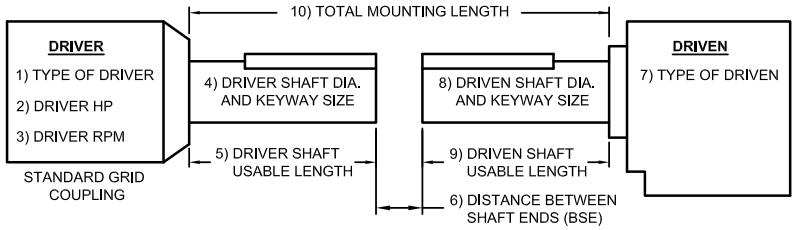
Notes:
- 1 indicates: For high peak load applications, please refer to selection process on page GD-5.
- 2 indicates: If people are transported Lovejoy does not recommend and will not warranty the use of the coupling.
- * indicates: That Lovejoy Application Engineering should be consulted with specific requirements.
- Caution: Applications involving reciprocating engines and reciprocating driven devices are subject to critical rotational speeds which may damage the coupling and/or connected equipment. Contact Lovejoy Application Engineering with specific requirements.

Grid Coupling Selection Worksheet

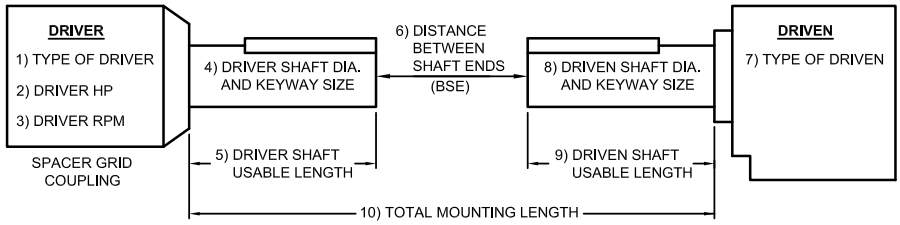
Customer Name: _____ **Contact Name:** _____

Phone Number: _____ **Email Address:** _____

Standard Grid Style Coupling



Standard Grid Spacer Coupling



1. Type of Driver (Electric Motor, Combustion Engine, Gearbox, etc.) :

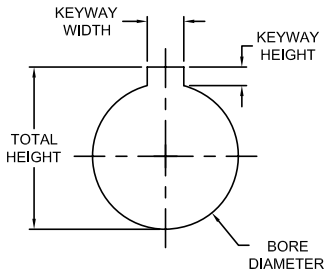
For combustion engines, define type

Gasoline, Diesel, Natural Gas, etc.: _____ Number of cylinders: _____

2. Driver Horse Power : _____ **3.** Driver or Gearbox output RPM: _____

Retrieve the application Service Factor from Page GD-7 and GD-8 : _____ then calculate the Selection Torque using the following formula:

Torque (in-lbs) = $\frac{\text{HP x 63025}}{\text{RPM}}$ x Service Factor = Selection Torque = _____ in-lbs



For additional bore and keyway information, see the Engineering Data Section of the Power Transmission Products Catalog

4. Driver Shaft Diameter : _____ Keyway size : KW Width _____ KW Height _____

By default, sizes 1020 thru 1090 have Clearance fits; Sizes 1100 thru 1200 have Interference Fits
If requesting other than default, please specify Clearance Fit, Interference Fit, Metric (P7, H7, etc)

5. Driver Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

6. Distance between shaft ends (BSE) : _____ (Stock BSE values can be found on page GD-14)

7. Type of Driven Equipment: _____

8. Driven Shaft Diameter : _____ Keyway size : KW Width _____ KW Height _____

By default, sizes 1020 thru 1090 have Clearance fits; Sizes 1100 thru 1200 have Interference Fits
If requesting other than default, please specify Clearance Fit, Interference Fit, Metric (P7, H7, etc)

9. Driven Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

10. Total Mounting Length : _____ (Advise of any obstructions, walls, beams, guards, pipes, etc.)

11. For taper bores or splines, please contact Lovejoy Application Engineering or Product Manager.

Lovejoy, Inc.
World Headquarters
2655 Wisconsin Avenue
Downers Grove, IL 60515

Send this form to:
appleng@lovejoy-inc.com
or fax to: 800-446-0878

Standard Grid Style Couplings
Horizontal and Vertical Cover

The Lovejoy Grid coupling is an ideal coupling for applications where excellent performance is desired and additional requirements for vibration dampening may exist. The Horizontal Split Cover design is recommended in applications where there may be some constraints on the diameter of the coupling. The vertical design is recommended for applications where higher speed is one of the requirements.



Horizontal Cover Style



Vertical Cover Style

Features:

- Designed for ease of maintenance and grid spring replacement
- High tensile grid springs ensure superior coupling performance and longer coupling life
- Split covers allow for easy access to grid springs
- Interchangeable with industry standard grid couplings

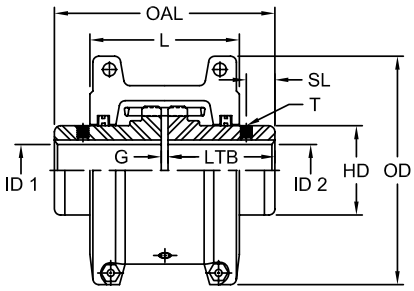
GD

Grid Coupling Performance Data

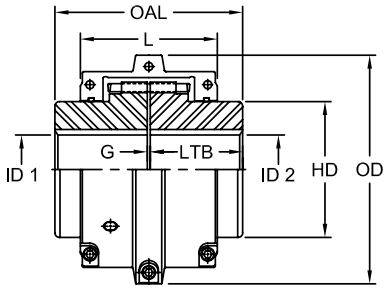
Size	Nominal Torque[1]		Maximum Speed		ID1 - ID2 Min Bore		ID1 - ID2 Max Bore		SL[2] Set Screw Location	T Set Screw Size	Weight Solid		Moment of Inertia Solid Hubs	
	in-lbs	Nm	Horizontal RPM	Vertical RPM	in	mm	in	mm	in	in	lbs	kg	Horizontal WR² lb-in²	Vertical WR² lb-in²
1020	460	52	4,500	6,000	0.500	12	1.125	28	0.50	#8-32	4.3	2.0	4.83	5.32
1030	1,320	149	4,500	6,000	0.500	12	1.375	35	0.31	#8-32	5.7	2.6	7.61	7.99
1040	2,200	249	4,500	6,000	0.500	12	1.625	42	0.44	#10-24	7.4	3.4	11.19	11.99
1050	3,850	435	4,500	6,000	0.500	12	1.875	48	0.62	#10-24	12.0	5.4	24.85	25.76
1060	6,050	683	4,350	6,000	0.750	19	2.125	54	0.44	#10-24	16.0	7.3	40.66	41.16
1070	8,800	994	4,125	5,500	0.750	19	2.500	64	0.88	1/4-20	23.0	10.4	63.18	61.68
1080	18,150	2 051	3,600	4,750	1.062	27	3.000	76	0.94	1/4-20	39.0	17.7	154.00	148.00
1090	33,000	3 728	3,600	4,000	1.062	27	3.500	89	1.03	5/16-18	56.0	25.4	269.00	272.00
1100	55,550	6 276	2,400	3,250	1.625	41	4.000	102	—	—	93.0	42.2	609.00	608.00
1110	82,500	9 321	2,250	3,000	1.625	41	4.500	117	—	—	120.0	54.4	923.00	930.00
1120	121,000	13 671	2,025	2,700	2.375	60	5.000	127	—	—	180.0	81.2	1,755.00	1,611.00
1130	176,000	19 884	1,800	2,400	2.625	67	6.000	152	—	—	270.0	121.0	3,375.00	3,568.00
1140	253,000	28 584	1,650	2,200	2.625	67	7.250	184	—	—	394.0	177.8	6,306.00	6,431.00
1150	352,000	39 769	1,500	—	4.250	108	8.000	200	—	—	523.0	237.2	—	—
1160	495,000	55 925	1,350	—	4.750	121	9.000	228	—	—	720.0	326.5	—	—
1170	660,000	74 567	1,225	—	5.250	134	10.000	254	—	—	1,022.5	463.7	—	—
1180	915,200	103 399	1,100	—	6.000	153	11.000	280	—	—	1,341.7	608.5	—	—
1190	1,210,000	136 706	1,050	—	6.000	153	12.000	305	—	—	1,710.0	775.5	—	—
1200	1,650,000	186 417	900	—	7.000	178	13.000	330	—	—	2,331.0	1057.1	—	—

Notes:
- 1 indicates: Peak torque is typically twice the Nominal Torque value.
- 2 indicates: Sizes 1020 thru 1090 are bored with clearance fit with 2 set screws at 90°, sizes 1100 and larger are bored with interference fit and no set screw.

Grid Coupling with Horizontal Style Cover

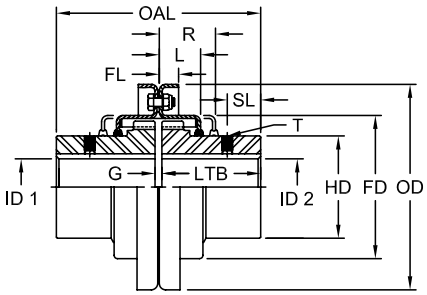


Sizes 1020 - 1140



Sizes 1150 - 1200

Grid Coupling with Vertical Style Cover



Sizes 1020 - 1090

Grid Coupling Dimensional Data

Size	OAL		R	L		FL	G 1		LTB		OD				FD		HD	
				Horz Cover	Vert Cover						Horz Cover		Vert Cover					
	in	mm	in	in	in	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
1020	3.88	98.5	1.88	2.62	0.96	0.38	0.118	3.00	1.87	47.5	4.00	101.6	4.38	111.3	2.50	63.5	1.56	39.7
1030	3.88	98.5	1.88	2.69	1.00	0.38	0.118	3.00	1.87	47.5	4.33	110.0	4.75	120.7	2.88	73.0	1.94	49.2
1040	4.12	104.7	2.00	2.75	1.03	0.38	0.118	3.00	2.00	50.8	4.63	117.6	5.06	128.5	3.25	82.6	2.25	57.2
1050	4.88	123.8	2.38	3.18	1.24	0.47	0.118	3.00	2.37	60.3	5.43	138.0	5.81	147.6	3.88	98.4	2.63	66.7
1060	5.12	130.0	2.50	3.68	1.27	0.50	0.118	3.00	2.50	63.5	5.93	150.5	6.38	162.1	4.38	111.1	3.00	76.2
1070	6.12	155.5	2.63	3.80	1.33	0.50	0.118	3.00	3.00	76.2	6.37	161.8	6.81	173.0	4.88	123.8	3.44	87.3
1080	7.12	180.8	3.50	4.55	1.74	0.50	0.118	3.00	3.50	88.9	7.64	194.0	7.87	199.9	5.00	127.0	4.13	104.9
1090	7.88	200.0	3.75	4.80	1.86	0.50	0.118	3.00	3.87	98.4	8.39	213.0	9.12	231.7	6.52	165.7	4.87	123.7
1100	9.69	246.1	4.75	6.12	2.38	0.63	0.177	4.50	4.75	120.6	9.84	250.0	10.05	255.3	7.75	196.9	5.59	142.0
1110	10.19	258.7	4.88	6.36	2.50	0.63	0.177	4.50	5.00	127.0	10.63	270.0	11.25	285.8	8.50	215.9	6.31	160.3
1120	12.00	304.8	5.63	7.54	2.94	0.68	0.236	6.00	5.87	149.2	12.13	308.0	12.56	319.0	9.63	244.5	7.06	179.4
1130	13.00	330.2	5.75	7.68	3.00	0.82	0.236	6.00	6.37	161.9	13.62	346.0	14.88	378.0	11.13	282.6	8.56	217.5
1140	14.63	371.6	6.13	7.91	3.13	0.82	0.236	6.00	7.20	182.9	15.12	384.0	16.38	416.1	12.63	320.7	10.00	254.0
1150	14.65	372.1	—	10.69	—	—	0.236	6.00	7.20	182.9	17.84	453.1	—	—	—	—	10.60	269.2
1160	15.85	402.6	—	10.96	—	—	0.236	6.00	7.80	198.1	19.74	501.4	—	—	—	—	12.00	304.8
1170	17.25	437.1	—	12.10	—	—	0.236	6.00	8.50	215.9	22.30	566.4	—	—	—	—	14.00	355.6
1180	19.05	483.9	—	12.64	—	—	0.236	6.00	9.40	238.8	24.80	629.9	—	—	—	—	15.50	393.7
1190	20.65	524.5	—	12.80	—	—	0.236	6.00	10.20	259.1	26.60	675.6	—	—	—	—	17.20	436.9
1200	22.25	565.1	—	14.00	—	—	0.236	6.00	10.98	279.0	29.80	756.9	—	—	—	—	19.60	497.8

Note: ■ 1 indicates: For sizes 1020 thru 1080, the gap tolerance for dimension G is + .050" / - .050" (+ 1.5 mm / - 1.5 mm).
For sizes 1090 thru 1120, the gap tolerance for dimension G is + .177" / - .118" (+ 4.5 mm / - 3 mm).
For sizes 1120 thru 1200, the gap tolerance for dimension G is + .236" / - .177" (+ 6 mm / - 4.5 mm).

GD

Standard Grid Spacer and Half Spacer Style Couplings Horizontal Cover

The Lovejoy Grid Spacer coupling is an ideal coupling for applications where there is a requirement for some vibration dampening in installations that are not close coupled. This means some amount of gap, or BSE exists between the driver and driven equipment shafts.

All Lovejoy Grid Spacer Couplings are supplied with Horizontal Split Covers. The split cover design allows for quick access to the grid spring for ease of maintenance or grid spring replacement. The Horizontal Split Cover is also ideal for applications where there may be some constraints on the diameter of the coupling.



Full Spacer Style



Half Spacer Style

Features:

- Designed for ease of maintenance and grid spring replacement
- High tensile grid springs ensure superior coupling performance and longer coupling life
- Split covers allow for easy access to grid springs
- Interchangeable with industry standard grid couplings

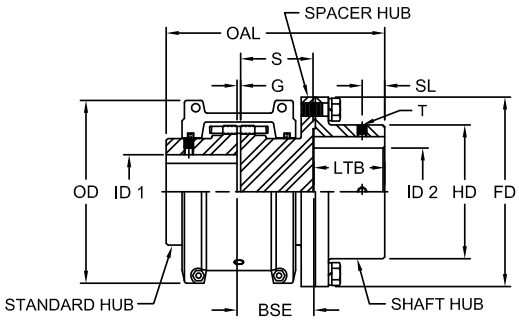
GD

Grid Series Spacer Coupling Performance and Dimensional Data

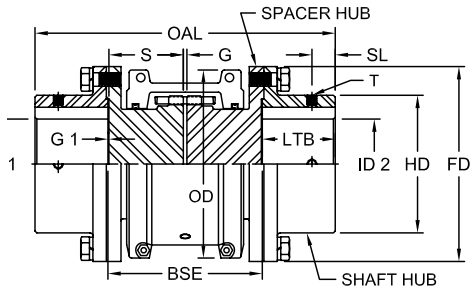
Size	Nominal Torque [1] in-lbs	Nm	Maximum Speed RPM	ID1 - ID2 Min Bore in/mm	Max Bore in	mm	G in	G1 in	LTB Stnd Hub in	mm	FD in	HD in	OD in	SL Set Screw Location in	T Set Screw Size in
1020	460	48	3,600	Solid	1.38	35	0.19	0.03	1.87	47	3.38	2.06	4.00	0.50	#8-32
1030	1,320	136	3,600	Solid	1.63	41	0.19	0.03	1.87	47	3.69	2.34	4.38	0.31	#8-32
1040	2,200	226	3,600	Solid	2.13	54	0.19	0.03	2.00	51	4.44	3.09	4.62	0.44	#10-24
1050	3,850	395	3,600	Solid	2.38	60	0.19	0.03	2.37	60	4.94	3.44	5.44	0.62	#10-24
1060	6,050	621	3,600	Solid	2.88	73	0.19	0.06	2.50	64	5.69	4.06	5.94	0.44	#10-24
1070	8,800	904	3,600	Solid	3.13	79	0.19	0.06	3.00	76	6.00	4.31	6.38	0.88	1/4-20
1080	18,150	1 864	3,600	Solid	3.50	89	0.19	0.06	3.50	89	7.00	4.81	7.62	0.94	1/4-20
1090	33,000	3 390	3,600	Solid	4.00	102	0.19	0.06	3.87	98	8.25	5.62	8.38	1.03	5/16-18

Note: ■ 1 Indicates: Peak torque is typically twice the Nominal Torque value.

To calculate the OAL (Over All Length) for Full Spacer Style (Spacer Hubs both ends) use the following formula:
OAL = (2 x LTB) + (2 x S) + (2 x G1) + G
To calculate the OAL (Over All Length) for Half Spacer Style (Spacer Hubs one end only) use the following formula:
OAL = LTB + LTB2 + S + G1 + G



Half Spacer Style Grid Coupling



Full Spacer Style Grid Coupling

Each column has a header showing the desired shaft separation (BSE). By extending the coupling size over to the desired column for the shaft separation, the box lists the two hub sizes required to achieve the BSE.

Grid Series Half Spacer Dimensional Data

Size	Spacer Hubs 1-side only	BSE - Application Shaft Separation				
		1.781	2.219	2.531	3.500	3.656
		Spacer Hub Lengths S-Dimension				
1020	Stnd Hub Hub 2	Stnd 1.625	Stnd 2.062	Stnd 2.375	—	—
1030	Stnd Hub Hub 2	Stnd 1.625	Stnd 2.062	Stnd 2.375	Stnd 3.344	Stnd 3.500
1040	Stnd Hub Hub 2	Stnd 1.625	Stnd 2.062	Stnd 2.375	Stnd 3.344	Stnd 3.500
1050	Stnd Hub Hub 2	—	—	Stnd 2.375	—	Stnd 3.500
1060	Stnd Hub Hub 2	—	—	Stnd 2.344	—	Stnd 3.469
1070	Stnd Hub Hub 2	—	—	Stnd 2.344	—	Stnd 3.469
1080	Stnd Hub Hub 2	—	—	—	—	Stnd 3.469
1090	Stnd Hub Hub 2	—	—	—	—	Stnd 3.469

GD

Grid Series Full Spacer Dimensional Data

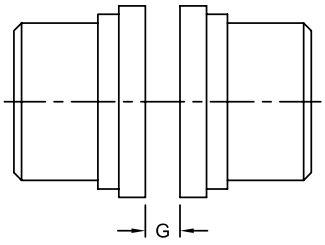
Size	Spacer Hubs Both Hubs	BSE - Application Shaft Separation														
		3.500	3.980	4.250	4.375	4.688	5.000	5.219	5.375	5.656	5.813	5.969	6.125	6.938	7.094	7.250
		Spacer Hub Lengths S - Dimension (See drawing above)														
1020	Hub 1 Hub 2	1.625 1.625	1.625 2.062	1.625 2.375	2.062 2.062	2.062 2.375	2.375 2.375	—	—	—	—	—	—	—	—	—
1030	Hub 1 Hub 2	1.625 1.625	1.625 2.062	1.625 2.375	2.062 2.062	2.062 2.375	2.375 2.375	—	1.625 3.500	—	2.062 3.500	2.375 3.344	2.375 3.500	—	—	3.500 3.500
1040	Hub 1 Hub 2	1.625 1.625	1.625 2.062	1.625 2.375	2.062 2.062	2.062 2.375	2.375 2.375	1.625 3.344	1.625 3.500	2.062 3.344	2.062 3.500	2.375 3.344	2.375 3.500	3.344 3.344	3.344 3.500	3.500 3.500
1050	Hub 1 Hub 2	—	—	—	2.062 2.062	2.062 2.375	2.375 2.375	—	—	2.062 3.344	2.062 3.500	—	2.375 3.500	3.344 3.344	3.344 3.500	3.500 3.500
1060	Hub 1 Hub 2	—	—	—	—	—	2.344 2.344	—	—	—	—	—	2.344 3.469	—	—	3.469 3.469
1070	Hub 1 Hub 2	—	—	—	—	—	2.344 2.344	—	—	—	—	—	2.344 3.469	—	—	3.469 3.469
1080	Hub 1 Hub 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.469 3.469
1090	Hub 1 Hub 2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.469 3.469

Grid Series Misalignment Capacity (Standard and Spacer Type)

Size	P	X - Y	P	X-Y	G
	Maximum Misalignment				Nominal
	Installation		Operational		BSE - Gap
	Parallel	Angular 1	Parallel	Angular 1	+/- 10%
	in	in	in	in	in
1020	0.006	0.002	0.012	0.009	0.118
1030	0.006	0.003	0.012	0.011	0.118
1040	0.006	0.003	0.012	0.013	0.118
1050	0.008	0.004	0.016	0.015	0.118
1060	0.008	0.004	0.016	0.018	0.118
1070	0.008	0.005	0.016	0.020	0.118
1080	0.008	0.006	0.016	0.024	0.118
1090	0.008	0.007	0.016	0.028	0.118
1100	0.010	0.008	0.020	0.032	0.177
1110	0.010	0.009	0.020	0.035	0.177
1120	0.011	0.010	0.022	0.040	0.236
1130	0.011	0.012	0.022	0.047	0.236
1140	0.011	0.013	0.022	0.053	0.236
1150	0.012	0.015	0.024	0.061	0.236
1160	0.012	0.017	0.024	0.070	0.236
1170	0.012	0.020	0.024	0.079	0.236
1180	0.015	0.022	0.030	0.089	0.236
1190	0.015	0.024	0.030	0.096	0.236
1200	0.015	0.027	0.030	0.107	0.236

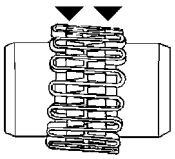
Note: ■ 1 Indicates: Allowable angular misalignment at installation is 1/16°.
Allowable angular misalignment during operation is 1/4°.



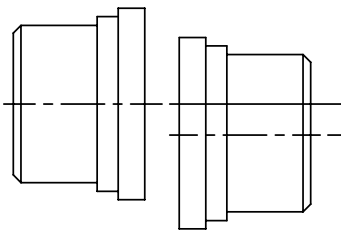


Normal Gap

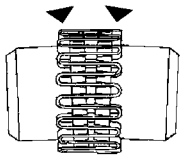
Misalignment Capability:



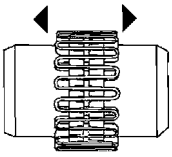
Parallel: The movement of the grid in the hub grooves accommodates parallel misalignment and still permits full functioning of the grid-groove action in damping out shock and vibration.



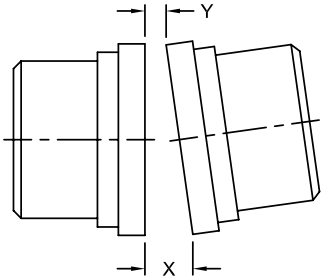
Parallel Misalignment



Angular: Under angular misalignment, the grid-groove design permits a rocking and sliding action of the grid and hubs without any loss of power through the resilient grid.



Axial: End float is permitted for both driving and driven members because the grid slides freely in the grooves.



Angular Misalignment

Industry Standard Interchange

Lovejoy Grid couplings are interchangeable with industry standard grid couplings supplied by other major coupling manufacturers. The chart below provides part numbers necessary to make the crossover from these other major manufacturers.

Industry Standard Grid Coupling Interchange Chart

Lovejoy® Size	Horizontal — Split Cover				Vertical — Split Cover			
	Falk® Steelflex®	Morse/Browning® Grid-Flex®	Dodge® Grid-Lign®	Kop-Flex® Kop-Grid®	Falk® Steelflex®	Morse/Browning® Grid-Flex®	Dodge® Grid-Lign®	Kop-Flex® Kop-Grid®
1020	1020T10	GF2020H	1020T10	1020H	1020T20	GF2020V	1020T20	1020V
1030	1030T10	GF2030H	1030T10	1030H	1030T20	GF2030V	1030T20	1030V
1040	1040T10	GF2040H	1040T10	1040H	1040T20	GF2040V	1040T20	1040V
1050	1050T10	GF2050H	1050T10	1050H	1050T20	GF2050V	1050T20	1050V
1060	1060T10	GF2060H	1060T10	1060H	1060T20	GF2060V	1060T20	1060V
1070	1070T10	GF2070H	1070T10	1070H	1070T20	GF2070V	1070T20	1070V
1080	1080T10	GF2080H	1080T10	1080H	1080T20	GF2080V	1080T20	1080V
1090	1090T10	GF2090H	1090T10	1090H	1090T20	GF2090V	1090T20	1090V
1100	1100T10	GF2100H	1100T10	1100H	1100T20	GF2100V	1100T20	1100V
1110	1110T10	GF2110H	1110T10	1110H	1110T20	GF2110V	1110T20	1110V
1120	1120T10	GF2120H	1120T10	1120H	1120T20	GF2120V	1120T20	1120V
1130	1130T10	GF2130H	1130T10	1130H	1130T20	GF2130V	1130T20	1130V
1140	1140T10	GF2140H	1140T10	1140H	1140T20	GF2140V	1140T20	1140V
1150	1150T10	—	—	—	—	—	—	—
1160	1160T10	—	—	—	—	—	—	—
1170	1170T10	—	—	—	—	—	—	—
1180	1180T10	—	—	—	—	—	—	—
1190	1190T10	—	—	—	—	—	—	—
1200	1200T10	—	—	—	—	—	—	—

GD

Grid Coupling Hubs - Inch Bore and Keyway UPC Number Selection Table

Bore	Keyway	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140
SOLID		05231	05232	05233	05234	05235	05236	05237	05238	05239	05240	05241	05242	05243
1/2	1/8 x 1/16	05458	—	—	—	—	—	—	—	—	—	—	—	—
5/8	3/16 x 3/32	05459	05464	—	—	—	—	—	—	—	—	—	—	—
3/4	3/16 x 3/32	05460	05465	06140	—	—	—	—	—	—	—	—	—	—
7/8	3/16 x 3/32	05461	05466	05471	06141	06142	99245	—	—	—	—	—	—	—
15/16	1/4 x 1/8	06100	06101	06103	06106	16752	—	—	—	—	—	—	—	—
1	1/4 x 1/8	05462	05467	05472	06107	06112	90793	—	—	—	—	—	—	—
1-1/8	1/4 x 1/8	05463	05468	05473	05478	06113	06144	07364	—	—	—	—	—	—
1-3/16	1/4 x 1/8	—	06102	06104	06108	06114	—	—	—	—	—	—	—	—
1-1/4	1/4 x 1/8	—	05469	05474	05479	06115	06145	06148	—	—	—	—	—	—
1-3/8	5/16 x 5/32	—	05470	05475	05480	05485	06119	06149	—	—	—	—	—	—
1-7/16	3/8 x 3/16	—	—	06105	06109	06116	06120	08124	—	—	—	—	—	—
1-1/2	3/8 x 3/16	—	—	05476	05481	05486	06121	91199	—	—	—	—	—	—
1-5/8	3/8 x 3/16	—	—	05477	05482	05487	05492	06150	—	—	—	—	—	—
1-11/16	3/8 x 3/16	—	—	—	06110	06117	06122	97351	—	—	—	—	—	—
1-3/4	3/8 x 3/16	—	—	—	05483	05488	05493	06124	94087	—	—	—	—	—
1-13/16	1/2 x 1/4	—	—	—	06111	06118	06123	06125	—	—	—	—	—	—
1-7/8	1/2 x 1/4	—	—	—	05484	05489	05494	06126	06154	—	—	—	—	—
1-15/16	1/2 x 1/4	—	—	—	—	06143	06146	06151	16852	—	—	—	—	—
2	1/2 x 1/4	—	—	—	—	05490	05495	05500	06155	—	—	—	—	—
2-1/8	1/2 x 1/4	—	—	—	—	05491	05496	05501	06127	—	—	—	—	—
2-3/16	1/2 x 1/4	—	—	—	—	—	06147	06152	06156	—	—	—	—	—
2-1/4	1/2 x 1/4	—	—	—	—	—	05497	05502	06128	11767	—	—	—	—
2-3/8	5/8 x 5/16	—	—	—	—	—	05498	05503	06129	09399	—	—	—	—
2-1/2	5/8 x 5/16	—	—	—	—	—	05499	05504	05509	05519	—	—	—	—
2-5/8	5/8 x 5/16	—	—	—	—	—	—	05505	05510	05520	—	—	—	—
2-3/4	5/8 x 5/16	—	—	—	—	—	—	05506	05511	05521	—	—	—	—
2-7/8	3/4 x 3/8	—	—	—	—	—	—	05507	05512	05522	—	—	—	—
2-15/16	3/4 x 3/8	—	—	—	—	—	—	06153	04386	—	—	—	—	—
3	3/4 x 3/8	—	—	—	—	—	—	05508	05513	05523	05532	05542	—	—
3-1/8	3/4 x 3/8	—	—	—	—	—	—	—	05514	05524	05533	05543	—	—
3-1/4	3/4 x 3/8	—	—	—	—	—	—	—	05515	05525	05534	05544	—	—
3-3/8	7/8 x 7/16	—	—	—	—	—	—	—	05516	05526	05535	05545	—	—
3-7/16	7/8 x 7/16	—	—	—	—	—	—	—	06158	95492	—	—	—	—
3-1/2	7/8 x 7/16	—	—	—	—	—	—	—	05517	05527	05536	05546	05553	—
3-5/8	7/8 x 7/16	—	—	—	—	—	—	—	—	05528	05537	05547	05554	—
3-3/4	7/8 x 7/16	—	—	—	—	—	—	—	—	05529	05538	05548	05555	—
3-7/8	1 x 1/2	—	—	—	—	—	—	—	—	05530	05539	05549	05556	05562
4	1 x 1/2	—	—	—	—	—	—	—	—	05531	05540	05550	05557	05563
4-1/2	1 x 1/2	—	—	—	—	—	—	—	—	—	05541	05551	05558	05564
5	1 1/4 x 5/8	—	—	—	—	—	—	—	—	—	—	05552	05559	05565
5-1/2	1 1/4 x 5/8	—	—	—	—	—	—	—	—	—	—	—	05560	05566
6	1 1/2 x 3/4	—	—	—	—	—	—	—	—	—	—	—	05561	05567
6-1/2	1 1/2 x 3/4	—	—	—	—	—	—	—	—	—	—	—	—	05568
7	1 1/2 x 3/4	—	—	—	—	—	—	—	—	—	—	—	—	05569

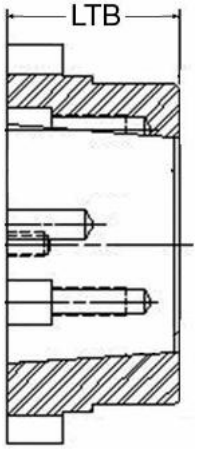
Notes:
- Size 1020 thru 1090 hubs are provided with clearance fit bores and 2 set screws at 90°.
- Size 1100 thru 1200 hubs are provided with interference fit bores and no set screws.
- Lovejoy machines Inch bores and keyways to meet tolerances define in the ANSI/AGMA 9002-B04 Standard.
- When referencing the Lovejoy UPC number from this table, include 697904 as a prefix to the number shown.

Grid Coupling Hubs - Metric Bore and Keyway UPC Number Selection Table

Bore	Keyway	1020	1030	1040	1050	1060	1070	1080	1090
14	5 x 2.3	05780	—	—	—	—	—	—	—
15	5 x 2.3	05781	—	—	—	—	—	—	—
16	5 x 2.3	05782	07703	—	—	—	—	—	—
19	6 x 2.8	05783	05788	—	—	—	—	—	—
20	6 x 2.8	05784	05789	90454	—	—	—	—	—
22	6 x 2.8	05785	05790	93740	—	—	—	—	—
24	8 x 3.3	05786	05791	05797	19975	—	—	—	—
25	8 x 3.3	05787	05792	05798	16296	—	—	—	—
28	8 x 3.3	—	05793	05799	05805	—	—	—	—
30	8 x 3.3	—	05794	05800	05806	—	—	—	—
32	10 x 3.3	—	05795	05801	05807	11865	—	—	—
35	10 x 3.3	—	05796	05802	05808	05812	05817	—	—
38	10 x 3.3	—	—	05803	05809	05813	05818	05823	—
42	12 x 3.3	—	—	05804	05810	05814	05819	05824	05830
48	14 x 3.8	—	—	—	05811	05815	05820	05825	05831
55	16 x 4.3	—	—	—	—	05816	05821	05826	05832
60	18 x 4.4	—	—	—	—	—	05822	05827	05833
70	20 x 4.9	—	—	—	—	—	—	05828	05834
80	22 x 5.4	—	—	—	—	—	—	05829	05835
85	22 x 5.4	—	—	—	—	—	—	—	05836
95	22 x 5.4	—	—	—	—	—	—	—	05837

Notes:
- Size 1020 thru 1090 hubs are provided with clearance fit bores and 2 set screws at 90°.
- Lovejoy machines Metric bores and keyways to meet tolerances defined in the ISO 286-2 Standard.
- When referencing the Lovejoy UPC number in this table, include 697904 as a prefix to the number shown.

GD



Front Mount on
Grid end of hub

Equipment side

Taper Lock Bushing Hub Torque Ratings and UPC Number Selection Table

Grid Coupling Size	Taper-Lock Bushing	Max Bore[1] Bushing in	Max Torque Bushing in-lbs	Rated Torque Coupling in-lbs	LTB in	LTB mm	Hub UPC Numbers UNC[2] Thread	Hub UPC Numbers BSW[2] Thread
1030	1108	1.125	1,300	1,320	1.625	41.3	06841	06851
1040	1108	1.125	1,300	2,200	1.625	41.3	06842	06852
1050	1215	1.250	3,550	3,850	1.875	47.6	06843	06853
1060	1615	1.625	4,300	6,050	2.125	54.0	06844	06854
1070	2012	2.000	7,150	8,800	2.125	54.0	06845	06855
1080	2525	2.500	11,300	18,150	2.625	66.7	06846	06856
1090	3030	3.000	24,000	33,000	3.110	79.0	06847	06857
1100	3030	3.000	24,000	55,550	3.490	88.6	06848	06858
1110	3535	3.500	44,800	82,500	3.625	92.0	06849	06859
1120	4040	4.000	77,300	121,000	4.375	111.1	06850	06860
1130	4545	4.500	110,000	176,000	4.625	—	18296	—

Notes:
- 1 Indicates: The maximum bore is supplied with a standard ANSI/AGMA 9002-B04 or ISO 286-2 keyway.
- 2 Indicates: Taper Lock Bushing mounting screws can be either inch (UNC) or metric (BSW) and care should be taken to select the proper hub part number.
- Taper Lock Bushings are a product of Baldor Dodge and are not included with Lovejoy coupling hubs.
- Maximum bore size and torque capacities are per Dodge specifications and Lovejoy is not responsible for the accuracy of any of the values listed relative to bore size and torque capacity.
- When referencing the Lovejoy UPC number in this table, indicate 697904 as prefix to number shown.

Tapered Component UPC Number Selection Table

Sizes →	1020	1030	1040	1050	1060	1070	1080	1090	1100	1110	1120	1130	1140
Grid Only	05244	05245	05246	05247	05248	05249	05250	05251	05252	05253	05254	05255	05256
Horizontal Design:													
Cover/Grid Assembly-Metric	05366	05367	05368	05369	05370	05371	05372	05373	05374	05375	05376	05377	05378
Cover/Grid Assembly-Inch	05349	05350	05351	05352	05353	05354	05355	05356	05357	05358	05359	05360	05361
Cover Set-Metric	05290	05291	05292	05293	05294	05295	05296	05297	05298	05299	05300	05301	05302
Cover Set-Inch	05273	05274	05275	05276	05277	05278	05279	05280	05281	05282	05283	05284	05285
Seal Kit	05176	05177	05178	05179	05180	05181	05182	05183	05184	05185	05186	05187	05188
Cover Hardware-Metric	05210	05210	05210	05211	05211	05212	05212	05212	05213	05213	05214	05214	05214
Cover Hardware-Inch	05433	05433	05433	05434	05434	05435	05435	05435	05436	05436	05437	05437	05437
Vertical Design:													
Cover/Grid Assembly-Metric	05400	05401	05402	05403	05404	05405	05406	05407	05408	05409	05410	05411	05412
Cover/Grid Assembly-Inch	05383	05384	05385	05386	05387	05388	05389	05390	05391	05392	05393	05394	05395
Cover Set-Metric	05328	05329	05330	05331	05332	05333	05334	05335	05336	05337	05338	05339	05340
Cover Set-Inch	05307	05308	05309	05310	05311	05312	05313	05314	05315	05316	05317	05318	05319
Seal Kit	05189	05190	05191	05192	05193	05194	05195	05196	05197	05198	05199	05200	05201
Cover Hardware-Metric	05215	05216	05216	05217	05217	05217	05218	05218	05219	05219	05220	05221	05222
Cover Hardware-Inch	05442	05443	05443	05444	05444	05444	05445	05445	05446	05446	05447	05448	05449

Notes:
- The "Cover/Grid Assembly" includes ALL components of the coupling except the hubs and spacers.
- The terms "Inch" and "Metric" refer to the hardware (bolts, etc.).
- The "Cover Set" contains the parts of the Cover/Grid Assembly without the grid spring.
- The "Seal Kit" contains the rubber seals, gasket(s), and lube plugs.
- "Cover Hardware" includes the fasteners that hold the cover together.
- Grease packets are included with all Cover Sets and Cover/Grid Assemblies thru coupling size 1090.
- When referencing the Lovejoy UPC number in this table, include 697904 as a prefix to the number shown.

GD

Straight Component UPC Number Selection Table

Sizes →	1150	1160	1170	1180	1190	1200
Horizontal Design:						
Hub 73mm RSB	05587	—	—	—	—	—
Hub 100mm RSB	—	05589	05591	—	—	—
Hub 125mm RSB	—	—	—	05593	—	—
Hub 152mm RSB	—	—	—	—	99508	—
Hub 178mm RSB	—	—	—	—	—	99257
Grid Only	05257	05258	05329	05260	99254	99255
Cover/Grid Assembly-Metric	05379	05380	05381	05382	99270	10953
Cover/Grid Assembly-Inch	05362	05363	05364	05365	10555	10559
Cover Set-Metric	05303	05304	05305	05306	99271	10951
Cover Set-Inch	05286	05287	05288	05289	10556	10560
Seal Kit	05425	05426	05427	05428	10557	10561
Cover Hardware-Metric	05429	05429	05430	05430	—	—
Cover Hardware-Inch	05438	05438	05439	05439	10558	10562

Notes:
- The "Cover/Grid Assembly" includes ALL components of the coupling except the hubs and spacers.
- The terms "Inch" and "Metric" refer to the hardware (bolts, etc.)
- The "Cover Set" contains the parts of the Cover/Grid Assembly without the grid spring.
- The "Seal Kit" contains the rubber seals, gasket(s), and lube plugs.
- "Cover Hardware" includes the fasteners that hold the cover together.
- When referencing the Lovejoy UPC number in this table, include 697904 as a prefix to the number shown.

Disc

In This Section:

- SU-6 Series
- SX-6 Series
- SX-8 Series
- SXC-6 Series
- SXCS-6 Series
- SXCST-6 Series
- DI-6 Series
- DI-8 Series
- DIR-6 / DILR-6 Series
- DIRA-6 / DILRA-6 Series



D

Disc

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Disc

Table of Contents

	Running Page No.	Section Page No.
Overview	236	D-4
Selection Process	238	D-6
Application Service Factors > Selection Data	239	D-7
Disc Coupling Selection Worksheet	240	D-8
Specifications > Performance Data	241	D-9
SU-6 > Performance Data	242	D-10
SU-6 > Dimensional Data	243	D-11
SX-6 > Performance Data	244	D-12
SX-6 > Dimensional Data	245	D-13
SX-8 > Performance Data	246	D-14
SX-8 > Dimensional Data	247	D-15
SXC-6 > Performance Data	248	D-16
SXC-6 > Dimensional Data	249	D-17
SXCS-6 > Performance Data	250	D-18
SXCS-6 > Dimensional Data	251	D-19
SXCST-6 > Performance Data	252	D-20
SXCST-6 > Dimensional Data	253	D-21
DI-6 > Performance Data	254	D-22
DI-6 > Dimensional Data	255	D-23
DI-8 > Performance Data	256	D-24
DI-8 > Dimensional Data	257	D-25
DIR-6 and DILR-6 > Performance / Selection Process	258	D-26
DIRA-6 and DILRA-6 > Performance / Dimensional Data	259	D-27
Various Examples	260	D-28

Overview

Lovejoy takes great pride in being able to offer a wide variety of superior disc coupling products in models designed to meet the application needs of today's worldwide power transmission market.

Using advanced design techniques, implementation of Finite Element Analysis, and extensive testing of materials, Lovejoy has developed an innovative disc pack profile design revolutionary to traditional disc pack designs found in the market. This disc pack, which can accommodate 1/2° to 1-1/2° of angular misalignment and is used in all Lovejoy disc coupling products.

Lovejoy disc packs are manufactured using high grade stainless steel (AISI-301), ensuring high strength, high endurance to fatigue, and resistance to most environmental conditions.

Lovejoy disc couplings utilize unitized disc packs with both 6 or 8 bolt designs. The 8 bolt design can transmit greater torque than the 6 bolt design, however, it is not able to accommodate as much angular misalignment.

Lovejoy couplings can be fitted with overload bushings to protect the disc pack during momentary torsional overloads.

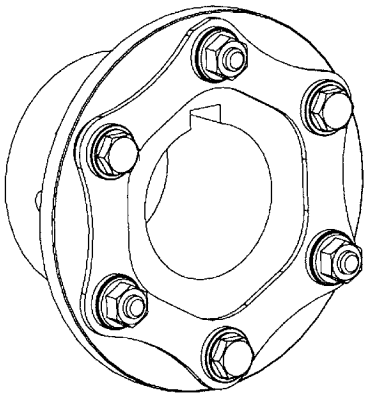
Lovejoy couplings are offered in a variety of configurations to fit most applications. In addition, Lovejoy's engineering department can customize a coupling to meet many special requirements such as close coupled, drop-out centers, electrically insulated, vertical mounting, and safety couplings. A notable design offered by Lovejoy is the reduced moment (DI Type) coupling that meets the anti-flail device requirements mandated in API-610 while offering a low weight and short center of gravity to bearing distance.

The design and manufacture of Lovejoy disc couplings is integrated into a certified Quality System according to ISO-9001 to fulfill the high quality requirements of Lovejoy customers.

WARNING

You must refer to page D-2 (Page 234) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Advantages of the Lovejoy Disc Coupling

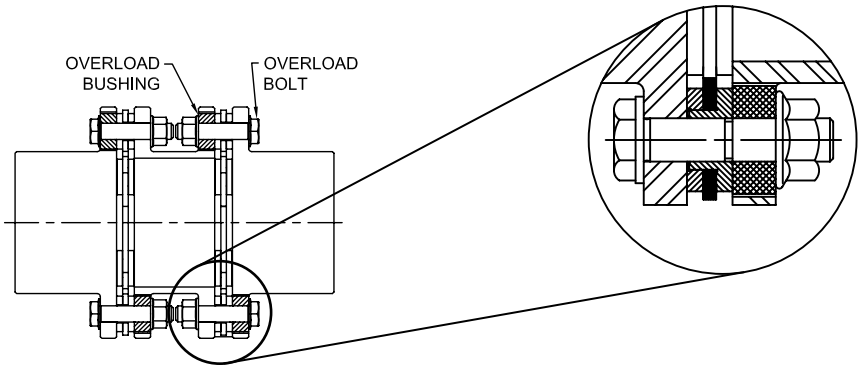


- Eliminates the need for lubrication and coupling maintenance
- Coupling can be inspected without disassembly
- Condition of disc packs can be inspected with a strobe light while the machine is running

  Note: It is not recommended that couplings be operated without coupling guards.
- Easy to assess equipment misalignment
- Torsionally rigid without any backlash
- No wearing parts
- Resistance to harsh environments
- Long life when properly sized and aligned
- High power density (higher torque for a given outside diameter)
- Lovejoy supports the API-610 Standard up to 3,800 RPM
- Unitized disc packs ensure repeatability necessary for meeting the balance and piloting requirements as mandated by API-610

Available with Overload Bushings to protect the coupling from momentary torque overloads

- Prevents the disc pack from being plastically deformed
- Allows for shorter BSE (shaft separation) because bolts can be turned to face inward
- Special orientation of bolts allows the bolts to be tightened using a torque wrench instead of nuts (Normal is to tighten nuts with torque wrench)

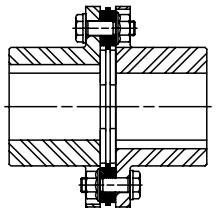


Lovejoy Disc Coupling Overview

Industrial SU Type

The SU Type coupling has a single flex plane with two hubs and a single disc pack. It is suitable for angular and axial misalignment only. Two SU couplings are often combined with a shaft to make a floating shaft coupling. The shaft can be hollow for long light weight floating shaft couplings.

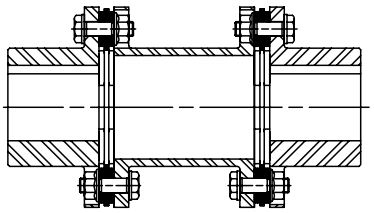
SU Type



Industrial SX Type

This is the standard coupling type that includes two hubs, a stock length spacer designed to meet industry standard lengths, and two unitized disc packs. The coupling has two flex planes, one at each disc pack, allowing this coupling to accommodate parallel, angular, and axial misalignment with specified limits. The coupling is available in 6 and 8 bolt designs and bore sizes up to 13 inches (330mm) on the largest size. Custom spacer lengths can be manufactured to meet special shaft separations required for specific applications. The SX coupling can be fitted with overload bushings to protect the disc packs in over torque conditions and can act as an anti-flail device. SX couplings are assembled at the time of installation on the equipment where the coupling will be in service.

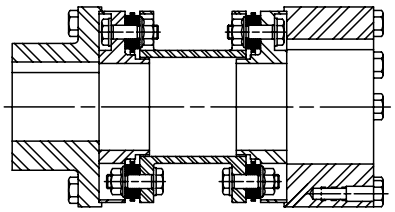
SX Type



Industrial DI Type

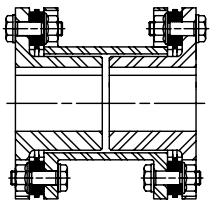
The DI Type coupling has a “Drop-In” spacer assembly that is assembled at the factory. The coupling consists of two hubs and a spacer assembly comprising of the spacer, two unitized disc packs, and two guard rings. The disc packs are bolted to the spacer and guard rings at the factory using the torque values recommended by Lovejoy for the disc pack bolts. With the hubs mounted on the shafts, the entire disc pack assembly can be “Dropped In” place between the two hubs. The hubs are piloted to ensure proper centering of the spacer assembly. This piloting serves as an anti-flail feature and aids in the coupling’s ability to meet the balance standards mandated by API. This style coupling is designed to meet the balance and anti-flail requirements specified in API-610.

DI Type



Oversized, or Jumbo, hubs are available for use with the DI Type coupling to allow for larger bore sizes on most DI coupling sizes. This allows for the use of smaller DI couplings in applications where a smaller size coupling can still accommodate the application torque.

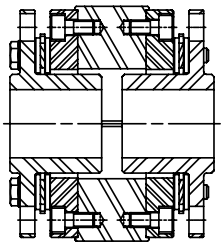
SXC Type



Industrial SXC Type

The SXC Type is the close coupled variation of the SX Type coupling. The SXC is similar to the SX coupling in that the disc packs are attached when the coupling is installed. In the close coupled units, the hubs are turned inward and are mounted inside the spacer. Note that with the hubs inside the spacer, the maximum bore allowed in the hub will be decreased. The SXC couplings can be used with one or both hubs turned outward to allow the coupling to accommodate different shaft separations.

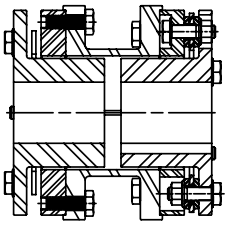
SXCS Type



Industrial SXCS and SXCST Types

The SXCS and SXCST Types have split spacers and the disc packs can be serviced or removed without moving the hubs on the shafts and without moving the equipment. The SXCS Type has the bolts that connect the hubs to the split spacer installed from the ends of the couplings. The SXCST have the bolts installed from inside the spacer pointing outward towards the hubs.

SXCST Type



Additional Types

Additional types of Lovejoy Disc couplings are illustrated on page D-28. Please contact Lovejoy Technical Support for couplings shown on these pages, or for special requirements not shown in this catalog.

Steps In Selecting A Disc Coupling

The following is a sample application used to illustrate the standard process for selecting a Lovejoy Disc coupling. Any resemblance to any existing company's application is neither intentional nor meant to resemble that company's actual application.

Sample Application:

A company has a compressor application using a 225 horsepower electric motor running at 1,150 RPM to drive a three cylinder multi stage reciprocating air compressor. The electric motor has a 3-3/8 inch shaft with a 7/8 inch keyway and the compressor has a 92mm shaft with a 25mm keyway. The shaft separation is roughly 7 inches between shaft ends with some ability to adjust the motor location. The shafts have a parallel misalignment/offset of roughly 1/32 of an inch.

Checking in the Applications Service Factors Table on Page D-7, it's noted that a three cylinder reciprocating compressor has a service factor of 3.0.

Step 1: The first step is to determine what coupling type is to be selected for this application. Since the SU Type coupling only supports a single flex plane, it can only accommodate angular and axial misalignment, but not parallel misalignment. The next choice would be to look at an SX or DI Type coupling. The 6 bolt SX Type will accommodate both parallel misalignment and the defined shaft separation. The size will be determined by the selection torque and the shaft diameters.

Step 2: Next, calculate the application torque and apply the service factor to calculate the selection torque.

The formula used to calculate torque is as follows:

$$\text{Application Torque (in–lb)} = \frac{(\text{HP} \times 63025)}{\text{RPM}}$$

or

$$\text{Nm} = \frac{(\text{KW} \times 9550)}{\text{RPM}}$$

Plugging in the numbers from the application description:

Application Torque (in-lbs) =

$$\frac{(\text{HP} \times 63025)}{\text{RPM}} = \frac{(225 \times 63025)}{1150} = 12{,}331 \text{ in-lbs}$$

Application Torque x Service Factor = Selection Torque

12,331 in-lbs x 3.0 = 36,993 in-lbs

Step 3: Use the SX coupling tables starting on page D-12 and note that the SX 202-6 is rated at 40,700 in-lbs, more than enough to handle the selection torque calculated in step 2. The SX202-6, however, will not support the 92mm shaft size. The next larger size coupling, the SX228-6, will support the 92mm shaft size and the shaft separation dimension (BSE) is 6.88 inches, very close to the application's desired 7 inch separation. The SX228-6 is rated at 62,000 in-lbs which may seem to be excessive, however, the coupling size is necessary to handle the bore size.

Step 4: The SX228-6 coupling is rated for a maximum unbalanced speed of 3,400 RPM, more than enough to support the application speed of 1,150 RPM.

Step 5: To determine if the coupling will handle the parallel misalignment, use the trig function of tan 1° = offset allowed for 1 inch = 0.0174

Multiply the 0.0174 x the distance between disc packs or 'S' dimension from the table on page D-13, or 5.50 inches.

The allowable parallel offset is 0.0174 x 5.50 = 0.096 inches. The maximum offset for the application is 1/32 inches (0.031), therefore this coupling can accommodate the parallel misalignment.

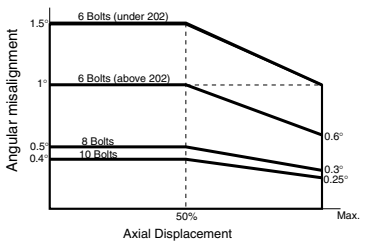
Note: ■ It is always recommended to try to install the coupling at roughly 20% of the allowable misalignment. For this coupling the installer should try to achieve better than 0.020 parallel misalignment at the time of installation. This will allow for the additional misalignment that will occur as the result of equipment settle and general equipment wear.

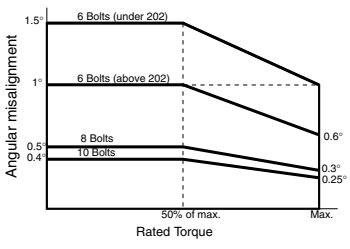
Recommended Information Needed to Specify a Lovejoy Disc Coupling

The following information should be provided to Lovejoy when placing an order to ensure the proper selection of the disc coupling (see sample worksheet on page D-8):

- Application and type of duty
- Type of driver (engine, motor, turbine, etc.)
- Speed and horsepower
- Type of driven equipment
- Shaft sizes and separation
- Space limitations for major diameter and length
- Type of fit (Interference fit default, clearance fit and shaft locking device preparation available upon request)
- Special requirements (vertical mounting, drop out center, flange mount, electrically insulated, API-610 up to 3,800 RPM, shear pins, balancing, etc.)

Angular misalignment, axial misalignment, and rated torque are all related to the coupling's capacity to accommodate application torque over any period of time. As illustrated in the following charts, when the application torque increases to 50% of the coupling capacity, the ability of the coupling to accommodate angular misalignment to is reduced. The same holds true for the ability to accommodate axial misalignment.





Selection Procedure

1. Select the coupling type.
2. Select the driven machine service factor SF_A from Table 1.
3. Select the driving machine service factor SF_D from Table 2.

Care should be taken when the driving machine is other than a standard electric motor or turbine. Some engines will impose extra fluctuations on the drive system and allowance should be made accordingly. Please refer to Table 2. A torsional coupling may be required for diesel drives.

The two service factors SF_A and SF_D must be added resulting in the combined service factor SF. $SF = SF_A + SF_D$

Driven Machine Service Factor SFA Table — *Table 1*

Driven equipment	SF_A
BLOWERS, FANS	
Centrifugal	1.0
Lobe / Vane / Turboblowers	1.25
Forced draught fans	1.5
Induc.draught with damper	1.5
Induc.draught without control	2.0
Cooling towers	2.0
CHEMICAL INDUSTRY	
Agitators (thin liquid)	1.0
Agitators (viscous liquid)	1.5
Centrifuges (light)	1.25
Centrifuges (heavy)	1.75
Mixers	1.75
COMPRESSORS	
Centrifugal	1.0
Lobe/Rotary	1.25
Turbocompressors	1.75
Reciprocating:	
1 to 3 cylinders	3.0
4 or more cylinders	1.75
CONVEYOR, HOISTS[1], ELEVATORS[1]	
Conveyors:	
Screw / Apron / Belt / Chain	1.25
Bucket / Rotary / Lifts	1.5
Reciprocating	3.0
Hoists:	
Medium duty	2.5
Heavy duty	3.0
Elevators:	
Centrifugal and gravity disch	1.25
DREDGERS	**2.0**
FOOD INDUSTRY	
Packaging machines and fillers	1.25
Kneading machines	1.5
Cane crushers	1.5
Cane cutters	1.5
Cane mills	2.0
Sugar beet cutters	1.5
Sugar beet washing machines	1.5
GENERATORS	
Even load	1.0
Frequency converters	1.5
Welding generators	2.0
MACHINE TOOLS	
Main Drives	2.0
Auxiliary and transverse drives	1.5
METAL WORKING	
Presses/Hammers	2.0
Straighteners	2.0
Bending machines / Shears	1.5
Punching machines	2.0
MARINE APPLICATIONS	**2.5**
MINING AND STONES	
Crushers	2.5
Mills	2.5
Mine ventilators	2.0
Vibrators	1.5
OIL INDUSTRY	
Pipeline pumps	1.5
Rotary drilling equipment	2.0
PAPER INDUSTRY	
Calenders	2.0
Couches	2.0
Drying cylinders	2.25
Pulpers	2.0
Pulp grinders	2.0
Suction rolls	2.0
Wet presses	2.0
Reels	2.0
Agitators	2.0
PLASTIC INDUSTRY	
Calenders, Crushers, Mixers	1.75
PUMPS	
Centrifugal,General Feed or Boiler Feed	1.0
Centrifugal, Slurry	1.5
Centrifugal, Dredge	2.0
Rotary / Gear / Lobe or Vane	1.5
Reciprocating:	
1 cylinder	3.0
2 cylinders, single acting	2.0
2 cylinders, double acting	1.75
3 cylinders or more	1.5
ROLLING MILLS	
Billet shears	2.5
Chain transfers	1.5
Cold rolling mills	2.0
Continuous casting plants	2.5
Cooling beds	1.5
Cropping shears	2.0
Cross transfers	1.5
Descaling machines	2.0
Heavy and medium duty mills	3.0
Ingot and blooming mills	2.5
Ingot handling machinery	2.5
Ingot pushers	2.5
Manipulators	2.0
Plate shears	2.0
Roller adjustment drives	1.5
Roller straighteners	1.5
Roller tables (heavy)	2.5
Roller tables (light)	1.5
Sheet mills	2.5
Trimming shears	1.5
Tube and welding machines	2.0
Winding machines	1.5
Wire drawing benches	1.5
RUBBER INDUSTRY	
Extruder	1.75
Calender	2.0
Mixing mill / Refiner / Crusher	2.5
STEEL PLANTS	
Blast furnace blowers	1.5
Converters	2.5
Inclined blast furnace elev.	2.0
Crushers	2.0
TEXTILE MACHINES	
Printing and drying machines	1.5
Tanning vats	1.5
Calenders	1.5
Looms	1.5
WATER AND WASTE INDUSTRY	
Aerators, Screw pumps, Screens	1.5
WOOD WORKING MACHINERY	
Trimmers, Barkers, Saws, Planes	2.0

Note: ■ 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

The factors in Table 1 are for general guidance and can be modified by customers´ specialist knowledge of their own equipment.

Driving Machine Service Factor SFD Table 2

Driving equipment	SF_D
Multi-cylinder engine	
8 or more	0.5
6	1.0
4 or 5	1.5
Less than 4	Refer to Lovejoy
Variable speed motors	0.8
Electric motors[1] and turbines	0

[1]Except variable speed motors

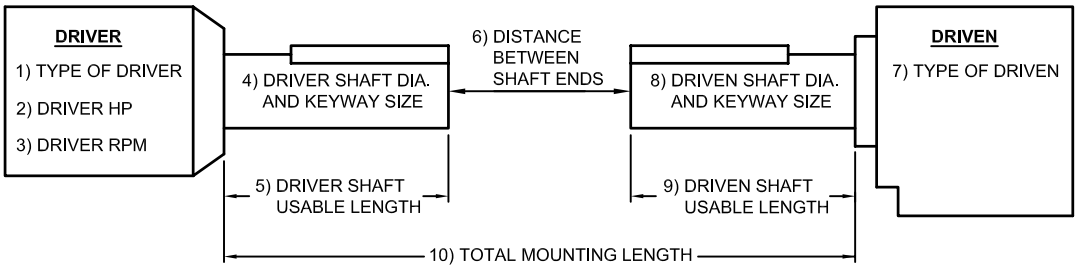
Please consult our Application Engineering Department if axial excitations are foreseeable either on the driving or driven side.

D

Disc Coupling Selection Worksheet

Customer Name: _____ **Contact Name:** _____

Phone Number: _____ **Email Address:** _____



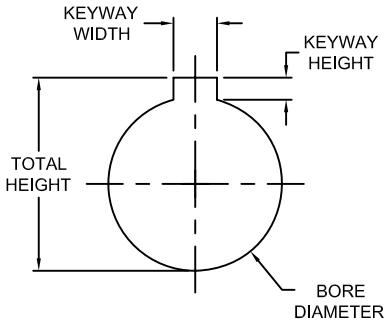
1. Type of Driver (Electric Motor, Combustion Engine, Gearbox, etc.) : _____

For combustion engines, define type
Gasoline, Diesel, Natural Gas, etc. : _____ Number of cylinders _____

2. Driver Horse Power : _____ **3.** Driver or Gearbox output RPM : _____

Retrieve the Application Service Factor from Page D-7 : _____ then calculate the Selection Torque using the following formula:

Torque (in-lbs) = $\frac{\text{HP x 63025}}{\text{RPM}}$ x Service Factor = Selection Torque = _____ in-lbs



4. Driver Shaft Diameter : _____ Keyway size : KW Width _____ KW Height _____

Specify Clearance Fit, Interference Fit, Metric (P7, H7, etc), Shaft Locking Device, and Set Screw or No Set Screw

5. Driver Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

6. Distance between shaft ends (BSE) : _____

7. Type of Driven Equipment : _____

8. Driven Shaft Diameter : _____ Keyway size : KW Width _____ KW Height _____

Specify Clearance Fit, Interference Fit, Metric (P7, H7, etc), Shaft Locking Device, and Set Screw or No Set Screw

9. Driven Usable Shaft Length : _____ (Measure from the end of the shaft to any obstruction)

10. Total Mounting Length : _____ (Advise of any obstructions, walls, beams, guards, pipes, etc.)

11. For Tapered Shafts specify the following:

Minimum or Maximum Taper diameter: _____

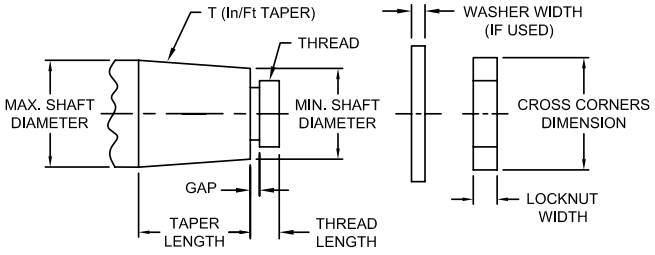
Taper Length: _____ T (Taper Inch per Foot) : _____

Gap or Hub Overhang amount: _____

Locknut Width: _____ Size of nut cross corners: _____

Thread Size: _____ Thread Length: _____

Washer Diameter (if used) : _____ Washer Width: _____



Lovejoy, Inc.
World Headquarters
2655 Wisconsin Avenue
Downers Grove, IL 60515

Send this form to:
appleng@lovejoy-inc.com
or fax to: 800-446-0878

Performance Data by Size

Size	HP per 100 RPM	kW per 100 RPM	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Torsional[1] Stiffness x 10^6 in-lbs/rad	Torsional[1] Stiffness x 10^6 Nm/rad	Axial[2] Misalign ±DKa in	Axial[2] Misalign ±DKa mm	Angular[3] Misalign Max Degrees
90-6	3.5	2.6	2,100	240	4,200	480	2.4	0.3	0.059	1.5	
110-6	8.0	6.0	5,100	575	10,200	1 150	3.4	0.4	0.083	2.1	
132-6	15.4	11.5	9,700	1 100	19,500	2 200	4.4	0.5	0.102	2.6	* 1.5°
158-6	28.2	21.0	17,700	2 000	35,400	4 000	5.8	0.7	0.122	3.1	
185-6	46.3	34.5	29,200	3 300	58,400	6 600	11.5	1.3	0.146	3.7	
202-6	64.6	48.2	40,700	4 600	81,400	9 200	13.3	1.5	0.150	3.8	
228-6	98.3	73.3	62,000	7 000	123,900	14 000	23.0	2.6	0.165	4.2	
255-6	143.2	106.8	90,300	10 200	180,600	20 400	41.0	4.7	0.185	4.7	
278-6	199.5	148.8	125,700	14 200	251,400	28 400	63.0	7.1	0.205	5.2	
302-6	281.1	209.6	177,000	20 000	354,000	40 000	84.0	9.5	0.224	5.7	* 1°
325-6	351.2	261.9	221,300	25 000	442,600	50 000	115.0	13.0	0.256	6.5	
345-6	436.0	325.0	274,400	31 000	549,000	62 000	150.0	17.0	0.272	6.9	
380-6	594.0	443.0	374,400	42 300	749,000	84 600	195.0	22.0	0.299	7.6	
410-6	802.0	598.0	505,400	57 100	1,011,000	114 200	248.0	28.0	0.323	8.2	
440-6	1033.0	770.0	650,500	73 500	1,301,000	147 000	310.0	35.0	0.346	8.8	
278-8	280.1	209.6	177,000	20 000	354,000	40 000	84.0	9.5	0.146	3.7	
302-8	421.5	314.3	265,500	30 000	531,000	60 000	132.0	14.9	0.157	4.0	
325-8	519.8	387.6	327,500	37 000	655,000	74 000	181.0	20.4	0.169	4.3	
345-8	646.0	482.0	407,100	46 000	814,200	92 000	221.0	25.0	0.181	4.6	
380-8	885.0	660.0	557,600	63 000	1,115,200	126 000	301.0	34.0	0.197	5.0	
410-8	1208.0	901.0	761,200	86 000	1,522,400	172 000	354.0	40.0	0.213	5.4	* .5°
440-8	1545.0	1152.0	973,600	110 000	1,947,200	220 000	434.0	49.0	0.228	5.8	
475-8	1939.0	1446.0	1,221,400	138 000	2,442,800	276 000	531.0	60.0	0.248	6.3	
505-8	2459.0	1833.0	1,548,900	175 000	3,097,800	350 000	646.0	73.0	0.264	6.7	
540-8	3091.0	2305.0	1,947,200	220 000	3,894,400	440 000	788.0	89.0	0.283	7.2	
570-8	3639.0	2713.0	2,292,300	259 000	4,584,600	518 000	912.0	103.0	0.299	7.6	

Notes:
- * indicates: See Page D-6 for additional information regarding misalignment.
- 1 indicates: Torsional stiffness is provided for one disc pack. This should be combined with hubs, spacers, etc. as calculated from ANSI/AGMA 9004-A99.
- 2 indicates: Axial misalignment is provided for couplings with two disc packs.
- 3 indicates: Angular misalignment is provided per single disc pack.
- For larger sizes, please contact Lovejoy Technical Support.

D

SU-6 Type Industrial Coupling

The SU Type coupling is a 6 bolt single flex plane coupling which consists of two hubs and one disc pack kit. It is only suitable for the specified axial and angular misalignment and does not accommodate parallel misalignment. It is often combined with solid shafts to make floating shaft couplings. See Page D-28 for a picture of an SXFS Type floating shaft coupling.



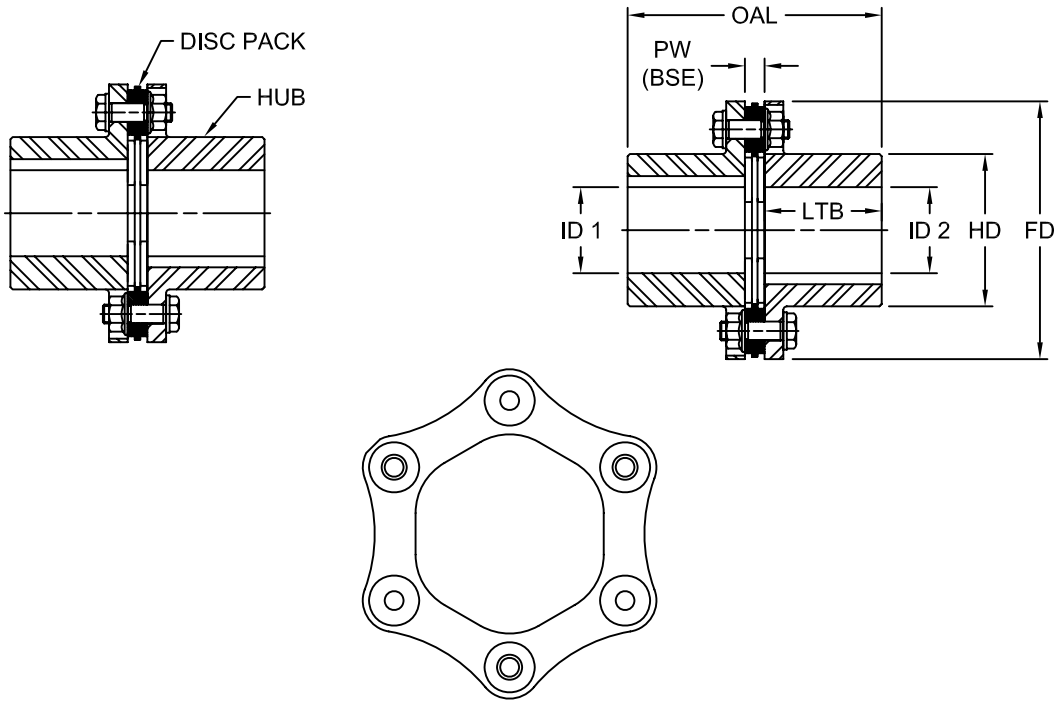
Features

- Unitized disc pack
- Infinite life when properly aligned
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Larger sizes are available upon request

SU-6 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1-ID2 Max Bore[3] in	ID1-ID2 Max Bore[3] mm	Weight[4] lbs	Weight[4] kg	Axial[5] Misalignment ±ΔKa in	Axial[5] Misalignment ±ΔKa mm	Angular[6] Misalignment Max Degrees
90-6	2,100	240	4,200	480	9,100	22,700	1.50	38	3.1	1.4	0.030	0.75	
110-6	5,100	575	10,200	1 150	7,200	18,000	1.81	46	5.1	2.3	0.039	1.00	
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.38	60	8.4	3.8	0.051	1.30	1.5°
158-6	17,700	2 000	35,400	4 000	4,920	12,300	2.75	70	14.1	6.4	0.059	1.50	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	3.13	80	21.8	9.9	0.071	1.80	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	3.50	90	29.8	13.5	0.075	1.90	
228-6	62,000	7 000	123,900	14 000	3,400	8,500	3.94	100	41.9	19.0	0.083	2.10	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	4.31	110	63.9	29.0	0.091	2.30	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	4.88	124	81.6	37.0	0.102	2.60	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	5.31	135	108.0	49.0	0.110	2.80	
325-6	221,300	25 000	442,600	50 000	2,400	6,000	5.75	145	133.4	60.5	0.126	3.20	1°
345-6	274,400	31 000	549,000	62 000	2,200	5,500	6.06	155	160.9	73.0	0.134	3.40	
380-6	374,400	42 300	749,000	84 600	2,040	5,100	6.69	170	211.6	96.0	0.150	3.80	
410-6	505,400	57 100	1,011,000	114 200	1,880	4,700	7.13	180	273.4	124.0	0.161	4.10	
440-6	650,500	73 500	1,301,000	147 000	1,740	4,350	7.69	195	332.9	151.0	0.173	4.40	

Notes:
- * indicates: Operating speed must be equal or less than permissible speed.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds listed as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other bore types, contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with maximum bores.
- 5 indicates: Axial misalignment is given for one disc pack.
- 6 indicates: Angular misalignment is given for one disc pack. There is no parallel misalignment for the SU Type.



SU-6 Dimensional Data

Size	OAL		PW - BSE		LTB		ID1-ID2 Max Bore[3]		FD		HD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
90-6	3.44	88	0.295	7.5	1.57	40	1.50	38	3.54	90	2.28	58
110-6	4.27	108	0.331	8.4	1.97	50	1.81	46	4.33	110	2.56	65
132-6	5.05	128	0.331	8.4	2.36	60	2.38	60	5.20	132	3.31	84
158-6	5.96	151	0.441	11.2	2.76	70	2.75	70	6.22	158	3.86	98
185-6	6.85	174	0.551	14.0	3.15	80	3.13	80	7.28	185	4.41	112
202-6	7.69	196	0.610	15.5	3.54	90	3.50	90	7.95	202	4.92	125
228-6	8.57	218	0.689	17.5	3.94	100	3.94	100	8.98	228	5.51	140
255-6	9.87	251	0.807	20.5	4.53	115	4.31	110	10.04	255	6.10	155
278-6	10.67	271	0.835	21.2	4.92	125	4.88	124	10.95	278	6.85	174
302-6	11.60	294	0.961	24.4	5.32	135	5.31	135	11.89	302	7.48	190
325-6	12.44	316	1.024	26.0	5.71	145	5.75	145	12.80	325	8.07	205
345-6	13.31	338	1.110	28.2	6.10	155	6.06	155	13.58	345	8.55	217
380-6	14.66	372	1.260	32.0	6.70	170	6.69	170	14.96	380	9.37	238
410-6	15.87	403	1.307	33.2	7.28	185	7.13	180	16.14	410	10.04	255
440-6	16.79	426	1.433	36.4	7.68	195	7.69	195	17.32	440	10.75	273

Notes:
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other bore types, contact Lovejoy Technical Support.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.
- Larger sizes available upon request.

D

SX-6 Type Industrial Coupling

The SX-6 Type is a standard coupling with two hubs, a spacer, and two disc pack kits. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.



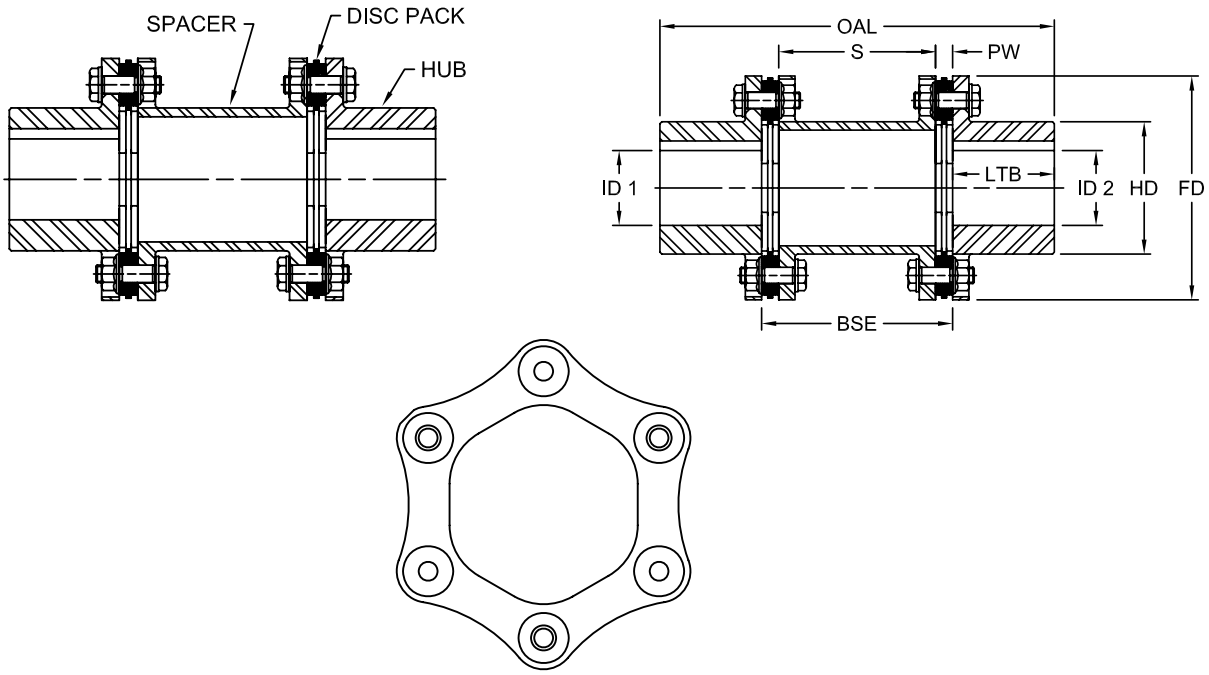
Features

- Unitized disc pack
- Infinite life when properly sized and aligned
- Accommodates angular, axial, and parallel misalignment
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Overload Bushings are available, see page D-4

SX-6 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1-ID2 Max Bore[3] in	ID1-ID2 Max Bore[3] mm	Weight[4] lbs	Weight[4] kg	Axial[5] Misalignment ±ΔKa in	Axial[5] Misalignment ±ΔKa mm	Angular[6] Misalignment Max Degrees
90-6	2,100	240	4,200	480	9,100	22,700	1.50	38	4.6	2.1	0.059	1.5	
110-6	5,100	575	10,200	1 150	7,200	18,000	1.81	46	6.4	2.9	0.083	2.1	
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.38	60	12.1	5.5	0.102	2.6	1.5°
158-6	17,700	2 000	35,400	4 000	4,920	12,300	2.76	70	19.0	8.6	0.122	3.1	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	3.13	80	33.1	15.0	0.146	3.7	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	3.50	90	46.3	21.0	0.150	3.8	
228-6	62,000	7 000	123,900	14 000	3,400	8,500	3.94	100	66.1	30.0	0.165	4.2	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	4.31	110	88.2	40.0	0.185	4.7	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	4.88	124	125.7	57.0	0.205	5.2	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	5.31	135	163.1	74.0	0.224	5.7	
325-6	221,300	25 000	442,600	50 000	2,400	6,000	5.75	145	196.2	89.0	0.256	6.5	1°
345-6	274,400	31 000	549,000	62 000	2,200	5,500	6.06	155	240.3	109.0	0.272	6.9	
380-6	374,400	42 300	749,000	84 600	2,040	5,100	6.69	170	321.9	146.0	0.299	7.6	
410-6	505,400	57 100	1,011,000	114 200	1,880	4,700	7.13	180	418.8	190.0	0.323	8.2	
440-6	650,500	73 500	1,301,000	147 000	1,740	4,350	7.69	195	493.8	224.0	0.346	8.8	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed. Permissible speeds could be limited by the weight and the critical speeds of the spacer.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with minimum BSE and maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for single disc pack.
- For higher torque capacities, see SX-8 Type couplings on page D-14 and D-15.



SX-6 Dimensional Data

Size	OAL		S		PW		LTB		ID1-ID2 Max Bore[3]		BSE[7] Standard		FD		HD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
90-6	5.50	140	1.77	45	0.295	7.5	1.57	40	1.50	38	2.36	60	3.54	90	2.28	58
110-6	7.44	189	2.84	72	0.331	8.4	1.97	50	1.81	46	3.50	89	4.33	110	2.56	65
132-6	8.97	228	3.59	91	0.331	8.4	2.36	60	2.38	60	4.25	108	5.20	132	3.31	84
158-6	10.40	264	4.00	102	0.441	11.2	2.76	70	2.76	70	4.88	124	6.22	158	3.86	98
185-6	11.80	300	4.40	112	0.551	14.0	3.15	80	3.13	80	5.50	140	7.28	185	4.41	112
202-6	13.33	339	5.03	128	0.610	15.5	3.54	90	3.50	90	6.25	159	7.95	202	4.92	125
228-6	14.76	375	5.50	140	0.689	17.5	3.94	100	3.94	100	6.88	175	8.98	228	5.51	140
255-6	16.81	427	6.14	156	0.807	20.5	4.53	115	4.31	110	7.75	197	10.04	255	6.10	155
278-6	18.47	469	6.96	177	0.835	21.2	4.92	125	4.88	124	8.63	219	10.95	278	6.85	174
302-6	19.89	505	7.33	186	0.961	24.4	5.32	135	5.31	135	9.25	235	11.89	302	7.48	190
325-6	21.42	544	7.95	202	1.024	26.0	5.71	145	5.75	145	10.00	254	12.80	325	8.07	205
345-6	22.83	580	8.41	214	1.110	28.2	6.10	155	6.06	155	10.63	270	13.58	345	8.55	217
380-6	25.08	637	9.16	233	1.260	32.0	6.70	170	6.69	170	11.68	297	14.96	380	9.37	238
410-6	27.18	690	10.01	254	1.307	33.2	7.28	185	7.13	180	12.62	321	16.14	410	10.04	255
440-6	28.55	725	10.32	262	1.433	36.4	7.68	195	7.69	195	13.19	335	17.32	440	10.75	273

Notes:
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores contact Lovejoy Technical Support.
- 7 indicates: BSE is the distance between shaft ends and is a variable parameter.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.

SX-8 Type Industrial Coupling

The SX-8 Type is a standard coupling with two hubs, a spacer, and two disc pack kits. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.





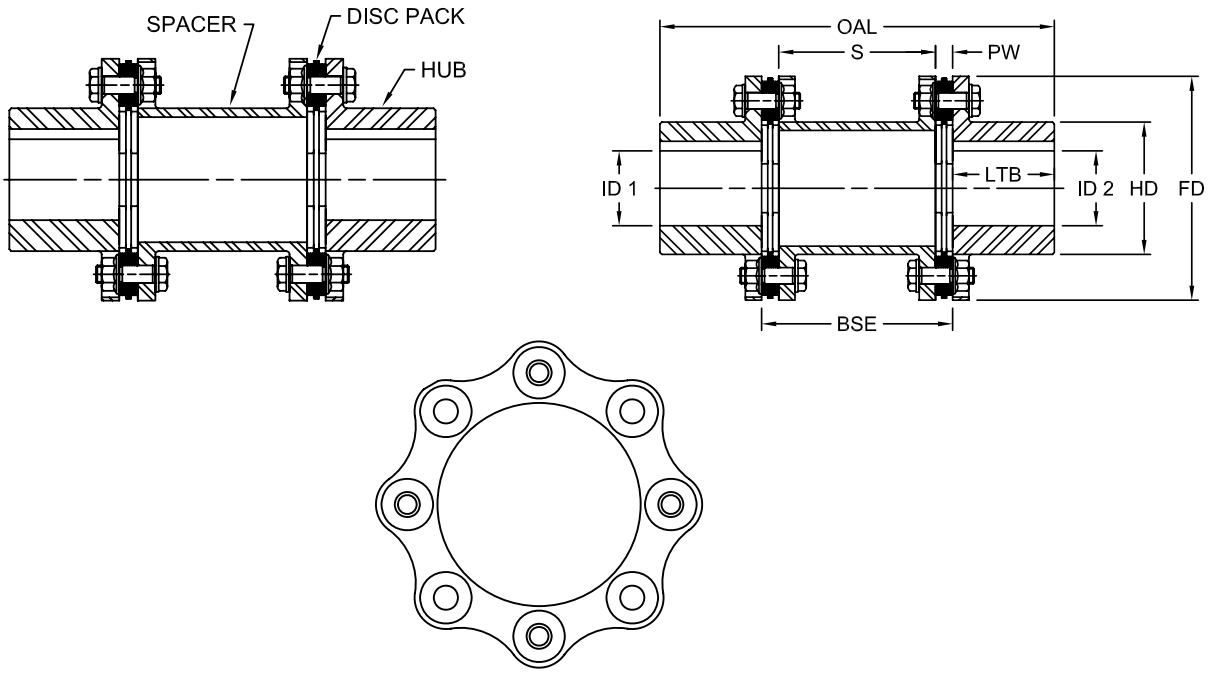
Features

- Unitized disc pack
- Infinite life if properly aligned
- Accommodates angular, axial, and parallel misalignment
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions

SX-8 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1-ID2 Max Bore[3] in	ID1-ID2 Max Bore[3] mm	Weight[4] lbs	Weight[4] kg	Axial[5] Misalignment ±ΔKa in	Axial[5] Misalignment ±ΔKa mm	Angular[6] Misalignment Max Degrees
278-8	177,000	20 000	354,000	40 000	2,800	7,000	4.88	124	130	59	0.146	3.7	
302-8	265,500	30 000	531,000	60 000	2,560	6,400	5.38	135	169	77	0.157	4.0	
325-8	327,500	37 000	655,000	74 000	2,400	6,000	5.75	145	202	92	0.169	4.3	
345-8	407,000	46 000	814,200	92 000	2,200	5,500	6.13	155	246	112	0.181	4.6	
380-8	558,000	63 000	1,115,000	126 000	2,040	5,100	6.63	170	330	150	0.197	5.0	
410-8	761,000	86 000	1,522,000	172 000	1,880	4,700	7.13	180	429	195	0.213	5.4	.5°
440-8	974,000	110 000	1,947,000	220 000	1,740	4,350	7.69	195	506	230	0.228	5.8	
475-8	1,221,000	138 000	2,443,000	276 000	1,680	4,200	8.25	210	649	295	0.248	6.3	
505-8	1,549,000	175 000	3,098,000	350 000	1,520	3,800	8.88	220	823	374	0.264	6.7	
540-8	1,947,000	220 000	3,894,000	440 000	1,440	3,600	9.25	235	999	454	0.283	7.2	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed. Permissible speeds could be limited by the weight and the critical speeds of the spacer.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with minimum BSE and maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for single disc pack.
- For larger sizes and higher torque capacities, contact Lovejoy Technical Support.



SX-8 Dimensional Data

Size	OAL		S		PW		LTB		ID1-ID2 Max Bore[3]		BSE[7] Standard		FD		HD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
278-8	18.47	469	6.96	177	0.835	21.2	4.92	125	4.88	124	8.63	219	10.95	278	6.85	174
302-8	19.89	505	7.33	186	0.961	24.4	5.32	135	5.38	135	9.25	235	11.89	302	7.48	190
325-8	21.42	544	7.95	202	1.024	26.0	5.71	145	5.75	145	10.00	254	12.80	325	8.07	205
345-8	22.83	580	8.41	214	1.110	28.2	6.10	155	6.13	155	10.63	270	13.58	345	8.55	217
380-8	25.08	637	9.16	233	1.260	32.0	6.70	170	6.63	170	11.68	297	14.96	380	9.37	238
410-8	27.18	690	10.01	254	1.307	33.2	7.28	185	7.13	180	12.62	321	16.14	410	10.04	255
440-8	28.55	725	10.32	262	1.433	36.4	7.68	195	7.69	195	13.19	335	17.32	440	10.75	273
475-8	30.67	779	11.12	283	1.504	38.2	8.27	210	8.25	210	14.13	359	18.70	475	11.62	295
505-8	33.62	854	12.19	310	1.654	42.0	9.06	230	8.88	220	15.50	394	19.88	505	12.20	310
540-8	35.28	896	12.76	324	1.811	46.0	9.45	240	9.25	235	16.38	416	21.26	540	12.99	330

Notes:
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores contact Lovejoy Technical Support.
- 7 indicates: BSE is the distance between shaft ends and is a variable parameter.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.

SXC-6 Type Closed Coupled Industrial Coupling

The SXC-6 Type is the standard 6 bolt coupling with two hubs, two disc packs and a spacer. The hubs can both be turned inward to accommodate close coupled applications or one hub can be turned outward to accommodate additional BSE's (shaft separation). The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.



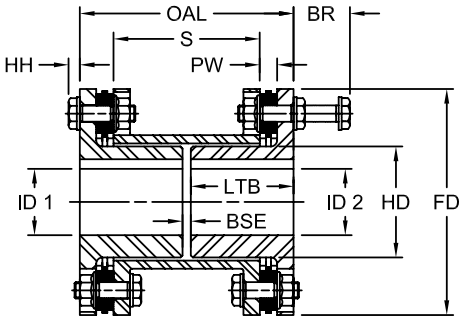
Features

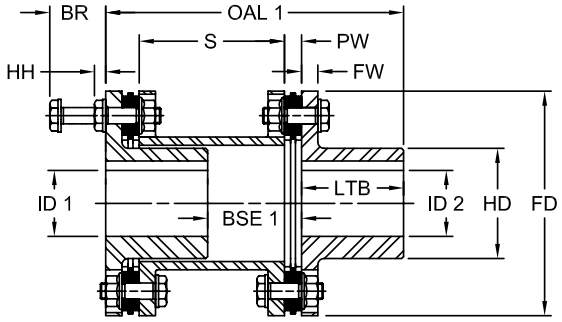
- Unitized disc packs
- Infinite life if properly aligned
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Can be combined with SU/SX hub for increased bore capacity (See page D-15)

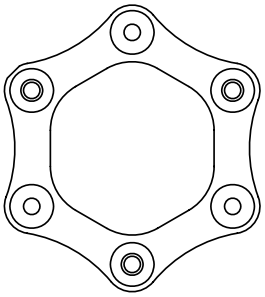
SXC-6 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1-ID2 Max Bore[3] in	ID1-ID2 Max Bore[3] mm	Weight[4] lbs	Weight[4] kg	Axial[5] Misalignment ±ΔKa in	Axial[5] Misalignment ±ΔKa mm	Angular[6] Misalignment Max Degrees
110-6	5,100	600	10,200	1 200	7,200	18,000	1.56	39	4	1.8	0.083	2.1	1.5°
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.06	50	8	3.8	0.102	2.6	
158-6	17,700	2 000	35,400	4 000	4,920	12,300	2.38	60	13	5.8	0.122	3.1	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	2.68	68	22	10.0	0.146	3.7	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	3.06	75	33	15.0	0.150	3.8	1°
228-6	62,000	7 000	123,900	14 000	3,400	8,500	3.44	85	46	21.0	0.165	4.2	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	3.88	95	60	27.0	0.185	4.7	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	4.25	105	79	36.0	0.205	5.2	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	4.63	115	101	46.0	0.224	5.7	
325-6	221,300	25 000	442,600	50 000	2,400	6,000	4.88	125	121	55.0	0.256	6.5	
345-6	274,400	31 000	548,800	62 000	2,200	5,500	5.25	130	154	70.0	0.272	6.9	
380-6	374,400	42 300	748,800	84 600	2,040	5,100	5.75	145	203	92.0	0.299	7.6	
410-6	505,400	57 100	1,011,000	114 200	1,880	4,700	6.25	160	256	116.0	0.323	8.2	
440-6	650,500	73 500	1,301,000	147 000	1,740	4,350	6.50	165	300	136.0	0.346	8.8	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed. Permissible speeds could be limited by the weight and the critical speeds of the spacer.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For other type of connections contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with minimum BSE and maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for one disc pack.
- SU/SX hubs can be used (turned outward) to accommodate maximum bore sizes for the specified hub.







BSE1: To calculate the BSE 1 (Between Shaft Ends) with one hub turned out
BSE 1 = BSE + LTB – FW

OAL1: To calculate the OAL 1 (Overall Length) with one hub turned out
OAL 1 = OAL + LTB - FW

SXC-6 Dimensional Data

	OAL		BR[8]		S		HH		PW		LTB		BSE[7] Standard		FD		HD		FW	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
110-6	4.12	105	1.77	45	2.84	72	0.24	6	0.33	8.4	1.97	50	0.18	5	4.33	110	2.13	54	0.31	8
132-6	4.87	124	1.77	45	3.59	91	0.24	6	0.33	8.4	2.36	60	0.15	4	5.20	132	2.79	71	0.31	8
158-6	5.66	144	2.17	55	4.00	102	0.28	7	0.44	11.2	2.76	70	0.14	4	6.22	158	3.31	84	0.39	10
185-6	6.44	164	2.56	65	4.40	112	0.31	8	0.55	14.0	3.15	80	0.14	4	7.28	185	3.74	95	0.47	12
202-6	7.35	187	2.95	75	5.03	128	0.35	9	0.61	15.5	3.54	90	0.27	7	7.95	202	4.25	108	0.55	14
228-6	8.14	207	3.35	85	5.50	140	0.39	10	0.69	17.5	3.94	100	0.26	7	8.98	228	4.84	123	0.63	16
255-6	9.33	237	3.94	100	6.14	156	0.51	13	0.81	20.5	4.53	115	0.27	7	10.04	255	5.43	138	0.79	20
278-6	10.20	259	4.13	105	6.96	177	0.51	13	0.84	21.2	4.92	125	0.35	9	10.95	278	5.99	152	0.79	20
302-6	10.99	279	4.53	115	7.33	186	0.55	14	0.96	24.4	5.32	135	0.35	9	11.89	302	6.50	165	0.87	22
325-6	11.74	298	4.53	115	7.95	202	0.55	14	1.02	26.0	5.71	145	0.32	8	12.80	325	6.85	174	0.87	22
345-6	12.51	318	4.92	125	8.41	214	0.59	15	1.11	28.2	6.10	155	0.31	8	13.58	345	7.32	186	0.94	24
380-6	13.80	350	5.51	140	9.16	233	0.67	17	1.26	32.0	6.70	170	0.40	10	14.96	380	8.03	204	1.06	27
410-6	14.98	380	5.91	150	10.01	254	0.75	19	1.31	33.2	7.28	185	0.42	11	16.14	410	8.78	223	1.18	30
440-6	15.79	401	6.50	165	10.32	262	0.83	21	1.43	36.4	7.68	195	0.43	11	17.32	440	9.17	233	1.30	33

Notes:
- 7 indicates: BSE is the distance between shaft ends and is a variable parameter.
- 8 indicates: Customer is responsible for ensuring there is enough room between the coupling and equipment to install the bolts and properly torque them with a torque wrench. Additional shaft length may be required. See Disc Coupling Worksheet, page D-8 item 5.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.
- ID1 – ID2 Dimensional Data on page D-16.

SXCS-6 Type Closed Coupled Industrial Coupling

The SXCS Type is the standard 6 bolt coupling with two hubs, two mounting rings, two disc packs and a split spacer designed for ease of installation and maintenance. Custom spacer lengths can be specified for special applications. The coupling has two flex planes (one at each disc pack) allowing it to accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.



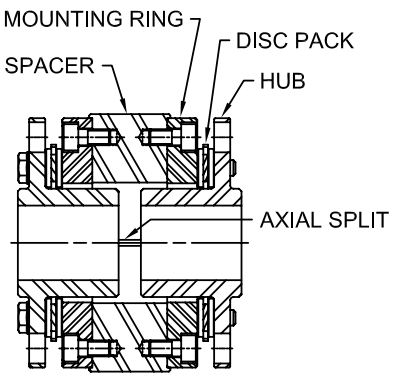
Features

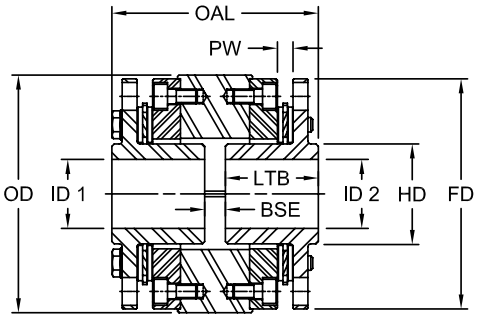
- Unitized disc pack
- Infinite life when properly sized and aligned
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Disc packs can be replaced without moving equipment
- For larger sizes, refer to SXCST couplings, see Page D-20

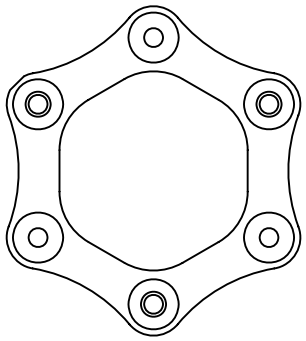
SXCS-6 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1 - ID2 Max Bore[3] in	ID1 - ID2 Max Bore[3] mm	Weight[4] lbs	Weight[4] kg	Axial[5] Misalignment ±ΔKa in	Axial[5] Misalignment ±ΔKa mm	Angular[6] Misalignment Max Degrees
110-6	5,100	575	10,200	1 150	7,200	18,000	1.56	40	16.5	7.5	0.083	2.1	1.5°
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.06	52	24.3	11.0	0.102	2.6	
158-6	17,700	2 000	35,400	4 000	4,920	12,300	2.38	60	41.9	19.0	0.122	3.1	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	2.68	68	64.0	29.0	0.146	3.7	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	3.06	78	84.0	38.0	0.150	3.8	1°
228-6	62,000	7 000	123,900	14 000	3,400	8,500	3.44	87	126.0	57.0	0.165	4.2	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	3.88	99	185.0	84.0	0.185	4.7	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	4.25	108	230.0	104.0	0.205	5.2	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	4.63	118	306.0	139.0	0.224	5.7	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed which is limited by the weight and critical speed of the spacer.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For other type of connections contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with minimum BSE and maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for one disc pack.







SXCS-6 Dimensional Data

Size	OAL[8] in	OAL[8] mm	PW in	PW mm	LTB in	LTB mm	ID1 - ID2 Max Bore[3] in	ID1 - ID2 Max Bore[3] mm	BSE[7] Standard in	BSE[7] Standard mm	FD in	FD mm	HD in	HD mm	OD in	OD mm
110-6	4.38	111.3	0.331	8.4	1.97	50	1.56	40	0.44	11.2	4.88	124.0	2.13	54	5.04	128.0
132-6	5.08	129.0	0.331	8.4	2.36	60	2.06	52	0.36	9.1	5.71	145.0	2.79	71	5.87	149.1
158-6	5.99	152.1	0.441	11.2	2.76	70	2.38	60	0.47	11.9	6.73	170.9	3.31	84	6.89	175.0
185-6	6.88	174.8	0.551	14.0	3.15	80	2.68	68	0.58	14.7	7.68	195.1	3.74	95	7.83	198.9
202-6	7.72	196.1	0.610	15.5	3.54	90	3.06	78	0.64	16.3	8.43	214.1	4.25	108	8.58	217.9
228-6	8.60	218.4	0.689	17.5	3.94	100	3.44	87	0.72	18.3	9.57	243.1	4.84	123	9.72	246.9
255-6	10.27	260.9	0.807	20.5	4.53	115	3.88	99	1.21	30.7	10.79	274.1	5.43	138	10.94	277.9
278-6	10.71	272.0	0.835	21.2	4.92	125	4.25	108	0.87	22.1	11.58	294.1	5.99	152	11.73	297.9
302-6	11.72	297.7	0.961	24.4	5.32	135	4.63	118	1.08	27.4	12.88	327.2	6.50	165	13.03	331.0

Notes:
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other types of bores, contact Lovejoy Technical Support.
- 7 indicates: BSE is the distance between shaft ends and is a variable parameter.
- 8 indicates: OAL is measured from the end of the hubs and does not include the bolt heads.
- Customer is responsible for ensuring there is enough room between the coupling and equipment to install the bolts and properly torque them with a torque wrench. Additional shaft length may be required. See Disc Coupling Worksheet, page D-8 item 5.

SXCST-6 Type Closed Coupled Industrial Coupling

The SXCST Type is a standard 6 bolt coupling consisting of two hubs, two mounting rings, two disc packs and a split spacer. Custom spacer lengths can be specified for special applications. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.



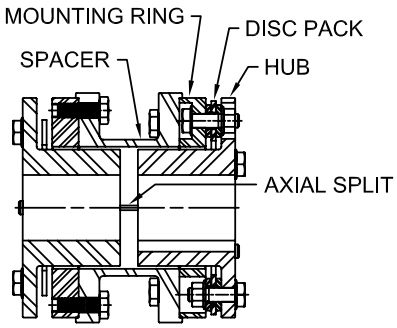
Features

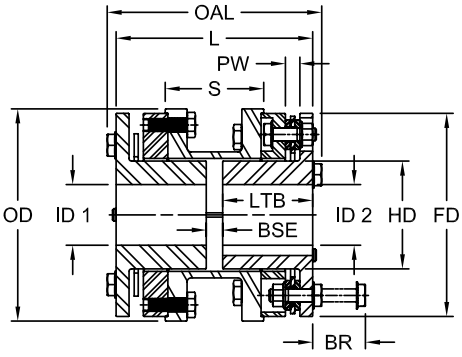
- Unitized disc pack
- Infinite life when properly sized and aligned
- Accommodates angular, axial, and parallel misalignment
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Close coupled
- Split spacer design allows for ease of maintenance and disc pack removal or replacement without moving equipment

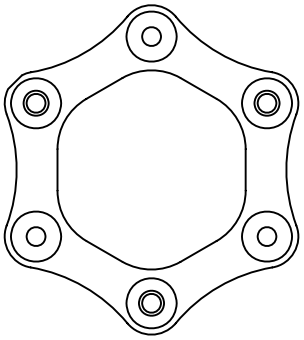
SXCST-6 Performance Data

Size	Nominal Torque in-lbs	Nominal Torque Nm	Peak Torque in-lbs	Peak Torque Nm	Max Speed Unbal[1] RPM	Max Speed Bal[2] RPM	ID1 - ID2 Max Bore[3] in	ID1 - ID2 Max Bore[3] mm	Axial[4] Misalignment ±ΔKa in	Axial[4] Misalignment ±ΔKa mm	Angular[5] Misalignment Max Degrees
90-6	2,100	240	4,200	480	9,100	22,700	1.20	31	0.059	1.5	
110-6	5,100	575	10,200	1 150	7,200	18,000	1.56	39	0.083	2.1	
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.06	50	0.102	2.6	1.5°
158-6	17,700	2 000	35,400	4 000	4,920	12,300	2.38	60	0.122	3.1	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	2.68	68	0.146	3.7	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	3.06	75	0.150	3.8	
228-6	62,000	7 000	123,900	14 000	3,400	8,500	3.44	85	0.165	4.2	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	3.88	95	0.185	4.7	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	4.25	105	0.205	5.2	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	4.63	115	0.224	5.7	
325-6	221,300	25 000	442,600	50 000	2,400	6,000	4.88	125	0.256	6.5	1°
345-6	274,400	31 000	549,000	62 000	2,200	5,500	5.25	130	0.272	6.9	
380-6	374,400	42 300	749,000	84 600	2,040	5,100	5.75	145	0.299	7.6	
410-6	505,400	57 100	1,011,000	114 200	1,880	4,700	6.25	160	0.323	8.2	
440-6	650,500	73 500	1,301,000	147 000	1,740	4,350	6.50	165	0.346	8.8	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed which is limited by the weight and critical speed of the spacer.
- 2 indicates: For higher speeds contact Lovejoy Technical Support.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other types of bores, contact Lovejoy Technical Support.
- 4 indicates: Axial misalignment is given for two disc packs.
- 5 indicates: Angular misalignment is given for one disc pack.







SXCST-6 Dimensional Data

Size	OAL		L		PW		S		LTB		BSE[7] Standard		BR		FD		HD		OD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
90-6	3.92	99.6	3.60	91.4	0.295	7.5	1.83	46.5	1.57	40	0.46	11.6	1.77	45	3.54	89.9	1.67	42.4	3.70	94.0
110-6	5.06	128.5	4.62	117.3	0.331	8.4	2.27	57.5	1.97	50	0.68	17.2	1.77	45	4.33	110.0	2.13	54.1	4.53	115.0
132-6	5.54	140.7	5.10	129.7	0.331	8.4	2.75	69.9	2.36	60	0.38	9.7	1.77	45	5.20	132.1	2.79	70.9	5.47	138.9
158-6	6.58	167.0	6.02	152.9	0.441	11.2	3.02	76.7	2.76	70	0.50	12.7	2.17	55	6.22	158.0	3.31	84.1	6.50	165.1
185-6	8.15	207.2	7.53	191.2	0.551	14.0	3.88	98.5	3.15	80	1.23	31.2	2.56	65	7.28	184.9	3.74	95.0	7.60	193.0
202-6	8.76	222.5	8.06	204.7	0.610	15.5	4.01	101.9	3.53	90	1.00	25.4	2.95	75	7.95	201.9	4.25	108.0	8.27	210.1
228-6	10.06	255.6	9.28	235.7	0.689	17.5	4.68	118.9	3.94	100	1.40	35.6	3.35	85	8.98	228.1	4.84	122.9	9.29	236.0
255-6	12.29	312.2	11.27	286.3	0.807	20.5	5.57	141.5	4.52	115	2.23	56.6	3.94	100	10.04	255.0	5.30	134.6	10.35	262.9
278-6	12.31	312.7	11.29	286.8	0.835	21.2	5.53	140.5	4.91	125	1.47	37.3	4.13	105	10.95	278.1	5.99	152.1	11.26	286.0
302-6	13.93	353.8	12.81	325.6	0.961	24.4	6.40	162.6	5.31	135	2.19	55.6	4.53	115	11.88	301.8	6.49	164.8	12.20	309.9
325-6	13.62	346.0	12.52	318.0	1.020	16.0	8.74	222.0	5.71	145	1.10	28.0	4.53	115	12.80	325.0	6.85	14.0	13.11	333.0
345-6	14.57	370.0	13.39	340.0	1.110	28.2	9.28	235.6	6.10	155	1.18	30.0	4.92	125	13.58	345.0	7.32	186.0	13.58	345.0
380-6	16.06	408.0	14.72	374.0	1.260	32.0	10.08	256.0	6.69	170	1.34	34.0	5.51	140	14.96	380.0	8.03	204.0	15.35	390.0
410-6	17.44	443.0	15.94	405.0	1.310	33.2	10.97	278.6	7.28	185	1.38	35.0	5.91	150	16.14	410.0	9.13	232.0	16.14	410.0
440-6	18.51	470.0	16.85	428.0	1.430	36.4	11.39	289.2	7.68	195	1.50	38.0	6.50	165	17.32	440.0	9.17	233.0	17.32	440.0

Notes:
- 7 indicates: BSE is the distance between shaft ends and is a variable parameter.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.
- Customer is responsible for ensuring there is enough room between the coupling and equipment to install the bolts and properly torque them with a torque wrench. Additional shaft length may be required. See Disc Coupling Worksheet, page D-8 item 5.
- ID1 – ID2 Dimensional Data on page D-20.

DI-6 Type Drop-In Center Industrial Coupling

The DI Type coupling is the standard 6 bolt coupling with two hubs and a spacer assembly that can be installed or removed without disturbing the equipment and hubs and without removing the disc packs from the spacer assembly. Custom spacer lengths can be specified for special applications. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.





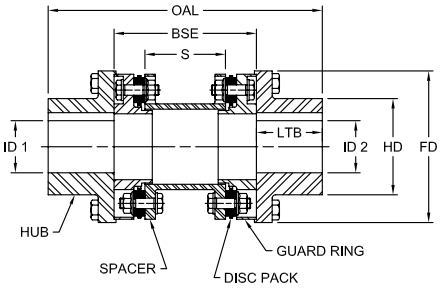
Features

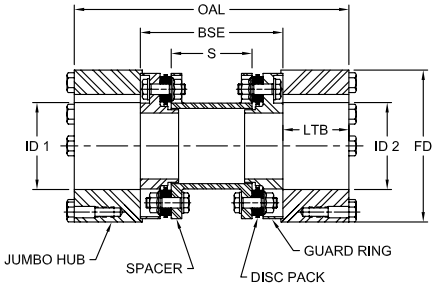
- Designed to meet the API 610 Standard
- Support for additional API requirements available on request
- Unitized disc pack
- Infinite life if properly aligned
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions

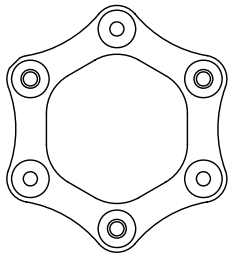
DI-6 Performance Data

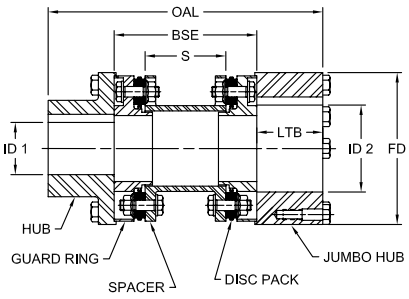
Size	Nominal Torque		Peak Torque		Max Speed		ID1 - ID2 Max Bore[3] Std Hub		ID1 - ID2 Max Bore[3] Jumbo Hub		Weight[4]		Axial[5] Misalignment ±ΔKa		Angular[6] Misalignment Max
	in-lbs	Nm	in-lbs	Nm	Unbal[1] RPM	Bal[2] RPM	in	mm	in	mm	lbs	kg	in	mm	Degrees
90-6	2,100	240	4,200	480	9,100	22,700	1.68	43	2.25	59	8	4	0.059	1.5	
110-6	5,100	575	10,200	1 150	7,200	18,000	2.06	52	2.94	75	12	6	0.083	2.1	
132-6	9,700	1 100	19,500	2 200	5,840	14,600	2.69	67	3.56	90	22	10	0.102	2.6	1.5°
158-6	17,700	2 000	35,400	4 000	4,920	12,300	3.13	80	4.13	105	40	18	0.122	3.1	
185-6	29,200	3 300	58,400	6 600	4,200	10,500	3.75	95	4.94	125	62	28	0.146	3.7	
202-6	40,700	4 600	81,400	9 200	3,840	9,600	4.06	102	5.38	135	84	38	0.150	3.8	
228-6	62,000	7 000	123,900	14 000	3,400	8,500	4.50	115	5.94	150	121	55	0.165	4.2	
255-6	90,300	10 200	180,600	20 400	3,080	7,700	4.94	125	6.63	170	159	72	0.185	4.7	
278-6	125,700	14 200	251,400	28 400	2,800	7,000	5.50	140	7.31	185	223	101	0.205	5.2	
302-6	177,000	20 000	354,000	40 000	2,560	6,400	6.13	155	7.88	200	293	133	0.224	5.7	
325-6	221,300	25 000	442,600	50 000	2,400	6,000	6.75	170	8.44	215	353	160	0.256	6.5	1°
345-6	274,400	31 000	549,000	62 000	2,200	5,500	7.13	180	9.13	230	425	193	0.272	6.9	
380-6	374,400	42 300	749,000	84 600	2,040	5,100	8.31	210	9.88	250	578	262	0.299	7.6	
410-6	505,400	57 100	1,011,000	114 200	1,880	4,700	8.88	225	10.63	270	739	335	0.323	8.2	
440-6	650,500	73 500	1,301,000	147 000	1,740	4,350	9.25	235	11.44	290	875	397	0.346	8.8	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed which is limited by the weight and critical speed of the spacer.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other types of bores, contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for one disc pack.









Standard BSE Sizes

Size	3.1 in	3.5 in	4.38 in	5 in	5.5 in	7 in	7.5 in	8 in	9 in
90-6	●	●	●	●	●	●			
110-6		●	●	●	●	●			
132-6		●	●	●	●	●			
158-6			●	●	●	●			
185-6				●	●	●	●	●	●
202-6					●	●	●	●	●
228-6						●	●	●	●
255-6							●	●	●
278-6							●	●	●
302-6									●

DI-6 Dimensional Data

Size	OAL in	OAL mm	BSE in	BSE mm	S in	S mm	LTB in	LTB mm	BSE Standard See Note in	BSE Standard See Note mm	FD in	FD mm	HD in	HD mm	ID1 - ID2 Max Bore[3] Std Hub in	ID1 - ID2 Max Bore[3] Std Hub mm	ID1 - ID2 Max Bore[3] Jumbo Hub in	ID1 - ID2 Max Bore[3] Jumbo Hub mm
90-6	6.25	159	3.11	79	1.27	32	1.57	40	3.11	79	3.70	94	2.36	60	1.68	43	2.25	59
110-6	8.19	208	4.25	108	2.41	61	1.97	50	4.25	108	4.53	115	2.87	73	2.06	52	2.94	75
132-6	9.10	231	4.38	111	2.54	64	2.36	60	4.38	111	5.47	139	3.74	95	2.69	67	3.56	90
158-6	11.02	280	5.50	140	3.12	79	2.76	70	5.50	140	6.50	165	4.41	112	3.13	80	4.13	105
185-6	12.61	320	6.31	160	3.48	88	3.15	80	6.31	160	7.60	193	5.28	134	3.75	95	4.94	125
202-6	14.39	366	7.31	186	4.12	105	3.54	90	7.31	186	8.27	210	5.67	144	4.06	102	5.38	135
228-6	15.94	405	8.06	205	4.48	114	3.94	100	8.06	205	9.29	236	6.30	160	4.50	115	5.94	150
255-6	18.94	481	9.88	251	5.51	140	4.53	115	9.88	251	10.35	263	6.89	175	4.94	125	6.63	170
278-6	19.90	505	10.06	256	5.63	143	4.92	125	10.06	256	11.26	286	7.68	195	5.50	140	7.31	185
302-6	21.68	551	11.06	281	6.15	156	5.32	135	11.06	281	12.20	310	8.40	213	6.13	155	7.88	200
325-6	22.67	576	11.25	286	6.21	158	5.71	145	11.25	286	13.11	333	9.45	240	6.75	170	8.44	215
345-6	24.83	631	12.63	321	7.18	182	6.10	155	12.63	321	13.98	355	10.04	255	7.13	180	9.13	230
380-6	27.01	686	13.63	346	7.49	190	6.70	170	13.63	346	15.35	390	11.61	295	8.31	210	9.88	250
410-6	29.31	744	14.75	375	8.12	206	7.28	185	14.75	375	16.54	420	12.40	315	8.88	225	10.63	270
440-6	31.74	806	16.38	416	9.10	231	7.68	195	16.38	416	17.72	450	12.99	330	9.25	235	11.44	290

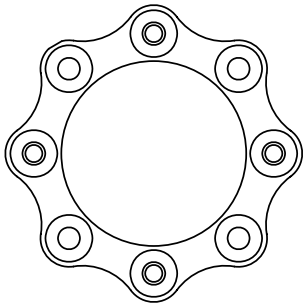
Notes:
- ■ 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores, contact Lovejoy Technical Support.
- ■ Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.
- ■ Custom spacer sizes are available in both longer and shorter lengths. For a list of standard spacer sizes, see page D-27.

DI-8 Type Drop-In Center Industrial Coupling

The DI Type coupling is the standard 6 bolt coupling with two hubs and a spacer assembly that can be installed or removed without disturbing the equipment and hubs and without removing the disc packs from the spacer assembly. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack. This configuration will also accommodate axial misalignment within the specified limits.







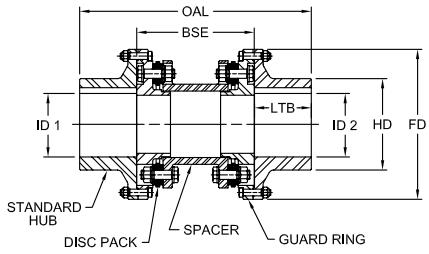
Features

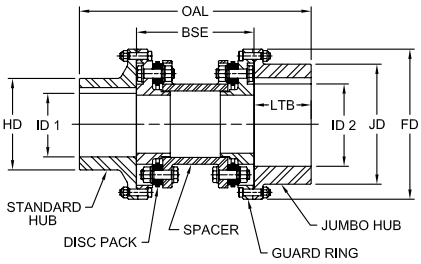
- Designed to meet the API 610 Standard
- Support for additional API requirements available on request
- Unitized disc pack
- Infinite life if properly aligned
- Torsionally rigid without any back lash
- No need for lubrication or maintenance
- No wearing parts and high resistance to harsh environmental conditions
- Puller holes standard with this design

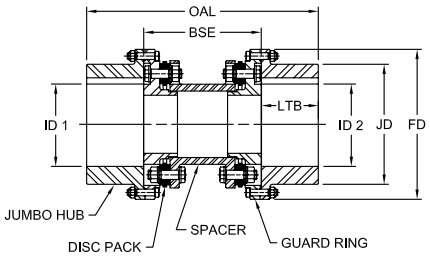
DI-8 Performance Data

Size	Nominal Torque		Peak Torque		Max Speed		ID1 - ID2 Max Bore[3] Std Hub		ID1 - ID2 Max Bore[3] Jumbo Hub		Weight[4]		Axial[5] Misalignment ±ΔKa		Angular[6] Misalignment Max
	in-lbs	Nm	in-lbs	Nm	Unbal[1] RPM	Bal[2] RPM	in	mm	in	mm	lbs	kg	in	mm	Degrees
278-8	177,000	20 000	354,000	40 000	2,800	7,000	5.50	140	7.31	185	287	130	0.146	3.7	
302-8	265,500	30 000	531,000	60 000	2,560	6,400	6.13	155	7.88	200	362	164	0.157	4.0	
325-8	327,500	37 000	655,000	74 000	2,400	6,000	6.75	170	8.50	215	470	213	0.169	4.3	
345-8	407,100	46 000	814,000	92 000	2,200	5,500	7.13	180	9.06	230	551	250	0.181	4.6	
380-8	557,500	63 000	1,115,000	126 000	2,040	5,100	8.31	210	10.13	255	717	325	0.197	5.0	
410-8	761,000	86 000	1,522,000	172 000	1,880	4,700	8.88	225	10.94	275	908	412	0.213	5.4	1/2°
440-8	973,500	110 000	1,947,000	220 000	1,740	4,350	9.25	235	11.88	300	1,058	480	0.228	5.8	
475-8	1,221,000	138 000	2,443,000	276 000	1,680	4,200	9.94	250	12.63	320	1,393	632	0.248	6.3	
505-8	1,549,000	175 000	3,098,000	350 000	1,520	3,800	10.88	275	13.44	341	1,750	794	0.264	6.7	
540-8	1,947,000	220 000	3,894,000	440 000	1,440	3,600	11.63	295	14.25	360	1,852	840	0.283	7.2	
570-8	2,292,000	259 000	4,585,000	518 000	1,360	3,400	12.63	320	15.25	385	2,094	950	0.299	7.6	

Notes:
- 1 indicates: Operating speed must be equal or less than permissible speed.
- 2 indicates: Couplings as manufactured can accommodate maximum speeds as listed. Higher speeds up to the value shown as 'Bal' require special balancing.
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores, contact Lovejoy Technical Support.
- 4 indicates: Weight is given for a complete coupling with maximum bores.
- 5 indicates: Axial misalignment is given for two disc packs.
- 6 indicates: Angular misalignment is given for one disc pack.



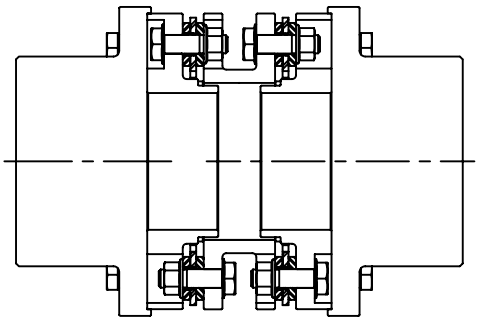




DI-8 Dimensional Data

Size	OAL		BSE		LTB		ID1 - ID2 Max Bore[3] Std Hub		ID1 - ID2 Max Bore[3] Jumbo Hub		FD		HD		JD	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
278-8	19.90	505	10.06	256	4.92	125	5.50	140	7.31	185	13.07	332	7.68	195	10.24	260
302-8	21.70	551	11.06	281	5.32	135	6.13	155	7.88	200	14.02	356	8.54	217	11.22	285
325-8	22.67	576	11.25	286	5.71	145	6.75	170	8.50	215	15.75	400	9.45	240	12.01	305
345-8	24.83	631	12.63	321	6.10	155	7.13	180	9.06	230	16.42	417	10.04	255	12.68	322
380-8	27.01	686	13.63	346	6.69	170	8.31	210	10.13	255	17.91	455	11.61	295	14.17	360
410-8	29.31	744	14.75	375	7.28	185	8.88	225	10.94	275	19.60	498	12.40	315	15.35	390
440-8	31.74	806	16.38	416	7.68	195	9.25	235	11.88	300	20.79	528	12.99	330	16.54	420
475-8	34.26	870	17.75	451	8.27	210	9.94	250	12.63	320	23.03	585	13.98	355	17.72	450
505-8	37.43	951	19.31	490	9.06	230	10.88	275	13.44	341	24.21	615	15.16	385	18.90	480
540-8	40.96	1 040	22.06	560	9.45	240	11.63	295	14.25	360	26.38	670	16.34	415	20.00	508
570-8	43.56	1 106	23.88	607	9.84	250	12.63	320	15.25	385	27.64	702	17.72	450	21.26	540

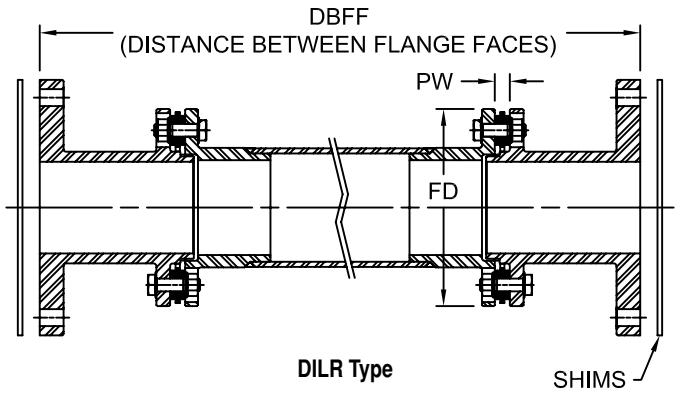
Notes:
- 3 indicates: The maximum bores shown are for cylindrical or taper shafts with keys. For splines and other type bores, contact Lovejoy Technical Support.
- Metric dimensions are rounded to the nearest 'mm' except where otherwise shown.



Please Note, Lovejoy DI-6 and DI-8 Type Drop-In Spacer style couplings are specially piloted to provide anti-flail protections and prevent the spacer from coming out of the coupling if the disc packs or bolts fail.

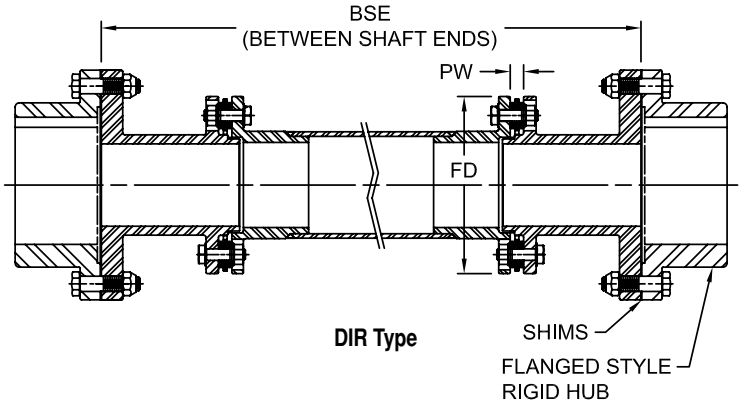
DIR-6 and DILR-6 Type Drop-In Center

The DIR and DILR Type coupling is designed to be a direct replacement for floating shafts in flanged series floating shaft gear couplings. The DIR is provided with F-Style rigid gear coupling hubs and the DILR can be manufactured to work with existing rigid hubs without disturbing or moving the equipment. All spacers are manufactured to the customer's specified length and are sized using a service factor of 2.0. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack and it is suitable for axial displacement within specified limits. DILR Type couplings are manufactured slightly shorter than the DBFF dimension specified by the customer and shims are provided to aid in simplifying the installation.



Features

- No need for lubrication or maintenance
- Can utilize existing rigid Flanged Gear hubs or custom paper machine hubs (Beloit and Voith)
- Can be inspected while in operation
- Can run at higher speeds than floating shaft gear couplings
- Unitized disc pack
- Infinite life if properly aligned
- Torsionally rigid with minimal back lash
- No wearing parts and high resistance to harsh environmental conditions
- Shim kits are standard for ease of installation and precise spacer positioning
- Anti Flail / Anti Fly piloting option is standard to prevent the spacer assembly from flying out if a disc pack and bolts fail
- Adjustable lengths using shaft locking devices



Selection Process for DIR, DIRA, DILR, and DILRA Disc Couplings

The DILR and DILRA Type coupling are a direct replacement for a floating shaft style gear coupling. The DILR/DILRA is designed to utilize the hubs already on the customer's equipment. The DILR drop in replacement will be manufactured slightly shorter that the DBFF and shims will be used for ease of maintenance. The DILRA is adjustable using an SLD (Shaft Locking Device) to make axial or length adjustments. Customers with multiple pieces of equipment with similar length couplings can stock one spare spacer that can be used as a replacement for more than one coupling.

If the end user requires rigid hubs be provided with the coupling, a DIR or DIRA Type coupling will be recommended and the BSE (distance Between Shaft Ends) must be specified.

Required Information:

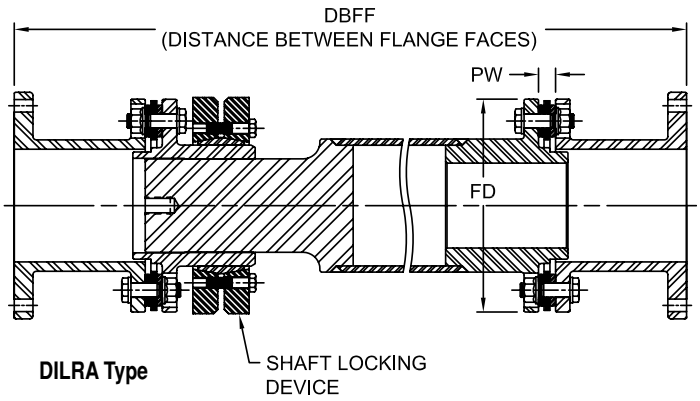
The end user should be prepared to provide the following information when contacting Lovejoy Technical Support:

- Motor horse power and speed (include gearbox ratio – input and output).
- Rigid hub sizes (if the customer is using existing F-Style rigid gear coupling hubs).
- DBFF or distance between flange faces of the rigid hubs for DILR Type.
- BSE shaft separation can be specified for DIR Type.
- Shaft sizes for rigid hubs DIR and DIRA Type couplings.
- For maximum bore sizes, consult with Lovejoy Gear Coupling Catalog pages F-Style rigid hubs.

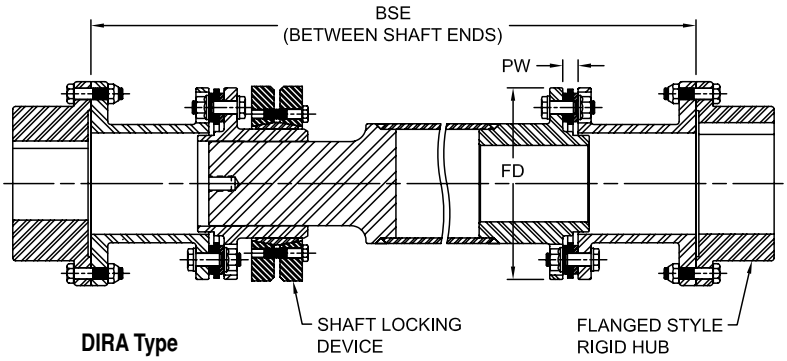
DIRA-6 and DILRA-6 Type

Drop-In Center

The DIRA and DILRA Type couplings are designed to be direct replacements for floating shafts in flanged series floating shaft gear couplings. This type uses existing or Lovejoy supplied rigid F-Style gear coupling hubs. The DIRA/DILRA are similar to the DIR and DILR Types with the exception these incorporate the use of an SLD shaft locking device to make length adjustments instead of shims. The standard axial adjustment is +/- 2.0 inches for this type of coupling. Custom length adjustment amounts can be provided on request. The DIRA is provided with rigid hubs. The DILRA can be manufactured to serve as a direct drop in replacement for use with existing rigid hubs without disturbing or moving the equipment. All spacers are manufactured to the customer's specified length and are sized using a service factor of 2.0. The coupling has two flex planes (one at each disc pack) so it can accommodate parallel misalignment by the angular misalignment in each disc pack and it is suitable for axial displacement within specified limits.



DILRA Type



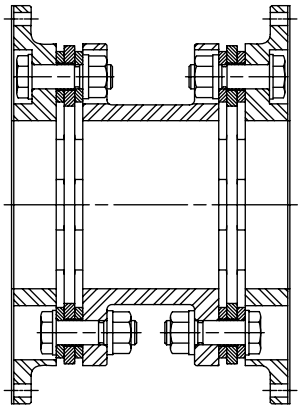
DIRA Type

D

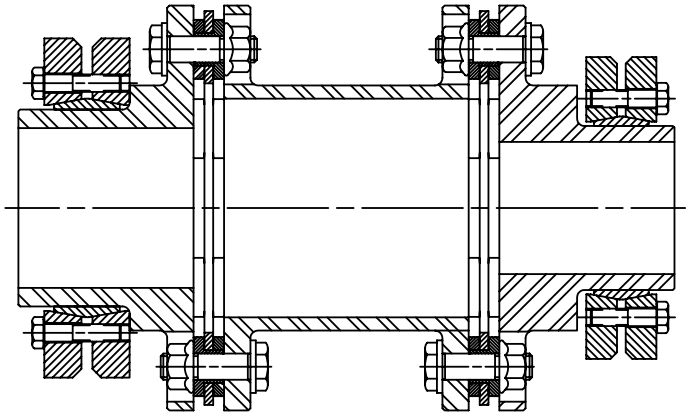
DIR / DILR - 6 Performance and Dimensional Data

Size	Nominal Torque in-lb	Nominal Torque Nm	Peak Torque in-lb	Peak Torque Nm	Max Speed RPM	FD in	FD mm	PW in	PW mm	Axial Misalignment ±ΔKa in	Axial Misalignment ±ΔKa mm	Angular Misalignment Degrees
132-6	9,700	1 100	19,500	2 200	Maximum Speed is determined by the length and critical speed of the spacer assembly	5.20	132	0.331	8.4	0.102	2.6	1.5°
158-6	17,700	2 000	35,400	4 000		6.22	158	0.441	11.2	0.122	3.1	
185-6	29,200	3 300	58,400	6 600		7.28	185	0.551	14.0	0.146	3.7	
202-6	40,700	4 600	81,400	9 200		7.95	202	0.610	15.5	0.150	3.8	1°
228-6	62,000	7 000	123,900	14 000		8.98	228	0.689	17.5	0.165	4.2	
255-6	90,300	10 200	180,600	20 400		10.04	255	0.807	20.5	0.185	4.7	
278-6	125,700	14 200	251,400	28 400		10.94	278	0.835	21.2	0.205	5.2	
302-6	177,000	20 000	354,000	40 000		11.89	302	0.961	24.4	0.224	5.7	
325-6	221,300	25 000	442,600	50 000		12.80	325	1.024	26.0	0.256	6.5	
345-6	274,400	31 000	549,000	62 000		13.58	345	1.110	28.2	0.272	6.9	
380-6	374,400	42 300	749,000	84 600		14.96	380	1.260	32.0	0.299	7.6	
410-6	505,000	57 100	1,011,000	114 200		16.14	410	1.307	33.2	0.323	8.2	
440-6	651,000	73 500	1,301,000	147 000		17.32	440	1.433	36.4	0.346	8.8	

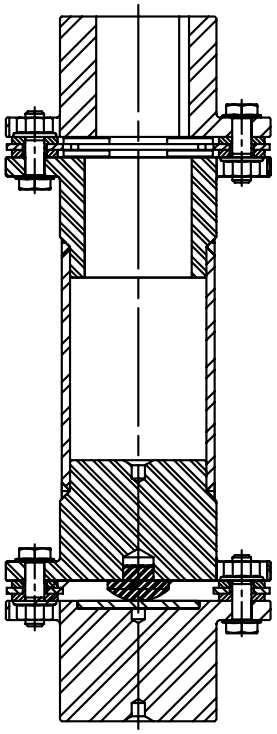
Note: ■ Axial misalignment is given for two disc packs, angular misalignment is given for one disc pack.



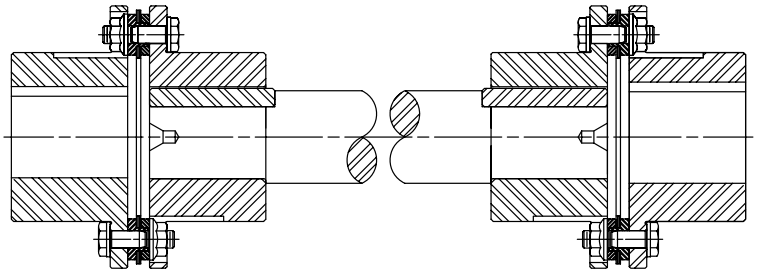
SXFA Type with Flanges



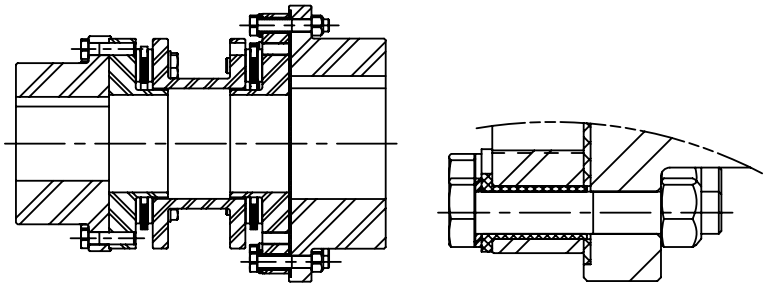
SX Type with SLD Shaft Locking Device



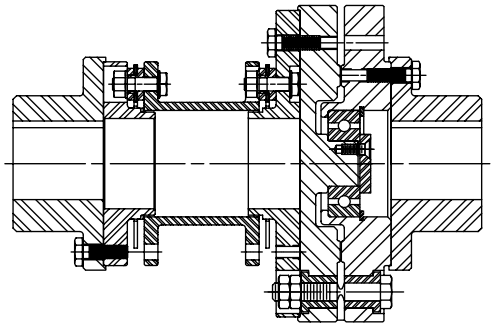
SXV Type for Vertical Mounting



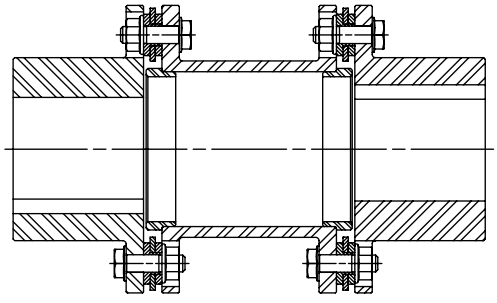
SXFS Type with Floating Shaft



DIEI Type with Electrical Insulation



DISP Type with Shear Pins



SXLEF Type with LEF Limited End Float

where the world turns for

Lovejoy®

Coupling Solutions

Torsional

In This Section:

- Selection Process
- L-LOC Clamping Feature
- LF Series
- LVK Series
- LV Series
- LM Series
- LK Series
- Pump Mounting Plates
- Pump Mounting Housings



Torsional

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Torsional

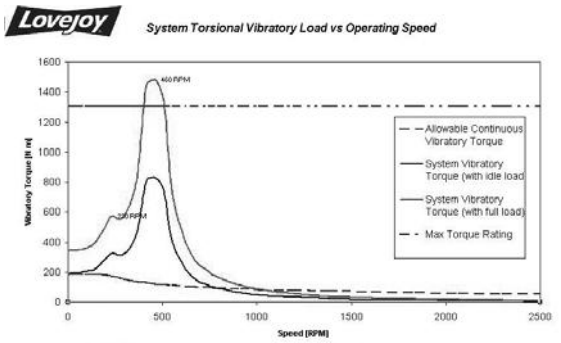
Table of Contents

	Running Page No.	Section Page No.
Overview	264	T-4
Engine Application > Selection Process	266	T-6
Industrial Application > Selection Process	268	T-8
Applications Service Factors > Selection Data	269	T-9
Coupling Selection Worksheet	270	T-10
L-LOC Clamping Feature and Spline Identification > Overview	271	T-11
LF Series > Overview	272	T-12
LF Series – Elements > Overview	273	T-13
LF Series – Base Element, Models 1, 1/S, 2 and 2/S > Selection Data	274	T-14
LF Series – Models 3, 3/S, 6, 6/S and 6B > Selection Data	275	T-15
LF Series > Performance Data	276	T-16
LF Series – Base Element and Model 1 > Dimensional Data	278	T-18
LF Series – Models 1/S, 2 and 2/S > Dimensional Data	279	T-19
LF Series – Models 3 and 3/S > Dimensional Data	280	T-20
LF Series – Models 3, 3/S and Flywheel Housings > Dimensional Data	281	T-21
LF Series – Models 6, 6/S and 6B > Selection Process	282	T-22
LF Series – Models 6, 6/S and 6B > Dimensional Data	283	T-23
LF Series – Models 6 and 6B > Maximum Length and Speed Data	284	T-24
LF Series – Weights and Mass Moment of Inertia	286	T-26
LF Series Floating-Shaft – Models 6 and 6B > Selection Process	287	T-27
LVK Series > Overview / Performance Data	288	T-28
LVK Series – SAE J620 Flywheel Application > Dimensional Data	289	T-29
LV Series > Overview / Performance Data	290	T-30
LV Series – SAE J620 Flywheel Application > Dimensional Data	291	T-31
LM Series > Overview	292	T-32
LM Series – Types SB, SC, SBE and SCE > Selection Data	293	T-33
LM Series – Types SB, SCA and SCB (HTR) > Performance Data	294	T-34
LM Series – Types SB, SCA and SCB (HTR) > Dimensional Data	295	T-35
LM Series – Types SBE and SCE (HTR) > Performance Data	296	T-36
LM Series – Types SBE and SCE (HTR) > Dimensional Data	297	T-37
LK Series > Overview / Performance Data	298	T-38
LK Series > Dimensional Data	299	T-39
Pump Mounting Plates – SAE J744 > Dimensional Data	300	T-40
Pump Mounting Plates – SAE J620 > Dimensional Data	301	T-41
Pump Mounting Housings – Overview	302	T-42

Torsional Couplings

Lovejoy offers a wide range of torsional couplings engineered to solve torsional vibration problems found in diesel engine driven equipment and other applications where torsional vibrations are prevalent. These include all internal combustion engines, reciprocating pumps and compressors, as well as variable frequency drives (VFD).

Lovejoy torsional coupling are designed to dampen torsional vibrations and tune, or adjust the system's critical speeds away from the application's operating range. With the proper information (see Torsional Worksheet on page T-10) Lovejoy engineers can perform a Torsional Vibration Analysis, or TVA for your application to assist in the selection of a torsional coupling. See sample TVA in the graph to the right.



Lovejoy Torsional Coupling Product Overview

LF Series

The unique and highly versatile design of the elastomeric element makes the LF Series the most versatile product in Lovejoy's line of torsional coupling products. It is available in high temperature rubber (HTR), Hytrel®, or Zytel®. The element can be easily mounted in a number of configurations depending on the application. The element is connected axially to a flanged hub, flywheel adapter plate, or flywheel on the engine side using axial screws or special "S" bolts designed for blind assembly. The element is also connected to a cylindrical hub on the driven equipment side using radial screws. This unique design is remarkably simple, highly effective and provides users of LF torsional couplings with unmatched performance. It is recommended that coupling selections should be verified with a Torsional Vibration Analysis of the system (see page T-10).



Configuration: Flange to shaft, shaft to shaft, and floating shaft applications
Application: The LF coupling is ideal for coupling engines to pumps, compressors, generators, fans, blowers, and other industrial driven equipment connecting to either the engine flywheel or a power take-off (PTO).
Nominal torque range (T_{KN}): up to 26,500 in-lb (3000 Nm)
Max angular misalignment (K_w): HTR up to 3°, Hytrel® and Zytel® see table on page T-17
Max parallel misalignment (K_R): HTR up to 0.08 inches (2 mm), Hytrel® and Zytel® see table on page T-17
Axial end float (K_a): HTR up to 0.2 inches (5 mm), Hytrel® and Zytel® see table on page T-17
Element material: HTR, Neoprene, Hytrel® or Zytel®

LVK Series

The LVK Series torsional couplings accommodate configurations where internal combustion engines are connected to a variety of driven equipment, while protecting the equipment from potentially damaging torsional vibrations by tuning engine critical speeds away from the application operating speed. It is recommended that coupling selections should be verified with a Torsional Vibration Analysis of the system (see page T-10).



Configuration: The LVK Style couplings are designed for mounting on standard SAE J620 flywheels. The element is bonded to the flywheel mounting plate and the unique 'star' shaped LK Style hub housing. The mating hub mounts onto the equipment shaft and slides into an interlocking position during installation for a blind assembly.
Application: The LVK coupling is ideal for coupling engines to pumps, compressors, generators, fans, blowers and other equipment requiring a direct interface via the engine flywheel.
Nominal torque range (T_{KN}): up to 5,800 in-lb (655 Nm)
Max angular, parallel, and axial misalignment: based on SAE design parameters
Element material: High Temperature Rubber (HTR) or EPDM

WARNING
You must refer to page T-2 (Page 262) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

WARNING
Do not use anaerobic adhesives with any Torsional components.

LV Series



The LV Series torsional couplings provide an inexpensive and economical alternative for the agricultural and off-highway industrial equipment market. The standard configuration is used for connecting internal combustion engines to a variety of driven equipment through a specially designed plate manufactured which can support universal joint drive shaft systems. It protects the equipment from potentially damaging torsional vibrations by tuning engine critical speeds away from the application operating speed. It is highly recommended that coupling selections should be verified with a Torsional Vibration Analysis of the system (see page T-10).

Configuration: The LV Series couplings are designed for mounting on standard SAE J620 flywheels with the element bonded to the mounting plate. The face plate is specially designed to interface with flange mounted universal joints popular in the agricultural deep well pump markets.

Application: Any diesel engine driven equipment, flange interfaces, and universal joint driveshaft driven equipment.

Nominal torque range (T_{KN}): up to 10,820 in-lb (1223 Nm)
Max angular, parallel, and axial misalignment: based on SAE design parameters
Element material: High Temperature Rubber (HTR) or EPDM

LM Series



The Lovejoy LM Series torsional couplings are designed specifically for diesel driven applications where the couplings are flywheel mounted. The LM coupling is popular in small to large equipment configurations where it is necessary to protect the equipment from potentially damaging torsional vibrations. This is accomplished by tuning engine critical speeds away from the application operating speed. It is highly recommended that coupling selections should be verified with a Torsional Vibration Analysis of the system (see page T-10).

Configuration: Drive rings are designed for many SAE J620 flywheel sizes and mount directly on the flywheel. The element and center hub mount on the driven equipment shaft and easily slide into the drive ring. This coupling is excellent for normal or blind installations.

Application: Any diesel driven equipment that includes generator sets (2 bearing), hydraulic pumps (single or multiple in parallel or series configurations), locomotive applications, centrifugal pumps, compressors, fans, blowers, and more.

Nominal torque range (T_{KN}): up to 33,600 in-lb (3800 Nm)
Max angular, parallel, and axial misalignment: based on SAE design parameters
Element material: HTR, EPDM or Silicone

LK Series

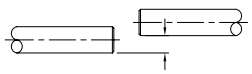


The LK Series coupling is a simple two-piece design consisting of an flywheel or flange mounted element and an interlocking hub. The couplings are designed for use with diesel engine driven hydraulic pump systems which are plate mounted directly to SAE flywheel housings. The couplings are torsionally stiff enabling hydraulic pumps and similar equipment with low mass or inertia to operate below critical speeds. The torsionally stiff LK Series coupling tunes the engine critical speed away from the operating range. A Torsional Vibration Analysis is typically not necessary for the LK Style couplings because the LK Series is torsionally stiff and puts the critical speed above the normal operating range.

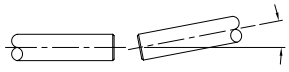
Configuration: The LK Series coupling consists of a flywheel mounted element, or an adapter plate mounted universal element, and a star shaped hub. The hub is mounted on the driven equipment and its design is excellent for blind installations.

Application: The LK coupling's design is excellent for virtually all diesel engine driven hydraulic systems in the low to mid power range.

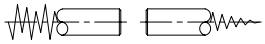
Nominal torque range (T_{KN}): up to 21,240 in-lb (2400 Nm)
Max angular, parallel, and axial misalignment: based on SAE design parameters
Element material: Zytel®



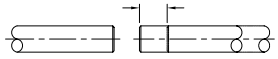
Parallel Misalignment



Angular Misalignment



Torsional Misalignment



Axial Misalignment

When correctly sized, the Lovejoy Torsional Coupling will effectively dampen vibration and tune critical frequencies out of the operating range of systems driven by diesel, gasoline, or natural gas reciprocating engines. Some coupling selections can be verified using a Torsional Vibration Analysis performed by Lovejoy Engineering (see worksheet page T-10).

Misapplication of the coupling in an engine application will frequently lead to coupling failure or system damage. Lovejoy strongly recommends that you contact Technical Support for assistance in selecting a coupling.

Please complete the information worksheet on page T-10 and fax it to 800-446-0878
or access "Engineering Assistance" on-line at www.lovejoy-inc.com

Use the following steps in conjunction with the technical data and dimensional tables contained in the following sections to make the preliminary coupling selection for internal combustion engine applications.

Step 1: Coupling Selection

Select the torsional coupling model that best suits your drive arrangement.

Step 2: Application Torque

Select a coupling size with a nominal torque rating (T_{KN}) greater or equal to the application torque (T_{LN}) calculated with the following equation:

$$T_{KN} \geq T_{LN} \bullet S_t$$

Provided T_{LN} **(in-lb) = HP • 63025 / RPM**
or
T_{LN} **(Nm) = HP • 9555 / RPM**

S_t is the temperature factor for the nominal torque found in Figure 1 (page T-9) for HTR. This number will be at least 1.6 or 1.7 (for typical ambient temperature of at least 140° to 160° F inside the flywheel housing).

Step 3: SAE Flywheel Size

Select the appropriate SAE J620 flange size to match your flywheel.

Step 4: Shaft Dimensions

Make sure the maximum bore capacity of the coupling will accommodate the dimensions of your drive shaft. Coupling hub length can usually be shortened if necessary to fit into tight space envelope.

Important:

Final selection of coupling size requires verification by torsional vibration analysis. This analysis will identify the location of the critical speeds and confirm the absence of excessive steady-state and peak resonance conditions over the normal operating cycle of the equipment.

Step 5: Peak Torque Pulses

The magnitude of the maximum torque pulses that occur during operation (T_{max}) at all operating temperatures must not exceed the maximum torque rating of the coupling (T_{Kmax}). These are short duration transient pulses that result from start-up, shock, or acceleration through a system resonance to reach operating speed. By definition, these pulses may occur over the life of the coupling 10^5 times in one direction of rotation, or 5 X 10^4 times reversing.

$$T_{Kmax} \geq T_{max} \bullet S_t$$

Step 6: Critical Speeds Due to Resonance

Select coupling stiffness so the system does not run at high resonance as well as the normal running and idle speeds are not at or near critical speeds.

Critical speeds are related to the system natural frequency and the number of pulses or excitations generated per revolution i (order). For analysis, if possible, reduce the application to a 2-mass system and apply the following equations:

$$n_R = \frac{60}{2\pi \bullet i} \sqrt{C_{Tdyn} \bullet \frac{J_A + J_L}{J_A \bullet J_L}}$$

Where:

n_R = critical resonance speed of the system (RPM)

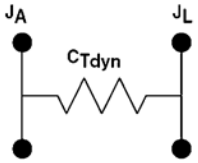
C_{Tdyn} = dynamic torsional stiffness of the coupling (lb-in/rad)

J_A = mass moment of inertia for the drive side (lb-in-sec^2)

J_L = mass moment of inertia for the load side (lb-in-sec^2)

i = number of oscillations generated per revolution

The coupling will be modeled as the spring controlling torsional oscillations of the engine and flywheel on one side and the driven equipment on the other:



Use the dynamic torsional stiffness values (C_{Tdyn}) from the Performance Data tables which can be found in representative coupling section. Mass moment of inertia values may be obtained from the respective engine and equipment manufactures.

Note: ■ System steady-state operating speeds should be 1.5 to 2 times the major critical speed for safe, low-resonance operation.

Step 7: Allowable Continuous Vibratory Torque

The amplitude of the continuously oscillating (vibratory) torque generated in the system must not exceed the coupling's rating (T_{KW}) at a particular steady-state frequency (RPM) and temperature. This torque is superimposed on (co-exists with) the basic load (T_{LN}).

$$T_{KW} > T_W \bullet S_t \bullet S_f \bullet V$$

Where:

T_{KW} = Coupling rating for continuously oscillating torque at 10Hz

S_f = Frequency factor that relates the operating frequency to the coupling's 10Hz rating (see Figure 2 on page T-9)

S_t = Temperature factor (for HTR only)

V = Amplifing factor outside the resonance. Substitute V_r for V with run-through of resonance application (see Figure 3 on page T-9)

T_w = Generating torque

Operating Frequency **f (Hz)**	≤ **10**	>10
Frequency Factor S_f	1	$\sqrt{f / 10}$

The magnitude of the continuously oscillating torque generated in the system (T_W) is dependent on an amplifying factor (**V**) based on the system steady-state operating speed **n** relative to the resonance speed n_R:

$$V \approx \frac{1}{\left| 1-(n/n_R)^2 \right|}$$

Step 8: Dimensional & Alignment Considerations

Refer to the Performance Data tables, figures, and dimension tables to make certain final coupling selection meets application constraints for the working envelope (O.C., length, bore dimensions, etc.), maximum speed limitations and allowable misalignment.

While the Torsional coupler was developed to solve the unique problems associated with the torsional vibration in equipment driven by internal combustion engines, the coupling works equally well in general industrial applications. For these electric motor-powered and other non-engine applications, use the following simple selection procedure (Refer to page T-6 for engine-driven applications).

Misapplication of the coupling in an engine application will frequently lead to coupling failure or system damage. Lovejoy strongly recommends that you contact Technical Support for assistance in selecting a coupling.

Please complete the information worksheet on page T-10 and fax it to 800-446-0878
or access "Engineering Assistance" on-line at www.lovejoy-inc.com

Use the following steps in conjunction with the technical data and dimensional tables contained in the following sections to make the preliminary coupling selection for industrial applications.

Step 1: Coupling Selection

Select the torsional coupling model that best suits your drive arrangement.

Step 2: Choose Element Material

Most common used is the HTR (High Temperature Rubber) element is used because of the high flexibility. This feature provides benefits of vibration and shock damping, noise silencing, and a high tolerance for misalignment.

When required, the Zytel® element provides a torsionally rigid connection yet is still flexible in terms of accommodating small angular misalignment as well. Use of the floating-shaft Model 6 version will allow for parallel misalignment as well. The Zytel® material is also chemical resistant.

Please note that the optional Hytrel® element requires almost perfect alignment which is unlikely in most applications and is not recommended, except when used as intended on a flange mounted hydraulic pump to an engine flywheel.

Step 3: Determine Service Factor

Choose a representative application Service Factor (SF) from the chart on page T-9.

Step 4: Calculate Nominal Torque Requirement, T_{KN}

Use the actual torque or horsepower requirement for the driven equipment if known. Otherwise, use the rated motor horsepower.

$$T_{KN\ (in\text{-}lb)} \geq HP \bullet SF \bullet 63025 / RPM$$

Step 5: Other Considerations

Refer to the Performance Data tables, figures, and dimension tables to make certain final coupling selection meets application constraints for envelope (O.D., length, bore dimensions, etc.) and maximum speed limitations.

Example:

Find a LF coupling for a 15 hp centrifugal pump running at 1,750 RPM.

Model 2 – Most common for shaft-to-shaft applications.

Model 2/S – For shaft-to-shaft applications that require free end-float or quick, blind "plug-in" assembly.

Model 1 or 1/S – or connecting a shaft to a flange or flywheel.

Model 6 – floating shaft applications (see pages T-22 through T-25).

SF = 1.0 (from Application Service Factor (SF) on page T-9)

T_{KN} = (15hp•1.0•63025) / 1,750 RPM = 540 in-lb

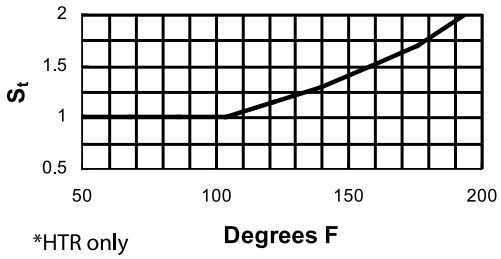
» use a LF8 torsional coupler or larger

Application Service Factors

Agitators	1.0
Beaters	1.5
Blowers	1.0-1.25
Can filling machinery	1.0
Car dumpers	2.5
Car pullers	1.5
Compressors (screw)	1.0
Compressors (reciprocating)	Consult Lovejoy
Conveyors	1.0-2.5
Love Roll, Shaker & Recip.	3.0
Conveyors (heavy duty)	1.25-2.5
Cranes & Hoists[1]	2.0
Crushers	3.0
Dredges	1.5-2.0
Elevators	1.0
Fans	1.0-1.5
Feeders	1.0
Reciprocating	2.5
Generators:	
Not Welding	1.0
Welding	2.0
Hoist	1.5
Hammer mills	2.0
Kilns	1.5
Laundry washers:	
Reversing	2.0
Line shafting	1.5
Lumber machinery	2.0
Machine tools	1.5-2.0
Metal forming machinery	1.5-2.5
Mills, rotary type	2.0
Mixers	1.5-1.8
Paper mill equipment	1.2-2.0
Pumps:	
Centrifugal	1.0
Gear, Rotary or Vane	1.25
Reciprocating 1 Cyl. Or double acting	2.0
2 Cyl. Single Acting	2.0
2 Cyl. Double Acting	1.75
3 or more Cyl.	1.5
Rubber machinery	2.0-2.5
Stokers	1.0
Textile machinery	1.2
Windlass	2.0
Woodworking machinery	1.0

Note: ■ 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

Figure 1: Temperature Factor*, S_t (HTR)



*HTR only

Figure 2: Frequency Factor

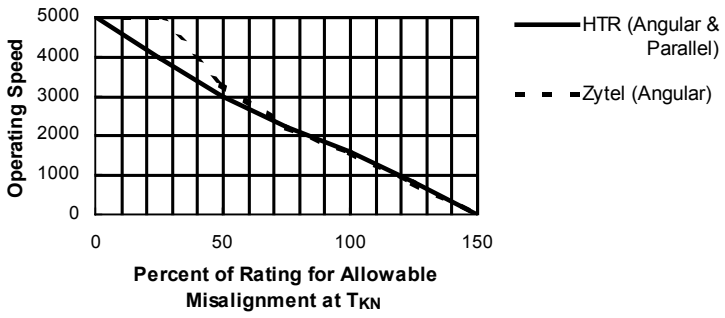
Operating Frequency **f (Hz)**	≤ 10	> 10
Frequency Factor S_f	1	$\sqrt{f/10}$

Figure 3: Resonance Factor V_r

Coupling Element	V_r	Ψ
HTR 50 Shore	10	0.6
HTR 60 Shore	8	0.78
Hytrel®	–	0.5
Zytel®	–	0.4

Note: ■ HTR is High Temperature Rubber.

Figure 4: Permissible Misalignment vs. Speed



Chemical Resistance Chart

Oils & Hydraulic Fluids	Hytrel®	Zytel®
Automatic Transmissions	A	A
Fluid Type A & F	A	A
Hydraulic Fluid	A	A
Phosphate Ester	A	A
Lube Oil	A	A

Solvents & Fuels	Hytrel®	Zytel®
Gasoline	A	A
Nujol, JP4 Kerosene	A	A
Halocarbons, Freon	A	A
Trichlorethylene	C	C
Carbon Tetrachloride	B	A

Acids & Bases	Hytrel®	Zytel®
Sulfuric Acid (20%)	A	C
Hydrochloric Acid (20%)	B	C
Potassium or Sodium Hydroxide (20%)	—	—
—	A	B
—	—	—

Miscellaneous	Hytrel®	Zytel®
Ethylene Glycol*	A	A,B
Steam	B	B
Liquid Ammonia	—	A
—	—	—
—	—	—

Notes: ■ Avoid contact with hydrocarbon base lubricants or use of any anaerobic adhesives.
■ A indicates: Little or no effect.
■ B indicates: Moderate effect.
■ C indicates: Severe effect.

Coupling Selection Worksheet for Internal Combustion Engines (diesel, gas, natural gas)

For assistance in selecting a Torsional coupling for your internal combustion engine application, please complete the entire worksheet and fax it to 800-446-0878 or send via email to appleng@lovejoy-inc.com. Direct questions to 630-852-0500.

Customer Information

Date: _____

Company Name: _____ Contact Name: _____

Phone Number: _____ email address: _____

Fax Number: _____ Anticipated Order Quantity / Annual Usage: _____

Brief Description of Application: _____

_____

Engine Information

Engine Manufacturer: _____

Engine Model: _____

Number of Cylinders: _____ Displacement: _____

Rated Horsepower: _____

@ Rated Speed: _____

Operating Speed (Constant): _____ Idle Speed: _____

PTO Shaft or Output Shaft Diameter: _____

Type:

❑ Diesel

❑ Gasoline

❑ Natural Gas

❑ Other: _____

❑ 2-Stroke ❑ 4-Stroke

Piston configuration

❑ In-Line

❑ Vee ❑ Vee-angle: _____

SAE (J620D)
Flywheel Size: _____
6-1/2,7-1/2,8,10,11-1/2,14,16,etc
(Attach Drawing if non standard)

SAE (J617C)
Flywheel Housing Size: _____
6, 5, 4, 3, 2 or 1

Driven Equipment

❑ Hydraulic Pump

❑ Water Pump

❑ Compressor Type: _____
(Screw, Reciprocating, Lobe Etc)

❑ Generator / Alternator

❑ Other: _____

Ambient Operating Temperature: _____ °F / °C

Shaft Diameter or Spline details

_____

_____

Type of Equipment Mounting

❑ Flange mount to engine pilot

❑ Independent of engine

Driven From:

❑ Flywheel

❑ Front / Side PTO

❑ Other (Explain)

_____

_____

Mass Moment of Inertia (J or WR^2)

The following must be provided for Torsional Vibration Analysis.
Please include type of units (J or WR^2)

Engine Inertia: _____

Flywheel Inertia: _____

Add sketch or Mass Elastic Diagram if necessary

Driven Equipment Inertia(s): 1._____ 2._____ 3._____ 4._____

Return completed worksheet to Lovejoy Technical Support at email: appleng@lovejoy-inc.com or Fax to 800-446-0878

Lovejoy's L-LOC Spline Clamping Feature

Spline shaft wear, profile distortion, and fretting corrosion all are major concerns in spline shaft applications such as hydraulic pumps. We are pleased to state that Lovejoy has a solution. It's called the L-LOC.

It is common knowledge that typical manufacturing tolerances between spline shafts and mating coupling hubs create some unavoidable play or backlash. This backlash is defined as the minor movement between the shaft and hub, typically resulting in wear. This tolerance related movement and wear is often further compounded by misalignment and hammering forces common in power transmission. As a result, fretting wear and profile distortion can occur, even when shafts are manufactured with high quality hardened steel using tight tolerances. If not checked, abnormal stresses on seals, bearings, and other engine or pump components can occur. The results are costly 'down time'. A great deal of money is spent each year on maintenance caused by this premature wear and equipment failure.

The ideal solution to spline distortion and wear is to eliminate the backlash or clearance related to mating tolerances and assembly misalignment. There are many solutions available, but most are expensive, time consuming, and often unsuccessful causing additional damage.

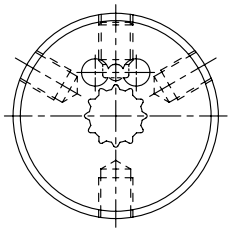
Lovejoy coupling hubs with the L-LOC spline clamping feature have proven themselves successful by eliminating the backlash, clearance issues, and damage caused by the hammering effects of vibration, including torsional vibration. The result is longer lasting spline profiles in both shafts and couplings that decrease costly downtime.

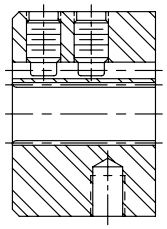
The L-LOC feature is a remarkably simple, yet effective design, consisting of a unique 'dog bone' shaped slot that is placed slightly above and parallel to the spline bore. When these set screws are tightened, the hub becomes firmly locked in place, gripping the full diameter of the spline shaft and the set screws never come in contact with the spline. As a result, users will never see dents, gouges, or burrs on the shaft from mounting the hub. While in use the hub and shaft virtually become a single entity, yet when the set screws are loosened, the L-LOC releases its grip and the hub can be easily removed from the spline shaft.



Features

- L-LOC eliminates premature spline shaft maintenance or replacement
- Reduces potentially damaging stress on equipment components
- Quick and easy to assemble and/or removal
- Improves the effectiveness of the connection between the hub and shaft
- Helps reduce equipment noise often related to couplings





Spline Identification and Selection

There are hundreds of combinations of splines used in industry today and, while Lovejoy does not stock all of these splines, many are maintained in inventory while a large variety can be quickly machined for your specific needs.

When identifying splines, it is important to know what Industry Standard the spline falls under such as ANSI B92.1A (SAE J744) or DIN5480. Manuals and data sheets provided by most original equipment manufacturers contain the necessary spine data for users to identify and order a hub with the proper spline.

Lovejoy's Customer Service and Technical Support teams can help pick out couplings or hubs containing most splines, but certain information will need to be provided prior to making the proper selection.

SAE Standard Involute splines are the most common spline in use in the United States and many are represented in the ANSI chart shown on the right. Information required to identify most ANSI (SAE) splines contains the number of teeth, the diametral pitch, and the major spline diameter. Lovejoy's ANSI splines are machined to meet the ANSI standard Class-5 fit.

When specifying DIN-5480 splines, it is necessary to provide the number of teeth, the major diameter in mm, and the DIN Module number, usually in format:
DIN 5480 x Major Dia x Module x Pressure angle (usually 30*) x number of teeth.
Lovejoy's DIN-5480 splines are machined to meet the DIN standard 9H fit.

DIN-5482 metric splines, JIS splines, and SAE J499 parallel side splines, can be quoted based on individual applications.

SAE Splines ANSI B92.1A (SAE J744)

SAE Code Size	Number of Teeth	Diametral Pitch (DP)	Major Diameter in
A-A	9	20/40	0.500
A	9	16/32	0.625
—	11	16/32	0.750
B	13	16/32	0.875
B-B	15	16/32	1.000
C	14	12/24	1.250
—	21	16/32	1.375
C-C	17	12/24	1.500
—	23	16/32	1.500
D	13	8/16	1.750
E	13	8/16	1.750
—	20	12/24	1.750
—	27	16/32	1.750
F	15	8/16	2.000

Note: ■ Please contact Lovejoy Technical Support regarding additional spline sizes not included in this chart.

LF Series Torsional Coupling

The LF Series coupling is designed with a unique and highly versatile elastomeric element. These can be easily integrated into a variety of coupling configurations to meet several application needs. LF Style elements are available in a variety of materials to match the necessary coupling dampening characteristics for tuning the systems critical speed away from the application operating speed. The element can be connected axially to a flywheel adapter plate or flanged hub and radially to a cylindrical center hub using the appropriate bolts. Axial bolt styles include either socket head bolts with a special dry adhesive, or S-Style bolts, which are similar to dowel pins (seen picture below). The radial bolts are used to connect the element to the cylindrical hub. This unique design is remarkably simple, highly effective and gives the LF torsional coupling unmatched performance capabilities. The coupling selection should be verified with a Torsional Vibration Analysis (TVA) of the system. The information required to perform a TVA can be found in the Coupling Selection Worksheet on page T-10.



Features

- Wide range of standard designs and materials
- Application versatility
- Shaft to shaft or flywheel to shaft designs
- Designed to accommodate substantial shock loads, vibration, and misalignment
- Low moment of inertia
- Electrically insulating
- No lubrication, maintenance free
- Unique air-flow cooling design
- Different element stiffness values allow for torsional tuning of applications with diesel engines
- Economic design allows for cost effective solutions for torsional applications
- Proven L-LOC spline-clamping hub virtually eliminates spline shaft profile wear and "fretting"
- Oil, heat, and corrosion resistant elements (Hytrel®, Zytel®)
- When used with S-bolts, the coupling can accommodate some end float.
- S-bolts accommodate applications requiring "blind" assembly
- Model 6 unique spacer designs span gaps between equipment in excess of the normal equipment separation
- Model 6 design available with bearings for high speeds and large amounts of equipment separation

T



Standard **S-Style**

Lovejoy's LF product line supports both standard style elements (above left) and the S-Style elements (above right). The standard style elements bolt to the cylindrical (center) hub and the flywheel, flywheel adapter, or flange hub. The S-Style utilizes bolts which look like dowel pins and are designed for "blind" installations, where the axial bolts may not be accessible for tightening during the installation process. One application would be inside a bell housing when all the components are assembled and the bolts cannot be reached. The S-Style bolts also accommodate a small amount of end float when necessary to prevent unnecessary axial stress on the element. When looking to replace elements, please note the difference in the axial holes. The standard elements have stepped holes to accommodate the cap screws (above left) which are used to mount the element. The S-Style elements have straight holes (above right) to accommodate the S-Style pins.

Further installation instructions can be found at www.lovejoy-inc.com in the Technical Resources section.

LF Series Torsional Elements

The focus of any coupling is the flexible elements, or the "working component". The element must effectively absorb the shock loads, misalignment forces, and torsional vibrations, under a variety of environmental conditions. The following materials are used to accommodate the different conditions and environments where the couplings are used.

High Temperature Rubber (HTR)

There are two different rubber element materials available, High Temperature Rubber (HTR) and Neoprene (CR). Both elements are torsionally soft and are placed into compression during assembly. Rubber under compression can carry up to 5 times the amount of torque as non-compressed elements. The elements effectively accommodate shock, misalignment, and vibration plus minimize harmful radial and axial forces on the connected equipment. Neoprene (CR) is used in environments that are hostile to High Temperature Rubber (HTR).

Available Durometer Hardness :	50, 60 (Shore A scale)
Operating Temperature Range:	HTR: -40° to 194° F
	CR: -40° to 175° F
Maximum Angular Misalignment:	Up to 3°



HTR

Hytrel®

Elements made of DuPont's Hytrel® elastomer compound are torsionally much stiffer than natural rubber (20 times stiffer) and were developed for combustion engine / hydraulic pump applications. Hytrel® elements have 20% greater torque capacity as compared to rubber elements. The torsionally stiff Hytrel® element moves the harmful vibration resonance frequency above the operating RPM range. The element design also reduces harmful radial and axial reactionary forces.

Operating Temperature Range:	-60° to 250° F
Maximum Angular Misalignment:	0.25°



Hytrel®

Zytel®

Elements made of DuPont's highly stressable Zytel® elastomeric compound have excellent chemical compatibility and corrosion resistance. The element composition is 3-times stiffer then Hytrel® elements. Zytel® elements exhibit less than 1° wind up at normal torque and zero backlash. Most suited for applications where heat, moisture, high torque / high speed, and corrosion resistance are critical factors in the coupling selection.

Operating Temperature Range:	-40° to 300° F
Maximum Angular Misalignment:	1°

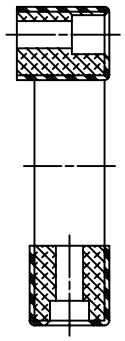


Zytel®

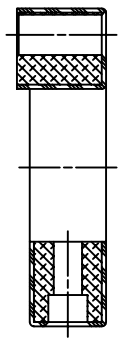
The following are standard LF Series torsional coupling models. The simple, unique design permits a wide range of models from common components to meet each application requirement.

Base Element

The heart of the LF Series coupling is the flexible base element. This element allows the customer to make their own shaft hubs from steel bar stock or use existing hubs. Ideal for quick prototype testing, retrofit and high volume applications.



Standard Base Element

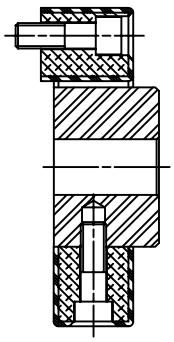


S-Style Base Element

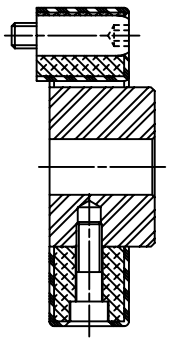
Model 1 and 1/S

Consists of the flexible base element with a simple steel cylindrical hub.

The 1/S is shown with the S-Style axial screw (similar to a dowel) for quick blind assembly of the drive package. The same combinations available in Model 1 are also available in the Model 1/S.



Model 1



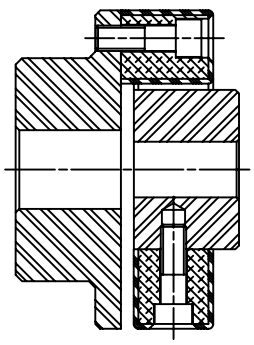
Model 1/S

T

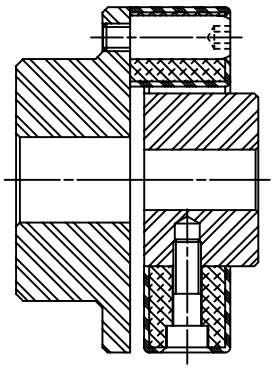
Model 2 and 2/S

Provides a complete shaft-to-shaft coupling in a range of sizes for all industrial power transmission applications. It is similar to Model 1 shown above, except a flanged hub is added to make the shaft to shaft connection.

Model 2/S allows the drive package to be “blind” connected. As with all S-Style models, axial end float of equipment shafts can be accommodated without harmful push-pull force.



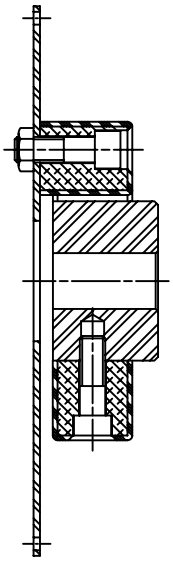
Model 2



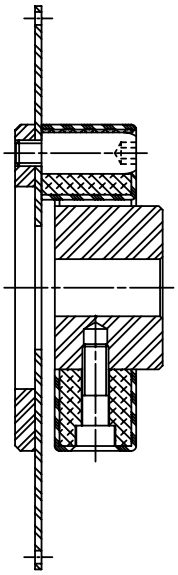
Model 2/S

Model 3 and 3/S

A Model 1 or 1/S with the addition of an engine mounting plate becomes a Model 3 or 3/S. It is available in standard SAE flywheel sizes as well as made-to-order sizes. The standard cylindrical hub is available in a variety of ANSI (SAE), DIN, JIS, and agricultural spline bores for hydraulic pumps and other applications. Various standard flexible element materials are available for specific torsional, misalignment and environmental requirements.



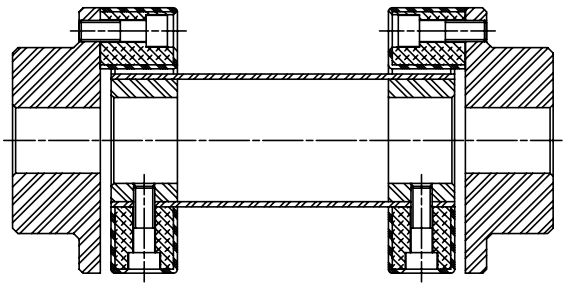
Model 3



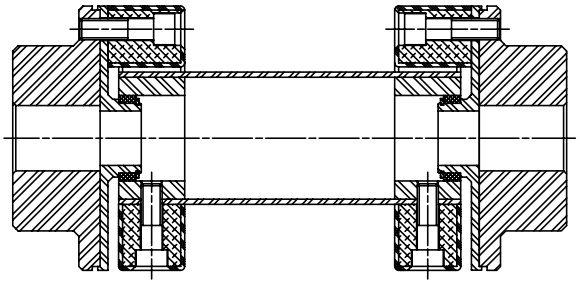
Model 3/S

Model 6, 6/S and 6B

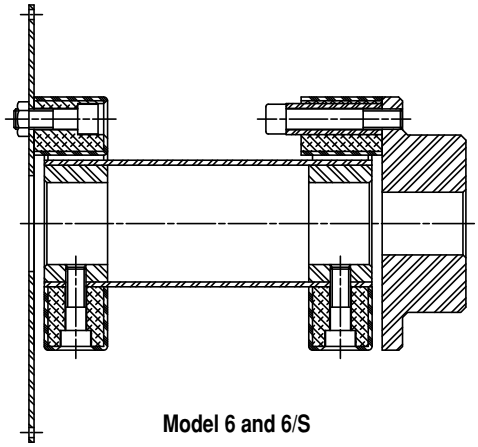
The Model 6 is available with floating shafts at customer specified assembly lengths, with special corrosion and heat resistant elements and materials. This model surpasses all other floating shaft designs in assembly, simplicity and reliability. Model 6/S accommodates free endplay without harmful push-pull reaction forces. Model 6/B is a highly elastic floating shaft coupling with accurate, maintenance free centering flanges for applications with long spans and high misalignment and or speed requirements.



Model 6



Model 6B



Model 6 and 6/S



LF Series Performance Data

Size	Element Material	Nominal Torque T_{KN}		Maximum Torque T_{Kmax}		Max Speed N_{max}	Allowable Continuous Vibratory Trq T_{KW}		Dynamic Torsional Stiffness C_{Tdyn}							
									Rubber 60 Shore (Standard)		Rubber 50 Shore (Optional)		Hytrel®1		Zytel®	
		in-lb	Nm	in-lb	Nm	RPM	in-lb	Nm	in-lb/rad	Nm/rad	in-lb/rad	Nm/rad	in-lb/rad	Nm/rad	in-lb/rad	Nm/rad
LF1	HTR	90	10	200	25	10,000	44	5	1,240	140	800	90	—	—	—	—
LF2	HTR	180	20	530	60	8,000	89	10	2,570	290	1,600	180	—	—	—	—
	Zytel®	265	30	530	60	10,000	N/A	N/A	—	—	—	—	—	—	55,150	6 230
LF4	HTR	440	50	1,100	125	7,000	180	20	7,500	850	4,870	550	—	—	—	—
LF8	HTR	885	100	2,480	280	6,500	355	40	13,300	1 500	7,970	900	—	—	—	—
	Zytel®	1,060	120	2,480	280	7,000	N/A	N/A	—	—	—	—	—	—	414,370	46 820
LF12	HTR	1,240	140	3,190	360	6,500	440	50	38,900	4 400	23,900	2 700	—	—	—	—
LF16	HTR	1,770	200	4,960	560	6,000	710	80	30,100	3 400	17,700	2 000	—	—	—	—
	Hytrel®	1,770	200	4,960	560	5,500	N/A	N/A	—	—	—	—	320,000	36 000	—	—
	Zytel®	2,120	240	4,960	560	6,000	N/A	N/A	—	—	—	—	—	—	654,800	74 000
LF22	HTR	2,430	275	6,640	750	6,000	885	100	79,600	9 000	54,000	6 100	—	—	—	—
LF25	HTR	2,790	315	7,740	875	5,000	1,100	125	39,800	4 500	4,800	2 800	—	—	—	—
LF28	HTR	3,700	420	10,600	1 200	5,000	1,330	150	106,200	12 000	66,400	7 500	—	—	—	—
LF30	HTR	4,400	500	12,400	1 400	4,000	1,770	200	69,000	7 800	42,500	4 800	—	—	—	—
	Hytrel®	4,400	500	12,400	1 400	4,000	N/A	N/A	—	—	—	—	780,000	88 000	—	—
LF50	HTR	6,200	700	18,600	2 100	4,000	2,650	300	168,100	19 000	106,200	12 000	—	—	—	—
	Hytrel®	7,100	800	17,700	2 000	4,000	N/A	N/A	—	—	—	—	2,300,000	262 000	—	—
LF80	HTR	7,960	900	18,600	2 100	4,000	2,830	320	221,200	25 000	141,600	16 000	—	—	—	—
LF90	HTR	9,700	1 100	27,900	3 150	3,600	3,980	450	141,600	16 000	92,900	10 500	—	—	—	—
LF140	HTR	15,000	1 700	43,400	4 900	3,600	6,200	700	354,000	40 000	234,500	26 500	—	—	—	—
LF250	HTR	26,500	3 000	77,400	8 750	3,000	11,000	1 250	592,900	67 000	380,500	43 000	—	—	—	—

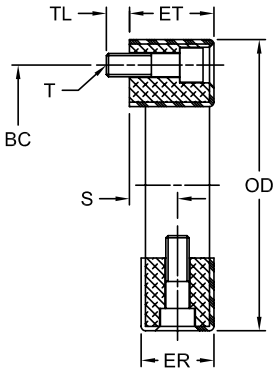
Notes:
- 1 indicates: For Hytrel, dynamic torsional stiffness values are non-linear with respect to torque. Value given is for 100% of nominal torque.
- N/A indicates: Not Applicable.
- HTR is High Temperature Rubber.

T

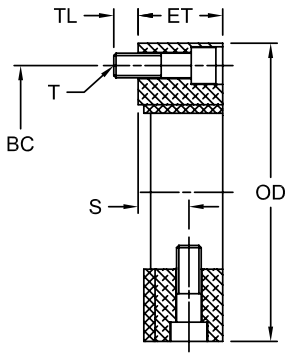
LF Series Performance Data *Continued*

Size	Element Material	Max Allowable Misalignment*							Wind Up (angle of twist)		Static Stiffness					
		Angular ΔK_w	Parellel ΔK_r		Axial (End Float) Standard ΔK_a		Axial (End Float) S-Style**		at Nominal Torque	at Maximum Torque	Axial C_a		Radial C_r		Angular C_w	
		Degrees	in	mm	in	mm	in	mm	Degrees	Degrees	lb/in	N/mm	lb/in	N/mm	in-lb/deg	Nm/deg
LF1	HTR	3.00	0.060	1.5	+/-0.08	+/-2	+0.18 / -0.08	+4.6 / -2	6	17.0	220	38	860	150	2.66	0.3
LF2	HTR	3.00	0.060	1.5	+/-0.12	+/-3	+0.12 / -0.12	+3 / -3	6	17.0	130	22	860	150	2.66	0.3
	Zytel®	1.00	0.004	0.1	+/-0.02	+/-0.5	+0.12 / -0.02	+3 / -0.5	—	—	—	—	—	—	—	—
LF4	HTR	3.00	0.060	1.5	+/-0.12	+/-3	+0.17 / -0.12	+4.3 / -3	5	12.0	430	75	2,860	500	21.30	2.4
LF8	HTR	3.00	0.080	2.0	+/-0.16	+/-4	+0.20 / -0.16	+5 / -4	5	14.0	430	75	2,860	500	31.90	3.6
	Zytel®	1.00	0.004	0.1	+/-0.02	+/-0.5	+0.20 /-0.02	+5 / -0.5	—	—	—	—	—	—	—	—
LF12	HTR	2.00	0.080	2.0	+/-0.12	+/-3	+0.20 /-0.16	+5 / -4	3	7.5	1,430	250	5,710	1 000	80.00	9.0
LF16	HTR	3.00	0.080	2.0	+/-0.20	+/-5	+0.23 / -0.20	+5.8 / -5	5	14.0	570	100	2,860	500	44.00	5.0
	Hytrel®	0.25	0.000	0.0	+0.12 / -0.08	+3 / -2	N/A	N/A	—	—	—	—	—	—	—	—
	Zytel®	1.00	0.004	0.1	+/-0.02	+/-0.5	+0.23 /-0.02	+5.8 / -0.5	—	—	—	—	—	—	—	—
LF22	HTR	2.00	0.080	2.0	+/-0.12	+/-3	+0.23 /-0.20	+5.8 / -5	3	7.5	2,860	500	7,420	1 300	106.00	12.0
LF25	HTR	3.00	0.080	2.0	+/-0.20	+/-5	+0.26 / -0.20	+6.6 / -5	5	14.0	800	140	3,400	600	62.00	7.0
LF28	HTR	2.00	0.080	2.0	+/-0.12	+/-3	+0.26 / -0.20	+6.6 / -5	3	7.5	3,140	550	8,000	1 400	150.00	17.0
LF30	HTR	3.00	0.080	2.0	+/-0.20	+/-5	+0.26 / -0.20	+6.6 / -5	5	14.0	1,090	190	4,280	750	80.00	9.0
	Hytrel®	0.25	0.000	0.0	+0.12 / -0.08	+3 / -2	N/A	N/A	—	—	—	—	—	—	—	—
LF50	HTR	3.00	0.080	2.0	+/-0.20	+/-5	+0.26 / -0.20	+6.6 / -5	3	7.5	3,700	650	12,600	2 200	230.00	26.0
	Hytrel®	0.25	0.000	0.0	+0.12 / -0.08	+3 / -2	N/A	N/A	—	—	—	—	—	—	—	—
LF80	HTR	2.00	0.060	1.5	+/-0.20	+/-5	+0.26 / -0.12	+6.6 / -3	3	7.5	4,850	850	16,600	2 900	300.00	34.0
LF90	HTR	3.00	0.080	2.0	+/-0.20	+/-5	+0.34 / -0.20	+8.6 / -5	5	14.0	1,260	220	5,700	1 000	150.00	17.0
LF140	HTR	2.00	0.080	2.0	+/-0.20	+/-5	+0.34 / -0.20	+8.6 / -5	3	7.5	3,700	650	13,100	2 300	336.00	38.0
LF250	HTR	2.00	0.080	2.0	+/-0.20	+/-5	+0.40 / -0.20	+10 / -5	3	7.5	6,570	1 150	23,400	4 100	600.00	68.0

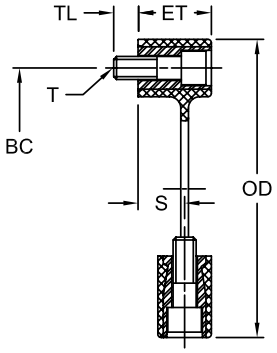
Notes:
- * indicates: Angular and parallel misalignment values are dependent on speed, and for rubber elements, should be adjusted according to figure 4 on page T-9. Hytrel® elements are only for applications where the driven component is piloted to the driver for SAE and DIN established alignments (i.e. Hydraulic pump flange-mounted to engine flywheel housing).
- ** indicates: The "S-Style" design is not constrained axially and allows the hubs to move apart without creating axial force on the connected equipment.
- N/A indicates: Not Applicable.
- Hytrel® elements are only for applications where the driven component is piloted to the driver for essentially perfect alignment (hydraulic pump flange-mounted to engine housing).
- Special length S-Style fastener sleeves can further increase the allowable end float.
- HTR is High Temperature Rubber.



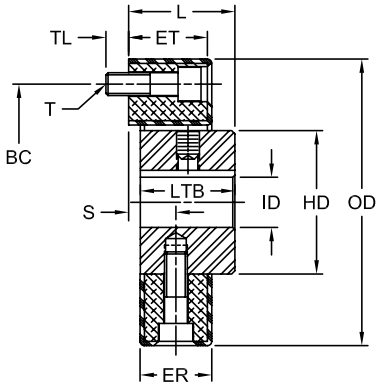
Base Element (HTR)



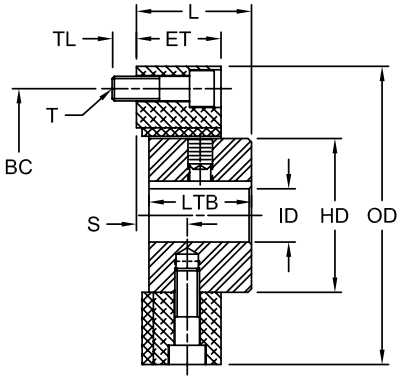
Base Element (Hytrel®)



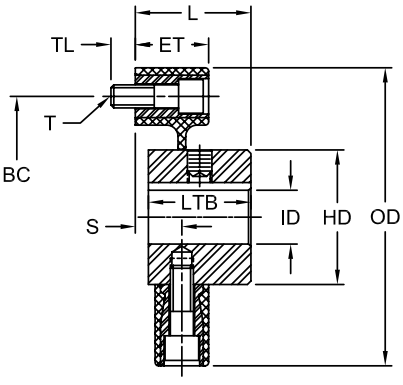
Base Element (Zytrel®)



Model 1 (HTR)



Model 1 (Hytrel®)

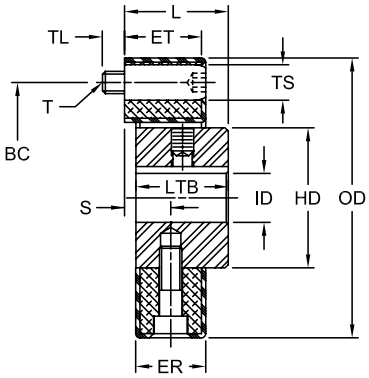


Model 1 (Zytel®)

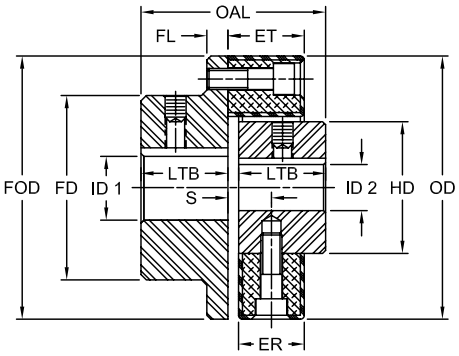
LF Series Base Element and Model 1 Dimensional Data

Size	ID 1 (Cylindrical Hub) Min Bore in	mm	ID 1 (Cylindrical Hub) Max Bore in	mm	ID 2 (Flange Hub) Min Bore in	mm	ID 2 (Flange Hub) Max Bore in	mm	OD HTR in	mm	OD Hytrel® in	mm	OD Zytel® in	mm	FOD in	mm	ET HTR in	mm	ET Hytrel® in	mm	ET Zytel® in	mm	OAL in	mm	L HTR in	mm	L Hytrel® in	mm	L Zytel® in	mm
LF1	0.31	8	0.63	19	0.31	8	0.88	25	2.20	56	—	—	—	—	2.20	56	0.94	24	—	—	—	—	1.97	50.0	1.02	26	—	—	—	—
LF2	0.44	10	0.88	26	0.50	12	1.38	38	3.35	85	—	—	3.48	32	3.35	85	0.94	24	—	—	0.94	32	2.36	60.0	1.26	32	—	—	1.26	32.0
LF4	0.47	12	1.00	30	0.63	15	1.75	45	3.94	100	—	—	—	—	3.94	100	1.10	28	—	—	—	—	2.52	64.0	1.34	34	—	—	—	—
LF8	0.50	12	1.38	38	0.75	18	2.00	55	4.72	120	—	—	4.92	45	4.72	120	1.26	32	—	—	1.18	45	3.46	88.0	1.81	46	—	—	1.77	45.0
LF12	0.50	12	1.38	38	0.75	18	2.00	55	4.80	122	—	—	—	—	4.72	120	1.26	32	—	—	—	—	3.46	88.0	1.81	46	—	—	—	—
LF16	0.63	15	1.63	48	0.81	20	2.63	70	5.91	150	6.10	155	6.10	53	5.91	150	1.65	42	1.69	58	1.38	53	4.17	106.0	2.20	56	2.28	58	2.08	53.0
LF22	0.63	15	1.63	48	0.81	20	2.63	70	5.91	150	—	—	—	—	5.91	150	1.65	42	—	—	—	—	4.17	106.0	2.20	56	—	—	—	—
LF25	0.63	15	2.13	55	0.81	20	2.75	85	6.69	170	7.17	182	—	—	6.69	170	1.81	46	1.85	62	—	—	4.57	116.0	2.40	61	2.44	62	—	—
LF28	0.63	15	2.13	55	0.81	20	2.75	85	6.69	170	—	—	—	—	6.69	170	1.81	46	—	—	—	—	4.57	116.0	2.40	61	—	—	—	—
LF30	0.81	20	2.44	65	1.00	25	3.75	100	7.87	200	8.07	205	—	—	7.87	200	2.28	56	2.28	76	—	—	5.51	140.0	2.91	74	2.99	76	—	—
LF50	0.81	20	2.44	65	1.00	25	3.75	100	7.87	200	8.07	205	—	—	7.87	200	2.28	56	2.28	76	—	—	5.51	140.0	2.91	74	2.99	76	—	—
LF80	0.81	20	2.44	65	1.00	25	3.75	100	8.07	205	—	—	—	—	7.87	200	2.56	65	—	—	—	—	5.51	141.5	2.97	76	—	—	—	—
LF90	1.19	30	3.35	85	1.19	30	4.25	110	10.24	260	—	—	—	—	10.24	260	2.76	70	—	—	—	—	6.61	168.0	3.46	88	—	—	—	—
LF140	1.19	30	3.35	85	1.19	30	4.25	110	10.24	260	—	—	—	—	10.24	260	2.76	70	—	—	—	—	6.61	168.0	3.46	88	—	—	—	—
LF250	1.63	40	4.25	105	1.63	40	5.00	130	13.38	340	—	—	—	—	13.38	340	3.34	84	—	—	—	—	8.18	208.0	4.25	108	—	—	—	—

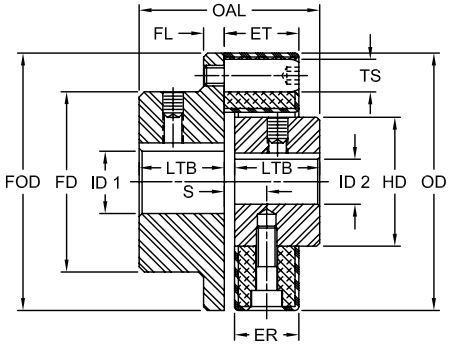
Note: ■ HTR is High Temperature Rubber.



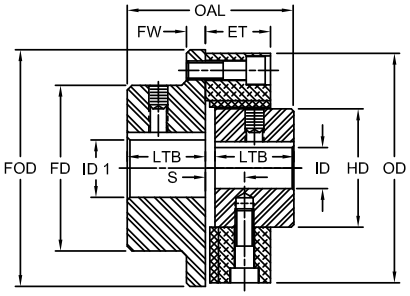
Model 1S (HTR)



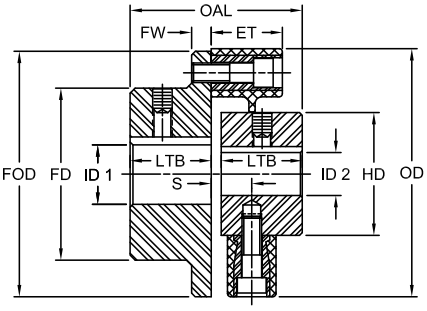
Model 2 (HTR)



Model 2/S (HTR)



Model 2 (Hytrel®)

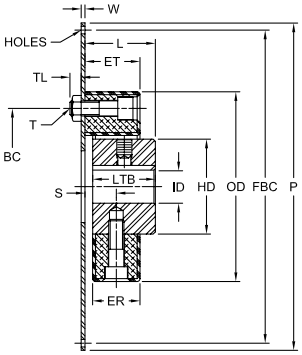


Model 2 (Zytel®)

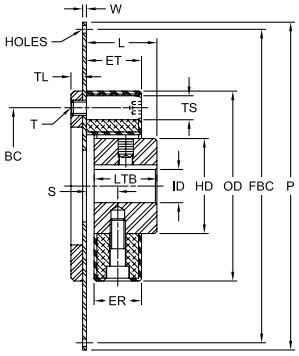
LF Series Base Element and Model 1 Dimensional Data *Continued*

Size	LTB in	LTB mm	HD in	HD mm	FD in	FD mm	FW in	FW mm	BE in	BE mm	S* (+/-0.11) in	S* (+/-3) mm	ER** in	ER** mm	R in	R mm	BC in	BC mm	Axial Hole and Division	T	TS HTR in	TS HTR mm	TS Zytel® in	TS Zytel® mm	TL in	TL mm
LF1	0.94	24	1.18	30	1.44	36	0.27	7	0.08	2	—	—	0.87	22	0.43	11.0	1.73	44	2@180°	M6	0.39	10	—	—	0.28	7
LF2	1.10	28	1.57	40	2.17	55	0.31	8	0.16	4	—	—	0.79	20	0.39	10.0	2.68	68	2@180°	M8	0.55	14	0.59	15	0.31	8
LF4	1.18	30	1.77	45	2.56	65	0.31	8	0.16	4	—	—	0.94	24	0.47	12.0	3.15	80	3@120°	M8	0.55	14	—	—	0.31	8
LF8	1.65	42	2.36	60	3.15	80	0.39	10	0.16	4	—	—	1.10	28	0.55	14.0	3.94	100	3@120°	M10	0.67	17	0.75	19	0.39	10
LF12	1.65	42	2.36	60	3.15	80	0.39	10	0.16	4	—	—	1.10	28	0.55	14.0	3.94	100	4@ 90°	M10	0.67	17	—	—	0.39	10
LF16	1.97	50	2.76	70	3.94	100	0.47	12	0.24	6	1.02	26	1.42	36	0.71	18.0	4.92	125	3@120°	M12	0.75	19	0.86	22	0.47	12
LF22	1.97	50	2.76	70	3.94	100	0.47	12	0.24	6	—	—	1.42	36	0.71	18.0	4.92	125	4@ 90°	M12	0.75	19	—	—	0.47	12
LF25	2.16	55	3.35	85	4.53	115	0.55	14	0.24	6	1.06	27	1.57	40	0.79	20.0	5.51	140	3@120°	M14	0.86	22	—	—	0.55	14
LF28	2.16	55	3.35	85	4.53	115	0.55	14	0.24	6	—	—	1.57	40	0.79	20.0	5.51	140	4@ 90°	M14	0.86	22	—	—	0.55	14
LF30	2.60	66	3.94	100	5.51	140	0.63	16	0.31	8	1.38	35	1.97	50	0.98	25.0	6.50	165	3@120°	M16	0.98	25	—	—	0.63	16
LF50	2.60	66	3.94	100	5.51	140	0.63	16	0.31	8	1.38	35	1.99	50	0.98	25.0	6.50	165	4@ 90°	M16	0.98	25	—	—	0.63	16
LF80	2.60	66	3.94	100	5.51	140	0.63	16	0.31	8	—	—	2.40	61	1.20	30.5	6.50	165	4@ 90°	M16	0.98	25	—	—	0.63	16
LF90	3.15	80	4.92	125	6.30	160	0.75	19	0.31	8	—	—	2.44	62	1.22	31.0	8.46	215	3@120°	M20	1.26	32	—	—	0.79	20
LF140	3.15	80	4.92	125	6.30	160	0.75	19	0.31	8	—	—	2.44	62	1.22	31.0	8.46	215	4@ 90°	M20	1.26	32	—	—	0.79	20
LF250	3.94	100	6.30	160	7.68	195	0.75	19	0.31	8	—	—	3.03	77	0.89	22.5	11.02	280	4@ 90°	M20	1.26	32	—	—	0.79	20

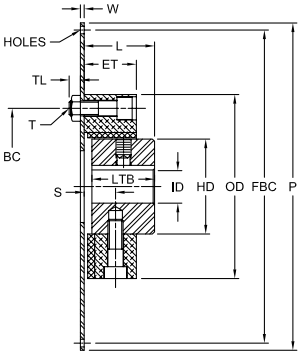
Notes:
- * indicates: Dimenstion S for Hytrel® only.
- ** indicates: Dimension ER for HTR (rubber) only.
- Dimensions for basic Models 1, 2, 3 and 6.
- HTR is High Temperature Rubber.



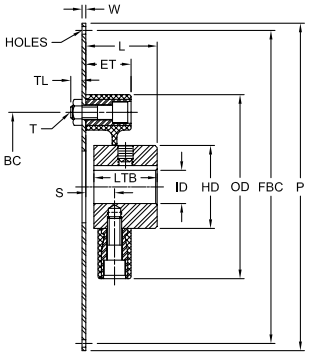
Model 3 (HTR)



Model 3/S (HTR)



Model 3 (Hytrel®)



Model 3 and 3/S (Zytel®)

LF Series Flywheel Models 3 and 3/S Dimensional Data

	ID				OD						ET						TL		L						W	
	Min		Max		HTR		Hytrel®		Zytel®		HTR		Hytrel®		Zytel®				HTR		Hytrel®		Zytel®			
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
LF1	0.31	8	0.63	19	2.20	56	—	—	—	—	0.94	24	—	—	—	—	0.28	7	1.02	26.0	—	—	—	—	—	—
LF2	0.44	10	0.88	26	3.35	85	—	—	3.48	88	0.94	24	—	—	0.94	24	0.31	8	1.26	32.0	—	—	1.26	32	—	—
LF4	0.47	12	1.00	30	3.94	100	—	—	—	—	1.10	28	—	—	—	—	0.31	8	1.34	34.0	—	—	—	—	—	—
LF8	0.50	12	1.38	38	4.72	120	—	—	4.92	125	1.26	32	—	—	1.18	30	0.39	10	1.81	46.0	—	—	1.77	45	0.19	5
LF12	0.50	12	1.38	38	4.80	122	—	—	—	—	1.26	32	—	—	—	—	0.39	10	1.81	46.0	—	—	—	—	0.19	5
LF16	0.63	15	1.63	48	5.91	150	6.10	155	6.10	155	1.65	42	1.69	43	1.38	36	0.47	12	2.20	56.0	2.28	58	2.08	53	0.19	5
LF22	0.63	15	1.63	48	5.91	150	—	—	—	—	1.65	42	—	—	—	—	0.47	12	2.20	56.0	—	—	—	—	0.19	5
LF25	0.63	15	2.13	55	6.69	170	—	—	—	—	1.81	46	—	—	—	—	0.55	14	2.40	61.0	—	—	—	—	0.19	5
LF28	0.63	15	2.13	55	6.69	170	—	—	—	—	1.81	46	—	—	—	—	0.55	14	2.40	61.0	—	—	—	—	0.19	5
LF30	0.81	20	2.44	65	7.87	200	8.07	205	—	—	2.28	58	2.28	58	—	—	0.63	16	2.91	74.0	2.99	76	—	—	0.19	5
LF50	0.81	20	2.44	65	7.87	200	8.07	250	—	—	2.28	58	2.28	58	—	—	0.46	12	2.91	74.0	2.99	76	—	—	0.19	5
LF80	0.81	20	2.44	65	8.07	205	—	—	—	—	2.56	65	—	—	—	—	0.63	16	2.97	75.5	—	—	—	—	0.19	5
LF90	1.19	30	3.35	85	10.24	260	—	—	—	—	2.76	70	—	—	—	—	0.79	20	3.46	88.0	—	—	—	—	0.19	5
LF140	1.19	30	3.35	85	10.24	260	—	—	—	—	2.76	70	—	—	—	—	0.79	20	3.46	88.0	—	—	—	—	0.19	5
LF250	1.63	40	4.25	105	13.38	340	—	—	—	—	3.34	85	—	—	—	—	0.79	20	4.25	108.0	—	—	—	—	0.50	13

Notes:
- * indicates: Dimension ER for HTR (rubber) only.
- HTR is High Temperature Rubber.

Typical Flywheel Housing Combinations

SAE J620D Flywheel Size	LF Series Size	LK Series Size	SAE J617C Flywheel Housing 6	5	4	3	2	1
6.5	8 thru 28	100	▲	▲				
7.5	8 thru 28	100	●	●				
8	8 thru 30	100			▲			
10	8 thru 140	100, 125			●	▲	▲	
11.5	16 thru 140	100, 125, 150, 150D				●	●	▲
14	28 thru 250	150, UNIV						●
18	250	UNIV						●

Notes: ▲ indicates: Preferred combinations.
● indicates: Optional sizes available.

LF Series Flywheel Models 3/S Dimensional Data

SAE Flywheel Size	P Pilot Diameter in	P Pilot Diameter mm	FBC Bolt Circle Diameter in	FBC Bolt Circle Diameter mm	Thru Holes Nominal Qty	Thru Holes Nominal Dia	LF Coupling Size for SAE Flywheel Sizes HTR Model 3 & 3/S	Hytrel® Model 3	Zytel® Model 3
6.5	8.499	215.90	7.875	200.02	6	0.31	8, 16	8, 16	8, 16
7.5	9.499	241.30	8.750	222.25	8	0.31	8, 16	8, 16	8, 16
8	10.374	263.52	9.625	244.47	6	0.41	16, 25	6, 30	16, 25, 30
10	12.374	314.32	11.625	295.27	8	0.41	25, 30, 50, 90	30, 50	25, 30
11.5	13.874	352.42	13.125	333.37	8	0.41	30, 50, 90, 140, 250	50, 140, 250	30
14	18.374	466.72	17.250	438.15	8	0.53	90, 140, 250	140	N/A
16	20.374	517.50	19.250	488.95	8	0.53	250	250	N/A

Notes: ■ SAE J620 Flywheel dimensions.
■ N/A indicates: Not Applicable.
■ HTR is High Temperature Rubber.

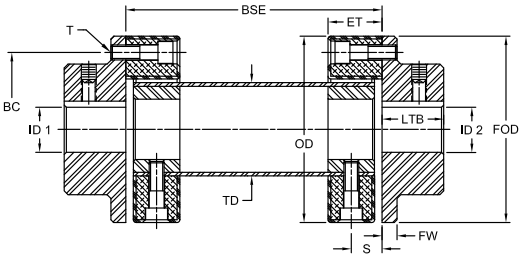
LF Series Flywheel Models 3 and 3/S Dimensional Data *Continued*

Size	LTB in	LTB mm	BE in	BE mm	S* (±0.11) (+/-3) in	S* (±0.11) (+/-3) mm	ER* in	ER* mm	R in	R mm	HD in	HD mm	BC in	BC mm	Axial Hole and Division	T	TS HTR in	TS HTR mm	TS Zytel® in	TS Zytel® mm
LF1	0.94	24	0.08	2	—	—	0.87	22	0.43	11.0	1.18	30	1.73	44	2@180°	M6	0.39	10	—	—
LF2	1.10	28	0.16	4	—	—	0.79	20	0.39	10.0	1.57	40	2.68	68	2@180°	M8	0.55	14	0.59	15
LF4	1.18	30	0.16	4	—	—	0.94	24	0.47	12.0	1.77	45	3.15	80	3@120°	M8	0.55	14	—	—
LF8	1.65	42	0.16	4	—	—	1.10	28	0.55	14.0	2.36	60	3.94	100	3@120°	M10	0.67	17	0.75	19
LF12	1.65	42	0.16	4	—	—	1.10	28	0.55	14.0	2.36	60	3.94	100	4@ 90°	M11	0.67	17	—	—
LF16	1.97	50	0.24	6	1.02	26	1.42	36	0.71	18.0	2.76	70	4.92	125	3@120°	M12	0.75	19	0.86	22
LF22	1.97	50	0.24	6	—	—	1.42	36	0.71	18.0	2.76	70	4.92	125	4@ 90°	M12	0.75	19	—	—
LF25	2.16	55	0.24	6	1.06	27	1.57	40	0.79	20.0	3.35	85	5.51	140	3@120°	M14	0.86	22	—	—
LF28	2.16	55	0.24	6	—	—	1.57	40	0.79	20.0	3.35	85	5.51	140	4@ 90°	M14	0.86	22	—	—
LF30	2.60	66	0.31	8	1.38	35	1.97	50	0.98	25.0	3.94	100	6.50	165	3@120°	M16	0.98	25	—	—
LF50	2.60	66	0.31	8	1.38	35	1.97	50	0.98	25.0	3.94	100	6.50	165	4@ 90°	M16	0.98	25	—	—
LF80	2.60	66	0.16	4	—	—	2.40	61	1.20	30.5	3.94	100	6.50	165	4@ 90°	M16	0.98	25	—	—
LF90	3.15	80	0.31	8	—	—	2.44	62	1.22	31.0	4.92	125	8.46	215	3@120°	M20	1.26	32	—	—
LF140	3.15	80	0.31	8	—	—	2.44	62	1.22	31.0	4.92	125	8.46	215	4@ 90°	M20	1.26	32	—	—
LF250	3.94	100	0.31	8	—	—	3.03	77	0.89 2.15	22.5 54.5	6.30	160	11.02	280	4@ 90°	M20	1.26	32	—	—

Notes: ■ * indicates: Hytrel® only.
■ HTR is High Temperature Rubber.

Model 6 and 6/S (Rubber Base Elements HTR and CR)

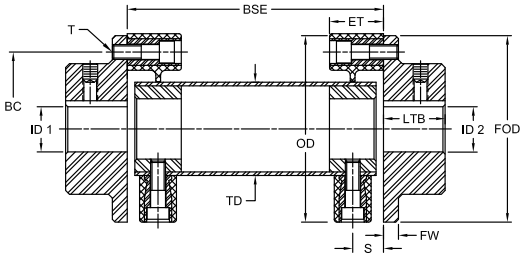
This model compensates for considerable axial, radial and angular misalignment. The rubber elements torsionally soft. Lengths are made to customer requirements. S-Style axial mounting screws allow the hubs to have free end float without exerting axial loads on the connected equipment, while allowing for quick assembly.



Model 6 (HTR)

Model 6 and 6/S (Zytel® Elements)

Elements made of DuPont's super-tough, corrosion resistant Zytel® are torsionally stiff without backlash, with less than 1° windup. Large spans, equal to all-metal couplings, can be accommodated without internal support bearings when lightweight Zytel® are used. Hubs, hardware and tubes are available in stainless steel or with plating and corrosion resistant coatings. S-Style, axial mounting screws allow for free end-float without harmful reactionary forces.



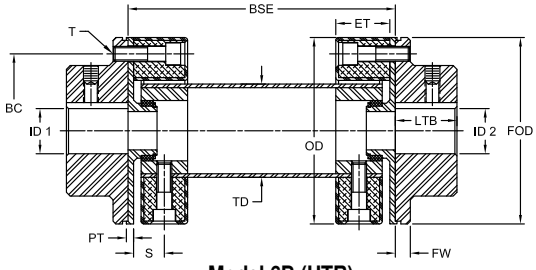
Model 6 (Zytel®)

Model 6B (HTR Elements)

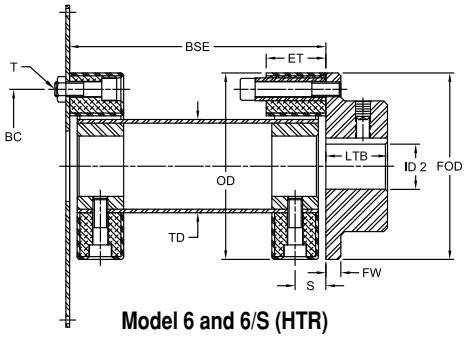
Similar to Model 6 except the center shaft is supported by internal maintenance free bearing material. This allows greater equipment separation and high speeds, as well as high angular misalignment, which can be obtained with rubber elements.

The drawing at the lower left shows one of the many special designs available. A standard flywheel adapter plate (see model 3) is used to couple to a diesel engine flywheel. The flanged hub on the other end is supplied with extra long S-Style connecting screws (Notice the element is reversed from its normal direction). This arrangement permits extensive axial movement (free end float) of the drive package.

One of the many features of the Model 6 is the center floating shaft can be radially removed without displacing the coupled machines. Flexible elements may be pre-assembled to the center segment and then final assembled to the hubs quickly, with little hardware.



Model 6B (HTR)



Model 6 and 6/S (HTR)

LF Series Models 6, 6/S and 6/B Dimensional Data

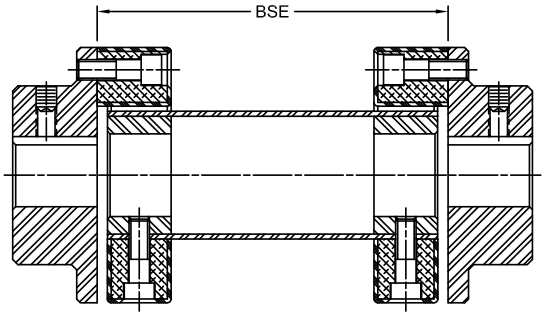
Size	Nominal Torque HTR in-lb	Nominal Torque HTR Nm	Nominal Torque Zytel® in-lb	Nominal Torque Zytel® Nm	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	OD Element HTR in	OD Element HTR mm	OD Element Zytel® in	OD Element Zytel® mm	BC in	BC mm	Axial Hole and Division
LF1	90	10	—	—	0.31	8	0.88	25	2.20	56	—	—	1.73	44	2@180°
LF2	180	20	265	30	0.50	12	1.38	38	3.35	85	3.48	88	2.68	68	2@180°
LF4	440	50	—	—	0.63	15	1.75	45	3.94	100	—	—	3.15	80	3@120°
LF8	885	100	1,060	120	0.75	18	2.00	55	4.72	120	4.92	125	3.94	100	3@120°
LF12	1,240	140	—	—	0.75	18	2.00	55	4.80	122	—	—	3.94	100	4@ 90°
LF16	1,770	200	2,120	240	0.81	20	2.63	70	5.91	150	6.1	155	4.92	125	3@120°
LF22	2,430	275	—	—	0.81	20	2.63	70	5.91	150	—	—	4.92	125	4@ 90°
LF25	2,790	315	—	—	0.81	20	2.75	85	6.69	170	—	—	5.51	140	3@120°
LF28	3,700	420	—	—	0.81	20	2.75	85	6.69	170	—	—	5.51	140	4@ 90°
LF30	4,425	500	—	—	1.00	25	3.75	100	7.87	200	—	—	6.50	165	3@120°
LF50	6,195	700	—	—	1.00	25	3.75	100	7.87	200	—	—	6.50	165	4@ 90°
LF80	7,960	900	—	—	1.00	25	3.75	100	8.07	205	—	—	6.50	165	4@ 90°
LF90	9,735	1 100	—	—	1.19	30	4.25	110	10.24	260	—	—	8.46	215	3@120°
LF140	15,000	1 700	—	—	1.19	30	4.25	110	10.24	260	—	—	8.46	215	4@ 90°
LF250	26,500	3 000	—	—	1.63	40	5.00	130	13.38	340	—	—	11.02	280	4@ 90°

Note: ■ Refer to Speed and Length Performance Data table (page T-24) for maximum and minimum values.

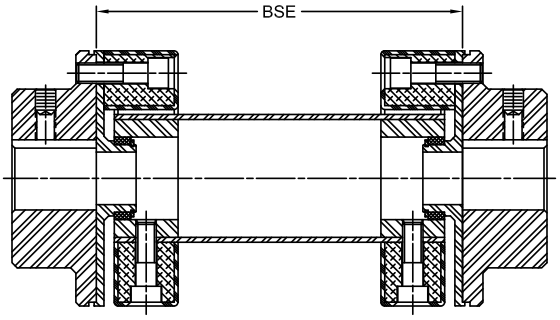
LF Series Models 6, 6/S and 6/B Dimensional Data *Continued*

Size	FOD Flange in	FOD Flange mm	LTB Hub in	LTB Hub mm	BSE Span	S in	S mm	PT in	PT mm	FW in	FW mm	TD in	TD mm	ET HTR in	ET HTR mm	ET Zytel® in	ET Zytel® mm
LF1	2.20	56	0.94	24	*	0.51	13	0.20	5	0.28	7	1.18	30	0.94	24	—	—
LF2	3.35	85	1.10	28	*	0.55	14	0.20	5	0.31	8	1.62	40	0.94	24	0.94	24
LF4	3.94	100	1.18	30	*	0.63	16	0.20	5	0.31	8	1.81	45	1.10	28	—	—
LF8	4.72	120	1.65	42	*	0.71	18	0.20	5	0.39	10	2.38	60	1.26	32	1.18	30
LF12	4.80	120	1.65	42	*	0.71	18	0.20	5	0.39	10	2.38	60	1.26	32	—	—
LF16	5.91	150	1.97	50	*	0.94	24	0.20	5	0.47	12	2.75	70	1.65	42	1.38	36
LF22	5.91	150	1.97	50	*	0.94	24	0.20	5	0.47	12	2.75	70	1.65	42	—	—
LF25	6.69	170	2.16	55	*	1.02	26	0.20	5	0.55	14	3.38	85	1.81	46	—	—
LF28	6.69	170	2.16	55	*	1.02	26	0.20	5	0.55	14	3.38	85	1.81	46	—	—
LF30	7.87	200	2.60	66	*	1.30	33	0.20	5	0.63	16	4.00	100	2.28	58	—	—
LF50	7.87	200	2.60	66	*	1.30	33	0.20	5	0.63	16	4.00	100	2.28	58	—	—
LF80	8.07	200	2.60	80	*	1.36	35	0.20	5	0.63	16	4.00	100	2.56	65	—	—
LF90	10.24	260	3.15	80	*	1.54	39	0.20	5	0.75	19	5.00	125	2.76	70	—	—
LF140	10.24	260	3.15	100	*	1.54	39	0.20	5	0.75	19	5.00	125	2.76	70	—	—
LF250	13.38	340	3.94	125	*	1.81	46	0.39	10	0.75	19	6.25	160	3.35	85	—	—

Notes: ■ * indicates: Contact Lovejoy Technical Support when specifying shaft separation.
■ Refer to Speed and Length Performance Data table (page T-24) for maximum and minimum values.



Model 6



Model 6B

LF Series Models 6 and 6/B Speed and Length Performance Data

Size	Maximum Speed (short length only)			BSE Minimum Length (all versions)		BSE Maximum Length @ 1750 RPM					
	HTR		Zytel®			HTR				Zytel®	
	Model 6 RPM	Model 6B RPM	Model 6 RPM	in	mm	Model 6 in	Model 6 mm	Model 6B in	Model 6B mm	Model 6 in	Model 6 mm
LF1	1,500	6,000	—	3.10	79	45	1140	52	1320	—	—
LF2	1,500	6,000	10,000	3.10	79	52	1320	58	1475	58	1475
LF4	2,900	6,000	—	3.61	92	59	1500	62	1575	—	—
LF8	2,900	6,000	7,000	4.17	106	64	1625	72	1830	72	1830
LF12	2,900	6,000	—	4.17	106	64	1625	72	1830	—	—
LF16	2,900	6,000	6,000	5.42	138	65	1650	77	1955	77	1955
LF22	2,900	6,000	—	5.42	138	65	1650	77	1955	—	—
LF25	2,900	5,000	—	5.98	152	58	1475	84	2130	—	—
LF28	2,900	5,000	—	5.98	152	58	1475	84	2130	—	—
LF30	2,900	4,000	—	7.47	190	59	1500	91	2310	—	—
LF50	2,500	4,000	—	7.47	190	83	2100	91	2310	—	—
LF80	2,500	4,000	—	7.47	190	83	2100	91	2310	—	—
LF90	1,500	3,600	—	9.03	230	34	865	99	2515	—	—
LF140	1,500	3,600	—	9.03	230	73	1855	99	2515	—	—
LF250	1,500	3,000	—	10.80	274	86	2185	117	2970	—	—

T

*LF Series Model 6 (HTR) Maximum Length "BSE" at Various Speeds - Dimensional Data**

Speed (RPM) →	Maximum Span Length "BSE"																	
	500		600		720		750		900		1000		1200		1500		1800	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
LF1	94	2390	86	2185	78	1980	76	1930	69	1750	65	1650	58	1470	51	1300	45	1140
LF2	109	2770	99	2515	89	2260	88	2235	79	2000	74	1880	66	1680	57	1450	52	1320
LF4	116	2950	106	2690	96	2440	94	2390	86	2190	81	2060	73	1850	64	1630	59	1500
LF8	134	3400	121	3070	110	2795	107	3720	97	2460	91	2370	81	2060	70	1780	64	1630
LF12	134	3400	121	3070	110	2795	107	2720	97	2460	91	2370	81	2060	70	1780	64	1630
LF16	144	3660	129	2375	117	2970	114	2900	103	2610	96	2440	85	2160	72	1830	65	1650
LF22	144	3660	129	3275	117	2970	114	2900	103	2610	96	2440	85	2160	72	1930	65	1650
LF25	154	3970	138	3505	123	3125	120	3050	106	2690	98	2490	83	2110	64	1630	58	1470
LF28	154	3970	138	3505	123	3125	120	3050	106	2690	98	2490	83	2110	64	1630	58	1470
LF30	168	4270	151	3835	134	3400	131	3330	115	2920	106	2690	90	2290	68	1730	59	1500
LF50	173	4395	157	3990	143	3630	139	3530	126	3200	119	3020	106	2670	92	2340	83	2100
LF80	173	4395	157	3990	143	3630	139	3530	126	3200	119	3020	106	2690	92	2340	83	2100
LF90	177	4495	155	3940	134	3400	130	3300	107	2720	94	2390	69	1750	38	965	34	860
LF140	187	4750	169	4290	151	3835	147	3730	130	3300	121	3070	104	2640	83	2100	73	1860
LF250	211	5360	190	4830	171	4340	167	4240	148	3760	137	3480	118	3000	94	2390	86	2190

Notes: ■ * indicates: Longer span length for given speed is possible with model 6B.
■ Please consult Lovejoy Technical Support for maximum span for higher speeds.

*LF Series Model 6 (Zytrel®) Maximum Length "BSE" at Various Speeds - Dimensional Data**

Speed (RPM) →	LF Series Model 6 with (Zytrel®) Maximum Span Length "BSE"																	
	500		600		720		750		900		1000		1200		1500		1800	
Size	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
LF2X	110	2794	101	2565	92	2337	90	2286	82	2083	82	2083	71	1803	64	1626	58	1473
LF8X	136	3454	124	3150	113	2870	110	2794	101	2565	101	2565	87	2210	78	1981	72	1829
LF16X	147	3734	134	3404	122	3099	120	3048	109	2769	109	2769	94	2388	84	2134	72	1829

Note: ■ * indicates: Maximum span length is based on tube deflection and a critical speed 1.5 times above operating speed.

T

LF Series Weight and Mass Moment of Inertia for Couplings with HTR Elements

Size	Weights*										Inertia**									
	Base Element		Model 1		Model 1/S		Model 2		Model 2/S		Base Element		Model 1		Model 1/S		Model 2		Model 2/S	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg	lb-in²	kg-cm²	lb-in²	kg-cm²	lb-in²	kg-cm²	lb-in²	kg-cm²	lb-in²	kg-cm²
LF1	0.13	0.06	0.46	0.21	0.53	0.24	1.04	0.47	1.08	0.49	0.12	0.35	0.26	0.75	0.29	0.86	0.55	1.60	0.58	1.70
LF2	0.33	0.15	1.01	0.46	1.08	0.49	2.34	1.06	2.40	1.09	0.43	1.25	0.85	2.5	1.13	3.3	2.5	7.3	2.8	8.1
LF4	0.46	0.21	2.89	1.31	1.54	0.70	5.09	2.31	3.75	1.70	1.13	3.30	1.71	5.0	2.22	6.5	3.9	11.3	4.4	12.8
LF8	0.71	0.32	2.98	1.35	3.17	1.44	7.61	3.45	7.80	3.54	2.39	7.0	5.13	15.0	6.36	18.6	14.0	41.0	15.2	44.6
LF12	0.77	0.35	3.20	1.45	3.44	1.56	7.83	3.55	8.07	3.66	2.87	8.4	6.22	18.2	6.83	20.0	15.1	44.2	15.8	46.1
LF16	1.43	0.65	5.03	2.28	5.14	2.33	13.58	6.16	13.69	6.21	8.00	23.4	14.5	42.5	16.8	49.1	40.6	118.8	42.9	125.4
LF22	1.54	0.70	5.56	2.52	5.78	2.62	14.15	6.42	14.59	6.62	9.09	26.6	17.2	50.4	24.0	70.2	43.2	126.5	50.0	146.3
LF25	1.85	0.84	7.91	3.59	8.31	3.77	20.53	9.31	20.92	9.49	17.2	50.2	31.0	90.7	35.1	102.7	73.5	215.0	77.6	227.0
LF28	2.09	0.95	8.36	3.79	8.93	4.05	20.97	9.51	21.52	9.76	19.0	55.6	35.0	102.4	38.7	113.2	84.7	247.8	88.3	258.5
LF30	3.15	1.43	12.48	5.66	13.27	6.02	33.53	15.21	34.33	15.57	34.9	102.0	68.3	200.0	75.3	220.4	186.4	545.5	193.4	565.9
LF50	3.53	1.60	13.32	6.04	14.33	6.50	34.39	15.60	35.38	16.05	35.5	104.0	70.1	205.0	86.6	253.4	188.1	550.5	204.7	598.9
LF80	4.63	2.10	15.10	6.85	15.98	7.25	36.60	16.60	37.48	17.00	45.0	131.8	82.1	240.3	90.2	263.9	200.1	585.5	208.1	609.1
LF90	7.28	3.30	25.46	11.55	26.96	12.23	63.21	28.67	64.71	29.35	153.8	450.0	224.7	657.5	259.4	759.2	557.0	1630.1	591.8	1731.8
LF140	8.05	3.65	27.18	12.33	29.15	13.22	64.93	29.45	66.93	30.36	195.5	573.0	263.1	770.0	298.3	873.0	595.5	1742.6	630.7	1845.6
LF250	15.65	7.10	41.84	18.98	44.11	20.01	97.93	44.42	100.18	45.44	599.4	1754.0	821.5	2404.0	864.2	2529.0	1798.8	5264.0	18471.5	5389.0

Notes: ■ * To obtain Weight of Model-3:
1. Select weight of flywheel plate (from chart below labeled SAE Flywheel Adapter Plates)
2. Select weight of Model 1 or 1/S coupling (from chart above)
3. Add flywheel plate and coupling weight together

■ ** To obtain Inertia of Model-3:
1. Select inertia of flywheel plate (from chart below labeled SAE Flywheel Adapter Plates)
2. Select inertia of Model 1 or 1/S coupling (from chart above)
3. Add flywheel plate and coupling inertia together

T

LF Series Weight and Mass Moment of Inertia for Couplings with Hytrel® Elements

Size	Weight						Inertia					
	Model 1		Model 2		Hytrel®		Model 1		Model 2		Hytrel®	
	lb	kg	lb	kg	lb	kg	lb-in²	kg-cm²	lb-in²	kg-cm²	lb-in²	kg-cm²
LF16	5.07	2.30	10.58	4.80	–	–	17.7	206.6	43.7	512.0	–	–
LF30	11.46	5.20	29.32	13.30	14.33	6.50	68.4	800.7	186.5	2183.2	150.3	1759.4 (SAE10)
LF50	12.35	5.60	30.20	13.70	15.43	7.00	80.5	942.3	198.7	2326.0	197.4	2310.8 (SAE 11.5)

LF Series Weight and Mass Moment of Inertia for Couplings with Zytel® Elements

Size	Weight						Inertia					
	Base Element		Model 1/1S		Model 2/2S		Base Element		Model 1/1S		Model 2/2S	
	lb	kg	lb	kg	lb	kg	lb-in²	kg-cm²	lb-in²	kg-cm²	lb-in²	kg-cm²
LF2X	0.2	0.1	0.9	0.4	2.2	1.0	17.7	206.6	43.7	512.0	–	–
LF8X	0.6	0.3	3.3	1.5	7.7	3.5	68.4	800.7	186.5	2183.2	150.3	1759.4 (SAE10)
LF16X	1.0	0.5	4.6	2.1	13.1	5.9	80.5	942.3	198.7	2326.0	197.4	2310.8 (SAE 11.5)

SAE Flywheel Adapter Plates (3/16" thick)

SAE Flywheel Size (J620)	Weight		Inertia	
	lb	kg	lb-in²	kg-cm²
6.5	2.6	1.2	26	76
7.5	3.4	1.5	42	123
8	4.1	1.9	60	176
10	6.0	2.7	122	357
11.5	7.7	3.5	193	565
14	12.8	5.8	589	1724

LF Series Floating-Shaft – Models 6 and 6B

The following guidelines cover additional considerations unique to the floating-shaft versions of the LF coupling. Use them together with the selection information for engine applications or general applications found on pages T-6 through T-8.

Step 1: Torque Capacity
Values for normal torque T_{KN}, maximum torque T_{Kmax}, and continuous vibratory torque T_{Kw} remain the same and are found in the table of Performance Data on page T-16 and T-23.

Step 2: Stiffness Values and Wind-Up
Since 2 torsional rubber elements are used together in series, values from the Performance Data table on page T-16 and T-17 for dynamic torsional stiffness C_{Tdyn}, static angular stiffness C_w and static axial stiffness C_a, should be multiplied by 1/2. Values for wind-up should be multiplied by 2.

Step 3: Misalignment
Performance Data table values for allowable axial misalignment are doubled for the standard element design. Values for the S-Style version will be the same but can be increased by use of special-length sleeves (consult Lovejoy Technical Support).

Angular misalignment will be equal at both ends and should be kept within the limits given in the Performance Data table. Allowable parallel misalignment is related to the angular misalignment and the distance between shaft ends (BSE). It is calculated by applying one of the following equations:

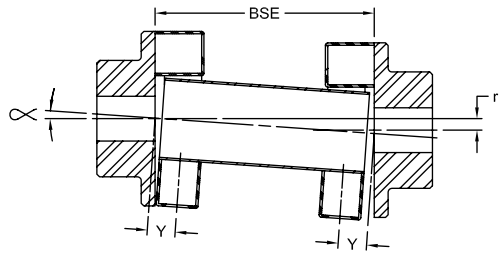
Model 6: $r=(L-2Y)\tan(\propto)$

Model 6B: $r=[(L-2(Y+BT)]\tan(\propto)$

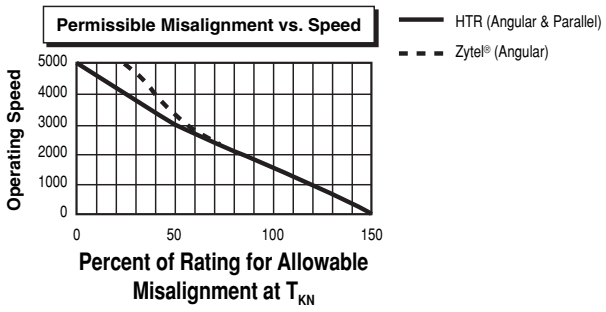
$\propto$ = angular misalignment (degrees)

r = parallel misalignment inches (mm)

and BSE,Y, and BT inches (mm) are from the dimension table.



The angular and parallel misalignment values are dependent on speed.



Step 4: Selecting Model 6 or Model 6B (HTR only)
The basic model 6 is suitable for most short or medium length spans (distance between shaft ends). Longer spans and higher speeds will require the bearing-supported floating shaft feature of Model 6B. Regardless of length, some applications will require the Model 6B design based on speed alone. Use the Maximum Speed and Length table to guide your choice or consult Lovejoy Technical Support for assistance.

LVK Series

The LVK Series is designed for direct coupled equipment. The LVK Series coupling is highly torsionally compliant, allowing the engine to drive a large inertia load safely away from damaging torsional resonance or critical speeds. The coupling selection should be verified with a Torsional Vibration Analysis of the system (see page T-10).



Element Features

- 50 & 60 Durometer (Shore A scale) available
- -40° to 194° F temperature range
- Available in SAE J620 6.5 through 14 Flywheel sizes (some metric sizes available upon request)
- Blind assembly, no lubrication
- Material available in HTR and EPDM

Hub Features

- High quality powdered-metal construction
- Splined hubs available with L-LOC clamping system
- Engagement Dogs are slightly crowned to avoid edge pressure due to misalignment
- Available in bore with keyway and spline connections

Typical Applications

Compressors, centrifugal pumps, hydraulic pumps and generator sets.

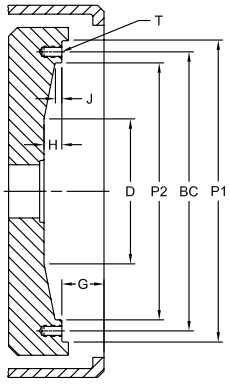
LVK Series Performance Data

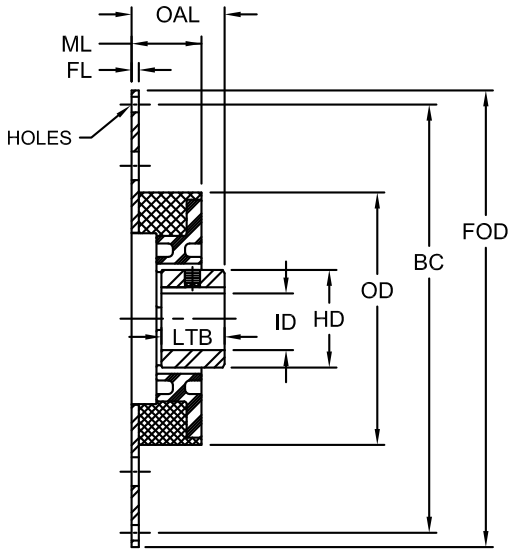
Size	SAE Flywheel Size	Hardness Shore A scale	Power at 2100 RPM HP	Power at 2100 RPM kW	Nominal Torque T_{KN} in-lbs	Nominal Torque T_{KN} Nm	Maximum Torque T_{Kmax} in-lb	Maximum Torque T_{Kmax} Nm	Continuous Vibratory Torque T_W in-lb	Continuous Vibratory Torque T_W Nm	Dynamic Stiffness C_{Tdyn} in-lbs/rad	Dynamic Stiffness C_{Tdyn} Nm
LVK25	7.5, 8	50	62	46	1,875	212	4,500	508	750	85	12,586	1 422
	10, 11.5	60	90	67	2,700	305	5,750	650	1,080	122	21,658	2 447
LVK30	8, 10	50	98	73	2,945	333	7,089	801	1,180	133	18,201	2 056
	11.5	60	142	106	4,250	480	10,825	1 223	1,700	192	21,970	2 482
LVK35	10, 11.5	50	136	101	4,075	460	9,781	1 105	1,630	184	25,820	2 917
	14	60	193	144	5,800	655	14,500	1 638	2,320	262	31,167	3 521

T

SAE J620 Flywheel Dimensional Data

Nominal Clutch (flywheel) Size	P1 in	P1 mm	BC in	BC mm	P2 in	P2 mm	J in	J mm	H in	H mm	G in	G mm	D in	D mm	T Tapped Holes Qty	T Tapped Holes Size
6.5	8.500	215.90	7.875	200.02	7.25	184.2	0.38	9.7	0.50	12.7	1.19	30.2	5.00	127.0	6	5/16-18
7.5	9.500	241.30	8.750	222.25	8.12	206.4	0.50	12.7	0.50	12.7	1.19	30.2	—	—	8	5/16-18
8	10.375	263.52	9.625	244.48	8.88	225.6	0.50	12.7	0.50	12.7	2.44	62.0	—	—	6	3/8-16
10	12.375	314.32	11.625	295.28	10.88	276.4	0.50	12.7	0.62	15.7	2.12	53.8	7.75	196.9	8	3/8-16
11.5	13.875	352.42	13.125	333.38	12.38	314.5	0.88	22.4	1.12	28.4	1.56	39.6	8.00	203.2	8	3/8-16
14	18.375	466.72	17.250	438.15	16.12	409.4	0.88	22.4	1.12	28.4	1.00	25.4	8.75	222.2	8	1/2-13
16	20.375	517.52	19.250	488.95	18.12	460.2	0.88	22.4	1.12	28.4	0.62	15.7	10.00	254.0	8	1/2-13
18	22.500	571.50	21.375	542.92	19.62	498.3	1.25	31.8	1.25	31.8	0.62	15.7	—	—	6	5/8-11
21	26.500	673.10	25.250	641.35	23.00	584.2	1.25	31.8	1.25	31.8	0.00	0.0	—	—	12	5/8-11
24	28.875	733.43	27.250	692.15	25.38	644.7	1.25	31.8	1.25	31.8	0.00	0.0	—	—	12	3/4-10





LVK Series - SAE J620 Flywheel Application Dimensional Data

Size		FOD		BC				FL		ML		OAL		OD		HD		LTB*		ID			
		Flange Dimensions								Element Dimensions						Hub Dimensions				Min Bore		Max Bore	
	SAE Flywheel Size					Number / Dia of Holes		Flange Thickness		Mounting Length				Element		Hubstar							
		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
LVK25	7.5	9.50	241.3	8.750	222.3	8 x 3.33	8 x 8.5	0.19	4.8	1.83	46.50	2.17	55	6.90	175.3	2.56	65	1.26	32	9/16	15	1-9/16	40
	8	10.38	263.5	9.625	244.5	6 x 0.41	6 x 10.5					2.68	68					1.89	48				
	10	12.38	314.3	11.625	295.3	6 x 0.41	8 x 10.5					3.00	76					2.20	56				
	11.5	13.88	352.4	13.125	333.4	8 x 0.41	8 x 10.5					–	–					–	–				
LVK30	8	10.38	263.5	9.625	244.5	6 x 0.41	6 x 10.5	0.19	4.8	2.13	54.10	2.72	69	8.10	205.7	3.35	85	1.97	42	13/16	20	2-1/8	55
	10	12.38	314.3	11.625	295.3	8 x 0.41	8 x 10.5					2.95	75					1.89	48				
	11.5	13.88	352.4	13.125	333.4	8 x 0.41	8 x 10.5																
LVK35	11.5	13.88	352.4	13.125	333.4	8 x 0.41	8 x 10.5	0.19	4.8	2.20	55.88	2.80	71	8.65	219.7	3.35	85	1.97	42	13/16	20	2-1/8	55
	14	18.38	466.7	17.250	438.2	8 x 0.50	8 x 12.7					3.03	77					1.89	48				

Note: ■ * indicates: Shorter or longer hub lengths available upon request.

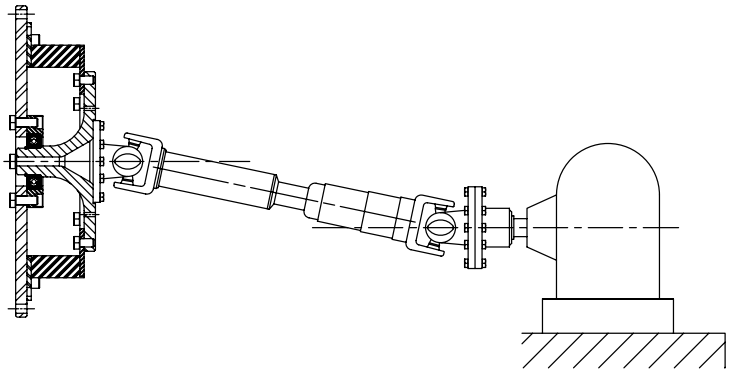
LV Series

The LV Series coupling is designed and built for diesel engine driven equipment such as agricultural and offroad equipment using universal joint drive shafts. The LV Series is ideal for universal joint driven equipment applications as well as other arrangements. The LV Series couplings are highly torsionally compliant, allowing the engine to drive a large inertia load safely away from damaging torsional resonance and critical speeds. The coupling selection should be verified with a Torsional Vibration Analysis of the system (see page T-10).



Element Features:

- 50 & 60 Durometer (Shore A scale) available
- - 40° to 194° F temperature range
- Available in SAE J620 6.5 through 14 flywheel sizes and varies in metric sizes
- Blind assembly, no lubrication
- Material available in HTR and EPDM



Optional Hub Features:

- LVC Style hub available for straight and spline bores upon request
- Splined hubs available with L-LOC clamping system

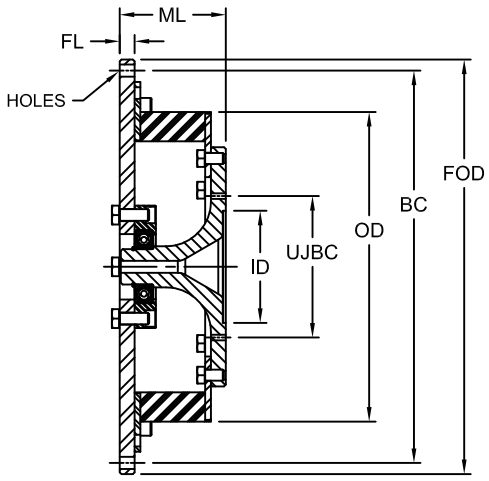
Typical Applications

LVC style is excellent for adapting the LV coupling to applications with generators, reciprocation pumps and compressors, screw compressors, and other equipment driven directly off an SAE flywheel.

T

LV Series Performance Data

Size	SAE Flywheel Size	Hardness Shore A scale	Power at 2000 RPM HP	Power at 2000 RPM kW	Nominal Torque T_{KN} in-lbs	Nominal Torque T_{KN} Nm	Maximum Torque T_{Kmax} in-lb	Maximum Torque T_{Kmax} Nm	Continuous Vibratory Torque T_W in-lb	Continuous Vibratory Torque T_W Nm	Dynamic Torsional Stiffness C_{Tdyn} in-lb/rad	Dynamic Torsional Stiffness C_{Tdyn} Nm/rad
LV200	10, 11.5, 14	50	177	132	5,578	630	16,815	1 900	1,395	158	726	82
		60										
LV250	10, 11.5, 14	50	238	178	7,500	847	21,596	2 440	1,875	212	871	98
		60										
LV350	10, 11.5, 14	50	343	256	10,820	1 223	31,860	3 600	2,705	306	1,417	160
		60										



LV Series - SAE J620 Flywheel Application Dimensional Data

Size	Flange Dimensions										U-Joint Adapter Plate							
	SAE Flywheel Size	FOD		BC		Number / Dia of Holes		FL Flange Thickness		ML Mounting Length		U-Joint Adapter Model	UJBC Bolt Circle Dia		Number of Holes	Thread Size	ID Pilot ID 0.100 Inch	Pilot Depth 2.54 mm
		in	mm	in	mm	in	mm	in	mm	in	mm	Number	in	mm		UNF	in	mm
LV200	10	12.375	314.3	11.625	295.3	8 x 0.41	8 x 10.5	0.50	12.7	3.55	90.2	—	—	—	—	—	—	—
	11.5	13.875	352.4	13.125	333.4	8 x 0.41	8 x 10.5					31	3.125	79.4	4	3/8-24 UNF 2B	2.375	60.4
	14	18.375	466.7	17.250	438.2	8 x 0.50	8 x 12.7					35/41	3.750	95.3	4	7/16-20 UNF 2B	2.750	69.9
LV250	10	12.375	314.3	11.625	295.3	8 x 0.41	8 x 10.5	0.50	12.7	3.55	90.2	35/41	3.750	95.3	4	7/16-20 UNF 2B	2.750	69.9
	11.5	13.875	352.4	13.125	333.4	8 x 0.41	8 x 10.5					48/55	4.750	120.7	4	1/2-20 UNF 2B	3.750	95.3
	14	18.375	466.7	17.250	438.2	8 x 0.50	8 x 12.7					61	6.125	155.6	8	3/8-24 UNF 2B	6.625	168.3
LV350	10	12.375	314.3	11.625	295.3	8 x 0.41	8 x 10.5	0.50	12.7	3.55	90.2	61	6.125	155.6	8	3/8-24 UNF 2B	6.625	168.3
	11.5	13.875	352.4	13.125	333.4	8 x 0.41	8 x 10.5					71	7.250	184.2	8	3/8-24 UNF 2B	7.750	196.9
	14	18.375	466.7	17.250	438.2	8 x 0.50	8 x 12.7					—	—	—	—	—	—	—

LM Series

The LM Series torsional couplings are designed specifically for diesel engine driven equipment. The LM couplings are highly torsionally compliant, allowing the engine to drive a relatively small inertia load safely from damaging torsional resonance over a wide speed range from low idle RPM to full engine speed. This task is accomplished by shifting the critical speeds far enough below the idle speed allowing full use of the entire working speed range of the engine with very few limitations. These engineered couplings affect an attenuated level of stress throughout the whole drive train by reducing vibratory torque to a very low level. The coupling selection should be verified with a Torsional Vibration Analysis of the system.



Materials

Elastomeric Element

- Temperature-resistant natural rubber available in a variety of Shore A scale hardness to suite individual application requirements
- -49° to 200° F operating temperature range
- Silicone element available for high ambient temperatures
- EPDM available for chemical resistant
- -49° to 250° F operating temperature range

Outer Ring

- High-grade cast aluminum alloy

Inner Hub

- Steel with minimum tensile strength of 85,000 psi (600 N/mm^2)
- Available in bore with keyway and spline connections
- Taper-Loc spline hubs available
- Splines with L-LOC available

Typical Applications

- Splitter-gear multiple pump drives
- Generator sets (2-bearing)
- Locomotives
- Hydraulic pumps
- Centrifugal pumps
- Compressors

Range of Sizes

- 8 sizes ranging from nominal torques of 2,210 to 33,600 in-lb (250 to 3800 Nm)
- SAE J620 Flywheel sizes available from 6 through 18
- 3 coupling design types

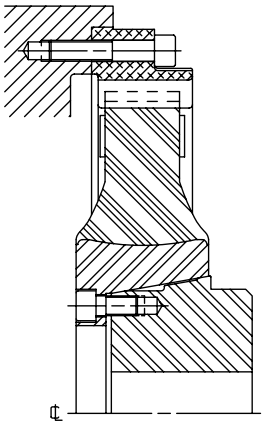
T

LM Torsional Coupling Design Types

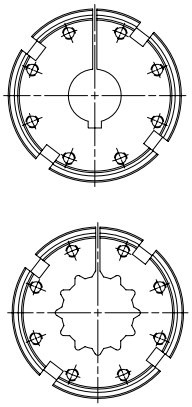
Type SB
Sizes 240 to 2400

The driven inner hub consists of two pieces: the vulcanized steel ring and the inner tapered hub. These two parts are bolted together and the torque is transmitted by the friction force created by the axial bolts, drawing the tapered hub into the mating taper in the element.

This is a long tapered fit, but can easily disassembled if the coupling has to be removed. The vulcanized steel ring creates a very high inward pressure acting on the inner driven tapered hub. To utilize this pressure, the driven hub is slotted in an axial direction. This compresses the driven hub and driven shaft. This clamping effect can be used equally well on cylindrical shafts with keys or splined shafts.



Type SB

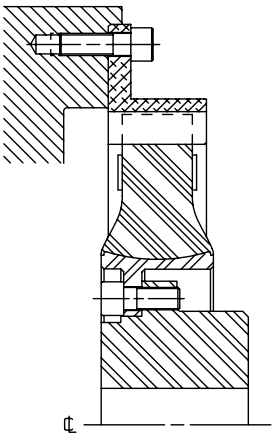


Tapered Locking Hubs

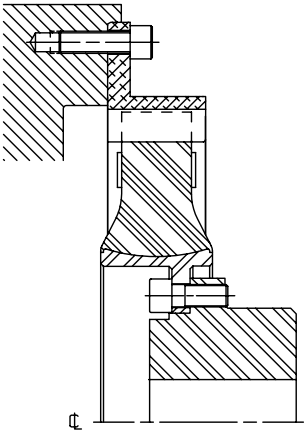
Type SC
Sizes 2800 to 3500

An inner ring made of spheroidal cast iron is vulcanized into the elastomeric element. This flange is bolted to the inner tapered hub. Depending upon the arrangement of the elastomeric element, two different lengths are possible utilizing the same components.

Standard Configuration: **SCA**
Reversed Element: **SCB**
(extended mounting length)



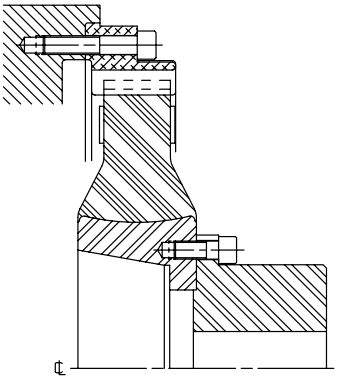
Type SCA



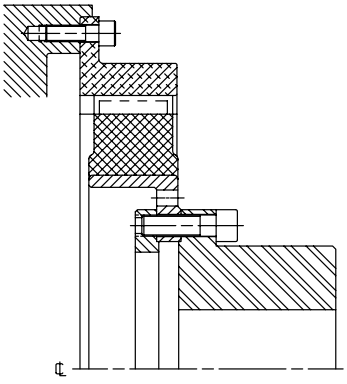
Type SCB

Types SBE and SCE
Special Radial Assembly / Disassembly Types
(Drop-Out Types) All Sizes

The elastomeric element can be changed quickly and easily without disturbing the coupling shaft, provided the flywheel housing does not protrude too much. These versions can be particularly advantageous on larger sizes, especially if the hub is interference fit.



Type SBE



Type SCE

Special Types

In addition to the standard types shown here, many special types have been developed. Please contact Lovejoy Technical Support for more information.

LM Series - SB, SCA and SCB (HTR) Performance Data

Size	Hardness (Durometer) Shore A scale	Nominal Torque Rating T_{KN} in-lb	Nominal Torque Rating T_{KN} Nm	Max Torque Rating T_{Kmax} in-lb	Max Torque Rating T_{Kmax} Nm	Continuous* Vibratory Torque T_{KW} in-lb	Continuous* Vibratory Torque T_{KW} Nm	Allowable Power Loss P_{KV} Watts	Dynamic** Torsional Stiffness C_{Tdyn} in-lb/rad	Dynamic** Torsional Stiffness C_{Tdyn} Nm/rad	Flange Size for J620 Flywheel	Max Speed N_{max} RPM	Mass Moment of Inertia Primary*** J_1 lb-in²	Mass Moment of Inertia Primary*** J_1 kg-m²	Mass Moment of Inertia Secondary J_2 lb-in²	Mass Moment of Inertia Secondary J_2 kg-m²
LM240	50	2,210	250	4,430	500	885	100	37	8,190	925	8	4,000	17.77	0.021	3.25	0.004
	60	2,660	300	5,310	600	1,060	120		12,400	1 400	10	3,600	26.74	0.031	3.25	0.004
	70	3,100	350	6,640	750	1,240	140		19,900	2 250	—	—	—	—	—	—
LM400	50	3,540	400	7,080	800	1,420	160	62	14,200	1 600	10	3,600	0.04	0.037	0.01	0.011
	60	4,430	500	8,850	1 000	1,770	200		22,100	2 500	11.5					
	70	4,870	550	9,740	1 100	1,950	220		35,400	4 000	14					
LM800	50	6,200	700	12,400	1 400	2,480	280	105	24,800	2 800	10	3,600	51.17	0.060	25.29	0.030
	60	7,520	850	15,000	1 700	3,000	340		37,200	4 200	11.5	3,500	62.53	0.073	25.29	0.030
	70	8,400	950	17,700	2 000	3,360	380		60,200	6 800	14	3,000	117.70	0.138	25.29	0.030
LM1200	50	8,850	1 000	17,700	2 000	3,540	400	150	39,800	4 500	11.5	3,500	65.61	0.077	38.95	0.046
	60	10,600	1 200	21,200	2 400	4,250	480		61,900	7 000	14	3,000	12.23	0.014	38.95	0.046
	70	11,500	1 300	26,600	3 000	4,600	520		104,000	11 700	—	—	—	—	—	—
LM1600	50	12,800	1 450	26,700	2 900	5,130	580	220	53,100	6 000	11.5	3,200	191.40	0.224	66.63	0.078
	60	15,900	1 800	31,900	3 600	6,370	720		79,600	9 000	14	3,000	168.30	0.020	66.63	0.078
											16	2,500	234.10	0.274	66.63	0.078
	70	17,700	2 000	35,400	4 000	7,080	800		133,000	15 000	18	2,300	329.30	0.386	66.63	0.078
LM2400	50	17,700	2 000	35,400	4 000	7,080	800	300	88,500	10 000	14	3,000	182.00	0.213	130.70	0.153
	60	22,100	2 500	44,300	5 000	8,850	1 000		133,000	15 000	16	2,500	247.70	0.290	130.70	0.153
	70	24,800	2 800	53,100	6 000	9,910	1 120		221,000	25 000	18	2,300	343.00	0.402	130.70	0.153
LM2800	50	24,800	2 800	53,100	6 000	9,910	1 120	360	221,000	25 000	14	3,000	242.30	0.284	192.80	0.226
	60	26,600	3 000	66,400	7 500	10,600	1 200		332,000	37 500	16	2,500	269.80	0.316	192.80	0.226
	70	28,300	3 200	70,800	8 000	11,300	1 280		558,000	63 000	18	2,300	364.90	0.427	192.80	0.226
LM3500	50	28,300	3 200	57,500	6 500	11,300	1 280	450	142,000	16 000	14	3,000	242.30	0.284	196.10	0.230
	60	31,000	3 500	70,800	8 000	12,400	1 400		212,000	24 000	16	2,500	374.90	0.439	196.10	0.230
	70	33,600	3 800	75,200	8 500	13,500	1 520		336,000	38 000	18	2,300	501.70	0.587	196.10	0.230

Notes:
- * indicates: At 10 Hz.
- ** indicates: Constant value for natural rubber.
- *** indicates: Flywheel side of the coupling.

Resonance Factor V_R
Relative Damping Factor Ψ

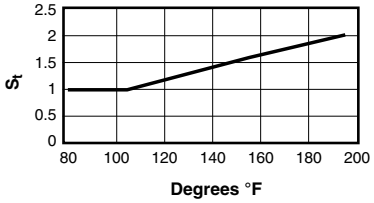
High Temperature Rubber (HTR)		
f in Hz	V_r	Ψ
35-40	12.0	0.52
50	6.0	1.05
60	5.7	1.10
70	5.5	1.15

Frequency Factor S_f

f in H_z	≤10	≥10
Sf	1	$\sqrt{f/10}$

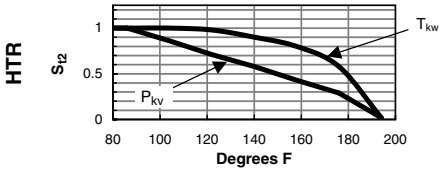
Silicone Temperature Factor S_t

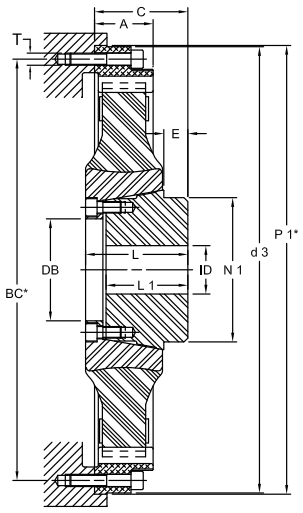
$T_{KN} \geq T_{LN} \bullet S_t$



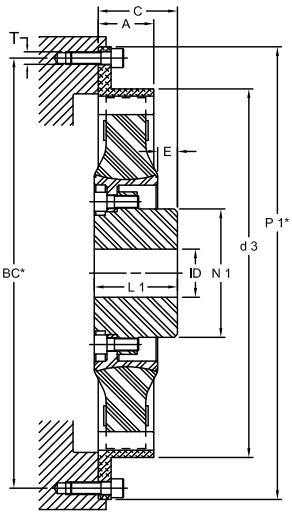
Temperature Factor S_{t2} for Cont. Vibr. Torque T_{kw} and Allowable Power Loss P_{kv}

$P_v < P_{kv} * S_{t2}$
$T_w < T_{kw} * S_{t2} * (1/S_f)$

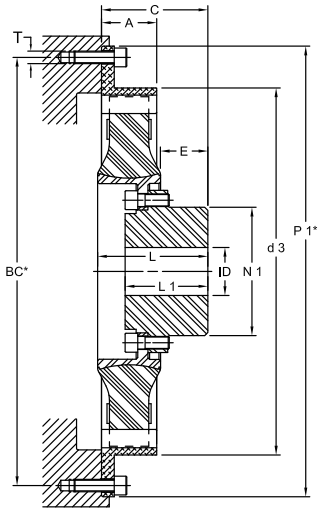




240 – 2400 SB



2800 – 3500 SCA



2800 – 3500 SCB

Note: ■ * indicates: SAE J620 Flywheel Dimensional Data can be found on page T-41.

LM Series - SB, SCA and SCB (HTR) Dimensional Data

Size		SAE J620	A		C**		ID Min Bore		ID Max Bore		d3		DB		E		L		L1		N1		Weight	
			in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
240 SB	Tapered	8	1.81	46	2.95 ± 0.35	75 ± 9	0.59	15	1.97	50	10.31	262	1.97	50	1.06	27	2.95	75	2.36	60	2.87	73	2.77	6.1
		10	1.81	46	2.95 ± 0.35	75 ± 9	0.59	15	1.97	50	8.86	225	1.97	50	1.06	27	2.95	75	2.36	60	2.87	73	2.95	6.5
400 SB		10	1.77	45	2.95 ± 0.28	75 ± 7	0.79	20	2.36	60	12.32	313	2.40	61	0.98	25	3.15	80	2.56	65	3.54	90	3.90	8.6
800 SB		10	1.97	50	3.22 ± 0.08	82 ± 2	0.79	20	2.76	70	12.44	316	2.80	71	0.71	18	3.31	84	2.60	66	4.21	107	5.03	11.1
		11.5	1.54	39	2.80 ± 0.12	71 ± 3	0.79	20	2.76	70	13.82	351	2.80	71	0.71	18	3.31	84	2.60	66	4.21	107	4.58	10.1
		14	1.81	46	2.91 ± 0.24	74 ± 6	0.79	20	2.76	70	12.52	318	2.80	71	0.71	18	3.31	84	2.60	66	4.21	107	5.22	11.5
1200 SB		11.5	1.54	39	2.56 ± 0.16	65 ± 4	0.79	20	2.76	70	13.82	351	2.80	71	0.71	18	3.31	84	2.60	66	4.21	107	6.58	14.5
		14	1.81	46	2.91 ± 0.24	74 ± 6	0.79	20	2.76	70	13.82	351	2.80	71	0.71	18	3.31	84	2.60	66	4.21	107	7.44	16.4
1600 SB		14	2.40	61	3.82 ± 0.43	97 ± 11	1.18	30	4.13	105	18.31	465	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	10.21	22.5
		16	2.40	61	3.82 ± 0.43	97 ± 11	1.18	30	4.13	105	16.42	417	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	10.80	23.8
		18	2.40	61	3.82 ± 0.43	97 ± 11	1.18	30	4.13	105	16.42	417	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	11.48	25.3
2400 SB		14	2.40	61	3.82 ± 0.24	97 ± 6	1.18	30	4.13	105	18.31	465	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	14.11	31.1
		16	2.40	61	3.82 ± 0.24	97 ± 6	1.18	30	4.13	105	16.42	417	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	14.70	32.4
		18	2.40	61	3.82 ± 0.24	97 ± 6	1.18	30	4.13	105	16.42	417	4.17	106	1.02	26	4.17	106	3.35	85	5.91	150	15.38	33.9
2800 SCA	Bolted	14	2.40	61	3.66 ± 0.16	93 ± 4	1.38	35	4.33	110	18.31	465	—	—	1.34	34	—	—	4.13	105	6.38	162	14.29	31.5
		16	2.40	61	3.66 ± 0.16	93 ± 4	1.38	35	4.33	110	16.42	417	—	—	1.34	34	—	—	4.13	105	6.38	162	14.88	32.8
		18	2.40	61	3.66 ± 0.16	93 ± 4	1.38	35	4.33	110	16.42	417	—	—	1.34	34	—	—	4.13	105	6.38	162	15.56	34.3
2800 SCB		14	2.40	61	5.31 ± 0.16	135 ± 4	1.38	35	4.33	110	18.31	465	—	—	2.99	76	5.16	131	4.13	105	6.38	162	14.29	31.5
		16	2.40	61	5.31 ± 0.16	135 ± 4	1.38	35	4.33	110	16.42	417	—	—	2.99	76	5.16	131	4.13	105	6.38	162	14.88	32.8
		18	2.40	61	5.31 ± 0.16	135 ± 4	1.38	35	4.33	110	16.42	417	—	—	2.99	76	4.96	126	4.13	105	6.38	162	15.56	34.3
3500 SCA		14	2.76	70	3.94 ± 0.31	100 ± 8	1.38	35	4.33	110	18.31	465	—	—	0.98	25	—	—	4.13	105	6.38	162	15.38	33.9
		16	2.76	70	3.94 ± 0.31	100 ± 8	1.38	35	4.33	110	18.31	465	—	—	0.98	25	—	—	4.13	105	6.38	162	16.60	36.6
		18	2.76	70	3.94 ± 0.31	100 ± 8	1.38	35	4.33	110	18.31	465	—	—	0.98	25	—	—	4.13	105	6.38	162	17.46	38.5
3500 SCB		14	2.76	70	5.31 ± 0.31	135 ± 8	0.24	6	4.33	110	18.31	465	—	—	2.36	60	5.51	140	4.13	105	6.38	162	15.38	33.9
		16	2.76	70	5.31 ± 0.31	135 ± 8	1.38	35	4.33	110	18.31	465	—	—	2.36	60	5.51	140	4.13	105	6.38	162	16.60	36.6
		18	2.76	70	5.31 ± 0.31	135 ± 8	1.38	35	4.33	110	18.31	465	—	—	2.36	60	5.51	140	4.13	105	6.38	162	17.46	38.5

Note: ■ ** indicates: At 10 Hz.

LM Series - SBE and SCE (HTR) Performance Data

Size	Hardness (Durometer) Shore A scale	Nominal Torque Rating T_{KN} in-lb	Nominal Torque Rating T_{KN} Nm	Max Torque Rating T_{Kmax} in-lb	Max Torque Rating T_{Kmax} Nm	Continuous* Vibratory Torque T_{KW} in-lb	Continuous* Vibratory Torque T_{KW} Nm	Allowable Power Loss P_{KV} Watts	Dynamic** Torsional Stiffness C_{Tdyn} in-lb/rad	Dynamic** Torsional Stiffness C_{Tdyn} Nm/rad	Flange Size for J620 Flywheel	Max Speed N_{max} RPM	Mass Moment of Inertia Primary*** J_1 lb-in²	Mass Moment of Inertia Primary*** J_1 kg-m²	Mass Moment of Inertia Secondary J_2 lb-in²	Mass Moment of Inertia Secondary J_2 kg-m²
LM240	50	2,210	250	4,430	500	885	100	37	8,190	925	8	4,000	17.77	0.021	3.25	0.004
	60	2,660	300	5,310	600	1,060	120		12,400	1 400	10	3,600	26.74	0.031	3.25	0.004
	70	3,100	350	6,640	750	1,240	140		19,900	2 250	—	—	—	—	—	—
LM400	50	3,540	400	7,080	800	1,420	160	62	14,200	1 600	10	3,600	0.04	0.037	0.01	0.011
	60	4,430	500	8,850	1 000	1,770	200		22,100	2 500	11.5					
	70	4,870	550	9,740	1 100	1,950	220		35,400	4 000	14					
LM800	50	6,200	700	12,400	1 400	2,480	280	105	24,800	2 800	10	3,600	51.17	0.060	25.29	0.030
	60	7,520	850	15,000	1 700	3,000	340		37,200	4 200	11.5	3,500	62.53	0.073	25.29	0.030
	70	8,400	950	17,700	2 000	3,360	380		60,200	6 800	14	3,000	117.70	0.138	25.29	0.030
LM1200	50	8,850	1 000	17,700	2 000	3,540	400	150	39,800	4 500	11.5	3,500	65.61	0.077	38.95	0.046
	60	10,600	1 200	21,200	2 400	4,250	480		61,900	7 000	14	3,000	12.23	0.014	38.95	0.046
	70	11,500	1 300	26,600	3 000	4,600	520		104,000	11 700	—	—	—	—	—	—
LM1600	50	12,800	1 450	26,700	2 900	5,130	580	220	53,100	6 000	11.5	3,200	191.40	0.224	66.63	0.078
	60	15,900	1 800	31,900	3 600	6,370	720		79,600	9 000	14	3,000	168.30	0.020	66.63	0.078
											16	2,500	234.10	0.274	66.63	0.078
	70	17,700	2 000	35,400	4 000	7,080	800		133,000	15 000	18	2,300	329.30	0.386	66.63	0.078
LM2400	50	17,700	2 000	35,400	4 000	7,080	800	300	88,500	1 000	14	3,000	182.00	0.213	130.70	0.153
	60	22,100	2 500	44,300	5 000	8,850	1 000		133,000	15 000	16	2,500	247.70	0.290	130.70	0.153
	70	24,800	2 800	53,100	6 000	9,910	1 120		221,000	25 000	18	2,300	343.00	0.402	130.70	0.153
LM2800	50	24,800	2 800	53,100	6 000	9,910	1 120	360	221,000	25 000	14	3,000	242.30	0.284	192.80	0.226
	60	26,600	3 000	66,400	7 500	10,600	1 200		332,000	37 500	16	2,500	269.80	0.316	192.80	0.226
	70	28,300	3 200	70,800	8 000	11,300	1 280		558,000	63 000	18	2,300	364.90	0.427	192.80	0.226
LM3500	50	28,300	3 200	57,500	6 500	11,300	1 280	450	142,000	16 000	14	3,000	242.30	0.284	196.10	0.230
	60	31,000	3 500	70,800	8 000	12,400	1 400		212,000	24 000	16	2,500	374.90	0.439	196.10	0.230
	70	33,600	3 800	75,200	8 500	13,500	1 520		336,000	38 000	18	2,300	501.70	0.587	196.10	0.230

Notes:
- * indicates: At 10 Hz.
- ** indicates: Constant value for natural rubber.
- *** indicates: Flywheel side of the coupling.

Resonance Factor V_R
Relative Damping Factor Ψ

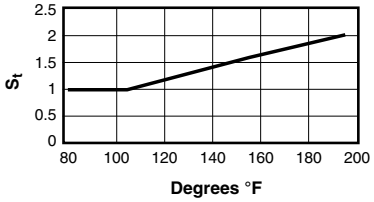
High Temperature Rubber (HTR)		
f in Hz	V_r	Ψ
35-40	12.0	0.52
50	6.0	1.05
60	5.7	1.10
70	5.5	1.15

Frequency Factor S_f

f in H_z	≤10	≥10
Sf	1	$\sqrt{f/10}$

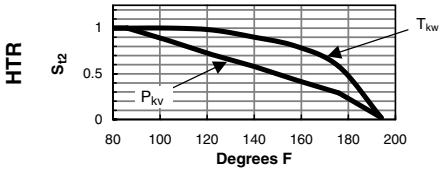
Silicone Temperature Factor S_t

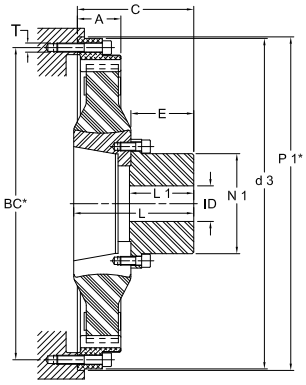
$T_{KN} \geq T_{LN} \bullet S_t$



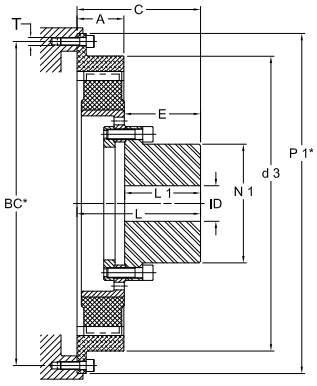
Temperature Factor S_{t2} for Cont. Vibr. Torque T_{kw} and Allowable Power Loss P_{kv}

$P_v < P_{kv} * S_{t2}$
$T_w < T_{kw} * S_{t2} * (1/S_f)$

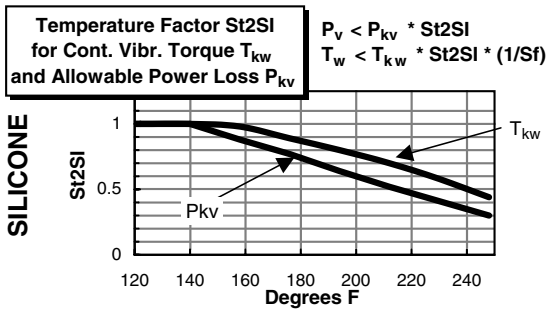




2800 - 3500 SBE



2800 - 3500 SCE



Note: ■ * indicates: SAE J620 Flywheel Dimensional Data can be found on page T-41.

LM Series - SBE and SCE (HTR) Radial Dimensional Data

Size	SAE J620	A in	A mm	C** in	C** mm	ID Min Bore in	ID Min Bore mm	ID Max Bore in	ID Max Bore mm	d3 in	d3 mm	E in	E mm	L in	L mm	L1 in	L1 mm	N1 in	N1 mm	Weight lb	Weight kg
240 SBE	8	1.81	46	4.45 ± 0.08	113 ± 2	0.59	15	1.77	45	10.31	262	2.28	58	4.17	106	2.36	60	2.60	66	2.18	4.8
	10	1.81	46	4.45 ± 0.08	113 ± 2	0.59	15	1.77	45	8.86	225	2.28	58	4.17	106	2.36	60	2.60	66	2.36	5.2
400 SBE	10	1.77	45	4.61 ± 0.08	117 ± 2	0.79	20	2.17	55	12.32	313	2.48	63	4.65	118	2.56	65	3.35	85	3.45	7.6
800 SBE	11.5	1.54	39	4.61 ± 0.08	117 ± 2	0.79	20	2.56	65	13.82	351	2.52	64	5.12	130	2.60	66	3.94	100	5.03	11.1
	14	1.81	46	4.69 ± 0.08	119 ± 2	0.79	20	2.56	65	12.52	318	2.52	64	5.12	130	2.60	66	3.94	100	6.35	14.0
1200 SBE	11.5	1.54	39	4.45 ± 0.08	113 ± 2	0.79	20	2.56	65	13.82	351	2.52	64	5.12	130	2.60	66	3.94	100	6.89	15.2
	14	1.81	46	4.72 ± 0.08	120 ± 2	0.79	20	2.56	65	13.82	351	2.52	64	5.12	130	2.60	66	3.94	100	8.30	18.3
1600 SBE	14	2.40	61	6.61 ± 0.08	168 ± 2	1.18	30	3.94	100	18.31	465	3.46	88	6.61	168	3.54	90	5.51	140	11.43	25.2
	16	2.40	61	6.61 ± 0.08	168 ± 2	1.18	30	3.94	100	16.42	417	3.46	88	6.61	168	3.54	90	5.51	140	12.02	26.5
	18	2.40	61	6.61 ± 0.08	168 ± 2	1.18	30	3.94	100	16.42	417	3.46	88	6.61	168	3.54	90	5.51	140	12.70	28.0
2400 SBE	14	2.40	61	6.42 ± 0.08	163 ± 2	1.18	30	3.94	100	18.31	465	3.46	88	6.61	168	3.54	90	5.51	140	14.83	32.7
	16	2.40	61	6.42 ± 0.08	163 ± 2	1.18	30	3.94	100	16.42	417	3.46	88	6.61	168	3.54	90	5.51	140	15.42	34.0
	18	2.40	61	6.42 ± 0.08	163 ± 2	1.18	30	3.94	100	16.42	417	3.46	88	6.61	168	3.54	90	5.51	140	16.10	35.5
2800 SCE	14	2.40	61	6.46 ± 0.08	164 ± 2	1.38	35	4.13	105	18.31	465	4.06	103	6.22	158	4.13	105	6.06	154	14.65	32.3
	16	2.40	61	6.46 ± 0.08	164 ± 2	1.38	35	4.13	105	16.42	417	4.06	103	6.22	158	4.13	105	6.06	154	15.24	33.6
	18	2.40	61	6.46 ± 0.08	164 ± 2	1.38	35	4.13	105	16.42	417	4.06	103	6.22	158	4.13	105	6.06	154	15.92	35.1
3500 SCE	14	2.76	70	7.28 ± 0.08	185 ± 2	0.24	6	4.13	105	18.31	465	4.06	103	7.20	183	4.13	105	6.06	154	16.92	37.3
	16	2.76	70	7.28 ± 0.08	185 ± 2	1.38	35	4.13	105	18.31	465	4.06	103	7.20	183	4.13	105	6.06	154	18.14	40.0
	18	2.76	70	7.28 ± 0.08	185 ± 2	1.38	35	4.13	105	18.31	465	4.06	103	7.20	126	4.13	105	6.06	154	19.01	41.9

Note: ■ ** indicates: The rubber element can be positioned closer to or farther from the flywheel within the limits shown for this dimension, while maintaining full engagement with the outer drive ring. Hub length L1 is adjustable as well with corresponding changes to mounting length dimension C.

LM Series - Silicone (50 shore A) Performance Data

Size	Nominal Torque Rating T_{KN} in-lb	Nm	*Max Torque1 T_{Kmax1} in-lb	Nm	**Max Torque2 T_{Kmax2} in-lb	Nm	Continuous Vibratory Torque T_{KW} in-lb	Nm	Allowable Power Loss P_{KV} HP	Watts	Dynamic Torsional Stiffness*** C_{Tdyn} 10% T_{KN} in-lb/rad	Nm/rad	25% T_{KN} in-lb/rad	Nm/rad	50% T_{KN} in-lb/rad	Nm/rad	75% T_{KN} in-lb/rad	Nm/rad	100% T_{KN} in-lb/rad	Nm/rad	Relative Damping Ψ
LM800	6,200	700	9,290	1 050	12,400	1 400	2,480	280	0.14	105	19,500	2 200	21,200	2 400	24,800	2 800	31,000	3 500	40,700	4 600	1.15
LM1200	8,850	1 000	13,300	1 500	17,700	2 000	3,540	400	0.20	150	31,900	3 600	34,500	3 900	39,800	4 500	49,600	5 600	65,500	7 400	
LM1600	12,800	1 450	19,500	2 200	25,700	2 900	5,100	580	0.30	220	42,500	4 800	46,000	5 200	53,100	6 000	66,400	7 500	87,600	9 900	
LM2400	17,700	2 000	26,600	3 000	35,400	4 000	7,080	800	0.40	300	70,800	8 000	77,000	8 700	88,500	10 000	111,000	12 500	146,000	16 500	
LM2800	24,800	2 800	37,200	4 200	49,600	5 600	9,910	1 120	0.48	360	186,000	21 000	20,400	2 300	221,000	25 000	288,000	32 500	376,000	42 500	
LM3500	28,300	3 200	42,500	4 800	56,600	6 400	11,300	1 280	0.60	450	113,000	12 800	123,000	13 900	142,000	16 000	177,000	20 000	235,000	26 500	

Notes: ■ * indicates: T_{max1} is the maximum accelerating value for transient torque spikes during the normal work cycle, for example, form accelerating through a resonance during starting and stopping or clutching.

■ ** indicates: T_{max2} represents the absolute maximum peak torque allowable during rare occasions such as during a short circuit of a gen-set or incorrect synchronization.

■ *** indicates: The silicone material creates a progressive stiffness characteristic dependent on load. These values have the tolerance of ± 15%.

The LK Series coupling is a simple two-piece design consisting of an element and hub. The couplings are designed to be used with engine driven, flange mounted, hydraulic pump systems. The couplings are "torsionally stiff" enabling hydraulic pumps and similar equipment with low mass or inertia to operate below critical speeds. The "torsionally stiff" LK Series coupling raises the critical speed above the operating range providing a system free of harmful torsional vibrations. The LK Series is ideal for hydrostatic drives on construction equipment, cranes, forklifts, excavators, vibratory rollers, tractors, etc. Virtually all engine driven hydraulic systems in the low to mid power range can use the LK Series coupling.



Element Features

- Fiberglass reinforced polyamide construction
- Impact and oil resistant
- –40° to 320° F temperature range
- SAE J620 flywheel sizes 6.5 through 14 and various metric sizes
- Universal element can be mounted to and adapter plate
- Blind assembly, no lubrication

Hub Features

- High quality powdered-metal construction
- Splined hubs available with L-LOC clamping system
- Engagement "dogs" are slightly crowned to avoid edge pressure when slight misalignment occurs
- Available in bore with keyway and spline connections

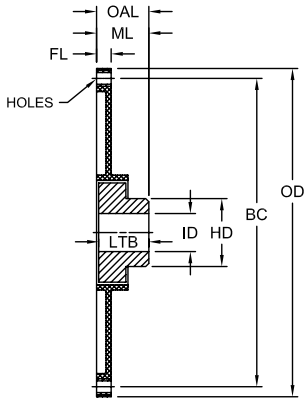
Typical Applications

Applications where a hydraulic pump is directly connected to the engine such as wheel loaders, hydraulic excavators, vibration rollers, fork lift trucks, concrete cutters, compact loaders, asphalt finishers and mobile cranes.

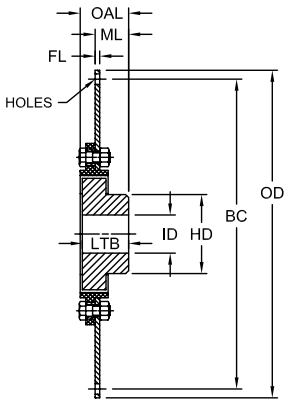
T

LK Series Performance Data

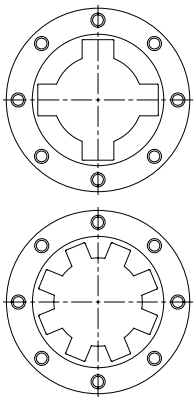
Size	SAE Flywheel Size	Nominal Torque T_{KN}		Maxium Torque T_{Kmax}		Maximum Speed	Dynamic Torsional Stiffness C_{Tdyn}								Relative Damping
							$0.25T_{KN}$		$0.50T_{KN}$		$0.75T_{KN}$		$1.00T_{KN}$		
		in-lb	Nm	in-lb	Nm	RPM	lb-in/rad	kNm/rad	lb-in/rad	kNm/rad	lb-in/rad	kNm/rad	lb-in/rad	kNm/rad	Ψ
LK80	—	1,080	125	2,880	330	6,000	Consult Lovejoy								
LK100	6.5, 7.5, 8, 10	3,540	400	7,080	800	5,000	490	55	550	62	800	90	1,060	120	
LK125	10, 11.5	7,080	800	14,160	1 600	4,500	1,370	155	1,590	180	2,800	315	4,070	460	0.4
LK150	11.5, 14	10,620	1 200	26,400	3 000	4,000	2,300	260	2,480	280	3,700	420	7,950	900	
LK150D	14	21,240	2 400	58,200	6 000	4,000	4,600	520	4,960	560	7,400	840	15,900	1 800	



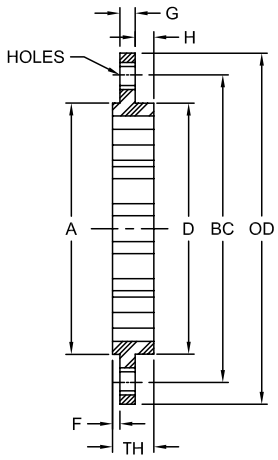
1-Piece Flange



2-Piece Flange
Universal + Plate



4, 6 and 8 Dog Patterns
Dependent on Size



LK Series - SAE J620 Flywheel Application Dimensional Data

Size	Nominal Torque Rating in-lb	Nm	ID Min Bore in	mm	ID Max Bore in	mm	SAE Flywheel Size	Flange Style	OD in	mm	BC in	mm	Number & Dia of Holes in	mm	FL Flange Thickness in	mm	HD Hubstar Dimensions in	mm	LTB* in	mm	OAL Assembly Dimensions in	mm	ML Mounting Length in	mm
LK100	3,540	400	0.563	15	1.563	40	6.5	1-PIECE	8.500	215.9	7.875	200.0	6 x 0.33	6 x 8.5	0.55	14	2.56	65	—	—	—	—	—	—
							7.5	1-PIECE	9.500	241.3	8.750	222.3	8 x 0.33		0.55	14			1.26	32	1.34	34	0.906 ± 0.118	23+/-3
							8	1-PIECE	10.375	263.5	9.625	244.5	6 x 0.41	6 x 10.5	0.55	14			2.20	56	2.28	58	2.284 ± 0.118	58+/-3
							10	1-PIECE	12.375	314.3	11.625	295.3	8 x 0.41		0.55	14			1.89	48	1.97	50	1.969 ± 0.118	50+/-3
																			—	—	—	—	—	—
LK125	7,080	800	0.813	20	2.125	55	10	1-PIECE	12.375	314.3	11.625	295.3	8 x 0.41	8 x 10.5	0.79	20	3.35	85	1.89	48	1.97	50	1.969 ± 0.118	50+/-3
							11.5	1-PIECE	13.875	352.4	13.125	333.4	8 x 0.41		0.19	20			1.65	42	1.81	46	1.417 ± 0.118	36+/-3
LK150	10,260	1 200	1.000	25	2.750	70	11.5	1-PIECE	13.875	352.4	3.125	333.4	8 x 0.41		0.79	20	4.33	110	1.97	50	2.09	53	1.299 ± 0.118	33+/-1
							14	2-PIECE	18.375	466.7	17.250	438.2	8 x 0.50	8 x 12.7	0.19	5			1.97	50	2.09	53	0.984 ± 0.118	25+/-1
LK150D	21,240	2 400	1.188	30	2.750	70	14	**	18.375	466.7	17.250	438.2	8 x 0.50		0.19	5	4.33	110	2.05	52	2.13	54	0.984 ± 0.118	25+/-1

Notes: ■ * indicates: Other shorter or longer hub lengths available for special requirements.
■ ** indicates: LK 150D uses 2 Zytel® elements in parallel with 1 steel plate.

LK Series Universal Elements Dimensional Data

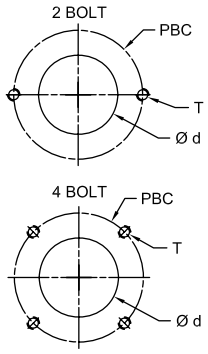
Size	G in	mm	H in	mm	TH in	mm	E in	mm	OD in	mm	BC in	mm	D in	mm	A Pilot in	mm	Number of Holes	S Hole Diameter in	mm
LK80-6-106	0.55	14.0	0.38	9.7	0.19	4.8	1.12	2.84	5.910	150	5.118	130	3.600	91.4	4.173	106	5	0.33	8.4
LK80-6-135	0.39	9.9	0.61	15.5	*	*	1.00	25.4	5.315	135	3.937	100	3.629	92.2	5.315	135	3	0.41	10.4
LK100-165	0.39	10.0	0.79	20.0	0.16	4.0	1.34	34.0	6.850	174	5.591	142	4.921	125.0	4.921	125	3	0.49	12.5
LK100-072	0.39	10.0	0.79	20.0	0.16	4.0	1.34	34.0	7.870	200	6.496	165	4.330	110.0	2.835	72	3	0.65	16.5
LK125-195	0.39	10.0	0.55	14.0	0.24	6.0	1.18	30.0	7.680	195	6.496	165	5.315	135.0	5.135	135	6	0.49	12.5
LK150-230	0.39	10.0	0.47	12.0	0.20	5.0	1.06	27.0	9.060	230	7.874	200	6.500	165.0	6.496	165	8	0.49	12.5

Notes: ■ * indicates: LK80-6-135 pilots on the O.D.
■ Dimensions for universal elements (for non-SAE flywheels, etc.).

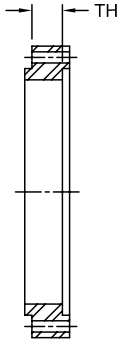
T

Spacer Rings

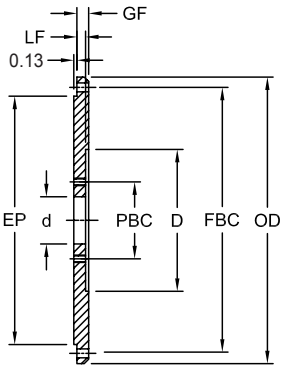
Spacer rings are available for all SAE bell housing sizes (1,2,3,4,5,6). The rings provide additional space standoff from the engine flywheel housing and the pump mounting spacer plate. The spacer ring will provide the necessary area between the flywheel and the pump for the proper torsional coupling. When ordering spacer rings, specify the SAE bell housing size and required thickness.



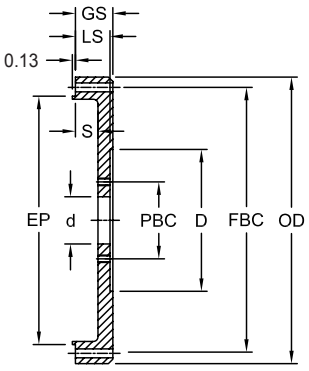
Pump Flange



Spacer Ring



Pump Mounting Plate



Unitized Spacer Ring and Pump Mounting Plate

Pump Mounting Plates - SAE J744 Dimensional Data

Flywheel Housing SAE J617C Size	GF Pump Mounting Plate		LF Pump Mounting Plate		GS LS S Spacer Plate	TH* Spacer Ring Minimum Thickness		OD		FBC Bolt Circle		EP Pilot Diameter	
	in	mm	in	mm		in	mm	in	mm	in	mm	in	mm
1	0.88	22.4	0.75	19.1	Based on customer request	0.88	23	21.75	552	20.875	530.2	20.125	511.2
2	0.88	22.4	0.75	19.1				19.25	489	18.375	466.7	17.625	447.7
3	0.50	12.7	0.44	11.2		0.63	16	17.75	451	16.875	428.6	16.125	409.6
4	0.50	12.7	0.44	11.2				15.88	403	15.000	381.0	14.250	362.0
5	0.50	12.7	0.44	11.2				14.00	356	13.125	333.4	12.375	314.3
6	0.50	12.7	0.44	11.2				12.13	308	11.250	285.8	10.500	266.7

Notes: ■ * indicates: Minimum thickness specified in chart. Total thickness is based on customer request.
■ For use with hydraulic pumps having standard SAE mountings and spline shafts.

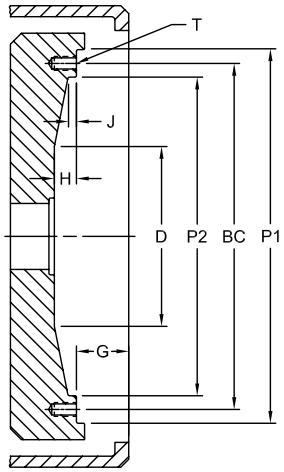
Hydraulic Pump Mounting - SAE J744 Dimensional Data

Pump Mounting Flange	2 Bolt Design d Pilot Dia		PBC Bolt Circle		D Pump Face Dia		T Thread Size	4 Bolt Design d Pilot Dia		PBC Bolt Circle		D Pump Face Dia		T Thread Size
	in	mm	in	mm	in	mm	in	in	mm	in	mm	in	mm	in
A-A	2.00	50.80	3.25	82.6	7	177.80	5/16-18	—	—	—	—	—	—	—
A	3.25	82.55	4.18	106.4	7	177.80	3/8-16	—	—	—	—	—	—	—
B & B-B	4.00	101.60	5.75	146.0	8	203.20	1/2-13	4.00	101.60	5.00	127.00	8	203.20	1/2-13
C & C-C	5.00	127.00	7.12	181.0	10	254.00	5/8-11	5.00	127.00	6.38	162.05	10	254.00	1/2-13
D	6.00	152.40	9.00	228.6	14	355.60	3/4-10	6.00	152.40	9.00	228.60	14	355.60	3/4-10
E	6.50	165.10	12.50	317.5	16	406.40	1-8	6.50	165.10	12.50	317.50	16	406.40	3/4-10
F	7.00	177.80	13.78	350.0	18	457.20	1-8	7.00	177.80	13.87	352.30	18	457.20	1-8

Note: ■ 6 bolt universal pump mounting design is available and is typical standard design.

Features

- Available in flat and spacer types
- SAE housing sizes 1 to 6
- SAE hydraulic pump size A to D
- DIN hydraulic pump pilot and bolt patterns also available
- Provides easy mounting to engine flywheel housing



Pump Mounting Plates - SAE J620 Flywheel Dimensional Data

Nominal Clutch (flywheel) Size	P1		BC		P2		J		H		G		D		T Tapped Holes	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Qty	Size
6.5	8.500	215.90	7.875	200.03	7.25	184.2	0.38	9.7	0.50	0.5	1.19	30.2	5.00	127.0	6	5/16-18
7.5	9.500	241.30	8.750	222.25	8.13	206.4	0.50	12.7	0.50	0.5	1.19	30.2	—	—	8	5/16-18
8	10.375	263.53	9.625	244.48	8.88	225.4	0.50	12.7	0.50	0.5	2.44	62.0	—	—	6	3/8-16
10	12.375	314.33	11.625	295.28	10.88	276.2	0.50	12.7	0.62	0.6	2.12	53.8	7.75	196.9	8	3/8-16
11.5	13.875	352.43	13.125	333.38	12.38	314.3	0.88	22.4	1.12	1.1	1.56	39.6	8.00	203.2	8	3/8-16
14	18.375	466.73	17.250	438.15	16.13	409.6	0.88	22.4	1.12	1.1	1.00	25.4	8.00	203.2	8	1/2-13
16	20.375	517.53	19.250	488.95	18.13	460.4	0.88	22.4	1.12	1.1	0.62	15.7	75.00	1905.0	8	1/2-13
18	22.500	571.50	21.375	542.93	19.63	498.5	1.25	31.8	1.25	1.3	0.62	15.7	10.00	254.0	6	5/8-11
21	26.500	673.10	25.250	641.35	23.00	684.2	1.15	29.2	1.25	1.3	—	—	—	—	12	5/8-11
24	28.875	733.43	27.250	692.15	25.38	644.5	1.25	31.8	1.25	1.3	—	—	—	—	12	3/4-10

Typical Flywheel Housing Combinations

SAE J620D Flywheel Size	LF Series Size	LK Series Size	SAE J617C Flywheel Housing					
			6	5	4	3	2	1
6.5	8 thru 28	100	▲	▲				
7.5	8 thru 28	100	●	●				
8	8 thru 30	100			▲			
10	8 thru 140	100, 125			●	▲	▲	
11.5	16 thru 140	100, 125, 150, 150D				●	●	▲
14	28 thru 250	150, UNIV						●
18	250	UNIV						●

Notes: ▲ indicates: Preferred combinations.
● indicates: Optoinal sizes available.

Pump Mounting Housings

Pump mounting housings are required to mount pumps on engines that do not have an SAE flywheel housing. Lovejoy offers pump mounting housings for the following engines. All are available with SAE pump mounting pilots and bolt patterns. Custom mounting pilots and bolt patterns available upon request. Housings are made of high strength Aluminum, designed to support the weight of the hydraulic pump without the need for a rear pump support mount. The LK80 and LK100 are available to match the flywheel options for the various engines and can be paired with the appropriate housing to provide a complete kit.

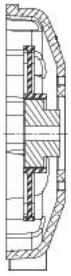




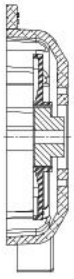
Cummins® B3.3
Shown with LK100



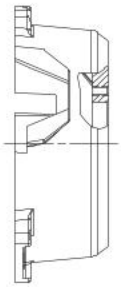
Deutz® FL1001



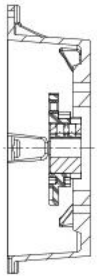
Ford® VSG 413
Shown with LK100



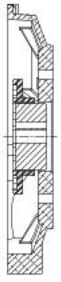
Ford® LRG 425
Shown with LK100



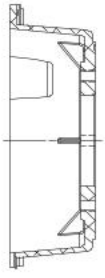
Kubota® Super Mini



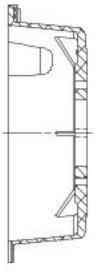
Kubota® Super 05
Shown with LK80



Kubota® Super 03
Shown with LK100



Perkins® 103-10
Shown with LK100



Perkins® 104-22
Shown with LK100

where the world turns for

Lovejoy®

Coupling Solutions

Specialty Products

In This Section:

- Deltaflex
- Uniflex
- Saga
- Rigid Sleeve
- Shaft Collars











SP

Specialty Products

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Specialty Products

Table of Contents

	Running Page No.	Section Page No.
Overview	306	SP-4
Deltaflex > Overview	307	SP-5
Deltaflex Types > Overview	310	SP-8
Deltaflex Types > Selection Process	311	SP-9
Application Service Factors > Selection Process	312	SP-10
Deltaflex HP / Torque Ratings > Performance Data	313	SP-11
Deltaflex Type 1 > Dimensional Data	314	SP-12
Deltaflex Type 2 and 2A > Dimensional Data	315	SP-13
Deltafllex Type 3 and 4 > Dimensional Data	316	SP-14
Deltaflex Delta and Round Hub > Dimensional Data	318	SP-16
Uniflex > Overview	319	SP-17
Uniflex > Selection Process	320	SP-18
Uniflex > Performance Data	321	SP-19
Uniflex > Dimensional Data	322	SP-20
Uniflex RRU and UF Type > Dimensional Data	323	SP-21
Uniflex UFH Type > Dimensional Data	324	SP-22
Saga > Overview	325	SP-23
Saga > Performance / Dimensional Data	326	SP-24
Rigid Sleeve > Dimensional Data	327	SP-25
Shaft Collars Zinc / Stainless > Selection / Dimensional Data	328	SP-26
Shaft Collars One-Piece > Selection / Dimensional Data	329	SP-27
Shaft Collars Two-Piece > Selection / Dimensional Data	330	SP-28

Deltaflex

The patented Deltaflex series of couplings offer maximum misalignment capabilities with negligible reactionary load, for longer equipment life. This all-metal flex-link coupling requires no lubrication or other maintenance. Typical applications include: compressors, pumps, fans, positioning devices, indexing tables, mixers, papermill roll drives, drive line shafts, turbine drives, wind tunnels, cooling towers, and single bearing generator drives.



Deltaflex

Uniflex

This single piece coupling series solves a variety of application concerns, including high misalignment, space limitations, high temperature and exceptionally low backlash/windup. Typical applications include textile equipment, printing and binding registration, robotics/positioning, conveyors, carton folding and gluing equipment, machine tools, centrifugal pumps, agricultural machinery, blowers and winding machines.



Uniflex

Saga

The Saga series of couplings offer lower torsional stiffness than any other rubber-in-compression coupling. There is no equal for high shock start/ stop applications such as many piston-driven devices, compressors, violent pounding, or crushing units.



Saga

Rigid Sleeve

Our Rigid Sleeve couplings are suitable for use in joining any two shafts when flexibility is not required. Consisting of a one piece sleeve, the coupling slips onto the ends of the two shafts and is held in place by two set screws. This coupling is best suited for light to medium-duty applications.



Rigid Sleeve

Shaft Collars

A shaft collar limits the range of travel allowed along the shaft by motor bases, machine tools, and other such items. The precision-machined collars offer ease of installation and the best possible holding strength.



Shaft Collars

WARNING

You must refer to page SP-2 (Page 304) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Deltaflex Coupling Design

The Deltaflex coupling is the real solution to installation, misalignment, and performance problems. Conventional couplings – even when carefully aligned to the manufacturer's specifications – cannot match the low level of vibration, moment of inertia, and additional cushion for future misalignment of a visually aligned Deltaflex coupling.

In addition, the Deltaflex coupling gives longer life to equipment shaft bearings. That means longer operating time and reduced maintenance cost. The Deltaflex can handle greater shaft misalignment without generating heavy reaction loads on the equipment shaft bearings.

A properly applied and installed Deltaflex coupling offers more equipment protection compared to conventional couplings.



Type 1 Deltaflex

Features

- Maximum misalignment capabilities, with negligible reactionary load, for longer equipment bearing life. (see illustrations A, B and C)
- Operates as smoothly when misaligned as when perfectly aligned
- No lubrication and no maintenance required
- Equipment can be visually aligned. No special tools are required, which saves on installation time and cost
- Eliminates premature equipment bearing and seal failure resulting from misalignment forces. This means greater equipment productivity
- Torsionally stiff coupling with no backlash means it is capable of high speed applications, within catalog ratings
- Provides long-term performance and economy
- Available in 5 basic sizes, from 10HP to 900HP
- Standard all-metal and stainless steel versions are both available from stock. Many configurations are available, including shaft-to-shaft, spacer, floating shaft, and special assemblies

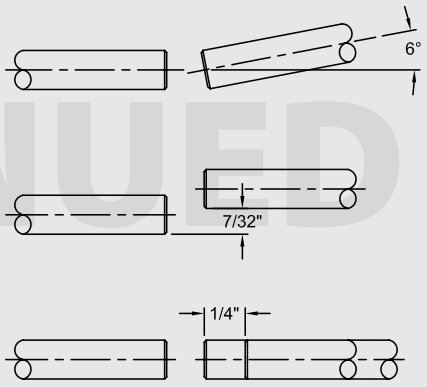


Illustration A
Misalignment Capability (Size 60 Illustrated)

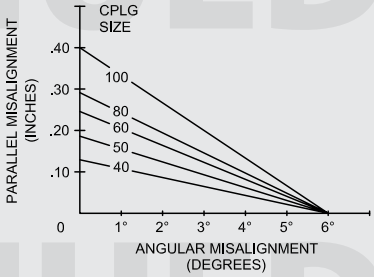


Illustration B
Standard Series

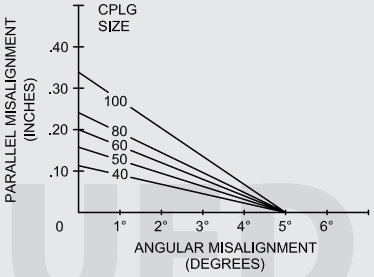


Illustration C
HT Series

Note: ■ Illustrations B and C assume no axial displacement.

SP

Deltaflex Coupling Design

As graphs A and B clearly illustrate, radial load placed on the shaft bearings of the connected equipment by conventional couplings can substantially reduce bearing life and induce detrimental vibration. If the misalignment created a radial load – and the bearing with conventional couplings – typically 75% of B-10 bearing design life is sacrificed. By using the Deltaflex coupling B-10 life remains close to 100% of design level at maximum misalignment.

Because the Deltaflex coupling is designed for infinite fatigue life at maximum angular misalignment – at rated torque – inadvertent misalignment caused by temperature expansion, equipment frame flexing, foundation movement, environment, etc. will not shorten the life of the coupling or life of the connected equipment.

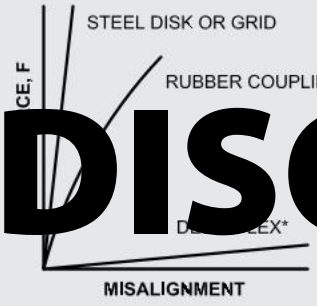
Patented Design Concept***

The concept of the Deltaflex coupling and its misalignment capabilities can be illustrated best when compared to conventional coupling design [illegible] Most conventional couplings [illegible] dependent upon flexible flex [illegible] members. Elastomers are limited by the compressive and tensile strengths [illegible] material. Misalignment is a function of the limited properties and method of connection to the hubs.

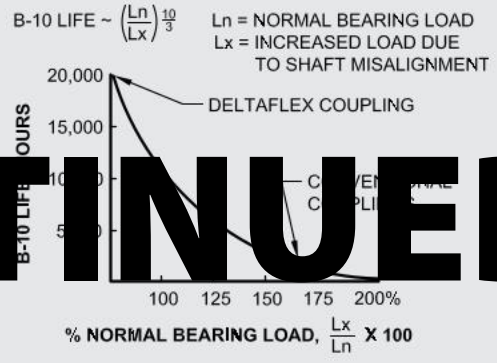
While other all-metal flexible couplings share the advantage of high torque transmission and better temperature and corrosion resistance, they are typically limited to less than 1/2° angular with less than 0.005 inch parallel misalignment. Approaching or exceeding these limits will exert undesired radial loads and vibration on the connected equipment.

U.S. Patent Number 4034034.

DISCONTINUED



Graph A

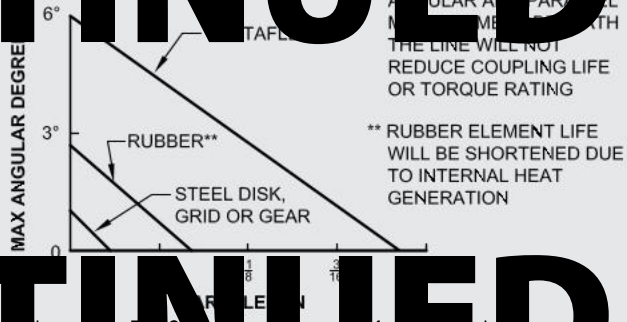


Graph B

DISCONTINUED



Graph A



(See illustrations B and C on previous page for specific size

Graph B

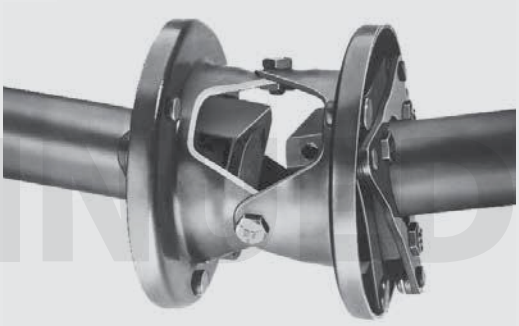
DISCONTINUED

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Deltaflex Coupling Design

The Deltaflex Difference

In contrast to most conventional coupling designs (see illustration D), the patented Deltaflex coupling is typically arranged in this manner: a hub, a flex-link at each end of a torque sleeve, and a hub (see illustration E). While most conventional coupling designs use a central flexing element, the Deltaflex uses two, making it a double engaging coupling. The patented concept, along with the method of connecting the hubs to the flexible links, permits the tremendous misalignment capabilities without exerting harmful radial loads.



Deltaflex

The Deltaflex coupling consists of four major components: two delta hubs, an inner flange, and an outer flange. The flex-links, as well as the delta mounting plates, are integral to each flange and are factory assembled. The hub is field-assembled to the flange with three axial cap screws. The two flanges are fastened together radially as the two coupling halves are joined to make a complete coupling.

In understanding the design of the Deltaflex it is important to note that the inner and outer flanges, once firmly fastened together with three cap screws, become a rigid "torque sleeve." The flex links at each end of the torque sleeve accommodate the misalignment generated by the equipment shaft hubs.

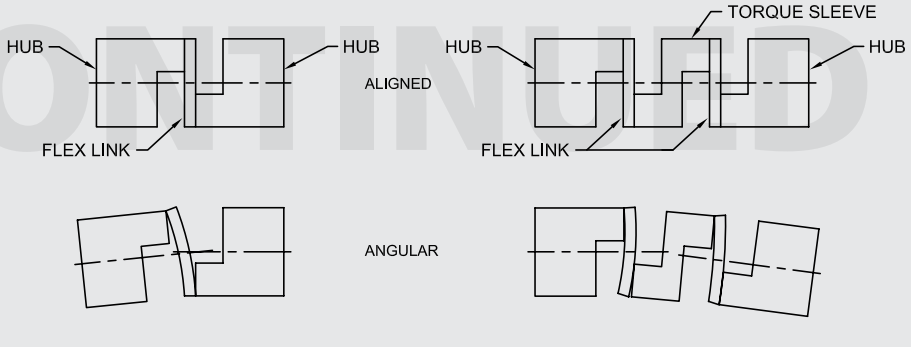


Illustration D
Conventional Coupling

Illustration E
Deltaflex Coupling

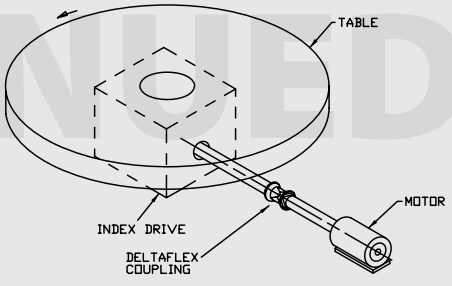
Typical Deltaflex Applications

Use Deltaflex couplings to simplify installation and minimize fabrication costs of structural frames. With the large misalignment capability of Deltaflex, extremely close tolerances will be unnecessary. Typical applications include: compressors, pumps, fans, mixers (vertical and horizontal), turbine drives, wind tunnels, and single bearing generator drives. Some other applications include:

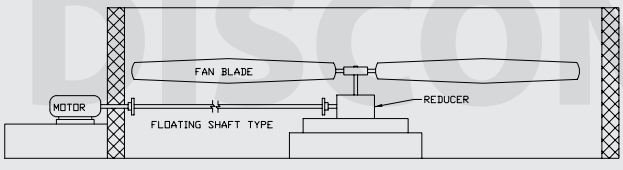
Drive-Line – Connecting long shaft lines with Deltaflex takes advantage of angular and parallel misalignment capabilities. Permits ease of installation and reduces radial bearing loads to a minimum.

Indexing Table or Work Positioning Drive – Takes advantage of zero backlash, instant response and constant velocity. Coupling may be between drive motor and gear reduction or on output side of reducer.

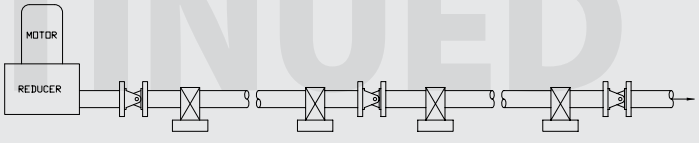
Cooling Tower Drive – The Deltaflex floating shaft coupling permits greater ease of installation with its generous axial misalignment capabilities. Also available in stainless steel.



Indexing Table



Cooling Tower Drive



Drive-Line

SP

Deltaflex Coupling Types

The unique design, misalignment capability and simple installation methods make Deltaflex easily adaptable to special applications. Contact Lovejoy Engineering for assistance.

Type 1

Shaft to Shaft – Hubs Mounted Internally

This is the standard arrangement for most shaft to shaft applications. There are five basic coupling sizes in all types, each with a Standard and a High Torque (HT) Series. Both the Standard and the HT Series are dimensionally interchangeable.



Type 1 Arrangement

Type 2

Shaft to Shaft – Hubs Mounted Externally

This arrangement is similar to Type 1 in that all components are the same, except the delta hubs are mounted outside the flanges.

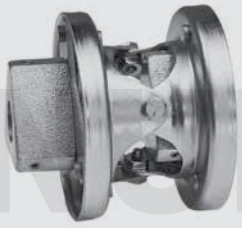


Type 2 Arrangement

Type 2A

Shaft to Shaft – One Hub Mounted Externally,

This arrangement uses the same components as the Type 2, but with one hub mounted on the inside of the flange and one hub mounted on the outside.

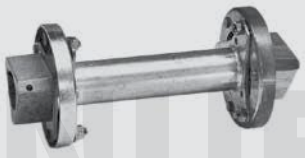


Type 2A Arrangement

Type 3

Spacer Type

This arrangement is specifically designed for the pump industry. It is available in a variety of industry standard shaft separations. The shaft center spacer drops out to facilitate easier maintenance of pump parts without disturbing the alignment of pump and motor.



Type 3 Arrangement

Type 4

Floating Shaft Type

Type 4 coupling components are the same as Type 3, except that the floating shaft design uses a longer spacer tube to span distances up to 12 feet. Deltaflex floating shaft couplings are light weight, dynamically balanced (as required) and corrosion resistant, which makes them ideal for applications in cooling towers and petrochemical service.



Type 4 Arrangement

DISCONTINUED

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Steps In Selecting A Deltaflex Coupling

Step 1: Determine the proper service factor (SF) for the application. This may involve 2 steps:

A. Driven equipment service factor (SFa): Using the Application Service Factors Chart 1 (page SP-10) select the service factor which best corresponds to your application. If the application is not listed in Chart 1, use Chart 2.

B. When using Chart 1, add the following service factors (SFb) to the values in Chart 1 as required. Add 0.5 for above average torque load variations or start/stop conditions of not more than once per hour. Add 1.0 for reversing loads, start/stop conditions more than once per hour, severe torque load variations or high inertia starting conditions.

The additional service factor is added to the Chart 1 service factors to obtain the total service factor.

$$SF = SFa + SFb$$

Step 2: Calculate the equivalent HP/100 RPM.

$$HP/100\ RPM = \frac{HP^* \times 100 \times SF}{RPM^*}$$

* HP and RPM of prime mover.

Step 3: Select the Deltaflex size.

Method 1: From the Deltaflex HP and Torque Ratings Chart 3 (page SP-11) select the smallest coupling which is rated equal to or higher than the calculated HP/100 RPM.

Method 2: For couplings driven by standard electric motors, you can multiply the HP of the motor by the service factor (SF) and then refer to the electric motor driven chart for selection.

Step 4: Determine the type of Deltaflex needed, e.g., Type 1, Type 2, etc.

Step 5: Check limiting conditions.

A. Check to be sure that the coupling's Peak Overload Torque Rating is sufficient to accommodate the maximum torque to be transmitted, such as the starting and stall torques of the motor, braking torques and cyclic peak torques, if any. If starting or braking cycles are frequent, the brake torque should be checked against the maximum continuous torque rating of the coupling.

$$T = Tp \times SF$$

T = Maximum torque transmitted
Tp = Brake torque, starting torque or peak torque
SF = Service Factor (determined previously)

B. Check the maximum hub bore. If bore size is too large, the next larger size Deltaflex can be specified.

C. Check other dimensions such as the limits on shaft separation, hub spacings, space required for the coupling, etc.

D. Check maximum speed. If operating speed exceeds 60% of listed maximum speed, the coupling should be dynamically balanced.

Step 6. Ordering Information.

A. Quantity, size, style of couplings.
B. Bore and Keyway sizes.
C. Dynamic balancing specification, if required.
D. Additional non-standard data.
1) Custom mounting dimensions
2) Between shaft ends (BE) dimension for spacer and floating shaft types
3) Maximum operating speed for floating shaft couplings

Selection Examples

A centrifugal fan requires 20 HP, 1,150 RPM motor, direct coupled from the motor to the fan. The motor frame is 286T (1.875 inch shaft) and the fan shaft is 1.625 inches.

Step 1: Using the Application Service Factors Chart 1 (page SP-10), the driven equipment service factor for a centrifugal fan is 1.5 = SFa. The load is uniform and the driver is smooth, therefore SFb is 0.

The total service factor SF is 1.5 + 0 = 1.5

Step 2: $$HP/100\ RPM = \frac{20 \times 100 \times 1.5}{1{,}150} = 2.6\ HP/100\ RPM$$

Using the Deltaflex HP and torque ratings Chart 3 (page SP-11), under the column of HP/100RPM, the smallest coupling you can select is #50 which is rated for 3.0 HP/100 RPM.

NOTE: You can also find the coupling size by multiplying SF x 20:

SF x 20 = 1.5 x 20 = 30 HP

In Chart 3 (page SP-11) for motor drives the coupling to select is, again, #50 under 1,150 RPM motors. The size is rated at 34 HP @ 1,150 RPM.

Step 3: In this case, the maximum bore for size #50 coupling is 1.875 inches; therefore, the selection size stands.

Step 4: Since this is a shaft-to-shaft application, you will be using the standard Deltaflex coupling Type 1. Determine if any other selection factors apply as described in steps 4 and 5 of the selection guide.

Floating Shaft Type Coupling Selection Example

Using the preceding data, assume that the shaft spacing from end of shaft to end of shaft is 36 inches. A floating shaft coupling is then required. The 36 inch is specified as BE (Between Ends) = 36 inches.

Refer to the Type 3 and 4 Chart (page SP-14) to find the overall length of the coupling; add dimension 2 x LTB to BE.

For a size #50 type 3, the overall length will be 36 inches + 2 x 1.69 = 39.38. Note that the length of the spacer tube assembly will be 36 inches - 2R = 36 - 1.62 = 34.38.

This is the amount of space, or dropout section, between the fixed portions of the coupling.

SP

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

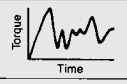
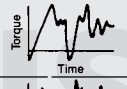
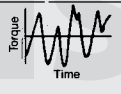
Specialty Products
Application Service Factors Selection Process

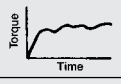
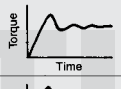
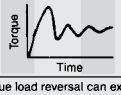
Application Service Factors — Chart 1

Agitators	
Liquids	2.0
Variable Density	3.0
Blowers	
Centrifugal	1.5
Lobe	2.0
Vane	2.0
Car Dumpers	3.0
Car Pullers	2.0
Clay Working Machinery	2.5
Compressors	
Centrifugal	1.5
Lobe, Vane, Screw	2.0
Reciprocating—	
Multi-cylinder	Not Recommended
Conveyors—Uniformly Loaded Or Fed	2.0
Conveyors—Heavy Duty	
Not Uniformly Fed	2.5
Conveyors—Vibratory	3.5
Cranes and Hoists	Not Recommended
Crushers	4.0
Extruders	
Plastic	2.0
Metal	2.5
Fans	
Centrifugal	1.5
Axial	1.5
Mine Ventilation	3.5
Cooling Towers	3.0
Light Duty Blowers & Fans	1.5
Feeders	
Light Duty	1.5
Heavy Duty	2.5
Food Industry	
Cereal Cooker	1.5
Dough Mixer	2.5
Meat Grinder	2.5
Can Filling Machine	1.5
Bottling	1.5
Generators	
Non-Welding	2.5
Welding	4.0
Hammer Mills	4.0
Lumber Industry	
Barkers—Drum Type	4.0
Edgar Feed	3.0
Live Rolls	3.0
Log Haul—Incline	3.0
Log Haul—Well Type	3.0
Planer Feed Chains	3.0
Planer Floor Chains	3.0
Planer Tilting Hoist	3.0
Slab Conveyor	2.5
Sorting Table	2.5
Trimmer Feed	3.0
Machine Tools	
Bending Roll	3.0
Punch Press—Gear Driven	3.0
Tapping Machines	4.0
Auxiliary Drives	2.5
Metal Mills	
Draw Bench—Carriage	3.5
Draw Bench—Main Drive	3.5
Forming Machines	3.5
Slitters	3.0
Table Conveyors	
Non-Reversing	3.5
Reversing	4.0
Wire Drawing & Flattening Machine	3.0
Wire Winding Machine	3.0
Mills, Rotary Type	
Ball	3.5
Cement Kilns	3.0
Dryers & Coolers	3.0
Kilns	3.0
Pebble	3.0
Rod	3.0
Tumbling Barrels	3.0
Mixers	
Concrete Mixers	3.0
Drum Type	3.0
Oil Industry	
Chillers	2.5
Oil Well Pumping	3.0
Rotary Kilns	3.0
Paper Mills	
Barker Auxiliaries, Hydraulic	4.0
Barker Mechanical	4.0
Barker Drum (Spur Gear Only)	4.0
Beater & Pulper	3.0
Bleacher	2.5
Calenders	3.0
Cylinders	3.0
Dryers	3.0
Jordans	3.0
Log Haul	3.0
Presses	3.0
Suction Roll	3.0
Washers and Thickeners	2.5
Winders	3.0
Printing Presses	2.5
Pumps	
Centrifugal	
General Duty (Liquid)	1.5
Boiler Feed	1.5
Slurry (Sewage, etc.)	2.5
Dredge	3.0
Reciprocating	
Double Acting	Not Recommended
Single Acting	Not Recommended
Rotary—Gear, Lobe, Vane	2.0
Rubber Industry	
Mixer—Banbury	4.0
Rubber Calender	3.0
Rubber Mill (2 or more)	3.5
Sheeter	3.0
Tire Building Machines	3.5
Tubers and Strainers	3.0
Screens	
Rotary—Stone or Gravel	2.5
Traveling Water Intake	2.5
Vibratory	3.5
Sewage Disposal Equipment	2.5
Textile Industry	
Batchers	2.5
Calenders	3.0
Card Machines	2.5
Dry Cans	3.0
Dryers	2.5
Dyeing Machinery	2.5
Looms	2.5
Mangles	2.5
Soapers	2.5
Spinners	2.5
Windlass	3.0

Notes:
- Typical Service Factors Electric Motor and Turbine Driven Equipment.
- If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.

Service Factors for Driven Equipment Load Classifications — Chart 2

Load Characteristics	Service Factors
 Shock loads and above average torque load variations, or start/stop applications of up to once per hour.	3.0
 Heavy shock loads reversing or start/stop applications of more than once per hour or high inertia starting loads.	4.0
 Heavy reversing torque loads. NOT RECOMMENDED BECAUSE OF LOAD CARRYING METHOD IN FLEXIBLE LINKS	*NR

Load Characteristics	Service Factors
 Relatively low inertia, smooth continuous torque load.	1.5
 Torque load varies during operation of the equipment.	2.0
 Above average torque load variations during operation of the equipment.	2.5

*Torque load reversal can exist without reversing rotation and can be caused by overrunning the load with inertia or shifting of the load. Consult Lovejoy Engineering.

Note:
- * indicates: Torque load reversal can exist without reversing rotation and can be caused by overrunning the load with inertia or shifting of the load. Consult Lovejoy Engineering.

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Deltaflex HP and Torque Ratings

Chart 3

Size	Max Bore: Delta Hub in	Max Bore: Delta Hub mm	Max Bore: Round Hub in	Max Bore: Round Hub mm	Maximum Continuous Torque in-lbs	Maximum Continuous Torque Nm	Peak Overload Torque in-lbs	Peak Overload Torque Nm	HP/100 RPM HP	HP Rating[1] @ Standard Motor RPM 875	1,150	1,750	3,500
40	1.38	35	1.63	42	750	84	1,125	127	1.2	10.5	13.8	21.0	42
40HT	1.38	35	1.63	42	1,260	142	1,890	213	2.0	17.5	23.0	35.0	70
50	1.88	50	2.25	58	1,900	214	2,850	322	3.0	26.2	34.0	52.4	105
50HT	1.88	50	2.25	58	2,835	320	4,235	478	4.5	39.0	52.0	78.0	156
60	2.50	66	3.00	81	4,100	463	6,150	695	6.5	57.0	75.0	114.0	228
60HT	2.50	66	3.00	81	6,000	678	9,000	1 017	9.5	83.0	109.0	166.0	332
80	3.38	93	4.00	110	9,500	1 073	14,250	1 610	15.0	131.0	173.0	262.0	524
80HT	3.38	93	4.00	110	15,000	1 695	22,500	2 542	23.8	208.0	274.0	416.0	832
100	4.25	114	5.00	136	22,900	2 587	34,500	3 898	36.3	317.0	418.0	634.0	1,268
100HT	4.25	114	5.00	136	33,000	3 728	49,500	5 593	52.4	458.0	603.0	916.0	1,832

Note: ■ 1 indicates: The HP ratings listed are for drives with a Service Factor of 1.0. Refer to Chart 1 (page SP-10) for Application Service Factors. Further, the ratings are based on prime movers such as electric motors or turbines.

$$HP/100RPM = \frac{HP \times 100}{RPM}$$

$$T(Torque) = \frac{HP \times 63{,}025}{RPM}$$

$$HP = \frac{T \times RPM}{63{,}025}$$

Note: ■ Internal Combustion Engines: Deltaflex couplings are not recommended for direct connection to internal combustion engine drives.

DISCONTINUED

SP

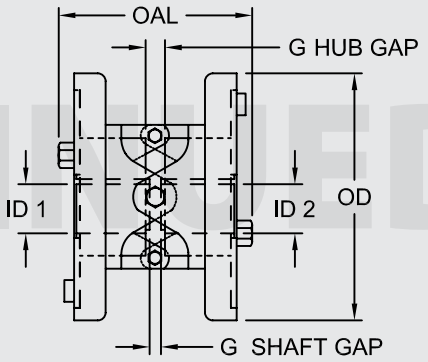
PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Type 1

Shaft to Shaft – Hubs Mounted Internally

This is the standard arrangement for most shaft to shaft applications. There are five basic coupling sizes in all types, each with a Standard and a High Torque (HT) Series. Both the Standard and the HT Series are dimensionally interchangeable.

Type 1 features the standard inner and outer flanges and delta hubs, which are triangular in shape to accommodate the delta flex-link pattern. The standard flanges are stamped steel, while the flex links in all Deltaflex couplings are precipitation-hardened (PH 17-7) stainless steel. Delta hubs are ductile iron, zinc clear dichromate-plated and available from stock in a variety of bore sizes. Every Deltaflex hub is standard with two set screws at 120°. Hub to flange (axial) and flange to flange (radial) hardware is SAE Grade 5. Stainless steel flanges with standard ductile iron delta hubs are available from stock as an option. Delta style hubs are not available in stainless steel.



Deltaflex Type 1 Dimensional Data

Size	OAL	G Hub Gap	ID1 - ID2 Max Bore		ID1 - ID2 Min RSB[1]		G Shaft Gap	OD	HP/100 RPM	Max Continuous Torque		Peak Overload Torque[2]		Angular[3]	Parallel[3]	Axial Freedom[4]	Moment of Inertia WR²	Max
	in	in	in	mm	in	mm	in	in	HP	in-lbs	Nm	in-lbs	Nm				lbs-in²	RPM[5]
40	3.51	0.29	1.375	35	0.438	11	0.12	4.38	1.2	750	85	1,125	127	6°	0.12	0.09	5.4	8,000
40HT	3.54	0.32	1.375	35	0.438	11	0.12	4.38	2.0	1,260	142	1,890	214	5°	0.12	0.09	5.4	8,000
50	4.83	0.71	1.875	48	0.438	11	0.18	6.18	3.0	1,900	215	2,850	322	6°	0.18	0.12	30.1	6,000
50HT	4.87	0.75	1.875	48	0.438	11	0.18	6.18	4.5	2,835	320	4,235	479	5°	0.15	0.12	30.1	6,000
60	6.22	1.23	2.500	64	0.750	19	0.18	7.25	6.5	4,100	463	6,150	695	6°	0.24	0.15	64.3	5,000
60HT	6.26	1.27	2.500	64	0.750	19	0.18	7.25	9.5	6,000	678	9,000	1 017	5°	0.21	0.15	64.3	5,000
80	7.52	1.02	3.375	86	1.375	35	0.25	9.62	15.0	9,500	1 074	14,250	1 610	6°	0.29	0.18	297.0	4,000
80HT	7.57	1.07	3.375	86	1.375	35	0.25	9.62	23.8	15,000	1 695	22,500	2 543	5°	0.25	0.18	297.0	4,000
100	9.74	0.58	4.250	108	1.750	44	0.31	12.75	36.3	22,900	2 588	34,500	3 899	6°	0.40	0.25	884.0	3,000
100HT	9.82	0.66	4.250	108	1.750	44	0.31	12.75	52.4	33,000	3 729	49,500	5 594	5°	0.35	0.25	884.0	3,000

Notes:
- 1 indicates: RSB hubs are furnished with two set screws at 120°, no keyway.
- 2 indicates: Peak Overload Torque = Torque that can be applied for short periods, such as shock loads, start up, etc.
- 3 indicates: See illustrations B & C on page SP-5 for combined maximum misalignment.
- 4 indicates: Axial Freedom is provided only for the purpose of system expansion or due to temperature changes or shaft flotation (such as with sleeve bearing motors).
- 5 indicates: Balancing is not required below 60% of maximum RPM.

DISCONTINUED

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Type 2

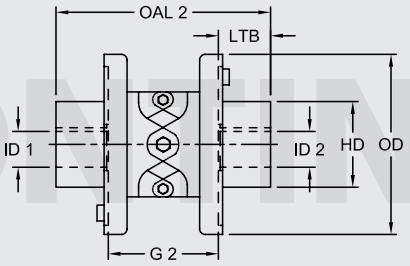
Shaft to Shaft – Hubs Mounted Externally

This arrangement is similar to Type 1 in that all components are the same, except the delta hubs are mounted outside the flanges. An optional version of the Type 2 uses round hubs mounted externally on both ends or on one end to accommodate larger bore requirements. Type 2 is available as a stock option with stainless steel flanges and stainless steel round hubs. Delta style hubs are not available in stainless steel.

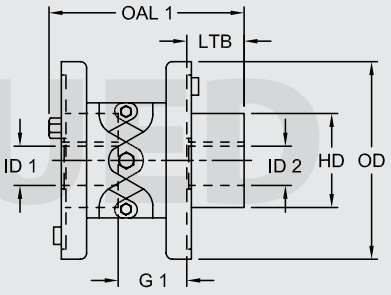
Type 2A

Shaft to Shaft – One Hub Mounted Externally, One Hub Mounted Internally

One hub is mounted on the inside of the flange and one hub is mounted on the outside. Round hubs cannot be mounted on the inside of the coupling. Type 2A is available as a stock option with stainless steel flanges. The internal hub would be ductile iron, while the external hub would be a stainless steel round hub. Delta hubs are not available in stainless steel.



Type 2



Type 2A

Deltaflex Type 2 and 2A Dimensional Data

Size	OAL1[1] in	OAL2[2] in	LTB in	ID1 - ID2 Max Bore Delta Hub in	mm	Max Bore Round Hub in	mm	Min Bore[1] Delta Hub in	mm	G1[3] in	G2[3] in	OD in	HD in	HP/100 RPM HP	Max Cont Torque in-lbs	Nm	Peak Overlaod Torque in-lbs	Nm	Max RPM
40	4.51	5.51	1.23	1.375	35	1.625	41	0.438	11	1.67	3.05	4.38	2.56	1.2	750	85	1,125	127	8,000
40HT	4.54	5.54	1.23	1.375	35	1.625	41	0.438	11	1.70	3.08	4.38	2.56	2.0	1,260	142	1,890	214	8,000
50	6.10	7.37	1.57	1.875	48	2.250	57	0.438	11	2.47	4.23	6.18	3.56	3.0	1,900	215	2,850	322	6,000
50HT	6.14	7.41	1.57	1.875	48	2.250	57	0.438	11	2.51	4.27	6.18	3.56	4.5	2,835	320	4,235	479	6,000
60	7.77	9.33	1.90	2.500	64	3.000	76	0.750	19	3.38	5.53	7.25	4.50	6.5	4,100	463	6,250	706	5,000
60HT	7.82	9.37	1.90	2.500	64	3.000	76	0.750	19	3.42	5.57	7.25	4.50	9.5	6,000	678	9,000	1 017	5,000
80	9.58	11.64	2.53	3.375	86	4.000	102	1.375	35	3.80	6.58	9.62	5.88	15.0	9,500	1 074	14,250	1 610	4,000
80HT	9.63	11.69	2.53	3.375	86	4.000	102	1.375	35	3.85	6.63	9.62	5.88	23.8	15,000	1 695	22,500	2 543	4,000
100	12.91	16.08	3.75	4.250	108	5.000	127	1.750	44	4.58	8.58	12.75	7.25	36.3	22,900	2 588	34,500	3 899	3,000
100HT	12.99	16.16	3.75	4.250	108	5.000	127	1.750	44	4.66	8.66	12.75	7.25	52.4	33,000	3 729	49,500	5 594	3,000

Notes:
- 1 indicates: Minimum Bore hubs are furnished with two set screws at 120°, no keyway.
- 2 indicates: OAL1 is overall length with one hub mounted externally; OAL2 is with both hubs mounted externally.
- 3 indicates: G1 is hub gap with one hub mounted externally; G2 is with both hubs mounted externally.
- For misalignment capabilities, see illustrations B and C on page SP-5, or Type 1 data on previous page. See page SP-11 for Performance Data.

DISCONTINUED

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Specialty Products
Deltaflex Type 3 Dimensional Data

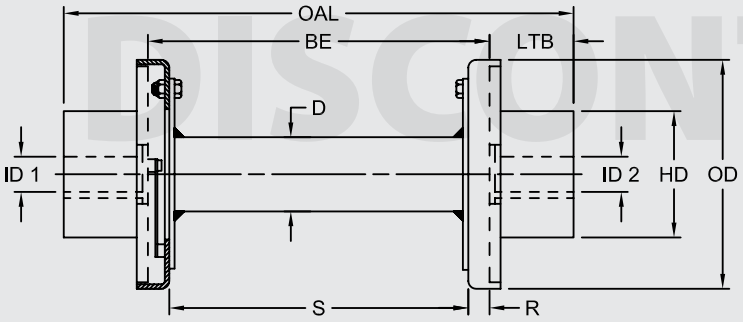
Type 3
Spacer Type

This arrangement is specifically designed for the pump industry and is available in a variety of industry standard shaft separations. The shaft center spacer drops out to facilitate easier maintenance of pump parts without disturbing the alignment of pump and motor. Spacer type couplings utilize either standard delta hubs or optional round hubs. The center member of the Deltaflex is captured by the construction of the spacer flanges for greater safety. Standard spacer drop out lengths are available to accommodate shaft separations of 3.50, 4.38, 5, 7, 10, 12 and 15 inches. Special spacer lengths and stainless steel spacer couplings are available as an option.

Deltaflex Floating Shaft Maximum Parallel Misalignment

Size	Dimensions in Inches at Max Span @ RPM 1750
40	2.50
40HT	2.00
50	3.00
50HT	2.50
60	3.25
60HT	3.00
80	4.00
80HT	3.50
100	4.25
100HT	4.00

Type 3 – Spacer and Floating Shaft



Deltaflex Type 3 Dimensional Data

Size	OAL in	BE in	LTB[4] in	D in	ID1 - ID2 Min Bore[1] Delta Hub in	ID1 - ID2 Min Bore[1] Delta Hub mm	ID1 - ID2 Max Bore Delta Hub in	ID1 - ID2 Max Bore Delta Hub mm	ID1 - ID2 Max Bore Round Hub in	ID1 - ID2 Max Bore Round Hub mm	S[3] in	R in	OD in	HD in	HP/100 RPM HP	Max Cont Torque in-lbs	Max Cont Torque Nm	Peak Overload Torque in-lbs	Peak Overload Torque Nm
40	See Type 3 on SP-15	See Type 3 on SP-15	1.34	1.50	0.438	11	1.375	35	1.625	41	See Type 3 on SP-15	0.50	4.38	2.56	1.2	750	85	1,125	127
40HT			1.34	1.50	0.438	11	1.375	35	1.625	41		0.50	4.38	2.56	2.0	1,260	142	1,890	213
50			1.68	2.00	0.438	11	1.875	48	2.250	57		0.81	6.18	3.56	3.0	1,900	215	2,850	322
50HT			1.68	2.00	0.438	11	1.875	48	2.250	57		0.81	6.18	3.56	4.5	2,835	320	4,235	478
60			2.03	2.62	0.750	19	2.500	64	3.000	76		0.94	7.25	4.50	6.5	4,100	463	6,250	695
60HT			2.03	2.62	0.750	19	2.500	64	3.000	76		0.94	7.25	4.50	9.5	6,000	678	9,000	1 017
80			2.66	3.50	1.375	35	3.375	86	4.000	102		1.00	9.62	5.88	15.0	9,500	1 074	14,250	1 610
80HT			2.66	3.50	1.375	35	3.375	86	4.000	102		1.00	9.62	5.88	23.8	15,000	1 695	22,500	2 543
100			3.88	4.38	1.750	44	4.250	108	5.000	127		1.25	12.75	7.25	36.3	22,900	2 588	34,500	3 899
100HT			3.88	4.38	1.750	44	4.250	108	5.000	127		1.25	12.75	7.25	52.4	33,000	3 729	49,500	5 594

Notes:
- 1 indicates: Minimum bore hubs are furnished with 2 set screws at 120°, no keyway.
- 3 indicates: S is the Spacer drop out or floating shaft length, S = BE-2(R).
- 4 indicates: LTB is the length through the hub bore. OAL is the overall length, OAL = BE + 2(LTB).
- BE is the distance between the ends of equipment shafts—please supply this dimension when placing orders, BE = OAL-2 (LTB), BE = S + 2 (R), BE < 18 inch = Spacer coupling (Type 3).

SP

PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Deltaflex Type 3 Additional Dimensional Data

Size	OAL		BE		S	
	in	mm	in	mm	in	mm
40/40HT	6.16	156	3.50	89	2.50	64
	7.03	179	4.38	111	3.38	86
	7.66	194	5.00	127	4.00	102
50/50HT	7.72	196	4.38	111	2.75	70
	8.34	212	5.00	127	3.38	86
	10.34	263	7.00	178	5.38	137
60/60HT	9.06	230	5.00	127	3.12	82
	11.06	281	7.00	178	5.12	130
	14.06	357	10.00	254	8.12	206
80/80HT	15.31	389	10.00	254	8.16	207
	17.31	440	12.00	305	10.16	258
100/100HT	19.75	502	12.00	305	9.50	241
	22.75	578	15.00	381	12.50	318

Deltaflex Type 4 Floating Shaft Coupling Maximum Span-Inch

Size	Max Span-BE		
	1750 RPM	1150 RPM	875 RPM
40/40HT	60	76	88
50/50HT	70	88	102
60/60HT	80	100	114
80/80HT	94	115	140
100/100HT	104	120	150

Note: ■ Consult Lovejoy Engineering for other RPM/Span applications.

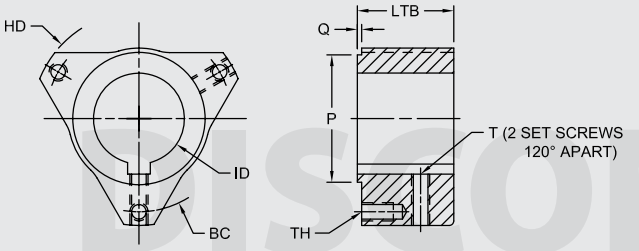
DISCONTINUED
DISCONTINUED
DISCONTINUED
DISCONTINUED

SP

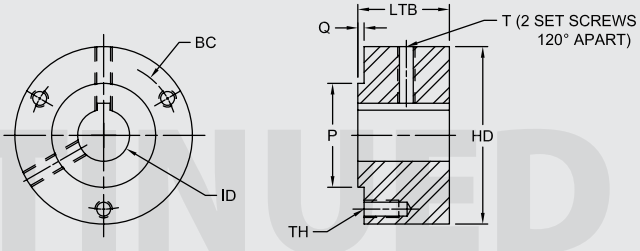
PLEASE NOTE: The Deltaflex product line is discontinued. Contact Lovejoy Customer Service on availability of component part items at CustomerService@lovejoy-inc.com. This page is for informational purposes only.

Specialty Products

ltaflex Delta and Round Hub Dimensional Data



Delta Hub



Round Hub

Deltaflex Delta and Round Hub Dimensional Data

Size	HD	ID						BC	LTB	Q	P	T	TH
		Min Bore[1] Delta Hub		Max Bore Delta Hub		Max Bore Round Hub						Set Screw	Axial Cap Screw Tap
	in	in	mm	in	mm	in	mm	in	in	in	in	in	in
40/40HT	2.56	0.438	11	1.375	35	1.625	41	2.12	1.34	0.09	1.498/1.500	1/4-20	1/4-20 x .62
50/50HT	3.56	0.438	11	1.875	48	2.250	57	3.08	1.68	0.09	1.998/2.000	1/4-20*	5/16- 18 x .75
60/60HT	4.50	0.750	19	2.500	64	3.000	76	3.88	2.03	0.12	2.623/2.625	3/8-16	3/8- 16 x .88
80/80HT	5.88	1.375	35	3.375	86	4.000	102	5.12	2.66	0.12	3.498/3.500	1/2-13	1/2- 13 x 1.00
100/100HT	7.25	1.750	44	4.250	108	5.000	127	6.32	3.88	0.12	4.373/4.375	1/2-13	5/8- 11 x 1.50

Notes:
- * indicates: In some bore sizes the tap is 5/8-18.
- Maximum bores are provided with standard keyway. RSB hubs do not have a keyway. Both Delta hubs and Round hubs are provided with two set screws at 120°.

Deltaflex Standard Bore Availability Chart

Size	0.438	0.625	0.750	0.875	1.000	1.125	1.250	1.375	1.500	1.625	1.750	1.875	2.000
40/40HT	D	S	S	S	S	S	S	S	R	R	N/A	N/A	N/A
50/50HT	D	S	S	S	S	S	S	S	S	S	S	S	R
60/60HT	N/A	N/A	D	S	S	S	S	S	S	S	S	S	S
80/80HT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D	N/A	S	S	S	S
100/100HT	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	D	S	S

Size	2.125	2.250	2.375	2.500	2.625	2.750	2.875	3.000	3.125	3.250	3.375	3.500
50/50HT	R	R	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
60/60HT	S	S	S	S	R	R	R	R	N/A	N/A	N/A	N/A
80/80HT	S	S	S	S	S	S	S	S	S	S	S	S
100/100HT	S	S	S	S	S	S	S	S	S	S	S	S

Size	3.625	3.750	3.875	4.000	4.125	4.250	4.375	4.500	4.625	4.750	4.875	5.000
80/80HT	R	R	R	R	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
100/100HT	S	S	S	S	S	S	R	R	R	R	R	R

Notes:
- S indicates: Standard hub, finished bores available from stock, two set screws @ 120° and standard keyway.
- R indicates: Round hub, finished bores available from stock, two set screws @ 120° and standard keyway.
- D indicates: Delta hubs, rough stock bores available from stock, two set screws @ 120°, no keyway.
- N/A indicates: Not Available.

DISCONTINUED

SP

Uniflex Coupling Design

Flexible Spring Type Coupling with Exclusive Triple Wound Spring Design

The Uniflex Coupling is an all steel, single piece coupling that solves a variety of application concerns including: high misalignment, space limitations, high temperature, and exceptionally low backlash/windup. The unique flexing center of the Uniflex consists of three opposingly wound square wire springs for forward or reverse operation. Two steel hubs are then brazed to the steel spring pack to create a durable one-piece flexible coupling.



Uniflex Triple Spring Coupling

Features

- This designed flexibility compensates for high degrees of shaft misalignment (up to 4.5° angular, up to .045 inches parallel)
- The one piece Uniflex is simple to install – nothing to replace, no wearing parts, and no lubrication needed
- The compact design provides a coupling that is smaller and lighter than most couplings of comparable torque ratings. It is also well suited for applications with inaccessible mounting locations
- All metal design means that the Uniflex can be used in applications where severe environmental concerns are a factor. Standard couplings withstand temperatures to 250° F (due to soldering); special designs to 600° F (stainless steel w/electron beam weld)
- The Uniflex is unaffected by oil, grease, dirt and most industrial chemicals

Uniflex Coupling Types

Four styles of Uniflex couplings are available: shaft-to-shaft, drop out, flange-to-flange and flange-to-shaft.



U Type

U Type

This is a durable one-piece flexible coupling for general purpose shaft-to- shaft applications. It is the basis for all Uniflex coupling types.



RRU Type

RRU Type

This design offers “quick disconnect” for drop out requirements. It can also accomodate a slightly larger shaft diameter than the standard U Type.



UF Type

UF Type

This flange-to-flange type is designed to connect flange mounted equipment to another flange while compensating for misalignment. It is also the center drop out section of the RRU Type.



UFH Type

UFH Type

A flange-to-shaft configuration, this couples flange mounted equipment to a shaft with all the benefits of Uniflex versatility. The stock flange plate is the same as used on the UF Type.

SP

Uniflex Coupling Selection Process

Once it is determined that the unique features of Uniflex meet your application, selection of the proper coupling depends on three factors: torque transmission, bore requirements, and RPM. When selecting a Uniflex coupling, the torque capability shown as maximum must not be exceeded. Nominal torque adjusted by an application service factor, start up torque, braking torque and any cyclic shock or peak torques inherent in the application must be considered.

Steps In Selecting A Uniflex Coupling

Step 1: Determine the Uniflex type or configuration from page SP-17.

Step 2: Calculate the nominal torque as T or nominal HP/100RPM

$$T\ (\text{in-lbs}) = \frac{(HP^* \times 63{,}025)}{RPM^*} \qquad HP/100RPM = \frac{HP^* \times 100}{RPM^*}$$

$$T\ (\text{Nm}) = \frac{(KW^* \times 9{,}550)}{RPM}$$

Note: ■ *Usually HP (KW) & RPM of prime mover, if the coupling is to be attached to the prime mover or if no speed or torque devices are between the driver and driven equipment.

Step 3: Determine the application service factor from page JW-8. Multiply the nominal torque by the application service factor to determine the total required torque.

Step 4: Select the size.

Step 5: Check to be sure the peak torque or maximum torque from starting, braking or cyclic peaks does not exceed the coupling maximum capability. For applications involving frequent starts and stops, refer to Lovejoy Engineering. NOTE: Diesel and gasoline engine drives usually require special considerations. Refer to Lovejoy Engineering.

Step 6: a. Check the coupling maximum bore capability versus the shaft to be used. If necessary, pick a larger size coupling to get the needed bore capacity.

b. Check the maximum speed.

c. Check any limiting dimensions.

Selection Example

A rolling device operates at 6,000 RPM and requires 15 HP. The driving shaft is 1.250 inches diameter and the roll shaft is 1.125 inches diameter. Select the proper U type shaft-to-shaft coupling. Occasional emergency stops impose 675 in-lbs of torque, otherwise the operation has no cyclic loading. Start up torque is 1/3 of emergency stopping torque. Rolls of various types typically have a 1.5 - 2.0 application service factor. Determine the nominal torque or HP/100RPM:

Step 1: $T = \frac{15 \times 63{,}025}{6{,}000} = 158$ in-lbs

$HP/100\ RPM = \frac{15 \times 100}{6{,}000} = 0.25$ HP/100 RPM

Step 2: Determine the Total Rated Torque:
Tr = 158 x 2.0 = 316 in-lbs

Maximum stopping torque = 675 in-lbs
Start up torque = 225 in-lbs

The U-125 coupling meets all the above requirements with the key item as the maximum stopping torque.

Step 3: The U-125 has a maximum bore capability of 1.250 inches, which covers the application driver shaft of the same size. The roll shaft is 1.125 inches, which is less than maximum.

Note: ■ Uniflex maximum bore sizes includes a standard keyway allowance.

SP

Uniflex Performance Data

Size	Wind Up At Max Torque[1]	Misalignment Capability								
		Max Angular Offset	Max Parallel Offset		Max Recommended End Play		Max Torque		HP/100	Max Speed
			in	mm	in	mm	in-lbs	Nm	RPM	RPM
18 Reg	1.80°	3.0°	0.008	0.20	0.010	0.25	18	2.0	0.03	30,000
25 Reg	1.80°	4.5°	0.011	0.28	0.020	0.51	34	3.8	0.05	30,000
37 Reg	1.78°	4.5°	0.014	0.36	0.020	0.51	39	4.4	0.06	30,000
50 Reg	1.82°	4.5°	0.021	0.53	0.035	0.89	82	9.3	0.13	30,000
62 Reg	0.85°	3.0°	0.019	0.48	0.035	0.89	126	14.2	0.20	20,000
75 Reg	1.82°	4.5°	0.028	0.71	0.040	1.02	175	19.8	0.28	20,000
87 Reg	1.68°	4.5°	0.035	0.89	0.040	1.02	346	39.1	0.55	10,000
100 Reg	1.03°	3.0°	0.030	0.76	0.040	1.02	565	63.8	0.90	6,000
125 Reg	1.85°	4.5°	0.044	1.12	0.040	1.02	755	85.3	1.21	6,000
137 Reg	1.85°	3.0°	0.035	0.89	0.040	1.02	1,260	142.4	2.02	6,000
150 Reg	0.85°	3.0°	0.041	1.04	0.040	1.02	1,890	213.5	3.02	3,000
25 Short	1.07°	3.0°	0.007	0.18	0.015	0.38	34	3.8	0.05	30,000
37 Short	1.09°	3.0°	0.009	0.23	0.015	0.38	39	4.4	0.06	30,000
50 Short	1.05°	3.0°	0.014	0.36	0.010	0.25	82	9.3	0.13	30,000
62 Short	0.85°	3.0°	0.019	0.48	0.020	0.51	126	14.2	0.20	20,000
75 Short	1.12°	3.0°	0.019	0.48	0.020	0.51	175	19.8	0.28	20,000
87 Short	1.17°	3.0°	0.024	0.61	0.020	0.51	346	39.1	0.55	10,000
100 Short	1.03°	3.0°	0.030	0.76	0.020	0.51	565	63.8	0.90	6,000
125 Short	1.22°	3.0°	0.030	0.76	0.020	0.51	755	85.3	1.21	6,000
137 Short	1.35°	3.0°	0.035	0.89	0.020	0.51	1,260	142.4	2.02	6,000
150 Short	0.85°	3.0°	0.041	1.04	0.020	0.51	1,890	213.5	3.03	3,000

Note: ■ 1 indicates: Total backlash is approximately 1/3 of windup at maximum torque – consult Lovejoy Engineering for more information.

SP

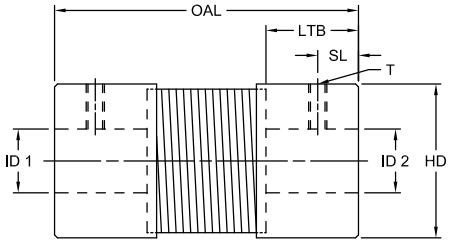
U Type Shaft-to-Shaft

The U Type is the basis for all Uniflex couplings. It is a shaft-to-shaft flexible coupling with a simple one piece design, making it ideal for indexing, robotic or positioning applications. The U Type consists of a triple-wound flexible steel spring brazed to a steel hub at each end. This all steel design ensures optimum equipment protection in severe environments and/or high temperature applications.

Regular and short versions are available for most sizes to accommodate different overall length requirements. Special hub or bore modifications are also possible. These units can be supplied with either pin holes or with keyways and set screws. Lovejoy does not recommend the reboring of uniflex couplings by customers due to potential damage to the brazed joint.



U-Type



Uniflex U Type Dimensional Data

Size	OAL[1] Reg in	OAL[1] Short in	LTB Reg in	LTB Short in	SL Pin Location Reg in	SL Pin Location Short in	Pin Size in	T Set Screw Per Hub Qty	T Set Screw Per Hub Size	ID1 - ID2 Min Bore in	ID1 - ID2 Min Bore mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	HD in	Weight lbs	Weight kg
U-18	1.00	—	0.31	—	0.16	—	3/32	1	6-32	0.125	3	0.250	6	0.61	0.09	0.04
U-25	1.50	1.00	0.38	0.32	0.16	0.16	3/32	1	6-32	0.125	3	0.313	8	0.73	0.10	0.05
U-37	2.06	1.65	0.52	0.52	0.25	0.25	3/32	1	10-24	0.250	6	0.375	10	0.86	0.27	0.12
U-50	2.50	1.82	0.64	0.50	0.31	0.31	1/8	1	1/4-20	0.313	8	0.500	13	1.04	0.36	0.16
U-62	2.72	2.28	0.84	0.62	0.38	0.38	1/8	1	1/4-20	0.313	8	0.625	16	1.42	0.78	0.35
U-75	3.31	2.72	0.84	0.84	0.41	0.41	1/8	1	1/4-20	0.375	10	0.750	19	1.42	0.82	0.37
U-87	3.50	2.91	0.84	0.84	0.44	0.44	3/16	1	1/4-20	0.438	11	0.875	22	1.73	1.40	0.63
U-100	4.12	3.56	1.29	1.00	0.56	0.56	5/16	1	1/4-20	0.438	11	1.000	25	2.11	2.60	1.18
U-125	4.88	3.75	1.28	1.10	0.62	0.62	5/16	1	3/8-16	0.625	16	1.250	32	2.17	2.74	1.24
U-137	5.25	4.12	1.58	1.01	0.69	0.69	3/8	1	3/8-16	0.625	16	1.375	35	2.54	4.00	1.81
U-150	6.28	5.00	1.88	1.72	0.81	0.81	3/8	1	3/8-16	0.750	19	1.500	38	2.98	8.00	3.63

Note: ■ 1 indicates: OAL Tolerance ± 1/8 inch.

SP

Uniflex U Type - Stainless Steel Dimensional Data

Size	OAL[1] Reg in	OAL[1] Short in	LTB Reg in	LTB Short in	SL Pin Location Reg in	SL Pin Location Short in	Pin Size in	T Set Screw Per Hub Qty	T Set Screw Per Hub Size	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	HD in	Weight lbs	Weight kg
U-18	0.95	—	0.31	—	0.16	—	3/32	1	6-32	0.250	6	0.60	0.09	0.04
U-25	—	0.97	—	0.41	—	0.16	3/32	1	6-32	0.313	8	0.62	0.10	0.05
U-37	—	1.68	—	0.68	—	0.25	3/32	1	10-24	0.313	8	0.75	0.27	0.12
U-50	—	1.80	—	0.58	—	0.31	1/8	1	¼-20	0.375	10	0.94	0.36	0.16
U-62	2.65	2.27	0.96	0.77	0.38	0.38	1/8	1	¼-20	0.500	13	1.25	0.78	0.35
U-75	—	2.65	—	0.96	—	0.41	1/8	1	¼-20	0.500	13	1.25	0.82	0.37
U-87	—	2.94	—	0.99	—	0.44	3/16	1	¼-20	0.750	19	1.69	1.40	0.63
U-100	4.09	3.55	1.41	1.13	0.56	0.56	5/16	1	¼-20	1.000	25	1.94	2.60	1.18
U-125	—	3.99	—	1.25	—	0.62	5/16	1	⅜-16	1.000	25	1.97	2.74	1.24

Note: ■ 1 indicates: OAL Tolerance ± 1/8 inch.

RRU Type – Dropout Style

The RRU Type Uniflex coupling is designed for fast, easy installation and removal without disrupting the connected shafts. This is ideal when servicing impellers, bearings and seals.

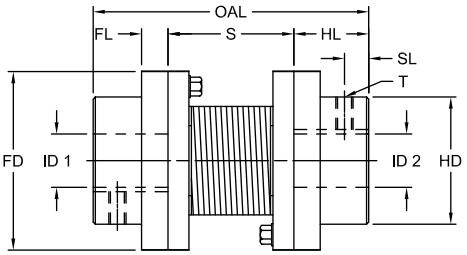
The design consists of two steel hubs fastened with cap screws to a Uniflex double flange coupling (UF Type). The RRU is easily disassembled by simply removing the cap screws and sliding out the UF center spring section.

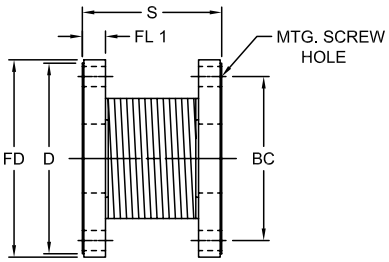


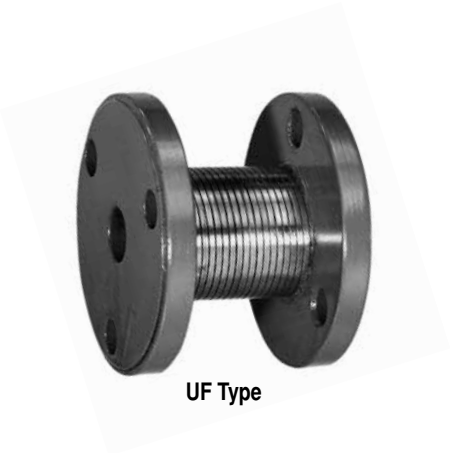
RRU Type

UF Type – Flange-to-Flange

This coupling is actually the center dropout section of the RRU Type, but it can be purchased separately for direct flange-to-flange mounting of the driving unit to the driven. The UF Type coupling compensates for high misalignment to protect connected equipment, yet it is also well-suited for applications which require negligible backlash or windup and reliability under high temperature conditions. Stock flange sizes are shown in the Dimensional Data table below, but other sizes can be provided to meet special mounting requirements.







UF Type

SP

Uniflex RRU and UF Type Dimensional Data

Size	HD	ID1 - ID2 Min Bore		ID1 - ID2 Max Bore		HL	FL	FL1	OAL[1]	D	FD	SL Pin Location	Pin Size	S[2]	BC	UF Type Mounting Screw[3]		RRU Type Set Screw Per Hub	
	in	in	mm	in	mm	in	in	in	in	in	in	in	in	in	in	Qty	Size	Qty	Size
RRU-50	2.00	0.375	10	1.000	25	1.00	—	0.25	3.52	1.88	2.00	0.50	1/8	1.56	1.50	3	1/4-20	1	1/4-20
RRU-75	2.50	0.375	10	1.250	32	1.25	—	0.38	4.27	2.38	2.50	0.62	1/8	1.81	2.00	3	1/4-20	1	1/4-20
RRU-87	2.87	0.438	11	1.375	35	1.38	—	0.38	4.84	2.75	2.88	0.69	3/16	2.12	2.25	3	1/4-20	1	1/4-20
RRU-100	2.31	0.438	11	1.375	35	1.38	0.50	0.38	4.90	3.12	3.25	0.44	5/16	2.18	2.68	3	5/16-18	1	1/4-20
RRU-125	2.75	0.625	16	1.625	41	1.62	0.50	0.50	5.84	3.56	3.68	0.56	5/16	2.62	3.12	3	5/16-18	1	3/8-16
RRU-137	3.25	0.625	16	1.875	48	1.88	0.50	0.50	6.53	4.25	4.38	0.69	3/8	2.81	3.75	3	3/8-16	1	3/8-16
RRU-150	3.75	0.750	19	2.125	54	2.12	0.62	0.50	7.66	5.00	5.38	0.82	3/8	3.44	4.38	4	3/8-16	1	3/8-16

Notes:
- 1 indicates: OAL Tolerance ± .19 inch.
- 2 indicates: UF Center Drop out Length Tolerance ± .12 inch.
- 3 indicates: Screws not supplied for UF.
- When ordering specify prefix RRU or UF; dimensions remain the same for either.
- See page SP-19 for Performance Data.

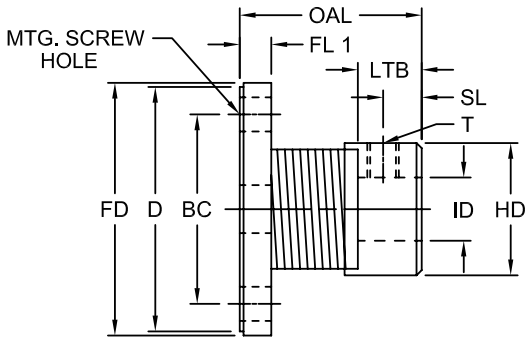
UFH Type – Flange-to-Shaft

The one-piece UFH Type coupling is similar to the U Type, except that one hub is replaced by a flange plate. Stock flange sizes are shown in the Dimensional Data table below but other sizes can be made to order. As with the other Uniflex styles, this coupling compensates for high degrees of angular and parallel misalignment with very little backlash or windup and is reliable in harsh or severe environments.

Regular and short versions are available for each size to accommodate different overall length requirements. For increased versatility, the hub can be modified with a tapered, spline, hex or square bore. The standard hub is furnished with either a pre-drilled pin hole or with a keyway and set screw. Specify when ordering.



UFH Type



Uniflex UFH Type Dimensional Data

Size	OAL[1] Reg in	OAL[1] Short in	FL[1] in	LTB Reg in	LTB Short in	SL Pin Location in	Pin Size in	T Set Screw Qty	T Set Screw Size	ID Min Bore in	ID Min Bore mm	ID Max Bore in	ID Max Bore mm	HD in	FD in	D in	BC in	Mounting Screw[2] Qty	Mounting Screw[2] Size
UFH-50	2.03	1.50	0.25	0.64	0.50	0.31	1/8	1	1/4-20	0.313	8	0.500	13	1.04	2.00	1.88	1.50	3	1/4-20
UFH-75	2.58	2.00	0.38	0.84	0.84	0.41	1/8	1	1/4-20	0.375	10	0.750	19	1.42	2.50	2.38	2.00	3	1/4-20
UFH-87	2.82	2.25	0.38	0.84	0.84	0.44	3/16	1	1/4-20	0.438	11	0.875	22	1.73	2.88	2.75	2.25	3	1/4-20
UFH-100	3.14	2.88	0.38	1.29	1.00	0.56	5/16	1	1/4-20	0.438	11	1.000	25	2.11	3.25	3.12	2.68	3	5/16-18
UFH-125	3.75	2.82	0.50	1.28	1.10	0.62	5/16	1	3/8-16	0.625	16	1.250	32	2.17	3.68	3.56	3.12	3	5/16-18
UFH-137	4.03	3.46	0.50	1.58	1.02	0.69	3/8	1	3/8-16	0.625	16	1.375	35	2.54	4.38	4.25	3.75	3	3/8-16
UFH-150	4.86	3.75	0.63	1.88	1.72	0.81	3/8	1	3/8-16	0.750	19	1.500	38	2.98	5.38	5.00	4.38	4	3/8-16

Notes:
- 1 indicates: OAL Tolerance ± .12 inch.
- 2 indicates: Screws not supplied.
- See page SP-19 for Performance Data.

Saga Coupling Design

Elastomeric Pre-compression Type

Saga is a general purpose, torsionally soft coupling with high tolerance to all forms of misalignment. The design features hexagonal or octagonal rubber donut-shaped elements with metal inserts positioned at each apex during the vulcanization process. These metal inserts carry actual bolts which fix the element to tines on cast, cylindrical hubs. Embedded inserts also have tines which connect with mating surfaces on hubs so that axial bolts can be easily torqued during assembly without twisting the rubber beyond the limits of its elasticity. The rubber between each apex is precompressed, so it is much more durable to the stresses arising from the various forms of misalignment and torsional vibrations.

While the Saga coupling is normally associated with shaft-to-shaft applications, adaptations for flange and flywheel mountings can be made. In addition, a floating shaft version for use in lieu of a universal joint drive shaft with separate torsional coupling is available. Its elements can also be stacked in series for use in applications with extreme transient or permanent parallel misalignment, or where torsional dynamics demand an extremely soft element for proper damping and/or vibratory decoupling. The rubber's stiffness of 60 as measured against Shore A by durometer, covers the majority of such situations.

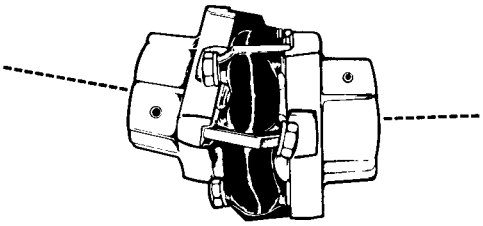
Features

- No end thrust in misalignment position
- Absorbs misalignment and shock
- No axial reaction force to damage or accelerate wear in system bearings
- Accepts constant angular misalignment of up to 3°
- Parallel tolerance of 0.060 (1.5mm), while reaction force remains low
- Lateral softness without complication, or sacrifice of performance or durability
- Natural rubber can operate in temperatures from -60° to 200° F (-51° to 93° C)

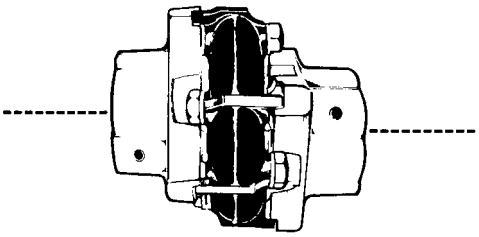
Note: ■ For applications requiring simultaneous angular and parallel misalignment, consult Lovejoy Engineering to ensure that heat generated from all three forms of stress do not exceed the coupling's ability to dissipate heat.



Saga Type



Angular Offset (Exaggerated)



Parallel Offset (Exaggerated)

SP

Steps In Selecting A Saga Coupling

Step 1: Establish torque or HP rating of the driver and operating and maximum RPM (for electric motors, these are essentially the same).

Step 2: Determine the horsepower 100 RPM:

$$\frac{\text{HP} \times 100}{\text{RPM}} = \text{HP per 100 RPM}$$

or establish driver torque at operating RPM.

Step 3: Using the Application Service Factor table (page JW-8) multiply torque or HP/100 RPM by the factor. Using the result, select a coupling from the Performance Data chart (page SP-24). The coupling's rating must be equal to or greater than adjusted HP/100 RPM or torque.

Step 4: Compare the maximum driver RPM to the Performance Data chart on page SP-24 to insure that the coupling's speed limit is not exceeded.

Step 5: Finally, determine shaft diameters of both driving and driven equipment and check them against maximum bore diameters from the Dimensional Data chart on page SP-24 to ensure that these values are not exceeded.

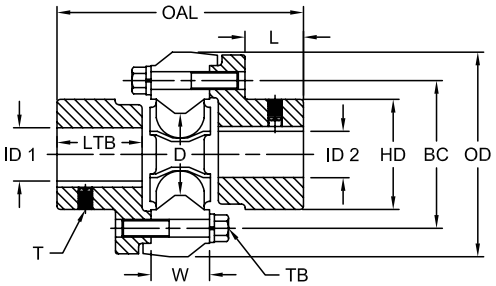
Saga Performance Data

Size	HP/100 RPM for 1.0 Service Factor	Rated Torque for 1.0 SF in-lbs	Rated Torque for 1.0 SF Nm	Max Shock Load in-lbs	Max Shock Load Nm	Dynamic Torsional Stiffness in-lbs/Deg	Dynamic Torsional Stiffness in-lbs/Rad	Specific Torsional Stiffness	Max Speed RPM[1]	Approx Weight lbs	Approx Weight kg	Moment of Intertia WR² lb in²
S-11	0.56	350	40	1,000	113	47	2,693	7.69	10,000	4.75	2.2	3.0
S-13	0.95	600	68	1,800	203	67	3,839	6.40	8,400	6.50	2.9	6.6
S-15	1.59	1,000	113	3,000	339	120	6,875	6.88	7,000	10.00	4.5	14.3
S-18	3.17	2,000	226	6,000	678	200	11,459	5.73	5,600	17.00	7.7	40.0
S-22	4.76	3,000	339	9,000	1 017	400	22,918	7.64	5,000	31.00	14.1	102.0
S-26	7.93	5,000	565	15,000	1 695	590	33,805	6.76	4,000	46.00	20.9	234.0
S-30	11.11	7,000	791	21,000	2 373	800	45,837	6.55	3,500	64.00	29.0	384.0
S-34	19.04	12,000	1 356	36,000	4 067	2,000	114,592	9.55	2,800	122.00	55.3	832.0

Note: ■ 1 indicates: For higher speeds, balancing may be necessary.

Saga Bolt Torque Data

Size	Bolt Grade No 5 Size	Recommended Torque Wet ft-lb	Wet Nm	Dry ft-lb	Dry Nm
S-11	5/16 - 18 x 1-3/4	13	18	17	23
S-13	3/8 - 16 x 2	23	31	30	41
S-15	3/8 - 16 x 2-1/2	23	31	30	41
S-18	1/2 - 13 x 3	55	75	75	102
S-22	5/8 - 11 x 3-1/4	110	149	150	203
S-26	3/4 - 10 x 4	200	271	260	353
S-30	3/4 - 10 x 4-1/2	200	271	260	353
S-34	3/4 - 10 x 4-1/2	200	271	260	353



SP

Saga Dimensional Data

Size	OAL in	L in	LTB in	D in	ID1 - ID2 Rough Stock Bore[2] in	ID1 - ID2 Rough Stock Bore[2] mm	ID1 - ID2 Max Bore in	ID1 - ID2 Max Bore mm	T Set Screw in	TB Bolt Grade No 5 Qty	TB Bolt Grade No 5 Size	W in	OD in	BC in	HD in
S-11	4.56	1.13	1.50	1.38	0.625	16	1.188	30	5/16-18	6	5/16 - 18 x 1-3/4	1.06	3.56	2.56	1.84
S-13	5.22	1.31	1.75	1.63	0.750	19	1.375	35	5/16-18	6	3/8 - 16 x 2	1.22	4.28	3.06	2.25
S-15	6.41	1.63	2.13	2.00	0.875	22	1.875	48	3/8-16	6	3/8 - 16 x 2-1/2	1.53	5.09	3.69	2.88
S-18	7.44	1.81	2.50	2.33	1.000	25	2.250	57	1/2-13	6	1/2 - 13 x 3	1.81	6.28	4.56	3.44
S-22	8.69	2.06	3.00	2.75	1.000	25	2.500	64	1/2-13	6	5/8 - 11 x 3-1/4	2.06	7.31	5.20	3.88
S-26	9.88	2.25	3.38	3.25	1.500	38	2.875	73	1/2-13	6	3/4 - 10 x 4	2.38	8.63	6.20	4.59
S-30	11.38	2.75	3.88	3.63	1.625	41	3.375	86	5/8-11	6	3/4 - 10 x 4-1/2	2.63	9.63	6.94	5.31
S-34	12.66	3.44	4.34	4.75	2.125	54	4.000	102	5/8-11	8	3/4 - 10 x 4-1/2	2.95	11.09	8.25	6.25

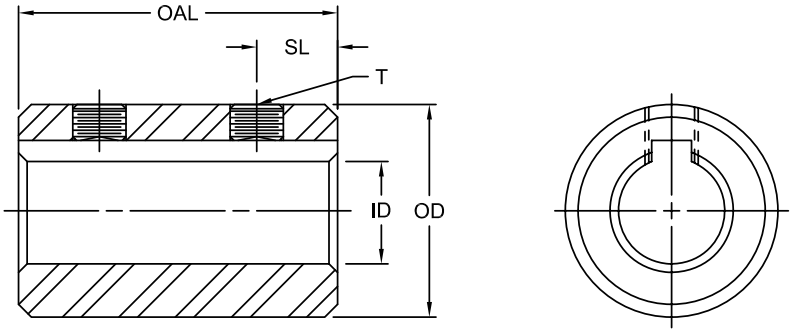
Notes: ■ 2 indicates: Standard bores available by 1/16 inch increments.
■ Some metric sizes also available as standard.

Rigid Sleeve Couplings

Lovejoy Rigid Sleeve couplings fit the standards of the industry. These couplings, the simplest type, provide a fixed union between two shafts which are precisely aligned. They are suitable for use in joining any two shafts when flexibility is not required, shaft alignment is maintained and proper bearing support is provided. Bore tolerances are -.000/+.002.



Rigid Sleeve



Rigid Sleeve Dimensional Data

Size	UPC Number	OAL in	SL in	T Bolt in	OD in	ID Max Bore in	ID Max Bore mm
SC-250	14322	0.75	0.19	8-32 x 1/8	0.50	0.250*	6
SC-312	14324	1.00	0.25	8-32 x 1/8	0.62	0.313*	8
SC-375	14326	1.00	0.25	10-24 x 3/16	0.75	0.375*	10
SC-500	14330	1.50	0.38	1/4-20 x 3/16	1.00	0.500	13
SC-625	14332	2.00	0.50	5/16-18 x 1/4	1.25	0.625	16
SC-750	14335	2.00	0.50	5/16-18 x 5/16	1.50	0.750	19
SC-875	14338	2.00	0.50	5/16-18 x 5/16	1.75	0.875	22
SC-1000	14343	3.00	0.75	3/8-16 x 3/8	2.00	1.000	25
SC-1125	14346	3.00	0.75	3/8-16 x 3/8	2.12	1.125	29
SC-1250	14349	4.00	1.00	3/8-16 x 3/8	2.25	1.250	32
SC-1375	14352	4.50	1.00	3/8-16 x 3/8	2.50	1.375	35

Notes:
- * indicates: These sizes do not have keyways.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

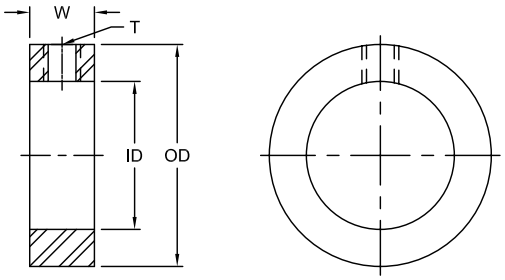
SP

Shaft Collars

Zinc Plated and Stainless Steel

Lovejoy shaft collars are precision machined for the best possible fit. Standard steel collars are made from highest quality cold finished steel bar stock and zinc plated for corrosion resistance and outstanding appearance. Stainless steel collars are made from type 303 stainless and include a stainless steel set screw. All Lovejoy shaft collars use socket cup point set screws for ease of installation and best possible holding strength. Made in USA.





Shaft Collar - Zinc and Stainless Dimensional Data

Size	UPC Number Zinc Plated	UPC Number Stainless	W in	T Set Screw in	OD in	ID Bore[2] in
LSC-2	17507	17557	1/4	6-32 x 1/8	3/8	1/8
LSC-3	17508	17559	1/4	8-32 x 1/8	7/16	3/16
LSC-4	17509	15761	5/16	10-24 x 1/8	1/2	1/4
LSC-5	17510	17563	5/16	10-32 x 3/16	5/8	5/16
LSC-6	17511	17565	3/8	1/4-20 x 3/16	3/4	3/8
LSC-7	17512	17567	7/16	1/4-20 x 1/4	7/8	7/16
LSC-8	17513	17569	7/16	1/4-20 x 1/4	1	1/2
LSC-9	17514	17571	7/16	1/4-20 x 1/4	1	9/16
LSC-10	17515	17573	1/2	5/16- 18 x 1/4	1-1/8	5/8
LSC-11	17516	17575	9/16	5/16-18 x 1/4	1-1/4	11/16
LSC-12	17517	17577	9/16	5/16-18 x 1/4	1-1/4	3/4
LSC-13	17518	17579	9/16	5/16-18 x 1/4	1-1/4	13/16
LSC-14	17519	17581	9/16	5/16-18 x 5/16	1-1/2	7/8
LSC-15	17520	17583	9/16	5/16-24 x 1/4	1-1/2	15/16
LSC-16	17521	17585	5/8	5/16-24 x 1/4	1-1/2	1
LSC-17	17522	17587	5/8	5/16-18 x 5/16	1-3/4	1-1/16
LSC-18	17523	17589	5/8	5/16-18 x 5/16	1-3/4	1-1/8
LSC-19	17524	17591	11/16	3/8-16 x 3/8	2	1-3/16
LSC-20	17525	17593	11/16	3/8-16 x 3/8	2	1-1/4
LSC-21	17526	17595	11/16	3/8-16 x 3/8	2-1/8	1-5/16
LSC-22	17527	17597	3/4	3/8-16 x 3/8	2-1/8	1-3/8
LSC-23	17528	17599	3/4	3/8-16 x 3/8	2-1/4	1-7/16
LSC-24	17529	17601	3/4	3/8-16 x 3/8	2-1/4	1-1/2
LSC-25	17530	17603	13/16	3/8-16 x 3/8	2-1/2	1-9/16
LSC-26	17531	17605	13/16	3/8-16 x 3/8	2-1/2	1-5/8
LSC-27	17532	17607	13/16	3/8-16 x 3/8	2-1/2	1-11/16
LSC-28	17533	17609	7/8	1/2-13 x 1/2	2-5/8	1-3/4
LSC-29	17534	17611	7/8	1/2-13 x 1/2	2-3/4	1-13/16
LSC-30	17535	17613	7/8	1/2-13 x 1/2	2-3/4	1-7/8
LSC-31	17536	17615	7/8	1/2-13 x 1/2	3	1-15/16
LSC-32	17537	17617	7/8	1/2-13 x 1/2	3	2
LSC-33	17538	—	7/8	1/2-13 x 1/2	3	2-1/16
LSC-34	17539	17621	7/8	1/2-13 x 1/2	3	2-1/8
LSC-35	17540	—	15/16	1/2-13 x 1/2	3-1/4	2-3/16
LSC-36	17541	17625	15/16	1/2-13 x 1/2	3-1/4	2-1/4
LSC-37	17542	—	15/16	1/2-13 x 1/2	3-1/4	2-5/16
LSC-38	17543	17629	15/16	1/2-13 x 1/2	3-1/4	2-3/8
LSC-39	17544	—	1	1/2-13 x 1/2	3-1/2	2-7/16
LSC-40	17545	17633	1	1/2-13 x 1/2	3-1/2	2-1/2
LSC-41	17546	—	1	1/2-13 x 1/2	3-3/4	2-9/16
LSC-42	17547	—	1-1/8	1/2-13 x 1/2	4	2-5/8
LSC-43	17548	—	1-1/8	1/2-13 x 1/2	4	2-11/16
LSC-44	17549	—	1-1/8	1/2-13 x 1/2	4	2-3/4
LSC-45	17550	—	1-1/8	1/2-13 x 1/2	4	2-13/16
LSC-46	17551	—	1-1/8	1/2-13 x 1/2	4	2-7/8
LSC-47	17552	—	1-1/8	1/2-13 x 1/2	4	2-15/16
LSC-48	17553	—	1-1/8	1/2-13 x 1/2	4	3

Notes:
- Bore Tolerance LSC-2 through LSC-16,+.003-.000 Bore Tolerance LSC-17 through LSC-48,+.003-.001.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

Shaft Collars

One-Piece

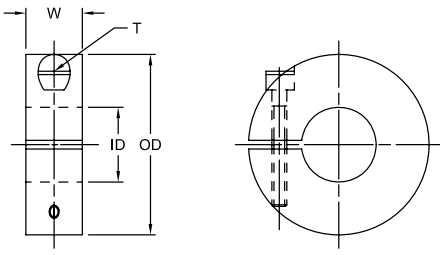
Lovejoy One-Piece split shaft collars are designed to fully engage the shaft without marring or causing other shaft damage. Collars are made from the highest quality bar stock steel and are black oxide finished for corrosion resistance and outstanding appearance. All Lovejoy shaft collars use socket cup point set screws for ease of installation and best possible holding strength.

Features

- Equally effective on both hard and soft shafts
- Made of 12L14 Mild Steel
- Hex Socket, Cup Point, 3A Thread Screws
- Made in the U.S.A.
- Tolerances:

  Bore Diameter - +.003, -.000 in
  Outside Diameter - +.000, -.015 in
  Width - + .015 in





One-Piece Split Shaft Collar

Shaft Collar - One Piece Dimensional Data

Size	UPC Number	W in	T Clamp Screw	OD in	ID Bore in
SC1-2	63200	5/16	4-40 x 3/8	11/16	1/8
SC1-3	63201	5/16	4-40 x 3/8	11/16	3/16
SC1-4	63202	5/16	4-40 x 3/8	11/16	1/4
SC1-5	63203	5/16	4-40 x 3/8	11/16	5/16
SC1-6	63204	3/8	6-32 x 3/8	7/8	3/8
SC1-7	63205	3/8	6-32 x 3/8	15/16	7/16
SC1-8	63206	3/8	6-32 x 3/8	1-1/8	1/2
SC1-9	63207	13/32	8-32 x 1/2	1-5/16	9/16
SC1-10	63208	7/16	10-32 x 1/2	1-5/16	5/8
SC1-11	63209	1/2	10-32 x 1/2	1-1/2	11/16
SC1-12	63210	1/2	1/4-28 x 5/8	1-1/2	3/4
SC1-13	63211	1/2	1/4-28 x 5/8	1-5/8	13/16
SC1-14	63212	1/2	1/4-28 x 5/8	1-5/8	7/8
SC1-15	63213	1/2	1/4-28 x 5/8	1-3/4	15/16
SC1-16	63214	1/2	1/4-28 x 5/8	1-3/4	1
SC1-17	63215	1/2	1/4-28 x 5/8	1-7/8	1-1/16
SC1-18	63216	1/2	1/4-28 x 3/4	1-7/8	1-1/8
SC1-19	63217	1/2	1/4-28 x 3/4	2-1/16	1-3/16
SC1-20	63218	1/2	1/4-28 x 3/4	2-1/16	1-1/4
SC1-21	63219	9/16	1/4-28 x 3/4	2-1/4	1-5/16
SC1-22	63220	9/16	1/4-28 x 3/4	2-1/4	1-3/8
SC1-23	63221	9/16	1/4-28 x 3/4	2-1/4	1-7/16
SC1-24	63222	9/16	1/4-28 x 3/4	2-3/8	1-1/2
SC1-25	63223	9/16	1/4-28 x 3/4	2-3/8	1-9/16
SC1-26	63224	11/16	5/16-24 x 1	2-5/8	1-5/8
SC1-27	63225	11/16	5/16-24 x 1	2-3/4	1-11/16
SC1-28	63226	11/16	5/16-24 x 1	2-3/4	1-3/4
SC1-30	63227	11/16	5/16-24 x 1	2-7/8	1-7/8
SC1-31	63228	5/8	5/16-24 x 1	3	1-15/16
SC1-32	63229	11/16	5/16-24 x 1	3	2
SC1-34	63230	3/4	5/16-24 x 1	3-1/4	2-1/8
SC1-35	63231	3/4	5/16-24 x 1	3-1/4	2-3/16
SC1-36	63232	3/4	5/16-24 x 1	3-1/4	2-1/4
SC1-38	63233	3/4	5/16-24 x 1	3-1/2	2-3/8
SC1-39	63234	3/4	5/16-24 x 1	3-1/2	2-7/16
SC1-40	63235	7/8	3/8-24 x 1-1/4	3-3/4	2-1/2
SC1-42	63236	7/8	3/8-24 x 1-1/4	3-7/8	2-5/8
SC1-43	63237	7/8	3/8-24 x 1-1/4	4	2-11/16
SC1-44	63238	7/8	3/8-24 x 1-1/4	4	2-3/4
SC1-46	63239	7/8	3/8-24 x 1-1/4	4-1/4	2-7/8
SC1-47	63240	7/8	3/8-24 x 1-1/4	4-1/4	2-15/16
SC1-48	63241	7/8	3/8-24 x 1-1/4	4-1/4	3

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

SP

Shaft Collars

Two-Piece

Lovejoy Two-Piece split shaft collars are designed to fully engage the shaft without marring or causing other shaft damage. Two piece collars are easily installed without the need for major disassembly, saving both man-hours and machine downtime.

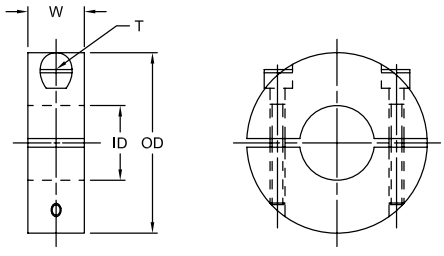
Collars are made from the highest quality bar stock steel and black oxide finished for corrosion resistance and outstanding appearance. All Lovejoy shaft collars use socket cup point set screws for ease of installation and best possible holding strength. Contact customer service for price and availability.

Features

- Equally effective on both hard and soft shafts
- Made of 12L14 Mild Steel
- Hex Socket, Cup Point, 3A Thread Screws
- Made in the U.S.A.
- Tolerances:

  Bore Diameter - +.003, -.000 in
  Outside Diameter - +.000, -.015 in
  Width - + .015 in





Two-Piece Split Shaft Collar

SP

Shaft Collar - Two Piece Dimensional Data

Size	UPC Number	W in	T Clamp Screw	OD in	Bore in
SC2-2	63242	5/16	4-40 x .375	11/16	1/8
SC2-3	63243	5/16	4-40 x .375	11/16	3/16
SC2-4	63244	5/16	4-40 x .375	11/16	1/4
SC2-5	63245	5/16	4-40 x .375	11/16	5/16
SC2-6	63246	3/8	6-32 x .375	7/8	3/8
SC2-7	63247	3/8	6-32 x .375	15/16	7/16
SC2-8	63248	3/8	6-32 x .375	1 1/8	1/2
SC2-9	63249	13/32	8-32 x .500	1 5/16	9/16
SC2-10	63250	7/16	10-32 x .500	1 5/16	5/8
SC2-11	63251	1/2	10-32 x .500	1 1/2	11/16
SC2-12	63252	1/2	1/4-28 x .625	1 1/2	3/4
SC2-13	63253	1/2	1/4-28 x .625	1 5/8	13/16
SC2-14	63254	1/2	1/4-28 x .625	1 5/8	7/8
SC2-15	63255	1/2	1/4-28 x .625	1 3/4	15/16
SC2-16	63256	1/2	1/4-28 x .625	1 3/4	1
SC2-17	63257	1/2	1/4-28 x .625	1 7/8	1 1/16
SC2-18	63258	1/2	1/4-28 x .750	1 7/8	1 1/8
SC2-19	63259	1/2	1/4-28 x .750	2 1/16	1 3/16
SC2-20	63260	1/2	1/4-28 x .750	2 1/16	1 1/4
SC2-21	63262	9/16	1/4-28 x .750	2 1/4	1 5/16
SC2-22	63263	9/16	1/4-28 x .750	2 1/4	1 3/8
SC2-23	63264	9/16	1/4-28 x .750	2 1/4	1 7/16
SC2-24	63265	9/16	1/4-28 x .750	2 3/8	1 1/2
SC2-25	63266	9/16	1/4-28 x .750	2 3/8	1 9/16
SC2-26	63267	11/16	5/16-24 x 1.000	2 5/8	1 5/8
SC2-27	63268	11/16	5/16-24 x 1.000	2 3/4	1 11/16
SC2-28	63269	11/16	5/16-24 x 1.000	2 3/4	1 3/4
SC2-30	63270	11/16	5/16-24 x 1.000	2 7/8	1 7/8
SC2-31	63271	5/8	5/16-24 x 1.000	3	1 15/16
SC2-32	63272	11/16	5/16-24 x 1.000	3	2
SC2-34	63273	3/4	5/16-24 x 1.000	3 1/4	2 1/8
SC2-35	63274	3/4	5/16-24 x 1.000	3 1/4	2 3/16
SC2-36	63275	3/4	5/16-24 x 1.000	3 1/4	2 1/4
SC2-38	63276	3/4	5/16-24 x 1.000	3 1/2	2 3/8
SC2-39	63277	3/4	5/16-24 x 1.000	3 1/2	2 7/16
SC2-40	63278	7/8	3/8-24 x 1.250	3 3/4	2 1/2
SC2-42	63279	7/8	3/8-24 x 1.250	3 7/8	2 5/8
SC2-43	63280	7/8	3/8-24 x 1.250	4	2 11/16
SC2-44	63281	7/8	3/8-24 x 1.250	4	2 3/4
SC2-46	63282	7/8	3/8-24 x 1.250	4 1/4	2 7/8
SC2-47	63283	7/8	3/8-24 x 1.250	4 1/4	2 15/16
SC2-48	83284	7/8	3/8-24 x 1.250	4 1/4	3

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown.

where the world turns for

Lovejoy®

Coupling Solutions

Universal Joints

In This Section:

- D Type
- HD Type
- D Type Stainless
- NB (Needle Bearing) Type
- LOJ Type
- DD and DDX Type
- Universal Joint Boots



U

Universal Joints

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Universal Joints

Table of Contents

	Running Page No.	Section Page No.
Overview	334	UJ-4
Pin & Block > Selection Process	335	UJ-5
Application Service Factors > Selection Data	336	UJ-6
D, HD and NB Type Running Curves > Selection Data	337	UJ-7
D and HD Type > Dimensional Data	338	UJ-8
D 303 Stainless and NB Type > Dimensional Data	339	UJ-9
DD and DDX Type > Dimensional Data	340	UJ-10
LOJ and JR-4 Types / Boots > Dimensional Data	341	UJ-11

UJ

Lovejoy Pin & Block and Needle Bearing Industrial Universal Joints

Lovejoy has been manufacturing industrial universal joints for over 45 years. Our industrial universal joint product line is well established and provides you with a wide range of standard and specialized products. The shape of the yoke is a special feature which results in exceptionally high strength, yet allows full, free movement of the joint. This accounts for the high horsepower capacity at high speeds.



D Type

Features

- Industry standard
- Stainless steel and needle bearing available
- 13 sizes
- Pin & Block design
- Boot retaining grooves standard



HD Type

D Type

- Standard pin and block design
- Ideal for applications up to 25° of angular misalignment and speeds up to 1,750 RPM



D Stainless

HD Type

- The HD Type universal joint has induction hardened yoke ears provide longer life than standard D Type

D303 Stainless

- D Type universal joint is made from 303 stainless material
- Ideal for corrosive atmosphere or where sanitation requirements are a factor



Needle Bearing Type

NB (Needle bearing) Type

- Designed with high quality, pre-lubricated, and sealed needle bearings
- Ideal for applications up to 25° of angular misalignment and speeds up to 6,000 RPM

LOJ and JR-4

- Offset pin design ideal for use on hand operated, low torque drives
- Capable for operating angles up to 45° of angular misalignment



LOJ Type

DD and DDX Types

- Designed with two Lovejoy D Type universal joints and a center connecting shaft
- DD and DDX Type universal joints are tailored to your specific application requirements

Universal Joint Boots

- The life of a universal joint can be extended substantially if booted
- Wear areas of the universal joint are protected from dirt and contaminants, while lubrication is retained



DD and DDX Type



Universal Joint Boot

WARNING

You must refer to page UJ-2 (Page 332) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Pin & Block Type Selection Process

List of Charts provided for Selection:

- Chart 1 – Application Service Factors (page UJ-6)
- Running Curves (page UJ-7)

Steps In Selecting A Universal Joint

Determine the correct universal joint size by working out the following calculations:

Step 1: Multiply revolutions per minute (RPM) by working angle.

Step 2: Determine the nominal torque of your application by using the following formulas:

$$\text{in-lbs} = \frac{\text{HP} \times 63025}{\text{RPM}}$$

$$\text{Nominal torque} = \text{Nm} = \frac{\text{KW} \times 9550}{\text{RPM}}$$

Step 3: Multiply the calculated torque by the desired Application Service Factor from Chart 1 on page UJ-6.

Step 4: Refer to the Running Curves on page UJ-7 that apply to the desired universal joint. For DD and DDX universal joints, use the curve that matches the universal joint being used. The required universal joint size can be determined by establishing the point of intersection of the RPM x Working Angle figure on the horizontal scale and the service factor torque of on the vertical scale. Size is stated against the curve immediately above this point.

Note: ■ Lubrication is required for optimal wear – boots and lubricant extend universal joint life.

Selection Example

A universal joint is needed to transmit a torque load of 180 in-lbs operating at 1,750 RPM. The working angle required is 5°, and the service factor is 2.

Step 1: RPM x Working Angle = 1,750 x 5 = 8,750

Step 2: Nominal Torque = 180 in-lbs

Step 3: Service Factor x Torque = 2.0 x 180 = 360

Step 4: Find the point of the intersection of 360 in-lbs on the torque scale (vertical) and 8,750 on the RPM x Working Angle scale (horizontal), and the curve immediately above that point will indicate the correct universal joint size. The proper universal joint size is D-13 or HD-13 for longer life.

Universal Joint Specification Chart

Universal Joint Type	Universal Joint Size	Max Angle Offset	Max Bore No Keyway Round		Max Square/ Hex Hole[3]		Max	Static Breaking* Torque	
			in	mm	in	mm	RPM	in-lbs	Nm
D-Type	D-1 to D-14	25°	2.00	50	1.38	35	1,750	65,400	7 389
HD-Type	D-1 to D-14	25°	2.00	50	1.38	35	1,750	65,400	7 389
D Stainless	D4, 6, 8, 10, 12	25°	1.19	30	1.00	25	1,750	10,400	1 175
Needle Bearing	D6, 8, 10, 12	25°	1.19	30	1.00	25	6,000	10,500	1 186
LOJ	LOJ6, 8, 10	45°	See Data	—	See Data	—	—	3,480	393
LOJ JR-4	JR-4	45°	See Data	—	See Data	—	—	180	20
Multi-spindle	D-1 to D-14	25°	2.00	50	1.38	35	1,750	65,400	7 389

Notes:
- ■ *** indicates: This is not a recommended operating torque.**
- ■ 3 indicates: Square and hex bores are measured across the flats.
- ■ Operation of all universal joints is determined by the angle/speed combinations of the application. Consult Lovejoy Engineering for specific limitations and recommendations.
- ■ Applications that fall outside the limitations of these tables should be referred Lovejoy Engineering for assistance.

UJ

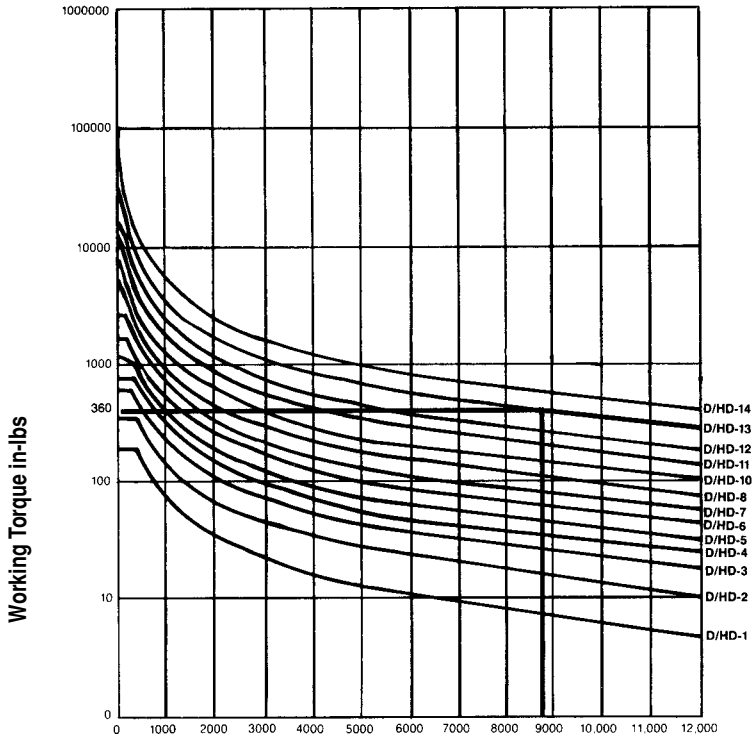
Application Service Factors — *Chart 1*

Agitators	
Pure Liquids	1.25
Liquids Variable	1.25
Barge Puller	2.00
Beaters	1.50
Blowers	
Centrifugal	1.25
Lobe	1.50
Vane	1.50
Can Filling Machinery	1.25
Car Dumpers	2.50
Car Pullers	1.50
Compressors	
Centrifugal	1.25
Lobe	1.50
Reciprocating	not recommended
Conveyors, Uniformly loaded or fed	
Assembly	1.25
Belt	1.25
Screw	1.25
Bucket	1.25
Live roll, shaker, and reciprocating	3.00
Conveyors (Heavy Duty), Not uniformly fed	
Assembly	1.20
Belt	1.20
Oven	1.20
Reciprocating	2.50
Screw	1.20
Shaker	3.00
Cranes & Hoists[1]	
Main Hoists	2.00
Reversing	2.00
Skip	2.00
Trolley Drive	2.00
Bridge Drive	2.00
Slope	2.00
Crushers	
Ore	3.00
Stone	3.00
Dredges	
Cable Reels	2.00
Conveyors	1.50
Cutter Head Drives	2.50
Maneuvering Winches	1.50
Pumps	1.50
Evaporators	
Consult Factory	1.25
Fans	
Centrifugal	1.25
Cooling Towers	2.00
Forced Draft	1.50
Induced Draft w/o Damper Control	2.00
Propellor	1.50
Induced Draft w/Damper Control	1.25
Feeders	
Belt	1.25
Screw	1.25
Reciprocating	2.50
Generators	
Not Welding	1.25
Welding	2.00
Hoist	1.50
Hammer Mills	2.00
Kilns	1.50
Laundry Washers	
Reversing	2.00
Line Shafting	
Any Processing Mach	1.50
Lumber Machinery	
Barkers	2.00
Edger Feed	2.00
Live Rolls	2.00
Planer	2.00
Slab Conveyor	2.00
Machine Tools	
Bending Roll	2.00
Plate Planer	2.00
Punch Press Gear Driven	2.00
Tapping Machinery	2.00
Other	
Main Drive	1.50
Aux. Drives	1.25
Metal Forming Machines	
Draw Bench Carriage	2.00
Draw Bench Main Drive	2.00
Extruder	2.00
Forming Machinery	2.00
Slitters	1.50
Table Conveyors	
Non-reversing	2.50
Reversing	2.50
Wire Drawing	2.00
Wire Winding	1.50
Coilers	1.50
Mills, Rotary Type	
Ball	2.00
Cement Kilns	2.00
Dryers, Coolers	2.00
Kilns	2.00
Pebble	2.00
Rolling	2.00
Tube	2.00
Tumbling	1.50
Mixers	
Concrete, Continous	1.75
Muller	1.50
Paper Mills	
Agitators (Mixers)	1.25
Barker, Mechanical	2.00
"Barking" Drum Spur Gear	2.50
Beater & Pulper	2.00
Calenders	1.50
Converting Machines	1.25
Conveyors	1.25
Dresses	2.00
Dryers	1.50
Jordans	2.00
Log Haul	2.00
Reel	1.25
Super Calenders	1.50
Winder	1.25
Printing Presses	1.50
Pug Mill	1.75
Pumps	
Centrifugal	1.25
Gear, Rotary, or Vane	1.25
Reciprocating	
1 cyl. single or double acting	2.00
2 cyl. single acting	2.00
2 cyl. double acting	1.75
3 or more cyl.	1.50
Rubber Machinery	
Mixer	2.50
Rubber Calender	2.00
Screens	
Air Washing	1.25
Rotary Stone or Gravel	1.50
Vibrating	2.50
Water	1.25
Grizzly	2.00
Shredders	1.50
Steering Gear	not recommended
Stokers	1.25
Textile Machinery	
Dryers	1.25
Dyeing Mach.	1.25
Tumbling Barrel	1.75
Windlass	2.00
Woodworking Machinery	1.50

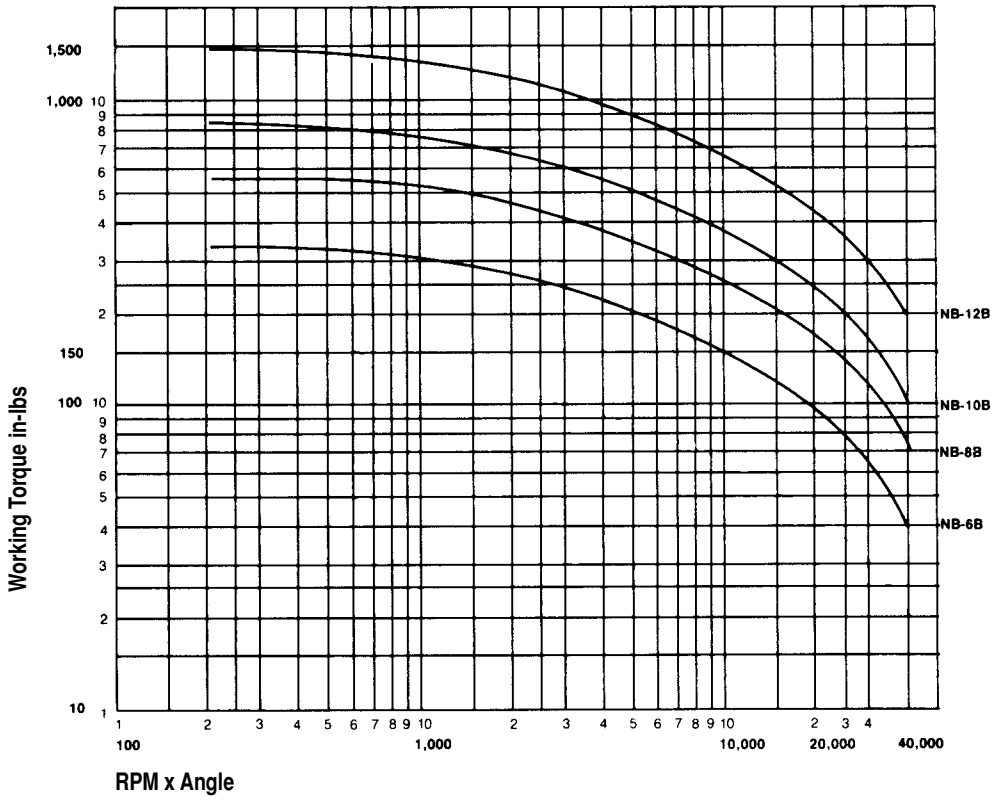
Notes:
- 1 indicates: If people are transported, Lovejoy does not recommend and will not warranty the use of the coupling.
- The values contained in the table should be used as a general guide.
- For above average shock loads or start/stop conditions of not more than once per hour, add .5 to the table value.
- Universal joints are not recommended for internal combustion engine applications.
- For severe shock loads or reversing loads, or start/stop conditions of more than once per hour, add 1 to the table value.

Running Curves

D and HD Type



NB Type



D Type

- Standard industrial type universal joint with pin & block design
- The D Type is ideal for applications with angles up to 25° and speeds of up to 1,750 RPM
- Available in your choice of round, hex, splined, or keyway bore
- Boot retaining grooves are standard. See page UJ-11 for selection of on-site replaceable universal joint boots
- Lubrication is required for optimal wear – boots and lubricant extend universal joint life



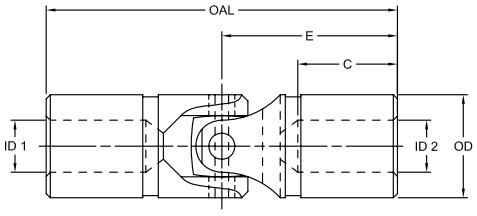
D Type

HD Type

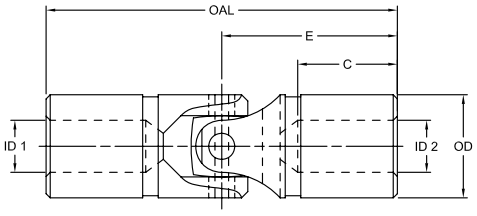
- The HD Type universal joint has induction hardened yoke ears provide longer life than standard D Type
- The hardened yokes are matched fitted with the universal components
- HDD and HDDX drive line assemblies can also be provided to increase life of your drive line or drive shaft
- Available in your choice of round, hex, splined, or keyway bore
- Boot retaining grooves are standard. See page UJ-11 for selection of on-site replaceable universal joint boots
- Lubrication is required for optimal wear – boots and lubricant extend universal joint life



HD Type



D Type



HD Type

D and HD Type Dimensional Data

Size		OAL	E	C	Std	ID1 - ID2						OD	Static*		Weight	
			Main Pin	Bore	Bore	Max Bore No Keyway		Max Bore with Keyway		Max Square/ Hex Hole[3]			Breaking Torque		Solid	Bored
Solid	Bored	in	Height in	Depth in	in	in	mm	in	mm	in	mm	in	in-lb	Nm	lbs	lbs
D-1	D-1B	1.75	.88	.56	.19	.25	6	–	–	.19	4	.38	110	12	.05	.04
D-2	D-2B	2.00	1.00	.62	.25	.38	9	–	–	.25	6	.50	378	42	.10	.08
D-3	D-3B	2.25	1.12	.68	.31	.50	12	–	–	.31	8	.62	540	61	.17	.15
D-4	D-4B	2.68	1.34	.88	.38	.62	15	.44	11	.38	9	.75	768	86	.30	.25
D-5	D-5B	3.00	1.50	.88	.44	.69	17	.50	12	.44	11	.88	1,176	132	.45	.37
D-6	D-6B	3.38	1.68	1.00	.50	.75	19	.56	13	.50	12	1.00	1,560	176	.65	.55
D-7	D-7B	3.50	1.75	1.00	.56	.88	22	.62	15	.56	14	1.12	2,880	325	.85	.71
D-8	D-8B	3.75	1.88	1.06	.62	1.00	25	.75	18	.62	15	1.25	5,220	589	1.11	.94
D-10	D-10B	4.25	2.12	1.18	.75	1.12	28	.88	21	.75	19	1.50	7,920	895	1.80	1.50
D-11	D-11B	5.00	2.50	1.38	.88	1.25	31	1.00	25	.88	22	1.75	10,680	1 206	3.00	2.50
D-12	D-12B	5.44	2.72	1.50	1.00	1.50	38	1.19	30	1.00	25	2.00	15,600	1 762	4.20	3.50
D-13	D-13B	7.00	3.50	2.00	1.25	1.75	44	1.50	39	1.12	28	2.50	33,120	3 742	8.50	7.20
D-14	D-14B	9.06	4.53	2.75	1.50	2.00	50	1.81	48	1.38	35	3.00	65,400	7 389	16.00	13.00

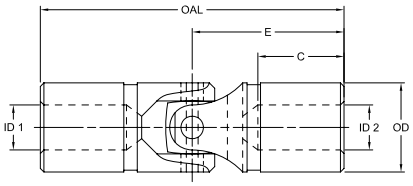
Notes:
- *** indicates: This is not a recommended operating torque.**
- 3 indicates: Square and hex bores are measured across the flats.
- Operation of all universal joints is determined by the angle/speed combinations of the application. Consult Lovejoy Engineering for specific limitations and recommendations.
- Applications that fall outside the limitations of these tables should be referred to Lovejoy Engineering for assistance.

D Type 303 Stainless

- Made from 303 stainless steel
- Ideal for applications with exposure to corrosive chemicals, corrosive atmosphere, or sanitation requirements are a factor
- Available in sizes: 4, 6, 8, 10 and 12 (Other sizes are quantity dependent)
- Available in your choice of round, hex, splined, or keyway bore
- Boot retaining grooves are standard. See page UJ-11 for selection of on-site replaceable universal joint boots
- Lubrication is required for optimal wear – boots and lubricant extend universal joint life
- Contact Lovejoy Engineering if you have specific questions or requirements



D-SS Type



D Type 303 Stainless Dimensional Data

Size Solid	Size Bored	OAL in	E Main Pin Height in	C Bore Depth in	Std Bore in	ID1 - ID2 Max Bore No Keyway in	mm	Max Bore with Keyway in	mm	Max Square/ Hex Hole[3] in	mm	OD in	Static* Breaking Torque in-lb	Nm	Weight Solid lbs	Bored lbs
D-4SS	D-4SSB	2.68	1.34	.88	.38	.62	15	.44	11	.38	9	.75	512	58	.30	.25
D-6SS	D-6SSB	3.38	1.68	1.00	.50	.75	19	.56	13	.50	12	1.00	1,040	117	.62	.55
D-8SS	D-8SSB	3.75	1.88	1.06	.62	1.00	25	.75	18	.62	15	1.25	3,480	393	1.11	.94
D-10SS	D-10SSB	4.25	2.12	1.18	.75	1.12	28	.88	21	.75	19	1.50	5,280	597	1.80	1.50
D-12SS	D-12SSB	5.44	2.72	1.50	1.00	1.50	38	1.19	30	.88	22	2.00	10,400	1 175	4.20	3.50

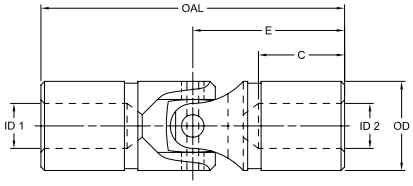
Notes:
- *** indicates: This is not recommended operating torque.**
- 3 indicates: Square and hex bore measured across the flats.
- Keyways, set screws, pin holes, or bores other than standard available at additional charge.
- Maximum operating angle for transmission of power is 25°.
- Applications that fall outside the limitations of these tables should be referred to Lovejoy Engineering for assistance.

Needle Bearing (NB) Type

- Designed with high quality, pre-lubricated, and sealed needle bearings
- Ideal for applications up to 25° of angular misalignment and speeds up to 6,000 RPM
- Available in sizes: 6, 8, 10 and 12 (Other sizes are quantity dependent) with your choice of round, hex, splined, or keyway bores
- Boot retaining grooves are standard. See page UJ-11 for selection of on-site replaceable universal joint boots
- Lubrication is required for optimal wear – boots and lubricant extend universal joint life



NB Type



Needle Bearing Type Dimensional Data

Size Solid	Size Bored	OAL in	E Main Pin Height in	C Bore Depth in	Std Bore in	ID1 - ID2 Max Bore No Keyway in	mm	Max Bore with Keyway in	mm	Max Square/ Hex Hole[3] in	mm	OD in	Static* Breaking Torque in-lb	Nm	Weight Solid lbs
NB-6	NB-6B	3.38	1.68	1.00	.50	.75	19	.56	13	.50	12	1.00	1,150	130	.53
NB-8	NB-8B	3.75	1.88	1.06	.62	1.00	25	.75	18	.62	15	1.25	2,500	282	.91
NB-10	NB-10B	4.25	2.12	1.18	.75	1.12	28	.88	21	.75	19	1.50	4,400	497	1.50
NB-12	NB-12B	5.44	2.72	1.50	1.00	1.50	38	1.19	30	1.00	25	2.00	10,500	1 186	3.40

Notes:
- *** indicates: This is not recommended operating torque.**
- 3 indicates: Square and hex bore measured across the flats.
- Maximum operating angle for transmission of power is 25°.
- For greater angular operation, use double universal joint. Join two universal joints back to back and connect with a short shaft. Attach universal joints to shaft by drilling and pinning.
- Swing Diameter is the maximum diameter over bearings, clearance must be allowed.

Double Joint Arrangement

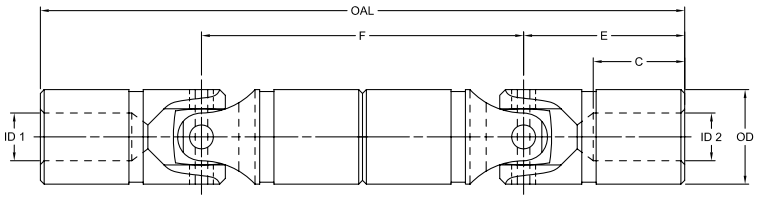
- Designed with two Lovejoy D Type universal joints and a center connecting shaft
- DD and DDX Type universal joints are tailored to your specific application requirements
- This configuration compensates for both parallel misalignment and shaft separation
- Round, hex, splined, or keyway bores are supplied per your requirements
- Boot retaining grooves are standard. See page UJ-11 for selection of on-site replaceable universal joint boots
- Lubrication is required for optimal wear – boots and lubricant extend universal joint life



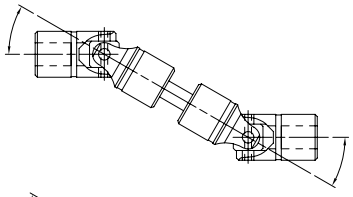
DD Type



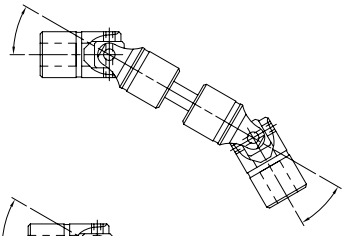
DDX Type



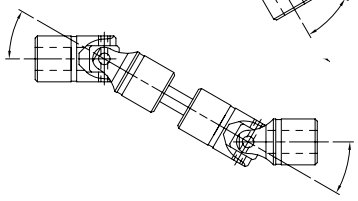
Correct Assembly
Yoke ears are aligned and angles are equal



Correct Assembly
Yoke ears are aligned and angles are equal



Incorrect Assembly
Yoke ears are not in alignment



DD and DDX Type Dimensional Data

Size		OAL	F		E	C		ID1 - ID2				OD			Weight
			Std	Min	Main Pin Height	Bore Depth	Std Bore	Max Bore No Keyway		Max Square/ Hex Hole[3]			Static* Breaking Torque		Solid
Solid	Bored	in	in	in	in	in	in	in	mm	in	mm	in	in-lb	Nm	lbs
DD-1	DD-1B	3.50	1.75	1.18	0.88	0.56	0.19	0.25	6	0.19	4	0.38	110	12.4	0.09
DD-2	DD-2B	4.00	2.00	1.38	1.00	0.62	0.25	0.38	9	0.25	6	0.50	378	42.7	0.18
DD-3	DD-3B	4.50	2.25	1.56	1.12	0.68	0.31	0.50	12	0.31	7	0.62	540	61.0	0.32
DD-4	DD-4B	5.38	2.68	1.81	1.34	0.88	0.38	0.62	15	0.38	9	0.75	768	86.8	0.55
DD-5	DD-5B	6.00	3.00	2.12	1.50	0.88	0.44	0.69	17	0.44	11	0.88	1,176	133.0	0.82
DD-6	DD-6B	6.75	3.38	2.38	1.68	1.00	0.50	0.75	19	0.50	12	1.00	1,560	176.0	1.20
DD-7	DD-7B	7.00	3.50	2.50	1.75	1.00	0.56	0.88	22	0.56	14	1.12	2,880	325.0	1.56
DD-8	DD-8B	7.50	3.75	2.68	1.88	1.06	0.62	1.00	25	0.62	15	1.25	5,220	590.0	2.05
DD-10	DD-10B	8.50	4.25	3.06	2.12	1.18	0.75	1.12	28	0.75	19	1.50	7,920	895.0	3.30
DD-11	DD-11B	10.00	5.00	3.62	2.50	1.38	0.88	1.25	31	0.81	20	1.75	10,680	1 207.0	5.50
DD-12	DD-12B	10.88	5.44	3.94	2.72	1.50	1.00	1.50	38	0.88	22	2.00	15,600	1 762.0	7.70
DD-13	DD-13B	14.00	7.00	5.00	3.50	2.00	1.25	1.75	44	1.12	28	2.50	33,120	3 742.0	15.70
DD-14	DD-14B	18.12	9.06	6.31	4.53	2.75	1.50	2.00	50	1.38	35	3.00	65,400	7 389.0	29.00

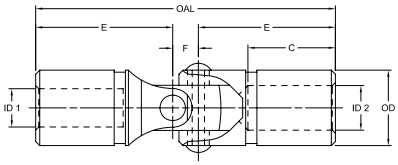
Notes:
- *** indicates: This is not recommended operating torque.**
- 3 indicates: Square and hex bore measured across the flats.
- Bores other than shown are available at additional charge.
- Shorter centers upon request.
- For universal joint boot dimensions, see page UJ-11.

LOJ and JR-4 Types

- Offset pin design ideal for use on hand operated, low torque drives
- Capable for operating angles up to 45° of angular misalignment
- Application examples: remote control linkages, snow blowers, packaging machinery, awning devices, etc.
- The LOJ available with round, hex, splined, or keyway bores
- The JR-4 is made of tough Zytel® material, so it will not rust and no lubrication needed
- The JR-4 withstands oils, gasoline, salts, and temperatures from -40° to 225° F
- The JR-4 is available in .38 inch bore only



LOJ Type



LOJ - JR-4

LOJ Type Dimensional Data

Size Solid	Size Bored	OAL in	F in	E Main Pin Height in	C Bore Depth in	Std Bore in	ID1 - ID2 Max Bore No Keyway in	ID1 - ID2 Max Bore No Keyway mm	ID1 - ID2 Max Bore with Keyway in	ID1 - ID2 Max Bore with Keyway mm	OD in	Pin OD in	Static* Breaking Torque in-lb	Static* Breaking Torque Nm	Weight Solid lbs	Weight Bored lbs
LOJ-6	LOJ-6B	2.94	0.25	1.35	0.75	0.50	0.62	15	0.44	11	0.75	0.88	840	95	0.30	0.25
LOJ-8	LOJ-8B	3.68	0.31	1.69	0.91	0.62	0.75	19	0.56	14	1.00	1.12	1,500	169	0.65	0.55
LOJ-10	LOJ-10B	3.75	0.38	1.69	1.00	0.75	1.00	25	0.75	19	1.25	1.44	3,480	393	1.11	0.94

Notes: ■ *** indicates: This is not a recommended operating torque.**
■ Maximum operating angle 45° for hand-operated applications.

JR-4 Type Dimensional Data

Size	OAL in	F in	E Main Pin Height in	C Bore Depth in	ID1 - ID2 Std Bore in	OD in	Pin OD in	Static* Breaking Torque in-lb	Static* Breaking Torque Nm
JR-4	3	0.31	1.34	0.62	0.38	0.68	1.18	160	20

Notes: ■ *** indicates: This is not a recommended operating torque.**
■ Maximum operating angle 45° for hand-operated applications.

Universal Joint Boots

- Protects the universal joint from dirt and contaminants, while lubrication is retained
- Lovejoy on-site replacement boots ensure proper lubrication for up to five times longer universal joint life
- Installation and replacement is fast and easy, so your machine can be back in operation in minutes
- Lovejoy universal joints D, D SS, DD, DDX, HD, and NB come pre-grooved
- Use the larger type diameter Upper Type boots when possible and smaller diameter Lower Type boots when space is restricted
- Standard boots are packaged two to a bag

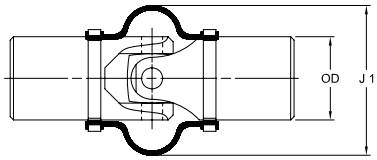
Boot Dimensional Data

Size	OD in	J1 Upper in	J2 Lower in
D-1	0.38	0.72	0.62
D-2	0.50	0.91	0.75
D-3	0.62	1.09	0.94
D-4	0.75	1.34	1.06
D-5	0.88	1.50	1.25
D-6	1.00	1.75	1.38
D-7	1.12	2.03	1.50
D-8	1.25	2.03	1.68
D-10	1.50	2.56	1.94
D-11	1.75	–	2.18
D-12	2.00	–	2.59
D-13	2.50	–	3.25
D-14	3.00	–	4.25

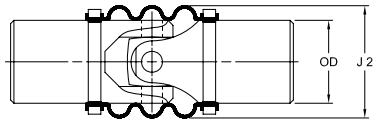


Universal Joint Boots

Note: ■ Boot sizes D-11 through D-14 have 3-hump design similar to Lower Type Boot (L). Not shown.



Upper Type Boot (U)



Lower Type Boot (L)

UJ

where the world turns for

Lovejoy®

Coupling Solutions

Variable Speed Drives

In This Section:

- Econoline Series
- Aluminoline Series
- WB Series
- Hi-Ratio Series
- Hexadrive Series
- Adjusta-Sheave Series
- Adjustable Motor Bases
- Companion Sheaves
- Belts



VSD

Variable Speed Drives

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

For variable speed drives, variable speed pulley rim speeds must never exceed 10,500 feet per minute. Companion pulley speeds beyond the ratings contained in this catalog are not recommended. For Fixed Center Drives, do not start until a torque arm bracket is installed. Failure to install torque arm bracket will cause torque arm to rotate rapidly and may cause severe injury from moving parts. Do not attempt to disassemble spring loaded pulley because parts may be thrown with sufficient force to cause injury or death.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

where the world turns for

Lovejoy®

Coupling Solutions

Variable Speed Drives

Table of Contents

	Running Page No.	Section Page No.
Overview	346	VSD-4
Adjustable Center > Selection Process	350	VSD-8
Fixed Center > Selection Process	351	VSD-9
Adjustable Center Example > Selection Process	352	VSD-10
Fixed Center Example > Selection Process	353	VSD-11
Quick Reference List > Selection Data	354	VSD-12
Econoline Series > Overview	356	VSD-14
Econoline Inch Bore / Keyway > Item Selection	357	VSD-15
Econoline Spring-Pulley > Dimensional Data	358	VSD-16
Econoline M Type > Item Selection	360	VSD-18
Econoline M and MLA Type > Item Selection	361	VSD-19
Econoline Fixed Center Bore / Keyway > Item Selection	362	VSD-20
Econoline Fixed Center Belts > Item Selection	363	VSD-21
Econoline Two Sided – Inch Bore / Keyway > Item Selection	364	VSD-22
Econoline Two Sided / Adjustable Center / Belts > Item Selection	365	VSD-23
Aluminoline > Overview	366	VSD-24
Aluminoline Models 145 and 145-HD > Item Selection	367	VSD-25
Aluminoline Models 160 and 160-HD > Item Selection	368	VSD-26
Aluminoline Models 170, 175 and 180 > Item Selection	369	VSD-27
WB Series > Overview	370	VSD-28
WB Models 245, 260 and 260-HD > Item Selection	371	VSD-29
WB Models 301E and 301E-HD > Item Selection	372	VSD-30
WB Models 3030E and 3030E-HD > Item Selection	373	VSD-31
WB Models 303E and 303E-HD > Item Selection	374	VSD-32
WB Models 401E, 402E and 403E > Item Selection	375	VSD-33
WB Models 3050E and 3050E-HD > Item Selection	376	VSD-34
WB Models 3075B, 3100B and 3150B > Item Selection	377	VSD-35
WB Models M-007, 245 and 260 > Item Selection	378	VSD-36
WB Models M-1, 301C and 301D > Item Selection	379	VSD-37
Models M-3, 3030C and 3030D > Item Selection	380	VSD-38
Hi-Ratio Series > Overview	381	VSD-39
Hi-Ratio Models M-14 and 1401 > Item Selection	382	VSD-40
Hi-Ratio Models M-19, 1902 and 1903 > Item Selection	383	VSD-41
Hi-Ratio Models M-23, 2303 and 2305 > Item Selection	384	VSD-42
Hexadrive Series > Overview	385	VSD-43
Hexadrive Models 11407 and 11401 > Item Selection	387	VSD-45
Hexadrive Models 11901, 11902 and 11903 > Item Selection	388	VSD-46
Hexadrive Models 12905 and 12907 > Item Selection	389	VSD-47
Hexadrive Models 13207, 13210, 13220 and 13230 > Item Selection	390	VSD-48
Hexadrive Models 14407, 14420 and 14430 > Item Selection	391	VSD-49
Hexadrive Models 121407 and 21401 > Item Selection	392	VSD-50
Hexadrive Models 21901, 21902 and 21903 > Item Selection	393	VSD-51
Hexadrive Models 22905 and22907 > Item Selection	394	VSD-52
Hexadrive Models 23207, 23210, 23220 and 23230 > Item Selection	395	VSD-53
Hexadrive Models 24407, 24410, 24420 and 24430 > Item Selection	396	VSD-54
Hexadrive Models M-007 and 21407 > Item Selection	397	VSD-55
Hexadrive Models HM-3, Pulleys C and Z > Item Selection	398	VSD-56
Hexadrive Models HM-7, Pulleys C and Z > Item Selection	399	VSD-57
Hexadrive Models HM-30, Pulleys C and Z > Item Selection	400	VSD-58
Hexadrive HEC > Dimensional Data	401	VSD-59
Hexadrive HLA > Dimensional Data	402	VSD-60
Adjusta-Sheave Series > Dimensional Data	403	VSD-61
Adjustable Motor Bases > Overview	404	VSD-62
Motor Base SMB > Dimensional Data	405	VSD-63
Motor Base Sliding Dove Tail Type > Overview / Dimensional Data	406	VSD-64
Companion Sheaves – Flat / Grooved > Overview / Dimensional Data	407	VSD-65
Companion Sheaves Grooved > Dimensional Data	408	VSD-66
Belts > Item Selection	409	VSD-67
Pulley Service Factors / Equations > Engineering Data	410	VSD-68

Why Vary Speed?

Variable speed drives are needed because many applications are not run at the same speed all of the time, due to the surrounding conditions. Revolutions Per Minute (RPM) of the driven shaft need to be increased or decreased when there are changes in load conditions, application requirements, or other circumstances.

Variable speed belt drives achieve the versatility needed to maximize application efficiency and productivity while remaining an inexpensive solution. In the most typical installation, a belt connects a variable speed pulley to a driven sheave. The pulley is mounted on a motor shaft and the motor is at constant speed. Thus, the speed at the driven shaft is a ratio of the pitch diameters of the pulley and sheave.

Note: ■ For this catalog, Lovejoy terminology will refer to any variable pitch pulley as a "pulley" and to any non-variable pulley as a sheave, driven sheave, or companion sheave.

The RPM at the driven shaft is found by the following simple equation:

$N_D = N_d \times d/D$

Where N_D is the RPM at the driven shaft
N_d is the RPM of the driving shaft
d is the pitch diameter of the driver
D is the pitch diameter of the driven

Since N_d is always a fixed RPM, it can then be seen that by changing the pitch diameter of either d or D, the driven RPM will change.

Common Mounting Methods

1) Adjustable Center Drives

This type of belt drive consists of one pulley and one sheave. The pulley is spring-loaded and is usually mounted on the driver shaft. The driver is most often an electric motor which is mounted on an adjustable motor base that can be moved toward or away from the driven sheave. The springs in the pulley take up any slack in the belt when an adjustment is made.

When the base is adjusted, moving the pulley toward the sheave, the RPM at the sheave increases. Likewise, when the base is adjusted away from the sheave, the RPM at the sheave decreases. In the photo at right (Adjustable Center V-V Drive), the drive is at its maximum speed position. This is called a V-V drive because the driven sheave is grooved. The pulley is called two-side moveable because it has two springs (one against each flange) and two moveable flanges.

Notice that the belt in the pulley is at the maximum pitch diameter, or "d" as mentioned in the previous equation. As the base is adjusted away from the sheave, "d" will decrease and the driven speed, N_D, will decrease proportionately.

The photos at right (Adjustable Center V-Flat Drive Maximum Speed Position and Adjustable Center V-Flat Drive Min. Speed Position) show a V-Flat drive, so called because the driven sheave is flat, not grooved. The pulley is called a one-side moveable type because it has only one spring and one moveable flange.

Note that in the Adjustable Center V-Flat Maximum Speed Position figure, the drive is at the maximum speed position, with the variable speed pulley flanges closed together and the belt at the maximum pitch diameter. As the motor base is adjusted to increase the center distance between the motor and the driven shaft, the moveable flange on the variable speed pulley opens to allow the belt to run at a smaller pitch diameter (Adjustable Center V-Flat Drive Minimum Speed Position).



Adjustable Center V-V Drive



Adjustable Center V-Flat Drive Maximum Speed Position



Adjustable Center V-Flat Drive Minimum Speed Position

Continued

WARNING

You must refer to page VSD-2 (Page 344) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Note that the axial position of the belt on the flat-faced companion sheave changes as the drive moves through the speed range. This illustrates the need for a flat-faced companion sheave when using a wide variable speed belt and a one-side moveable variable speed pulley.

The Adjustable Center Angle Mount Drive figure shows a more unusual mounting, with a one-side moveable pulley driving a grooved sheave. The motor base must be offset at an angle to keep the belt in line.

A typical Lovejoy adjustable center drive will have a speed ratio – that is, the range of speed at the driven sheave – from 1.6 to 1 up to 3.8 to 1. For example, with the right combination of pulley and sheave, you can attain a speed range at the driven sheave of 1,800 to 600 RPM, 3 to 1 speed ratio.

An alternate mounting method may be used when the spring-loaded pulley is mounted on the driven shaft, with the companion sheave mounted on the driver shaft. With this arrangement, the horsepower at the driven shaft is constant through most of the speed range, but the torque decreases in proportion to the pitch diameter of the belt in the spring-loaded pulley. Caution must be taken not to overspeed the driven variable speed pulley beyond 10,500 FPM (feet per minute) rim speed.

2) Fixed Center Drives

This method of mounting requires no change in center distance between the driver and driven units. Because the shaft center-to-center distance does not change, this is called a fixed center drive. The usual arrangement has one pulley, the driver, which is mechanically adjustable.

The adjustable pulley flanges are opened or closed mechanically, usually with a handwheel on the end of the pulley. The other pulley is spring-loaded and compensates for belt slack when the adjustable pulley is actuated.

When the adjustable driver pulley is fully opened, the belt is at its minimum pitch diameter. At the same time, the spring-loaded driven pulley is fully closed with the belt at its maximum pitch diameter. This results in the slowest possible driven speed. As the adjustable pulley flanges are closed together, the driver pulley pitch diameter increases while at the same time the spring-loaded pulley is forced by the drive belt to open. This results in a smaller pitch diameter at the driven member. The driven speed then increases until the adjustable pulley is fully closed and the spring-loaded pulley is fully open (the maximum speed position).

Speed change must always take place while the motor is running. The Fixed Center Drive figure shows a typical arrangement, with the adjustable pulley at minimum pitch diameter and the spring-loaded pulley at maximum pitch diameter. This is the minimum speed position.

Fixed center drives are used where space is limited and/or where a wider speed range is needed. They are sometimes called “compound drives” because the ratio of the two pulleys is compounded, resulting in a greater available driven speed range.

Speed ratios up to 11.5 to 1 are possible, but this is not necessarily in the form of a speed decrease. For example, with a 1,750 RPM motor and a Lovejoy HM-3/31901 drive package, the output speed at the driven pulley could be as high as 4,850 RPM.



Adjustable Center Angle Mount Drive



Fixed Center Drive

Horsepower vs. Torque

Adjustable center drives with the spring-loaded pulley as the driver are constant torque drives. That is, for each variable speed pulley and companion sheave combination, the torque at the sheave is constant. Horsepower decreases in proportion to RPM at the driven sheave.

Fixed center drives are constant torque from minimum speed to driver speed and constant horsepower from driver speed to maximum speed.

Notes:
- All Lovejoy pulleys and sheaves are balanced for operation at 1,750 RPM. Balancing for higher speed operation is available–consult our Engineering Department.
- Lovejoy variable speed pulleys are bored to fit standard NEMA motor shafts. Consult our Customer Service Department for availability of non-standard and metric bores.

Variable Speed Pulley Product Preview

Lovejoy offers the most complete line of non-enclosed variable speed belt drives from fractional through 30 horsepower. Each component is made with the quality and reliability that Lovejoy builds into all of its power transmission products.

Features

- Very economical and reliable method of speed change
- Allows the user to find the ideal speed without changing sheaves and belts. This is especially important on applications where final driven speed is critical and difficult to attain with two fixed-diameter sheaves. Speed range within the ratio is infinite, and speed change is accomplished quickly, while the drive is running
- Can be used as a highly efficient belt tensioner, with no adjustment necessary
- Offers a form of "soft start," eliminating belt slip and premature wear on belt drives with inherent high torque start-up requirements



Econoline Series

Econoline Series

The Econoline Pulley series provides reliable variable speed service with a proven design at an economical cost. Consisting of a wide selection of models, the Econoline series is ideal for both adjustable and fixed center drives using classic "A" and "B" (or 4L and 5L) section drive belts. This series also offers: driven speed ratios from 1.6 to 1 up to 2.7 to 1 and horsepower ranges from fractional through 5 HP @ 1,750 RPM motor speed.

The flanges are constructed of durable cast iron. Typical applications of this maintenance-free pulley include: conveyors, mixers, small machine tools, mower traction drives, printing equipment, packaging machines, and belt tensioners.



Aluminoline Series

Aluminoline Series

Aluminoline variable speed pulleys offer the best possible belt alignment with the least amount of overhung load. Used with "A" and "B" drive belts, these pulleys not only have anodized aluminum flanges which provide quiet operation with minimum vibration, but are rated for 1/3 through 1-1/2 HP motors. These two-side moveable pulleys offer greater speed ratios (up to 2.75 to 1).

Due to the corrosion-resistant properties of these pulleys, they are ideal for use on agricultural machinery, food packaging and bottling equipment, baseball pitching machines, and a variety of other products.

WB Series

Pulleys in the WB series use wide variable speed belts for the most efficient transmission of torque through the widest possible speed range. This two-side moveable pulley series offers the best possible belt alignment when used with a grooved companion sheave. WB pulleys provide maximum service when lubricated through a convenient grease fitting and offer sizes ranging from 6 to 13 inches in diameter, with the largest model capable of 15 HP. All models greater than 1 HP feature durable cast iron flanges (Models 245 and 260 are made with lightweight, corrosion-resistant anodized aluminum flanges).

These pulleys can be used on both adjustable and fixed center drives. Typical applications include: conveyors, printing presses, mixers, packaging and bottle-filling machines, machine tools, and agricultural equipment.



WB Series

Hi-Ratio Series

Hi-Ratio drives provide the unique combination of broader driven speed ranges and lowest possible minimum driven speed. Three drive packages are available, with horsepower ranges from 1/2 to 5, with a 1,750 RPM motor, and speed ratios up to 11.5 to 1. They are ideal for use on machine tools and mixing machinery.



HI-Ratio Series

Hexadrive Series

Hexadrive pulleys are the most durable variable speed pulleys available. The hexagon-shaped center shaft efficiently transmits torque through the six hex flats for top performance and long life. The surface of the shaft is covered with a resilient elastomer, which means there is no metal-to-metal contact on any sliding surface and lubrication is not necessary.

These pulleys are available in adjustable or fixed center drives and come in two styles: one-side moveable for V-Flat drives, and two-side moveable for V-V drives. Flanges are made of cast iron to provide a long-wearing belt contact area. These pulleys provide size ranges from 6 inches up to 12.5 inches in diameter, and a maximum rating of 30 HP @ 1,750 RPM.

Some typical applications include: agricultural equipment, food packaging machines, air handling systems, textile spinning frames, mixers, pumps, machine tools, and foundry snag grinders.



Hexadrive Series

Adjusta-Sheave Series

The Lovejoy Adjusta-Sheave can be a cost-saving alternative to a spring-loaded pulley when speed change is infrequent. To change speeds, the drive must be shut down (unlike other variable speed pulleys). All models use wide variable speed belts.

The Adjusta-Sheave design eliminates the need for internal drive keys, thus providing more efficient transfer of power and longer life. The two cast iron flanges are moveable, allowing perfect belt alignment at all times. Four models are available with ranges from 5 through 30 HP and speed ratios up to 2.5 to 1. Typical applications include: textile spinning frames, heating and air conditioning equipment, pumps, etc.



Adjusta-Sheave Series

Factors to Consider

Torque and Horsepower:

Variable speed drives with constant torque loads can usually be selected by matching the variable speed pulley rating to that of the driver. Drive selection begins by matching the HP ratings, but final selection is based on torque, HP and RPM at the driven sheave. The application charts in this catalog specify driven speeds and torque ratings at the driven sheave for each pulley/sheave combination.

Driven Speed Range (Ratio)

As a general rule, an adjustable center drive can attain a maximum driven speed ratio of 3 to 1. Most fixed center drives can attain ratios as high as 8 to 1, but part of the driven speed range is faster than the motor speed. In all cases, pulleys that use variable speed belts will provide greater speed range than those using "A" or "B" belts.

Space

In some cases the amount of available space will determine the size of the pulley and whether to use an adjustable or fixed center drive.

Maintenance

Econoline and Hexadrive pulleys are virtually maintenance-free. They do not require lubrication or frequent speed change. Aluminoline and WB pulleys require lubrication and occasional cycling through the speed range for best results.

Retrofit

When replacing a variable speed pulley made by another manufacturer, it is important to select a Lovejoy pulley that is the same style, uses the same size belt and is as close as possible to the same diameter. The Quick Reference List on VSD-12 provides this information at a glance. If you need help with a pulley interchange, call our Customer Service Department.

Belt Selection

Wide variable speed belts offer several advantages over stock "A" and "B" (or 4L and 5L) belts and should be considered for all variable speed pulley drives. Variable speed belts are designed to operate over small pitch diameters, offer a broader speed range and form themselves to the pulley faces at all speeds.

Shaft Sizes

Lovejoy variable speed pulleys are bored to fit standard NEMA motor shafts. The bore range for each model corresponds to its horsepower rating. Consult our Customer Service Department for availability of non-standard and metric bores. Companion sheaves are bored for bushings for ease of installation, optimum performance, and availability of product.

Steps An Selecting An Adjustable Center Belt Drive

There are two common selection processes; one is for designing an entire drive package, the other to select a replacement component part of an existing drive, such as the variable speed pulley. It is important to understand the complete drive selection process in order to do either. First, review the "factors to consider" and the selection examples on this page. Then follow these procedures:



Typical Adjustable Center Drive

Designing a Complete Drive Package

Step 1: Match the variable speed pulley with the motor horsepower and speed, but consider the torque and HP required at the driven shaft at all speeds. If actual torque and HP requirements are not known, rely on the fact that variable speed pulley ratings are compatible with the torque of the driver. Apply a service factor if needed.

Step 2: Detailed drive selection data can be found on pages associated with the pulley that has been selected. Be sure the bore capacity of the pulley is suitable for your application.

Step 3: Refer to the Application chart that applies to the pulley you have chosen and select a companion sheave that suits the driven speed requirement. If more than one sheave will provide the correct speed range, select the largest one possible. This will provide the greatest amount of torque. (Lovejoy only supplies companion sheaves for wide variable speed belts.) You will also need to check the correct style bushing, bored to the driven shaft size to fit the sheave (see page SF-17). With the Econoline and Aluminoline series, the selection chart merely indicates the pitch diameter of the sheave you need to use.

Step 4: Use the selection chart for the pulley/sheave combination you have chosen to find the distance between motor shaft and driven shaft (center distance) that is nearest your requirement. This will be the center distance at maximum speed position, or the point at which the motor shaft and driven shaft are closest together. Space must be provided in the machine to allow the center distance to be increased enough to attain the complete speed range. When you have found the center distance in the chart, read up or across to select the correct drive belt. Lovejoy only supplies variable speed belts. With the Econoline and Aluminoline pulley series, our selection charts will specify the pitch length of the correct V-belt to use.

Step 5: Select a suitable motor base from the catalog page for the pulley you have selected, or by reviewing the information on pages VSD-62 through VSD-64. You will need to know the NEMA motor frame size for this step.

For a complete adjustable center drive package, you will need a variable speed pulley, an adjustable motor base, a companion sheave with a bushing, and a drive belt. Be sure to specify the bore sizes for the variable speed pulley and the bushing (see page SF-17).

Replacing a Drive Component

Please keep the above steps in mind, even though they won't all apply.

Replacing a Variable Speed Pulley

Step 1: Use the Quick Reference List on page VSD-12 and VSD-13 to narrow down your choices based on the information you have. For example, if you know the pulley diameter and belt size, check the appropriate columns in the list and pick out all models that match.

Step 2 Check the dimensional and performance details from the appropriate catalog page for the models you selected to find the best choice. In all replacement decisions, it is very important to consider the pulley style – 1, 2, or 3 (see page VSD-12) to get the best possible fit to the existing drive. Do NOT try to use a Lovejoy variable speed pulley with a belt that is not designed to drive. You will not attain the advertised speed range, and you may experience premature wear.

Replacing a Companion Sheave

Step 1: For a grooved sheave, determine the outside diameter of the sheave and the belt size. For a flat-faced sheave, measure the outside diameter and the face width.

Step 2: Select the correct sheave from catalog pages VSD-65 and VSD-66.

Step 3: Replace the bushing (see page SF-17).

Replacing an Adjustable Motor Base

Step 1: Determine the NEMA motor frame size or motor foot-mount dimensions.

Step 2: Select the correct base from the catalog pages VSD-62 through VSD-64. If it is NOT a Lovejoy base that is being replaced, be aware that the base mounting bolt locations may not match, and new holes may need to be drilled to mount the Lovejoy base to the machine.

Step 3: Check overall dimensions to be sure the base will fit the allotted space.

Selecting a Fixed Center Belt Drive

To select a fixed center package, it is necessary to know the following information:

- Horsepower and RPM of driver unit.
- Required speed range at the driven shaft.
- Torque requirement at the driven shaft.
- Shaft center-to-center distance.
- Driver AND driven shaft sizes.
- The relationship between driver and driven shafts (C vs. Z mount). Refer to the drawing below.

Lovejoy makes four types of fixed center drives: Econoline, WB, Hexadrive, and Hi-Ratio. The proper series to use depends on the horsepower rating, the required speed range, and the belt preference, as well as space and economic considerations. Once you have the information listed above and have selected the appropriate series, use the following procedure:



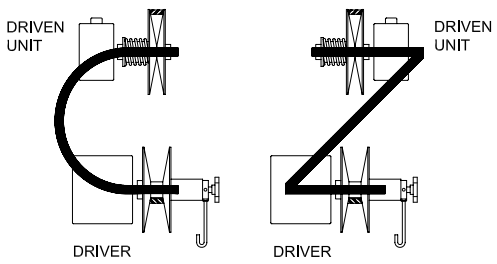
Typical Fixed Center Drive

Step 1: Using the horsepower, driver speed, and required driven speed range information from above, select the appropriate series from Econoline, WB, Hi-Ratio, or Hexadrive.

Step 2: Select the correct manual driver pulley by choosing the model that is rated for your motor HP and speed. Be sure the pulley comes with a bore size that fits your motor shaft. Contact Lovejoy Customer Service for the availability of non-standard bores.

Step 3: Using the application chart for the pulley you have selected, choose a driven spring-loaded pulley that will handle the HP and torque requirement. Note that all Lovejoy fixed center drives are rated as constant horsepower from the base speed (motor speed) to the maximum driven speed. They are constant torque drives from base speed down to minimum driven speed. The ratings shown are those at the driven pulley.

Continued



C and Z Mounting

IMPORTANT: Be sure to specify the correct driven pulley for the mounting arrangement. For example, you need to specify an "R" suffix (for reverse mount) with the Econoline Series spring-loaded pulley if it is a "C" mount. Also check to be sure the driven pulley is available in the bore size that will fit the driven shaft.

Step 4: Using the shaft center-to-center distance from "d", select the correct drive belt from the Selection Chart. The center distance between the shafts must be held to the correct distance for the drive belt that is used in order to attain the published speed range. Drive belts are available only in certain lengths, so the center distance may need to be altered from the original design in order to suit the best available belt. If you have a center distance that is not shown in the chart, refer to the formulas in the Variable Speed Engineering Data on page VSD-68, or call Lovejoy Engineering for assistance in calculating the correct center distance.

Step 5: Specify the Lovejoy Model 501 Torque Arm Bracket to prevent rotation of the manual pulley handwheel so that it can be adjusted while the motor is running. This item is NOT required for MLA or HLA driver pulleys.

Step 6: For remote control or linear actuation of the manual pulley, refer to the appropriate section in the Econoline (MLA), Hi-Ratio, or Hexadrive (HEC, HLA) section of this catalog.

Selection Examples: Adjustable Center Drives

WB Series Selection Example

A belt conveyor application requires a drive with a 2.8 to 1 speed ratio. The drive will consist of a variable speed belt drive, a speed reducer, and a chain drive from the reducer to the conveyor head pulley. The input speed range to the reducer must range from 370 to 1,050 RPM. The motor is 1 HP @ 1,150 RPM, with a NEMA 145T frame and 7/8 inch shaft. The torque into the reducer must be 50 in-lb. Center distance between the motor shaft and the reducer input shaft is about 15 inches.

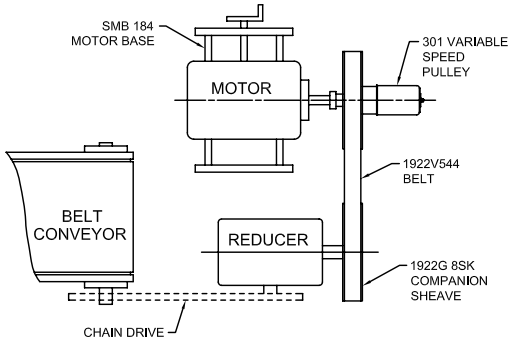
Step 1: The WB series is chosen to fit into existing motor belt guards and motor mounts (see page VSD-30).

Step 2: For 1 HP @ 1,150 RPM, the Model 301E variable speed driver pulley with a 7/8 inch bore (to fit the motor shaft) is selected.

Step 3: From the Driven Sheave Selection chart for the Model 301E pulley, the 1922G8SK should be used because it offers a driven speed range of 360 to 1,075 RPM, which covers the requirement for this drive. Note that the torque rating for this drive 58 in-lb. This is a constant torque output throughout the driven speed range. An SK bushing is needed to attach the companion sheave to the driven shaft.

Step 4: From the Belt Selection chart, under the column headed by the 1922G8SK sheave, read down to find the center distance, then follow to the left to find the appropriate drive belt. The center distance nearest to 15 inch in the chart is 15.4 inches. Notice that the motor travel for full speed range with the 301E pulley is 3.5 inches, so the maximum center distance will be about 19 inches.

Step 5: Select a suitable motor base based on the NEMA motor frame size. For a 145T frame, there are two choices: the Model 301 cast iron base, or the Model SMB-184 steel base.



After assembling a complete drive package, you will end up five components: a 301E x 7/8 inch variable speed pulley; a 1922G8SK companion sheave; an SK bushing with a bore to fit the driven shaft; a 1922V544 belt; and a 301 or SMB-184 motor base.

VSD

Aluminoline Selection Example

A variable speed pulley is needed for use on a plastic cut-off machine that indexes material through a guillotine-type shear once every second. Inertia of the shear is not high, but the load is pulsating up to 25% over the motor torque. The motor is rated 1/2 HP @ 1,750 RPM with a NEMA 56 frame (5/8 inch shaft), and a stock ("A" or "B" section) belt is preferred. Good alignment and short center distance is a concern. The driven speed range requirement is 800 to 1,600 RPM.

Step 1: Referring to the Service Factor chart on page VSD-68, a service factor of 1.3 is recommended for pulsating loads. Motor horsepower multiplied by the service factor equals a drive load of 0.65 HP. Either the Econoline of Aluminoline series could be used with an "A" or "B" section belt, but in this case the Aluminoline is better because it is two-side moveable and will maintain better belt alignment with a short center distance.

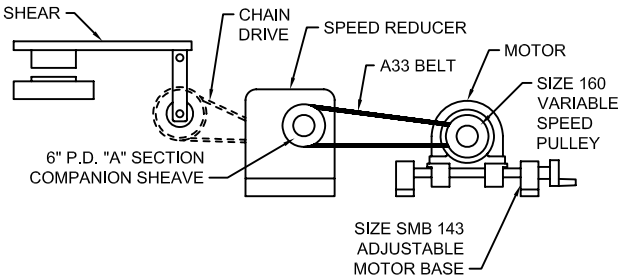
Step 2: Both the Models 160 and 170 variable speed pulley are rated for 3/4 HP, which is closest to the drive load of 0.65. In our example, the motor shaft is 5/8 inches, so we can use the Model 160.

Step 3: The Driven Sheave Selection chart for the Model 160 variable speed driver pulley (see page VSD-26) shows that a 6-inch pitch diameter companion sheave will provide a driven speed range of 615 to 1,675 RPM when used with a 1,750 RPM motor. This covers the required driven speed range.

Continued

Step 4: The belt selection chart shows 7.9 inches as the minimum distance for a 160 pulley and a 6 inch sheave. Moving across to the left in that chart, the belt for that center distance is an A33. You can see that the Model 160 pulley requires 2.7 inch travel to achieve full speed range, so the maximum center distance will be 7.9 (minimum cd) + 2.7, or 10.6 inches.

Step 5: A suitable motor base must be selected based on the NEMA motor frame size. For a 56 frame motor, there are several choices: the Model 48/56 economy base, the Model 200 tilting base, the SMB-143 steel sliding base, or on of the two cast iron bases, 145-60 and 135.



After assembling the complete drive package, you will end up with four components: a 160 x 5/8 inches variable speed pulley; a 6 inch pd companion sheave for an "A" belt with a bore to fit the driven shaft (not supplied by Lovejoy); an A33 drive belt (not supplied by Lovejoy); and a 48/56, 200, SMB-143, 145-60, or 135 motor base.

Selection Examples: Fixed Center Drives

Hexadrive Series Selection Example

A fixed center variable speed drive is needed for a centrifugal pump that has an 8 HP peak at 2,000 RPM. The motor is rated for 10 HP @ 1,750 RPM, with a 1-3/8 shaft. The pump shaft is 1-5/8 inches. Shaft center-to-center distance is approximately 16-1/2 inches. There is no room to accommodate an adjustable base or to move the motor back and forth for speed adjustment, so a fixed center drive is preferred. Motor shaft and driven shaft both are oriented in the same direction, so this is a "C" drive configuration. The service factor for a centrifugal pump is 1.0 (see page VSD-68).

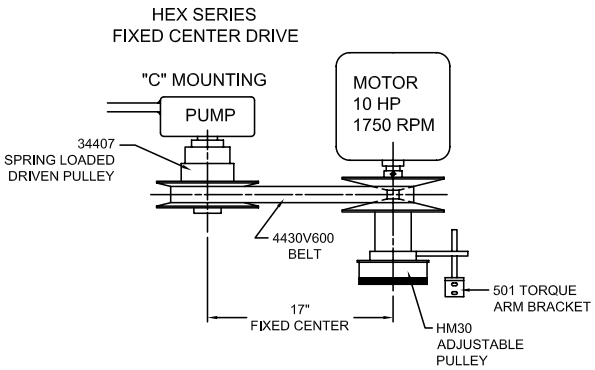
Step 1: The Hexadrive is selected because of the horsepower requirement. Fixed center drives are rated as constant HP drives from base (motor) speed to maximum driven speed. According to the ratings for 1,750 RPM motors, the drive package most suitable for this 8 HP requirement is a 10 HP drive. Refer to the drive selection data on page VSD-58 for a 10 HP drive.

Step 2: The HM-30 driver is selected, and based on the motor HP, speed, and "C" mounting configuration, the Model 34407 driven pulley is most suitable. This drive is rated at 10 HP from 1,750 to 3,300 RPM driven speed, which is nearest to our 8 HP driven requirement. The Driven Speed chart shows that, with a 1,750 RPM motor, this drive will provide a range of 640 to 3,200 RPM at the pump. A check of stock bore sizes shows that the HM-30 is available in 1-3/8 inches (the motor shaft size), and the 34407 driven pulley is available with a 1-5/8 inch stock bore

Step 3: To select a drive belt, refer to the Belt Selection chart for the HM-30 drive. The 4430V600 belt is chosen because it is closest to the 16-1/2 inch center distance requirement. As the Belt Selection chart shows, the actual center distance is 16.53 inches.

Important Note: When the driven speed range is critical, it is necessary to set up the drive at the exact center distance specified for the belt selected. Any variation from the correct center distance will result in a driven speed range that is different from that shown in the drive selection charts.

Step 4: A Model 501 torque arm bracket is required to prevent rotation of the driver pulley handwheel and allow speed adjustment while the motor is running. If a remote control or linear actuated drive is preferred, the same basic package can be used, but the driver pulley will be a Model HEC-30 for electric remote control (also order the CH-2601 control station) or a Model HEC-30 for electric remote control (also order the CH-2601 control station) or a Model HLA-30 for linear actuation. For details on these pulleys, refer to pages VSD-59 and VSD-60. The 501 torque arm bracket is not necessary when using the HLA pulley.



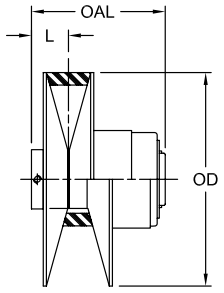
After assembling the complete drive package, you will end up with four components: an HM-30 x 3/8 inch manual driver speed pulley; a 34407 x 5/8 inch spring loaded driven pulley; a 4430V600 belt; and a 501 torque arm bracket.

VSD

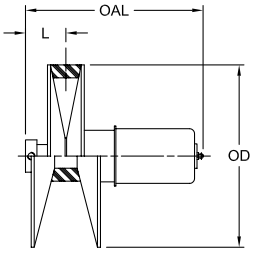
Variable Speed Drives

Quick Reference List-Adjustable Center Drives

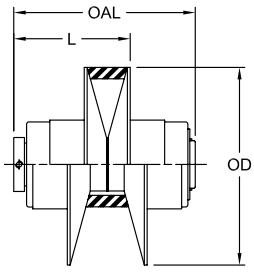
Model	VSD Page	HP Rating 1750 RPM	HP Rating 1150 RPM	Max Ratio	Style	OAL in	L in	OD in	Belt Type	Weight lbs
3403	16	1/3	1/4	1.9	1	2.81	.75	3.38	A	2
3405	16	1/2	1/3	1.9	1	2.81	.75	3.38	A	2
4005	16	1/2	1/3	2.3	1	2.81	.75	4.00	A	2
5005A	16	1/2	1/3	1.8	1	3.50	.75	5.00	A	4
5005	17	1/2	1/3	2.7	1	3.50	.81	5.00	B	4
145	25	1/2	1/3	2.0	2	4.81	1.06	4.50	A	2
245	29	1/2	1/3	3.0	2	4.81	1.31	6.00	1422V	3
3407	16	3/4	1/2	1.9	1	2.81	.75	3.38	A	2
4007	16	3/4	1/2	2.3	1	2.81	.75	4.00	A	2
160	26	3/4	1/2	2.8	2	6.31	1.56	6.00	A	3
170	27	3/4	1/2	2.5	2	7.13	1.63	6.31	A or B	4
260	29	3/4	1/2	3.0	2	4.81	1.31	6.00	1422V	3
11407	45	1/2, 3/4	1/3, 1/2	2.6	1	3.56	1.00	6.00	1422V	5
21407	50	1/2, 3/4	1/3, 1/2	2.6	3	4.63	2.50	6.00	1422V	7
4010	16	1	3/4	2.3	1	2.81	.75	4.00	A	2
5010A	16	1	3/4	1.8	1	3.50	.75	5.00	A	4
5010	17	1	3/4	2.7	1	3.50	.81	5.00	B	4
6010	17	1	3/4	2.1	1	4.13	95	6.00	B	7
7010	17	1	3/4	1.8	1	4.13	.95	7.00	B	8
8210	17	1	3/4	1.6	1	4.38	1.02	8.25	B	10
175	27	1	3/4	2.5	2	7.13	1.63	6.31	A or B	4
2510	23	1	3/4	2.3	3	4.31	2.31	5.00	B	5
11401	45	1	3/4	2.6	1	3.56	1.00	6.00	1422V	5
21401	50	1	3/4	2.6	3	4.63	2.50	6.00	1422V	7
301E	30	1, 1-1/2	3/4, 1	3.0	2	7.13	1.56	7.50	1922V	12
401E	33	1, 1-1/2	3/4, 1	3.8	2	8.75	1.81	11.00	2926V	24
5015A	16	1-1/2	1	1.8	1	3.50	.75	5.00	A	4
5015	17	1-1/2	1	2.7	1	3.50	.81	5.00	B	4
180	27	1-1/2	1	2.5	2	7.13	1.63	6.31	A or B	4
2515	23	1-1/2	1	2.3	3	4.31	2.31	5.00	B	5
11901	46	1-1/2	1	3.0	1	5.38	1.38	8.25	1922V	12
21901	51	1-1/2	1	3.0	3	6.75	3.63	8.25	1922V	12
6020	17	2	1-1/2	2.1	1	4.13	.95	6.00	B	7
7020	17	2	1-1/2	1.8	1	4.13	.95	7.00	B	8
8220	17	2	1-1/2	1.6	1	4.38	1.02	8.25	B	10
2620	23	2	1-1/2	2.1	3	5.47	2.73	6.00	B	8
402E	33	2	1-1/2	3.8	2	8.75	1.81	11.00	2926V	24
11902	46	2	1-1/2	3.0	1	5.38	1.38	8.25	1922V	12
21902	51	2	1-1/2	3.0	3	6.75	3.63	8.25	1922V	12
3030E	31	3	2	3.0	2	8.75	2.00	8.50	2322V	17
303E	32	3	2	3.4	2	8.75	1.81	10.00	2926V	22
6030	17	3	2	2.1	1	4.13	.95	6.00	B	7
7030	17	3	2	1.8	1	4.13	.95	7.00	B	8
8230	17	3	2	1.6	1	4.38	1.02	8.25	B	10
2630	23	3	2	2.1	3	5.47	2.73	6.00	B	8
2730	23	3	2	1.8	3	5.47	2.73	7.00	B	9
11903	46	3	2	3.0	1	5.38	1.38	8.25	1922V	12
21903	51	3	2	3.0	3	6.75	3.63	8.25	1922V	12
403E	33	3	2	3.8	2	8.75	1.81	11.00	2926V	24
7050	17	5	3	1.8	1	4.13	.95	7.00	B	8
8250	17	5	3	1.6	1	4.38	1.02	8.25	B	10
2750	23	5	3	1.8	3	5.47	2.73	7.00	B	9
3050E	34	5	3	3.0	2	10.31	2.13	10.00	2926V	26
12905	47	5	3	3.0	1	6.43	1.88	10.00	2926V	25
22905	52	5	3	3.0	3	8.56	4.56	10.00	2926V	30
3075B	35	7-1/2	5	3.0	2	13.44	2.50	13.00	4430V	49
12907	47	7-1/2	5	3.0	1	6.43	1.88	10.00	2926V	25
22907	52	7-1/2	5	3.0	3	8.56	4.56	10.00	2926V	30
13207	48	7-1/2	5	2.3	1	7.88	2.25	10.75	3230HV	40
23207	53	7-1/2	5	2.3	3	9.38	5.00	10.75	3230HV	43
14407	49	7-1/2	5	2.7	1	8.63	2.38	12.50	4430V	47
24407	54	7-1/2	5	2.7	3	10.13	5.38	12.50	4430V	50



Style 1
One Flange Moveable



Style 2
Two Flange Moveable



Style 3
Two Flange Moveable

VSD

Variable Speed Drives

Quick Reference List-Adjustable Center Drives *Continued*

Model	VSD Page	HP Rating 1750 RPM	HP Rating 1150 RPM	Max Ratio	Style	OD in	OAL in	L in	Belt Type	Weight lbs
3100B	33	10	7-1/2	3.0	2	13.00	13.44	2.50	4430V	49
13210	46	10	7-1/2	2.3	1	10.75	7.88	2.25	3230HV	40
23210	51	10	7-1/2	2.3	3	10.75	9.38	5.00	3230HV	43
14410	49	10	7-1/2	2.7	1	12.50	8.63	2.38	4430V	47
24410	52	10	7-1/2	2.7	3	12.50	10.13	5.38	4430V	50
3150B	33	15	10	3.0	2	13.00	13.44	2.50	4430V	49
13220	46	15, 20	10, 15	2.3	1	10.75	7.88	2.25	3230HV	40
23220	51	15, 20	10, 15	2.3	3	10.75	9.38	5.00	3230HV	43
14420	49	15, 20	10, 15	2.7	1	12.50	8.63	2.38	4430V	47
24420	52	15, 20	10, 15	2.7	3	12.50	10.13	5.38	4430V	50
13230	46	25, 30	20, 25	2.3	1	10.75	7.88	2.25	3230HV	40
23230	51	25, 30	20, 25	2.3	3	10.75	9.38	5.00	3230HV	43
14430	49	25, 30	20, 25	2.7	1	12.50	8.63	2.38	4430V	47
24430	52	25, 30	20, 25	2.7	3	12.50	10.13	5.38	4430V	50

Variable Speed Drives

Quick Reference List-Fixed Center Drives

Driver Pulley	Driven Series	VSD Page	HP Rating 1750 RPM	Max Ratio	Belt Type
			Econoline Series		
M34 **MLA34**	3400 / 4000 / 5000A	18-20	1/3 to 1-1/2	3.7	A
MLA40	4000 / 5000A	18-20	1/2 to 1-1/2	5.3	A
M50	5000 / 6000 / 7000 / 8200		1/2 to 2	7.6	B
MLA50 **M60**	5000 / 6000 / 7000 / 8200	18-20	1/2 to 3	5.8	B
MLA60 **M70** **MLA70**	5000 / 6000 / 7000 / 8200	18-20	1/2 to 5	4.7	B
			WB Series		
M-007	245 / 260	36	1/2 to 3/4	9.3	1422V
M-1	301C / D	37	1 to 1-1/2	9.0	1922V
M-3	3030C / D	37	2 to 3	9.3	2322V
			Hi-Ratio Series		
M-14	1400	40	1/2 to 1	8.5	1422V
M-19	1900	41	1 to 3	11.5	1922V
M-23	2300	42	3 to 5	12.1	2322V
			Hexadrive Series		
M-007 **HEC-007**	21407	55 59	1/2 to 3/4	7.6	1422V
HM-3 **HEC-3** **HLA-3**	11900 / 31900	56 59 60	1 to 3	8.8	1922V
HM-7 **HEC-7** **HLA-7**	12900 / 32900	57 29 60	5 to 7-1/2	8.7	2926V
HM-30 **HEC-30** **HLA-30**	14400 / 34400	58 59 60	10 to 30	7.4	4430V

VSD

One-Side Moveable

1/3 Through 5 HP, "A" and "B" Belts

The Econoline Pulley series provides reliable variable speed service with a proven design at an economical cost. The wide selection of models feature compact size and reliability, which make them ideal for both adjustable and fixed center drives in all types of applications using classical "A" and "B" (or 4L and 5L) section drive belts.

Features

- Driven speed ratio up to 7.6 to 1 (fixed center drive)
- Horsepower range from fractional through 5 HP @ 1,750 RPM motor speed
- Maximum bore capacity of 1-1/8 inches
- Flanges made of durable cast iron

Spring-loaded pulleys are through-bored for all types of shaft mounting arrangements. The exposed spring design allows for a cooler running pulley and permits easy cleaning. Complete spring enclosures are available as an option on some models.

Belt Selection

Econoline pulleys are designed specifically for "A" and "B" section drive belts, though they can also be used with "4L" and "5L" belts if necessary. Cogged, raw-edge belts have a definite advantage over wrapped types because they readily form around small pitch diameters, and provide a better arc of contact and provide best possible transmission of torque. If a "slip clutching" effect is desirable to protect machinery in the event of overload, a wrapped belt is recommended.

Adjustable Center Drives

An adjustable center drive using the Econoline variable speed driver pulley is an economical, efficient solution for many drive requirements. The typical adjustable center drive consists of a spring-loaded pulley mounted on the motor shaft, a companion sheave on the driven shaft, an adjustable motor base, and a belt. A wide range of sizes and horsepower ratings are available from the Econoline series to fit the system requirements.

Standard "A" and "B" companion sheaves are recommended for use with Econoline adjustable center drives. Since many Econoline pulleys have only one moveable flange and the companion sheaves are grooved, some misalignment of the belt can be expected and is acceptable for most drives. To minimize this misalignment, the belt should be aligned with the driven sheave when the belt is in the median pitch diameter range of the variable speed pulley, or in the range of principle operation. Due to the minimal bottom contact area of "A" and "B" belts, flat driven sheaves are NOT recommended.



Econoline Series

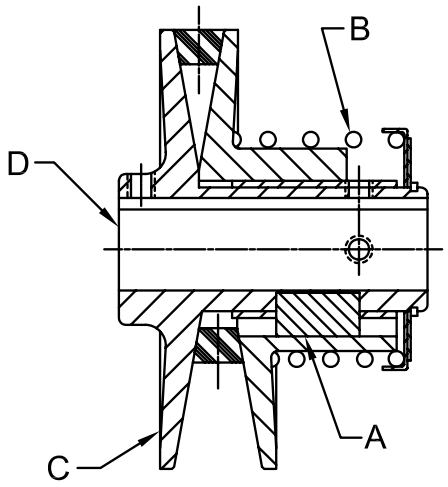
Fixed Center Drives

Econoline fixed center drives utilize the same type of spring-loaded pulley as an adjustable center drive, only it is normally mounted on the driven shaft. The driver pulley is of similar size and construction, but it is manually adjustable. A fixed center drive offers greater driven speed range in a more compact space. There are two types of controllable pulleys: the M type with a handwheel and built-in adjusting device, and the MLA type that uses an external control. The MLA type pulley can be used with the Lovejoy #76 Control Stand (see page VSD-21) or some other type of linear controller.

A fixed center drive consists of four component parts: the adjustable driver pulley, the spring-loaded driven pulley, the belt, and a Model 501 Torque Arm Bracket. This bracket prevents the handwheel from spinning so speed can be changed while the drive is running (see drawing on page VSD-21). The 501 Torque Arm Bracket is NOT needed with the MLA type pulley.

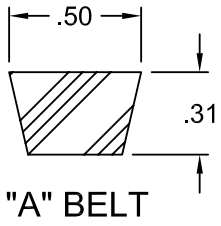
A wide variety of drive packages are available from the Econoline Series to suit your needs. Different diameter pulleys can be paired together to achieve a variety of driven speed ranges, and all sizes of driven spring-loaded pulleys are available in a variety of horsepower ratings.

Econoline Series

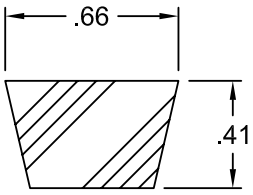


Features

A Drive Key
B Precision Calibrated Spring
C Cast Iron Flanges
D Thru-bore and Keyway



"A" BELT



"B" BELT

Econoline Series - Inch Bore and Keyway UPC Number Selection Table

Model	Bore and Keyway					
	1/2	5/8	3/4	7/8	1	1 1/8
	No Keyway	3/16 x 3/32	3/16 x 3/32	3/16 x 3/32	1/4 x 1/8	1/4 x 1/8
3403	27806	27807	27808	N/A	N/A	N/A
3405	27809	27810	27811	N/A	N/A	N/A
3407	27812	28713	27814	N/A	N/A	N/A
4005	27815	27816	27817	N/A	N/A	N/A
4007	27818	27819	27820	N/A	N/A	N/A
4010	42043	42044	42045	N/A	N/A	N/A
5005A	37368	37369	37370	37371	37372	N/A
5010A	42097	42098	42099	42100	42110	N/A
5015A	42101	42102	42103	42104	42112	N/A
5005	47821	27822	27823	27824	27825	N/A
5010	47096	27093	27094	27095	27826	N/A
5015	27827	27828	27829	27830	27831	N/A
6010	N/A	27832	27833	27834	27835	27836
6020	N/A	27837	27838	27839	27840	27841
6030	N/A	27842	27843	27844	27845	27846
7010	N/A	27848	27849	27850	27851	27852
7020	N/A	27853	27854	27855	27856	27857
7030	N/A	27858	27859	27860	27861	27862
7050	N/A	27863	27864	27865	27866	27867
8210	N/A	27868	27869	27870	27871	27872
8220	N/A	27873	27874	27875	27876	27877
8230	N/A	27878	27879	27880	27881	27882
8250	N/A	27883	27884	27885	27886	27887

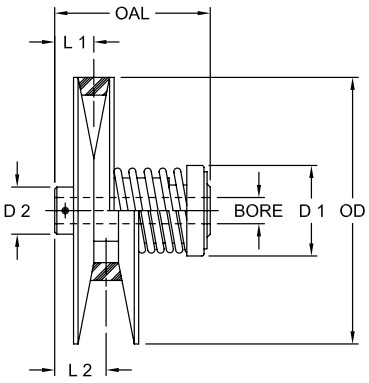
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

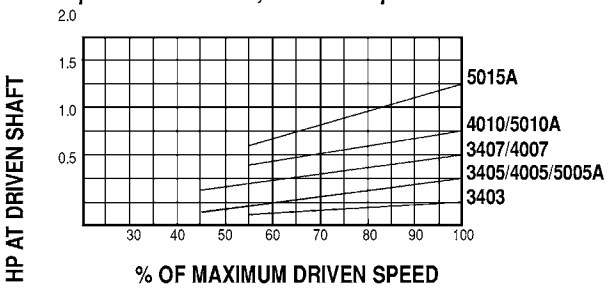
VSD

Econoline Series

One-Side Moveable Adjustable Center Drives 1/3 through 1-1/2 HP "A" Belt

See pages VSD 62-64 for adjustable motor base selection.





Econoline Spring-Loaded Pulley Dimensional Data

Model	HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Ratio	PD Max in	PD Min in	Belt Type	OAL in	L1 in	L2 in	OD in	D1 in	D2 in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Total Travel in
3403	1/3	1/4	12	1.93:1	3.13	1.62	A	2.81	0.75	0.94	3.38	2.16	1.38	1/2	5/8	3/4	—	—	1.2
3405	1/2	1/3	18														—	—	
3407	3/4	1/2	27														—	—	
4005	1/2	1/3	18	2.31:1	3.75	1.62	A	2.81	0.75	0.94	4.00	2.16	1.38	1/2	5/8	3/4	—	—	1.6
4007	3/4	1/2	27														—	—	
4010	1	3/4	36														—	—	
5005A	1/2	1/3	18	1.81:1	4.75	2.62	A	3.50	0.75	0.92	5.00	2.50	1.50	1/2	5/8	3/4	7/8*	1*	1.6
5010A	1	3/4	36																
5015A	1-1/2	1	54																

Note: ■ * indicates: That 7/8 and 1 inch bores for 5000 A Series are not thru bores.

Econoline Adjustable Center Drives Sheave and Belt Selection Chart

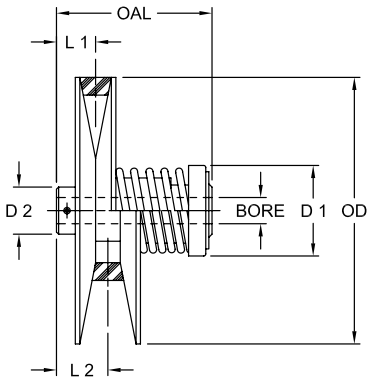
Driver Pulley	PD Driven Sheave	Driven Speed Range 1750 RPM Motor Max RPM	1750 RPM Motor Min RPM	1150 RPM Motor Max RPM	1150 RPM Motor Min RPM	"A" or "AX" Belt Type Minimum Center-to-Center Distance A26 in	A31 in	A33 in	A35 in	A38 in	A42 in	A46 in	A48 in	A51 in	A53 in	A55 in	A60 in	A62 in
3400 Series	4.0	1,370	710	900	465	8.0	10.5	11.5	12.5	14.0	16.0	18.0	19.0	20.5	21.5	22.5	25.0	26.0
	5.0	1,095	570	720	375	7.2	9.7	10.7	11.7	13.2	15.2	17.2	18.2	19.7	20.7	21.7	24.2	25.2
	6.0	910	475	600	310	6.3	8.9	9.9	10.9	12.4	14.4	16.4	17.4	18.9	19.9	20.9	23.4	24.4
	8.0	685	355	450	235	—	7.0	8.1	9.1	10.6	12.6	14.7	15.7	17.2	18.2	19.2	21.7	22.7
	10.0	545	280	360	190	—	—	—	7.2	8.7	10.8	12.8	13.9	15.4	16.4	17.4	20.0	21.0
	12.0	455	235	300	155	—	—	—	—	—	8.9	10.9	12.0	13.5	14.5	15.6	18.1	19.1
4000 Series	4.0	1,640	710	1,075	465	7.6	10.1	11.1	12.1	13.6	15.6	17.6	18.6	20.1	21.1	22.1	24.6	25.6
	5.0	1,310	570	860	375	6.7	9.3	10.3	11.3	12.8	14.8	16.8	17.8	19.3	20.3	21.3	23.8	24.8
	6.0	1,090	475	715	310	—	8.4	9.4	10.4	11.9	13.9	15.9	16.9	18.4	19.4	20.4	23.0	24.0
	8.0	820	355	540	235	—	6.6	7.7	8.7	10.2	12.2	14.2	15.2	16.7	17.8	18.8	21.3	22.3
	10.0	655	280	430	190	—	—	—	—	8.4	10.4	12.5	13.5	15.0	16.0	17.0	19.5	20.5
	12.0	545	235	360	155	—	—	—	—	—	8.5	10.6	11.6	13.1	14.2	15.2	17.7	18.7
5000A Series	4.0	2,075	1150	1,365	755	6.8	9.3	10.3	11.3	12.8	14.8	16.8	17.8	19.3	20.3	21.3	23.8	24.9
	5.0	1,660	920	1,090	605	6.0	8.5	9.5	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
	6.0	1,385	765	910	505	—	7.7	8.7	9.7	11.2	13.2	15.2	16.2	17.7	18.7	19.7	22.2	23.2
	8.0	1,040	575	680	380	—	—	—	8.0	9.5	11.5	13.5	14.5	16.0	17.0	18.0	20.6	21.6
	10.0	830	460	545	305	—	—	—	—	7.7	9.7	11.8	12.8	14.3	15.3	16.3	18.8	19.8
	12.0	690	385	455	255	—	—	—	—	—	—	9.9	11.0	12.5	13.5	14.5	17.1	18.1

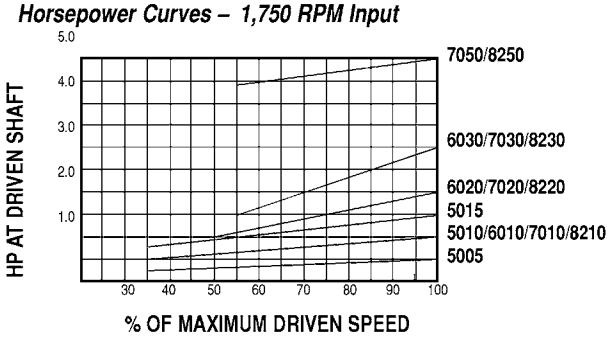
Econoline Series

One-Side Moveable Adjustable Center Drives

1/2 through 5 HP "B" Belt

See pages VSD 62-64 for adjustable motor base selection.





Econoline Spring – Loaded Pulley Dimensional Data

Model	HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Ratio	PD Max in	PD Min in	Belt Type	OAL in	L1 in	L2 in	OD in	D1 in	D2 in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Stock Thru-Bores in	Total Travel in
5005	1/2	1/3	18	2.70:1	4.65	1.72	B	3.50	0.81	1.09	5.00	2.50	1.50	1/2	5/8	3/4	7/8*	1*	2.2
5010	1	3/4	36																
5015	1-1/2	1	54																
6010	1	3/4	36	2.10:1	5.65	2.69	B	4.13	0.95	1.19	6.00	3.13	1.88	5/8	3/4	7/8	1	1-1/8	2.2
6020	2	1-1/2	72																
6030	3	2	108																
7010	1	3/4	36	1.80:1	6.65	3.69	B	4.13	0.95	1.19	7.00	3.13	2.88	5/8	3/4	7/8	1	1-1/8	2.2
7020	2	1-1/2	72																
7030	3	2	108																
7050	5	3	180																
8210	1	3/4	36	1.58:1	7.90	5.00	B	4.38	1.02	1.23	8.25	3.13	2.38	5/8	3/4	7/8	1	1-1/8	2.2
8220	2	1-1/2	72																
8230	3	2	108																
8250	5	3	180																

Note: ■ * indicates: That 7/8 and 1 inch bores for 5000 Series are not thru bores. Minimum PD = 2.07 inches, Ratio = 2.25:1

Econoline Adjustable Center Drives Sheave and Belt Selection Chart

Driver Pulley	PD Driven Sheave	Driven Speed Range 1750 RPM Motor Max RPM	1750 RPM Motor Min RPM	1150 RPM Motor Max RPM	1150 RPM Motor Min RPM	"B" or "BX" Belt Type Minimum Center-to-Center Distance B26 in	B31 in	B33 in	B35 in	B38 in	B42 in	B46 in	B48 in	B51 in	B53 in	B55 in	B60 in	B62 in
5000 Series	4.0	2,030	755*	1,330	495*	7.1	9.6	10.6	11.6	13.1	15.1	17.1	18.1	19.6	20.6	21.6	24.1	25.1
	5.0	1,625	605*	1,060	395*	6.3	8.8	9.8	10.8	12.3	14.3	16.3	17.3	18.8	19.8	20.8	23.3	24.3
	6.0	1,350	505*	885	330*	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	8.0	1,015	380*	665	250*	—	—	7.3	8.3	9.8	11.8	13.8	14.9	16.4	17.4	18.4	20.9	21.9
	10.0	810	305*	530	200*	—	—	—	—	8.0	10.1	12.1	13.1	14.6	15.6	16.6	19.2	20.2
	12.0	675	255*	440	165*	—	—	—	—	—	—	10.3	11.3	12.8	13.8	14.8	17.4	18.4
6000 Series	5.0	1,975	945	1,300	620	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	6.0	1,645	790	1,080	520	—	7.2	8.2	9.2	10.7	12.7	14.7	15.7	17.2	18.2	19.2	21.7	22.7
	8.0	1,230	590	810	390	—	—	—	7.6	9.1	11.1	13.1	14.1	15.6	16.6	17.6	20.1	21.1
	10.0	985	475	645	310	—	—	—	—	—	9.4	11.4	12.4	13.9	14.9	15.9	18.5	19.5
	12.0	820	395	540	260	—	—	—	—	—	—	9.6	10.6	12.2	13.2	14.2	16.7	17.7
7000 Series	6.0	1,930	1080	1,270	710	—	—	7.5	85.0	10.0	12.0	14.0	15.0	16.5	17.5	18.5	21.0	22.0
	7.0	1,660	925	1,090	610	—	—	—	7.7	9.2	11.2	13.2	14.2	15.7	16.7	17.7	20.2	21.2
	8.0	1,450	810	950	535	—	—	—	—	8.4	10.4	12.4	13.4	14.9	15.9	16.9	19.4	20.4
	10.0	1,160	650	760	425	—	—	—	—	—	—	10.7	11.7	13.2	14.2	15.2	17.7	18.7
	12.0	965	540	635	355	—	—	—	—	—	—	—	10.0	11.5	12.5	13.5	16.0	17.0
8200 Series	6.0	2,300	1460	1,500	960	—	—	—	7.4	8.9	10.9	12.9	13.9	15.4	16.5	17.5	20.0	21.0
	8.0	1,725	1100	1,130	720	—	—	—	—	—	9.4	11.4	12.4	13.9	14.9	15.9	18.4	19.4
	10.0	1,380	880	900	580	—	—	—	—	—	—	9.8	10.8	12.3	13.3	14.3	16.8	17.8
	12.0	1,150	730	750	480	—	—	—	—	—	—	—	—	10.6	11.6	12.6	15.1	16.1

Note: ■ * indicates: Except on 7/8 and 1 inch bores.

VSD

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts

The Econoline fixed center drive uses a driver pulley that is manually adjustable. (Refer to the description of Econoline fixed center drives on page VSD-14). There are two types of controllable pulleys: the M type with a handwheel and built-in adjusting device, and the MLA type that uses an external control. The MLA type pulley can be used with the Lovejoy Model 76 Control Stand or some other type of linear controller.

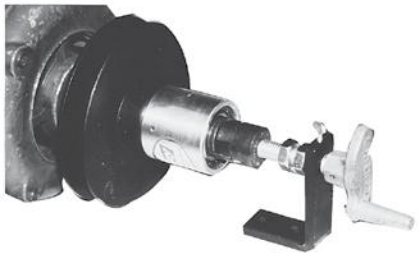


Econoline M Type

Econoline M Type Manual Pulleys - Inch Bore and Keyway UPC Number Selection Table

Model	Pd Max in	Pd Min in	HP Range[1]	Belt Type	Bore and Keyway 1/2 No Keyway	5/8 3/16 x 3/32	3/4 3/16 x 3/32	7/8 3/16 x 3/32	1 1/4 x 1/8	1-1/8 1/4 x 1/8
M-34	3.13	1.62	1/3-3/4	A	31582	31583	31584	N/A	N/A	N/A
M-50	4.65	1.60	1/2-2	B	31586	31587	31588	31589	N/A	N/A
M-60	5.65	2.34	1/2-3	B	N/A	31617	31618	31619	31620	31621
M-70	6.65	3.34	1/2-5	B	N/A	37299	37300	37301	37302	37303

Notes:
- 1 indicates: Horsepower and torque rating of each of these pulleys is dependent upon the driven spring-loaded pulley with which it is matched. Refer to Drive Selection chart on page VSD-19 for details.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.



Econoline MLA Type



Model 76 Control Stand
[Lovejoy UPC number 20021]

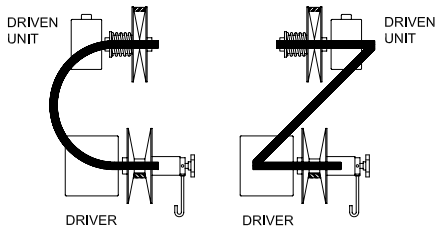
Econoline MLA Type Manual Pulleys - Inch Bore and Keyway UPC Number Selection Table

Model	Pd Max in	Pd Min in	HP Range[1]	Belt Type	Bore and Keyway 1/2 No Keyway	5/8 3/16 x 3/32	3/4 3/16 x 3/32	7/8 3/16 x 3/32	1 1/4 x 1/8	1-1/8 1/4 x 1/8
MLA-34	3.13	1.62	1/3-3/4	A	42591	42904	42905	N/A	N/A	N/A
MLA-40	3.75	1.62	1/2-1-1/2	A	42906	42581	42907	N/A	N/A	N/A
MLA-50	4.65	1.60	1/2-2	B	42908	42909	42910	42911	N/A	N/A
MLA-60	5.65	2.34	1/2-3	B	N/A	42912	42913	42914	42915	42916
MLA-70	6.65	3.34	1/2-5	B	N/A	42917	42918	42919	42920	42921

Notes:
- 1 indicates: Horsepower and torque rating of each of these pulleys is dependent upon the driven spring-loaded pulley with which it is matched. Refer to Drive Selection chart on page VSD-19 for details.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts



Econoline M and MLA Drive Selection Table

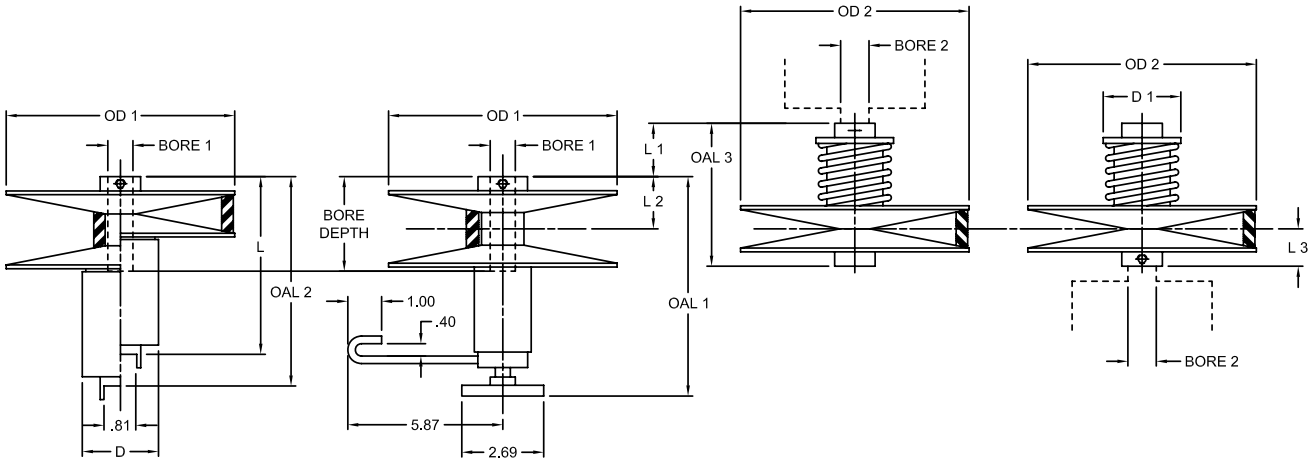
Pulley Model Combinations			Ratio	HP Ratings with 1750 RPM Motor		Driven Speed Ranges 1750 RPM Motor*		Max Torque Of Driven Pulley	Belt Type
	Driven Spring-Loaded								
Driver Manual	"Z"	"C"		Rating At 1750 To Max RPM of Driven Pulley HP	HP Rating At Min RPM of Driven Pulley HP	Min RPM	Max RPM	in-lb	
M34	3403	3403R	3.7:1	0.33	0.17	910	3380	12	A
or	3405	3405R		0.50	0.25			18	
MLA34	3407	3407R		0.75	0.39			27	
M34 or	4005	4005R	3.0:1	0.50	0.22	760	2300	18	A
MLA34	4007	4007R		0.75	0.32			27	
M34	5005A	5005AR	2.6:1	0.50	0.17	600	1540	18	A
or	5010A	5010AR		1.00	0.34			36	
MLA34	5015A	5015AR		1.50	0.51			54	
MLA40	4005	4005R	5.3:1	0.50	0.22	760	4050	18	A
	4007	4007R		0.75	0.32			27	
MLA40	5005A	5005AR	3.8:1	0.50	0.27	600	2280	18	A
	5010A	5010AR		1.00	0.55			36	
	5015A	5015AR		1.50	0.83			54	
M50	5005	5005R	7.6:1	0.50	0.17	610	4640	18	B
or	5010	5010R		1.00	0.34			36	
MLA50	5015	5015R		1.50	0.52			51	
M50 or	6010	6010R	5.5:1	1.00	0.28	500	2760	36	B
MLA50	6020	6020R		2.00	0.57			72	
M50 or	7010	7010R	4.5:1	1.00	0.24	430	1940	36	B
MLA50	7020	7020R		2.00	0.48			72	
M50 or	8210	8210R	4.0:1	1.00	0.20	360	1440	36	B
MLA50	8220	8220R		2.00	0.41			72	
M60	5005	5005R	5.8:1	0.50	0.25	890	5190	18	B
or	5010	5010R		1.00	0.50			36	
MLA60	5015	5015R		1.50	0.75			54	
M60	6010	6010R	4.8:1	1.00	0.41	730	3500	36	B
or	6020	6020R		2.00	0.82			72	
MLA60	6030	6030R		3.00	1.23			108	
M60	7010	7010R	4.3:1	1.00	0.35	620	2660	36	B
or	7020	7020R		2.00	0.70			72	
MLA60	7030	7030R		3.00	1.06			108	
M60	8210	8210R	3.7:1	1.00	0.29	520	1910	36	B
or	8220	8220R		2.00	0.59			72	
MLA60	8230	8230R		3.00	0.89			108	
M70	5005	5005R	4.7:1	0.50	0.36	1260	5990	18	B
or	5010	5010R		1.00	0.72			36	
MLA70	5015	5015R		1.50	1.08			54	
M70	6010	6010R	3.8:1	1.00	0.59	1040	4000	36	B
or	6020	6020R		2.00	1.19			72	
MLA70	6030	6030R		3.00	1.78			108	
M70 or MLA70	7010	7010R	3.4:1	1.00	0.50	880	3020	36	B
	7020	7020R		2.00	0.99			72	
	7030	7030R		3.00	1.49			108	
	7050	7050R		5.00	2.49			180	
M70 or MLA70	8210	8210R	3.1:1	1.00	0.42	750	2360	36	B
	8220	8220R		2.00	0.83			72	
	8230	8230R		3.00	1.25			108	
	8250	8250R		5.00	2.09			180	

Note: ■ * indicates: The driven speed ranges and resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distance, constant motor speed and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors. TO FIND THE DRIVEN SPEED RANGE WITH AN 1,150 RPM MOTOR, MULTIPLY BY 0.666.

VSD

Econoline Series

Fixed Center Drives
1/3 through 5 HP
"A" and "B" Belts



"MLA" Driver Pulley Requires External Control

"M" Driver Pulley With Handwheel Control

C–Mount Driven Pulley (R)

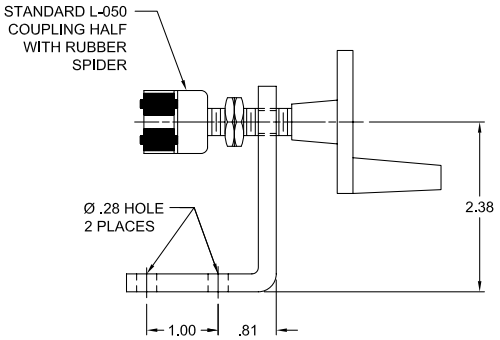
Z–Mount Driven Pulley

Econoline Fixed Center Dimensional Data

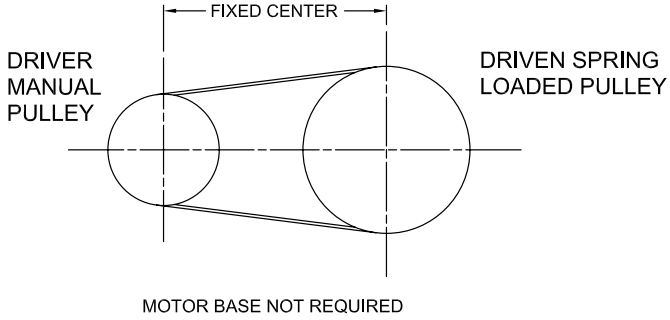
Model			Belt	Stock Bore										OD1	OAL1	L2	Bore	OD2	OAL3	L3	D1	L1	OAL2	L	D
	Driven Pulley			Manual Bore1					Spring-Loaded Bore2																
Driver Pulley	"C"	"Z"	Size	in					in					in	in	in	in	in	in	in	in	in	in	in	in
M34	3400-R	3400	A	1/2	5/8	3/4	—	—	1/2	5/8	3/4	—	—	3.38	5.38	0.94	1.69	3.38	2.81	0.75	2.16	1.12	4.28	3.94	2.25
or	4000-R	4000	A	1/2	5/8	3/4	—	—	1/2	5/8	3/4	—	—	3.38	5.38	0.94	1.69	4.00	2.81	0.75	2.16	1.12	4.28	3.94	2.25
MLA34	5000A-R	5000A	A	1/2	5/8	3/4	—	—	1/2	5/8	3/4	7/8	—	3.38	5.38	0.94	1.69	5.00	3.50	0.75	2.50	1.81	4.28	3.94	2.25
MLA40	4000-R	4000	A	1/2	5/8	3/4	—	—	1/2	5/8	3/4		—	4.00	N/A	0.94	2.50	4.00	2.81	0.75	2.16	1.12	3.56	3.12	2.00
	5000A-R	5000A	A	1/2	5/8	3/4	—	—	1/2	5/8	3/4	7/8	—	4.00	N/A	0.94	2.50	5.00	3.50	0.75	2.50	1.81	3.56	3.12	2.00
M50 or MLA50	5000-R	5000	B	1/2	5/8	3/4	7/8	—	1/2	5/8	3/4	7/8	—	5.00	5.69	1.06	2.00	5.00	3.50	0.81	2.50	1.62	4.62	4.12	2.25
	6000-R	6000	B	1/2	5/8	3/4	7/8	—	5/8	3/4	7/8	1	1-1/8	5.00	5.69	1.06	2.00	6.00	4.12	0.95	3.00	2.12	4.62	4.12	2.25
	7000-R	7000	B	1/2	5/8	3/4	7/8	—	5/8	3/4	7/8	1	1-1/8	5.00	5.69	1.06	2.00	7.00	4.12	0.95	3.00	2.12	4.62	4.12	2.25
	8200-R	8200	B	1/2	5/8	3/4	7/8	—	5/8	3/4	7/8	1	1-1/8	5.00	5.69	1.06	2.00	8.25	4.38	1.02	3.00	2.30	4.62	4.12	2.25
M60 or MLA60	5000-R	5000	B	5/8	3/4	7/8	1	1-1/8	1/2	5/8	3/4	7/8	—	6.00	6.69	1.23	2.75	5.00	3.50	0.81	2.50	1.46	5.50	5.00	2.75
	6000-R	6000	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	6.00	6.69	1.23	2.75	6.00	4.12	0.95	3.00	1.95	5.50	5.00	2.75
	7000-R	7000	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	6.00	6.69	1.23	2.75	7.00	4.12	0.95	3.00	1.95	5.50	5.00	2.75
	8200-R	8200	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	6.00	6.69	1.23	2.75	8.25	4.38	1.02	3.00	2.12	5.50	5.00	2.75
M70 or MLA70	5000-R	5000	B	5/8	3/4	7/8	1	1-1/8	1/2	5/8	3/4	7/8	—	7.00	6.69	1.23	2.75	5.00	3.50	0.81	2.50	1.46	5.50	5.00	2.75
	6000-R	6000	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	7.00	6.69	1.23	2.75	6.00	4.12	0.95	3.00	1.95	5.50	5.00	2.75
	7000-R	7000	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	7.00	6.69	1.23	2.75	7.00	4.12	0.95	3.00	1.95	5.50	5.00	2.75
	8200-R	8200	B	5/8	3/4	7/8	1	1-1/8	5/8	3/4	7/8	1	1-1/8	7.00	6.69	1.23	2.75	8.25	4.38	1.02	3.00	2.12	5.50	5.00	2.75

VSD

Econoline Series



Model 76 Control Stand Assembly



Center-To-Center Distance

Econoline Fixed Center Drives Belt Selection Table

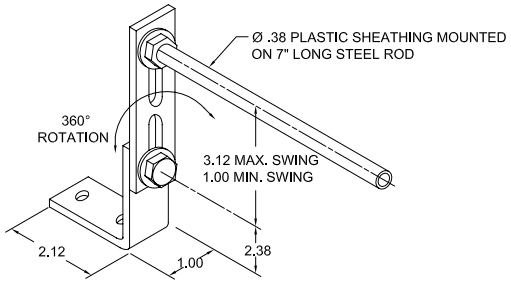
Driver Pulley	Driven Pulley	Belt Size	Belt Size[2] Center-to-Center Distance												
			26	31	33	35	38	42	46	48	51	53	56	60	62
			in	in	in	in	in	in	in	in	in	in	in	in	in
M34 or MLA34	3400	A	9.9	12.4	13.4	14.4	15.9	17.9	19.9	20.9	22.4	23.4	24.4	26.9	27.9
	4000	A	9.3	11.9	12.9	13.9	15.4	17.4	19.4	20.4	21.9	22.9	23.9	26.4	27.4
	5000A	A	8.5	11.0	12.0	13.0	14.5	16.5	18.5	19.5	21.1	22.1	23.1	25.6	26.6
MLA40	4000	A	9.3	11.9	12.9	13.9	15.4	17.4	19.4	20.4	21.9	22.9	23.9	26.4	27.4
	5000A	A	8.5	11.0	12.0	13.0	14.5	16.5	18.5	19.5	21.1	22.1	23.1	25.6	26.6
M50 or MLA50	5000	B	8.8	11.3	12.4	13.4	14.9	16.9	18.9	19.9	21.4	22.4	23.4	25.9	26.9
	6000	B	7.9	10.5	11.5	12.5	14.0	16.0	18.0	19.0	20.6	21.6	22.6	25.1	26.1
	7000	B	7.0	9.5	10.6	11.6	13.1	15.1	17.2	18.2	19.7	20.7	21.7	24.2	25.2
	8200	B	—	8.3	9.4	10.4	11.9	14.0	16.0	17.0	18.6	19.6	20.6	23.1	24.1
M60 or MLA60	5000	B	8.3	10.8	11.8	12.8	14.3	16.3	18.4	19.4	20.9	21.9	22.9	25.4	26.4
	6000	B	7.4	10.0	11.0	12.0	13.5	15.5	17.5	18.5	20.0	21.0	22.0	24.5	25.5
	7000	B	—	9.1	10.1	11.1	12.6	14.6	16.6	17.7	19.2	20.2	21.2	23.7	24.7
	82000	B	—	7.9	8.9	9.9	11.5	13.5	15.5	16.5	18.1	19.1	20.1	22.6	23.6
M70 or MLA70	5000	B	7.6	10.1	11.1	12.1	13.6	15.6	17.6	18.6	20.1	21.1	22.1	24.6	25.6
	6000	B	—	9.3	10.3	11.3	12.8	14.8	16.8	17.8	19.3	20.3	21.3	23.8	24.8
	7000	B	—	8.4	9.4	10.4	11.9	13.9	15.9	16.9	18.5	19.5	20.5	23.0	24.0
	8200	B	—	—	8.3	9.3	10.8	12.8	14.9	15.9	17.4	18.4	19.4	21.9	22.9

Notes: ■ 2 indicates: "Belt Size" is NOT the same as belt pitch length, but refers to the Industry Standard length designation. For example, the M50/6000 drive package with a center distance of 12.5 inches would use a B35 belt.

■ Center distances are based on installation with the belt in the Minimum PD position of the driver pulley and at the Maximum PD of the driven pulley.

501 Torque Arm Bracket

Fixed center drive assemblies require a torque arm bracket to prevent the handwheel from spinning. This allows speed to be changed while the drive is running. This bracket may be used with Econoline, WB, Hi-Ratio, and Hexadrive Fixed Center Drives. Bracket is NOT needed with the MLA type pulley. For ordering, use Lovejoy UPC number 685144 19952.



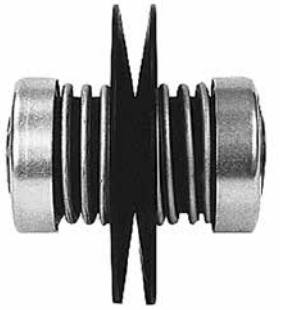
Model 501 Torque Arm Bracket

VSD

Econoline Series

Two-Side Moveable

Our new two-side moveable Econoline pulleys are ideal for adjustable center applications where shaft-to-shaft distances are very short and belt misalignment cannot be tolerated, or in those instances where this style needs replacement.



Econoline Two-Side Moveable

Features

- Three diameters (5, 6 and 7 inches)
- Six models, rated for 1 through 5 HP @ 1,750 RPM
- Speed ratios up to 2.3 to 1
- Durable cast iron flanges
- Use with standard “B” section drive belts
- Belt alignment is maintained at all speeds

Econoline Two Side Moveable Spring-Loaded Pulleys - Inch Bore and Keyway UPC Number Selection Table

	Bore & Keyway				
	5/8	3/4	7/8	1	1-1/8
Model	3/16 x 3/32	3/16 x 3/32	3/16 x 3/32	1/4 x 1/8	1/4 x 1/8
2510	57606	57607	57608	N/A	N/A
2515	57599	57600	57601	N/A	N/A
2620	57643	57644	57645	57646	57647
2630	57648	57649	57650	57651	57652
2730	57617	57618	57619	57620	57621
2750	57622	57623	57624	57625	57626

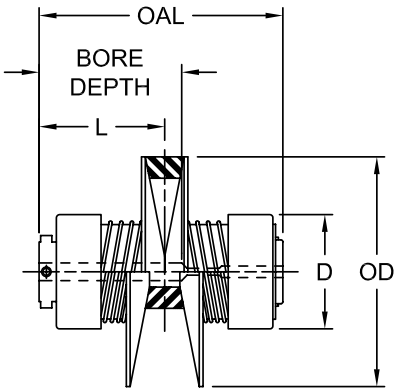
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

VSD

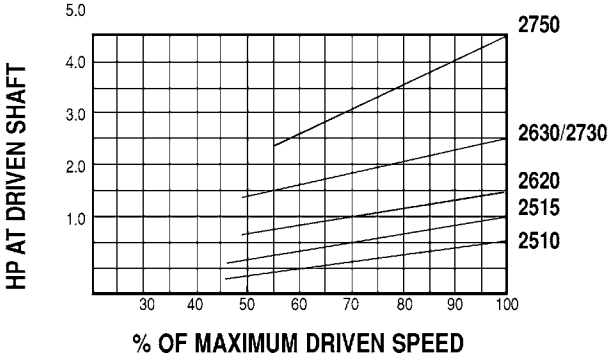
Econoline Series

Two-Side Moveable Adjustable Center Drives 1 through 5 HP "B" Belt

See pages VSD 62-64 for adjustable motor base selection.



Horsepower Curves – 1750 RPM Input



Econoline Two-Side Moveable Dimensional Data

HP Rating RPM		Model	Torque Capacity	Ratio	PD		Belt Size	OAL	L	OD	D	Bore Depth	Stock Thru-Bores					Total Travel
					Max	Min												
1750	1150		in-lb		in	in		in	in	in	in	in	in	in	in	in	in	in
1	3/4	2510	36	2.3:1	4.65	2.00	B	4.06	2.18	5.00	2.67	2.50	5/8	3/4	7/8	—	—	1.9
1-1/2	1	2515	54	2.3:1	4.65	2.00	B	4.06	2.18	5.00	2.67	2.50	5/8	3/4	7/8	—	—	1.9
2	1-1/2	2620	72	2.1:1	5.65	2.69	B	5.06	2.53	6.00	3.13	3.50	5/8	3/4	7/8	1	1-1/8	2.2
3	2	2630	108	2.1:1	5.65	2.69	B	5.06	2.53	6.00	3.13	3.50	5/8	3/4	7/8	1	1-1/8	2.2
3	2	2730	108	1.8:1	6.65	3.69	B	5.06	2.53	7.00	3.13	3.50	5/8	3/4	7/8	1	1-1/8	2.2
5	3	2750	180	1.8:1	6.65	3.69	B	5.06	2.53	7.00	3.13	3.50	5/8	3/4	7/8	1	1-1/8	2.2

Econoline Adjustable Center Drives Sheave and Belt Selection Table

Driver Pulley	PD Driven Sheave	Driven Speed Range				"B" or "BX" Belt Size Minimum Center-to-Center Distance												
		1750 RPM Motor		1150 RPM Motor														
		Max	Min	Max	Min	B26	B31	B33	B35	B38	B42	B46	B48	B51	B53	B55	B60	B62
	in	RPM	RPM	RPM	RPM	in	in	in	in	in	in	in	in	in	in	in	in	in
2510 or 2515	4.0	2,030	880	1,330	580	7.1	9.6	10.6	11.6	13.1	15.1	17.1	18.1	19.6	20.6	21.6	24.1	25.1
	5.0	1,620	700	1,060	460	6.3	8.8	9.8	10.8	12.3	14.3	16.3	17.3	18.8	19.8	20.8	23.3	24.3
	6.0	1,350	590	890	390	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	8.0	1,010	440	660	290	—	—	7.3	8.3	9.8	11.8	13.8	14.9	16.4	17.4	18.4	20.9	21.9
	10.0	810	350	530	230	—	—	—	—	8.0	10.1	12.1	13.1	14.6	15.6	16.6	19.0	20.2
	12.0	670	300	440	200	—	—	—	—	—	—	10.3	11.3	12.8	13.8	14.8	17.4	18.4
2620 or 2630	5.0	1,970	950	1,290	620	—	8.0	9.0	10.0	11.5	13.5	15.5	16.5	18.0	19.0	20.0	22.5	23.5
	6.0	1,640	790	1,080	520	—	7.2	8.2	9.2	10.7	12.7	14.7	15.7	17.2	18.2	19.2	21.7	22.7
	8.0	1,230	590	810	390	—	—	—	7.6	9.1	11.1	13.1	14.1	15.6	16.6	17.6	20.1	21.1
	10.0	980	480	640	310	—	—	—	—	—	9.4	11.4	12.4	13.9	14.9	15.9	18.5	19.5
	12.0	820	400	540	260	—	—	—	—	—	—	9.6	10.6	12.2	13.2	14.2	16.7	17.7
2730 or 2750	6.0	1,930	1,080	1,270	710	—	—	7.5	85.0	10.0	12.0	14.0	15.0	16.5	17.5	18.5	21.0	22.0
	7.0	1,660	930	1,090	610	—	—	—	7.7	9.2	11.2	13.2	14.2	15.7	16.7	17.7	20.2	21.2
	8.0	1,450	810	950	530	—	—	—	—	8.4	10.4	12.4	13.4	14.9	15.9	16.9	19.4	20.4
	10.0	1,160	650	760	430	—	—	—	—	—	—	10.7	11.7	13.2	14.2	15.2	17.7	18.7
	12.0	960	540	630	360	—	—	—	—	—	—	—	10.0	11.5	12.5	13.5	16.0	17.0

Aluminoline Series

Two-Side Moveable
1/3 through 1-1/2 HP
"A" and "B" Belts

Aluminoline variable speed pulleys are designed for the best possible belt alignment with the least amount of overhung load. Flanges are made of a lightweight, corrosion-resistant aluminum, which is hard-coat anodized for long life. The aluminum flanges provide quiet operation with minimum vibration. These pulleys are used with classical "A" and "B" drive belts.

Aluminoline pulleys offer maximum service when lubricated through a convenient grease fitting located on the end of the pulley shaft.



Aluminoline Series Pulley

Features

- Ratings for 1/3 through 1-1/2 HP motors
- Unique "intermeshing" flange design
- Greater speed ratios (up to 2.75 to 1) with a narrow-belt adjustable center drive than any other pulley



Typical "V-V" Adjustable Center Drive

Belt Selection

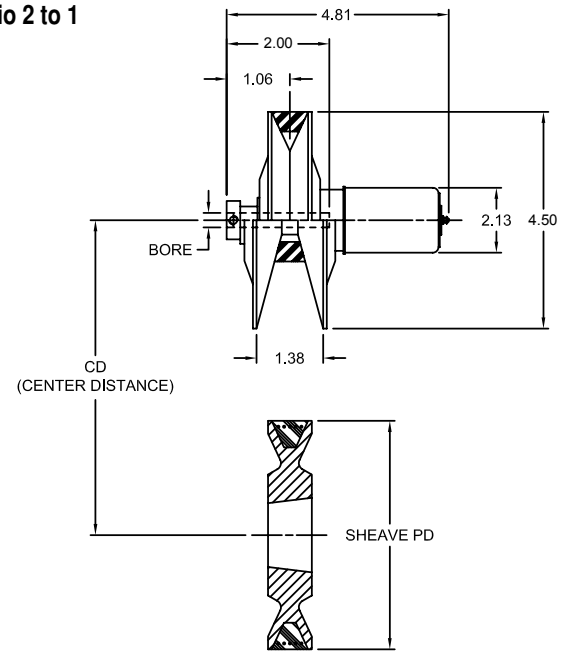
Aluminoline variable speed pulleys are designed to drive standard "A" and "B" section belts. Due to the intermeshing flange design, it is best to use a wrapped belt or one without cogs.

Adjustable Center Drives

The typical adjustable center drive consists of the Aluminoline pulley mounted on the motor shaft, a companion sheave on the driven shaft, an adjustable motor base and a belt. Standard "A" and "B" fixed diameter sheaves should be used as driven companion sheaves. Belt alignment will be maintained throughout the speed range because the Aluminoline pulleys are two-side moveable. Due to the minimal bottom contact area of "A" and "B" belts, flat driven sheaves are NOT recommended.

Aluminoline Series

Two-Side Moveable
Adjustable Center Drives
1/2 through 3/4 HP
"A" Belt
Ratio 2 to 1



Model 145 Spring-Loaded Driver Pulley

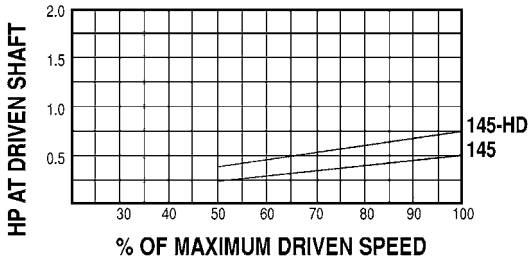
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18523	1/2	2.10	4.25	18	1/2	1/3
18525	5/8					
18526	3/4					

Model 145-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42156	1/2	2.10	4.25	27	3/4	1/2
18533	5/8					
42157	3/4					

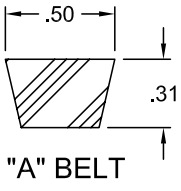
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown in the tables.

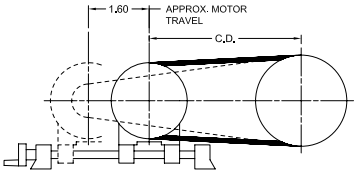
Horsepower Curves – 1,750 RPM Input



145 / 145-HD Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 145 in-lb	145-HD in-lb
4.0	920	1,855	605	1,220	17	19
5.0	735	1,485	485	975	21	24
6.0	615	1,235	405	810	25	28
8.0	460	925	305	610	34	38
10.0	370	740	245	485	42	48
12.0	310	615	205	405	50	56





NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135,
	200
	SMB - 143
56, 143T	SMB - 143
	145 / 60

145 / 145-HD Belt Selection Chart

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "A" Belt Size[1] A26 (27.3) in	A31 (32.3) in	A33 (34.3) in	A35 (36.3) in	A38 (39.3) in	A42 (43.3) in	A46 (47.3) in	A48 (49.3) in	A51 (52.3) in	A53 (54.3) in	A55 (56.3) in	A60 (61.3) in	A62 (63.3) in
4.0	7.2	9.7	10.7	11.7	13.2	15.2	17.2	18.2	19.7	20.7	21.7	24.2	25.2
5.0	6.4	8.9	9.9	10.9	12.4	14.4	16.4	17.4	18.9	19.9	20.9	23.4	24.4
6.0	—	8.1	9.1	10.1	11.6	13.6	15.6	16.6	18.1	19.1	20.1	22.6	23.6
8.0	—	—	7.3	8.3	9.8	11.9	13.9	14.9	16.4	17.4	18.4	20.9	21.9
10.0	—	—	—	—	8.0	10.1	12.1	13.1	14.6	15.7	16.7	19.2	20.2
12.0	—	—	—	—	—	—	10.3	11.3	12.8	13.8	14.9	17.4	18.4

Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

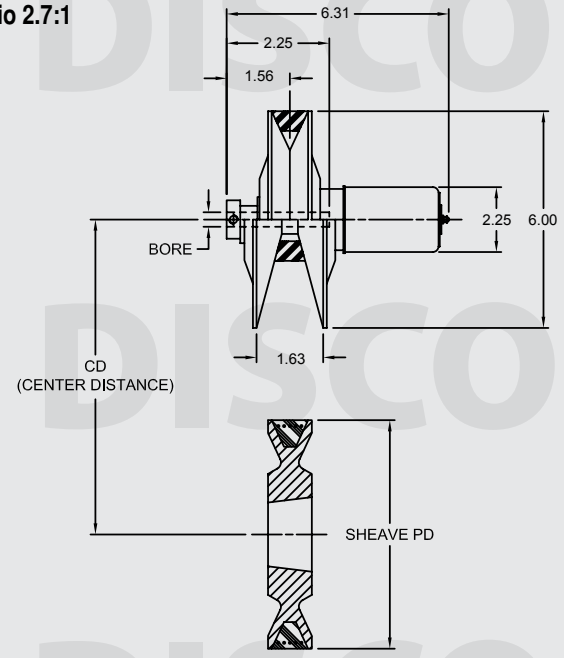
VSD

PLEASE NOTE: The Aluminoline Models 160 are discontinued. Contact Lovejoy Application Engineering for substitution options. This page is for informational purposes only

Variable Speed Drives
Aluminoline Models 160 and 160-HD
Item Selection

Aluminoline Series

Two-Side Moveable Adjustable Center Drives
3/4 through 1 HP
"A" Belt
Ratio 2.7:1



Model 160 Spring-Loaded Driver Pulley

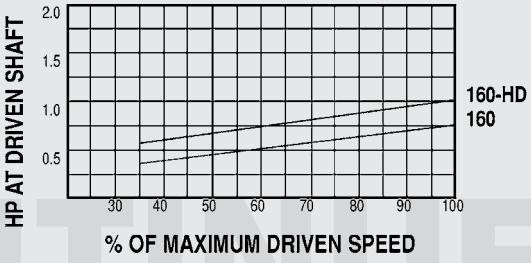
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18572	1/2	2.10	5.75	27	3/4	1/2
18573	5/8					
18574	3/4					

Model 160-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42184	1/2	2.10	5.75	36	1	3/4
42185	5/8					
42087	3/4					

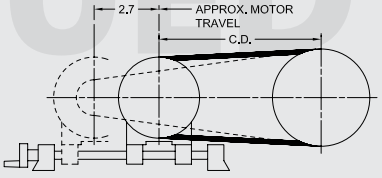
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown in the tables.

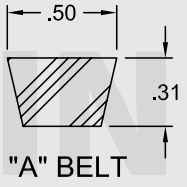
Horsepower Curves – 1,750 RPM Input



160 / 160-HD Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 160 in-lb	160-HD in-lb
4.0	920	2,515	605	1,650	19	24
5.0	735	2,010	485	1,320	24	30
6.0	615	1,675	405	1,100	28	36
8.0	460	1,255	305	825	38	48
10.0	370	1,005	245	660	47	60
12.0	310	835	205	550	56	75





NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135,
	200
	SMB - 143
56, 143T	SMB - 143
	145 / 60

VSD

160 / 160-HD Belt Selection Chart

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "A" Belt Size[1] A26 (27.3) in	A31 (32.3) in	A33 (34.3) in	A35 (36.3) in	A38 (39.3) in	A42 (43.3) in	A46 (47.3) in	A48 (49.3) in	A51 (52.3) in	A53 (54.3) in	A55 (56.3) in	A60 (61.3) in	A62 (63.3) in
4.0	5.9	8.4	9.4	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
5.0	—	7.7	8.7	9.7	11.2	13.2	15.2	16.2	17.7	18.7	19.7	22.2	23.2
6.0	—	—	7.9	8.9	10.4	12.4	14.4	15.4	16.9	17.9	18.9	21.4	22.4
8.0	—	—	—	—	8.8	10.8	12.8	13.8	15.3	16.3	17.3	19.8	20.8
10.0	—	—	—	—	—	9.1	11.1	12.1	13.6	14.6	15.6	18.1	19.1
12.0	—	—	—	—	—	—	—	10.3	11.8	12.8	13.9	16.4	17.4

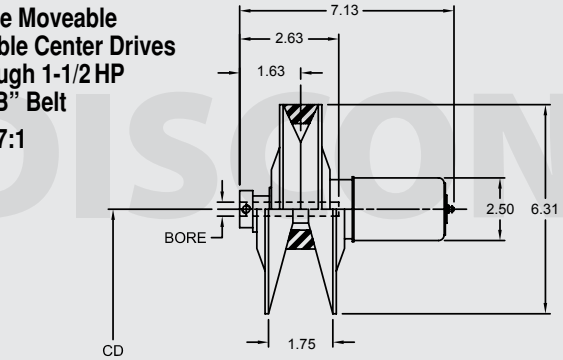
Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

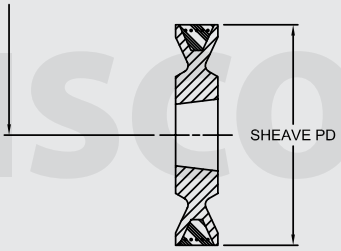
PLEASE NOTE: The Aluminoline Models 170, 175 and 180 are discontinued. Contact Lovejoy Application Engineering for substitution options. This page is for informational purposes only.

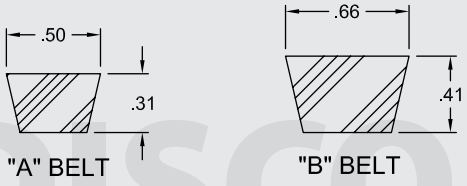
Variable Speed Drives
Aluminoline Models 170, 175 and 180
Item Selection

Aluminoline Series

Two-Side Moveable Adjustable Center Drives
1/2 through 1-1/2 HP
"A" & "B" Belt
Ratio 2.7:1







Model 170 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18617	5/8	2.24	6.06	A	27	3/4	1/2
18618	3/4	2.24	6.06	A			
18619	7/8	2.34	5.96	B			

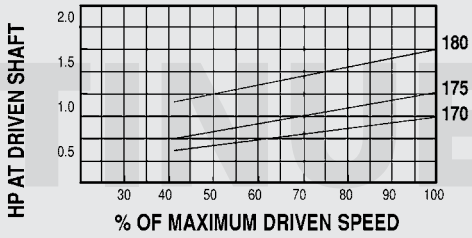
Model 175 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18645	5/8	2.24	6.06	A	36	1	3/4
18646	3/4	2.24	6.06	A			
18647	7/8	2.34	5.96	B			

Model 180 Spring-Loaded Driver Pulley

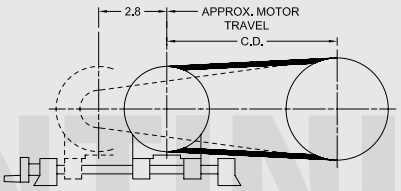
UPC Number	Bore in	PD Min in	PD Max in	Belt Series	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18675	5/8	2.24	6.06	A	54	1-1/2	1
18676	3/4	2.24	6.06	A			
18677	7/8	2.34	5.96	B			

Horsepower Curves – 1,750 RPM Input



170 / 175 / 180 Driven Sheave Selection Table

PD Driven Sheave in	Driven Speed Range 1750 RPM Motor Min RPM	Driven Speed Range 1750 RPM Motor Max RPM	Driven Speed Range 1150 RPM Motor Min RPM	Driven Speed Range 1150 RPM Motor Max RPM	Driven Torque 170 in-lb	Driven Torque 175 in-lb	Driven Torque 180 in-lb
4.0	1,025	2,605	675	1710	19	24	35
5.0	820	2,085	535	1370	24	30	45
6.0	685	1,735	450	1140	28	36	54
8.0	515	1,300	340	855	38	48	72
10.0	410	1,040	270	685	48	60	90
12.0	345	865	225	570	56	75	112



NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 135,
	200
143T	SMB - 143
	145 / 60
145T	SMB - 184
	301

Note: ■ Using an "A" section belt with the 170 / 175 / 180 series will actually increase the driven speed range. The maximum driven speed will be slightly higher and the minimum speed will be slightly lower.

170 / 175 / 180 Belt Selection

PD Driven Sheave in	Minimum Center Distance by Selected Sheave Size "B" Belt Size[1] B31 (32.8) in	B33 (34.8) in	B35 (36.8) in	B38 (39.8) in	B42 (43.8) in	B46 (47.8) in	B48 (49.8) in	B51 (52.8) in	B53 (54.8) in	B55 (56.8) in	B60 (61.8) in	B62 (63.8) in
4.0	8.5	9.5	10.5	12.0	14.0	16.0	17.0	18.5	19.5	20.5	23.0	24.0
5.0	—	8.8	9.8	11.3	13.3	15.3	16.3	17.8	18.8	19.8	22.3	23.3
6.0	—	—	9.0	10.5	12.5	14.5	15.5	17.0	18.0	19.0	21.5	22.5
8.0	—	—	—	8.9	10.9	12.9	13.9	15.4	16.4	17.4	19.9	20.9
10.0	—	—	—	—	9.2	11.2	12.2	13.7	14.7	15.7	18.2	19.2
12.0	—	—	—	—	—	—	10.4	11.9	13.0	14.0	16.5	17.5

Note: ■ 1 indicates: These are nominal belt sizes. The number in parentheses is the actual pitch length.

VSD

Wide Variable Speed Belts

1/3 through 15 HP

Pulleys in the WB series use wide variable speed belts for the most efficient transmission of torque through the widest possible speed range. These pulleys are two-side moveable for the best possible belt alignment when used with a grooved companion sheave. However, the location of the belt centerline close to the bore end of the pulley reduces the overhung load on motor bearings and seals. Precision-calibrated springs maintain correct pressure, keeping the belt properly tensioned and minimizing belt slip.

WB pulleys can be used on both adjustable and fixed center drives. They offer maximum service when lubricated through a convenient grease fitting and occasionally run through the speed range.



WB Series Pulley

Features

- Sizes range from 6 to 13 inches in diameter
- Ratings to 15 HP
- Made of durable cast iron flanges (if greater than 1 HP)
- Lightweight, corrosion-resistant anodized aluminum flanges on Models 245 and 260
- Precision balanced for smooth operation

Belt Selection

WB pulleys offer optimum speed ratios because they are used with wide variable speed belts. Pulley flanges are designed to match standard belt angle and width, so each pulley model must be matched to the correct belt to insure full speed range and maximum torque capacity.



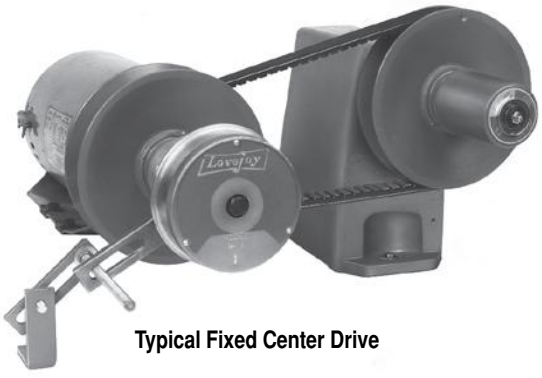
Typical Adjustable Center Drive

Adjustable Center Drives

The typical adjustable center drive consists of: the WB pulley mounted on the motor shaft; a grooved companion sheave mounted with a bushing on the driven shaft; an adjustable motor base; and a variable speed belt. A wide range of pulley sizes and horsepower ratings are available from the WB series to fit the system requirements, and Lovejoy offers the correct drive belt, companion sheave, bushing, and motor base to complete the package.

Fixed Center Drives

Fixed center, or compound, drives offer greater driven speed ranges in a compact space. A fixed center drive consisting of a WB spring-loaded pulley and an adjustable pulley to match offers the best possible package for “C” mount configurations where zero offset is critical. Zero offset means that the driver and driven units are in line with one another, and the driven pulley is mounted in such a way that the belt rides as close as possible to the driven unit. This reduces overhung load and provides a smoother running drive. Three WB fixed center drive packages are available, from 1/3 through 3 HP.

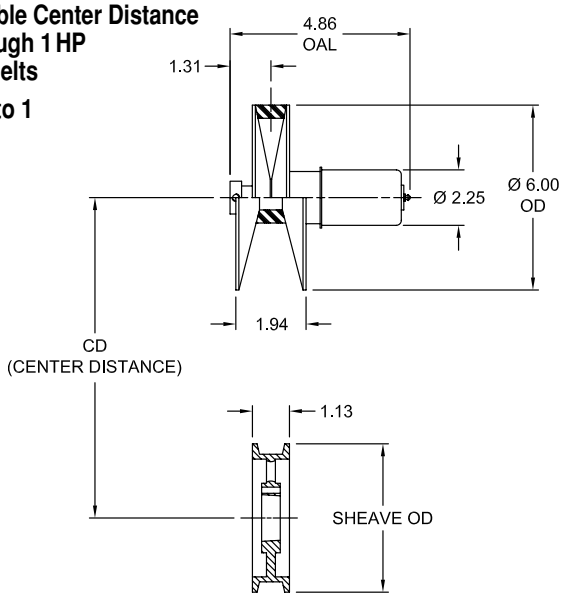


Typical Fixed Center Drive

WB Series

Two-Side Moveable
Adjustable Center Distance
1/3 through 1 HP
1422V Belts

Ratio 3 to 1



Model 245 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18698	1/2	1.90	5.80	18	1/2	1/3
18700	5/8					
18702	3/4					

Model 260 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18721	1/2	1.90	5.80	27	3/4	1/2
18724	5/8					
18726	3/4					

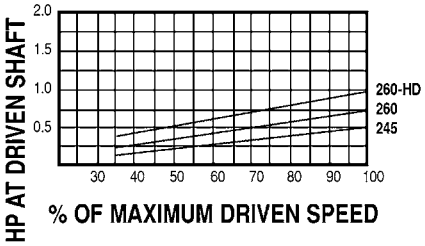
Model 260HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42116	1/2	1.90	5.80	36	1	3/4
18756	5/8					
18757	3/4					

245 / 260 / 260HD Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque		
				1750 RPM Motor		1150 RPM Motor		245	260	260-HD
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb	in-lb
19493	1422G5.5SH	5.3	5.5	630	1,915	415	1,255	16	25	33
19495	1422G6SH	5.8	6.0	575	1,750	380	1,150	18	27	36
19497	1422G7SH	6.8	7.0	490	1,490	325	980	21	32	42
19499	1422G8SH	7.8	8.0	430	1,300	280	855	24	36	48
19501	1422G9SH	8.8	9.0	380	1,150	250	755	27	41	55
19503	1422G10SH	9.8	10.0	340	1,035	225	680	30	46	61
19507	1422G11SH	10.8	11.0	310	935	205	615	34	50	67
19509	1422G12SH	11.8	12.0	285	860	185	565	37	55	73
19511	1422G14SH	13.8	14.0	245	735	160	480	43	64	86

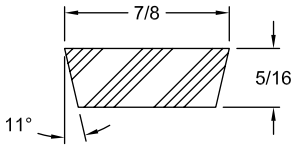
Horsepower Curves – 1,750 RPM Input



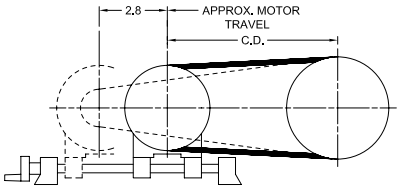
245 / 260 / 260HD Belt Selection Table

UPC Number	Belt Size	Center Distance by Selected Sheave Size 1422G-5.5SH in	1422G-6SH in	1422G-7SH in	1422G-8SH in	1422G-9SH in	1422G-10SH in	1422G-11SH in
23255	1422V300	6.3	—	—	—	—	—	—
23257	1422V340	8.3	7.9	7.1	—	—	—	—
23258	1422V360	9.3	8.9	8.1	7.3	—	—	—
23259	1422V400	11.3	10.9	10.1	9.3	8.4	—	—
23260	1422V420	12.3	11.9	11.1	10.3	9.4	8.6	—
23261	1422V460	14.3	13.9	13.1	12.3	11.4	10.6	9.7
23262	1422V480	15.3	14.9	14.1	13.3	12.4	11.6	10.7
23263	1422V540	18.3	17.9	17.1	16.3	15.4	14.6	13.7
23264	1422V600	21.3	20.9	20.1	19.3	18.5	17.6	16.7
23265	1422V660	24.3	23.9	23.1	22.3	21.5	20.6	19.8
23266	1422V720	27.3	26.9	26.1	25.3	24.5	23.6	22.8
23267	1422V780	30.3	29.9	29.1	28.3	27.5	26.6	25.8

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



1422V BELT



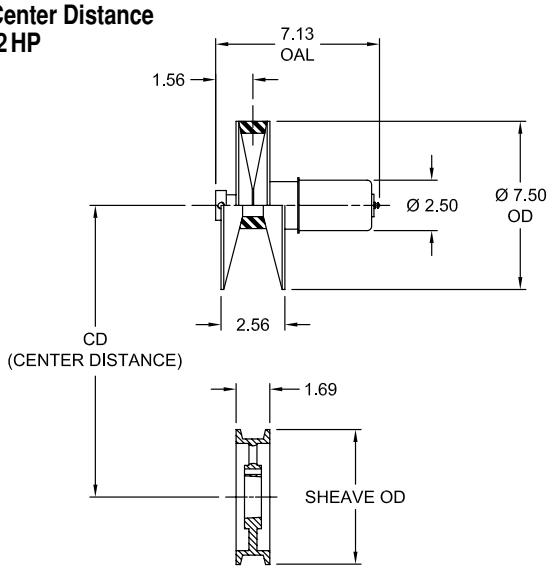
NEMA Motor Frame	Recommended Motor Bases
143T, 145T 185T, 184T	403 or SMB - 184

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
3/4 through 2 HP
1922V Belts

Ratio 3 to 1



Model 301E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18761	5/8	2.42	7.28	54	1 to 1-1/2	3/4 to 1
18763	3/4					
18764	7/8					
18767	1					

Model 301E-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42367	5/8	2.42	7.28	72	2	1-1/2
42368	3/4					
42369	7/8					
42370	1					

301E / 301E-HD Driven Sheave Selection Table

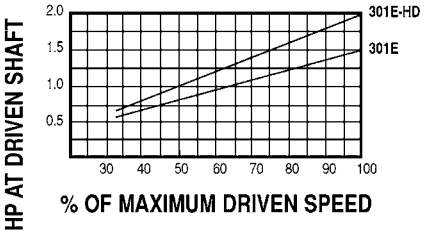
Grooved Driven Sheave				Driven Speed Range				Driven Torque	
				1750 RPM Motor		1150 RPM Motor		301E	301E-HD
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb
19520	1922G7SK	6.78	7.0	625	1,875	410	1,230	50	67
19522	1922G8SK	7.78	8.0	545	1,635	360	1,075	58	77
19523	1922G9SK	8.78	9.0	485	1,450	320	950	65	87
19524	1922G10SK	9.78	10.0	435	1,300	285	855	73	97
19528	1922G12SK	11.78	12.0	360	1,080	240	710	87	117
19529	1922G14SK	13.78	14.0	310	920	205	605	102	136
19531	1922G16SK	15.78	16.0	270	805	180	530	117	156

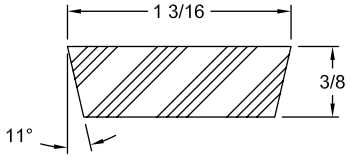
301E / 301E-HD Belt Selection Table

UPC Number	Belt Size	Center Distance by Selected Sheave Size 1922G-7SK in	1922G-8SK in	1922G-9SK in	1922G-10SK in	1922G-12SK in	1922G-14SK in	1922G-16SK in
23282	1922Vt403	9.1	8.3	—	—	—	—	—
23285	1922V443	11.1	10.3	9.5	—	—	—	—
23287	1922V484	13.2	12.4	11.6	10.7	—	—	—
23288	1922V526	15.3	14.5	13.7	12.8	11.1	—	—
23290	1922V544	16.2	15.4	14.6	13.7	12.0	—	—
23292	1922V604	19.2	18.4	17.6	16.7	15.1	13.3	—
23293	1922V646	21.3	20.5	19.7	18.9	17.2	15.4	13.6
23294	1922V666	22.3	21.5	20.7	19.9	18.2	16.4	14.6
23295	1922V686	23.3	22.5	21.7	20.9	19.2	17.5	15.7
23296	1922V706	24.3	23.5	22.7	21.9	20.2	18.5	16.7
23298	1922V726	25.3	24.5	23.7	22.9	21.2	19.5	17.7
23300	1922V806	29.3	28.5	27.7	26.9	25.2	23.5	21.7
23303	1922V966	37.3	36.5	35.7	34.9	33.2	31.5	29.8

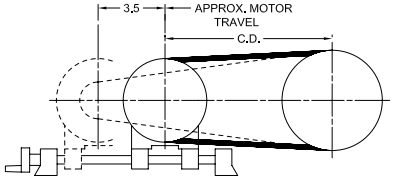
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input





1922V BELT



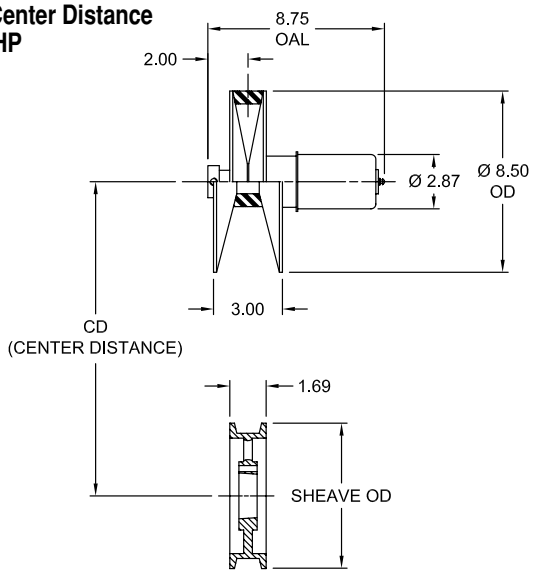
NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 200, 135 SMB - 143
56, 143T	SMB - 143 145 / 60

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
2 through 4 HP
2322V Belts

Ratio 3 to 1



Model 3030E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18937	7/8	2.70	8.25	108	3	2
18939	1					
18940	1-1/8					
27966	1-1/4					

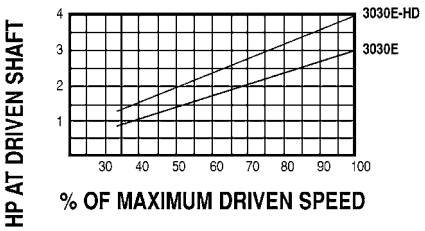
Model 3030E-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min	PD Max	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42377	7/8	2.70	8.25	144	4	3
18978	1					
72379	1-1/8					

3030E / 3030E-HD Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque	
UPC Number	Model	PD in	OD in	1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	3030E in-lb	3030E-HD in-lb
19538	2322G7SK	6.75		700	2,135	460	1,405	88	118
19540	2322G8SK	7.75	8.0	610	1,860	405	1,220	101	135
15944	2322G9SK	8.75	9.0	540	1,650	355	1,080	115	152
19546	2322G10SK	9.75	10.0	485	1,480	320	970	128	170
19548	2322G12SK	11.75	12.0	405	1,225	265	805	157	205
19550	2322G14SK	13.75	14.0	345	1,050	230	690	180	240
19553	2322G16SK	15.75	16.0	300	915	200	600	206	275

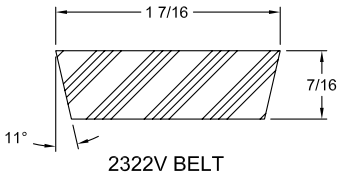
Horsepower Curves – 1,750 RPM Input

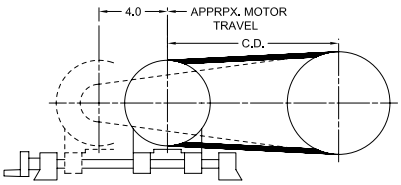


3030E / 3030E-HD Belt Selection Table

UPC Number	Belt Size	Center Distance by Selected Sheave Size 2322G-7SK in	2322G-8SK in	2322G-9SK in	2322G-10SK in	2322G-12SK in	2322G-14SK in	2322G-16SK in
23318	2322V481	12.2	11.5	10.7	9.9	—	—	—
23319	2322V521	14.2	13.5	12.7	11.9	—	—	—
23320	2322V541	15.2	14.5	13.7	12.9	11.2	—	—
23322	2322V601	18.2	17.5	16.7	15.9	14.2	12.5	—
23324	2322V621	19.3	18.5	17.7	16.9	15.2	13.5	—
23326	2322V661	21.3	20.5	19.7	18.9	17.2	15.5	13.8
23327	2322V681	22.3	21.5	20.7	19.9	18.3	16.5	14.8
23328	2322V701	23.3	22.5	21.7	20.9	19.3	17.6	15.8
23329	2322V721	24.3	23.5	22.7	21.9	20.3	18.6	16.8
23330	2322V801	28.3	27.5	26.7	25.9	24.3	22.6	20.8
23331	2322V826	29.5	28.7	28.0	27.1	25.5	23.8	22.1
23333	2322V886	32.5	31.7	31.0	30.2	28.5	26.8	25.1
23335	2322V1001	38.3	37.5	36.7	35.9	34.3	32.6	30.9
23337	2322V1271	51.8	51.0	50.2	49.4	47.8	46.2	44.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



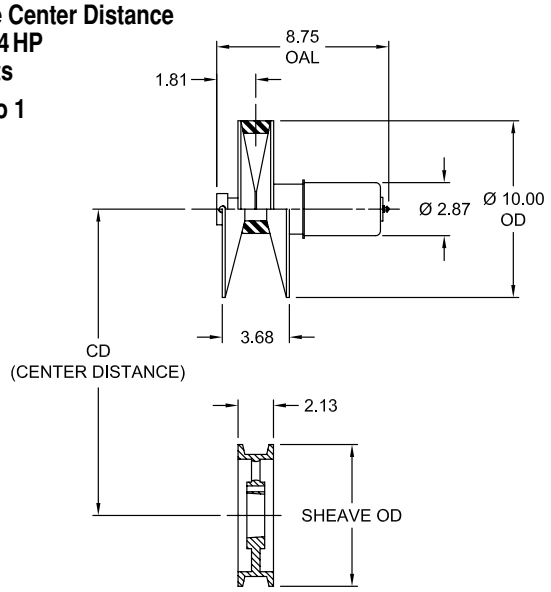


NEMA Motor Frame	Recommended Motor Bases
143T, 145T	SMB - 184 or 302-3
182T, 184T	

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
2 through 4 HP
2926V Belts
Ratio 3.4 to 1



Model 303E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18814	7/8	2.80	9.70	108	3	2
18817	1					
18819	1-1/8					
18820	1-1/4					

Model 303E-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18856	1-1/8	2.80	9.70	144	4	3
43435	1-1/4					

303E / 303E-HD Driven Sheave Selection Table

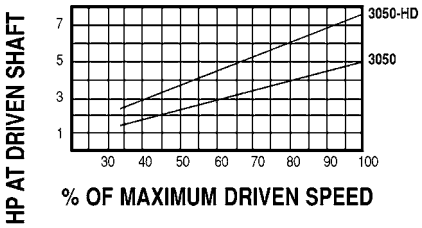
Grooved Driven Sheave UPC Number	Model	PD in	OD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 303E in-lb	303E-HD in-lb
19561	2926G8SK	7.7	8.0	640	2,200	420	1,445	86	114
19563	2926G9SK	8.7	9.0	565	1,950	370	1,280	97	129
19565	2926G10SK	9.7	10.0	505	1,750	335	1,150	108	144
19567	2926G12SK	11.7	12.0	420	1,450	280	950	130	174
19569	2926G14SK	13.7	14.0	360	1,235	235	810	153	203
19572	2926G16SK	15.7	16.0	315	1,080	205	710	175	233
19575	2926G18SK	17.7	18.0	280	955	185	630	197	263

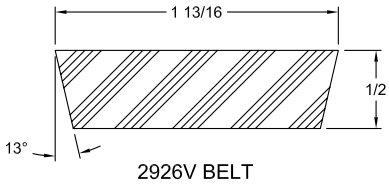
303E / 303E-HD Belt Selection Table

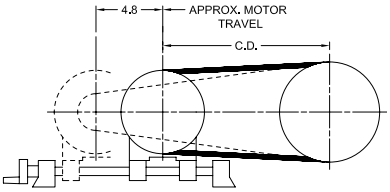
UPC Number	Belt Size	Center Distance by Selected Sheave Size 2926G-7SK in	2926G-8SK in	2926G-9SK in	2926G-10SK in	2926G-12SK in	2926G-14SK in	2926G-16SK in
23350	2926V486	10.6	9.8	—	—	—	—	—
23353	2926V546	13.6	12.8	12.1	—	—	—	—
23357	2926V606	16.6	15.8	15.1	13.5	—	—	—
23360	2926V646	18.6	17.8	17.1	15.5	13.8	—	—
23361	2926V666	19.6	18.8	18.1	16.5	14.8	13.1	—
23362	2926V686	20.6	19.8	19.1	17.5	15.8	14.1	—
23364	2926V726	22.6	21.8	21.1	19.5	17.8	16.1	14.3
23367	2926V786	25.6	24.8	24.1	22.5	20.8	19.1	17.4
23369	2926V856	29.1	28.3	27.6	26.0	24.3	22.6	20.9
23371	2926V906	31.6	30.8	30.1	28.5	26.8	25.2	23.4
23372	2926V966	34.6	33.8	33.1	31.5	29.8	28.2	26.4
23375	2926V1086	40.6	39.8	39.1	37.5	35.8	34.2	32.5
23376	2926V1146	43.6	42.8	42.1	40.5	38.9	37.2	35.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input







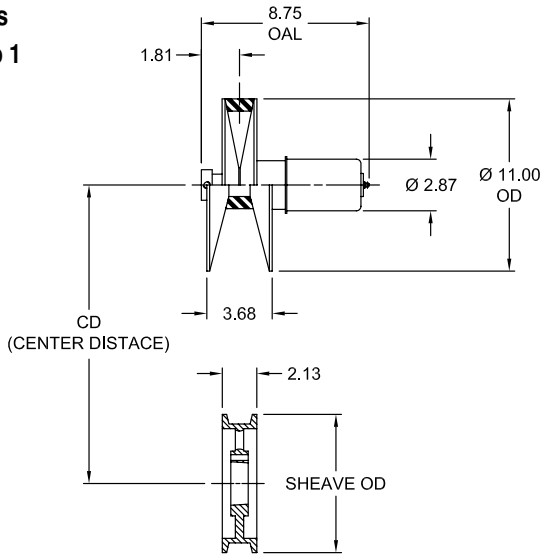
NEMA Motor Frame	Recommended Motor Bases
143T, 145T	302-3 or
185T, 184T	SMB - 184

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
3/4 through 3 HP
2926V Belts

Ratio 3.8 to 1



Model 401E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18858	7/8	2.80	10.70	54	1 to 1-1/2	3/4 to 1
27802	1					
18859	1-1/8					

Model 402E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18884	7/8	2.80	10.70	72	2	1-1/2
27803	1					
18885	1-1/8					

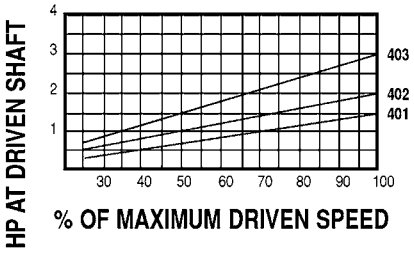
Model 403E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18894	7/8	2.80	10.70	108	3	2
18896	1					
18897	1-1/8					
18898	1-1/4					

401E / 402E / 403E Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	OD in	Driven Speed Range 1750 RPM Motor Min RPM	Driven Speed Range 1750 RPM Motor Max RPM	Driven Speed Range 1150 RPM Motor Min RPM	Driven Speed Range 1150 RPM Motor Max RPM	Driven Torque 401E in-lb	Driven Torque 402E in-lb	Driven Torque 403E in-lb
19561	2926G8SK	7.7	8.0	340	2,430	420	1,595	39	52	78
19563	2926G9SK	8.7	9.0	565	2,150	370	1,410	44	59	88
19565	2926G10SK	9.7	10.0	505	1,930	335	1,265	49	65	98
19567	2926G12SK	11.7	12.0	420	1,600	280	1,050	59	79	118
19569	2926G14SK	13.7	14.0	360	1,365	235	895	69	92	138
19572	2926G16SK	15.7	16.0	315	1,190	205	780	79	106	158
19575	2926G18SK	17.7	18.0	280	1,055	185	695	89	119	179

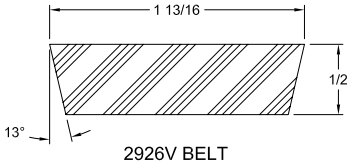
Horsepower Curves – 1,750 RPM Input



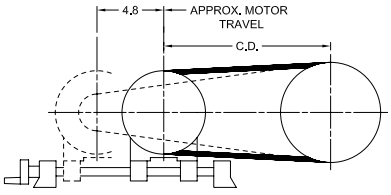
401E / 402E / 403E Belt Selection Table

UPC Number	Belt Size	Center Distance by Selected Sheave Size 2926G-8SK in	2926G-9SK in	2926G-10SK in	2926G-12SK in	2926G-14SK in	2926G-16SK in	2926G-18SK in
23350	2926V486	10.0	—	—	—	—	—	—
23353	2926V546	13.0	12.3	11.5	—	—	—	—
23357	2926V606	16.0	15.3	14.5	12.9	—	—	—
53360	2926V646	18.0	17.3	16.5	14.9	13.3	—	—
23661	2926V666	19.0	18.3	17.5	15.9	14.3	—	—
23362	2926V686	20.0	19.3	18.5	16.9	15.3	13.6	—
23364	2926V726	22.0	21.3	20.5	18.9	17.3	15.6	—
23367	2926V786	25.0	24.3	23.5	21.9	20.3	18.6	16.9
23369	2926V856	28.1	27.8	27.0	25.4	23.8	22.1	20.4
23371	2926V906	31.0	30.3	29.5	27.9	26.3	24.6	22.9
23372	2926V966	34.0	33.3	32.5	30.9	29.3	27.7	26.0
23375	2926V1086	40.0	39.3	38.5	36.9	35.3	33.7	32.0
23376	2926V1146	43.0	42.3	41.5	39.9	38.3	36.7	35.0

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



2926V BELT



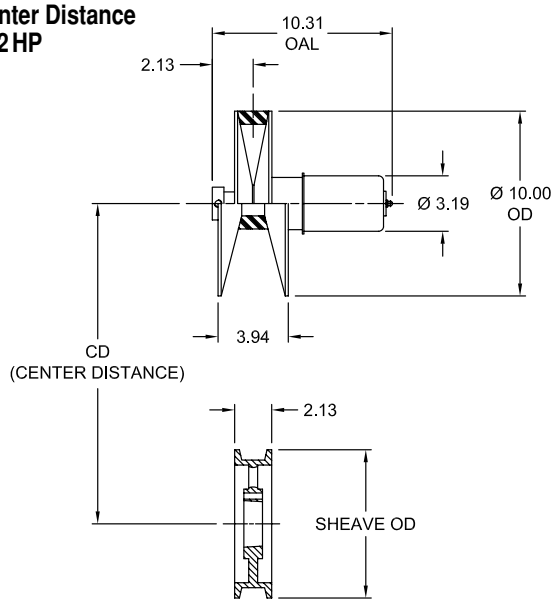
NEMA Motor Frame	Recommended Motor Bases
143T, 145T	403 or
185T, 184T	SMB - 184

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
3 through 7-1/2 HP
2926V Belts

Ratio 3 to 1



Model 3050E Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
18988	1-1/8	3.20	9.70	180	5	3
18989	1-1/4					
18990	1-3/4					

Model 3050E-HD Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
43184	1-1/8	3.20	9.70	270	7-1/2	5
19031	1-3/8					

3050E / 3050E-HD Driven Sheave Selection Table

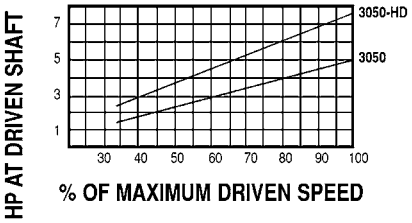
Grooved Driven Sheave UPC Number	Model	PD in	OD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 3050E in-lb	3050E-HD in-lb
19561	2926G8SK	7.7	8.0	730	2,200	480	1,445	143	214
19563	2926G9SK	8.7	9.0	645	1,950	425	1,280	161	242
19565	2926G10SK	9.7	10.0	580	1,750	380	1,150	180	270
19567	2926G12SK	11.7	12.0	480	1,450	315	950	217	326
19569	2926G14SK	13.7	14.0	410	1,235	270	810	254	381
19572	2926G16SK	15.7	16.0	360	1,080	235	710	291	437
19575	2926G18SK	17.7	18.0	320	955	210	630	328	493

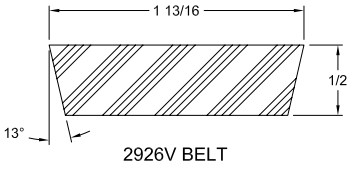
3050E / 3050E-HD Belt Selection Table

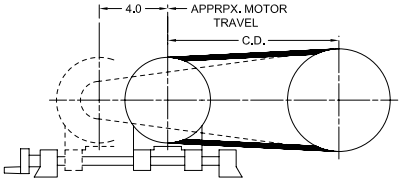
UPC Number	Belt Size	Center Distance by Selected Sheave Size 2926G-8SK in	2926G-9SK in	2926G-10SK in	2926G-12SK in	2926G-14SK in	2926G-16SK in	2926G-18SK in
23350	2926V486	10.6	9.8	—	—	—	—	—
23353	2926V546	13.6	12.8	12.1	—	—	—	—
23357	2926V606	16.6	15.8	15.1	13.5	—	—	—
53360	2926V646	18.6	17.8	17.1	15.5	13.8	—	—
23661	2926V666	19.6	18.8	18.1	16.5	14.8	13.1	—
23362	2926V686	20.6	19.8	19.1	17.5	15.8	14.1	—
23364	2926V726	22.6	21.8	21.1	19.5	17.8	16.1	14.3
23367	2926V786	25.6	24.8	24.1	22.5	20.8	19.1	17.4
23369	2926V856	29.1	28.3	27.6	26.0	24.3	22.6	20.9
23371	2926V906	31.6	30.8	30.1	28.5	26.8	25.2	23.4
23372	2926V966	34.6	33.8	33.1	31.5	29.8	28.2	26.4
23375	2926V1086	40.6	39.8	39.1	37.5	35.8	34.2	32.5
23376	2926V1146	43.6	42.8	42.1	40.5	38.9	37.2	35.5

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input







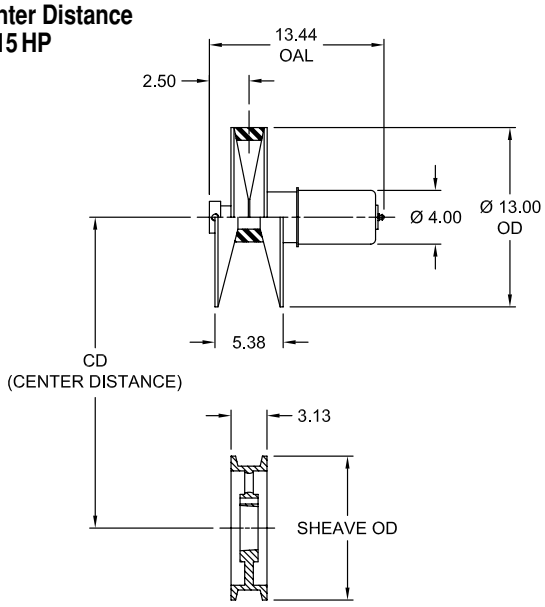
NEMA Motor Frame	Recommended Motor Bases
184T, 213T	305-8 or
215T, 254T	SMB - 254

VSD

WB Series

Two-Side Moveable
Adjustable Center Distance
7-1/2 through 15 HP
4430V Belts

Ratio 3 to 1



Model 3075B Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
53008	1-1/8	4.25	12.60	270	7-1/2	5
53009	1-1/4					
53010	1-3/8					
53011	1-5/8					

Model 3100B Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
53012	1-1/4	4.25	12.60	360	10	7-1/2
53013	1-3/8					
53003	1-5/8					

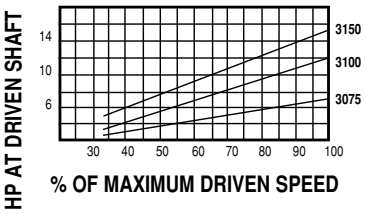
Model 3150B Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
53015	1-1/4	4.25	12.60	540	15	10
53016	1-3/8					
53017	1-5/8					

3075B / 3100B / 3150B Driven Sheave Selection Table

Grooved Driven Sheave				Driven Speed Range				Driven Torque		
				1750 RPM Motor		1150 RPM Motor				
UPC Number	Model	PD in	OD in	Min RPM	Max RPM	Min RPM	Max RPM	3075B in-lb	3100B in-lb	3150B in-lb
19600	4430G10.4SF	10.0	10.4	745	2,205	490	1,145	215	285	730
19604	4430G12SK	11.6	12.0	645	1,900	425	1,245	249	330	498
19607	4430G14SK	13.6	14.0	550	1,620	360	1,065	292	388	584
19610	4430G16SK	15.6	16.0	480	1,410	315	925	335	445	670
19614	4430G18.4SF	18.0	18.4	415	1,225	275	800	387	516	774
19616	4430G20.4SF	20.0	20.4	375	1,100	245	720	430	570	860
19618	4430G24.4SF	24.0	24.4	310	915	205	600	516	684	1032

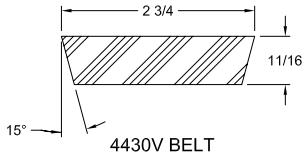
Horsepower Curves
1,750 RPM Input

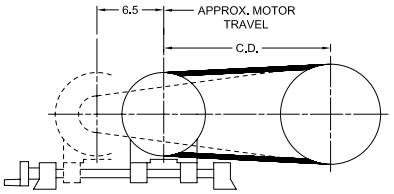


3075B / 3100B / 3150B Belt Selection Table

UPC Number	Belt Size	Center Distance by Selected Sheave Size 4430G-10.4SF in	4430G-12SK in	4430G-14SK in	4430G-16SK in	4430G-18.4SF in	4430G-20.4SF in	4430G-24.4SF in
23397	4430V555	—	—	—	—	—	—	—
23400	4430V600	12.7	—	—	—	—	—	—
23403	4430V660	15.2	14.0	—	—	—	—	—
23407	4430V718	18.1	16.9	15.3	—	—	—	—
23411	4430V760	20.2	19.0	17.4	15.8	—	—	—
23413	4430V790	21.7	20.5	18.9	17.3	15.3	—	—
23414	4430V850	24.7	23.5	21.9	20.3	18.3	—	—
23416	4430V910	27.7	26.5	24.9	23.3	21.3	19.6	—
23418	4430V970	30.7	29.5	27.9	26.3	24.3	22.6	19.1
23421	4430V1030	33.7	32.5	30.9	29.3	27.3	25.6	22.1
23423	4430V1090	36.7	35.5	33.9	32.3	30.3	28.6	25.2
23426	4430V1150	39.7	38.5	36.9	35.3	33.3	31.7	28.2
23430	4430V1320	48.2	47.0	45.4	43.8	41.9	40.2	36.8
23434	4430V1610	62.7	61.5	59.9	58.3	56.4	54.7	51.4

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.





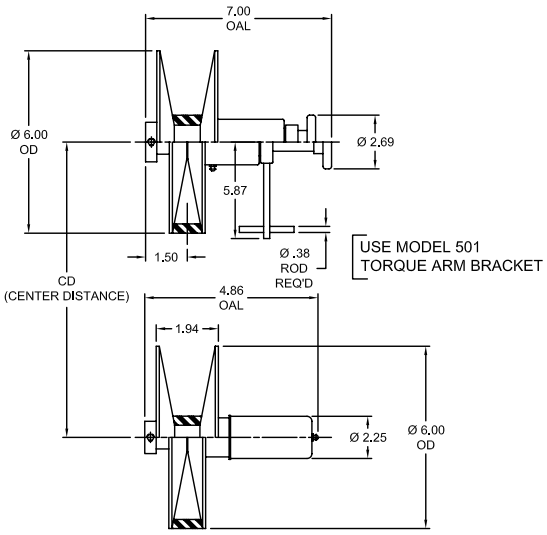
NEMA Motor Frame	Recommended Motor Bases
184T, 213T 215T, 254T	SMB - 254 or 305-8
215T, 254T, 256T, 284T, 286T, 324T	310-30

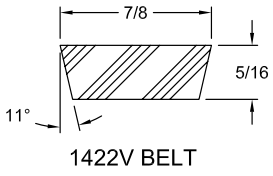
VSD

WB Series

Fixed Center Distance
1/3 through 3/4 HP
1422V Belts

Ratio 9.3 to 1





Model M-007 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
31670	1/2	1.90	5.80	1/2 to 3/4	1/3 to 1/2
31671	5/8				
31672	3/4				

Model 245 Spring-Loaded Driven Pulley

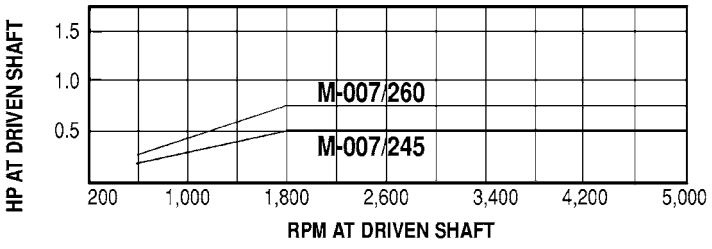
UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
18698	1/2	1.90	5.80	1/2	1/3
18700	5/8				
18702	3/4				

Model 260 Spring-Loaded Driven Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
18721	1/2	1.90	5.80	3/4	1/2
18724	5/8				
18726	3/4				

Note: ■ Because both the M-007 and the 245/260 are 2-side moveable pulleys, the above UPC numbers apply for both "C" Mount and "Z" Mount drives.

Horsepower Curves – 1,750 RPM Input



M-007 / 245 / 260 Belt Selection Chart

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23255	1422V300	8.70	573	5,342	9.3 to 1	377	3,510	9.3 to 1
23257	1422V340	10.73						
23258	1422V360	11.74						
23259	1422V400	13.76	573	5,342	9.3 to 1	377	3,510	9.3 to 1
23260	1422V420	14.77						
23261	1422V460	16.79						

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23262	1422V480	17.79	573	5,342	9.3 to 1	377	3,510	9.3 to 1
23263	1422V540	20.81						
23264	1422V600	23.83						
23265	1422V660	26.84	573	5,342	9.3 to 1	377	3,510	9.3 to 1
23266	1422V720	29.85						
23267	1422V780	32.85						

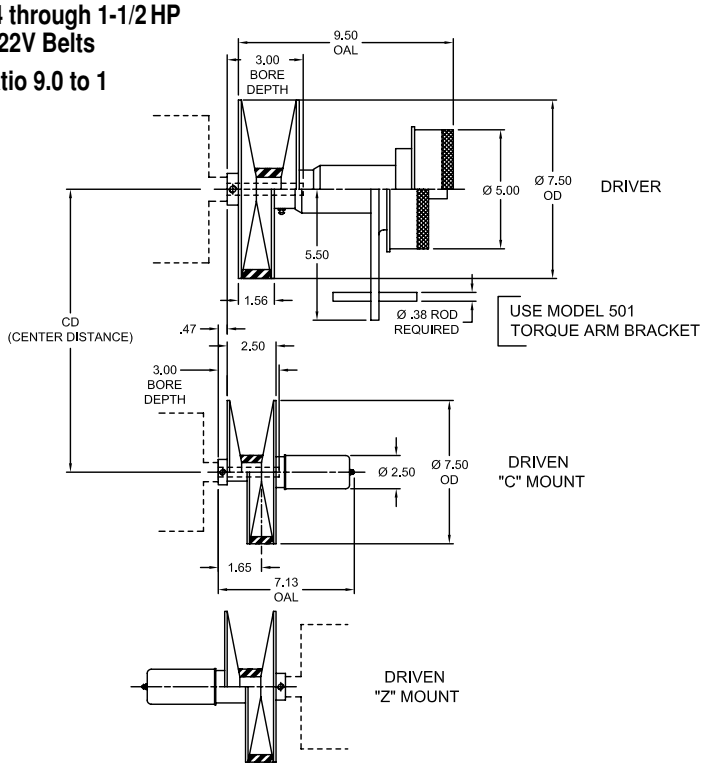
Notes: ■ The Driven Speed Range and the resulting Ratios given in this chart are derived from mathematical calculations based on exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

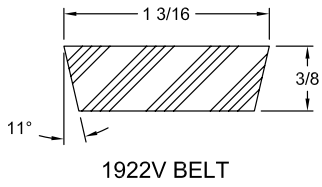
VSD

WB Series

Fixed Center Distance
3/4 through 1-1/2 HP
1922V Belts

Ratio 9.0 to 1





1922V BELT

Model M-1 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
20137	5/8	2.42	7.28	1 to 1-1/2	3/4 to 1
20138	3/4				
20139	7/8				
20141	1				

Note: ■ 17 turns of hand wheel required for full speed range.

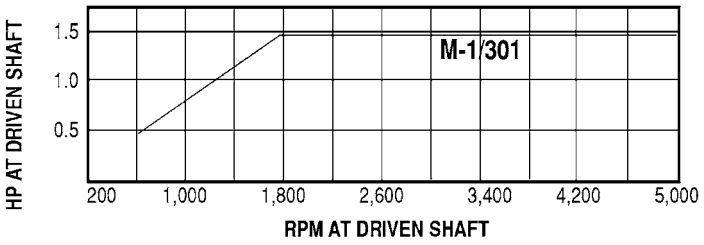
Model 301C Spring-Loaded Driven Pulley ("C" Mount)

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
20371	5/8	2.42	7.28	1 to 1-1/2	3/4 to 1
20372	3/4				
20373	7/8				
20374	1				

Model 301D Spring-Loaded Driven Pulley ("Z" Mount)

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
42218	5/8	2.42	7.28	1 to 1-1/2	3/4 to 1
20376	3/4				
42219	7/8				
20378	1				

Horsepower Curves – 1750 RPM Input



M-1 / 301C / 301D Belt Selection Table

Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23278	1922V321	8.06	582	5,264	9 to 1	383	3,459	9 to 1
23280	1922V363	10.21						
23281	1922V380	11.07						
23282	1922V403	12.24						
23283	1922V426	13.40	582	5,264	9 to 1	383	3,459	9 to 1
23285	1922V443	14.26						
23286	1922V454	14.82						
23287	1922V484	16.34						

Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23288	1922V526	18.46	582	5,264	9 to 1	383	3,459	9 to 1
23290	1922V544	19.36						
23292	1922V614	22.39						
23293	1922V646	24.50						
23294	1922V666	25.50	582	5,264	9 to 1	383	3,459	9 to 1
23295	1922V686	26.51						
23296	1922V706	27.51						
23298	1922V726	28.52						

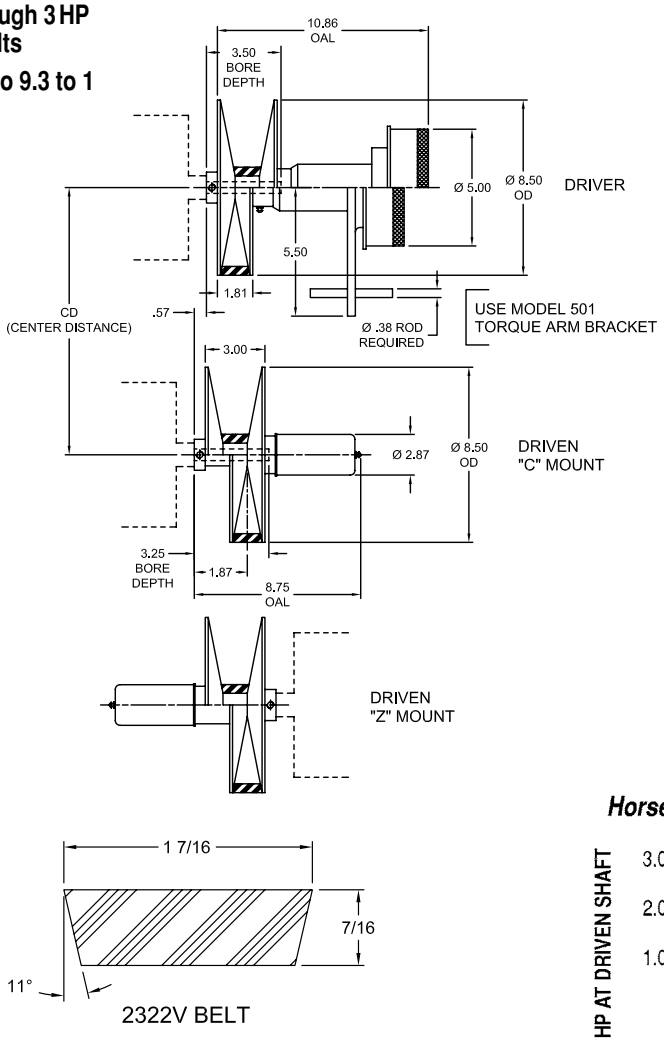
Notes: ■ The Driven Speed Range and the resulting Ratios given in this chart are derived from mathematical calculations based on exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

WB Series

Fixed Center Distance
1-1/2 through 3 HP
2322V Belts

Ratio up to 9.3 to 1



Model M-3 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
20200	7/8	2.70	8.25	2 to 3	1-1/2 to 2
20201	1				
20202	1-1/8				

Note: ■ 22 turns of hand wheel required for full speed range.

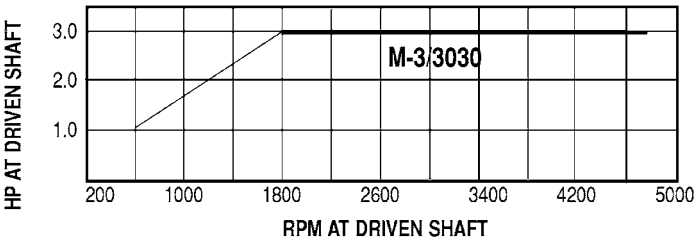
Model 3030C Spring-Loaded Driven Pulley ("C" Mount)

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
20381	7/8	2.70	8.25	2 to 3	1-1/2 to 2
20382	1				
20383	1-1/8				

Model 3030D Spring-Loaded Driven Pulley ("Z" Mount)

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
20387	7/8	2.70	8.25	2 to 3	1-1/2 to 2
42902	1				
42903	1-1/8				

Horsepower Curves – 1,750 RPM Input



M-3 / 3030C / 3030D Belt Selection Table

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23315	2322V421	12.08	573	4,720	8.2 to 1	377	3,513	9.3 to 1
23317	2322V441	13.10						
23318	2322V481	15.13						
23319	2322V521	17.15						
23320	2322V541	18.16	573	4,720	8.2 to 1	377	3,513	9.3 to 1
23322	2322V601	21.19						
23324	2322V621	22.20						
23326	2322V661	24.21						

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23327	2322V681	25.22	573	4,720	8.2 to 1	377	3,513	9.3 to 1
23328	2322V701	26.23						
23329	2322V721	27.24						
23330	2322V801	31.26						
23331	2322V826	32.51	573	4,720	8.2 to 1	377	3,513	9.3 to 1
23333	2322V886	35.53						
23335	2322V1001	41.30						
23337	2322V1271	54.83						

Notes: ■ The Driven Speed Range and the resulting Ratios given in this chart are derived from mathematical calculations based on exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Fixed Center Drives

1/3 through 3 HP
Wide Variable Speed Belts

In general, fixed center drives provide a greater total speed ratio than adjustable center drives. Traditional designs offer two pulleys of the same diameter, which means that a large portion of the driven speed range will be above motor speed. For those applications that require wide speed range and low driven speed, this has been a problem.

Lovejoy's new Hi-Ratio system solves this problem by mating smaller driver and larger driven pulleys to provide the unique combination of broader driven speed ranges and lower minimum driven speeds.

Features

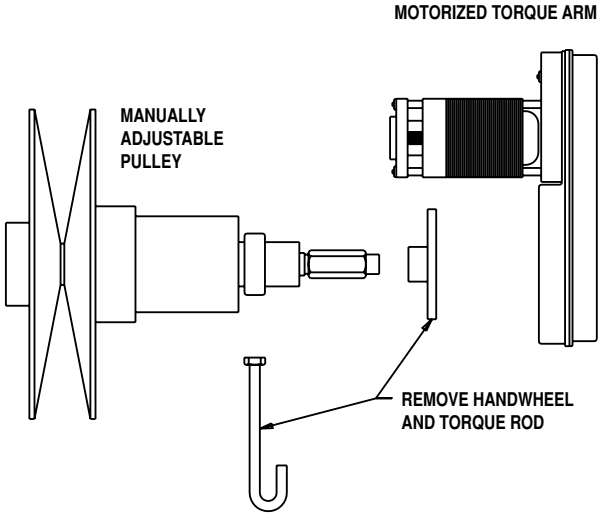
- Precision-balanced cast iron flanges for durability
- No maintenance required, thanks to a unique self-lubricating bearing material used between sliding surfaces
- Driven pulley springs are calibrated to maintain correct flange pressure against the belt
- Minimum offset with the most common "C" mount configuration
- Compact drive package because the driver and driven units are nearly in line with one another
- Three drive packages available, ranging from 1/3 through 5 HP with a 1,750 RPM motor. Speed ratios up to 11.5:1 can be attained

A motorized control feature is available for all three drive packages, making it possible to convert from the standard handwheel to convenient remote control. This option consists of a servo motor that opens and closes the driver pulley flanges from a separate control station, allowing accurate speed adjustment in locations that may be inconvenient, remote or hazardous. Conversion is easy, requiring only the removal of the handwheel and torque rod from the standard manual pulley, installing the motorized torque arm in place of the handwheel, and connecting the CN2601 control switch to the servo motor and power source.

Every fixed center drive requires a torque arm bracket to prevent rotation of the handwheel so that it can be adjusted while the motor is running. Lovejoy offers a universally adaptable bracket, the Model 501.



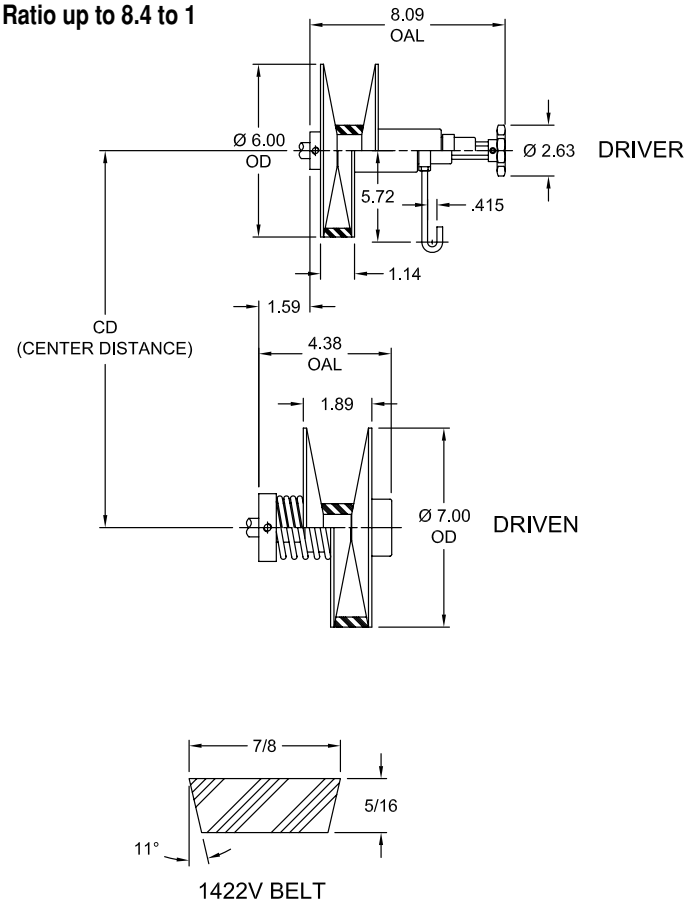
Hi Ratio Series Pulley & Belt



VSD

Hi-Ratio Series

Fixed Center Distance
1/3 through 1 HP
1422V Belts
Ratio up to 8.4 to 1



Model M-14 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43314	5/8	1.67	5.80	1/2 to 1	1/3 to 3/4
43315	3/4				
43316	7/8				

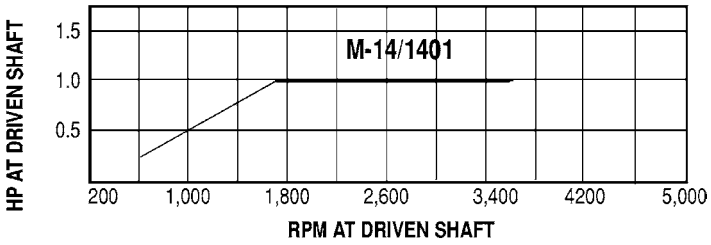
Note: ■ 17 turns of hand wheel required for full speed range.

Model 1401 Spring-Loaded Driven Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43317	5/8	2.67	6.80	1/2 to 1	1/3 to 3/4
43318	3/4				
43319	7/8				
43320	1				

Notes: ■ The above UPC numbers are for "C" Mount drives only.
■ Consult the factory for "Z" mount or thru bore applications.

Horsepower Curves – 1,750 RPM Input



M-14 / 1401 Belt Selection Table

Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23255	1422V300	7.91	430	3,307	7.7 to 1	283	2,172	7.7 to 1
23257	1422V340	9.96	430	3,362	7.8 to 1	283	2,208	7.8 to 1
23258	1422V360	10.98	430	3,384	7.9 to 1	283	2,223	7.9 to 1
23259	1422V400	13.02	430	3,430	8.0 to 1	283	2,253	8.0 to 1
23260	1422V420	14.03	430	3,438	8.0 to 1	283	2,261	8.0 to 1
23261	1422V460	16.06	430	3,474	8.1 to 1	283	2,284	8.1 to 1

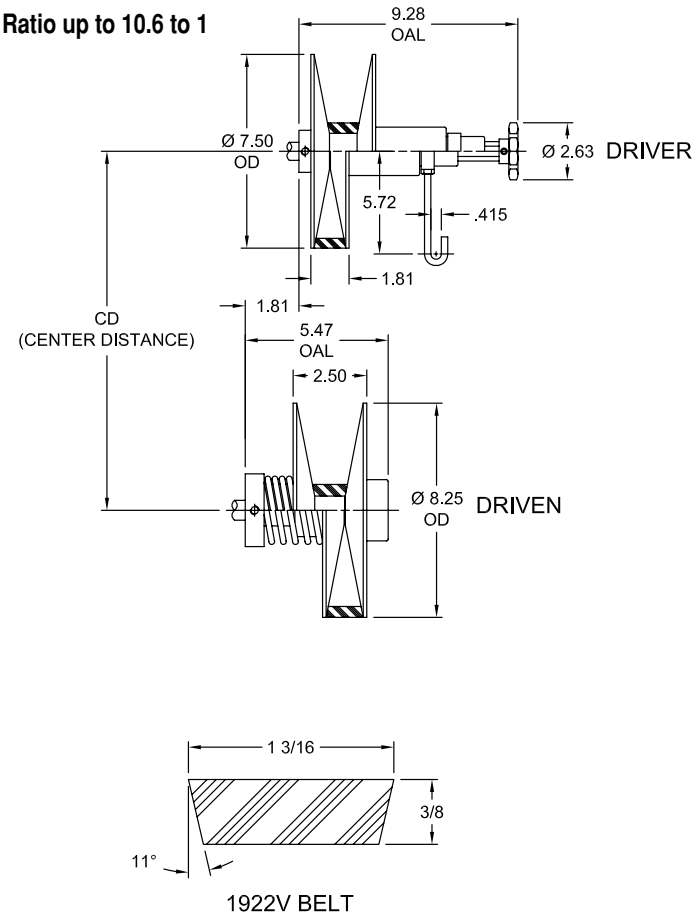
Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23262	1422V480	17.07	430	3,484	8.1 to 1	283	2,292	8.1 to 1
23263	1422V540	20.10	430	3,517	8.2 to 1	283	2,315	8.2 to 1
23264	1422V600	23.13	430	3,555	8.2 to 1	283	2,340	8.2 to 1
23265	1422V660	26.15	430	3,577	8.3 to 1	283	2,348	8.3 to 1
23266	1422V720	29.16	430	3,585	8.3 to 1	283	2,356	8.3 to 1
23267	1422V780	32.18	430	3,611	8.4 to 1	283	2,373	8.4 to 1

Notes: ■ The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed range and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Hi-Ratio Series

Fixed Center Distance
3/4 through 3 HP
1922V Belts

Ratio up to 10.6 to 1



Model M-19 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43300	5/8	1.85	7.28	1 to 3	3/4 to 2
43301	3/4				
43302	7/8				
43303	1				

Note: ■ 17 turns of hand wheel required for full speed range.

Model 1902 Spring-Loaded Driven Pulley

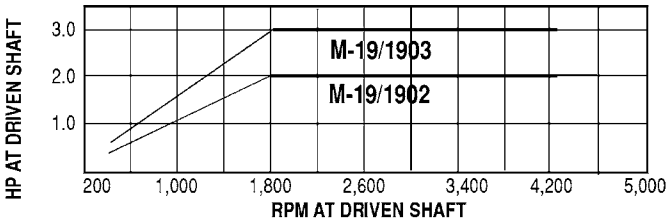
UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43304	5/8	2.97	8.03	1 to 2	3/4 to 1-1/2
43305	3/4				
43306	7/8				
43307	1				
43308	1-1/8				

Model 1903 Spring-Loaded Driven Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43309	5/8	2.97	8.03	3	2
43321	3/4				
43311	7/8				
43312	1				
43313	1-1/8				

Notes: ■ The above UPC numbers are for "C" Mount drives only.
■ Consult the factory for "Z" mount or thru bore applications.

Horsepower Curves – 1,750 RPM Input



M-14 / 1401 Belt Selection Table

Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23278	1922V321	8.07	403	4,275	10.6 to 1	265	2,810	10.6 to 1
23280	1922V363	9.86	403	4,275	10.6 to 1	265	2,810	10.6 to 1
23281	1922V380	10.74	403	4,265	10.6 to 1	265	2,803	10.6 to 1
23282	1922V403	11.92	403	4,254	10.5 to 1	265	2,795	10.5 to 1
23283	1922V426	13.09	403	4,248	10.5 to 1	265	2,791	10.5 to 1
23285	1922V443	13.96	403	4,242	10.5 to 1	265	2,787	10.5 to 1
23286	1922V454	14.52	403	4,236	10.5 to 1	265	2,784	10.5 to 1
23287	1922V484	16.05	403	4,224	10.5 to 1	265	2,776	10.5 to 1

Center Distance & Belt Size			Driven Speed Range 1750 RPM Driver			Driven Speed Range 1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23288	1922V526	18.18	403	4,218	10.4 to 1	265	2,772	10.4 to 1
23290	1922V544	19.09	403	4,212	10.4 to 1	265	2,768	10.4 to 1
23292	1922V604	22.12	403	4,201	10.4 to 1	265	2,760	10.4 to 1
23293	1922V646	24.24	403	4,195	10.4 to 1	265	2,756	10.4 to 1
23294	1922V666	25.25	403	4,195	10.4 to 1	265	2,756	10.4 to 1
23295	1922V686	26.26	403	4,189	10.4 to 1	265	2,753	10.4 to 1
23296	1922V706	27.27	403	4,183	10.3 to 1	265	2,749	10.3 to 1
23298	1922V726	28.28	403	4,177	10.3 to 1	265	2,745	10.3 to 1

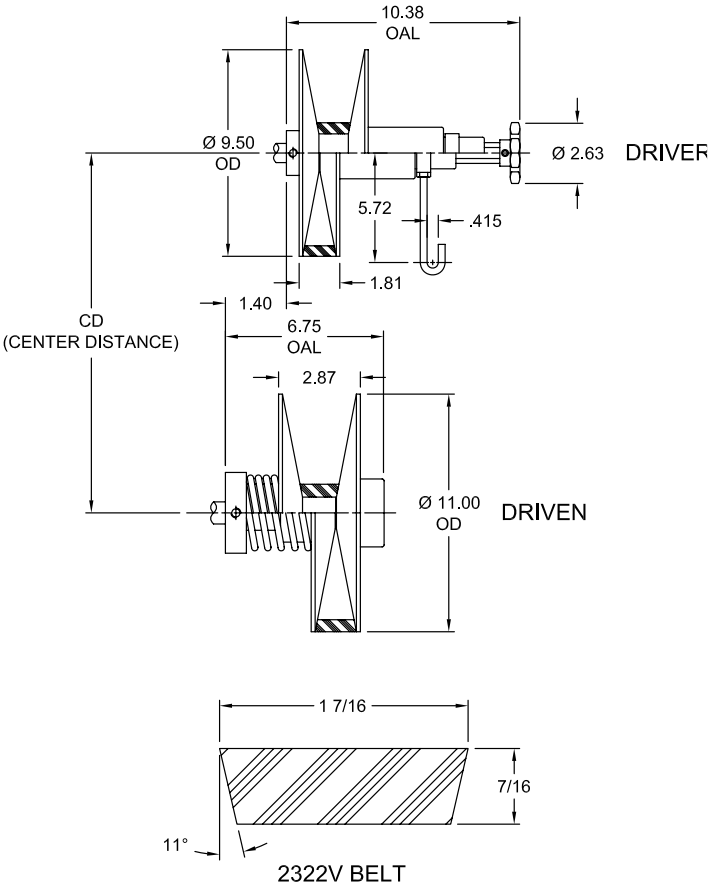
Notes: ■ The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed range and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hi-Ratio Series

Fixed Center Distance
2 through 5 HP
2322V Belts

Ratio up to 11.5 to 1



Model M-23 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43159	7/8	2.13	9.25	3 to 5	2 to 3
43160	1				
42483	1-1/8				

Note: ■ 22 turns of hand wheel required for full speed range.

Model 2303 Spring-Loaded Driven Pulley

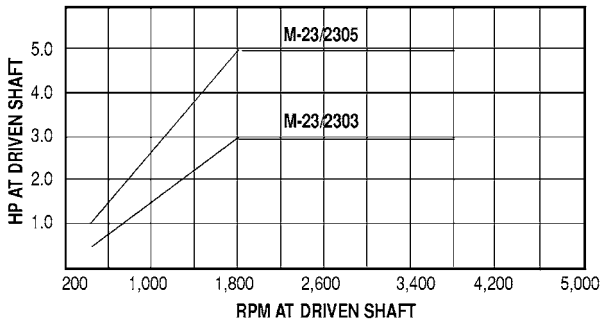
UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
43161	7/8	4.06	10.75	3	2
43162	1				
43163	1-1/8				

Model 2305 Spring-Loaded Driven Pulley

UPC Number	Bore in	PD Min in	PD Max in	Horsepower Rating 1750 RPM	Horsepower Rating 1150 RPM
43164	7/8	4.06	10.75	5	3
43165	1				
43166	1-1/8				

Notes: ■ The above UPC numbers are for "C" Mount drives only.
■ Consult the factory for "Z" mount or thru bore applications.

Horsepower Curves – 1,750 RPM Input



M-14 / 1401 Belt Selection Table

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23315	2322V421	10.50	346	3,645	10.5 to 1	228	2,417	10.6 to 1
23317	2322V441	11.09	346	3,645	10.5 to 1	228	2,439	10.6 to 1
23318	2322V481	13.16	346	3,645	10.5 to 1	228	2,479	10.9 to 1
23319	2322V521	15.22	346	3,645	10.5 to 1	228	2,514	11.0 to 1
23320	2322V541	16.25	346	3,645	10.5 to 1	228	2,532	11.1 to 1
23322	2322V601	19.31	346	3,645	10.5 to 1	228	2,563	11.2 to 1
23324	2322V621	20.33	346	3,645	10.5 to 1	228	2,575	11.3 to 1
23326	2322V661	22.37	346	3,645	10.5 to 1	228	2,600	11.4 to 1

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23327	2322V681	23.39	346	3,645	10.5 to 1	228	2,613	11.4 to 1
23328	2322V701	24.40	346	3,645	10.5 to 1	228	2,620	11.5 to 1
23329	2322V721	25.42	346	3,645	10.5 to 1	228	2,617	11.5 to 1
23330	2322V801	29.47	346	3,645	10.5 to 1	228	2,605	11.4 to 1
23331	2322V826	30.73	346	3,645	10.5 to 1	228	2,603	11.4 to 1
23333	2322V886	33.77	346	3,645	10.5 to 1	228	2,594	11.4 to 1
23335	2322V1001	39.56	346	3,645	10.5 to 1	228	2,586	11.3 to 1
23337	2322V1271	53.14	346	3,645	10.5 to 1	228	2,569	11.2 to 1

Notes: ■ The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed range and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors. Do not exceed 10,500 FPM rim speed with the driven pulley.
■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

1/3 through 3 HP
Wide Variable Speed Belts

Hexadrive pulleys are the most durable variable speed pulleys available. The hexagon-shaped center shaft efficiently transmits torque through the six hex flats for maximum performance and long life. Internal drive keys, which tend to wear and shorten pulley life, are not required. In addition, because a resilient elastomer covers the shaft and eliminates metal to metal contact, no lubrication is necessary. The flanges are made of cast iron to provide a long-wearing belt contact area, and are precision-balanced for smooth operation.

Features

- Two styles available: one-side moveable for V-Flat drives and two-side moveable for V-V drives
- Uses variable speed belts
- Sizes range from 6 inches up to 12-1/2 inches in diameter
- Maximum rating of 30 HP @ 1,750 RPM
- Spring-loaded models have an easy removal feature.

Hexadrive pulleys are available for adjustable center as well as fixed center drives. This is the ultimate product for applications in hostile environments. Some typical applications include: agricultural equipment, food packaging machines, air handling systems, textile spinning frames, foundry snag grinders, mixers, and pumps.

Belt Selection

Hexadrive pulleys offer optimum speed ratios because they are used with wide variable speed belts. The pulley flanges are designed to match standard belt angle and width, so each pulley model must be matched to the correct belt to insure full speed range and maximum torque capacity.

Adjustable Center Drives

An adjustable center drive system consists of a spring-loaded Hexadrive pulley, a fixed diameter companion sheave and bushing, an adjustable motor base, and a variable speed belt. Two types of drive packages are available—the V-V and the V-Flat drives. The V-V drive includes a two-side moveable Hexadrive pulley driving to a grooved companion sheave. The V-Flat drive utilizes a one-side moveable Hexadrive pulley driving to a flat-faced companion sheave. For a complete explanation of V-V and V-Flat drives, refer to page VSD-4, and to order bushings, see page SF-17. Generally, a V-V drive offers greater torque capacity, while a V-Flat drive is more compact and economical.

Fixed Center Drives

Fixed center, or compound, drives offer greater driven speed range in a compact space. There are three mechanically-adjustable Hexadrive pulley models available which, when combined with a spring-loaded Hexadrive pulley, provide drive packages ranging from 3/4 up to 30 horsepower. There is also a “non-Hex” adjustable pulley, the Model M-007, which can be teamed with a Hexadrive spring-loaded pulley for 1/2 and 3/4 HP motors. This package is unique because it is a two-side moveable fixed center drive.



Hexadrive Series



Typical V-Flat Drive



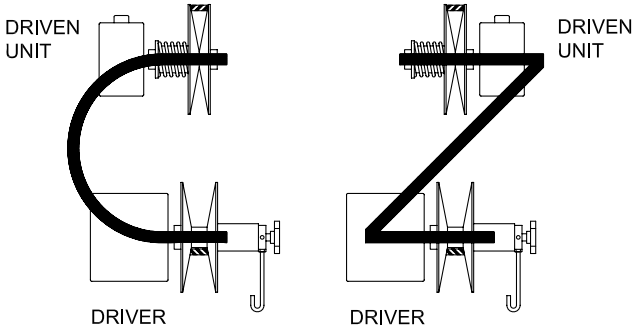
Typical V-V Drive

VSD

The typical Hexadrive fixed center drive consists of an adjustable pulley mounted on the motor shaft, a spring-loaded pulley on the driven shaft, a variable speed belt and a torque arm bracket. This bracket prevents the manual pulley handwheel from spinning, so speed can be changed while the motor is running. The spring-loaded driven pulley compensates for belt slack or tightening when the adjustable pulley is opened or closed. Much of the driven speed range will be greater than motor speed.

It is important to know the mounting configuration when designing a Hexadrive fixed center drive or selecting a replacement pulley. There are two basic styles, designated as "C" and "Z" mountings. The adjustable pulley is the same for either, but the driven spring-loaded pulley is different. The drive selection tables that follow in this catalog indicate which model to use in either case.

The standard adjustable pulley is the "HM" series, with a handwheel control. There are two variations which give the option of speed change by electric remote control ("HEC" series) or by using an external linear actuator ("HLA" series).



C and Z Mounting

Easy Removal Feature

All Hexadrive spring-loaded pulleys are designed with an easy removal feature, which minimizes the chance of damage to the pulley or shaft. This damage can result from hammering and prying on the pulley.

While this feature is built into the smaller pulleys, all 5 HP and larger pulleys require the use of our Easy Removal Kit accessory because they feature "through bores." The kit consists of a special nut and retaining ring that fit into the counterbore end of the pulley, retaining ring pliers, and a threaded puller rod. Two types of kits are available – the table below shows the correct kit for each pulley model.



Typical Hexadrive Fixed Center Drive

UPC Number	Easy Removal Kit Model Number	For Pulley Model Number
685144 20723	030880H	12904, 12905, 12907, 22904, 22905, 22907, 32904, 32905
685144 20726	020979H	13207, 13210, 13220, 13230, 23207, 23210, 23220, 23230, 14407, 14410, 14420, 14430, 24407, 24410, 24420, 24430, 34407, 34410, 34420

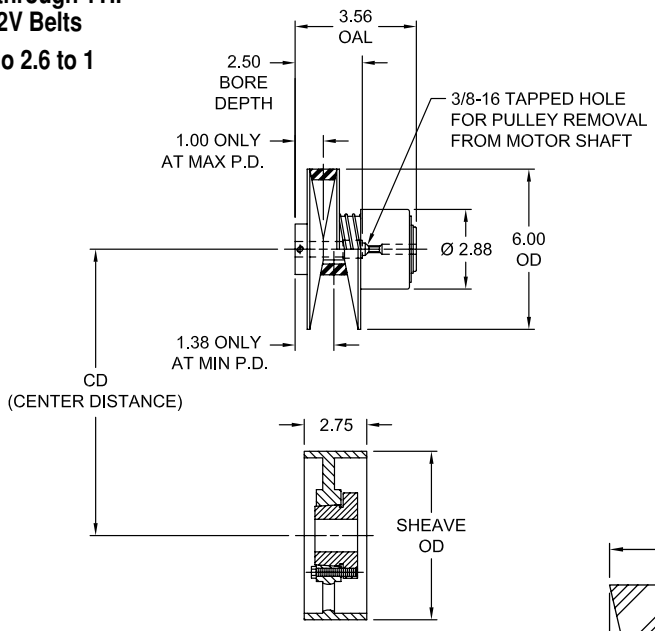


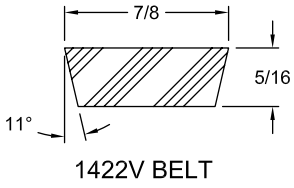
Easy Removal Kit

Hexadrive Series

One-Side Moveable
Adjustable Center Distance
1/3 through 1 HP
1422V Belts

Ratio 2.6 to 1





1422V BELT

Model 11407 Spring-Loaded Driver Pulley

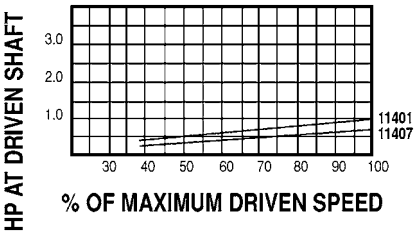
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20728	5/8	2.21	5.80	27	1/2 to 3/4	1/3 to 1/2
20729	3/4					
20730	7/8					

Model 11401 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
35796	5/8	2.21	5.80	36	1	3/4
20760	3/4					
20761	7/8					

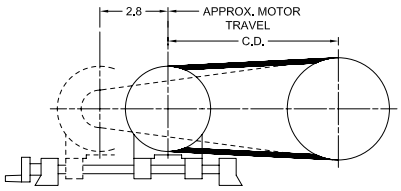
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Horsepower Curves – 1,750 RPM Input



11407 / 11401 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 11407 in-lb	11401 in-lb
19656	2.75F4SD	4.42	875	2,295	575	1,505	18	23
19660	2.75F6SD	6.42	605	1,580	395	1,035	26	34
19662	2.75F7SD	7.42	525	1,365	345	900	30	39
19664	2.75F8SD	8.42	460	1,205	305	790	34	45
19666	2.75F9SD	9.42	415	1,075	270	705	40	52
19668	2.75F10SD	10.42	375	970	245	640	45	57
19672	2.75F12SD	12.42	315	815	205	535	56	70
19674	2.75F14SF	14.42	265	700	180	460	62	80
19676	2.75F16SF	16.42	240	615	155	405	72	93



NEMA Motor Frame	Recommended Motor Bases
48, 56	48 / 56, 200
43T	145 / 60, SMB 143

11407 / 11401 Belt Selection Table

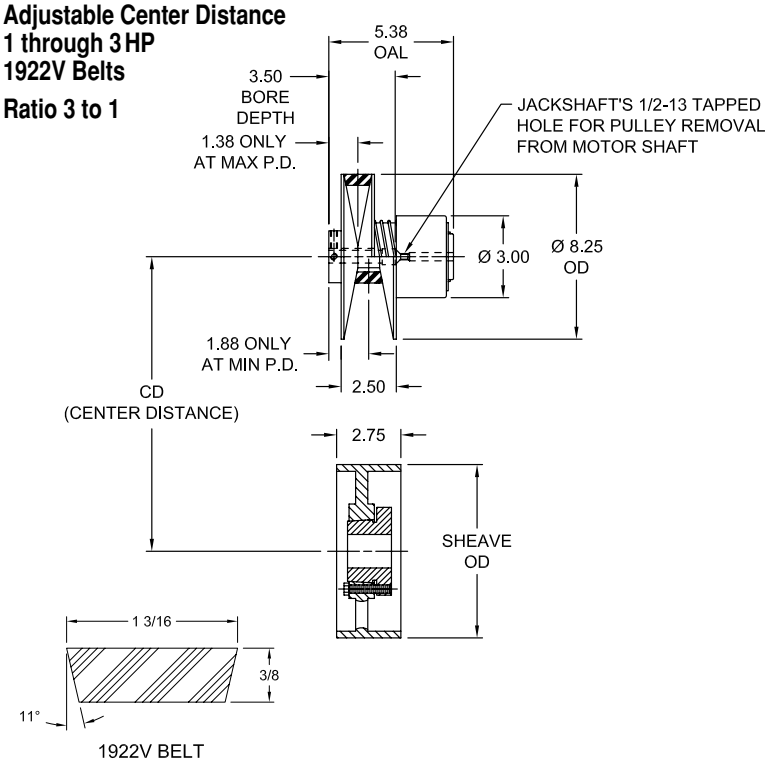
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 2.75F4SD in	2.75F6SD in	2.75F7SD in	2.75F8SD in	2.75F9SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in
23255	1422V300	6.9	—	—	—	—	—	—	—	—
23258	1422V360	9.9	8.4	7.6	—	—	—	—	—	—
23260	1422V420	13.0	11.4	10.6	9.7	8.9	—	—	—	—
23262	1422V480	16.0	14.4	13.6	12.8	11.9	11.0	—	—	—
23263	1422V540	19.0	17.4	16.6	15.8	14.9	14.1	12.3	10.4	—
23265	1422V660	25.0	23.4	22.6	21.8	20.9	20.1	18.4	16.6	14.7
23266	1422V720	28.0	26.4	25.6	24.8	24.0	23.1	21.4	19.6	17.8
23267	1422V780	31.0	29.4	28.6	27.8	27.0	26.1	24.4	22.6	20.8

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

One-Side Moveable
Adjustable Center Distance
1 through 3 HP
1922V Belts
Ratio 3 to 1



Model 11901 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20769	5/8	2.70	8.03	54	1-1/2	1
20770	3/4					
20771	7/8					
20773	1					
20774	1-1/8					

Model 11902 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20801	5/8	2.70	8.03	72	2	1-1/2
20802	3/4					
20803	7/8					
20805	1					
20806	1-1/8					

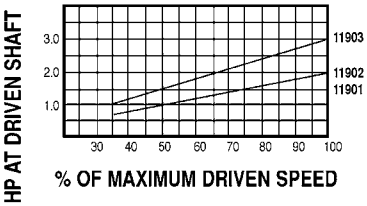
Model 11903 Spring-Loaded Driver Pulley

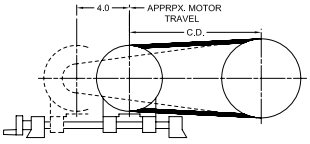
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
20826	5/8	2.70	8.03	108	3	2
20827	3/4					
20828	7/8					
20830	1					
20831	1-1/8					

11901 / 11902 / 11903 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 11901 in-lb	11902 in-lb	11903 in-lb
19660	2.75F6SD	6.54	720	2,145	475	1,410	34	46	68
19662	2.75F7SD	7.54	630	1,860	415	1,225	40	53	80
19664	2.75F8SD	8.54	555	1,645	360	1,080	45	61	90
19666	2.75F9SD	9.54	495	1,470	325	965	54	73	108
19668	2.75F10SD	10.54	450	1,330	295	875	60	81	120
19672	2.75F12SD	12.54	380	1,120	250	735	72	97	144
19674	2.75F14SF	14.54	325	965	215	635	85	113	170
19676	2.75F16SF	16.54	285	850	185	555	96	130	192
19678	2.75F18SF	18.54	255	755	170	495	108	146	216

Horsepower Curves – 1,750 RPM Input





NEMA Motor Frame	Recommended Motor Bases
56, 143T	145 / 60, SMB 143
145T, 182T	301, SMB 184

11901 / 11902 / 11903 Belt Selection Table

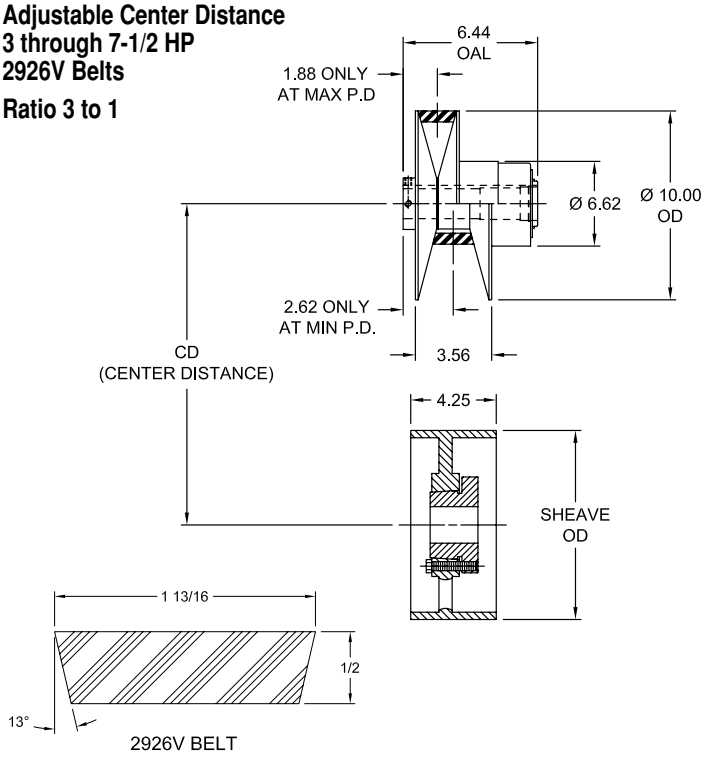
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 2.75F6SD in	2.75F7SD in	2.75F8SD in	2.75F9SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in	2.75F18SF in
23282	1922V403	8.7	—	—	—	—	—	—	—	—
23285	1922V443	10.7	9.9	9.1	—	—	—	—	—	—
23287	1922V484	12.7	12.0	11.2	10.4	9.5	—	—	—	—
23290	1922V544	15.7	15.0	14.2	13.4	12.6	10.9	—	—	—
23293	1922V646	20.8	20.1	19.3	18.5	17.7	16.0	14.2	—	—
23295	1922V686	22.8	22.1	21.3	20.5	19.7	18.0	16.3	14.5	—
23298	1922V726	24.8	24.1	23.3	22.5	21.7	20.0	18.3	16.5	14.7
23300	1922V806	28.8	28.1	27.3	26.5	25.7	24.0	22.3	20.6	18.7

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

One-Side Moveable
Adjustable Center Distance
3 through 7-1/2 HP
2926V Belts
Ratio 3 to 1



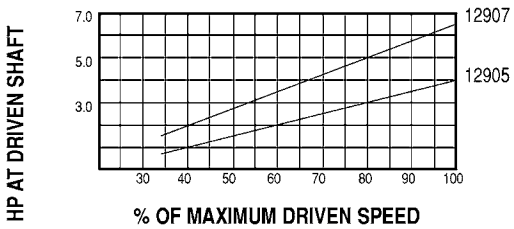
Model 12905 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37331	1	3.28	9.70	180	5	3
21870	1-1/8					
37350	1-3/8					

Model 12907 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
43100	1	3.28	9.70	270	7-1/2	5
37336	1-1/8					
21876	1-3/8					

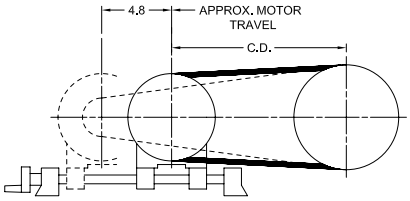
Horsepower Curves – 1,750 RPM Input



12905 / 12907 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 12905 in-lb	12907 in-lb
19630	4.25F8SD*	8.7	660	1,950	435	1,280	126	*
19634	2.75F10SD	10.7	540	1,585	355	1,040	166	252
19639	2.75F12SF	12.7	455	1,335	300	875	200	302
19641	2.75F14SF	14.7	390	1,155	260	755	233	353
19643	2.75F16SF	16.7	345	1,015	230	665	266	403
19645	2.75F18SF	18.7	310	905	205	595	300	453
19647	2.75F20SF	20.7	280	820	185	535	333	504

Note: ■ * indicates: That 4.25F8SD is NOT recommended for use with 7-1/2 HP drive. This combination could cause belt slippage.



NEMA Motor Frame	Recommended Motor Bases
56, 143T	145- 60, SMB 143
145T, 182T	301, SMB 184

12905 / 12907 Belt Selection Table

UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 2.75F8SD in	2.75F10SD in	2.75F12SD in	2.75F14SF in	2.75F16SF in	2.75F18SF in	2.75F20SF in
23350	2926V486	9.8	—	—	—	—	—	—
23353	2926V546	12.8	11.3	—	—	—	—	—
23357	2926V606	15.8	14.3	12.6	—	—	—	—
23361	2926V666	18.8	17.3	15.6	13.9	—	—	—
23364	2926V726	21.8	20.3	18.6	17.0	15.2	—	—
23367	2926V786	24.8	23.3	21.6	20.0	18.3	16.5	—
23369	2926V856	28.3	26.8	25.2	23.5	21.8	20.0	18.2
23371	2926V906	30.8	29.3	27.7	26.0	24.3	22.5	20.8
23372	2926V966	33.8	32.3	30.7	29.0	27.3	25.6	23.8

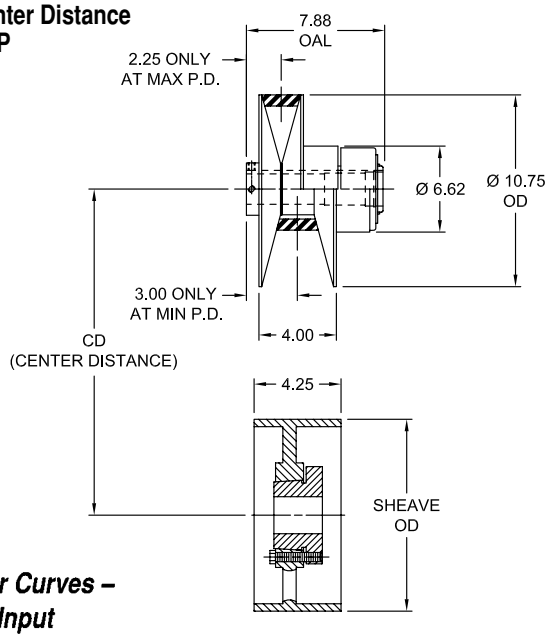
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

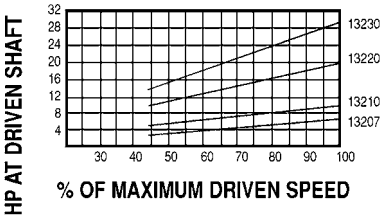
Hexadrive Series

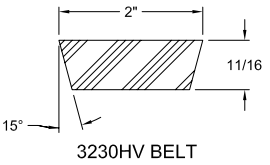
One-Side Moveable
Adjustable Center Distance
5 through 30 HP
3230 HV Belts

Ratio 2.3 to 1



Horsepower Curves – 1,750 RPM Input





Model 13207 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42433	1-1/8	4.43	10.35	270	7-1/2	5
37344	1-3/8					
37345	1-5/8					

Model 13210 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21892	1-3/8	4.43	10.35	360	10	7-1/2
21893	1-5/8					
21894	1-7/8					

Model 13220 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21915	1-3/8	4.43	10.35	720	15 to 20	10 to 15
21916	1-5/8					
27974	1-7/8					

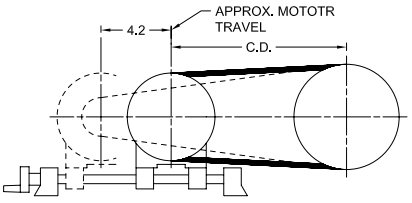
Model 13230 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37348	1-3/8	4.43	10.35	1,080	25 to 30	20 to 25
37349	1-5/8					
42439	1-7/8					
42440	2-1/8					

13207 / 13210 / 13220 / 13230 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1550 RPM Motor Min RPM	1550 RPM Motor Max RPM	Driven Torque 13207 in-lb	13210 in-lb	13220 in-lb	13230 in-lb
19639	4.25F12SF*	13.0	600	1,390	395	915	243	324	*	*
19641	4.25F14SF	15.0	520	1,205	340	790	283	378	756	1,134
19643	4.25F16SF	17.0	460	1,065	300	700	324	432	864	1,296
19645	4.25F18SF	19.0	410	950	270	625	364	486	972	1,458
19647	4.25F20SF	21.0	370	860	245	565	405	540	1,080	1,620
19651	4.25F24SF	25.0	310	720	205	475	486	648	1,296	1,944

Note: ■ * indicates: That 4.25F12SF is NOT recommended for use with 15 to 30 HP drive. This combination could cause belt slippage.



NEMA Motor Frame	Recommended Motor Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB 254
256T, 284T	310-30
286T, 324T	

13207 / 13210 / 13220 / 13230 Belt Selection Table

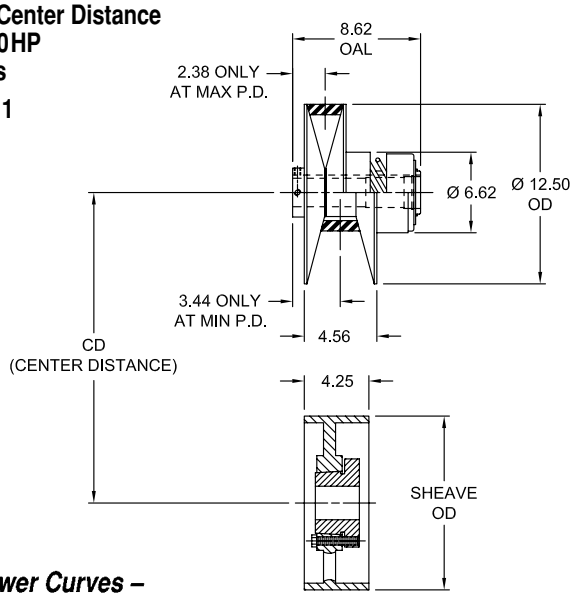
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 4.25F12SF in	4.25F14SF in	4.25F16SF in	4.25F18SF in	4.25F20SF in	4.25F24SF in
23382	3230HV620	12.7	—	—	—	—	—
23384	3230HV670	15.2	13.5	—	—	—	—
23387	3230HV723	17.9	16.2	14.5	—	—	—
23389	3230HV821	22.8	21.1	19.4	17.6	—	—
23390	3230HV856	24.5	22.9	21.2	19.4	17.6	—
23392	3230HV931	28.3	26.6	24.9	23.2	21.4	17.7
23393	3230HV960	29.7	28.1	26.4	24.7	22.9	19.2

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

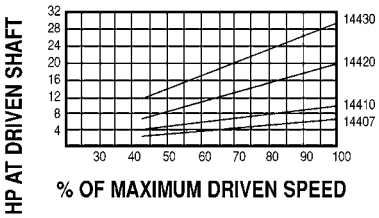
VSD

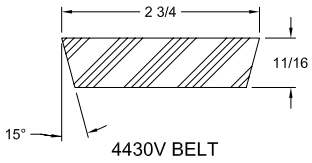
Hexadrive Series

One-Side Moveable
Adjustable Center Distance
5 through 30 HP
4430 V Belts
Ratio 2.7 to 1



Horsepower Curves – 1,750 RPM Input





Model 14407 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42467	1-1/8	4.43	12.10	270	7-1/2	5
37360	1-3/8					
37361	1-5/8					

Model 14410 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
27967	1-1/8	4.43	12.10	360	10	7-1/2
21970	1-3/8					
21971	1-5/8					

Model 14420 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
43299	1-1/8	4.43	12.10	720	15 to 20	10 to 15
21994	1-3/8					
21996	1-5/8					

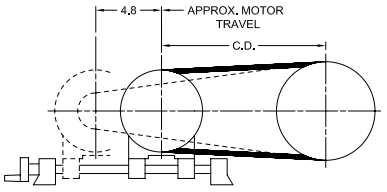
Model 14430 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37353	1-3/8	4.43	12.10	1,080	25 to 30	20 to 25
22006	1-5/8					
22007	1-7/8					
22008	2-1/8					

14407 / 14410 / 14420 / 14430 Driven Sheave Selection Table

Flat Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 14407 in-lb	14410 in-lb	14420 in-lb	14430 in-lb
19639	4.25F12SF*	13.0	600	1,630	395	1,070	243	324	*	*
19641	4.25F14SF	15.0	520	1,410	340	925	283	378	756	1,134
19673	4.25F16SF	17.0	460	1,245	300	815	324	432	864	1,296
19645	4.25F18SF	19.0	410	1,115	270	730	364	486	972	1,458
14647	4.25F20SF	21.0	370	1,005	245	660	405	540	1,080	1,620
19651	4.25F24SF	25.0	310	845	205	555	486	648	1,296	1,944

Note: ■ * indicates: That 4.25F12SF is NOT recommended for use with 15 to 30 HP drive. This combination could cause belt slippage.



NEMA Motor Frame	Recommended Motor Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB 254
256T, 284T	310-30
286T, 324T	

14407 / 14410 / 14420 / 14430 Belt Selection Chart

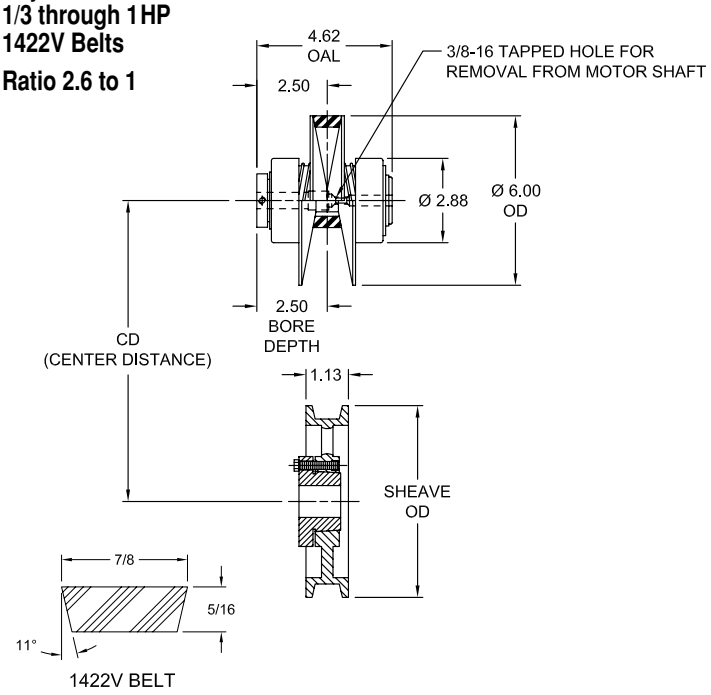
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 4.25F12SF in	4.25F14SF in	4.25F16SF in	4.25F18SF in	4.25F20SF in	4.25F24SF in
23403	4430V660	13.3	—	—	—	—	—
23407	4430V718	16.2	14.6	—	—	—	—
23413	4430V790	19.8	18.2	16.5	—	—	—
23414	4430V850	22.8	21.2	19.5	17.8	—	—
23416	4430V910	25.8	24.2	22.5	20.8	19.1	—
23418	4430V970	28.8	27.2	25.5	23.8	22.1	—
23421	4430V1030	31.8	30.2	28.5	26.9	25.1	21.5
23423	4430V1090	34.8	33.2	31.6	29.9	28.2	24.6

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Two-Side Moveable
Adjustable Center Distance
1/3 through 1 HP
1422V Belts
Ratio 2.6 to 1



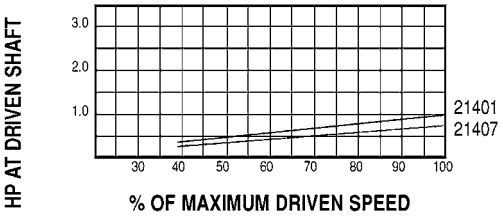
Model 21407 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21089	5/8	2.21	5.80	27	1/2 to 3/4	1/3 to 1/2
21090	3/4					
21091	7/8					

Model 21401 Spring-Loaded Driver Pulley

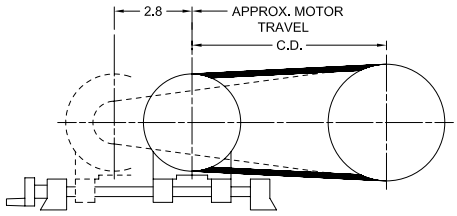
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
35797	5/8	2.21	5.80	36	1	3/4
21106	3/4					
21107	7/8					

Horsepower Curves – 1,750 RPM Input



21407 / 21401 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1550 RPM Motor Min RPM	1550 RPM Motor Max RPM	Driven Torque 21407 in-lb	21401 in-lb
19493	1422G5.5SH	5.3	730	1,915	480	1,255	26	34
19495	1422G6SH	5.8	670	1,750	440	1,150	28	38
19497	1422G7SH	6.8	570	1,490	375	980	34	44
19499	1422G8SH	7.8	500	1,300	330	855	39	51
19503	1422G10SH	9.8	395	1,035	260	680	49	64
19507	1422G11SH	10.8	360	940	235	615	54	72
19509	1422G12SH	11.8	330	860	215	565	59	77
19511	1422G14SH	13.8	280	735	185	480	69	90



NEMA Motor Frame	Recommended Motor Bases
48, 56	48/56, 200
	135, SMB 143
143T	145-60
	SMB 143

21407 / 21401 Belt Selection Table

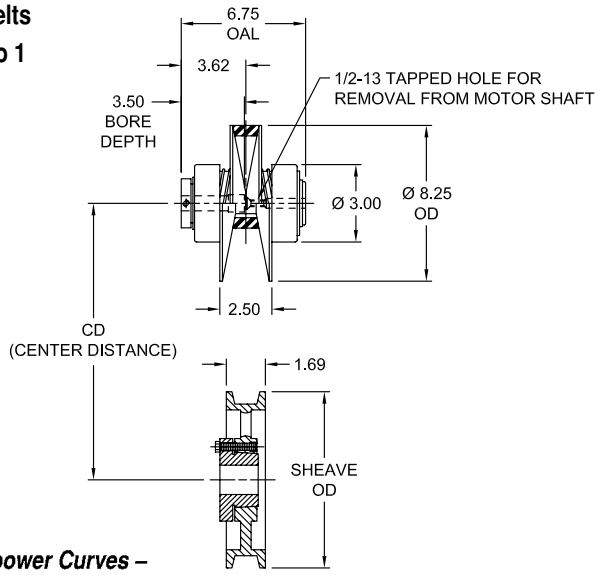
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 1422G-5.5SH in	1422G-6SH in	1422G-7SH in	1422G-8SH in	1422G-9SH in	1422G-10SH in	1422G-11SH in	1422G-12SH in	1422G-14SH in
23255	1422V300	6.3	—	—	—	—	—	—	—	—
23258	1422V360	7.3	8.9	8.1	7.3	—	—	—	—	—
23260	1422V420	12.3	11.9	11.1	10.3	9.4	8.6	—	—	—
23252	1422V480	15.3	14.9	14.1	13.3	12.4	11.6	10.7	9.8	—
23263	1422V540	18.3	14.9	17.1	16.3	15.4	14.6	13.7	12.8	11.0
23265	1422V660	24.3	23.9	23.1	22.3	21.5	20.6	19.8	18.9	17.1
23266	1422V720	27.3	26.9	26.1	25.3	24.5	23.6	22.8	21.9	20.2
23267	1422V780	30.3	29.9	29.1	28.3	27.5	26.6	25.8	24.9	23.2

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

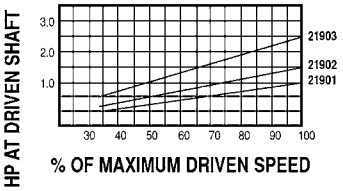
VSD

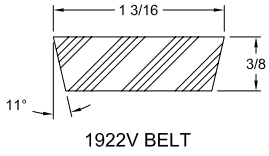
Hexadrive Series

Two-Side Moveable
Adjustable Center Distance
1 through 3 HP
1922V Belts
Ratio 3 to 1



Horsepower Curves – 1,750 RPM Input





Model 21901 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21111	5/8	2.70	8.03	54	1-1/2	1
21112	3/4					
21113	7/8					
21114	1					
21115	1-1/8					

Model 21902 Spring-Loaded Driver Pulley

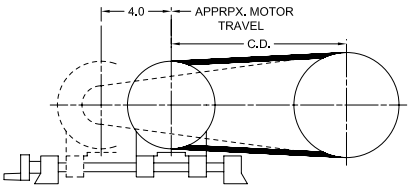
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
26344	5/8	2.70	8.03	72	2	1-1/2
21132	3/4					
21133	7/8					
21135	1					
21136	1-1/8					

Model 21903 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
27323	5/8	2.70	8.03	108	3	2
21139	3/4					
21141	7/8					
21142	1					
21143	1-1/8					

21901 / 21902 / 21903 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 21901 in-lb	21902 in-lb	21903 in-lb
19520	1922G7SK	6.78	700	2,070	460	1,360	46	61	92
19522	1922G8SK	7.78	610	1,805	400	1,185	52	70	104
19523	1922G9SK	8.78	540	1,600	355	1,050	60	79	120
19524	1922G10SK	9.78	485	1,435	315	940	66	88	132
19528	1922G12SK	11.78	400	1,190	265	780	80	106	160
19529	1922G14SK	13.78	345	1,020	225	670	93	124	186
19531	1922G16SK	15.78	300	890	200	585	106	142	212



NEMA Motor Frame	Recommended Motor Bases
56, 143T	145-60, SMB 143
145T, 182T	301, SMB 184

21901 / 21902 / 21903 Belt Selection Table

UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 1922G7SK in	1922G8SK in	1922G9SK in	1922G10SK in	1922G12SK in	1922G14SK in	1922G16SK in
23282	1922V403	8.5	—	—	—	—	—	—
23285	1922V443	10.2	9.7	8.9	—	—	—	—
23287	1922V484	12.5	11.8	11.1	10.2	—	—	—
23290	1922V544	15.6	14.8	14.1	13.2	11.5	—	—
23293	1922V646	20.7	19.9	17.1	18.3	16.6	14.9	13.1
23295	1922V686	22.7	21.9	23.1	20.3	18.6	16.9	15.2
23298	1922V726	24.7	23.9	26.1	22.3	20.6	18.9	17.2
23300	1922V806	28.7	27.9	29.1	26.3	24.7	23.0	21.2

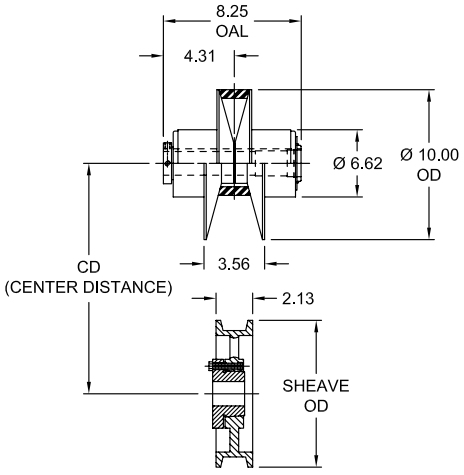
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

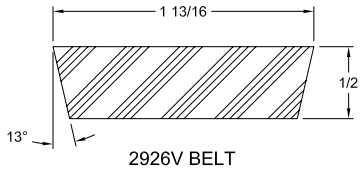
VSD

Hexadrive Series

Two-Side Moveable
Adjustable Center Distance
3 through 7-1/2 HP
2926V Belts

Ratio 3 to 1





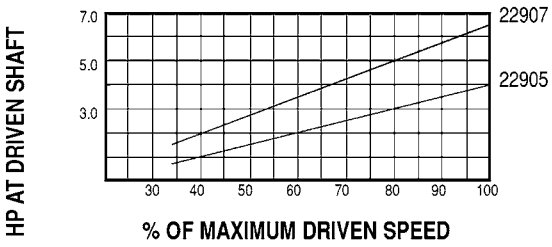
Model 22905 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
37333	1	3.28	9.70	180	5	3
37334	1-1/8					
37335	1-3/8					

Model 22907 Spring-Loaded Driver Pulley

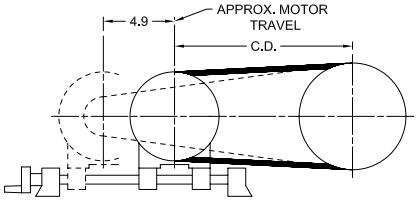
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
43101	1	3.28	9.70	270	7-1/2	5
37338	1-1/8					
37339	1-3/8					

Horsepower Curves – 1,750 RPM Input



22905 / 22907 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 22905 in-lb	22907 in-lb
19561	2926G8SK	7.7	7445	2,205	490	1,445	142	215
19563	2926G9SK	8.7	660	1,950	435	1,280	161	243
19565	2926G10SK	9.7	595	1,750	390	1,150	180	271
19567	2926G12SK	11.7	495	1,450	325	950	216	327
19569	2926G14SK	13.7	420	1,235	275	810	253	383
19572	2926G15SK	15.7	370	1,080	240	710	290	440
19575	2926G18SK	17.7	325	960	215	630	327	495



NEMA Motor Frame	Recommended Motor Bases
184T	305-8, SMB 184
213T, 215T	305-8, SMB 254

22905 / 22907 Belt Selection Table

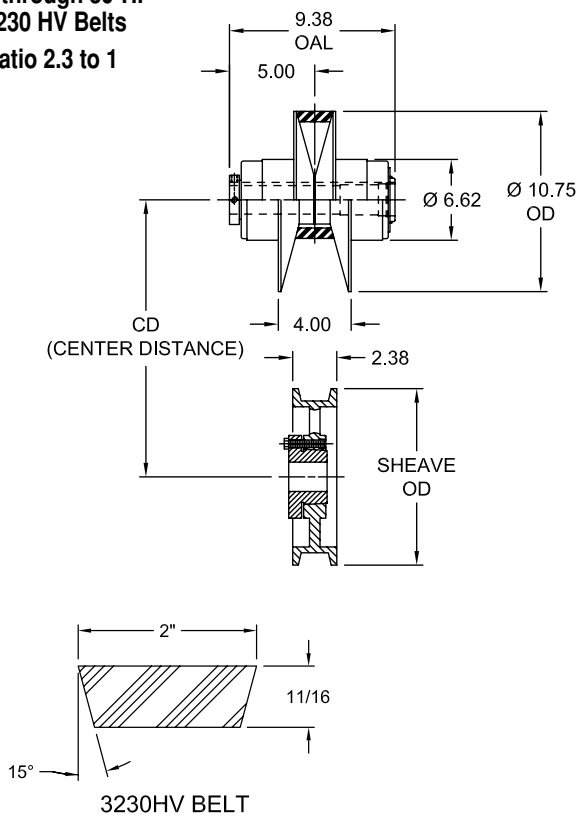
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 2926G8SK in	2926G9SK in	2926G10SK in	2926G12SK in	2926G14SK in	2926G16SK in	2926G18SK in
23350	2926V486	10.6	9.8	—	—	—	—	—
23353	2926V546	13.6	12.8	12.1	—	—	—	—
23357	2926V606	16.6	15.8	15.1	13.5	—	—	—
23361	2926V666	19.6	18.8	18.1	16.5	14.8	—	—
23364	2926V726	22.6	21.8	21.1	19.5	17.8	16.1	14.3
23367	2926V786	25.6	24.8	24.1	22.5	20.8	19.1	17.4
23369	2926V856	29.1	28.3	27.6	26.0	24.3	22.6	20.9
23371	2926V906	31.6	30.8	30.1	28.5	26.8	25.2	23.4
23372	2926V966	34.6	33.8	33.1	31.5	29.8	28.2	26.4

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Two-Side Moveable
Adjustable Center Distance
5 through 30 HP
3230 HV Belts
Ratio 2.3 to 1



3230HV BELT

Model 23207 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42448	1-1/8	4.43	10.35	in-lb	7-1/2	5
37346	1-3/8					
37347	1-5/8					

Model 23210 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21930	1-3/8	4.43	10.35	360	10	7-1/2
21931	1-5/8					
27973	1-7/8					

Model 23220 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
27976	1-3/8	4.43	10.35	720	15 to 20	10 to 15
21948	1-5/8					
21949	1-7/8					

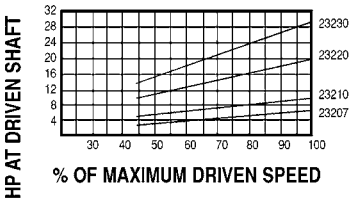
Model 23230 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
42457	1-3/8	4.43	10.35	1,080	25 to 30	20 to 25
21958	1-5/8					
21959	1-7/8					
42460	2-1/8					

23207 / 23210 / 23220 / 23230 Driven Sheave Selection Table

Grooved Driven Sheave UPC Number	Model	PD in	Driven Speed Range 1750 RPM Motor Min RPM	1750 RPM Motor Max RPM	1150 RPM Motor Min RPM	1150 RPM Motor Max RPM	Driven Torque 23207 in-lb	23210 in-lb	23220 in-lb	23230 in-lb
19586	3230G10.4SF	10.0	775	1,810	510	1,190	225	300	600	900
19588	3230G12.4SF	12.0	650	1,505	425	990	270	360	720	1,080
19590	3230G14.4SF	14.0	555	1,290	365	850	315	420	840	1,260
19592	3230G16.4SF	16.0	485	1,130	320	740	360	480	960	1,440
19594	3230G18.4SF	18.0	430	1,005	285	660	405	540	1,080	1,620

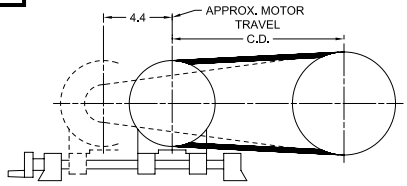
Horsepower Curves – 1,750 RPM Input



23207 / 23210 / 23220 / 23230 Belt Selection Table

UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 3230G10.4SF in	3230G12.4SF in	3230G14.4SF in	3230G16.4SF in	3230G18.4SF in
23382	3230HV620	15.0	13.4	—	—	—
23384	3230HV670	17.5	15.9	14.3	—	—
23387	3230HV723	20.2	18.6	16.9	15.2	—
23389	3230HV821	25.1	23.5	21.8	20.2	18.4
23390	3230HV856	26.8	25.2	23.6	21.9	20.2
23392	3230HV931	30.6	29.0	27.4	25.7	24.0
23393	3230HV960	32.0	30.4	28.8	27.1	25.4

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.



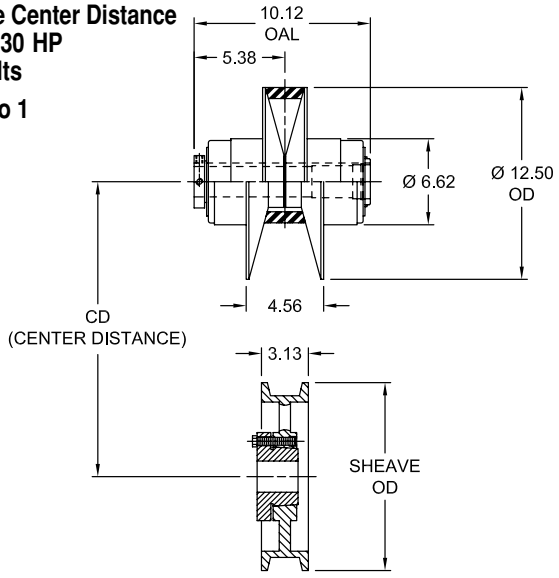
NEMA Frame Size	Recommended Motor Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB254
256T, 284T	310-30
286T, 324T	310-30

VSD

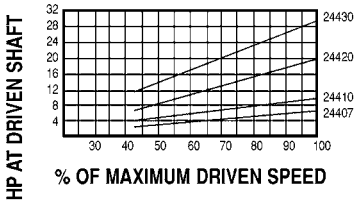
Hexadrive Series

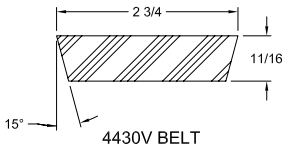
Two-Side Moveable
Adjustable Center Distance
5 through 30 HP
4430 V Belts

Ratio 2.7 to 1



Horsepower Curves – 1,750 RPM Input





Model 24407 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
43059	1-1/8	4.43	12.10	270	7-1/2	5
37364	1-3/8					
37365	1-5/8					

Model 24410 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
22017	1-3/8	4.43	12.10	360	10	7-1/2
22018	1-5/8					
22019	1-7/8					

Model 24420 Spring-Loaded Driver Pulley

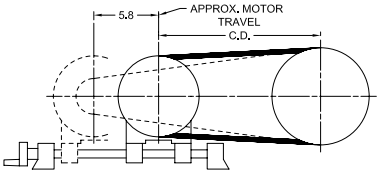
UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
22042	1-3/8	4.43	12.10	720	15 to 20	10 to 15
22043	1-5/8					
22045	1-7/8					

Model 24430 Spring-Loaded Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
27969	1-3/8	4.43	12.10	1,080	25 to 30	20 to 25
22054	1-5/8					
22055	1-7/8					
37354	2-1/8					

24407 / 24410 / 24420 / 24430 Driven Sheave Selection Table

Grooved Driven Sheave			Driven Speed Range				Drven Torque			
	Model	PD	1750 RPM Motor		1150 RPM Motor		24407	24410	24420	24430
UPC Number		in	Min RPM	Max RPM	Min RPM	Max RPM	in-lb	in-lb	in-lb	in-lb
19600	4430G10.4SF	10.0	775	2,115	510	1,390	225	300	600	900
19604	4430G12SK	11.6	670	1,825	440	1,200	260	348	696	1,044
63312	4430G14SF	13.6	570	1,555	375	1,020	306	408	716	1,224
19610	4430G16SK	15.6	500	1,355	330	890	350	468	936	1,404
19614	4430G18.4SF	18.0	435	1,175	285	770	405	540	1,080	1,620
19616	4430G20.4SF	20.0	390	1,055	255	695	450	600	1,200	1,800
19618	4430G24.4SF	24.0	325	880	215	580	540	720	1,440	2,160



NEMA Motor Frame	Recommended Motro Bases
213T, 215T	305-8, SMB 254
254T	310-30, SMB254
256T, 284T	310-30
286T, 324T	310-30

24407 / 24410 / 24420 / 24430 Belt Selection Table

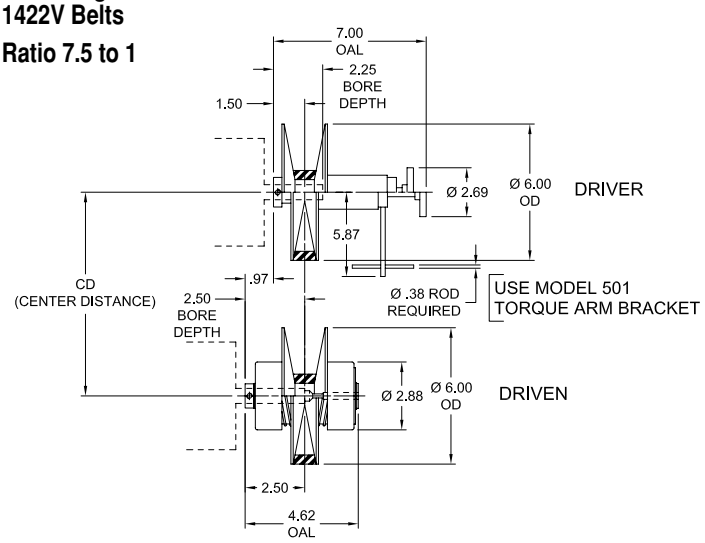
UPC Number	Belt Size	Minimum Center Distance by Selected Sheave Size 4430G10.4SK in	4430G12SK in	4430G14SK in	4430G16. SF in	4430G18.4SF in	4430G20.4SF in	4430G24.4SF in
23403	4430HV660	15.6	14.4	—	—	—	—	—
23407	4430HV718	18.5	17.3	15.7	—	—	—	—
23413	4430HV790	22.1	20.9	19.3	17.7	—	—	—
23414	4430HV850	25.1	23.9	22.3	20.7	18.7	—	—
23416	4430HV910	28.1	26.9	25.3	23.7	21.7	19.9	—
23418	4430HV970	31.1	29.9	28.3	26.7	24.7	23.0	19.4
23421	4430HV1030	34.1	32.9	31.3	29.7	27.7	26.0	22.5
23423	4430HV1090	37.1	35.9	34.3	32.7	30.7	29.0	25.5

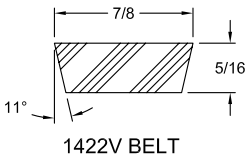
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

Hexadrive Series

Fixed Center Distance
1/2 through 3/4 HP
1422V Belts

Ratio 7.5 to 1





1422V BELT

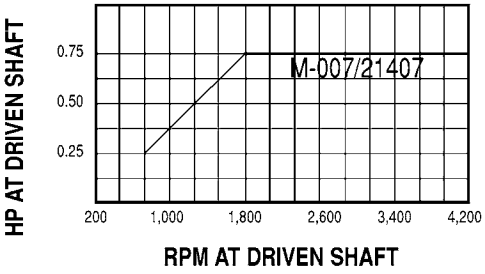
Model M-007 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
31670	1/2	1.90	5.80	7-1/2	5
31671	5/8				
31672	3/4				

Model 21407 Spring-Loaded Driver Pulley ("C" or "Z" Mount)

UPC Number	Bore in	PD Min in	PD Max in	Torque Capacity in-lb	HP Rating 1750 RPM	HP Rating 1150 RPM
21089	5/8	2.21	5.80	27	3/4	1/2
21090	3/4					
21091	7/8					

Horsepower Curves – 1,750 RPM Input



M-007 / 21407 Drives-Belt Selection and Driven Speeds

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23255	1422V300	8.70	580	4,380	7.5 to 1	380	2,875	7.5 to 1
23257	1422V340	10.73						
23258	1422V360	11.74						
23259	1422V400	13.76	580	4,380	7.5 to 1	380	2,875	7.5 to 1
23260	1422V420	14.77						
23261	1422V460	16.79						
23262	1422V480	17.79	580	4,380	7.5 to 1	380	2,875	7.5 to 1
23263	1422V540	20.81						
23264	1422V600	23.82						
23265	1422V660	26.84	580	4380	7.5 to 1	380	2,875	7.5 to 1
23266	1422V720	29.85						
23267	1422V780	32.85						

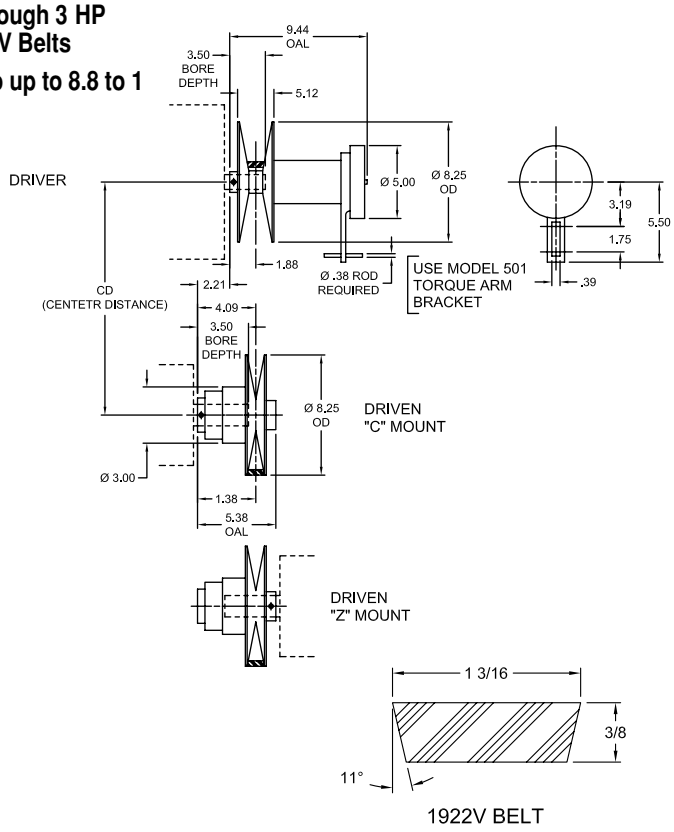
Notes:
- The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed ranges and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Fixed Center Distance
1 through 3 HP
1922V Belts

Ratio up to 8.8 to 1



Model HM-3 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
42595	3/4	2.70	8.03	1-1/2 to 5	1 to 2
21514	7/8				
21515	1				
21516	1-1/8				

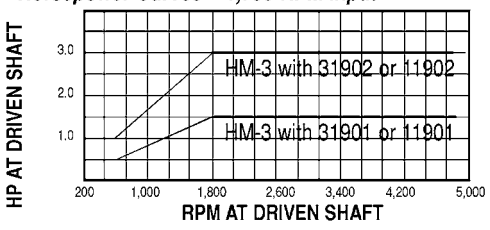
Spring-Loaded Driven Pulleys for "C" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore in
1 to 1-1/2	3/4 to 1	54	**31901**	2.70	8.03	5/8, 3/4, 7/8
2 to 3	1-1/2 to 2	108	**31902**			1, 1-1/8

Spring-Loaded Driven Pulleys for "Z" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore in
1 to 1-1/2	3/4 to 1	54	**11901**	2.70	8.03	5/8, 3/4, 7/8
2 to 3	1-1/2 to 2	108	**11902**			1, 1-1/8

Horsepower Curves – 1,750 RPM Input



HM-3 Drives-Belt Selection and Driven Speeds Table

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23280	1922V363	9.33	590	4,850	8.2 to 1	390	3,420	8.8 to 1
23281	1922V380	10.20						
23282	1922V403	11.37						
23283	1922V426	12.54						
23285	1922V443	13.40	590	4,850	8.2 to 1	390	3,420	8.8 to 1
23286	1922V454	13.96						
23287	1922V484	15.48						
23288	1922V526	17.60						
23290	1922V544	18.51	590	4,850	8.2 to 1	390	3,420	8.8 to 1
23292	1922V604	21.54						
23293	1922V646	23.65						
23294	1922V666	24.66						
23295	1922V686	25.66	590	4,850	8.2 to 1	390	3,420	8.8 to 1
23296	1922V706	26.67						
23299	1922V756	29.18						
23301	1922V846	33.70						

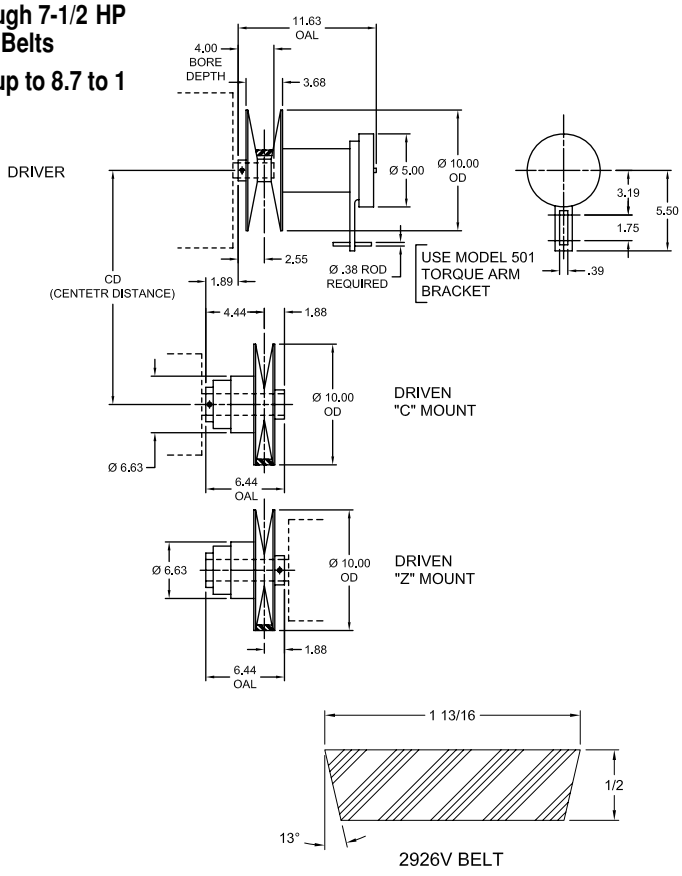
Notes:
- The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed ranges and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Fixed Center Distance
3 through 7-1/2 HP
2926V Belts

Ratio up to 8.7 to 1



Model HM-7 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
21541	1-1/8	3.28	9.70	5 to 7-1/2	3 to 5
21543	1-3/8				

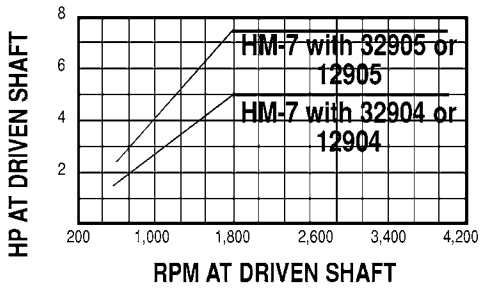
Spring-Loaded Driven Pulleys for "C" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore
5	3	180	**32904**	3.28	9.70	1, 1-1/8
7-1/2	5	270	**32905**			1-3/8

Spring-Loaded Driven Pulleys for "Z" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore
5	3	180	**12904**	3.28	9.70	1, 1-1/8
7-1/2	5	270	**12905**			1-3/8

Horsepower Curves – 1,750 RPM Input



HM-7 Drives-Belt Selection and Driven Speeds Table

Center Distance & Belt Size			Driven Speed Range					
			1750 Driver			1150 Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max RPM	Ratio
23346	2926V426	10.62	590	4,000	6.8 to 1	390	3,400	8.7 to 1
23350	2926V486	13.68						
23352	2926V521	15.46						
23353	2926V546	16.73						
23354	2926V574	18.15	590	4,000	6.8 to 1	390	3,400	8.7 to 1
23357	2926V616	19.76						
23360	2926V646	21.79						
23361	2926V666	22.80						
23362	2926V686	23.80	590	4,000	6.8 to 1	390	3,400	8.7 to 1
23364	2926V726	25.82						
23367	2926V786	28.84						
23368	2926V834	31.25						
23369	2926V856	32.36	590	4,000	6.8 to 1	390	3,400	8.7 to 1
23371	2926V906	34.88						
23372	2926V966	37.89						
23373	2926V1006	39.90						

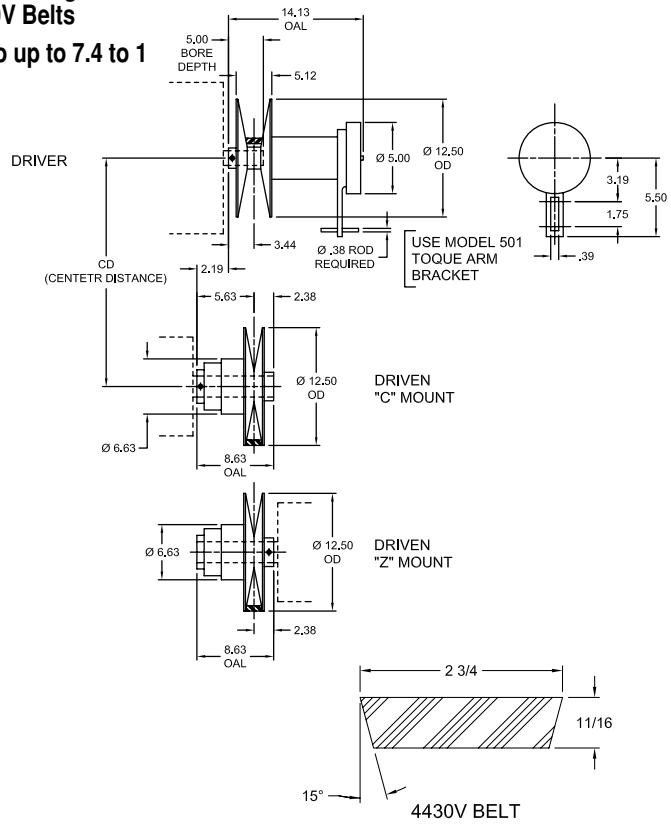
Notes:
- The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed ranges and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Fixed Center Distance
7-1/2 through 30 HP
4430V Belts

Ratio up to 7.4 to 1



Model HM-30 Adjustable Driver Pulley

UPC Number	Bore in	PD Min in	PD Max in	HP Rating 1750 RPM	HP Rating 1150 RPM
21616	1-3/8	4.43	12.10	10 to 30	7-1/2 to 20
21617	1-5/8				
21618	1-7/8				

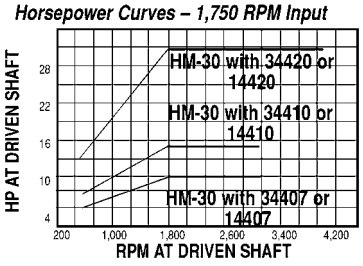
Spring-Loaded Driven Pulleys for "C" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore
10	7-1/2	360	**34407**	4.43	12.10	1-3/8, 1-5/8
15	10	540	**34410**			
20 to 30	15 to 20	1,080	**34420**			1-7/8, 2-1/8

Spring-Loaded Driven Pulleys for "Z" Mounting

HP Rating 1750 RPM	HP Rating 1150 RPM	Torque Capacity in-lb	Model	PD Min in	PD Max in	Stock Bore
10	7-1/2	360	**14407**	4.43	12.10	1-3/8, 1-5/8
15	10	540	**14410**			
20 to 30	15 to 20	1,080	**14420**			1-7/8, 2-1/8

Horsepower Curves – 1,750 RPM Input



HM-30 Drives-Belt Selection and Driven Speeds Table

Center Distance & Belt Size			Driven Speed Range					
			1750 RPM Driver			1150 RPM Driver		
UPC Number	Belt Size	CD in	Min RPM	Max RPM	Ratio	Min RPM	Max	Ratio
23396	4430V548	13.88	640	3,200	5.0 to 1	425	3,140	7.4 to 1
23397	4430V555	14.24						
23399	4430V578	15.41						
23400	4430V600	16.53						
23402	4430V630	18.05	640	3,200	5.0 to 1	425	3,140	7.4 to 1
23403	4430V660	19.57						
23405	4430V690	21.09						
23409	4430V730	23.11						
23411	4430V760	24.63	640	3,200	5.0 to 1	425	3,140	7.4 to 1
23413	4430V790	26.15						
23414	4430V850	29.17						
23416	4430V910	32.19						
23418	4430V970	35.21	640	3,200	5.0 to 1	425	3,140	7.4 to 1
23421	4430V1030	38.23						
23423	4430V1090	41.25						
23426	4430V1150	44.26						

Notes:
- The belt sizes shown in this chart are based upon initial drive set-up with the adjustable pulley at minimum pitch diameter (open) and the spring-loaded pulley at maximum pitch diameter (closed). The driven speed ranges and the resulting ratios shown in this chart are derived from mathematical calculations based upon exact center distances, constant motor speeds and manufacturers' belt specifications. Actual results will differ due to variations in any of these factors.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the number shown in the tables above.

VSD

Hexadrive Series

Fixed Center Distance
Adjustable Pulley Control Options

There are two additional variations of the standard "HM" Hexadrive adjustable pulley, giving the option of speed change by electric remote control or by using an external linear actuator. Either method offers convenience and safety in those situations where the pulley drive is inaccessible or in a hazardous location.

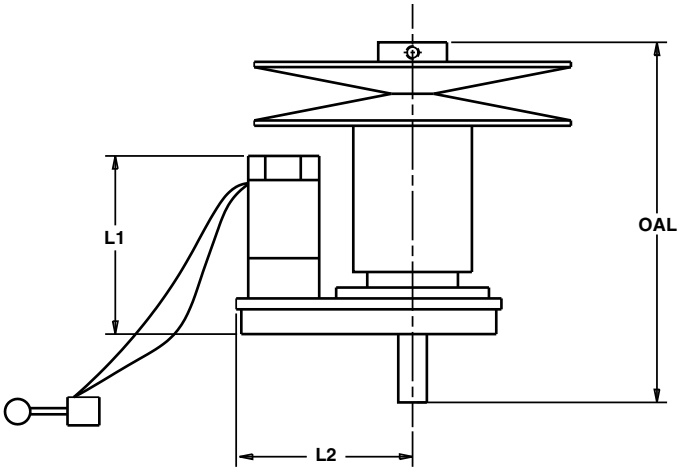
Hexact Electric Control Method

The Hexact Electric Control, or "HEC" pulley, operates in the same manner as the standard "HM" adjustable pulley, except the handwheel is replaced by a servo motor drive that opens and closes the pulley flanges. A separate control station, the Model CN-2601, is wired to the HEC pulley servo motor to provide speed adjustment from a remote location. The switch that is part of the CN-2601 control is a three-position toggle switch suitable for panel mounting. A wiring diagram is included, and the user must provide wires and a 110-volt power source for the servo motor. The CN-2601 Control must be ordered separately, and a Model 501 Torque Arm Bracket is also required.

All adjustable pulleys in our Hexadrive series, including the M-007, are available with the electric control option. When ordering, simply substitute HEC for M or HM. For example, the Model HM-3 manually adjustable pulley has the same drive characteristics as the Model HEC-3 electrically adjustable pulley. The only dimension differences are the overall length of the pulley and the torque arm.



HEC Adjustable Pulley



Interchange Selection Table

Manual Adjustable Pulley	HLA Adjustable Pulley	HEC Adjustable Pulley
M-007	—	HEC-007
HM-3	HLA-3	HEC-3
HM-7	HLA-7	HEC-7
HM-30	HLA-30	HEC-30

HEC Pulley Dimension Data

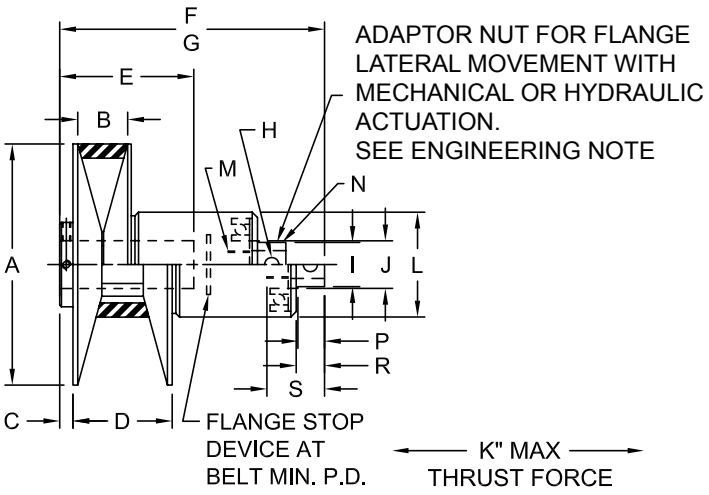
HEC Adjustable	OAL in	L2 in	L1 in
HEC-007	7.00	6	4.75
HEC-3	8.75	6	4.75
HEC-7	11.56	6	5.25
HEC-30	13.75	6	7.25

Hexadrive Series

Hexact Linear Actuation Method

The HLA adjustable pulley can be used in place of the standard "HM" pulley where an external mechanical control is available. Typical control methods include hydraulic cylinder, air cylinder, and lever. The adapter nut located on the end of the HLA pulley will accept a threaded rod or a clevis with cross pins. The actuator linkage must be on the center line of the pulley, but radial freedom is required to relieve loads caused by misalignment of the linkage. Actuation rate (closing the moveable flange) should not exceed 2-1/2 inches per minute.

To specify the correct pulley, simply substitute the HLA prefix for the HM. For example, the Model HLA-7 pulley has the same drive characteristics as the Model HM-7 handwheel-type pulley. Refer to the adjacent chart for dimensional information. A torque arm bracket is NOT required for the HLA drive.



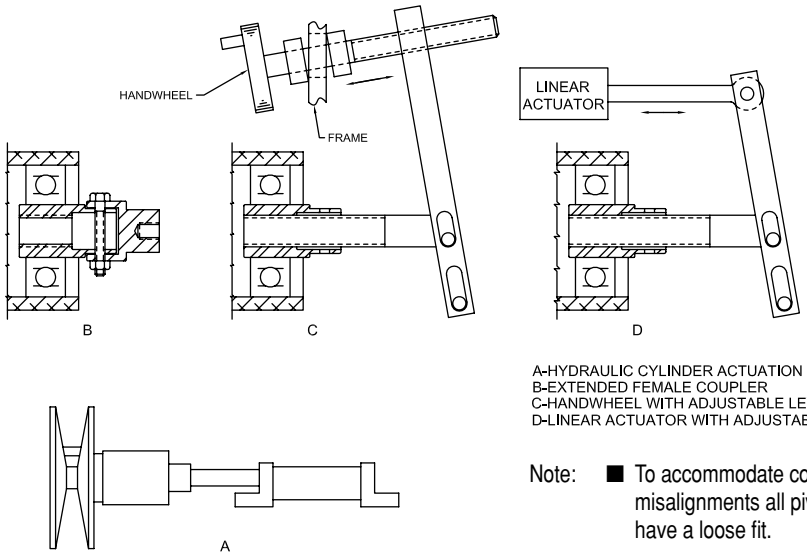
HLA Pulley Actuation Recommendations



HLA Adjustable Pulley

Pulley Dimensional Data

Dimensons	HLA-3 in / lbs	HLA-7 in / lbs	HLA-30 in / lbs
"A" OD	8.25 in	10.00 in	12.50 in
"B" Belt Top Width	1.18 in	1.81 in	2.75 in
"C"	0.63 in	0.80 in	0.78 in
"D" @ Min. PD	2.52 in	3.59 in	5.19 in
"E" Bore Depth	3.5 in	6.00 in	7.5 in
"F" Max. Opening	8.37 in	10.17 in	12.83 in
"G" Min. Opening	7.31 in	8.75 in	10.81 in
"H" Thru Hole	0.39 in	0.39 in	0.39 in
"I" Across Flats	1.12 in	1.31 in	1.48 in
"J" Nut Dia	1.18 in	1.38 in	1.57 in
"K" Max. Thrust	472 lbs	765 lbs	1,015 lbs
"L" Dia.	3.00 in	3.75 in	4.5 in
"M" Thread	5/8 - 11 UNC	3/1 - 10 UNC	3/4 - 10 UNC
"N" Max. Depth	0.78 in Dia x 1.12 in	0.87 in Dia x 1.44 in	0.87 in Dia x 1.62 in
"P" Flat Length	0.75 in	1.00 in	1.00 in
"R"	1.00 in	1.25 in	1.12 in
"S" Max. Depth	2.00 in	2.50 in	3.00 in



A-HYDRAULIC CYLINDER ACTUATION
B-EXTENDED FEMALE COUPLER
C-HANDWHEEL WITH ADJUSTABLE LEVER
D-LINEAR ACTUATOR WITH ADJUSTABLE LEVER

Note: ■ To accommodate connection equipment misalignments all pivot points should have a loose fit.

VSD

Adjusta-Sheave Series

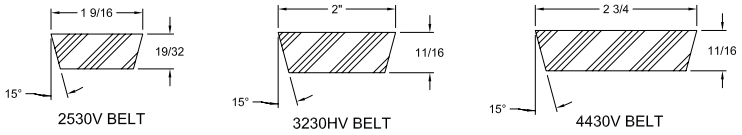
Variable Pitch Sheaves
5 through 30 HP
Wide Variable Speed Belts

The Lovejoy Adjusta-Sheave can be a cost-saving alternative to a spring-loaded pulley when speed change is infrequent, such as with seasonal or long-running applications. To change speeds the drive is shut down, the belt removed, and the pitch diameter is set by means of an internal adjusting screw. Set-up is simple because the nameplate has a dimension chart that relates the flange separation to the pitch diameter where the belt will be positioned.

The Adjusta-Sheave design incorporates features of the Hexadrive series, eliminating the need for internal drive keys, thus providing more efficient transfer of power and longer life.



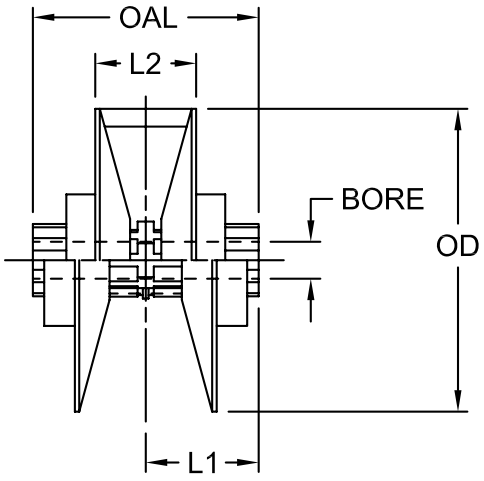
Adjusta-Sheave



Features

- Ratings ranging from 5 through 30 HP and speed ratios up to 2.5 to 1
- All models use wide variable speed belts
- No lubrication is required
- Belt alignment is maintained at all times due to the two moveable cast iron flanges

There are two methods of speed change with the Adjusta-Sheave: it can be used in place of the spring-loaded driver pulley, running to a fixed diameter companion sheave; or it can be used as the driven companion with a two-side moveable spring-loaded driver pulley. This second method actually increases the speed ratio of a drive package, because it can be broadened by changing the pitch diameter of the driven Adjusta-Sheave to extend the high and low speed limits. Both methods are adjustable center drives, requiring use of an adjustable motor base.



Adjusta-Sheave Variable Pitch Sleaves Inch Bore and Keyway Table

Model	Bore and Keyway			
	1-1/8 1/4 x 1/8	1-3/8 5/16 x 5/32	1-5/8 3/8 x 3/16	1-7/8 1/2 x 1/4
LAS25-10.25	27160	27161	27163	27164
LAS32-10.25	—	24165	27166	27167
LAS44-10.75	—	27168	27169	27170
LAS44-12.50	—	27171	27172	27173

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

Adjusta-Sheave Selection Guide and Dimension Table

Model	Recommended HP	Speed Ratio	PD		Belt Size	Stock Bores	OAL	L2	L1	OD
			Max in	Min in		in	in	in	in	in
LAS25-10.25	5-7-1/2	2:1	9.95	5.00	2530V	1-1/8, 1-3/8, 1-5/8, 1-7/8	5.38	3.28	2.69	10.25
LAS32-10.25	10-25	2.2:1	10.40	4.70	3230HV	1-3/8, 1-5/8, 1-7/8	7.37	4.00	3.68	10.75
LAS44-10.75	10-30	2.1:1	10.35	4.84	4430V	1-3/8, 1-5/8, 1-7/8	7.37	4.62	3.68	10.75
LAS44-12.50	10-30	2.5:1	12.10	4.84	4430V	1-3/8, 1-5/8, 1-7/8	7.37	5.06	3.68	12.50

Adjustable Motor Bases

Sliding and Tilting Bases

It is necessary to change the distance between the motor and driven shaft in order to change speed with an adjustable center drive. The best way to do this is with an adjustable motor base. Lovejoy offers four basic types of motor bases to satisfy requirements of space, convenience, interchangeability, motor frame size, and economy.

Sliding "SMB" Type

Models: SMB143, SMB184, and SMB254

SMB motor bases are extremely low profile and made of strong, lightweight steel, plated for protection against rust and corrosion. A folding knurled adjusting handle replaces the common round handwheel to offer easy speed adjustment with minimum effort and no tools. Adjustable maximum and minimum speed stops are included. The adjusting handle is easily removed for the addition of a sprocket or universal joint to adapt to existing control methods.

Features

- Three sizes available to fit NEMA motor frames from fractional through 15 horsepower
- Simple installation provided by a one-piece motor mounting plate
- Best possible belt alignment maintained because the motor shaft remains perpendicular to the plane of adjustment
- Slotted for standard NEMA motor frame mounting, but can be drilled for special mounting sizes to offer flexibility of design

For remote control in hazardous or inconvenient locations, Lovejoy offers electric servo motor controlled bases in the SMB style, both chain-driven (MRC) and direct coupled (ERC). Both types come complete with motor, control, and wiring diagram.

Sliding Cast Iron Type

Models: 135, 145-60, 301, 302-3, 403, 305-8 and 310-30

The original Lovejoy design, made of durable cast iron and steel.

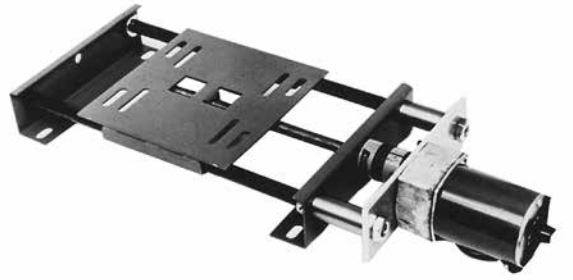
Features

- Models are available to accommodate motors from fractional through 30 horsepower
- The independent, slotted motor mounting rails offer great flexibility of design, as they can be used to mount NEMA motor frames as well as IEC motors and other products (gearmotors, gear reducers, etc.)
- Adjustable maximum and minimum speed stops are included

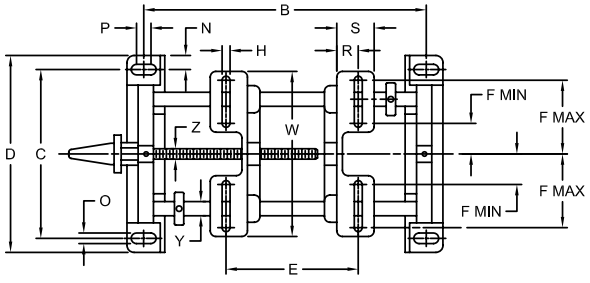
For remote control in hazardous or inconvenient locations, Lovejoy offers electric servo motor-controlled bases in some models of the cast iron bases, both direct coupled (ERC) and chain-driven (MRC). Also, stainless steel guide rods and adjusting screws are available on some models for severe environments or applications subject to washdown.



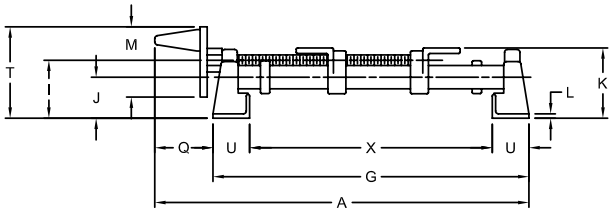
Adjustable Motor Bases



Direct Coupled Electric Servo Motor Controlled Base – Type ERC



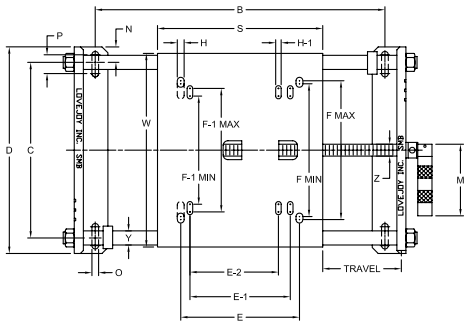
Sliding Cast Iron Base Upper View



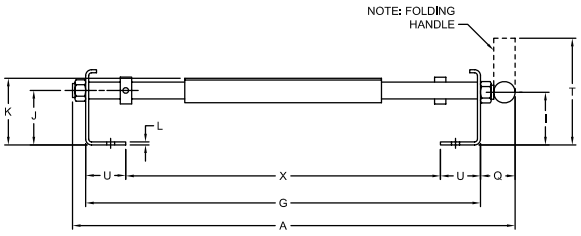
Sliding Cast Iron Base Side View

VSD

Adjustable Motor Base



SMB (Steel) Base Upper View



SMB (Steel) Base Side View

Sliding Cast Iron Bases (Drawing on page VSD-62)

Model	135	145-60	301	302-3	403	305-8	310-30
UPC Number	19714	19718	19763	19781	19902	19809	19816
A	13-1/4	16-1/8	18-1/2	19-3/8	21-3/8	27-7/8	31
B	9-7/8	12-5/8	15-1/8	16	18	23-5/8	25-1/4
C	6-1/8	7-7/8	8-1/2	8-1/2	8-1/2	11-7/8	14-1/4
D	7	8-3/4	10	10	10	14	15-1/2
E max	8	10	13	13-7/8	15-7/8	20	22
E min	2-1/8	2-3/4	3	3	3	4	5-3/8
F max	2-1/4	3-7/16	3-7/8	3-7/8	3-7/8	5-7/16	6-1/2
F min	13/16	1-5/16	1-7/8	1-7/8	1-7/8	2-5/8	2-7/8
G	11-1/8	13-7/8	16-3/8	17-1/4	19-1/4	25-1/4	27-3/8
H slot	3/8	13/32	13/32	13/32	13/32	9/16	5/8
I	1/16	2-1/2	3	3	3	4-1/4	4-1/4
J	3/8	1-3/4	2-1/8	2-1/8	2-1/8	2-7/8	3-3/4
K	2-1/2	3	3-1/2	3-1/2	3-1/2	5	6-1/4
L	5/16	3/8	3/8	3/8	3/8	1/2	3/4
M	2-1/2	4-1/8	4-1/8	4-1/8	4-1/8	6	6
N	7/16	7/16	3/4	3/4	3/4	1-1/16	5/8
O slot	3/8	13/32	1/2	1/2	1/2	1/2	3/4
P	3/8	9/32	1/2	1/2	1/2	3/4	3/4
Q	2-1/8	2-1/8	2-1/8	2-1/8	2-1/8	2-5/8	3-5/8
R	5/8	13/16	13/16	13/16	13/16	1-7/16	1-9/16
S	1-1/8	1-3/8	1-1/2	1-1/2	1-1/2	2-3/4	3-3/8
T	3-1/4	4-3/4	5	5	5	7-1/8	7-1/8
U	1-1/4	1-1/4	2	2	2	3	2-3/16
W	5-5/8	8	9-5/16	9-5/16	9-5/16	12-1/2	15
X	8-5/8	11-3/8	13-3/8	13-1/4	15-1/4	19-1/4	23
Y (dia)	1/2	5/8	7/8	7/8	7/8	1-1/4	1-5/8
Z (dia)	3/8	1/2	5/8	5/8	5/8	3/4	1

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

SMB Bases

Model	SMB 143	SMB 184	SMB 254
UPC Number	40212	40213	40214
A	15-3/4	19-1/2	28-5/8
B	12-5/8	15-1/6	23-5/8
C	6	7-1/4	10-3/8
D	8-3/4	10	14
E	5-1/2	7-1/2	10
E-1	4-1/4	5-1/2	8-1/2
E-2	—	—	7-1/2
F max	4-15/32	6-7/32	8-29/64
F min	1-21/32	3-3/4	7-61/64
F-1 max	—	6-5/16	7-1/4
F-1 min	—	2-9/16	5-3/8
G	13-7/8	17-3/8	26
H	—	13/32	9/16
H-1	13/32	11/32	7/16
I	1-7/8	2	2-1/8
J	1-15/16	2	2-1/4
K	2-1/2	2-5/8	3-7/32
L	7/64	9/64	3/16
M	3-1/2	3-1/2	4-1/2
N	1-3/8	1-3/8	1-13/16
O	13/32	13/32	33/64
P	1-7/8	1-3/4	2-1/2
Q	1-13/32	1-3/4	2-5/16
S	7	9	13
T	5-1/8	5-3/16	7-1/8
U	1-1/4	2	2-1/2
W	7-1/4	9	12-3/4
X	11-3/8	13-3/8	21
Y (dia)	5/8	3/4	1-1/4
Z (dia)	1/2-13	5/8-11	1-5
Travel	5-5/8	7	11-1/4

Motor Base Selection Guide

	200A, 200B	48/56	135	145-60	SMB 143	301, 302-3 403	SMB 184	305-8	SMB 254	310-30
NEMA Motor Frame Size	48	48	48	56	48, 56	143T, 145T	143T, 145T	184T, 213T	184T, 213T	215T, 254T
	56	56	56	143T	143T	182T, 184T	182T, 184T	215T	215T, 254T	256T, 284T
										286T, 324T

VSD

Adjustable Motor Bases

Sliding Dovetail Type

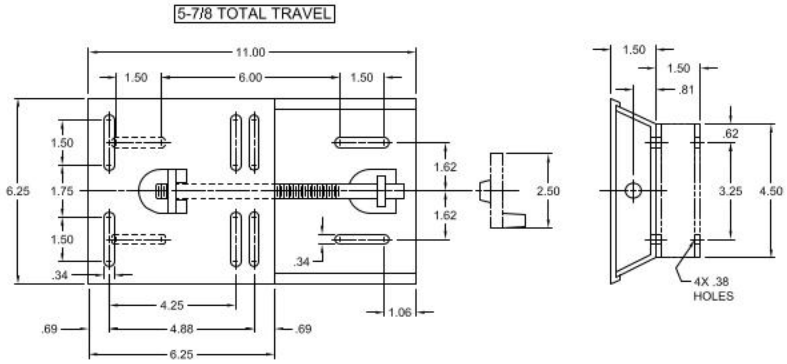
Models: 48/56 LA and 48/56 LB

These are the most compact, lowest-priced sliding motor bases offered by Lovejoy.

Features

- Easy motor mounting and speed adjustment due to the one-piece top plate, which is slotted for NEMA 48 and 56 motor frames
- So cost efficient they can be used as belt tensioning bases
- Tough steel construction makes them exceptionally durable

The Model 48/56 LA comes with a convenient hexagon head adjusting screw for use with your adjustable or socket wrench for fast speed change, and has a profile height of only 1-1/2 inches. The Model 48/56 LB is equipped with a handwheel and riser blocks that make tool-free adjustment quick and easy.



Model 48/56

Tilting Type

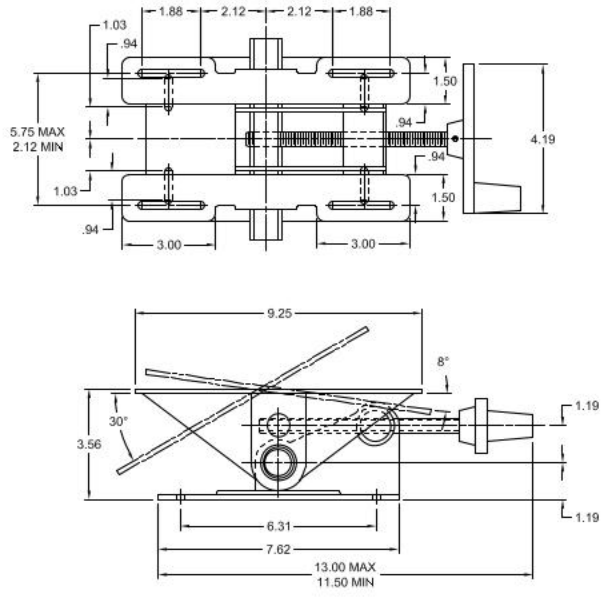
Models: 200A and 200B

These are economical bases featuring pivotal rather than sliding movement and are designed for use with NEMA 48 and 56 motor frames.

Features

- Less space is required to move the motor through the entire speed range because of the use of tilting motor rails
- Ideal for belt tensioning and for easy belt change with cone step pulleys
- Can be mounted in any position for added versatility

The Model 200A is made of cast iron with a steel adjusting mechanism, and the Model 200B has a stamped steel base and motor mounting rails. Overall dimensions and performance characteristics are the same for both models.



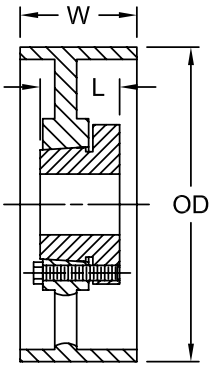
Model 200

Companion Sheaves

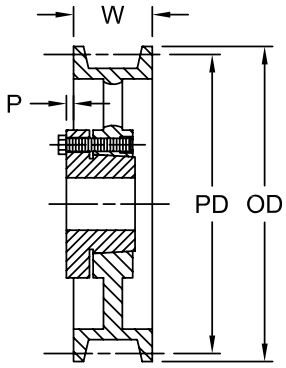
Flat and Grooved Types for Variable Speed Belts

Lovejoy companion sheaves are made of durable cast iron to assure best possible wear at the belt contact area. Grooved sheaves, for use with V-V adjustable center drives, are machined to match the belt width and angle of standard variable speed belts for optimum efficiency. The spoked design provides strength and light weight. All companion sheaves are precision balanced for smooth running. The sheaves are bored to accept standard type tapered bushings for ease of installation, best possible shaft grip and removal from the shaft without damage to any of the parts.

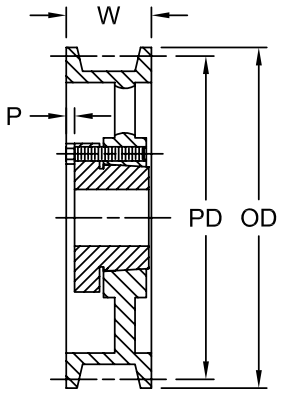
Refer to page SF-17 for information on bushings.



Flat



Grooved Type 1



Grooved Type 2



Flat Companion Sheave Dimensional Data

UPC Number	Model	W in	Bushing	L in	OD in	Weight lbs
19656	2.75F4SD	2.75	SD	1.81	4.0	4.0
19660	2.75F6SD	2.75	SD	1.81	6.0	6.0
19662	2.75F7SD	2.75	SD	1.81	7.0	7.0
19664	2.75F8SD	2.75	SD	1.81	8.0	8.0
19666	2.75F9SD	2.75	SD	1.81	9.0	9.0
19668	2.75F10SD	2.75	SD	1.81	10.0	13.0
19672	2.75F12SD	2.75	SD	1.81	12.0	18.0
19674	2.75F14SF	2.75	SF	2.06	14.0	20.0
19676	2.75F16SF	2.75	SF	2.06	16.0	22.0
19678	2.75F18SF	2.75	SF	2.06	18.0	27.0
19680	2.75F20SF	2.75	SF	2.06	20.0	30.0
19628	4.25F7SD	4.25	SD	1.81	7.0	8.0
19630	4.25F8SD	4.25	SD	1.81	8.0	10.5
19634	4.25F10SD	4.25	SD	1.81	10.0	16.0
19636	4.25F11SD	4.25	SD	1.81	11.0	16.0
19639	4.25F12SF	4.25	SF	2.06	12.0	28.0
19641	4.25F14SF	4.25	SF	2.06	14.0	32.0
19643	4.25F16SF	4.25	SF	2.06	16.0	28.0
19645	4.25F18SF	4.25	SF	2.06	18.0	34.0
19647	4.25F20SF	4.25	SF	2.06	20.0	35.0
19651	4.25F24SF	4.25	SF	2.06	24.0	50.0

Notes:
- Sheave weights do not include bushing. Sheaves are suitable for operation at speeds up to 6,500 FPM.
- When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

VSD

Dimensional drawings on page VSD-65.

Grooved Companion Sheaves Dimensional Data

Belt Series	Model	UPC Number	Bushing	W in	P in	OD in	PD in	Weight lbs	Type
1422V	1422G5.5SH	19493	SH	1.13	0.38	5.5	5.3	2.5	1
1422V	1422G6SH	19495	SH	1.13	0.38	6.0	5.8	2.5	1
1422V	1422G7SH	19497	SH	1.13	0.38	7.0	6.8	3.0	1
1422V	1422G8SH	19499	SH	1.13	0.38	8.0	7.8	4.0	1
1422V	1422G9SH	19501	SH	1.13	0.38	9.0	8.8	4.5	1
1422V	1422G10SH	19503	SH	1.13	0.38	11.0	9.8	5.0	1
1422V	1422G11SH	19507	SH	1.13	0.38	11.0	10.8	5.0	1
1422V	1422G12SH	19509	SH	1.13	0.38	12.0	11.8	6.0	1
1922V	1922G7SK	19520	SK	1.69	0.44	7.0	6.8	8.0	1
1922V	1922G8SK	19522	SK	1.69	0.44	8.0	7.8	8.0	1
1922V	1922G9SK	19523	SK	1.69	0.44	9.0	8.8	9.0	1
1922V	1922G10SK	19524	SK	1.69	0.44	10.0	9.8	8.0	1
1922V	1922G12SK	19528	SK	1.69	0.44	12.0	11.8	12.0	1
1922V	1922G14SK	19529	SK	1.69	0.44	14.0	13.8	16.0	1
1922V	1922G16SK	19531	SK	1.69	0.44	16.0	15.8	17.5	1
2322V	2322G7SK	19538	SK	1.69	0.44	7.0	6.8	7.0	1
2322V	2322G8SK	19540	SK	1.69	0.44	8.0	7.8	7.0	1
2322V	2322G9SK	19544	SK	1.69	0.44	9.0	8.8	8.0	1
2322V	2322G10SK	19546	SK	1.69	0.44	10.0	9.8	8.0	1
2322V	2322G12SK	19548	SK	1.69	0.44	12.0	11.8	11.0	1
2322V	2322G14SK	19550	SK	1.69	0.44	14.0	13.8	14.0	1
2322V	2322G16SK	19553	SK	1.69	0.44	16.0	15.8	16.0	1
2926V	2926G8SK	19561	SK	2.13	0.19	8.0	7.7	8.0	1
2926V	2926G9SK	19563	SK	2.13	0.19	9.0	8.7	8.0	1
2926V	2926G10SK	19565	SK	2.13	0.19	10.0	9.7	10.5	1
2926V	2926G12SK	19567	SK	2.13	0.19	12.0	11.7	11.0	1
2926V	2926G14SK	19569	SK	2.13	0.19	14.0	13.7	13.5	1
2926V	2926G16SK	19572	SK	2.13	0.19	16.0	15.7	17.0	1
2926V	2926G18SK	19575	SK	2.13	0.19	18.0	17.7	30.5	1
3230HV	3230G8.4SF	43639	SF	2.38	0.06	8.4	8.0	14.0	1
3230HV	3230G9.4SF	19582	SF	2.38	0.06	9.4	9.0	14.0	1
3230HV	3230G9.6SF	19584	SF	2.38	0.06	9.6	9.2	14.0	1
3230HV	3230G9.9SF	19586	SF	2.38	0.06	9.9	9.5	16.0	1
3230HV	3230G10.4SF	19588	SF	2.38	0.13	10.4	10.0	22.0	1
3230HV	3230G12.4SF	19590	SF	2.38	0.13	12.4	12.0	27.0	1
3230HV	3230G14.4SF	19590	SF	2.38	0.13	14.4	14.0	34.0	1
3230HV	3230G16.4SF	19592	SF	2.38	0.13	16.4	16.0	39.0	1
3230HV	3230G18.4SF	19594	SF	2.38	0.13	18.4	18.0	45.0	1
3230HV	3230G20.4SF	19596	SF	2.38	0.13	20.4	20.0	47.0	1
4430V	4430G8.4SF	19598	SF	3.13	0.13	8.4	8.0	20.0	2
4430V	4430G10.4SF	19600	SF	3.13	0.13	10.4	10.0	22.0	2
4430V	4430G12SK	19604	SK	3.13	0.25	12.0	11.6	19.0	2
4430V	4430G14SF	63312	SF	3.13	0.25	14.0	13.6	23.0	2
4430V	4430G16SK	19610	SK	3.13	0.19	16.0	15.6	27.5	2
4430V	4430G18.4SF	19614	SF	3.13	0.19	18.4	18.0	51.5	2
4430V	4430G20.4SF	19616	SF	3.13	0.19	20.4	20.0	56.5	2
4430V	4430G24.4SF	19618	SF	3.13	0.19	24.4	24.0	67.5	2

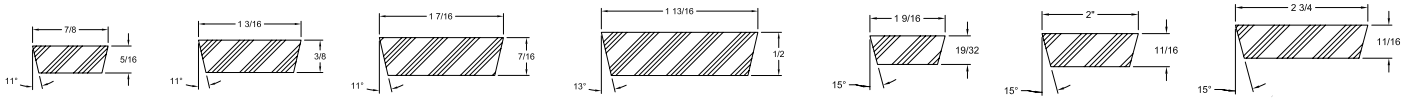
Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

Variable Speed Belts

7/8 through 2-3/4 inch Top Width

Lovejoy variable speed belts are designed for long life, even tracking, smooth running, and efficient transmission of power through wide speed ranges. They are made of special synthetic compounds to provide maximum service in conditions where oil, heat (up to 200° F), and static are present. Maximum recommended belt speed is 5,600 feet per minute.





1422V Belt | 1922V Belt | 2322V Belt | 2926V Belt | 2530V Belt | 3230V Belt | 4430V Belt

Variable Speed Belts UPC Number Selection Table

Belt Size	Pitch Length in	UPC Number	Belt Size	Pitch Length in	UPC Number	Belt Size	Pitch Length in	UPC Number
1422V300	30.0	**23255**	2322V364	36.4	**23312**	3230HV570	57.0	**23379**
1422V340	34.0	**23257**	2322V384	38.4	**23314**	3230HV585	58.5	**23380**
1422V360	36.0	**23258**	2322V421	42.1	**23315**	3230HV603	60.3	**23381**
1422V400	40.0	**23259**	2322V441	44.1	**23317**	3230HV620	52.0	**23382**
1422V420	42.0	**23260**	2322V481	48.1	**23318**	3230HV670	67.0	**23384**
1422V460	46.0	**23261**	2322V521	52.1	**23319**	3230HV685	68.5	**23385**
1422V480	48.0	**23262**	2322V541	54.1	**23320**	3230HV702	70.2	**23386**
1422V540	54.0	**23263**	2322V601	60.1	**23322**	3230HV723	72.3	**23387**
1422V600	60.0	**23264**	2322V621	62.1	**23324**	3230HV821	82.1	**23389**
1422V660	66.0	**23265**	2322V661	66.1	**23326**	3230HV856	85.6	**23390**
1422V720	72.0	**23266**	2322V681	68.1	**23327**	3230HV931	93.1	**23392**
1422V780	78.0	**23267**	2322V701	70.1	**23328**	3230HV960	96.0	**23393**
1922V321	32.1	**23278**	2322V721	72.1	**23329**	3230HV1060	106.0	**38064**
1922V363	36.3	**23280**	2322V801	80.1	**23330**	4430V548	54.8	**23396**
1922V380	38.0	**23281**	2322V826	82.6	**23331**	4430V555	55.5	**23397**
1922V403	40.3	**23282**	2322V886	88.6	**23333**	4430V578	57.8	**23399**
1922V426	42.6	**23283**	2322V1001	100.1	**23335**	4430V600	60.0	**23400**
1922V443	44.3	**23285**	2322V1271	127.1	**23337**	4430V630	63.0	**23402**
1922V454	45.4	**23286**	2926V426	42.6	**23346**	4430V660	66.0	**23403**
1922V484	48.4	**23287**	2926V486	48.6	**23350**	4430V690	69.0	**23405**
1922V526	52.6	**23288**	2926V491	49.1	**23351**	4430V718	71.8	**23407**
1922V544	54.4	**23290**	2926V521	52.1	**23352**	4430V730	73.0	**23409**
1922V604	60.4	**23292**	2926V546	54.6	**23353**	4430V760	76.0	**23411**
1922V646	64.6	**23293**	2926V574	57.4	**23354**	4430V790	79.0	**23413**
1922V666	66.6	**23294**	2926V586	58.6	**23355**	4430V850	85.0	**23414**
1922V686	68.6	**23295**	2926V606	60.6	**23357**	4430V910	91.0	**23416**
1922V706	70.6	**23296**	2926V616	61.6	**23358**	4430V970	97.0	**23418**
1922V726	72.6	**23298**	2926V646	64.6	**23360**	4430V1030	103.0	**23421**
1922V756	75.6	**23299**	2926V666	66.6	**23361**	4430V1090	109.0	**23423**
1922V806	80.6	**23300**	2926V686	68.6	**23362**	4430V1150	115.0	**23426**
1922V846	84.6	**23301**	2926V706	70.6	**23363**	4430V1320	132.0	**23430**
1922V966	96.6	**23303**	2926V726	72.6	**23364**	4430V1610	161.0	**23434**
			2926V776	77.6	**23366**			
			2926V786	78.6	**23367**			
			2926V834	83.4	**23368**			
			2926V856	85.6	**23369**			
			2926V906	90.6	**23371**			
			2926V966	96.6	**23372**			
			2926V1006	100.6	**23373**			
			2926V1086	108.6	**23375**			
			2926V1146	114.6	**23376**			

Note: ■ When referencing the Lovejoy UPC number in this table, include 685144 as a prefix to the numbers shown.

VSD

Pulley Service Factors

Service Factors For Variable Speed Pulleys

Duty	Description	Service Factor
Normal	Starting infrequent. Uniform load, not in excess of 110% of motor HP. Driven RPM within ranges in this catalog.	1.00
Moderately Heavy	Frequent starting: less than 15 minute intervals. Pulsating or light shock loads (not in excess of 125% of rated motor HP). High inertia of driven components such as large flywheels.	1.30
Heavy	Frequent reversing: less than 15 minute intervals or where rapid braking occurs. Heavy shock loads up to 150% of rated motor HP.	1.75

Notes:
- The service factors will help in determining the horsepower of the drive, based on the power requirements at the driven shaft. Multiply the "actual" horsepower by the service factor to account for conditions such as described above. The selection of the variable speed pulley must match the final operating horsepower.
- These Service Factors are designed to prevent belt slippage of more than 3%.

Useful Equations for Variable Speed Belt Drives

In All Equations, Unless Otherwise Noted:
d = Pitch Diameter of the driver pulley
D = Pitch Diameter of the driven pulley
Nd = RPM of driver pulley, "d"
ND = RPM of driven pulley, "D"

1. RPM at driven pulley: $N_D = \frac{N_d \times d}{D}$

2. Pitch Diameter at driven: $D = \frac{N_d \times d}{N_D}$

3. Belt pull or net belt tension permissable for each spring loaded pulley: $P = \frac{HP \times 126000}{N_d \times d}$

Where HP is the HP rating of the Variable Speed Pulley at N_d RPM and d is the maximum pitch diameter of the Variable Speed Pulley.

4. Torque and horsepower at driven pulley with the Variable Speed Pulley mounted on the driver shaft.
(Constant torque drive)
T = P x D/2, constant torque throughout speed range

$HP = \frac{T \times N_d}{63000}$ HP decreases in proportion to speed

5. Torque and horsepower at driven pulley with the Variable Speed Pulley mounted on the driven shaft.
(Constant horsepower)
T = P x D/2, torque decreases in proportion to D/2

$HP = \frac{T \times N_D}{63000}$ HP constant as T(torque) decreases, N_D (RPM of driven pulley) increases in proportion

6. Exact Belt length: $L = 2C + 1.57 (D + d) + \frac{(D - d)^2}{4C}$

C = Center to center distance

7. Approximate Belt length: L = 2C + 1.57 (D + d)

8. Center to Center distance: $C = \frac{L - [1.57 (D + d) + (D - d)^2/L]}{2}$

9. Belt Speed: $FPM = \frac{N_d \pi D}{12}$ where N_D = RPM of pulley and D = diameter (in) at which belt is riding.

$\pi = 3.14$ FPM = feet per minute

10. Rim speed of pulley:

$V = \frac{N_d \pi D}{12}$ N_D = RPM of pulley and D = outside diameter of pulley
V = rim speed in feet per minute

Useful Information Regarding Pump & Fan Drives

Driven Equipment:
Displacement Pumps
Centrifugal Pumps, Fans, and Blowers

Horsepower for displacement and centrifugal pumps

$HP = \frac{\text{gallons per min x head in feet}}{3960 \times \text{efficiency}}$

Horsepower for fans and blowers

$HP = \frac{\text{cu ft per min x pressure (lb per sq ft)}}{33{,}000 \times \text{efficiency}}$

Effect of Speed on Horsepower:
HP varies in direct proportion to RPM.

HP varies as the cube of the speed (this would mean that a 10% increase in the speed of the pump would require 33% more HP).

1 cu ft per second = 448.8 GPM

1 lb per sq in pressure = a head of 2.309 ft for water weighing 62.36 lb per cu ft at 60° F.

RunRight™ by Lovejoy

RunRight™



In This Section:

- Technology Overview
- Tensioner Devices
- Motorbases
- Oscillating Mounts
- Rubber Suspension Units
- Anti-Vibration Mounts

RR

RunRight™

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

RunRight™ by Lovejoy

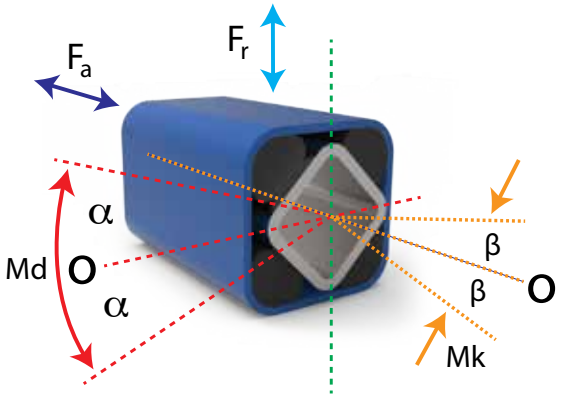
RunRight™

Table of Contents

	Running Page No.	Section Page No.
Overview	414	RR-4
Tensioner Devices > Selection Guide	418	RR-8
Tensioner Devices > Overview	419	RR-9
Tensioner Devices > RT, RT N, RT H, RT R (Imperial)	420	RR-10
Tensioner Devices > RT F (Imperial) and Sprockets	421	RR-11
Tensioner Devices > RT, RT N, RT H (Metric)	422	RR-12
Tensioner Devices > RT F, RT B (Metric)	423	RR-13
Tensioner Devices > Accessories - Sprockets	424	RR-14
Tensioner Devices > Accessories - Chain Riders	425	RR-15
Tensioner Devices > Accessories - Tensioning Rollers	426	RR-16
Tensioner Devices > Accessories - RLB Brackets and Safety Sockets	427	RR-17
Tensioner Devices > RT T, RT P	428	RR-18
Tensioner Devices > RT M	429	RR-19
Motorbases > Overview	430	RR-20
Motorbases > Selection Guide	431	RR-21
Motorbases > RCM C20, RCM C30	432	RR-22
Motorbases > RCM C38	433	RR-23
Motorbases > RCM C50	434	RR-24
Motorbases > RCM C70	435	RR-25
Motorbases > RCM L100, RCM T100	436	RR-26
Oscillating Mounts > Selection Guides	437	RR-27
Oscillating Mounts > RSC 15 to 45	439	RR-29
Oscillating Mounts > RSC 50	440	RR-30
Oscillating Mounts > RSC HD	441	RR-31
Oscillating Mounts > RSC D	442	RR-32
Oscillating Mounts > RSC SS	443	RR-33
Oscillating Mounts > RSC HS	444	RR-34
Oscillating Mounts > RSC R	445	RR-35
Oscillating Mounts > RDH Drive Heads	446	RR-36
Oscillating Mounts > RSD A Spring Accumulators	447	RR-37
Oscillating Mounts > RSC V	448	RR-38
Oscillating Mounts > RSC UJ	449	RR-39
Rubber Suspension Units > Selection Guide	450	RR-40
Rubber Suspension Units > Torque Chart	451	RR-41
Rubber Suspension Units > RSS A, RSS C	452	RR-42
Rubber Suspension Units > RSS S, RBS Clamps	453	RR-43
Rubber Suspension Units > RSR A, RSR S, RBR Clamps	454	RR-44
Rubber Suspension Units > RSF A15 to 38, RSF C15 to 38	455	RR-45
Rubber Suspension Units > RSF A45 to 50, RSF A60 to 100	456	RR-46
Rubber Suspension Units > RSD A15 to 45, RSD A50	457	RR-47
Rubber Suspension Units > Accessories - RLB Brackets	458	RR-48
Anti-Vibration Mounts > Technical Data and Selection Guide	459	RR-49
Anti-Vibration Mounts > RAV D	460	RR-50
Anti-Vibration Mounts > RAV	462	RR-52

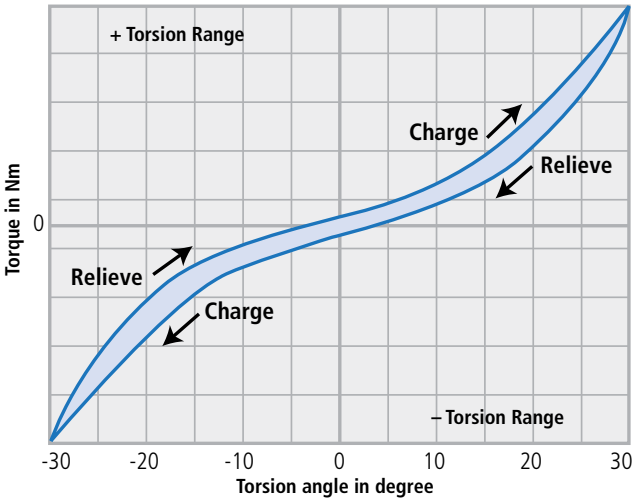
What makes RunRight™ Products Superior

RunRight™ rubber suspension units are designed for use in applications requiring a torsional spring feature with angles of operation of +/- 30˚. When using these units in an application, the torsional force that is applied as well as the radial, axial and/or cardanic forces need to be taken into consideration when sizing a unit. See page RR-41 for the applicable RunRight units' torque and load characteristics.



Spring Characteristic

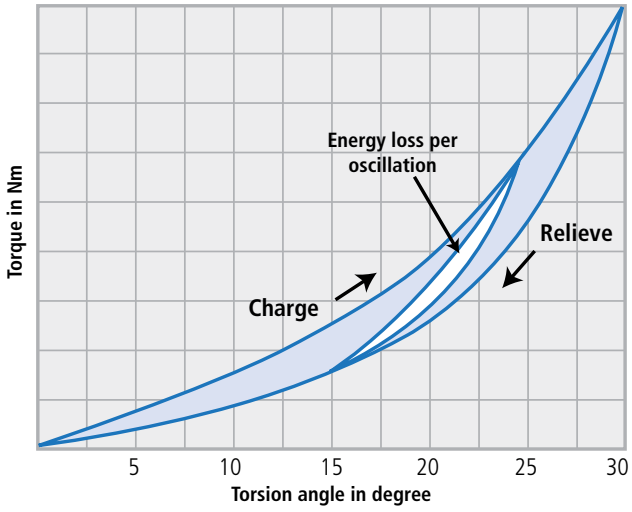
When the RunRight rubber suspension units are pivoted, a nearly linear spring characteristic occurs with a slightly progressive upper end, with a load applied close to a 30˚ rotation of the element. To obtain a functionally adapted spring characteristic, the leverage point may need to be altered and/or arm guidance may be needed through the use of a cam-disc. The volume of the elastomeric inserts will remain constant when in use.

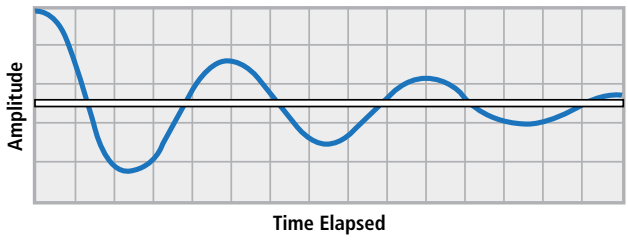


Element Dampening

The energy dampening that takes place with the RunRight unit is the resulting energy loss that occurs in the rubber inserts during the pivoting action of the spring device. When the unit is pivoted, part of the created energy generates heat or frictional work. The area between the load and relieve headline indicates the resulting energy loss of the unit. 15% to 20% on average of energy loss occurs when the unit is actuated from the "0" zero position up to 30˚. However, with pre-tensioned units, the actuated working angle is reduced to a few degrees, resulting in a reduced energy loss, see "Energy loss per oscillation" on graph.

Vigorous unit oscillations fade quickly following each post-pulse oscillation due to the occurring high energy loss. This is an important attribute when using the RunRight unit for screen mountings. The effects of power loss on the screen during normal operation is negligible; however, during the shutdown phase, an important amplitude exaggeration occurs which is close to the resonance frequency of the RunRight unit. Thus the RunRight unit absorbs and dampens the exaggerations, resulting in high energy loss within a few post-pulse oscillations.





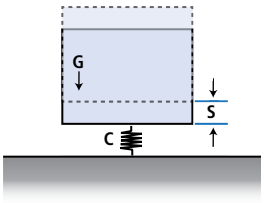
WARNING

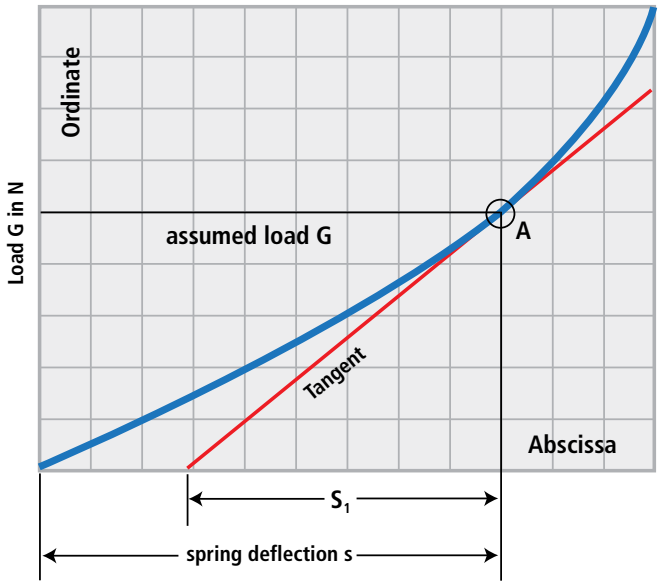
You must refer to page RR-2 (Page 412) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

RR

Natural Frequency

The calculation of the natural frequency of a RunRight™ suspension unit has to be solved by drawing the tangent line at the loading point "A" of the parabolic arc of the load deflection curve. The distance on the axis of the abscissa, i.e. resulting "S", designates the arithmetical spring deflection in mm which is required for the determination of the natural frequency.





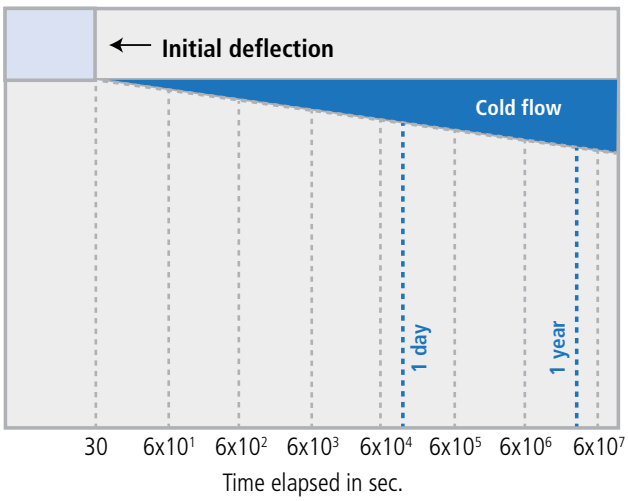
Natural frequency $n_e = \frac{300}{\sqrt{s_1 \text{ (in cm)}}} = \text{RPM}$

or $f_e = \frac{5}{\sqrt{s_1 \text{ (in cm)}}} = \text{Hz}$

Example $s_1 = 5$ cm: $n_e = \frac{300}{\sqrt{5.0}} \cong 134$ RPM or 2.2 Hz

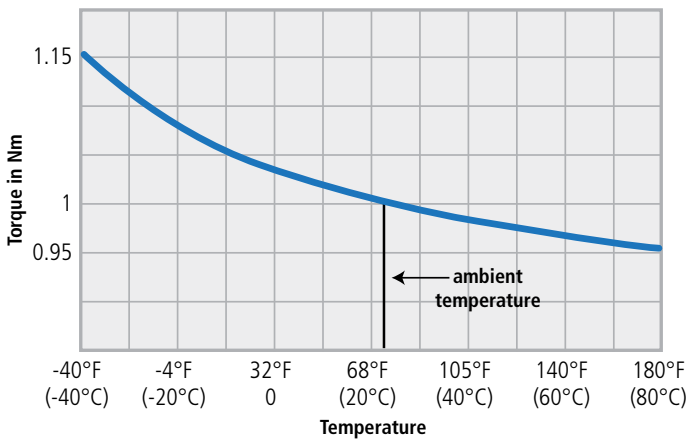
Cold Flow and Deformation

When a load is continually applied to an elastic material, such as the Tensys units, deformation or cold flow occurs. Cold flow appears during a linear logarithmic sequence. The corresponding chart shows that more than 50% of this deformation occurs after only one day of installation. Depending on the environmental temperatures and applied frequencies, after approximately one year of installation near total deformation of the units has occurred. Given the settling factor of a RunRight rubber suspension unit, the inner square will not totally move back to the neutral position of the element. With applications where there are several units in a series or parallel configuration (i.e. the RSC screen mountings) there is approximately +10% of effective cold flow of the nominal deflection curve. This effect must be taken into consideration when using RunRight units on screen mounting or axle bearings designs.



Temperature Effect

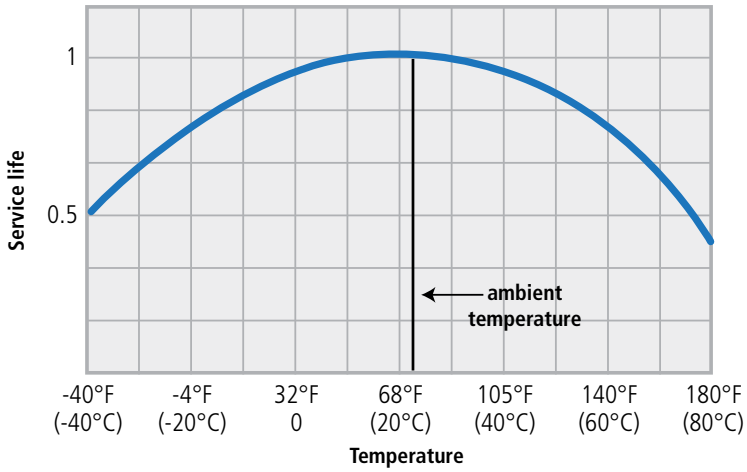
RunRight rubber suspension units manufactured with the Tensys™ 10 elastic inserts are designed to be used between the temperatures of -40˚ to 180˚F (-40˚ to 80˚C). When temperatures rise the mechanical stiffness of the rubber inserts and the resulting element torque will decrease within acceptable tolerances to approximately -5% at 180°F (80˚C). At temperatures below freezing the torsional element stiffness will increase to a maximum of +15% at -40˚F (-40°C). Also, the hysteresis of the RunRight rubber suspension units will increase at lower temperatures and then decrease with rising temperatures. The internal molecular friction caused by the torque applied to the element will warm the rubber inserts in a continuous manner. Therefore, the effective element temperature can vary in relation to the temperature of the environment.



RR

Service Life

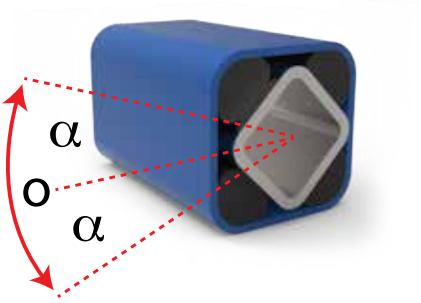
When the rubber suspension units are operating within the specified frequencies, oscillation angles, and recommended surrounding conditions, the unit's performance and function will be expected to perform for many years. Extremely low or high permanent temperatures will significantly shorten the life expectancy of the rubber suspension units. The Service Life Curve Chart shown to the right shows the life reduction at extreme high and low temperatures using a service life of 1 at the room temperature of 72°F (22˚C).

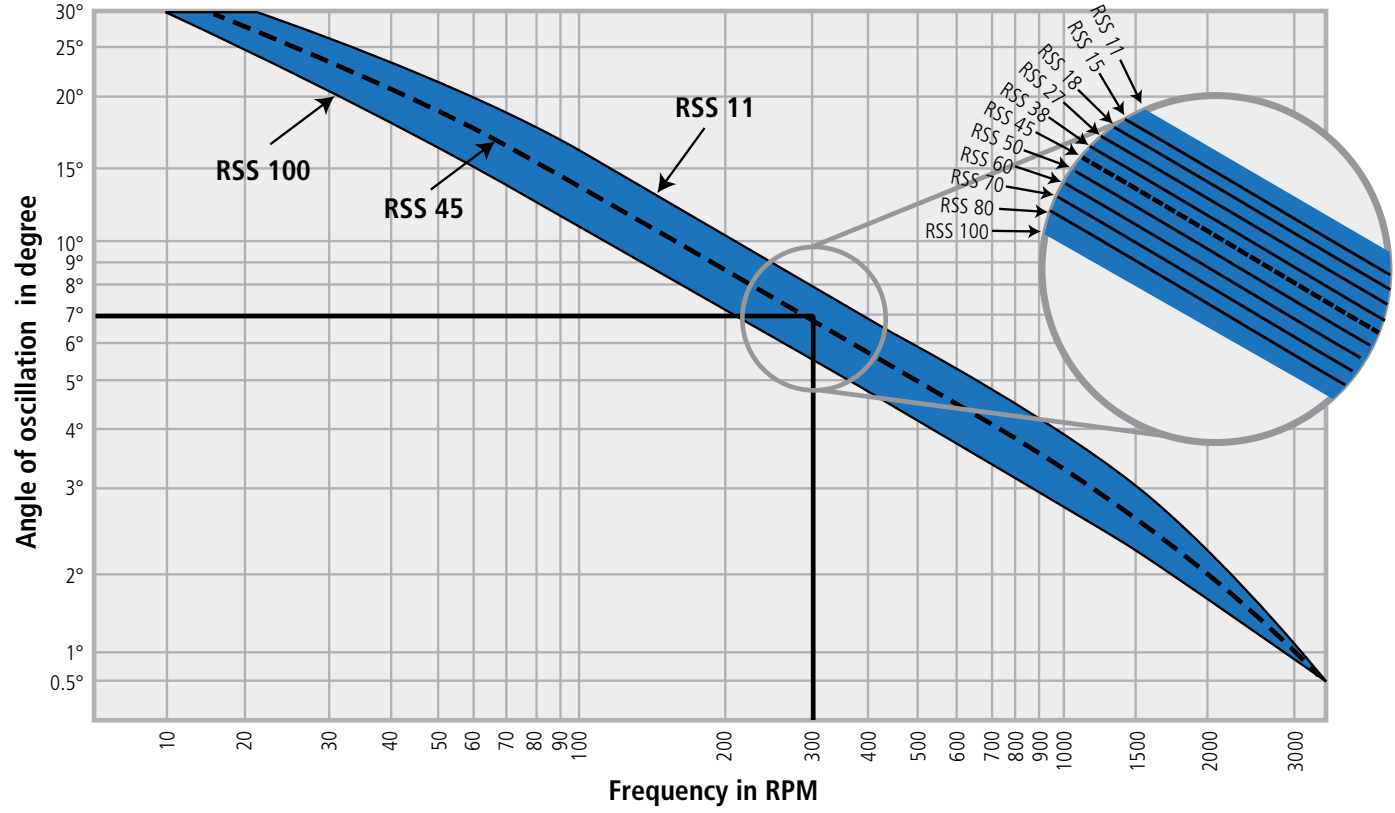


Allowable Element Frequencies

Selection chart below is used for the determination of the maximum allowable frequencies dependent on the rubber suspension unit size (RSS 11, 15, 18, etc.) and the oscillation angle. The higher the frequency, the lower the oscillation angle and the lower the frequency, the higher the oscillation angle as shown in the Allowable Element Frequencies below.

Example: A rubber suspension unit RSS 45 can be rotated from the neutral position of 0˚ to an oscillation angle of +/-7˚ with a maximum frequency of 300 RPM. Contact Lovejoy for applications of "pre-tensioned" elements working, i.e. under 15˚ of pre-tension and describing oscillation angles of +/-5˚ at 300 RPM.





RR

Rubber Characteristics

The majority of RunRight™ rubber suspension units are manufactured with Tensys™ 10 natural rubber inserts. The high content of natural rubber in the Tensys 10 offers shape retention, a limited amount of deformation, high mechanical load capabilities and limited hardening of the inserts. Applications requiring high oil resistance, high heat resistance or higher torque capability requires a different elastomeric insert as shown in the chart below.

Rubber Compounds	Torque & Load Factor*	Operating Temperature F° (C°)	Rubber Type	Rubber Characteristics
Tensys™ 10	1.0	-40° to 180° (-40° to 80°)	Natural	Standard
Tensys™ 20	approximately 1.0	-22° to 195° (-30° to 90°)	Neoprene	Oil Resistant
Tensys™ 30	approximately 1.0	-40° to 180° (-40° to 80°)	Natural	High-Dampening (Motor Bases only)
Tensys™ 40	approximately 0.6	180° to 250° (80° to 120°)	EPDM	High Temperature Resistant
Tensys™ 50	approximately 3.0	-31° to 195° (-35° to 90°)	Urethane	High Torque

Note: ■ *Factor in relation to torque & loads shown on standard selection charts.

Chemical Resistance

Standard RunRight rubber suspension units are manufactured with Tensys 10 elastic inserts. The quality of this rubber is due to the high content of natural rubber. This rubber offers a high chemical resistance to many solutions. There are some applications that would require synthetic elastomeric inserts. In these applications Tensys 20 or 40 would be required. When using the synthetic units, the characteristics of the inserts differ slightly, see Rubber Characteristics above for more information. The Chemical Resistance table below is a guideline for chemical compatibility. Please contact Lovejoy for specific applications regarding environmental conditions and the concentration of specific liquids or particulates that would come into contact with the rubber suspension units.

Tensys™	10	20	30	40	50
Acetone	+	−−	+	++	−−
Alcohol	++	++	++	++	−
Benzene	−−	−−	−−	−−	−−
Caustic Soda Solution up to 25% (20°)	++	++	++	++	−−
Citric Acid	++	+	++	−	−−
Diesel	−−	+	−−	−−	+
Formic Acid	+	+	+	−	−−
Glycerine	+	+	+	++	−−
Hydraulic Fluid	−	+	−	−−	−−
Hydrochloric Acid up to 15%	++	+	++	−	−−
Javelle water	+	+	+	++	−−
Lactic Acid	++	++	++	++	+
Liquid Ammonia	+	+	+	++	−−
Lubricating grease and oil	−−	+	−−	−−	+
Nitric Acid up to 10%	−−	+	−−	+	−−
Nitro thinner	−−	−−	−−	−−	−−
Fuel	−−	−	−−	−−	++
Petroleum	−−	+	−−	−−	++
Phosphoric Acid up to 85%	−−	−−	−−	−−	−−
Seawater	++	+	++	++	−−
Sulphuric Acid up to 10%	+	−	+	−	−−
Tannic Acid	++	+	++	++	−−
Toluene	−−	−−	−−	−−	−−
Treacle	++	++	++	++	−

Key: ++ excellent consistency
+ good consistency
− sufficient consistency
−− insufficient consistency

RR

RunRight™ Tensioner Device Selection Guide

RunRight™ Model			Application Notes	Working Temperature
Tensioner Devices				
	**RT**	Standard Tensioner	**For most Applications** Powder Metal / Cast Iron Housings • Cast Iron Arm & Inner Square • Painted Blue Finish • Tensys™ 10 Natural Rubber Inserts	-40° to 180°F (-40° to 80°C)
	**RT N**	Oil Resistant	**For Oily Applications** Powder Metal / Cast Iron Housings • Cast Iron Arm & Inner Square • Galvanized Zinc Finish • Tensys™ 20 Synthetic Rubber Inserts • Marked with yellow dot	-22° to 180°F (-30° to 80°C)
	**RT H**	Heat Resistant	**For Applications in excess of 180°F (80°C)** Powder Metal / Cast Iron Housings • Cast Iron Arm & Inner Square • Painted Blue Finish • Tensys™ 40 Hi-Temp. Rubber Inserts • Marked with red dot	180° to 250°F (80° to 120°C)
	**RT R**	Steel Reinforced lever arm	**For use on IC Engines and Compressors** Powder Metal / Cast Iron Housings • Fully Welded Steel Arm & Inner Square • Painted Blue Finish • Tensys™ 10 Natural Rubber Inserts. • Marked with white dot	-40° to 180°F (-40° to 80°C)
	**RT SS**	Stainless Steel (INOX)	**For use in food and pharmaceutical industries** Cast Stainless Steel Housings & Arms • Natural (uncoated) Finish • Tensys™ 10 Natural Rubber Inserts	
	**RT F**	Front Mount Tensioner	**For applications where it is impossible to access standard mounting bolt** Powder Metal / Cast Iron Housings • Cast Iron Arm & Inner Square • Painted Blue Finish • Tensys™ 10 Natural Rubber Inserts	
	**RT B**	Double Arm Tensioner	**For the tensioning of very long chain and belt drives** Powder Metal / Cast Iron Housings • Cast Iron Arm & Inner Square • Painted Blue Finish • Tensys™ 10 Natural Rubber Inserts	
	**RT T**	Dual Arm Tensioner	**For applications requiring very high tensioning forces** Cast Iron Housings • Fully Welded Steel Arm & Inner Square • Painted Blue Finish • Tensys™ 10 Natural Rubber Inserts	
	**RT P**	Plastic Tensioner	**For light duty applications** Plastic Arms & Base • Dual Arm Design • Tensys™ 10 Natural Rubber Inserts	-22° to 120°F (-30° to 50°C)
	**RT M**	Large Tensioner	**For very large HD applications** Dual Arm Design • Wide Range of Rollers and Sprockets Available • Based on the tensioning Motor Base frame • Tensys™ 30 Natural Rubber Inserts	-40° to 180°F (-40° to 80°C)
Chain Drive Accessories				
	Sprocket Wheel Set		**Allows easy & accurate chain alignment** Permanently lubricated Ball Bearings • Sets include idler hardware	-40° to 210°F (-40° to 100°C)
	Sprocket Wheel Only			
	Chain Rider Set		**Allows easy & accurate chain alignment** For smooth & quiet chain tensioning • Maximum allowed chain speed 1.5 m/sec. • Material: POM-H	
	Chain Rider Only			
Belt Drive Accessories				
	Tensioning Roller		**Primarily uses as backside belt tensioner** Also used as a material feed hold-down • Available in Plastic or Aluminum • Permanently lubricated Ball Bearings	-31° to 210°F (-35° to 100°C)
	Steel Idler Pulleys		**Pulleys for inside and backside tensioning of V-belts** Flat Belt or Chain Idler Pulley for backside tensioning • Permanently lubricated Ball Bearings	-40° to 210°F (-40° to 100°C)

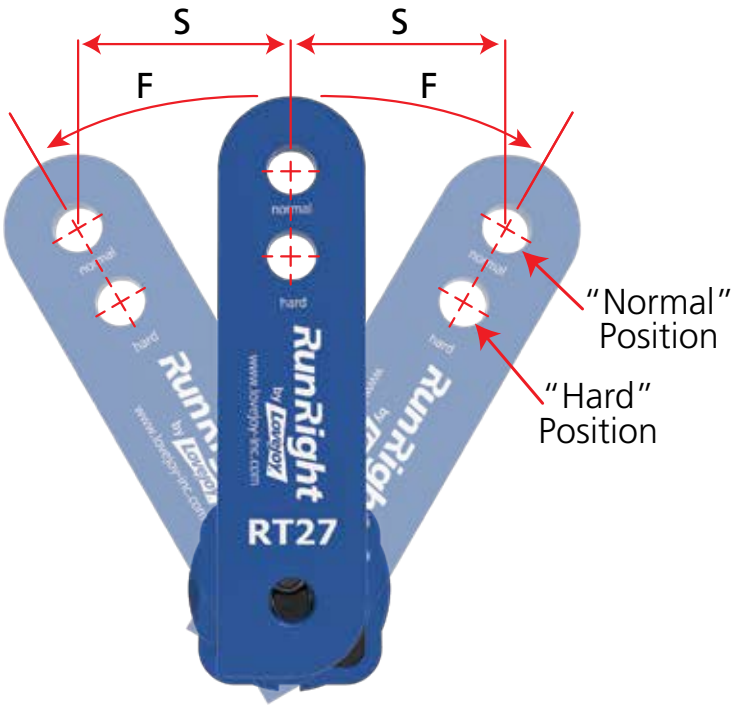
RR

Tensioner Technology

Install RunRight™ tensioners on a rigid, flat and clean machine surface using the mounting bolt provided. The frictional contact between the tensioner housing and the machine surface is usually sufficient for proper installation. If the surface of the machine is uneven or highly corroded, a locking pin can be used at the positioning notch for a secure connection to a machine's irregular surface.

Tensioning Force

The tensioning force of the RunRight tensioner can be continuously adjusted. The maximum installation tensioning torque is 30˚ from the neutral position. The tensioning forces for the RT, RT N, RT R, RT F and RT SS using the normal hole on the tensioner arm for the idler sprocket, chain and roller accessories are in the chart below. When using the hard hole on the tensioner arm, the tensioning force will increase by approximately 25% from what is shown in this chart.



Tensioner Size	Tensioning Force @ "Normal" Position											
	10° Pre-Tensioning Angle				20° Pre-Tensioning Angle				30° Pre-Tensioning Angle			
	F (n)	F (lbs)	S (mm)	S (in)	F (n)	F (lbs)	S (mm)	S (in)	F (n)	F (lbs)	S (mm)	S (in)
11	15	3.4	14	0.6	40	9.0	28	1.1	80	18.0	40	1.6
15	25	5.6	17	0.7	65	14.6	34	1.3	135	30.3	50	2.0
18	75	16.9	17	0.7	180	40.5	34	1.3	350	78.7	50	2.0
27	150	33.7	22	0.9	380	85.4	44	1.7	800	179.8	65	2.6
38	290	65.2	30	1.2	730	164.1	60	2.4	1500	337.2	87	3.4
45	500	112.4	39	1.5	1300	292.3	78	3.1	2600	584.5	112	4.4
50	750	168.6	43	1.7	2150	483.3	86	3.4	4200	944.2	125	4.9

Notes: ■ RT SS40 same tensioner force as RT 38.
■ RT H tensioners approximately 40% lower tensioning forces as the standard RT Tensioners.
■ Mounting accessories into the "Hard" Position results in approximately 25% Higher Tensioning force over "Normal" Position.

Mounting Bolt Tightening Torque

Size	Grade 8.8	Grade 12.9 shipped with RT F
M6	10 Nm	17 Nm
M8	25 Nm	41 Nm
M10	49 Nm	83 Nm
M12	86 Nm	145 Nm
M16	210 Nm	355 Nm
M20	410 Nm	690 Nm
M24	750 Nm	—

Rubber Characterstics

Rubber Compounds	Torque & Load Factor*	Operating Temperature F° (C°)	Rubber Type	Rubber Characteristics
Tensys™ 10	1.0	-40° to 180° (-40° to 80°)	Natural	Standard
Tensys™ 20	approximately 1.0	-22° to 195° (-30° to 90°)	Neoprene	Oil Resistant
Tensys™ 30	approximately 1.0	-40° to 180° (-40° to 80°)	Natural	High-Dampening (Motor Bases only)
Tensys™ 40	approximately 0.6	180° to 250° (80° to 120°)	EPDM	High Temperature Resistant
Tensys™ 50	approximately 3.0	-31° to 195° (-35° to 90°)	Urethane	High Torque

Note: ■ *Factor in relation to torque & loads shown on standard selection charts.

RR

RunRight™ Tensioners
Type RT, RT N, RT H, RT R (Imperial)

RunRight™ RT tensioners offer a full range of belt and chain tensioners. They are manufactured with the standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.

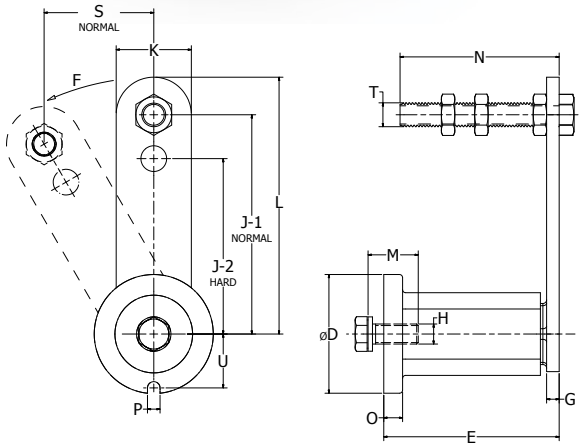
RunRight RT N tensioners are manufactured with galvanized powder metal parts and are designed for outdoor or oily applications. The Tensys 20 neoprene inserts are oil resistant and can be used for applications operating within a -22˚ to 195˚F (-30˚ to 90˚C) temperature range.

RunRight RT H tensioners enable a reduction of tensioning force of up to 40% when compared to the RT and RT-N tensioners. The Tensys 40 heat resistant rubber inserts are ideal for applications operating within a 180˚ to 250˚F (80˚ to 120˚C) temperature range.

RunRight RT R tensioners are for use on internal combustion engines and compressors. They are manufactured with powder metal or cast iron housings, fully welded steel arms and inner square, come with the standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.

The RT 11 to RT 27 housings are manufactured from powder metal. The RT 38 and RT 45 housings are manufactured from cast iron, the RT 50 housing is manufactured from steel. All arms and inner squares are steel castings or weldments. All of the tensioners include a zinc plated mounting screw and locking washer.





Tensioners Type RT, RT N, RT H, RT R (includes Imperial Idler Hardware)

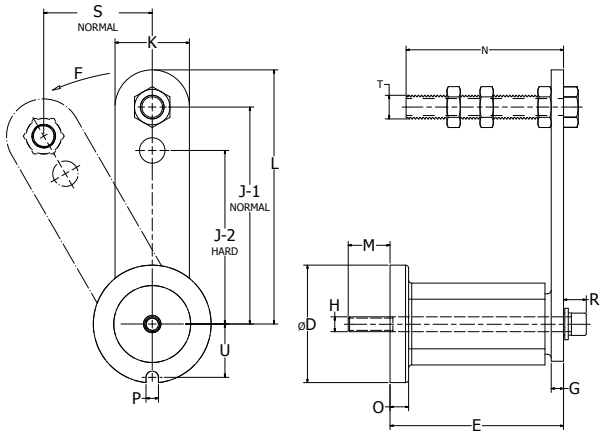
UPC #	Type	Dimensions - Inches													
		D	E	G	H	J-1	J-2	K	L	M	N	O	P	T	U
68514417451	RT 11	1.38	2.01	0.20	M6	3.15	2.36	0.79	3.54	20mm	2.00	0.24	0.31	3/8-16	0.65
68514426709	RT N11														
68514417452	RT 15	1.77	2.52	0.20	M8	3.94	3.15	0.98	4.43	25mm	2.00	0.31	0.33	1/2-13	0.82
68514425597	RT N15														
68514457517	RT H15														
68514483883	RT R15														
68514417453	RT 18	2.28	3.11	0.24	M10	3.94	3.15	1.18	4.53	30mm	2.50	0.41	0.33	1/2-13	1.00
68514417490	RT N18														
68514453285	RT H18														
68514483881	RT R18														
68514417454	RT 27	3.07	4.25	0.31	M12	5.12	3.94	1.97	6.10	40mm	3.50	0.59	0.41	1/2-13	1.35
68514417491	RT N27														
68514453287	RT H27														
68514481601	RT R27														
68514417455	RT 38	3.74	5.51	0.39	M16	6.89	5.51	2.36	8.07	40mm	5.00	0.59	0.49	3/4-10	1.65
68514417492	RT N38														
68514453289	RT H38														
68514417456	RT 45	4.53	7.87	0.47	M20	8.86	7.09	2.76	10.24	50mm	6.00	0.71	0.49	3/4-10	2.05
68514417493	RT N45														
68514453291	RT H45														
68514453341	RT 50	5.12	8.27	0.79	M24	9.84	7.87	3.15	11.42	60mm	6.00	0.79	0.67	3/4-10	2.26
68514463652	RT N50														
68514457519	RT H50														

Note: ■ See pages RR-8 and RR-9 for additional product and performance data. See page RR-9 for "F" and "S" Dimensions.

RunRight™ Tensioners Type RT F (Front Mount)

RunRight™ RT F tensioners are designed for front mounting applications where access to back side or rear mounting surfaces is not possible. A single threaded hole is required to mount these tensioners. These tensioners include a special mounting screw and spacer bushing. The housings are manufactured from powder metal, cast iron or steel. All arms and inner squares are cast steel or steel weldments. They come with the standard Tensys™ 10 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Tensioners Type RT F (includes Imperial Idler Hardware)

UPC #	Type	Dimensions - Inches														
		D	E	G	H	J-1	J-2	K	L	M	N	O	P	R	T	U
68514453273	RT F15	1.77	2.52	0.20	M6	3.94	3.15	0.98	4.43	0.47	2.00	0.31	0.33	0.39	1/2-13	0.82
68514453275	RT F18	2.28	3.11	0.24	M8	3.94	3.15	1.18	4.53	0.71	2.50	0.41	0.33	0.43	1/2-13	1.00
68514453277	RT F27	3.07	4.25	0.31	M10	5.12	3.94	1.97	6.10	0.67	3.50	0.59	0.41	0.59	1/2-13	1.35
68514453279	RT F38	3.74	5.51	0.39	M12	6.89	5.51	2.36	8.07	0.63	5.00	0.59	0.49	0.67	3/4-10	1.65
68514453281	RT F45	4.53	7.87	0.47	M16	8.86	7.09	2.76	10.24	1.26	6.00	0.71	0.49	0.94	3/4-10	2.05
68514453283	RT F50	5.12	8.27	0.79	M20	9.84	7.87	3.15	11.42	0.90	6.00	0.79	0.67	1.06	3/4-10	2.26

Notes: ■ Front Mounting versions of RunRight™ Series RT N, RT H and RT SS Tensioners are available for special requests.
■ See pages RR-8 and RR-9 for additional product and performance data. See Page RR-9 for "F" and "S" dimensions.

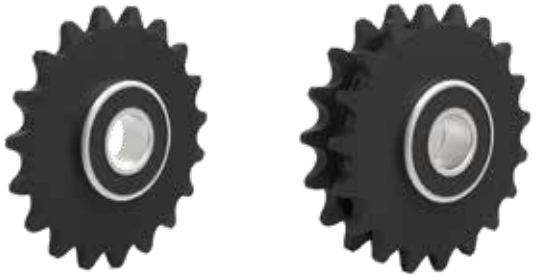
RunRight™ Single and Double Strand Sprockets

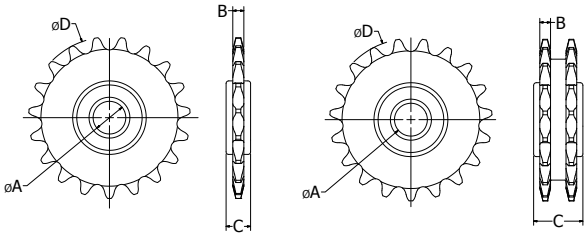
Single Strand Sprockets

UPC #	Type	Dimensions - Inches					Use with Tensioner Size
		A	B	C	D	# Teeth	
68514417458	25BB20	0.38	0.11	0.38	1.72	20	RT 11
68514417459	35BB19	0.50	0.17	0.44	2.48	19	RT 15/18
68514417460	40BB18	0.50	0.28	0.44	3.14	18	RT 15/18
68514417461	41BB18	0.50	0.23	0.44	3.14	18	RT 15/18
68514417462	50BB17	0.50	0.34	0.44	3.72	17	RT 27
68514417463	60BB15	0.50	0.46	0.44	3.98	15	RT 27
68514417464	80BB12	0.75	0.58	0.44	4.34	12	RT 38
68514417465	100BB11	0.75	0.68	0.69	5.00	11	RT 45
68514417466	120BB9	0.75	0.92	1.00	5.02	9	RT 45

Double Strand Sprockets

68514417467	D35BB19	0.50	0.16	0.75	2.48	19	RT 15/18
68514417468	D40BB18	0.50	0.28	0.88	3.14	18	RT 18
68514417469	D50BB17	0.50	0.33	0.88	3.72	17	RT 27
68514417470	D60BB15	0.50	0.46	0.87	3.98	15	RT 27
68514417471	D80BB12	0.75	0.58	1.20	4.34	12	RT 38
68514443442	D100BB11	0.75	0.68	1.90	5.00	11	RT 45





RR

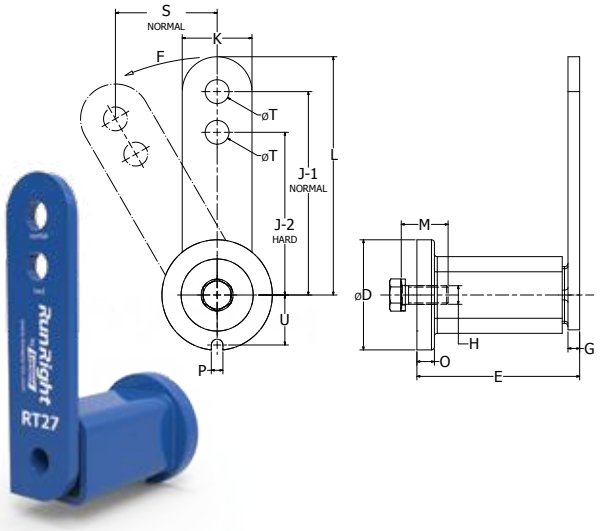
RunRight™ Tensioners Type RT, RT N, RT H (Metric)

RunRight™ RT tensioners offer a full range of belt and chain tensioners. They are manufactured with the standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.

RunRight RT N tensioners are manufactured with galvanized powder metal parts and are designed for outdoor or oily applications. The Tensys 20 neoprene inserts are oil resistant and can be used for applications operating within a -22˚ to 195˚F (-30˚ to 90˚C) temperature range.

RunRight RT H tensioners enable a reduction of tensioning force of up to 40% when compared to the RT and RT N tensioners. The Tensys 40 heat resistant rubber inserts are ideal for applications operating within a 180˚ to 250˚F (80˚ to 120˚C) temperature range.

The housings are manufactured from powder metal, cast iron or steel. All arms and inner squares are cast steel or steel weldments. All of the tensioners include a zinc plated mounting screw and locking washer.



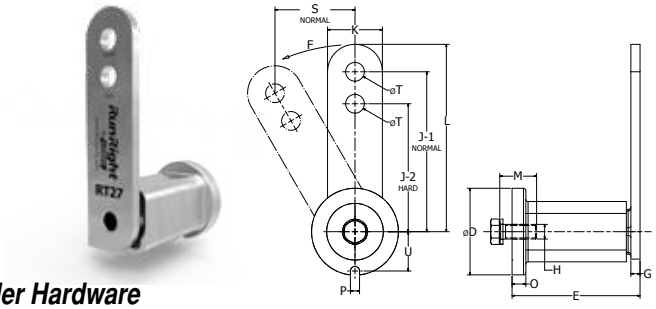
Tensioners Type RT, RT N, & RT H for Metric Idler Hardware

UPC #	Type	Dimensions - Millimeters												
		D	E	G	H	J-1	J-2	K	L	M	O	P	T	U
68514485264	RT 11-M	35	51	5	M6	80	60	20	90.0	20	6.0	8.0	8.5	16.5
68514485257	RT N11-M													
68514485265	RT 15-M	45	64	5	M8	100	80	25	112.5	25	8.0	8.5	10.5	20.8
68514485258	RT N15-M													
68514485271	RT H15-M													
68514485266	RT 18-M	58	79	7	M10	100	80	30	115.0	30	10.5	8.5	10.5	25.3
68514485259	RT N18-M													
68514485272	RT H18-M													
68514485267	RT 27-M	78	108	8	M12	130	100	50	155.0	40	15.0	10.5	12.5	34.3
68514485260	RT N27-M													
68514485273	RT H27-M													
68514485268	RT 38-M	95	140	10	M16	175	140	60	205.0	40	15.0	12.5	20.5	42.0
68514485261	RT N38-M													
68514485274	RT H38-M													
68514485269	RT 45-M	115	200	12	M20	225	180	70	260.0	50	18.0	12.5	20.5	52.0
68514485262	RT N45-M													
68514485275	RT H45-M													
68514485270	RT 50-M	130	210	20	M24	250	200	80	290.0	60	20.0	17.0	20.5	57.5
68514485263	RT N50-M													
68514485276	RT H50-M													

Note: ■ See pages RR-8 and RR-9 for additional product and performance data. See page RR-9 for "F" and "S" dimensions.

RunRight™ Tensioners Type RT SS

RunRight RT SS tensioners are for use in the food and pharmaceutical industries. They are manufactured with cast stainless steel housings, arms and inner square. They come with the standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



Tensioners Type RT SS (INOX) (Stainless Steel) for Metric Idler Hardware

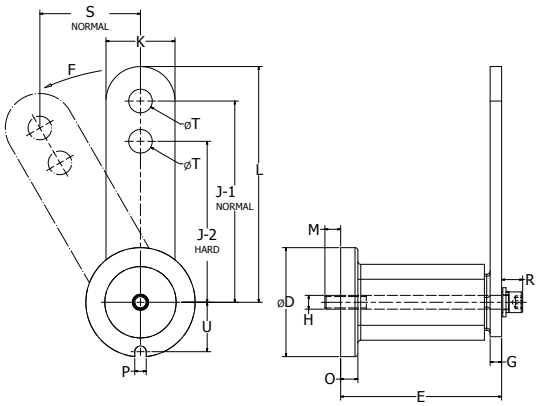
UPC #	Type	Dimensions - Millimeters												
		D	E	G	H	J-1	J-2	K	L	M	O	P	T	U
68514485681	RT SS11	35	51	5	M6	80	60	20	90.0	20	6.0	8.0	8.5	16.5
68514463014	RT SS15	45	64	5	M8	100	80	25	112.5	25	8.0	8.5	10.5	20.8
68514463015	RT SS18	58	79	7	M10	100	80	30	115.0	30	10.5	8.5	10.5	25.3
68514463016	RT SS27	78	108	8	M12	130	100	50	155.0	40	15.0	10.5	12.5	34.3
68514463017	RT SS40	95	140	10	M16	175	140	60	205.0	40	15.0	12.5	20.5	41.5

RR

RunRight™ Tensioners Type RT F (Front Mount)

RunRight™ RT F tensioners are designed for front mounting applications where access to back side or rear mounting surfaces is not possible. A single threaded hole is required to mount these tensioners. These tensioners include a special mounting screw and spacer bushing. The housings are manufactured from powder metal, cast iron or steel. All arms and inner squares are cast steel or steel weldments. They come with the standard Tensys™ 10 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





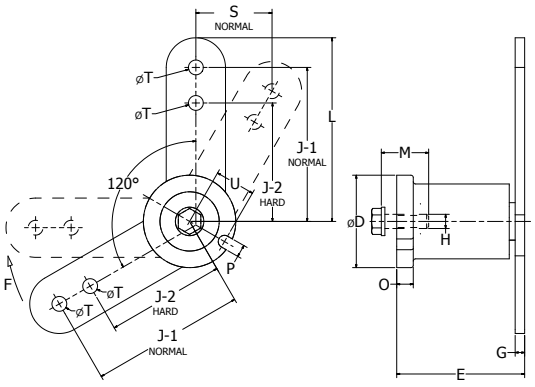
Tensioners Type RT F (for use with metric Idler Hardware)

UPC #	Type	Dimensions - Millimeters												
		D	E	G	H	J-1	J-2	K	L	M	O	P	R	T	U
68514485026	RT F15-M	45	64	5	M6	100	80	25	112.5	12	8.00	8.5	10	10.5	20.8
68514485027	RT F18-M	58	79	7	M8	100	80	30	115.0	18	10.5	8.5	11	10.5	25.3
68514485028	RT F27-M	78	108	8	M10	130	100	50	155.0	17	15.0	10.5	15	12.5	34.3
68514485029	RT F38-M	95	140	10	M12	175	140	60	205.0	16	15.0	12.5	17	20.5	42.0
68514485030	RT F45-M	115	200	12	M16	225	180	70	260.0	32	18.0	12.5	24	20.5	52.0
68514485031	RT F50-M	130	210	20	M20	250	200	80	290.0	23	20.0	17.0	27	20.5	57.5

Note: ■ See pages RR-8 and RR-9 for additional product and performance data. See page RR-9 for "F" and "S" dimensions.

RunRight™ Tensioners Type RT B

RunRight RT B tensioners are designed for longer length chain drive applications. The housings are manufactured from powder metal, cast iron or steel. All arms and inner squares are cast steel or steel weldments. They come with the standard Tensys 10 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Tensioners Type RT B (for use with metric Idler Hardware)

UPC #	Type	Dimensions - Millimeters											
		D	E	G	H	J-1	J-2	K	L	M	O	P	T	U
68514463729	RT B18	58	78	6	M10	100	80	30	115	30	35	10.5	10.5	25.3
68514463730	RT B27	78	108	8	M12	130	100	50	155	40	52	10.5	12.5	34.3

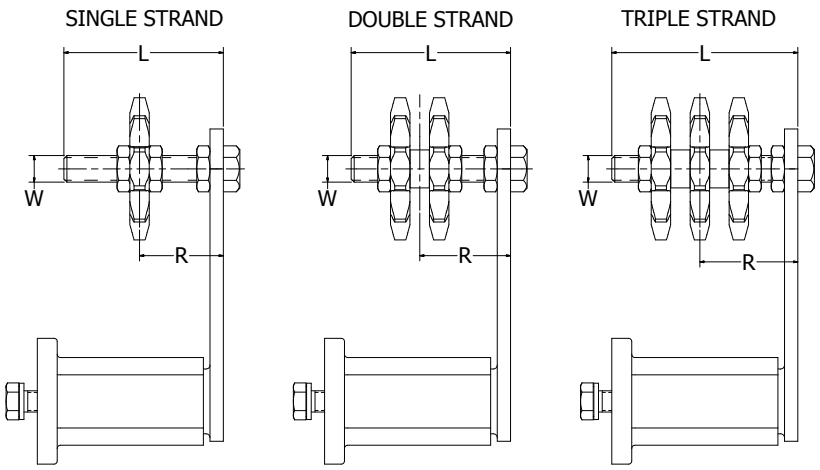
Note: ■ See pages RR-8 and RR-9 for additional product and performance data. See page RR-9 for "F" and "S" dimensions.

RR

RunRight™ Idler Sprockets

Ball Bearing Idler Sprockets are available for ANSI #35 through #120 roller chains for single, double and triple strand drives. The bearings are self-lubricating and double sealed for longer life. Available in sets (includes idler bolt & nuts) and as individual components.





ANSI Single Strand Sprocket Sets

UPC #	Type	Pitch	ANSI Chain	Dimensions - Millimeters						Tensioner Size
				W	L	R Adjusting Range			# Teeth	
68514484965	25BB20 M8 SET	1/4″	#25	M8	45	18	-	36	20	RT 11-M
68514484966	35BB19 M10 SET	3/8″	#35	M10	55	22	-	43	19	RT 15-M
68514484967	40BB18 M10 SET	1/2″	#40	M10	55	23	-	44	18	RT 15/18-M
68514484968	41BB18 M10 SET	1/2″	#41	M10	55	23	-	44	18	RT 15/18-M
68514484969	50BB17 M12 SET	5/8″	#50	M12	80	27	-	65	17	RT 27-M
68514484970	60BB15 M12 SET	3/4″	#60	M12	80	40	-	80	15	RT 27-M
68514484971	60BB15 M20 SET	3/4″	#60	M20	100	40	-	80	15	RT 38-M
68514484972	80BB12 M20 SET	1″	#80	M20	100	40	-	80	12	RT 38-M
68514484973	100BB11 M20 SET	1-1/4″	#100	M20	100	40	-	80	11	RT 45-M
68514484974	120BB9 M20 SET	1-1/2″	#120	M20	140	40	-	120	9	RT 45-M

ANSI Double Strand Sprocket Sets

68514484975	D35BB19 M10 SET	3/8″	#35	M10	55	27	-	39	19	RT 15-M
68514484976	D40BB18 M10 SET	1/2″	#40	M10	55	30	-	37	18	RT 15/18-M
68514484978	D50BB17 M12 SET	5/8″	#50	M12	80	36	-	57	17	RT 27-M
68514484979	D60BB15 M12 SET	3/4″	#60	M12	80	37	-	56	15	RT 27-M
68514484980	D60BB15 M20 SET	3/4″	#60	M20	120	50	-	90	15	RT 38-M
68514484981	D80BB12 M20 SET	1″	#80	M20	120	55	-	84	12	RT 38-M
68514484982	D100BB11 M20 SET	1-1/4″	#100	M20	140	60	-	102	11	RT 45-M
68514484983	D120BB9 M20 SET	1-1/2″	#120	M20	140	65	-	97	9	RT 45-M

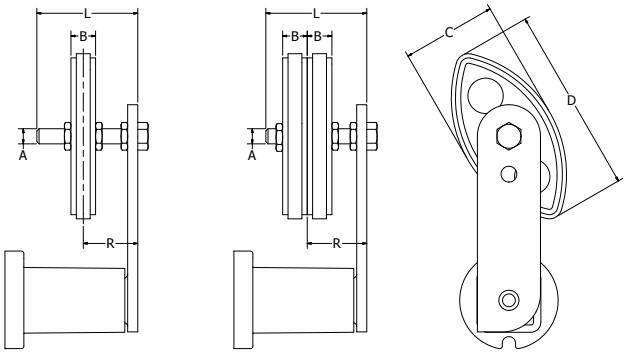
ANSI Triple Strand Sprocket Sets

68514484984	T35BB19 M10 SET	3/8″	#35	M10	70	33	-	48	19	RT 18-M
68514484985	T40BB18 M10 SET	1/2″	#40	M10	80	41	-	51	18	RT 27-M
68514484987	T50BB17 M12 SET	5/8″	#50	M12	80	43	-	50	17	RT 27-M
68514484988	T60BB15 M12 SET	3/4″	#60	M12	120	56	-	84	15	RT 27-M
68514484989	T60BB15 M20 SET	3/4″	#60	M20	120	59	-	80	15	RT 38-M
68514484990	T80BB12 M20 SET	1″	#80	M20	160	74	-	108	12	RT 45-M
68514484991	T100BB11 M20 SET	1-1/4″	#100	M20	160	78	-	105	11	RT 45/50-M
68514484992	T120BB9 M20 SET	1-1/2″	#120	M20	180	90	-	111	9	RT 45/50-M

RunRight™ Chain Riders

The RunRight™ chain rider is made from high strength industrial polymers and are shaped for use on either side of the rider. For use with chain speeds of 5 ft/sec or less, the chain riders provide an economical and quieter solution than sprockets. Available in sets (includes idler bolt and nuts) or individually.





ANSI Single Strand Chain Rider Sets

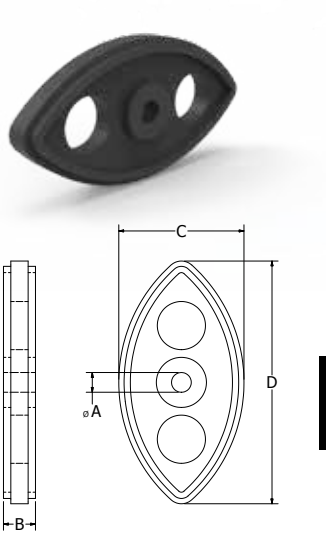
UPC #	Type	Pitch	ANSI Chain	Dimensions - Millimeters					Adjusting Range R			Tensioner Size
Simplex "S"				A	B	C	D	L	Simplex			
68514463941	RCG 3/8-8AS SET	3/8"	#35	M8	10.0	40	73	45	19	-	34	RT 11
68514457726	RCG 3/8-11AS SET	1/2"	#41	3/8"	10.0	40	73	2"	19	-	34	RT 11
68514453094	RCG 1/2-10AS SET	1/2"	#40	M10	13.9	50	96	55	23	-	41	RT 15 & RT 18
68514443499	RCG 5/8-10AS SET	5/8"	#50	M10	16.6	65	126	55	24	-	39	RT 15 & RT 18
68514443387	RCG 3/4-12AS SET	3/4"	#60	M12	19.5	75	148	80	30	-	61	RT 27

ANSI Double Strand Chain Rider Sets

UPC #	Type	Pitch	ANSI Chain	Dimensions - Millimeters					Adjusting Range R			Tensioner Size
				A	B	C	D	L	Duplex			
68514463653	RCG 3/8-8AD SET	3/8"	#35	M8	10.0	40	73	45	25	-	30	RT 11
68514463654	RCG 1/2-10AD SET	1/2"	#40	M10	13.9	50	96	55	30	-	34	RT 15 & RT 18
68514463655	RCG 5/8-10AD SET	5/8"	#50	M10	16.6	65	126	70	34	-	46	RT 15 & RT 18
68514463656	RCG 3/4-12AD SET	3/4"	#60	M12	19.5	75	148	80	40	-	52	RT 27

ANSI Chain Riders Only - Metric Bore

UPC #	Type	Pitch	ANSI CHAIN	Dimensions - Millimeters				For Idler Bolt	Tensioner Size
				A	B	C	D		
68514485104	RCG 3/8-8AS	3/8"	#35 / #41	8.2	10.0	40	73	M8	RT 11
68514485105	RCG 1/2-10AS	1/2"	#40	10.2	13.9	50	96	M10	RT 15 & RT 18
68514485106	RCG 5/8-10AS	5/8"	#50	10.2	16.6	65	126	M10	RT 15 & RT 18
68514485107	RCG 3/4-12AS	3/4"	#60	12.2	19.5	75	148	M12	RT 27



ANSI Chain Riders Only - Inch Bore

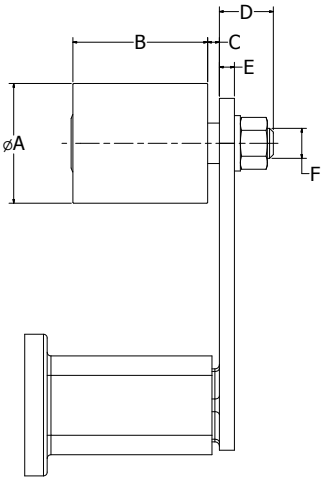
68514485253	RCG 3/8-3/8AS	3/8"	#35 / #41	9.5	10.0	40	73.0	3/8"	RT 11
68514485254	RCG 1/2-1/2AS	1/2"	#40	12.7	13.9	50	96.0	1/2"	RT 15 & RT 18
68514485255	RCG 5/8-1/2AS	5/8"	#50	12.7	16.6	65	126.0	1/2"	RT 15 & RT 18
68514485256	RCG 3/4-1/2AS	3/4"	#60	12.7	19.5	75	148.0	1/2"	RT 27
68514483303	RCG 1-3/4AS	1"	#80	19.1	25.4	90	183.0	3/4"	RT 38
68514480055	RCG 1-1/4-3/4AS	1-1/4"	#100	19.1	31.8	111	228.6	3/4"	RT 38 & RT 45

RR

RunRight™ Tensioning Rollers

The RunRight™ tensioning roller is primarily used as a back-side belt tensioner. The rollers are available in either plastic or aluminum. The bearings are self-lubricating for longer life. The rollers can be used for applications operating within a -31˚ to 212˚F (-35˚ to 100˚C) temperature range.





Plastic Rollers

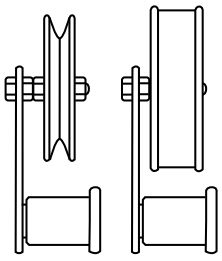
UPC #	Type	Max RPM	Dimensions - Millimeters						Use with Tensioner Size
			A	B	C	D	E	F	
68514463115	RPR 11	8000	30	35	2	14	5	M8	RT 11-M
68514453028	RPR 15/18	8000	40	45	6	21	8	M10	RT 15 & RT 18-M
68514443023	RPR 27	6000	60	60	7	21	8	M12	RT 27-M
68514457573	RPR 38	5000	80	90	8	36	10	M16	RT 38-M
68514457574	RPR 45	4500	90	130	10	46	20	M20	RT 45-M

Aluminum Rollers

UPC #	Type	Max RPM	Dimensions - Millimeters						Use with Tensioner Size
			A	B	C	D	E	F	
68514484323	RAR 11-AL	15000	30	35	2	14	5	M8	RT 11-M
68514484324	RAR 15/18-AL	15000	40	45	6	16	7	M10	RT 15 & RT 18-M
68514484325	RAR 27-AL	12000	60	60	8	17	8	M12	RT 27-M
68514484326	RAR 38-AL	10000	80	90	8	25	10	M16	RT 38-M
68514484327	RAR 45-AL	8000	90	135	10	34	16	M20	RT 45-M

RunRight™ Steel Idler Pulleys

The RunRight steel idler pulley is used for the “inside” tensioning of V-belts. The bearings are self-lubricating for longer life. The rollers can be used for applications operating within a -40˚ to 212˚F (-40˚ to 100˚C) temperature range.



Flat Belt / Quiet Chain Idler Pulley

UPC #	Model Number	Overall Width in	Flat Surface Width in	Pulley OD in	Bore in	Length Through Bore in
68514417472	CB4	1.44	1	4.75	0.500	0.719



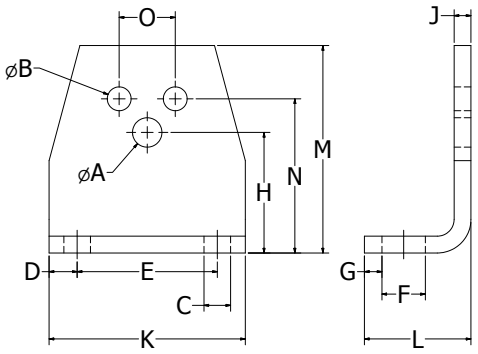
V-Belt Idler Pulleys

UPC #	Pulley Number	Belt Size	Pitch in	Pulley OD in	Bore in	Length Through Bore in
68514417473	A3	A	2.50	3.00	0.375	0.844
68514417474	B5	B-C	3.75	5.06	0.500	0.719
68514417475	B7	B-C	6.00	7.31	0.500	0.719

RunRight™ RLB Brackets

The RunRight™ RLB Bracket offers an easy assembly to equipment for the RT tensioners by attaching to the housing using the mounting bolt. The base of the bracket can be positioned in either direction.





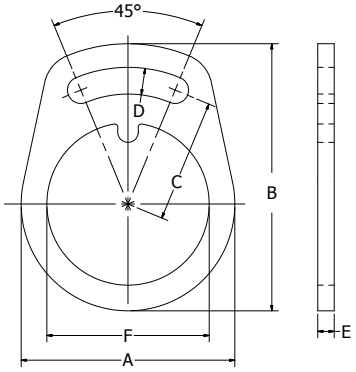
RLB Brackets

RLB Bracket		Fit for RT Tensioners			Fit for RSS A, RSR A, and RSF A				Dimensions - Millimeters								
UPC #	Type	RT Size	Dimensions - Millimeters		Element Size	Dimensions - Millimeters											
			A	H		B	N	O	C	D	E	F	G	J	K	L	M
68514425200	RLB 11-15	11	6.5	27	15	5.5	35	10	7.0	7.5	30	13.0	11.5	4	45	30	46
68514425201	RLB 15-18	15	8.5	34	18	6.5	44	12	7.0	7.5	40	13.0	13.5	5	55	32	58
68514425202	RLB 18-27	18	10.5	43	27	8.5	55	20	9.5	10.0	50	15.5	16.5	6	70	38	74
68514425203	RLB 27-38	27	12.5	57	38	10.5	75	25	11.5	12.5	65	21.5	21.0	8	90	52	98
68514425204	RLB 38-45	38	16.5	66	45	12.5	85	35	14.0	15.0	80	24.0	21.0	8	110	55	116
68514425205	RLB 45-50	45	20.5	80	50	12.5	110	40	18.0	20.0	100	30.0	26.0	10	140	66	140

RunRight™ Safety Sockets

The RunRight Safety Socket is used for positioning the tensioner and locking it into place. It also provides the ability to adjust the tensioner angle in the future.





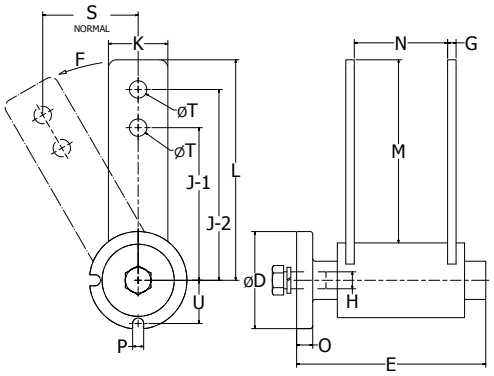
Safety Sockets

UPC #	Type	For Size RT	Dimensions - Millimeters					
			A	B	C	D	E	F
68514483288	RLS 27	27	104	130	60	13	8	79.0
68514483289	RLS 38	38	128	161	75	17	10	96.5

RR

RunRight™ Tensioners Type RT T (Double Arm)

RunRight™ RT T tensioners are designed for applications requiring very high tensioning forces. They have a fully welded steel arm and inner square. They are manufactured with standard Tensys™ 10 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





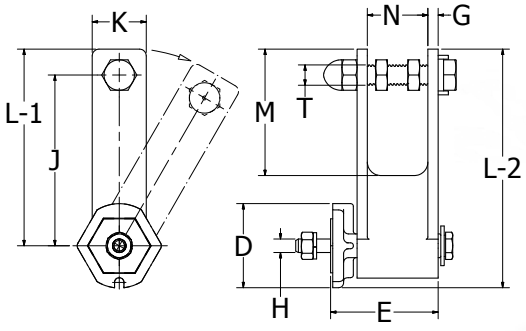
Tensioners Type RT T (Dual Arm Tensioner)

UPC #	Type	Dimensions - Millimeters											
		D	E	G	H	J-1	J-2	K	L	M	N	O	T
68514479412	RT T45	115	223	10	M20	180	225	70	260	215	110.00	19	1/4-20
68514417457	RT T50	150	257	10	M24	NONE*	NONE*	90	280	161	112.50	22	NONE*

Notes: ■ *The RT T50 tensioner is supplied with NO HOLES in the arms allowing the customer to attached whatever type idler shaft/bearing arrangement necessary for their application.
■ Lovejoy can custom machine the arms upon request. Consult factory for quote.
■ See page RR-9 for "F" and "S" dimensions.

RunRight™ Tensioners Type RT P (Plastic Tensioners)

RunRight RT P tensioners are designed for light duty applications where an economical product choice is required. They are manufactured of glass-reinforced DuPont Zytel® Nylon with the standard Tensys 10 rubber inserts and a dual arm design. The PT tensioners are designed for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Tensioners Type RT P (Plastic Tensioner)

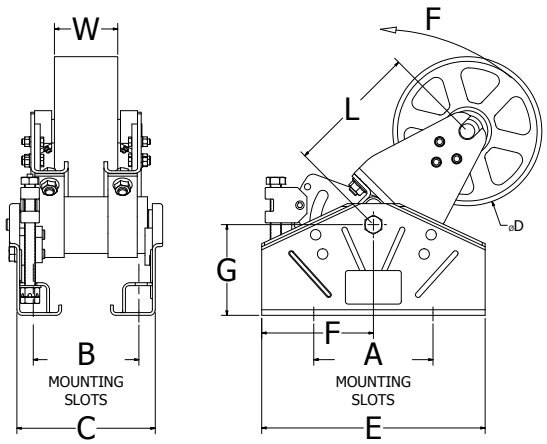
UPC #	Type	Dimensions - Inches										
		D	E	G	H	J	K	L-1	L-2	M	N	T
68514424481	RT P7	1.13	1.03	0.09	M4	2.36	0.72	2.72	3.55	1.36	0.56	1/4-20
68514424416	RT P11	1.56	2.03	0.18	1/4-20	3.15	1.00	3.17	4.41	1.84	1.13	3/8-16

RR

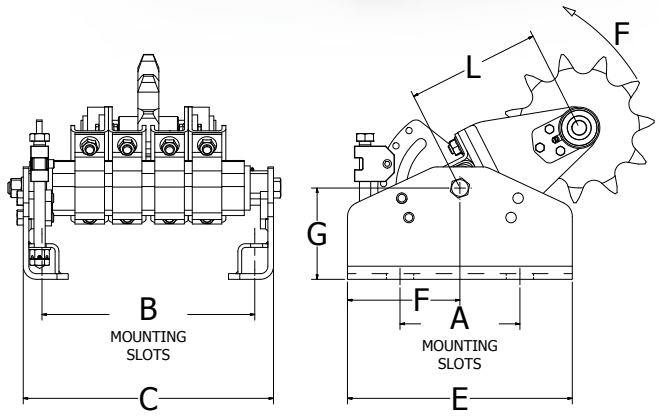
RunRight™ Tensioners Type RT M

RunRight RT M tensioners are manufactured with steel parts and are designed for large heavy duty applications. They are manufactured with standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Belt Drives



Chain Drives

Tensioners Type RT M50 (Large Belt Drive Tensioner)

UPC #	Type	Dimensions - Inches								
		A	B	C	D	E	F	G	L	W
68514482465	RT M50X105-4.25F10	8.00	10.00	10.00	10.00	15.00	7.50	6.09	8.90	4.25
68514482384	RT M50X270-8.25F10	8.00	13.31	16.69	10.00	15.00	7.50	6.09	10.10	8.25
68514480752	RT M50X400-14F12.25	10.71	16.69	22.81	12.25	19.29	7.50	5.90	12.66	14.00

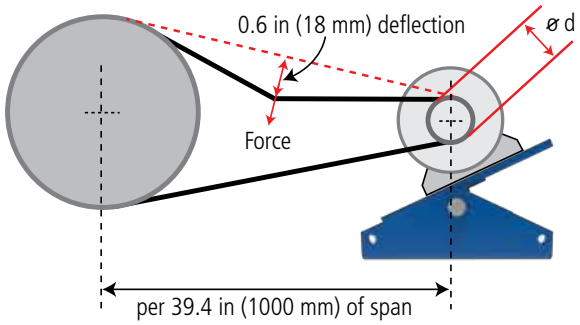
Tensioners Type RT M50 (Large Chain Drive Tensioner)

UPC #	Type	Dimensions - Inches								
		A	B	C	D	E	F	G	L	# of TEETH
68514484272	RT M50X270-180	16.00	13.31	16.69	9.01	15.00	7.50	6.09	8.90	11
68514483506	RT M50X270-200	16.00	13.31	16.69	10.02	15.00	7.50	6.09	8.90	11
68514483496	RT M50X270-D200	16.00	13.31	10.00	10.02	15.00	7.50	6.09	8.90	11
68514483500	RT M50X270-1245	16.00	13.31	16.69	—	15.00	7.05	6.09	8.90	9

Notes: ■ All Type RT M50 tensioners are made to order.
■ Consult factory for your specific needs.
■ See pages RR-8 and RR-9 for additional product and performance data.

RR

RunRight™ elastomeric tensioning Motor Bases utilize a rubber suspension unit as a pivot mount. The rubber suspension unit continuously compensates for belt stretching, hopping, fluttering and excessive pull when a drive is started. RunRight tensioning Motor Bases are the ideal tensioning solution for all belt drives from about 1/2 to 700 HP.



Tensioning Force

The RunRight Motor Base is supplied with its mechanical pretensioning device at the ideal calibration of the relevant belt tension, based on the belt suppliers' test force recommendations. Common V-belt sizes and the recommended deflection forces are shown in the table below.

Recommended Belt Deflection Force

Super HC: V-Belts, Powerband Belts, Molded Notched V-Belts or Molded Notched Powerband Belts

V-Belt Cross Section	Small Sheave Diameter Range (in)	Small Sheave RPM Range	Speed Ratio Range	Recommended Deflection Force (lbs)	
				Minimum	Maximum
3VX	2.2 2.4 - 2.5 2.7 - 2.8 3.0 - 3.2 3.4 - 3.7 4.1 - 5.0 5.3 - 6.9	1200 - 3600 1200 - 3600 1200 - 3600 1200 - 3600 1200 - 3600 900 - 3600 900 - 3600	2.00 to 4.00	2.8 3.2 3.5 3.8 4.1 4.8 5.8	4.1 4.7 5.1 5.5 6.0 7.1 8.6
5VX	4.4 - 4.7 4.9 - 5.5 5.9 - 6.7 7.1 - 8.0 8.5 - 10.9 11.8 - 16.0	1200 - 3600 1200 - 3600 1200 - 3600 600 - 1800 600 - 1800 400 - 1200	2.00 to 4.00	9.0 10.0 11.0 13.0 14.0 15.0	13.0 15.0 17.0 19.0 20.0 23.0
5V	7.1 - 8.0 8.5 - 10.9 11.8 - 16.0	600 - 1800 600 - 1800 400 - 1200	2.00 to 4.00	11.0 13.0 14.0	16.0 18.0 21.0
8V	12.5 - 17.0 18.0 - 24.0	600 - 1800 400 - 900	2.00 to 4.00	28.0 32.0	41.0 48.0

Recommended Belt Deflection Force

Hi-Power II V-Belts, Hi-Power II Powerband Belts or Tri-Power Molded Notch V-Belts

V-Belt Cross Section	Small Sheave Diameter Range (in)	Small Sheave RPM Range	Speed Ratio Range	Recommended Deflection Force (lbs)			
				Hi-Power II		Tri-Power Molded Notch	
				Minimum	Maximum	Minimum	Maximum
A AX	3.0 3.2 3.4 - 3.6 3.8 - 4.2 4.6 - 7.0	1750 to 3600	2.00 to 4.00	2.7 2.9 3.3 3.8 4.9	3.8 4.2 4.8 5.5 7.1	3.8 3.9 4.1 4.3 4.9	5.4 5.5 5.9 6.3 7.1
B BX	4.6 5.0 - 5.2 5.4 - 5.6 6.0 - 6.8 7.4 - 9.4	1160 to 1800	2.00 to 4.00	5.1 5.8 6.2 7.1 8.1	7.4 8.5 9.1 10.0 12.0	7.1 7.3 7.4 7.7 7.9	10.0 11.0 11.0 11.0 12.0
C CX	7.0 7.5 8.0 - 8.5 9.0 - 10.5 11.0 - 16.0	870 to 1800	2.00 to 4.00	9.1 9.7 11.0 12.0 14.0	13.0 14.0 16.0 18.0 21.0	12.0 12.0 13.0 13.0 13.0	18.0 18.0 18.0 19.0 19.0
D	12.0 - 13.0 13.5 - 15.5 16.0 - 22.0	690 to 1200	2.00 to 4.00	19.0 21.0 24.0	27.0 30.0 36.0	19.0 21.0 25.0	28.0 31.0 36.0

RunRight™ Motor Base Selection Guide

RunRight™ Model	Type of Motor Base	Page #	IEC			NEMA		
			Motor Frame Size	kW @ 1000 RPM (6-pole)	kW @ 1500 RPM (4-pole)	Motor Frame Size	HP @ 1200 RPM (6-pole)	HP @ 1800 RPM (4-pole)
	RCM C20X143/145T	RR-22	90S	0.8	1.1	143T	1/2	1
			90L	1.1	1.5	145T	1	1-1/2 to 2
	RCM C30X182T/184T	RR-22	100L	1.5	2.2 to 3	182T	1-1/2	3
			112M	2.2	4	184T	2	5
	RCM C38X213T/256T	RR-23	132S	3.0	5.5	213T	3	5 to 7-1/2
			132M	4 to 5.5	7.5	215T	5	5 to 10
			160M	7.5	11	254T	7.5	15
			160L	11	15	256T	10	15 to 20
	RCM C50X213T/215T	RR-24	132S	3	5.5	213T	3	5 to 7-1/2
			132M	4 to 5.5	7.5	215T	5	5 to 10
	RCM C50X254T/256T		160M	7.5	11	254T	7.5	15
			160L	11	15	256T	10	15 to 20
	RCM C50X284T/286T		180M	—	18.5	284T	15	25
			180L	15.0	22	286T	20	30
	RCM C50X324T/326T		200M	18.5	30	324T	25	40
			200L	22		326T	30	50
	RCM C50X364T/365T		225S	—	37	364T	40	60
			225M	30	45	365T	50	75
	*RCM C70284T/286T	RR-25	180M	—	18.5	284T	15	25
			180L	15	22	286T	20	30
	*RCM C70324/326T		200M	18.5	30	324T	25	40
			200L	22		326T	30	50
	*RCM C70364/365T		225S	—	37	364T	40	60
			225M	30	45	365T	50	75
	RCM C70404T		250S	37	55	404T	60	100
	RCM C70X405T/444T		250M	45	75	405T	75	100 to 125
				55	90	444T	100	125 to 150
	RCM C70X445T		280M	75	110	445T	125 to 150	150 to 200
	RCM L100X750	RR-26	315S 315M	75 to 110	110 to 160	447T	150 to 350	200 to 350
						449T		
						504		
						505		
						584		
						586		
						587		
	RCM T100X8307/5810		—	—	—	GE8307	400 TO 700	
						5810		
	RCM T100X586/587		—	—	—	586		
						587		
	RCM T100X5009		—	—	—	5009		
	RCM T100X5808		—	—	—	5808		

Note: ■ *RECOMMENDED FOR GRIZZLY FEEDER APPLICATIONS ONLY.

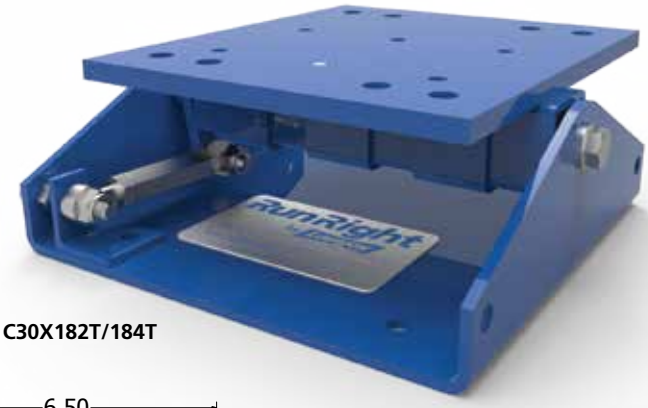
RR

RunRight™ RCM C20, RCM C30 Motor Bases

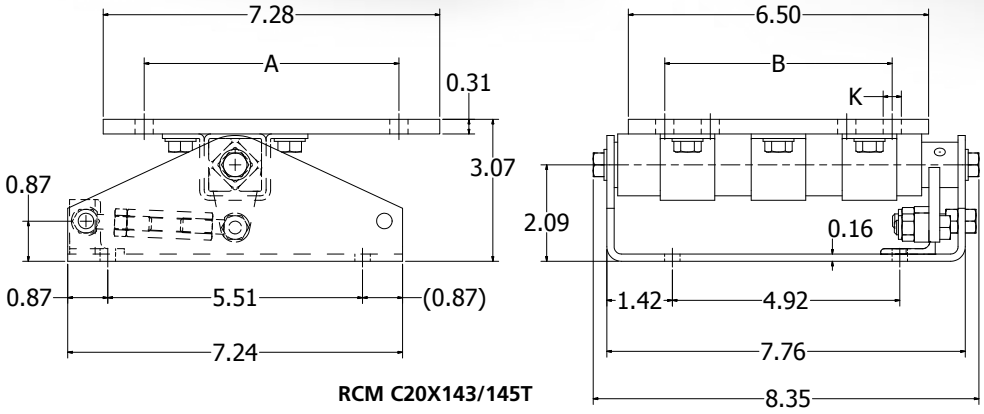
RunRight™ RCM C20 and RCM C30 Motor Bases are designed for smaller belt drives using an electric motor with 1/2 to 5 HP. They are used on 90S to 112M IEC frame sizes and 143T to 184T NEMA frame sizes. They are manufactured with all steel components and Tensys™ 30 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



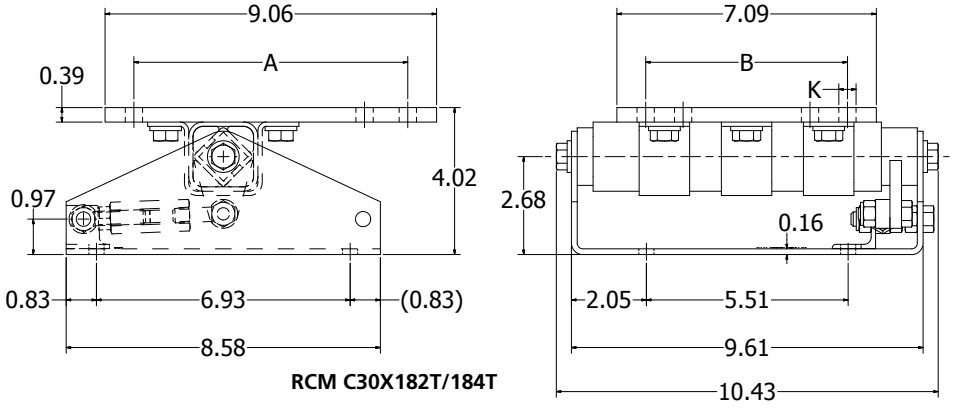
RCM C20X143/145T



RCM C30X182T/184T



RCM C20X143/145T



RCM C30X182T/184T

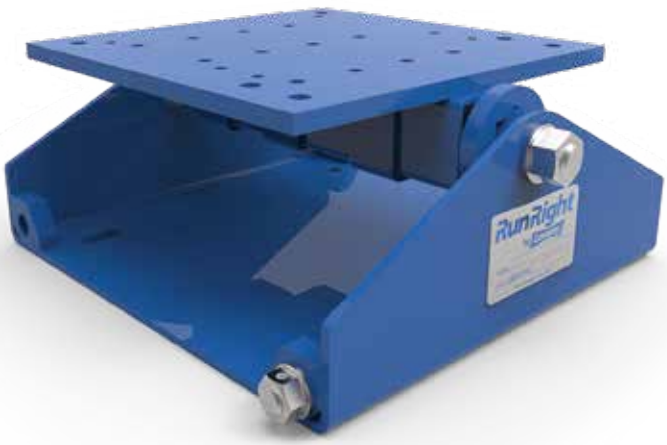
RR

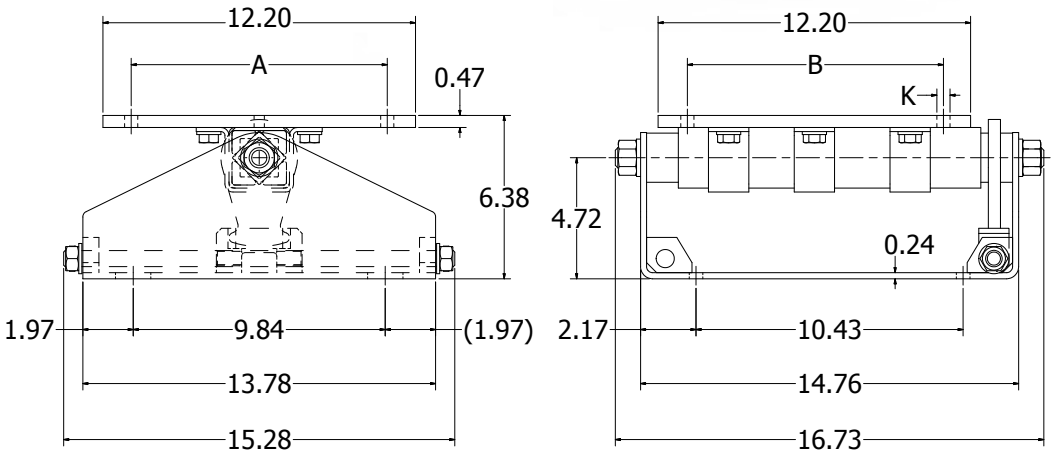
Motor Bases Type RCM C20, RCM C30

UPC #	Type	IEC MOTOR FRAMES (millimeters)				NEMA MOTOR FRAMES (inches)			
		FRAME SIZE	A	B	K	FRAME SIZE	A	B	K
68514485285	RCM C20X143/145T	90S	140	100	10.5	143T	5.50	4.00	0.34
		90L	140	125	10.5	145T	5.50	5.00	0.34
68514485286	RCM C30X182T/184T	100L	160	140	10.5	182T	7.50	4.50	0.41
		112M	190	140	10.5	184T	7.50	5.50	0.41

RunRight™ RCM C38 Motor Bases

RunRight™ RCM C38 Motor Bases are designed for smaller belt drives using an electric motor with 3 to 20 HP. They are used on 132S to 160L IEC frame sizes and 213T to 256T NEMA frame sizes. They are manufactured with all steel components and Tensys™ 30 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





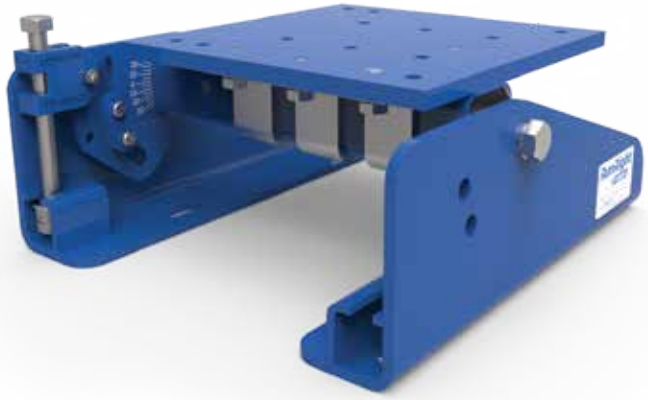
Motor Bases Type RCM C38

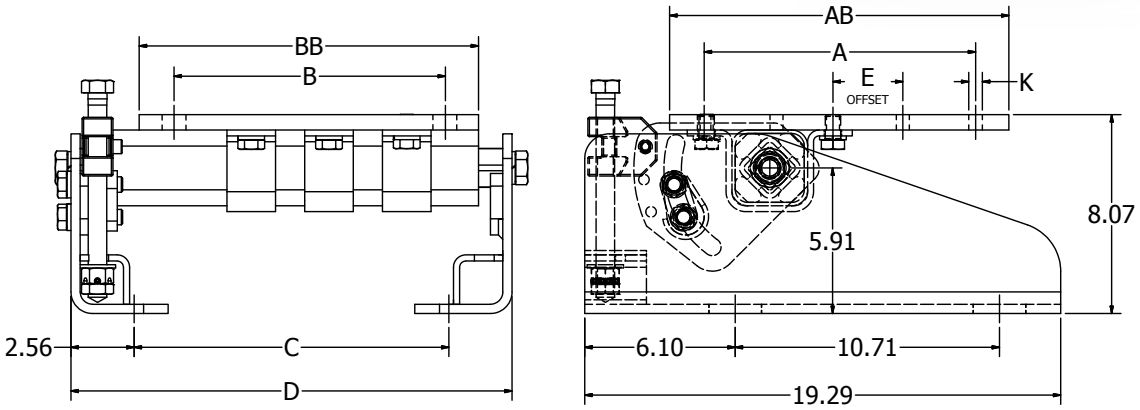
UPC #	Type	IEC MOTOR FRAMES (millimeters)				NEMA MOTOR FRAMES (inches)			
		FRAME SIZE	A	B	K	FRAME SIZE	A	B	K
68514463904	RCM C38X213T/256T	132S	216	140	M10	213T	8.50	5.50	0.41
		132M	216	178	M10	215T	8.50	7.00	0.41
		160M	254	210	13.0	254T	10.00	8.25	0.53
		160L	254	254	13.0	256T	10.00	10.00	0.53

RR

RunRight™ RCM C50 Motor Bases

RunRight™ RCM C50 Motor Bases are ideal for electric motors from 3 to 75 HP. They are used on 132S to 225M IEC frame sizes and 213T to 365T NEMA frame sizes. They are manufactured with all steel components and Tensys™ 30 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Motor Bases Type RCM C50

UPC #	Type	IEC MOTOR FRAMES (millimeters)				NEMA MOTOR FRAMES (inches)				Dimensions - Inches				
		FRAME SIZE	A	B	K	FRAME SIZE	A	B	K	AB	BB	C	D	E
68514463018	RCM C50X213T/215T	132S	216	140	3/8-16	213T	5.50	8.50	3/8-16	10.50	9.00	8.82	13.94	1.69
		132M	216	178	3/8-16	215T	7.00	8.50	3/8-16					
68514463019	RCM C50X254T/256T	160M	254	210	14.0	254T	10.00	8.25	0.55	12.13	12.13	12.76	17.88	1.77
		160L	254	254	14.0	256T	10.00	10.00	0.55					
68514463020	RCM C50X284T/286T	180M	279	241	14.0	284T	11.00	9.50	0.55	13.75	13.75	12.76	17.88	2.83
		180L	279	279	14.0	286T	11.00	11.00	0.55					
68514463021	RCM C50X324T/326T	200M	318	267	17.5	324T	12.50	10.50	0.69	15.88	14.68	16.69	21.81	2.83
		200L	318	305	17.5	326T	12.50	12.00	0.69					
68514463022	RCM C50X364T/365T	225S	356	286	17.5	364T	14.00	11.25	0.69	18.25	16.50	18.66	23.98	2.83
		225M	356	311	17.5	365T	14.00	12.25	0.69					

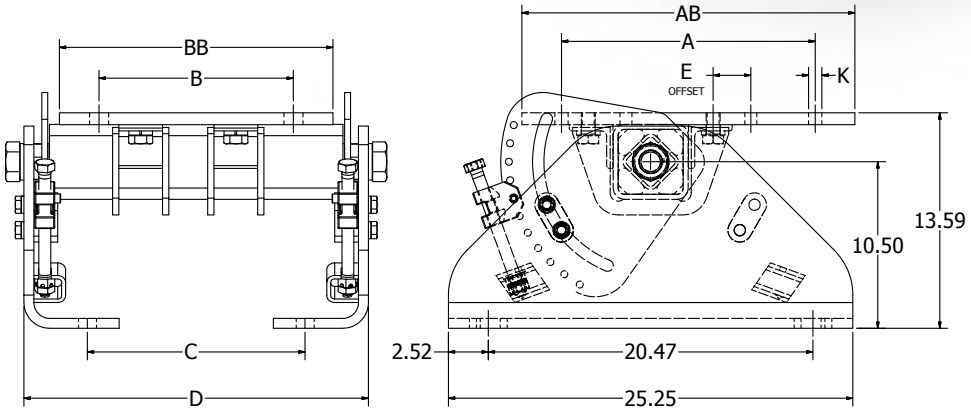
Notes: ■ All RunRight™ RCM C50 Motor Bases are supplied with the motor plate installed in the recommended offset position.
■ In some applications, such as screen drives, the motor plate may be altered to the center position of the element unit to compensate for belt operating angle and required pre-tensioning.
■ If necessary, the use of the 2nd hole positioning of the friction plate may be used to adjust the pre-tensioning travel.

RR

RunRight™ RCM C70 Motor Bases

RunRight™ RCM C70 Motor Bases are ideal for electric motors from 15 to 200 HP. They are used on 180M to 280M IEC frame sizes and 284T to 445T NEMA frame sizes. They are manufactured with all steel components and Tensys™ 30 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Motor Bases Type RCM C70

UPC #	Type	IEC MOTOR FRAMES (millimeters)				NEMA MOTOR FRAMES (inches)				Dimensions - Inches				
		FRAME SIZE	A	B	K	FRAME SIZE	A	B	K	AB	BB	C	D	E
68514463467	RCM C70404T	250S	406	311	20.5	404T	16.00	12.25	0.81	21.00	17.25	13.78	21.72	2.37
68514463469	RCM C70X405T/444T	250M	406	349	20.5	405T	16.00	13.75	0.81	24.00	20.50	19.69	27.63	2.38
						444T		14.50						
68514463471	RCM C70X445T	280M	457	419	20.5	445T	18.00	16.50	0.81	24.00	22.50	23.62	31.56	2.38

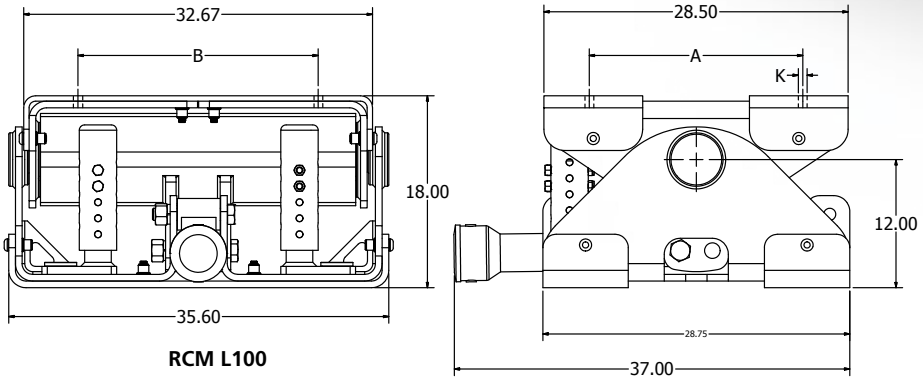
Notes:
- *FOR GRIZZLY FEEDER APPLICATIONS, CONSULT FACTORY.
- If the pretensioning of the Motor Base is not effective, we recommend positioning the motor plate in the offset position to increase compensation travel.
- All RunRight™ RCM C70 Motor Bases are supplied with the motor plate installed in the recommended offset position. In some applications, such as screen drives, the motor plate may be altered to the center position of the element unit to compensate for belt operating angle and required pre-tensioning. If necessary, the use of the 2nd hole positioning of the friction plate may be used to adjust the pre-tensioning travel.

RR

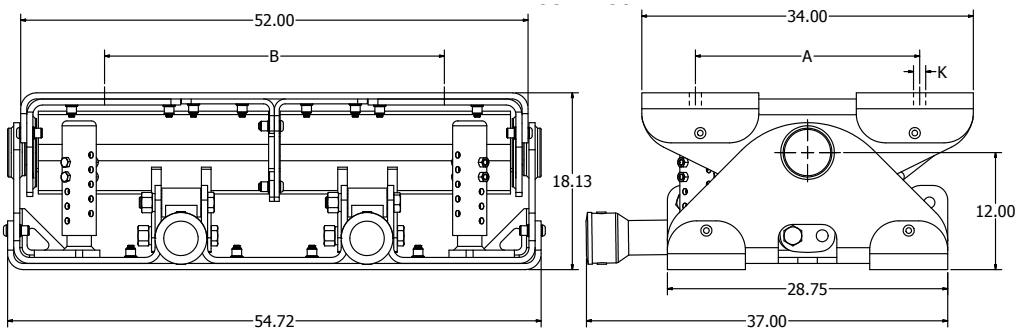
RunRight™ RCM L100, RCM T100 Motor Bases

RunRight™ RCM L100 and RCM T100 Motor Bases are ideal for electric motors from 150 to 700 HP. They are used on 315S and 315M IEC frame sizes and 447T to 5808 NEMA frame sizes. They are manufactured with all steel components and Tensys™ 30 rubber inserts, and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RCM L100



RCM T100

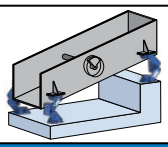
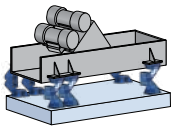
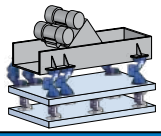
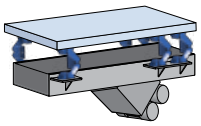
Motor Bases Type RCM L100, RCM T100

UPC #	Type	IEC MOTOR FRAMES (millimeters)				NEMA MOTOR FRAMES (inches)			
		FRAME SIZE	A	B	K	FRAME SIZE	A	B	K
68514483510	RCM L100X750	Consult Factory				447T	18.00	20.00	0.81
						449T	18.00	25.00	
		315S	508	406	20.5	504	20.00	16.00	0.81
		315M	508	457		505	20.00	18.00	
		Consult Factory				584	23.00	18.00	1.13
						586	23.00	20.00	
						587	23.00	25.00	
68514483297	RCM T100X8307/5810	Consult Factory				GE8307	23.00	32.00	1.25
						5810	27.00	32.00	
68514483515	RCM T100X586/587	Consult Factory				586	23.00	20.00	1.13
						587	23.00	25.00	
68514483516	RCM T100X5009	Consult Factory				5009	20.00	28.00	1.25
68514484035	RCM T100X5808	Consult Factory				5808	23.00	28.00	1.25

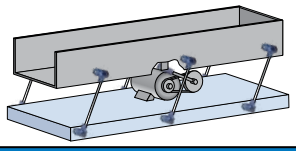
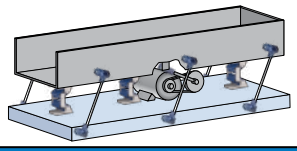
Notes: ■ The RCM L100 and RCM T100 Motor Bases listed are Made To Order / Engineered To Order only. Please consult factory for lead time availability or for motor frame sizes not listed.
■ The use of the front positioning hole of the pre-tensioning yoke may be used to increase the pre-tensioning travel.

RR

Free Oscillating System Selection Table

						
Model		**Page**	**Single Mass System Circular Motion Screen**	**Single Mass System Linear Motion Screen**	**Counterframe Dual Mass System**	**Hanging Single Mass System Linear Motion Screen**
	**RSC**	RR-29, RR-30	Oscillating Mount specifically designed to support or suspend vibratory equipment or drive systems. Equipment frequency of 2 to 3 Hz. 9 sizes from 11 to 4,500 lbs per RSC.			
	**RSC HD**	RR-31	Heavy duty Oscillating Mount specifically designed for impact loads and inconsistent production loading. Equipment frequency of 2.5 to 3.5 Hz. 6 sizes from 112 to 3,145 lbs per RSC-HD.			
	**RSC D**	RR-32		Compact design Oscillating Mount with a much higher load capacity ideal for two mass systems. Equipment frequency of 3 to 4.5 Hz. 7 sizes from 110 to 3,600 lbs per RSC-D.		
	**RSC SS**	RR-33	Stainless steel Oscillating Mount specific for food, pharmaceutical and wash down requirements. Equipment frequency of 2 to 3 Hz. 6 sizes from 16 to 1,528 lbs per RSC-SS.			
	**RSC HS**	RR-34				Oscillation mounts designed to suspend vibratory equipment or drive systems. Equipment frequency of 3 to 4 Hz. 5 sizes from 112 to 3,147 lbs per RSC-HS.

Crank Driven System Selection Table

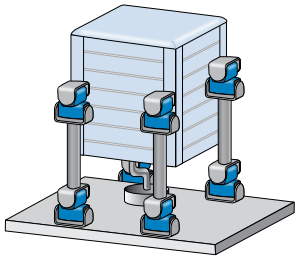
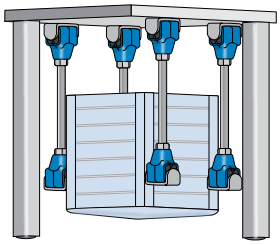
				
Model		**Page**	**Single Mass Brute-Force Shaker System**	**Single Mass Natural Frequency Shaker System**
	**RSC R**	RR-35	Single Rocker for either supporting or suspending vibratory conveyors, screens, feeder equipment. Either right or left-hand threads on mounts. 7 sizes from 22 to 1,124 lbs per rocker.	
	**RDH**	RR-36	Drive Head designed to transmit power from an eccentric through the connecting rod and flexible head. Either right or left-hand threads on drive heads. 5 sizes from 90 to 1,350 lbs per drive head.	
	**RSD A**	RR-37		Highly dynamic Spring Accumulator designed for feeder systems that operate near resonance frequency. 5 sizes from 571 to 1,827 in-lbs.

Rubber Compounds	Torque & Load Factor*	Operating Temperature F° (C°)	Rubber Type	Rubber Characteristics
Tensys™ 10	1.0	-40° to 180° (-40° to 80°)	Natural	Standard
Tensys™ 20	approximately 1.0	-22° to 195° (-30° to 90°)	Neoprene	Oil Resistant
Tensys™ 30	approximately 1.0	-40° to 180° (-40° to 80°)	Natural	High-Dampening (Motor Bases only)
Tensys™ 40	approximately 0.6	180° to 250° (80° to 120°)	EPDM	High Temperature Resistant
Tensys™ 50	approximately 3.0	-31° to 195° (-35° to 90°)	Urethane	High Torque

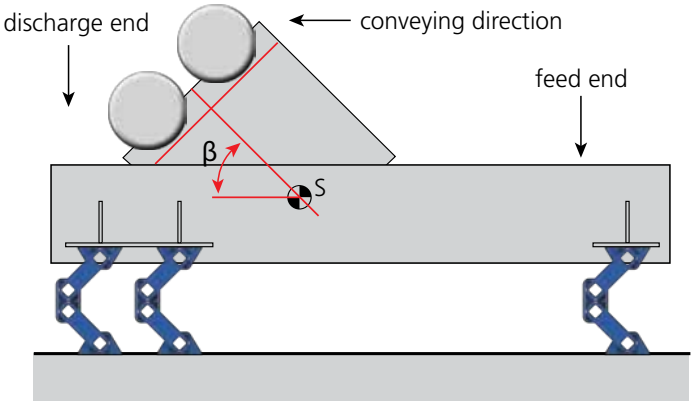
Note: ■ *Factor in relation to torque & loads shown on standard selection charts.

RR

Gyratory Sifters Selection Table

Model		Page	Application Notes		
	**RSC V**	RR-38	Rocker with larger than standard elastomeric elements designed for free-hanging gyratory sifting machines. Either right or left-hand threads. 5 sizes up to 3,600 lbs per RSC V.	 **Gyratory sifter upright staying**	 **Gyratory sifter hanging**
	**RSC UJ**	RR-39	Rocker designed for supporting or suspending gyratory sifting machines. 10 sizes up to 9,000 lbs per RSC UJ.		

Application Example: Shaker

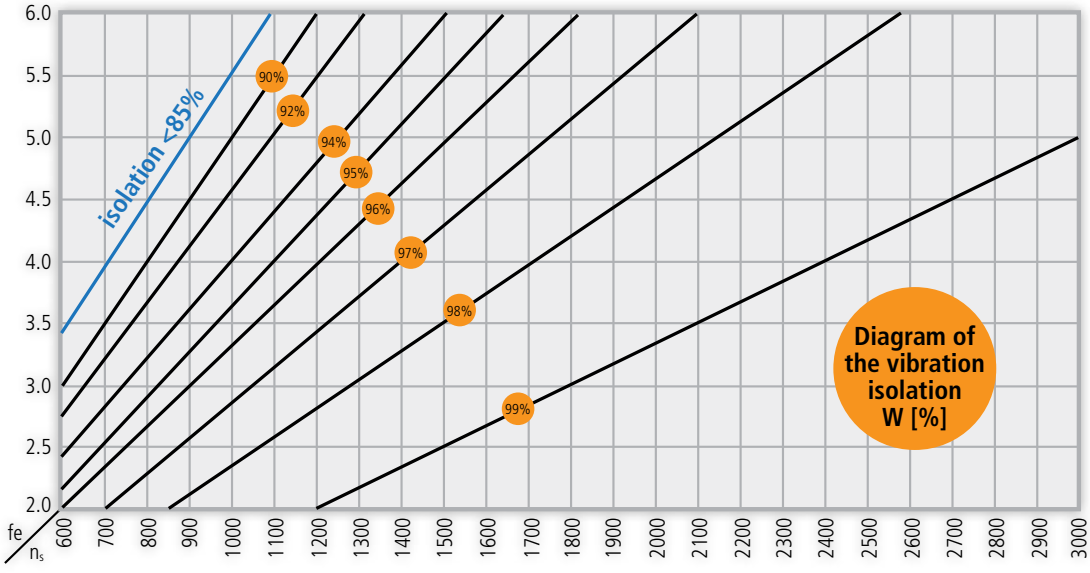


Mass of empty shaker frame and drive: m_s (1,500 lbs)
Mass of product: m_p (440 lbs)
Total vibrating mass: m (1,940 lbs)
Mass distribution feed end: 33%
Mass distribution discharge end: 67%
Feed end load per corner: F_f (320 lbs)
Discharge end load per corner: F_d (649 lbs)
Motor revolutions: n_s (960 RPM)

Feed End Load Formula: $F_f = \left(\frac{m \bullet \%\ \text{feed end}}{2}\right)$

Discharge End Load Formula: $F_d = \left(\frac{m \bullet \%\ \text{discharge end}}{2}\right)$

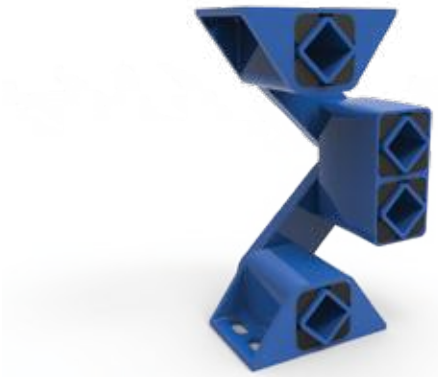
This application would require six RSC 38 Oscillating Mounts. Two on each side of the discharge end and one on each side of the feed end. Using the chart below, select the proper motor revolutions and the natural frequency of the RSC unit selected. This shows the RSC 38 will give 97% isolation at 2.7Hz with 960 RPM motor revolution.

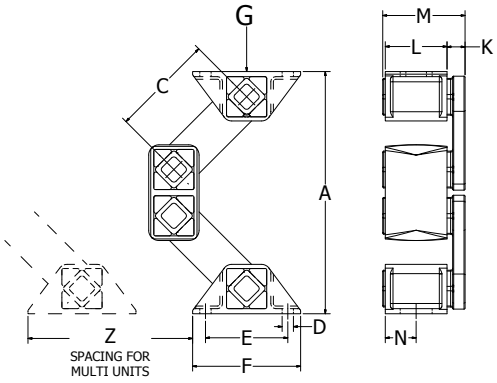


RR

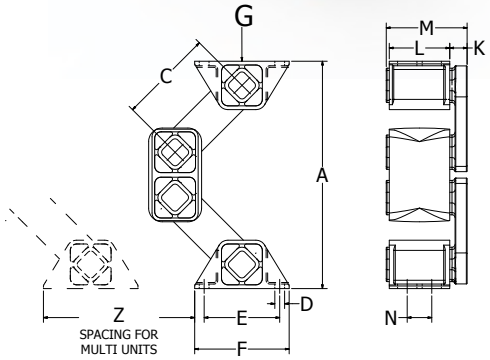
RunRight™ Oscillation Mounts RSC 15 to 45

The RunRight™ Oscillation Mounts RSC 15 to 45 are specifically designed to support or suspend vibratory equipment or drive systems. These mounts remove harmful resident frequencies that cause spring damage due to an inefficient system that utilizes coil spring suspensions and eliminates resulting safety concerns. All housings are cast iron and the inner squares and arms are steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RSC 15 to 27



RSC 38 to 45

Oscillating Mounting Type RSC 15 to 45

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)											
			A UNLOADED	A MAX LOAD	A REPLACE HEIGHT	C	D	E	F	K	L	M	N	Z
68514478498	RSC 15	11 to 36 (50 to 160)	6.57 (167)	4.57 (116)	4.05 (103)	3.15 (80)	.28 (7)	1.97 (50)	2.56 (66)	.47 (12)	1.57 (40)	2.08 (53)	.79 (20)	3.54 (90)
68514478499	RSC 18	27 to 67 (120 to 300)	8.11 (206)	5.63 (143)	4.96 (126)	3.94 (100)	.35 (9)	2.36 (60)	3.15 (80)	.55 (14)	1.97 (50)	2.36 (67)	.98 (25)	4.33 (110)
68514478500	RSC 27	56 to 180 (250 to 800)	9.25 (235)	6.77 (172)	6.10 (155)	3.94 (100)	.43 (11)	3.15 (80)	4.13 (105)	.71 (18)	2.36 (60)	3.15 (80)	1.18 (30)	5.51 (140)
68514478501	RSC 38	135 to 360 (600 to 1,600)	11.85 (301)	8.74 (222)	7.91 (201)	4.92 (125)	.51 (13)	3.94 (100)	4.92 (125)	.91 (23)	3.15 (80)	4.21 (107)	1.97 (32)	7.08 (180)
68514481086	RSC 45	270 to 670 (1,200 to 3,000)	13.62 (346)	14.06 (357)	9.25 (235)	5.51 (140)	.51 (13)	4.53 (115)	5.83 (148)	1.10 (28)	3.94 (100)	5.2 (132)	2.76 (40)	8.46 (215)

Note: ■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.

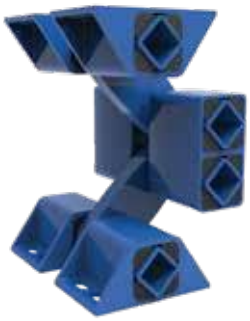
UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic Spring Value		Capacity limits @ different RPM						Materials / Finish		
					720 RPM		960 RPM		1440 RPM		Inner Square & Arms	Outer Housing	Finish
			cd Vertical (N/mm)	cd Horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)			
68514478498	RSC 15	4.3 - 2.8	10	6	14	4.1	12	6.2	8	9.3	Steel welded construction	Cast Iron	Painted RunRight Safety Blue
68514478499	RSC 18	3.6 - 2.6	18	14	17	4.9	15	7.7	8	9.3			
68514478500	RSC 27	3.7 - 2.7	40	25	17	4.9	14	7.2	8	9.3			
68514478501	RSC 38	3.0 - 2.4	60	30	20	5.8	17	8.8	8	9.3			
68514481086	RSC 45	2.8 - 2.3	100	50	21	6.1	18	9.3	8	9.3			

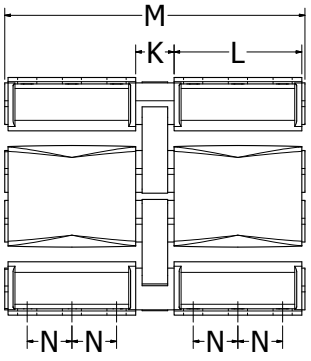
Notes: ■ Dynamic spring values at 960 RPM and deflection of 8mm at nominal loads.
■ It is not recommended to exceed accelerations greater than 9.3g.
■ See pages RR-27 and RR-28 for additional product and performance data.

RR

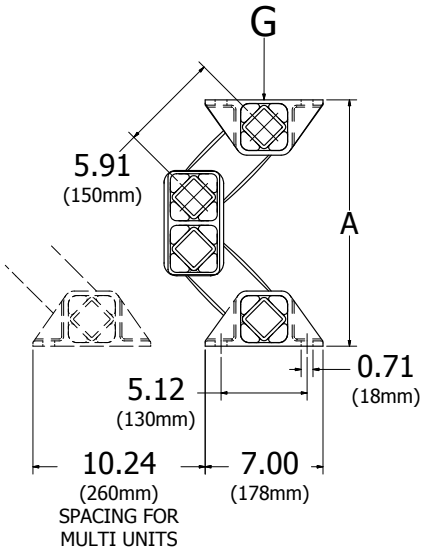
RunRight™ Oscillation Mounts RSC 50

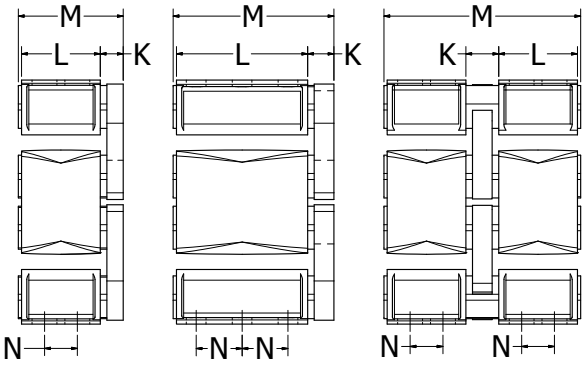
The RunRight™ Oscillation Mounts RSC 50 are specifically designed to support or suspend vibratory equipment or drive systems. These mounts remove harmful resident frequencies that cause spring damage due to an inefficient system that utilizes coil spring suspensions and eliminates resulting safety concerns. All housings are cast iron and the inner squares and arms are steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RSC 50-2 TWIN





AB50 AB50-2 AB50 TWIN

Oscillating Mounting Type RSC 50

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)						
			A UNLOADED	A MAX LOAD	A REPLACE HEIGHT	K	M	N	L
68514425211	RSC 50	560 to 1,350 (2,500 to 6,000)	14.64 (372)	10.90 (277)	9.96 (253)	1.38 (35)	6.30 (160)	1.97 (50)	4.72 (120)
68514463428	RSC 50-2	940 to 2,250 (4,180 to 10,000)	14.49 (368)	10.75 (273)	9.80 (249)	1.57 (40)	9.65 (245)	2.76 (70)	7.87 (200)
68514463797	RSC 50 TWIN	1,120 to 2,700 (4,980 to 12,000)	14.64 (372)	10.90 (277)	9.96 (253)	1.97 (50)	11.81 (300)	1.97 (50)	4.72 (120)
68514463798	RSC 50-2 TWIN	1,890 to 4,500 (8,400 to 20,000)	14.49 (368)	10.75 (273)	9.80 (249)	2.36 (60)	18.5 (470)	2.76 (70)	7.87 (200)

Notes: ■ These OSC Mounts may be "Mixed & Matched" as required to achieve proper loading.
■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.

UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic Spring Value		Capacity limits @ different RPM						Materials / Finish		
					720 RPM		960 RPM		1440 RPM				
			cd Vertical (N/mm)	cd Horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	Inner Square & Arms	Outer Housing	Finish
68514425211	RSC 50	2.4 - 2.1	195	85	22	6.4	18	9.3	8	9.3	Steel welded construc-tion	Cast Iron	Painted RunRight Safety Blue
68514463428	RSC 50-2		320	140									
68514463797	RSC 50 TWIN		380	170									
68514463798	RSC 50-2 TWIN		640	280									

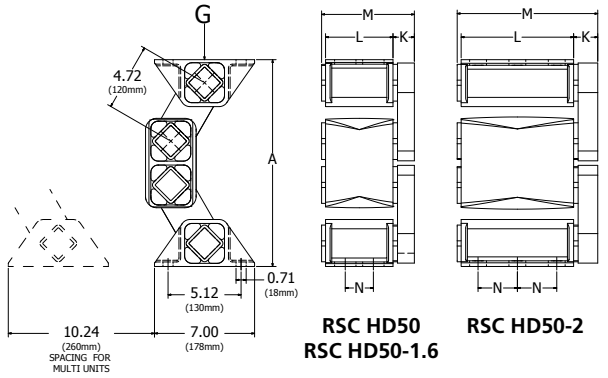
Notes: ■ Dynamic spring values at 960 RPM and deflection of 8mm at nominal loads.
■ It is not recommended to exceed accelerations greater than 9.3g.
■ See pages RR-27 and RR-28 for additional product and performance data.

RR

RunRight™ Oscillation Mounts RSC HD

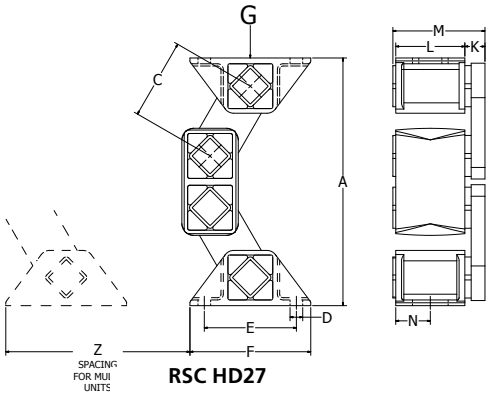
The RunRight™ Oscillation Mounts RSC HD are a heavy-duty mount specifically designed for impact loads and inconsistent production loading. All housings are cast iron and the inner squares and arms are steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



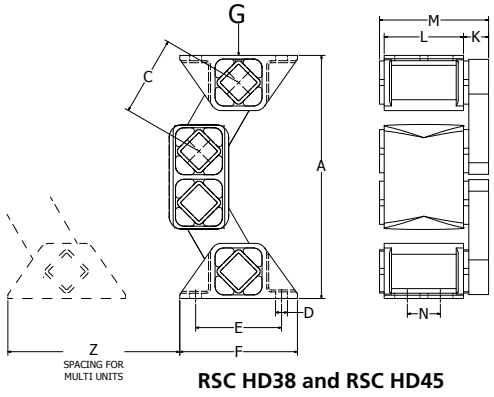


RSC HD50
RSC HD50-1.6

RSC HD50-2



RSC HD27



RSC HD38 and RSC HD45

Oscillating Mounting Type RSC HD

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)										
			A UNLOADED	A MAX LOAD	C	D	E	F	K	L	M	N	Z
68514483844	RSC HD27	112 to 280 (500 to 1,250)	8.46 (215)	7.17 (182)	2.76 (70)	0.43 (11)	3.15 (80)	4.13 (105)	0.67 (17)	2.36 (60)	3.15 (80)	0.79 (20)	5.51 (140)
68514483845	RSC HD38	270 to 570 (1,200 to 2,500)	11.54 (293)	9.68 (246)	3.74 (95)	0.51 (Ø13)	3.94 (100)	4.72 (125)	0.83 (21)	3.15 (80)	4.09 (104)	1.58 (40)	7.08 (180)
68514483846	RSC HD45	450 to 945 (2,000 to 4,200)	13.62 (346)	11.42 (290)	4.33 (110)	0.51x0.79 (13x20)	4.53 (115)	5.71 (145)	1.10 (28)	3.94 (100)	5.20 (132)	2.56 (65)	8.46 (215)
68514480319	RSC HD50	785 to 1,880 (3,500 to 8,400)	14.48 (368)	12.00 (305)	—	—	—	—	1.50 (38)	4.72 (120)	6.50 (165)	1.97 (50)	—
68514482742	RSC HD50-1.6	1,075 to 2,540 (4,800 to 11,300)	14.48 (368)	10.9 (277)	—	—	—	—	1.50 (38)	6.30 (160)	8.07 (205)	2.76 (70)	—
68514479095	RSC HD50-2	1,345 to 3,145 (6,000 to 14,000)	14.48 (368)	10.9 (277)	—	—	—	—	1.69 (43)	7.87 (200)	9.84 (250)	2.76 (70)	—

Notes: ■ The OSC Mounts shown shaded in gray may be "Mixed & Matched" as required to achieve proper loading.
■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.

UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic spring value		Capacity limits @ different RPM						Materials / Finish		
					720 RPM		960 RPM		1440 RPM		Inner Square & Arms	Outer Housing	Finish
			cd Vertical (N/mm)	cd Horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)			
68514483844	RSC HD27	4.8 - 3.1	70	33	12	3.5	10	5.2	8	9.3	Steel Welded	Cast Iron	Painted Blue
68514483845	RSC HD38	3.6 - 2.7	100	48	15	4.3	13	6.7	8	9.3			
68514483846	RSC HD45	3.3 - 2.5	150	72	17	4.9	14	7.2	8	9.3			
68514480319	RSC HD50	3.2 - 2.4	270	130	18	5.2	15	7.7	8	9.3			
68514482742	RSC HD50-1.6	3.2 - 2.4	360	172	18	5.2	15	7.7	8	9.3			
68514479095	RSC HD50-2	3.2 - 2.4	450	215	18	5.2	15	7.7	8	9.3			

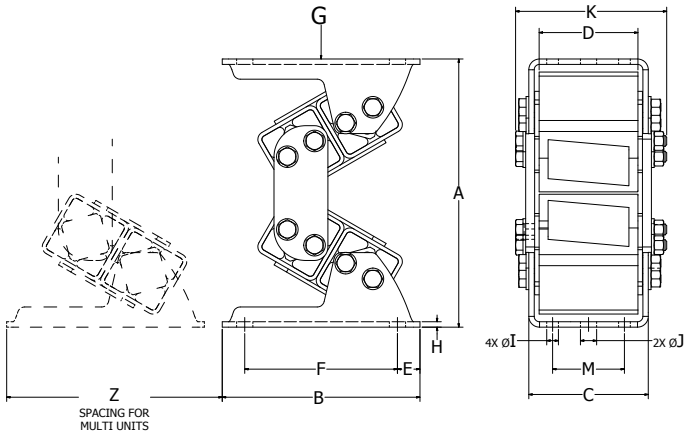
Note: ■ See pages RR-27 and RR-28 for additional product and performance data.

RR

RunRight™ Oscillation Mounts RSC D

The RunRight™ Oscillation Mounts RSC D are a compact design with a much higher load capacity than the standard RSC Mounts, ideal for two mass systems. All housings are cast iron and the inner squares and arms are steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Oscillating Mounting Type RSC D

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)												
			A UNLOADED	A MAX LOAD	B	C	D	E	F	H	I	J	K	M	Z
68514475676	RSC D18	110 to 270 (500 to 1,200)	5.39 (137)	4.61 (112)	4.53 (115)	2.40 (61)	1.97 (50)	0.49 (12.5)	3.54 (90)	0.12 (3)	0.35 (9)	0.35 (9)	2.91 (74)	1.18 (30)	4.72 (120)
68514463733	RSC D27	225 to 560 (1,000 to 2,500)	7.24 (184)	6.18 (148)	5.91 (150)	3.66 (93)	3.15 (80)	0.59 (15)	4.72 (120)	0.16 (4)	0.35 (9)	0.43 (11)	4.57 (116)	1.97 (50)	6.10 (155)
68514463734	RSC D38	450 to 900 (2,000 to 4,000)	9.61 (244)	8.23 (199)	7.28 (185)	4.65 (118)	3.94 (100)	0.69 (17.5)	5.91 (150)	0.20 (5)	0.43 (11)	0.53 (13.5)	5.79 (147)	2.76 (70)	7.48 (190)
68514475677	RSC D45	675 to 1,350 (3,000 to 6,000)	11.73 (298)	9.92 (240)	8.66 (220)	5.20 (132)	4.33 (110)	0.98 (25)	6.69 (170)	0.24 (6)	0.53 (13.5)	0.71 (18)	6.61 (168)	3.15 (80)	8.86 (225)
68514463854	RSC D50	900 to 2,025 (4,000 to 9,000)	12.95 (329)	10.94 (272)	9.25 (235)	5.59 (142)	4.72 (120)	0.98 (25)	7.28 (185)	0.31 (8)	0.53 (13.5)	0.71 (18)	6.54 (166)	3.54 (90)	9.45 (240)
68514463855	RSC D50-1.6	1,350 to 2,700 (6,000 to 12,000)	12.95 (329)	10.94 (272)	9.25 (235)	7.32 (186)	6.30 (160)	0.98 (25)	7.28 (185)	0.31 (8)	0.53 (13.5)	0.71 (18)	8.43 (214)	3.54 (90)	9.45 (240)
68514463856	RSC D50-2	1,800 to 3,600 (8,000 to 16,000)	12.95 (329)	10.94 (272)	9.25 (235)	8.90 (226)	7.87 (200)	0.98 (25)	7.28 (185)	0.31 (8)	0.53 (13.5)	0.71 (18)	10.24 (260)	3.54 (90)	9.45 (240)

Notes: ■ The OSC Mounts shown shaded in gray may be "Mixed & Matched" as required to achieve proper loading.
■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.

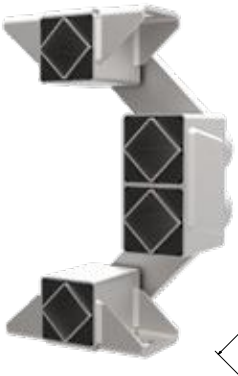
UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic spring value			Capacity limits @ different RPM						Materials / Finish (Zinc Plated Hardware)
						720 RPM		960 RPM		1440 RPM		
			cd vertical (N/mm)	cd at sw [mm]	cd horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	
68514475676	RSC D18	6.1 - 4.4	100	4	20	5	1.4	5	2.6	4	4.6	Aluminum Inner Profiles Painted Blue Cast Iron Housings Zinc Plated Steel Brackets
68514463733	RSC D27	5.4 - 3.9	160	4	35	7	2.0	6	3.1	5	5.8	
68514463734	RSC D38	4.3 - 3.4	185	6	40	9	2.6	8	4.1	6	7.0	
68514475677	RSC D45	3.7 - 3.1	230	8	70	11	3.2	9	4.6	7	8.1	
68514463854	RSC D50	3.7 - 2.9	310	8	120	12	3.5	10	5.2	8	9.3	
68514463855	RSC D50-1.6	3.7 - 2.9	430	8	160	12	3.5	10	5.2	8	9.3	
68514463856	RSC D50-2	3.5 - 2.8	540	8	198	12	3.5	10	5.2	8	9.3	

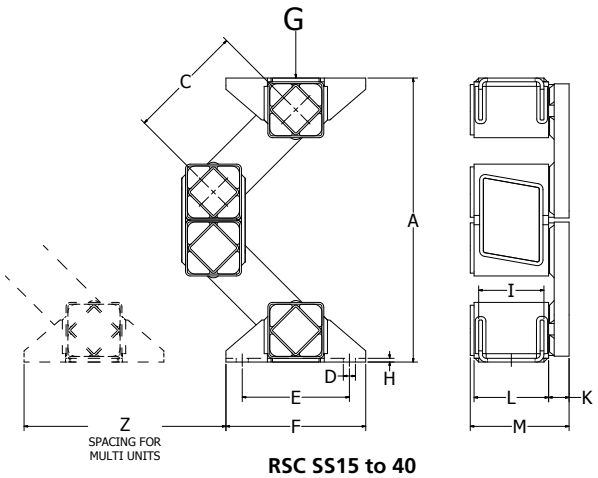
Notes: ■ Dynamic spring values at 960 RPM and deflection of 8mm at nominal loads.
■ It is not recommended to exceed accelerations greater than 9.3g.
■ See pages RR-27 and RR-28 for additional product and performance data.

RR

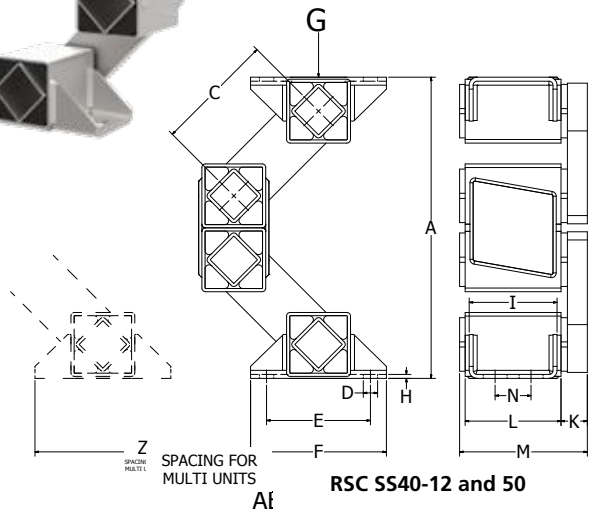
RunRight™ Oscillation Mounts RSC SS

The RunRight™ Oscillation Mounts RSC SS are a stainless steel design specific for the food, pharmaceutical and wash down requirements. All housings, arms and inner squares are manufactured out of stainless steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RSC SS15 to 40



RSC SS40-12 and 50

Oscillating Mounting Type RSC SS

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)												
			A UNLOADED	A MAX LOAD	C	D	E	F	H	I	K	L	M	N	Z
68514457918	RSC SS15	16 to 40 (70 to 180)	6.58 (167)	4.50 (114)	3.15 (80)	.28 x .53 (7 x 13.5)	1.97 (50)	2.56 (65)	.10 (2.5)	1.34 (34)	.53 (13.5)	1.57 (40)	2.09 (53)	—	4.53 (115)
68514457919	RSC SS20	36 to 103 (160 to 460)	8.39 (213)	5.75 (146)	3.94 (100)	.35 x .59 (9 x 15)	2.56 (65)	3.35 (85)	.08 (2)	1.73 (44)	.55 (14)	1.97 (50)	2.64 (67)	—	5.71 (145)
68514457920	RSC SS30	90 to 225 (400 to 1,000)	9.82 (249)	7.24 (184)	3.94 (100)	.43 x .79 (11 x 20)	3.35 (85)	4.33 (110)	.16 (4)	1.97 (50)	.63 (16)	2.36 (60)	3.15 (80)	—	6.50 (165)
68514457921	RSC SS40	157 to 360 (700 to 1,600)	12.00 (305)	8.86 (225)	4.92 (125)	.51 x .98 (13 x 25)	4.53 (115)	5.90 (150)	.16 (4)	2.76 (70)	.87 (22)	3.15 (80)	4.17 (106)	—	8.46 (215)
68514485674	RSC SS40-12	292 to 720 (1,300 to 3,200)	10.61 (270)	8.00 (203)	3.94 (100)	.51 x .79 (13 x 20)	4.53 (115)	5.90 (150)	.16 (4)	4.33 (110)	.87 (22)	4.72 (120)	5.75 (146)	2.36 (60)	8.46 (215)
68514457922	RSC SS50	560 to 1,528 (2,500 to 6,800)	14.85 (377)	14.99 (279)	5.91 (150)	.71 x 1.18 (18 x 30)	5.12 (130)	6.69 (170)	.20 (5)	4.33 (110)	1.30 (33)	4.72 (120)	6.30 (160)	1.77 (45)	11.02 (280)

Note: ■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.

UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic spring value		Capacity limits @ different RPM						Materials / Finish		
					720 RPM		960 RPM		1440 RPM				
			cd Vertical (N/mm)	cd Horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	Inner Square & Arms	Outer Housing	Finish
68514457918	RSC SS15	4 - 2.8	10	6	14	4.1	12	6.2	8	9.3	Stainless Steel welded construction	Stainless Steel welded construction	Unpainted
68514457919	RSC SS20	3.6 - 2.4	22	14	177	4.9	15	7.7	8	9.3			
68514457920	RSC SS30	3.5 - 2.6	48	27	177	4.9	14	7.2	8	9.3			
68514457921	RSC SS40	3 - 2.4	60	30	20	5.8	17	8.8	8	9.3			
68514485674	RSC SS40-12	3.4 - 2.6	115	55	16	4.6	13	6.7	8	9.3			
68514457922	RSC SS50	2.8 - 2.2	220	100	22	6.4	18	9.3	8	9.3			

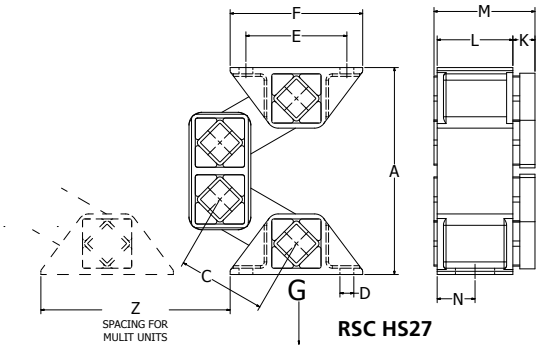
Notes: ■ Dynamic spring values at 960 RPM and deflection of 8mm at nominal loads.
■ It is not recommended to exceed accelerations greater than 9.3g.
■ See pages RR-27 and RR-28 for additional product and performance data.

RR

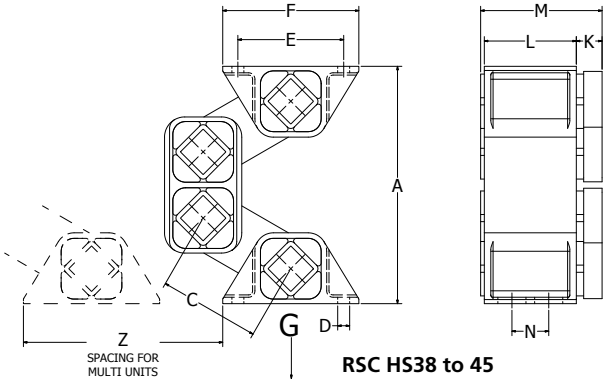
RunRight™ Oscillation Mounts RSC HS

The RunRight™ Oscillation Mounts RSC HS are specifically designed to suspend vibratory equipment or drive systems. These mounts remove harmful resident frequencies that cause spring damage due to an inefficient system that utilizes coil spring suspensions, and eliminates resulting safety concerns. All housings are cast iron the inner squares and arms are steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚F to +180˚F (-40˚C to +80˚C) temperature range.

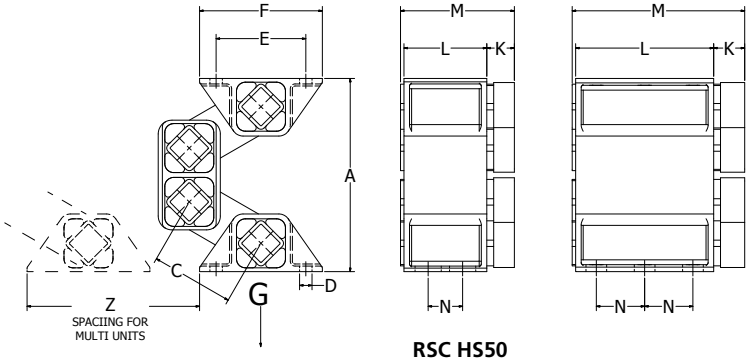




RSC HS27



RSC HS38 to 45



RSC HS50

Oscillating Mounting Type RSC HS

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)										
			A UNLOADED	A MAX LOAD	C	D	E	F	K	L	M	N	Z
68514481702	RSC HS27	112 to 281 (500 to 1,250)	6.46 (164)	7.95 (202)	2.76 (70)	.43 x 1.22 (11 x 31)	3.15 (80)	4.13 (105)	0.69 (17.5)	2.36 (60)	3.15 (80)	1.18 (30)	5.51 (140)
68514481703	RSC HS38	270 to 562 (1,200 to 2,500)	8.78 (223)	10.83 (275)	3.74 (95)	.51 x 1.38 (13 x 25)	3.94 (100)	4.92 (130)	0.91 (23)	3.15 (80)	4.21 (107)	1.58 (40)	7.08 (180)
68514481704	RSC HS45	450 to 944 (2,000 to 4,200)	10.43 (265)	12.80 (325)	4.33 (110)	.51 x 1.22 (13 x 31)	4.53 (115)	5.83 (148)	1.10 (28)	3.94 (100)	5.20 (132)	2.56 (65)	8.46 (215)
68514480297	RSC HS50	787 to 1,888 (3,500 to 8,400)	11.34 (288)	14.06 (357)	5.12 (130)	.71 x 1.50 (18 x 38)	5.12 (130)	7.00 (178)	1.50 (38)	4.72 (120)	6.50 (165)	1.97 (50)	10.24 (260)
68514480298	RSC HS50-2	1,350 to 3,147 (6,000 to 14,000)							1.69 (43)	7.87 (200)	9.84 (250)	2.76 (70)	

Notes: ■ After one year, the specified cold flow will occur at the maximum allowable compressible load range.
■ The OSC Mounts shown shaded in gray may be "Mixed & Matched" as required to achieve proper loading.

UPC #	Type	Natural Frequency G Min - G Max (Hz)	Dynamic spring value		Capacity limits @ different RPM						Materials / Finish		
					720 RPM		960 RPM		1440 RPM				
			cd Vertical (N/mm)	cd Horizontal (N/mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	sw Max (mm)	K Max (mm)	Inner Square & Arms	Outer Housing	Finish
68514481702	RSC HS27	4.2-3.8	65	32	12	3.5	10	5.2	8	9.3	Steel welded construction	Cast Iron	Painted RunRight Safety Blue
68514481703	RSC HS38	3.6-3.3	95	46	15	4.3	13	6.7	8	9.3			
68514481704	RSC HS45	3.3-3.0	142	70	17	4.9	14	7.2	8	9.3			
68514480297	RSC HS50	3.2-3.0	245	120	18	5.2	15	7.7	8	9.3			
68514480298	RSC HS50-2	3.2-2.9	410	200	18	5.2	15	7.7	8	9.3			

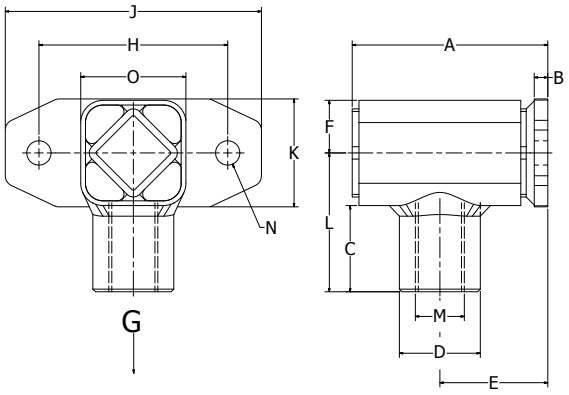
Notes: ■ It is recommended that RSC HS Hanging Mounts be fastened with Class 8.8 or greater fasteners.
■ Dynamic spring values at 960 rpm and deflection of 8mm at nominal loads.
■ It is not recommended to exceed accelerations greater than 9.3g.
■ The Oscillation Mounts RSC HS must be fastened with Grade 8 bolt utilizing all mounting holes or slots.
■ See pages RR-27 and RR-28 for additional product and performance data.

RR

RunRight™ Oscillation Mounts RSC R

The RunRight™ Oscillation Mounts RSC R are a single rocker design used on eccentric oscillator drive systems for either supporting or suspending vibratory conveyors, screens, or feeder equipment. The outer housings and inner squares are manufactured out of steel. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Maximum Load Capacity Chart

RSC R Size	Maxium Rocker Load G (Nm)				Maximum revolutions n_s (RPM)*	
	K < 2	K = 2	K = 3	K = 4	$\alpha \pm 5^\circ$	$\alpha \pm 6^\circ$
15	100	75	60	50	640	480
18	200	150	120	100	600	450
27	400	300	240	200	560	420
38	800	600	500	400	530	390
45	1600	1200	1000	800	500	360
50	2500	1800	1500	1200	470	340
60	5000	3600	3000	2400	440	320

Notes:
- *See Allowable Element Frequencies page RR-6.
- Contact Lovejoy for permissible load values from greater accelerations and for rocker arms with higher load capacities.
- Revolutions are between 300 to 600 RPM with a maximum oscillation angle of ±6˚.
- The oscillation angle α of all rockers and the drive head need to be within the allowable range for n_s and α.

Oscillating Mounting Type RSC R

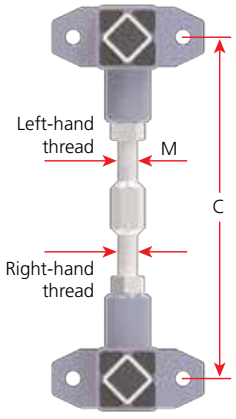
UPC #	Type	G Max lbs (N)	Mdd ft-lbs/° (Nm/°)	Dimensions - Inches (mm)												
				A	B	C	D	E	F	H	J	K	L	M	N	O
68514425158	RSC R15 RH	22.5	0.3	1.97	0.16	1.14	0.87	1.10	0.53	1.97	2.76	0.98	1.57	M10	0.28	1.06
68514425187	RSC R15 LH	(100)	(0.4)	(50)	(4)	(29)	(22)	(28)	(14)	(50)	(70)	(25)	(40)	M10-LH	(7)	(27)
68514424854	RSC R18 RH	45	1.0	2.44	0.20	1.14	0.98	1.34	0.63	2.36	3.35	1.38	1.77	M12	0.37	1.26
68514425188	RSC R18 LH	(200)	(1.3)	(62)	(5)	(29)	(25)	(34)	(16)	(60)	(85)	(35)	(45)	M12-LH	(10)	(32)
68514425160	RSC R27 RH	89.9	1.9	2.87	0.20	1.48	1.38	1.57	0.89	3.15	4.33	1.77	2.36	M16	0.45	1.77
68514425189	RSC R27 LH	(400)	(2.6)	(73)	(5)	(38)	(35)	(40)	(23)	(80)	(110)	(45)	(60)	M16-LH	(11.5)	(45)
68514425161	RSC R38 RH	180	4.9	3.74	0.24	2.09	1.97	2.05	1.18	3.94	5.51	2.36	3.15	M20	0.55	2.36
68514425190	RSC R38 LH	(800)	(6.7)	(95)	(6)	(53)	(50)	(52)	(30)	(100)	(140)	(60)	(80)	M20-LH	(14)	(60)
68514425162	RSC R45 RH	360	8.6	4.72	0.24	2.64	1.89	2.60	1.73	5.12	7.09	2.76	3.94	M24	0.71	3.50
68514425191	RSC R45 LH	(1,600)	(11.6)	(120.0)	(6)	(67)	(48)	(66)	(44)	(130)	(180)	(70)	(100)	M24-LH	(18)	(89)
68514425163	RSC R50 RH	562	15.0	5.71	0.39	2.60	2.36	3.15	1.54	5.51	7.48	3.15	4.06	M36	0.71	3.66
68514425192	RSC R50 LH	(2,500)	(20.4)	(145.0)	(10)	(66)	(60)	(80)	(39)	(140)	(190)	(80)	(103)	M36-LH	(18)	(93)
68514425164	RSC R60 RH	1124	28.2	9.17	0.63	3.11	3.15	5.04	2.01	7.09	9.06	4.72	5.12	M42	0.71	4.00
68514425193	RSC R60 LH	(5,000)	(38.2)	(233.0)	(16)	(79)	(80)	(128)	(51)	(180)	(230)	(120)	(130)	M42-LH	(18)	(102)

Notes:
- G = Maximum load per element.
- Mdd = Dynamic element torque @ ±5° in a speed range of 300-600 RPM.
- See pages RR-27 and RR-28 for additional product and performance data.

Rocker Oscillation Angle Calculation

Eccentric Radius: R (in)
Center Distance: C (in)
Oscillation Angle: $\alpha \pm$ (˚)

$$\alpha = \arctan\left(\frac{R}{C}\right)$$



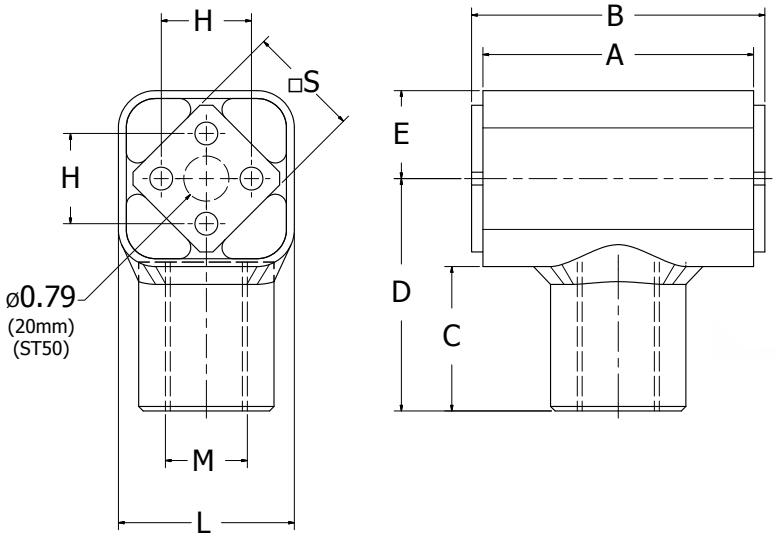
Connection Rod

Customers must provide their own connection rods. It is recommended to use both right-handed and left-handed threaded rods with corresponding right-handed and left-handed RSC R Oscillating Mounts. When using both right and left-handed threaded rods, the length of the rockers can be easily adjusted, and lateral sliding of the trough will be avoided. The center distance between housings must be identical for all of the equipment rocker arms. The thread must be engaged in each of the housings, 1.5 times the diameter of the connection rod, as shown in the diagram to the right.

RR

RunRight™ RDH Drive Heads

The RunRight™ RDH is a drive head design which transmits power from an eccentric, through the connecting rod and flexible head, to activate vibratory conveyors, screens, or feeder apparatus and equipment. The outer housings are manufactured steel weldments and the inner squares are aluminum. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Drive Heads Type RDH

UPC #	Type	F Max lbs (N)	RPM @ Max @ 5°	Dimensions - Inches (mm)										
				A	B	C	D	E	H	J	K	L	M	S
68514425165	RDH 18 RH	90 (400)	600	1.97 (50)	2.17 (55)	1.24 (31.5)	1.77 (45)	0.79 (20)	0.47 (12)	0.24 (6)	0.87 (22)	1.54 (39)	M12	0.71 (18)
68514425194	RDH 18 LH												M12LH	
68514425166	RDH 27 RH	225 (1,000)	560	2.36 (60)	2.56 (65)	1.59 (40.5)	2.36 (60)	1.06 (27)	0.79 (20)	0.31 (8)	1.10 (28)	2.13 (54)	M16	1.06 (27)
68514425195	RDH 27 LH												M16LH	
68514425167	RDH 38 RH	450 (2,000)	530	3.15 (80)	3.54 (90)	2.09 (53)	3.15 (80)	1.46 (37)	0.98 (25)	0.39 (10)	1.65 (42)	2.91 (74)	M20	1.50 (38)
68514425196	RDH 38 LH												M20LH	
68514424851	RDH 45 RH	787 (3,500)	500	3.94 (100)	4.33 (110)	2.64 (67)	3.94 (100)	1.73 (44)	1.38 (35)	0.47 (12)	1.89 (48)	3.50 (89)	M24	1.77 (45)
68514425197	RDH 45 LH												M24LH	
68514424852	RDH 50 RH	1,350 (6,000)	470	4.72 (120)	5.12 (130)	2.76 (69.5)	4.13 (105)	1.89 (47)	1.57 (40)	M12 X 40	2.36 (60)	3.66 (93)	M36	1.97 (50)
68514425198	RDH 50 LH												M36LH	

Notes: ■ Higher RPM's can be achieved if the oscillation angle if less than +/-5˚.
■ See pages RR-27 and RR-28 for additional product and performance data.

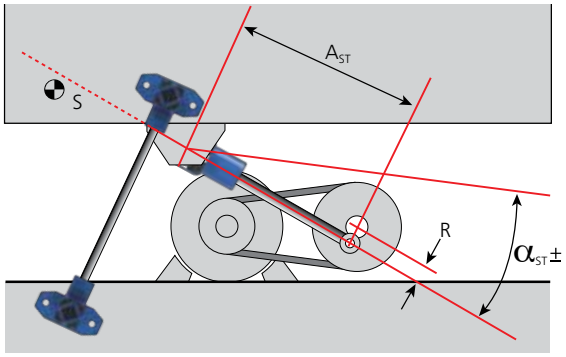
Drive Rod Length

The oscillation angle cannot exceed +/-5.7˚ to meet permissible frequency guidelines. The oscillation angle corresponds to the ratio of R:A_{ST} by 1:10.

ST Oscillation Angle Calculation

Eccentric Radius: R (mm)
Center Distance: A_{ST} (mm)
Oscillation Angle: α_{ST} (˚)

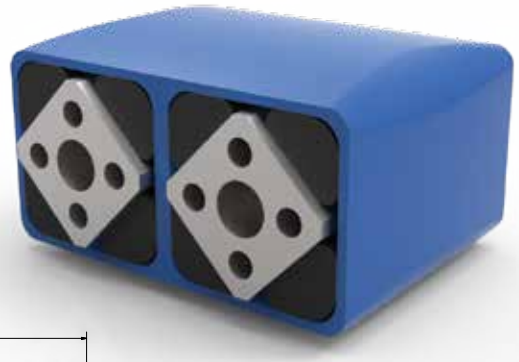
$$\alpha_{st} = \arcsin\left(\frac{R}{A_{st}}\right)$$

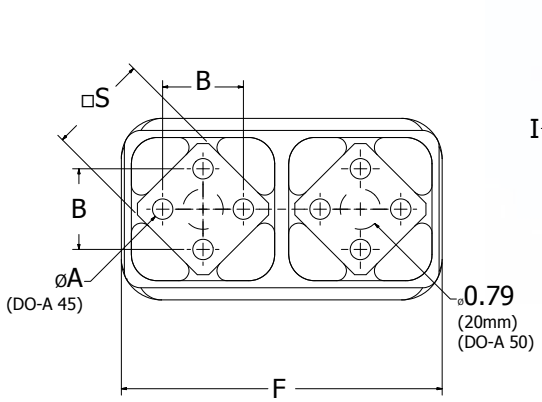


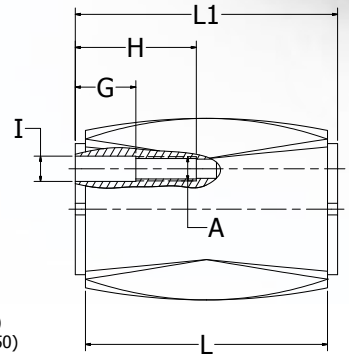
RR

RunRight™ RSD A Spring Accumulators

The RunRight™ RSD A are highly dynamic spring accumulators, designed for feeder systems that operate near resonance frequency. They are manufactured with cast iron housings and aluminum inner squares. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.







Spring Accumulators Type RSD A

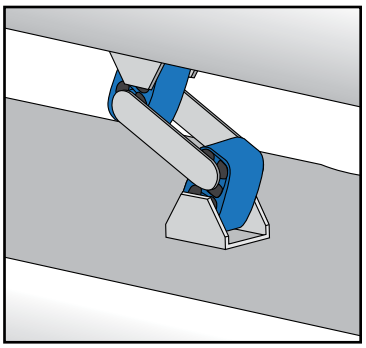
UPC #	Type	C_s in-lbs (N/mm)	Dimensions - Inches (mm)										
			A	B	D	E	F	I	S	G	H	L	L1
68514425132	RSD A45x100	571 (100)	0.47 (12)	1.38 (35)	3.35 (85)	2.87 (73)	5.90 (150)	—	1.77 (45)	—	—	3.17 (80)	3.54 (90)
68514425133	RSD A45x150	713 (125)								—	—	3.94 (100)	4.33 (110)
68514457671	RSD A50x120	1,084 (190)	M12	1.57 (40)	3.54 (90)	3.07 (78)	6.26 (159)	0.48 (12.25)	1.97 (50)	1.18 (30)	2.36 (60)	4.72 (120)	5.12 (130)
68514484850	RSD A50x160	1,284 (225)								1.18 (30)	2.36 (60)	6.30 (160)	6.69 (170)
68514457672	RSD A50x200	1,827 (320)								1.57 (40)	2.76 (70)	7.87 (200)	8.27 (210)

Notes: ■ C_s = dynamic spring value of the complete accumulator oscillating at an angle of ±5° and between 300-600 RPM (n_s).
■ See pages RR-27 and RR-28 for additional product and performance data.

1 spring accumulator consists of two (2) RSD A elements.

Operating parameters

Angle of Oscillation (RSD A series connection)	Accumulator = 2x RSD A45				Accumulator = 2x RSD A50			
	R	sw	Max n_s	Max K	R	sw	Max n_s	Max K
±6°	15.3	30.6	360	2.2	16.4	32.8	340	2.1
±5°	12.8	25.6	500	3.6	13.6	27.2	470	3.4
±4°	10.2	20.4	740	6.2	10.9	21.8	700	6.0

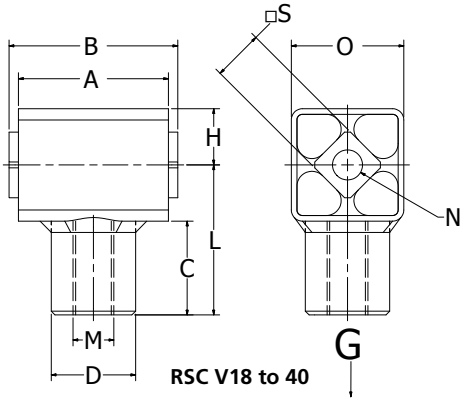


RR

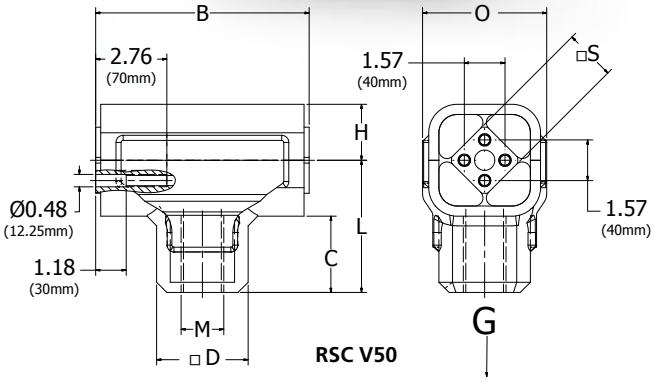
RunRight™ Oscillation Mounts RSC V

The RunRight™ Oscillation Mounts RSC V have larger than standard elastomeric elements, and are designed for free-hanging gyratory sifting machines. The outer housings are manufactured steel weldment and the inner squares are aluminum. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RSC V18 to 40



RSC V50

Drive Heads Type RSC V

UPC #	Type	G Max lbs (N)	Dimensions - Inches (mm)									
			A	B	C	D	H	L	M	N	O	S
68514463374	RSC V18 RH	135-360 (600-1,600)	2.36 (60)	2.56 (65)	1.59 (40.5)	1.10 (28)	1.06 (27)	1.54 (39)	M16	0.51 (13)	0.71 (54)	2.13 (18)
68514463375	RSC V18 LH								M16LH			
68514463376	RSC V27 RH	290-675 (1,300-3,000)	3.15 (80)	3.54 (90)	2.09 (53)	1.65 (42)	1.46 (37)	2.13 (54)	M20	0.63 (16)	0.71 (74)	2.91 (27)
68514463377	RSC V27 LH								M20LH			
68514463378	RSC V38 RH	585-1,125 (2,600-5,000)	3.94 (100)	4.33 (110)	2.64 (67)	1.89 (48)	1.73 (44)	2.91 (74)	M24	0.79 (20)	0.71 (89)	3.50 (38)
68514463379	RSC V38 LH								M24LH			
68514463940	RSC V40 RH	1,000-1,685 (4,500-7,500)	4.72 (120)	5.12 (130)	2.76 (69.5)	2.36 (60)	1.89 (47)	3.50 (89)	M36	0.79 (20)	0.71 (93)	3.66 (45)
68514463939	RSC V40 LH								M36LH			
68514463382	RSC V50 RH	1,350-3,600 (6,000-16,000)	7.87 (200)	8.28 (210)	3.35 (85)	3.15 (80)	2.36 (59)	3.66 (93)	M42	–	0.71 (116)	4.57 (50)
68514463383	RSC V50 LH								M42LH			

Note: ■ See pages RR-27 and RR-28 for additional product and performance data.

Application Example: Free-hanging Sifting Machine

Rocker Oscillation Angle Formula

Eccentric Radius (circular oscillation): R (0.8 in)
Length of Connection Rod: L (24 in)
Oscillation Angle (cannot exceed ±2˚): β ± (1.9˚)

$$\beta = \arctan\left(\frac{R}{L}\right)$$

Required Load For Each Suspension Rod Formula

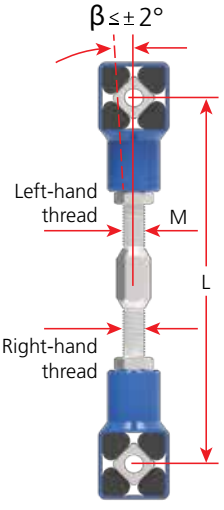
Oscillating Mass Including Material: m (1,764 lb)
Number of Suspension Rods: s (4)
Load per Suspension Rod: G (441 lb)
Maximum Load Capacity per Suspension Rod: G Max (674 lb)

$$G = \left(\frac{m}{s}\right)$$

Eight RSC V27 Oscillating Mounts are required for this application.

Connection Rod

Customers must provide their own connection rods. It is recommended to use both right-handed and left-handed threaded rods with corresponding right-handed and left-handed RSC V Oscillating Mounts. When using both right and left-handed threaded rods, the length of the rockers can be easily adjusted and lateral sliding of the trough will be avoided. The center distance between housings must be identical for all of the equipment rocker arms. The thread must be engaged in each of the housings, 1.5 times the diameter of the connection rod, as shown in the diagram to the right.

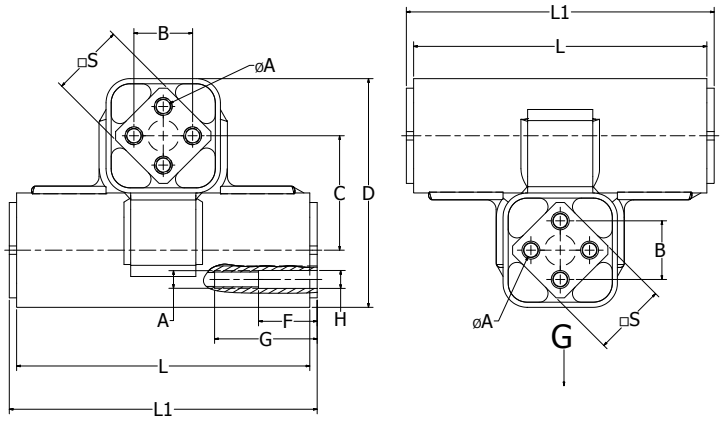


RR

RunRight™ Oscillation Mounts RSC UJ

The RunRight™ Oscillation Mounts RSC UJ are designed for supporting or suspending gyratory sifting machines. The outer housings and inner squares are manufactured out of aluminum. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





Universal Joints Type RSC UJ

UPC #	Type	G load Max in lbs (N)			Dimensions - Inches (mm)									
		Hanging	Crank driven	Free oscillating	A	B	C	D	F	G	H	L	L1	S
68514425220	RSC UJ15	36 (160)	29 (128)	18 (80)	0.20 (5)	0.39 (10)	1.06 (27)	2.13 (54)	—	—	—	2.36 (60)	2.56 (65)	0.59 (15)
68514425221	RSC UJ18	67 (300)	54 (240)	34 (150)	0.24 (6)	0.47 (12)	1.26 (32)	2.52 (64)	—	—	—	3.15 (80)	3.35 (85)	0.71 (18)
68514425222	RSC UJ27	180 (800)	144 (640)	90 (400)	0.31 (8)	0.79 (20)	1.77 (45)	3.54 (90)	—	—	—	3.94 (100)	4.13 (105)	1.06 (27)
68514425223	RSC UJ38	360 (1,600)	288 (1,280)	180 (800)	0.39 (10)	0.98 (25)	2.36 (60)	4.72 (120)	—	—	—	4.72 (120)	5.12 (130)	1.50 (38)
68514425224	RSC UJ45	670 (3,000)	540 (2,400)	335 (1,500)	0.47 (12)	1.38 (35)	2.95 (75)	5.91 (150)	—	—	—	5.91 (150)	6.30 (160)	1.77 (45)
68514425225	RSC UJ50	1,260 (5,600)	1,010 (4,480)	630 (2,800)	M12	1.57 (40)	3.07 (78)	6.14 (156)	1.58 (40)	2.76 (70)	0.48 (12.25)	7.87 (200)	8.27 (210)	1.97 (50)
68514425226	RSC UJ60	2,250 (10,000)	1,800 (8,000)	1,125 (5,000)	M16	1.77 (45)	3.94 (100)	7.87 (200)	1.97 (50)	3.15 (80)	0.65 (16.5)	11.81 (300)	12.20 (310)	2.36 (60)
68514425227	RSC UJ80	4,500 (20,000)	3,600 (16,000)	2,250 (10,000)	M20	2.36 (60)	5.35 (136)	10.71 (272)	1.97 (50)	3.54 (90)	0.81 (20.5)	15.75 (400)	16.14 (410)	3.15 (80)
68514457674	RSC UJ100-4	6,750 (30,000)	5,400 (24,000)	3,375 (15,000)	M24	2.95 (75)	6.69 (170)	13.39 (340)	1.97 (50)	3.94 (100)	0.98 (25)	15.75 (400)	16.14 (410)	3.94 (100)
68514457675	RSC UJ100-5	9,000 (40,000)	7,200 (32,000)	4,500 (20,000)	M24	2.95 (75)	6.69 (170)	13.39 (340)	1.97 (50)	3.94 (100)	0.98 (25)	19.68 (500)	20.08 (510)	3.94 (100)

Notes:
- G is the maximum load per support.
- Drive speed should not exceed 380 RPM.
- Oscillation angle should not exceed ±3.5˚.
- Operating requirements should not exceed recommendations on Allowable Element Frequencies page RR-6.
- See pages RR-27 and RR-28 for additional product and performance data.

Application Example: Supported Sifter with Positive Crank Drive

Rocker Oscillation Angle Formula

Eccentric Radius (circular oscillation): R (1 in)
Length of Connection Rod: L (24 in)
Revolutions: n_s (240 RPM)
Oscillation Angle (cannot exceed ±3.5˚): α ± (2.4˚)

$$\alpha = \arctan\left(\frac{R}{L}\right)$$

Required Load For Each Suspension Rod Formula

Oscillating Mass Including Material: m (3,500 lb)
Number of Suspension Rods: s (4)
Load per Suspension Rod: G (875 lb)

$$G = \left(\frac{m}{s}\right)$$

Maximum Load Capacity per Suspension Rod: G Max (1,010 lb)

Eight RSC UJ50 Oscillating Mounts are required for this application.

RR

Outer Housing Type	Inner Square Type A Size 15-50 = Aluminum Size 60+ = Steel	Inner Square Type C Aluminum	Inner Square Type S Steel Tube
RSS Steel Tube	**RSS A15 to 50**  See page RR-42	**RSS C15 to 50**  See page RR-42	**RSS S11 to 50**  See page RR-43
RSR Aluminum	**RSR A15 to 50**  See page RR-44	**RSR C**  Special Request Only	**RSR S11 to 50**  See page RR-44
RSF Cast Iron	**RSF A15 to 50**  See pages RR-45 and RR-46	**RSF C15 to 38**  See page RR-45	**RSF S15 to 50**  Special Request Only
RSF Steel Weldment	**RSF A15 to 100**  See pages RR-45 and RR-46	**RSF C45 to 100**  Special Request Only	**RSF S45-100**  Special Request Only
RSD Cast Iron	**RSD A15 to 50**  See page RR-47	**RSD C15 to 50**  Special Request Only	**RSD S15 to 50**  Special Request Only
RSD Steel Weldment	**RSD A15 to 45**  See page RR-47	**RSD C15 to 50**  Special Request Only	**RSD S15 to 50**  Special Request Only
Notes:	■ Recommeded for applications that oscillate more than ±10° across the neutral element position. ■ Sizes 15 through 45 are fastened using nuts and bolts that reach completely through the inner square. ■ Sizes 50 and up are fastened using bolts threaded into each end of the inner square.	■ Recommended for applications that do not oscillate more than ±10° across the neutral element position. ■ Elements are friction locked into place by a single center bolt, allowing for 360° positioning.	■ Recommended for Plug-In connection with the inner square. ■ Plug-In length must be a min. of 2x the width across the flats of the inner square. ■ The Plug-In connections are NOT recommended for applications that experience back and forth oscillations across the neutral element position.
	1. DO NOT weld the rubber suspension units. The heat will affect or destroy the rubber elements. Please contact Lovejoy for customized units. 2. Many of the rubber suspension units can be supplied in stainless steel, zinc plated or painted for your specific application. Please contact Lovejoy for customized units. 3. Mounting hardware must have a minimum strength Class of 8.8.		

Accessories for Housings
Zinc Plated Steel

RBS 11 to RBS 50 Clamp

See page RR-43

RBR 11 to RBR 50 Clamp

See page RR-44

Accessories for Inner Square type A
Zinc Plated Steel

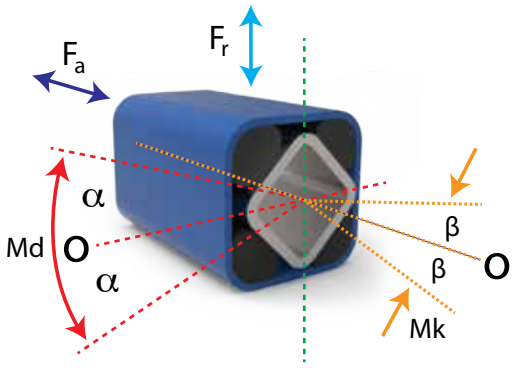
RLB 11 to RLB 50 Bracket

See page RR-48

RR

RunRight™ Rubber Suspension Units Torque Chart

The chart below gives statically measured torques at a specific force and deflection for the Tensys™ 10 rubber used in the RunRight™ Rubber Suspension units. If needed, other values can be interpolated. Please contact Lovejoy for applications that have combined dynamic forces and high oscillation angles, or refer to pages RR-4 to RR-7 in this catalog.



Element			Torque						Cardanic	Radial		Axial	
Nominal size	x	Length	Md [Nm] angle ±α°						Mk [Nm] angle ±β°	Deflection ± s_r	Load F_r	Deflection ± s_a	Load F_a
			5°	10°	15°	20°	25°	30°	1°	[mm]	[N]	[mm]	[N]
11	x	20	0.3	0.8	1.3	2.0	2.9	4.0	0.4		200		60
11	x	30	0.4	1.2	2.0	3.1	4.3	6.0	1.1	0.25	340	0.25	80
11	x	50	0.7	2.0	3.4	5.1	7.2	10.0	5.6		600		150
15	x	25	0.7	1.6	2.6	4.0	5.7	8.2	0.6		200		70
15	x	40	1.1	2.5	4.2	6.4	9.2	13.2	2.0	0.25	300	0.25	100
15	x	60	1.6	3.8	6.3	9.6	13.8	19.8	5.5		500		160
18	x	30	1.9	4.5	7.5	11.0	15.0	20.6	1.6		400		80
18	x	50	3.2	7.5	12.5	18.3	25.0	34.4	7.0	0.25	700	0.25	160
18	x	80	5.1	12.0	20.0	29.3	40.0	55.0	28.0		1,000		300
27	x	40	4.7	10.7	17.5	26.9	39.5	57.0	3.8		800		200
27	x	60	7.0	16.0	26.3	40.3	59.3	85.5	11.5	0.5	1,300	0.50	300
27	x	100	11.7	26.7	43.8	67.2	98.8	142.5	48.0		2,400		600
38	x	60	13.0	30.4	50.6	78.0	113.0	162.0	11.4		1,500		300
38	x	80	17.3	40.5	67.5	104.0	151.0	216.0	24.7	0.5	2,000	0.50	500
38	x	120	26.0	60.8	101.2	156.0	226.0	324.0	76.0		3,000		600
45	x	80	27.6	62.4	104.0	160.0	222.0	320.0	28.0		1,900		560
45	x	100	34.5	78.0	130.0	200.0	278.0	400.0	54.0	0.5	3,000	0.50	700
45	x	150	51.8	117.0	195.0	300.0	420.0	600.0	140.0		4,800		1,000
50	x	120	51.0	133.0	250.0	395.0	570.0	780.0	80.0		2,800		800
50	x	160	77.0	197.0	363.0	570.0	820.0	1,115.0	145.0	0.5	4,500	0.50	950
50	x	200	102.0	260.0	475.0	745.0	1070.0	1,450.0	250.0		6,300		1,100
50	x	300	150.0	385.0	700.0	1,100.0	1,590.0	2,160.0	1,200.0		8,600		2,200
60	x	150	75.0	170.0	300.0	460.0	700.0	1,010.0	90.0		5,400		1,600
60	x	200	95.0	220.0	385.0	610.0	930.0	1,380.0	250.0	1.0	7,200	1.00	2,200
60	x	300	140.0	365.0	630.0	995.0	1,550.0	2,240.0	900.0		9,400		3,200
70	x	200	140.0	380.0	650.0	1,040.0	1,490.0	2,120.0	280.0		9,000		2,200
70	x	300	190.0	525.0	910.0	1,470.0	2,160.0	3,150.0	1,200.0	1.0	12,000	1.00	3,600
70	x	400	250.0	765.0	1,315.0	2,160.0	3,175.0	4,750.0	2,200.0		14,000		4,000
80	x	200	200.0	500.0	850.0	1,300.0	1,900.0	2,700.0	680.0		10,000		2,500
80	x	300	300.0	800.0	1,300.0	2,000.0	2,900.0	4,100.0	1,500.0	1.0	15,000	1.00	3,800
80	x	400	400.0	1,060.0	1,800.0	2,800.0	3,900.0	5,600.0	4,600.0		19,000		4,700
100	x	250	400.0	1,080.0	1,800.0	2,800.0	4,100.0	6,300.0	1,200.0		15,000		3,200
100	x	400	640.0	1,700.0	2,900.0	4,500.0	6,600.0	10,000.0	4,300.0	1.0	28,000	1.00	5,800
100	x	500	800.0	2,160.0	3,600.0	5,600.0	8,200.0	12,000.0	8,000.0		38,000		7,500

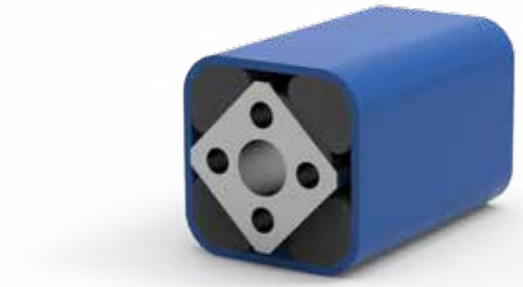
RR

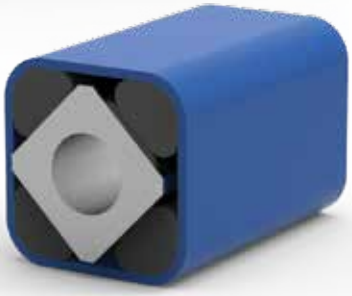
RunRight™ Rubber Suspension Unit RSS A

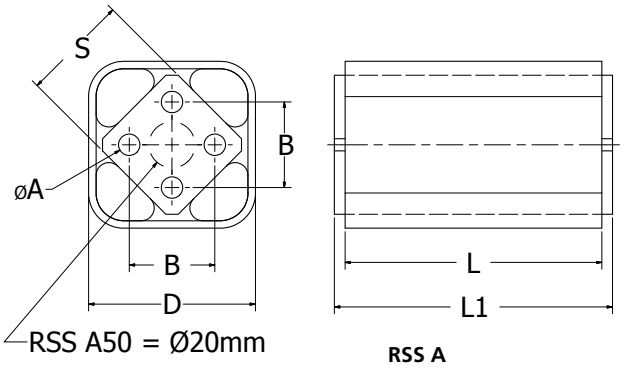
The RunRight™ Rubber Suspension Unit RSS A has 4 bore holes in the inner square and is designed to transmit alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with steel housings and an aluminum inner square. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.

RunRight™ Rubber Suspension Unit RSS C

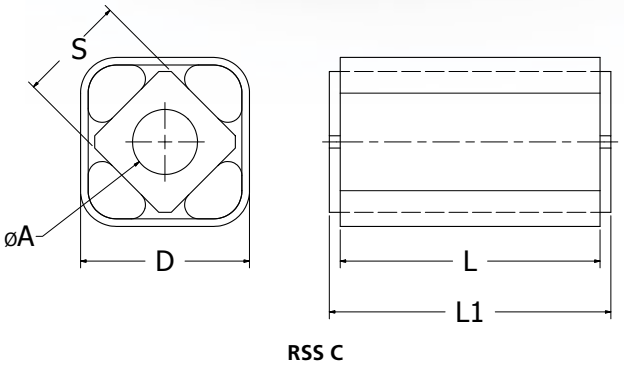
The RunRight Rubber Suspension Unit RSS C has one central bore and can be positioned between 0˚ and 360˚. The frictional force of this unit guarantees a secure connection of the lever arms in any position. They are manufactured with steel housings and an aluminum inner square. They have standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.







RSS A



RSS C

Rubber Suspension Units RSS A, RSS C

RSS A				RSS C			Dimensions - Millimeters			
UPC #	Type	Dimensions - Millimeters		UPC #	Type	Dimensions - Millimeters	D	S	L	L1
		A	B			A				
68514425013	RSS A15x25	5	10	68514463628	RSS C15x25	10	27	15	25	30
68514425014	RSS A15x40			68514463629	RSS C15x40				40	45
68514417485	RSS A15x60			68514463630	RSS C15x60				60	65
68514424839	RSS A18x30	6	12	68514463631	RSS C18x30	13	32	18	30	35
68514425017	RSS A18x50			68514463632	RSS C18x50				50	55
68514425018	RSS A18x80			68514463633	RSS C18x80				80	85
68514425019	RSS A27x40	8	20	68514437571	RSS C27x40	16	45	27	40	45
68514425020	RSS A27x60			68514437572	RSS C27x60				60	65
68514417487	RSS A27x100			68514437573	RSS C27x100				100	105
68514425022	RSS A38x60	10	25	68514437574	RSS C38x60	20	60	38	60	70
68514425023	RSS A38x80			68514437575	RSS C38x80				80	90
68514425024	RSS A38x120			68514437576	RSS C38x120				120	130
68514484305	RSS A45x80	12	35	68514463634	RSS C45x80	24	75	45	80	90
68514484306	RSS A45x100			68514463635	RSS C45x100				100	110
68514484307	RSS A45x150			—	—				150	160
68514484308	RSS A50x120	M12x40	40	68514463834	RSS C50x120	30	78	50	120	130
68514484309	RSS A50x200			68514463924	RSS C50x200				200	210
68514484310	RSS A50x300			—	—				300	310

Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

RR

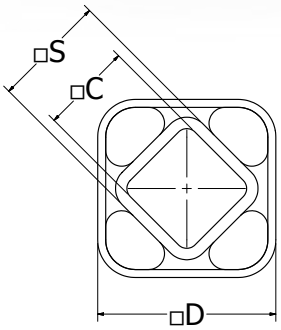
RunRight™ Rubber Suspension Unit RSS S

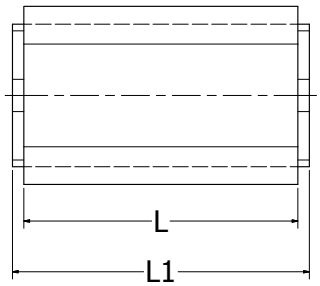
The RunRight™ Rubber Suspension Unit RSS S is perfect for square lever arms. The length of the inserted lever arm needs to be three times that of dimension C, as shown in the drawing to the right. Only one through-bolt is required on the smaller units through the RSS S18. Frictional force is used to secure the lever arms at any position within 360˚. They are manufactured with steel housings and inner squares. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



Rubber Suspension Units RSS S

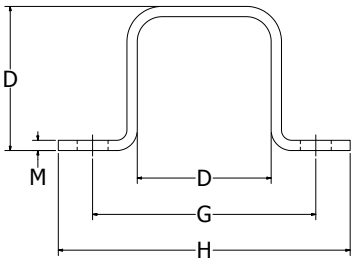
UPC #	Type	Dimensions - Millimeters				
		C	D	S	L	L1
68514425031	RSS S11x20	8	20	11	20	25
68514425032	RSS S11x30				30	35
68514425033	RSS S11x50				50	55
68514425034	RSS S15x25	11	27	15	25	30
68514425035	RSS S15x40				40	45
68514425036	RSS S15x60				60	65
68514425037	RSS S18x30	12	32	18	30	35
68514425038	RSS S18x50				50	55
68514425039	RSS S18x80				80	85
68514425040	RSS S27x40	22	45	27	40	45
68514425041	RSS S27x60				60	65
68514425042	RSS S27x100				100	105
68514425043	RSS S38x60	30	60	38	60	70
68514425044	RSS S38x80				80	90
68514425045	RSS S38x120				120	130
68514484060	RSS S45x80	35	75	45	80	90
68514425047	RSS S45x100				100	110
68514484064	RSS S45x150				150	160
68514425049	RSS S50x120	40	78	50	120	130
68514425050	RSS S50x200				200	210
68514425051	RSS S50x300				300	310

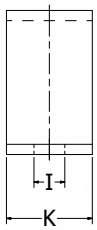




RunRight™ RBS Clamps

The RunRight RBS Clamp is for positioning and securing all RSS suspension units. These steel clamps are supplied separately and do not include bolts. Lovejoy recommends using two or more clamps on the longer RSS suspension units.







RBS Clamps

UPC #	Type	Dimensions - Millimeters					
		D	G	H	I	K	M
68514425000	RBS 11	20	37	50	6	20	2.0
68514425001	RBS 15	27	50	65	7	25	2.0
68514424840	RBS 18	32	60	80	9	30	2.5
68514425003	RBS 27	45	80	105	11	35	3.0
68514425004	RBS 38	60	100	125	13	40	4.0
68514424664	RBS 45	75	120	150	13	45	5.0
68514463479	RBS 50	78	130	175	18	50	6.0

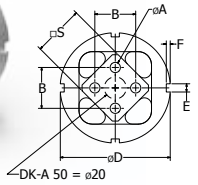
Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

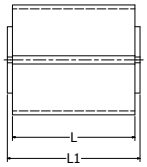
RR

RunRight™ Rubber Suspension Unit RSR A

The RunRight™ Rubber Suspension Unit RSR A has 4 bore holes in the inner square and is designed to transmit alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either side of the unit. They are manufactured with aluminum housings and inner squares. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



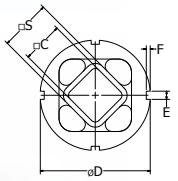


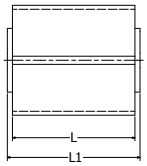


RunRight™ Rubber Suspension Unit RSR S

The RunRight Rubber Suspension Unit RSR S is perfect for square lever arms. The length of the inserted lever arm needs to be three times that of dimension C, as shown in the drawing to the right. This kind of connection is great for plus or minus angular motions. These units cannot take alternating motions across the neutral axis. They are manufactured with aluminum housings and steel inner squares. They have standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.







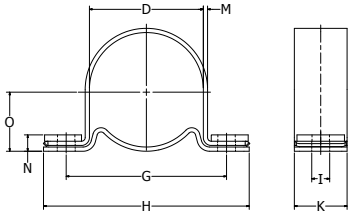
Rubber Suspension Units RSR A, RSR S

RSR A				RSR S			Dimensions - Millimeters					
UPC #	Type	Dimensions - Millimeters		UPC #	Type	Dimensions - Millimeters	D	E	F	S	L	L1
		A	B			C						
				68514425095	RSR S11x20	8	28	4	2.5	11	20	25
				68514425096	RSR S11x30						30	35
				68514425097	RSR S11x50						50	55
68514425080	RSR A15x25	5	10	68514425098	RSR S15x25	11	36	5	2.5	15	25	30
68514425081	RSR A15x40			68514425099	RSR S15x40						40	45
68514425082	RSR A15x60			68514425100	RSR S15x60						60	65
68514425083	RSR A18x30	6	12	68514425101	RSR S18x30	12	45	5	2.5	18	30	35
68514425084	RSR A18x50			68514425102	RSR S18x50						50	55
68514424855	RSR A18x80			68514425103	RSR S18x80						80	85
68514425086	RSR A27x40	8	20	68514425104	RSR S27x40	22	62	6	3.0	27	40	45
68514425087	RSR A27x60			68514425105	RSR S27x60						60	65
68514425088	RSR A27x100			68514425106	RSR S27x100						100	105
68514425089	RSR A38x60	10	25	68514425107	RSR S38x60	30	80	7	3.5	38	60	70
68514425090	RSR A38x80			68514425108	RSR S38x80						80	90
68514425091	RSR A38x120			68514425109	RSR S38x120						120	130
68514425092	RSR A45x80	12	35	68514425110	RSR S45x80	35	95	8	4.0	45	80	90
68514425093	RSR A45x100			68514425111	RSR S45x100						100	110
68514425094	RSR A45x150			68514425112	RSR S45x150						150	160
68514446319	RSR A50x120	M12x40	40	68514446321	RSR S50x120	40	108	8	4.0	50	120	130
68514446317	RSR A50x200			68514446320	RSR S50x200						200	210
68514446316	RSR A50x300			68514446318	RSR S50x300						300	310

Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

RunRight™ RBR Clamps

The RunRight RBR Clamp is for positioning and securing all RSR suspension units using the frictional force created between the double clamps. These steel clamps are supplied separately and do not include bolts. Lovejoy recommends using two or more clamps on the longer RSR suspension units.



RBR Clamps

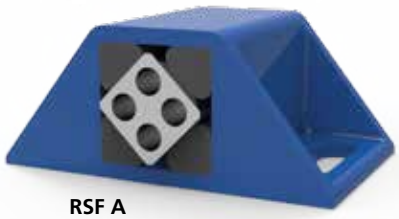
UPC #	Type	Dimensions - Millimeters							
		D	G	H	I	K	M	N	O
68514425113	RBR 11	28	45	60	6.5	20	1.5	6	15.5
68514425114	RBR 15	36	55	75	6.5	25	2.0	7	20.0
68514425115	RBR 18	45	68	90	8.5	30	2.0	8	24.5
68514425116	RBR 27	62	92	125	10.5	35	2.5	10	33.5
68514425117	RBR 38	80	115	150	12.5	40	3.0	11	43.0
68514424451	RBR 45	95	130	165	12.5	45	4.0	14	51.5
68514446315	RBR 50	108	152	195	16.5	50	4.0	15	58.0



RR

RunRight™ Rubber Suspension Unit RSF A15 to 38

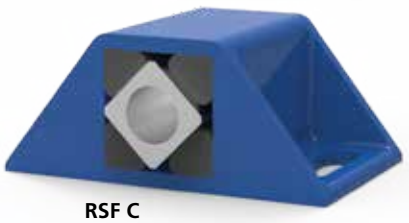
The RunRight™ Rubber Suspension Unit RSF A has 4 bore holes in the inner square and the brackets are welded to the housing. They are designed to transmit alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with cast iron or steel housings and aluminum inner squares, see chart below. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



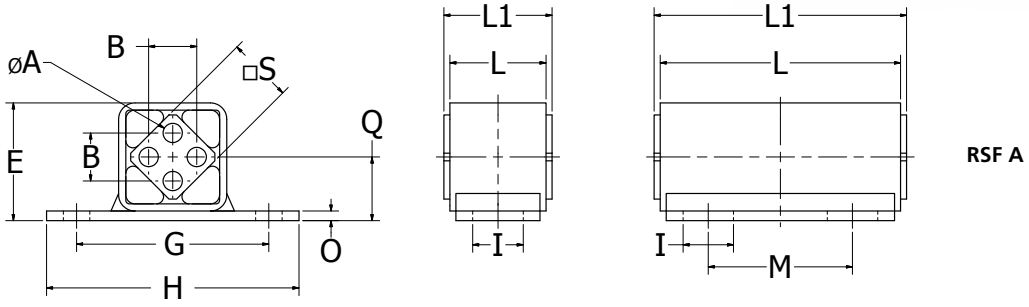
RSF A

RunRight™ Rubber Suspension Unit RSF C15 to 38

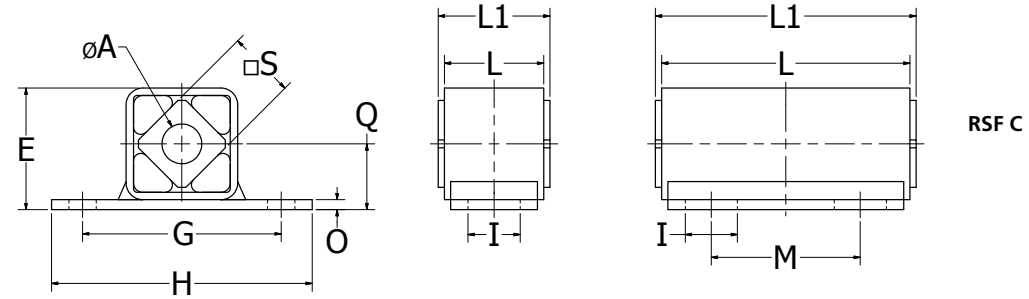
The RunRight Rubber Suspension Unit RSF C has one central bore, allowing a lever arm to be positioned between 0˚ and 360˚, and the brackets are welded to the housing. The frictional force of this unit guarantees a secure connection of the lever arms in any position. They are manufactured with cast iron or steel housings and aluminum inner squares, see chart below. They have standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



RSF C



RSF A



RSF C

Rubber Suspension Units RSF A, RSF C

RSF A				RSF C			Dimensions - Millimeters										Construction
UPC #	Type	Dimension-Millimeters		UPC #	Type	Dimension-Millimeters	E	G	H	I	O	Q	S	L	L1	M	
		A	B			A											
68514480069	RSF A15x25	5	10	68514480081	RSF C15x25	10	29.5	50	65	7 x 12	2.5	16.0	15	25	30	—	Steel
68514480070	RSF A15x40			68514480082	RSF C15x40		28.0		66	7 x 22	3.0	14.0		40	45	—	Cast Iron
68514480071	RSF A15x60			68514480083	RSF C15x60		29.5		65	7 x 12	2.5	16.0		60	65	40	Steel
68514480072	RSF A18x30	6	12	68514480084	RSF C18x30	13	35.0	60	80	9 x 16.5	3.5	19.0	18	30	35	—	Steel
68514480073	RSF A18x50			68514480085	RSF C18x50		34.0			9 x 30	4.0	17.0		50	55	—	Cast Iron
68514480074	RSF A18x80			68514480086	RSF C18x80		35.0			9 x 16.5	3.5	19.0		80	85	50	Steel
68514480075	RSF A27x40	8	20	68514480087	RSF C27x40	16	49.0	80	105	11 x 21	4.0	26.5	27	40	45	—	Steel
68514480076	RSF A27x60			68514480088	RSF C27x60		48.0			11 x 31	5.0	24.5		60	65	—	Cast Iron
68514480077	RSF A27x100			68514480089	RSF C27x100		49.0			11 x 21	4.0	26.5		100	105	60	Steel
68514480078	RSF A38x60	10	25	68514480090	RSF C38x60	20	65.0	100	125	13 x 28	5.0	35.0	38	60	70	—	Steel
68514480079	RSF A38x80			68514480091	RSF C38x80		64.0			13 x 25.4	6.0	32.0		80	90	40	Cast Iron
68514480080	RSF A38x120			68514480092	RSF C38x120		65.0			13 x 28	5.0	35.0		120	130	80	Steel

Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

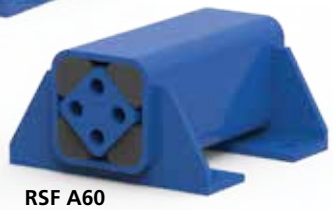
RR

RunRight™ Rubber Suspension Unit RSF A45 to 50

The RunRight™ Rubber Suspension Unit RSF A has 4 bore holes in the inner square and the brackets are integral to the housing. They are designed for transmitting alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with cast iron or steel housings and aluminum inner squares, see chart below. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



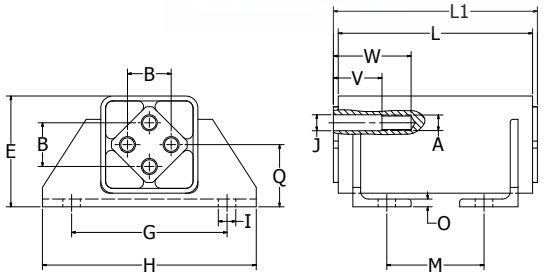
RSF A45



RSF A60

RunRight™ Rubber Suspension Unit RSF A60 to 100

The RunRight Rubber Suspension Unit RSF A has 4 bore holes in the inner square and the brackets are welded to the housing. They are designed for transmitting alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with steel housings and inner squares. They have standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



Rubber Suspension Units RSF A45 to 50

UPC #	Type	A	B	E	G	H	I	O	Q	S	L	L1	M	Construction
68514463923	RSF A45x100	12	35	77.0	80	115	13 x 30.5	7	38	45	100	110	40	Cast Iron
68514463636	RSF A50x120	M12x40	40	83.5	130	178	18 x 38	8	35	50	120	130	50	Cast Iron
68514484320	RSF A50x160			78.0			18 x 30		32		160	170	70	Steel
68514463637	RSF A50x200			83.5			18 x 30		41		200	210	70	Cast Iron

Rubber Suspension Units RSF A60 to 100

UPC #	Type	A	B	E	G	H	I	J	O	Q	S	V	W	L	L1	M	Construction
68514484258	RSF A60x150	M16	45	115	160	220	18	16.5	8	65	60	40	70	150	160	60	Steel
68514484259	RSF A60x200											50	80	200	210	100	Steel
68514484260	RSF A60x300											50	80	300	310	200	Steel
68514484261	RSF A70x200	M20	50	140	200	260	22	20.5	9	80	70	50	90	200	210	100	Steel
68514484262	RSF A70x300													300	310	200	Steel
68514484263	RSF A70x400													400	410	300	Steel
68514484264	RSF A80x200	M20	60	153	220	280	22	20.5	10	85	80	50	90	200	210	80	Steel
68514484265	RSF A80x300													300	310	180	Steel
68514484266	RSF A80x400													400	410	280	Steel
68514484267	RSF A100x250	M24	75	195	300	380	26	25.0	12	110	100	50	100	250	260	110	Steel
68514484268	RSF A100x400													400	410	260	Steel
68514484269	RSF A100x500													500	510	360	Steel

Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

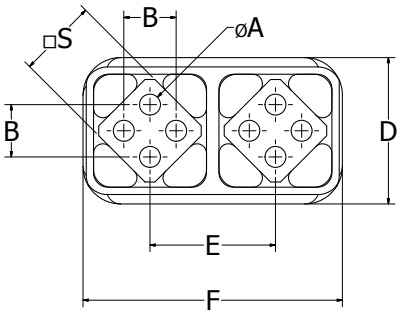
RunRight™ Rubber Suspension Units RSD A15 to 45

The RunRight™ Rubber Suspension Unit RSD A has 4 bore holes in each of the inner squares. They are designed for transmitting alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with cast iron or steel weldment housings and aluminum inner squares, see chart below. They have standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.

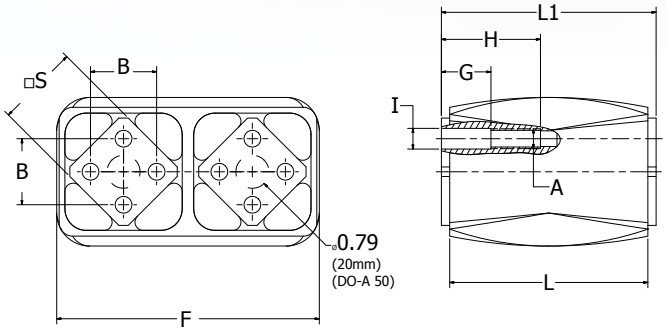


RunRight™ Rubber Suspension Unit RSD A50

The RunRight Rubber Suspension Unit RSD A50 has 4 bore holes in each of the inner squares. They are designed for transmitting alternating motions from the neutral position. A bolt through either two, or all four of the bore holes, can be used to mount a lever to either one or both sides of the unit. They are manufactured with cast iron housings and aluminum inner squares. They have standard Tensys 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.



RSD A15 to 45



RSD A50

Rubber Suspension Units RSD A

UPC #	Type	A	B	D	E	F	S	G	H	L	L1	Construction
68514425119	RSD A15x25	5	10	30	26	55	15	—	—	25	30	Cast Iron
68514425120	RSD A15x40									40	45	Cast Iron
68514425121	RSD A15x60			27	27	54				60	65	Steel Weldment
68514425122	RSD A18x30	6	12	36	31	66	18	—	—	30	35	Cast Iron
68514425123	RSD A18x50									50	55	Cast Iron
68514425124	RSD A18x80			37	32	64				80	85	Steel Weldment
68514425125	RSD A27x40	8	20	49	45	93	27	—	—	40	45	Cast Iron
68514425126	RSD A27x60									60	65	Cast Iron
68514425127	RSD A27x100			51		90				100	105	Steel Weldment
68514425128	RSD A38x60	10	25	70	60	124	38	—	—	60	70	Cast Iron
68514425129	RSD A38x80									80	90	Cast Iron
68514425130	RSD A38x120			66		120				120	130	Steel Weldment
68514425131	RSD A45x80	12	35	84	72	148	45	—	—	80	90	Cast Iron
68514425132	RSD A45x100									100	110	Cast Iron
68514425133	RSD A45x150				75	150				150	160	Steel Weldment
68514457671	RSD A50x120	M12x40	40	90	78	164	50	30	60	120	130	Cast Iron
68514484850	RSD A50x160							30	60	160	170	Cast Iron
68514457672	RSD A50x200							40	70	200	210	Cast Iron

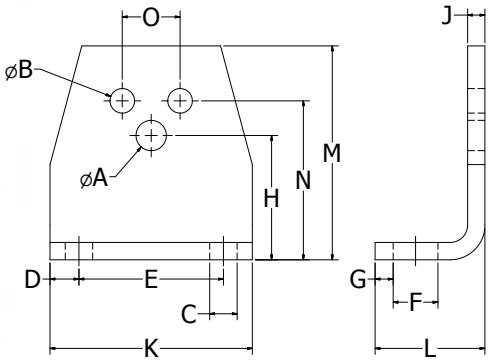
Note: ■ See pages RR-40 and RR-41 for additional product and performance data.

RR

RunRight™ RLB Brackets

The RunRight™ RLB Bracket offers easy assembly to equipment for the RSS A, RSR A and RSD A Rubber Suspension Units by attaching to the bore holes of the inner squares. The base of the bracket can be positioned in either direction.





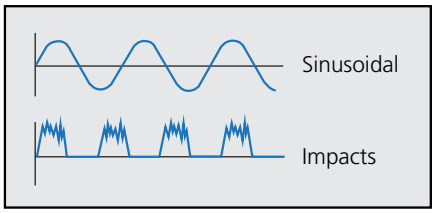
RLB Brackets

UPC #	Type	Fit for RT Tensioners			Fit for RSS A, RSR A, and RSF A				Dimensions - Millimeters								
		RT Size	A	H	Element Size	B	N	O	C	D	E	F	G	J	K	L	M
68514425200	RLB 11-15	11	6.5	27	15	5.5	35	10	7.0	7.5	30	13.0	11.5	4	45	30	46
68514425201	RLB 15-18	15	8.5	34	18	6.5	44	12	7.0	7.5	40	13.0	13.5	5	55	32	58
68514425202	RLB 18-27	18	10.5	43	27	8.5	55	20	9.5	10.0	50	15.5	16.5	6	70	38	74
68514425203	RLB 27-38	27	12.5	57	38	10.5	75	25	11.5	12.5	65	21.5	21.0	8	90	52	98
68514425204	RLB 38-45	38	16.5	66	45	12.5	85	35	14.0	15.0	80	24.0	21.0	8	110	55	116
68514425205	RLB 45-50	45	20.5	80	50	12.5	110	40	18.0	20.0	100	30.0	26.0	10	140	66	140

RunRight™ Model	Type	Page #	Description
	**RAV D**	RR-50	Type RAV D Anti-Vibration Mounts are used to absorb tensile, pressure and shear loads. Normally horizontally mounted (on floor), they are also ideal for wall and ceiling installations. Available in 8 sizes with a load range of 45 to 4,271 lbs per mount. Their natural frequency is between 3.5 and 8 Hz. The Type RAV D mounts are used for machine installations where the machine frequency > RAV D natural frequency.
	**RAV**	RR-52	Type RAV Anti-Vibration Mounts are used to absorb tensile, pressure and shear loads. Normally horizontally mounted (on floor), they are also ideal for wall and ceiling installations. Available in 6 sizes with a load range of 67 to 2,700 lbs per mount. Their natural frequency is between 10 and 30 Hz. The Type RAV mounts are used for machine installations where the machine frequency < RAV natural frequency.

Anti-Vibration Technology

Manufacturers of anti-vibration mounts usually offer machine mounts with varying natural frequencies, to eliminate the excitation frequency of the machine, versus the natural frequency of the anti-vibration mount. Vibration technology differentiates between two types of oscillation signatures. Sinusoidal oscillation of working equipment produces a predictable vibration signature. Sinusoidal oscillations occur on generators, compressors and blowers, which require a soft RAV D mount, whereas, shocks or impacts produce a non-predictable signature. For mixers, crushers, punching presses and shears, a RAV mount would be prefered.



Dampening effect is related to the proportion of the relevant acoustic resistance to acoustic velocity, and the material density. Typically, the ideal amount of isolation of solid-born noise can be expected through the entire frequency range with a rubber-steel mount combination. Isolation in relationship to steel is shown in the chart to the right.

Isolation Properties

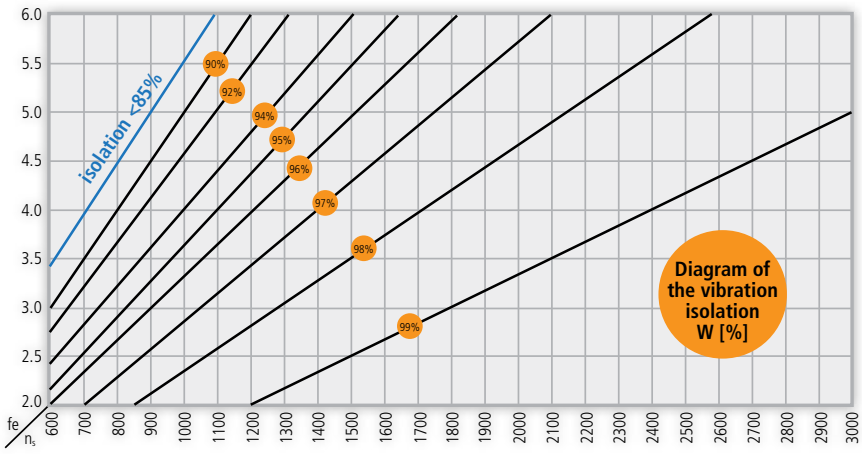
Active isolation prevents the direct transfer of a machine's vibrations into the substructure, frame and building. In order to select anti-vibration mounts, the machine structure stiffness, center of gravity, interfering frequency, and machine location need to be known.

Passive isolation installs a protective barrier between the shocks and vibrations that occur in a factory when sensitive instruments, laboratory equipment, or electronic controls are involved. Sensitive equipment needs to be protected by installing them on soft ant-vibration mounts (RAV D) that will absorb the environmental impacts.

Rubber Compounds	Torque & Load Factor*	Operating Temperature F° (C°)	Rubber Type	Rubber Characteristics
Tensys™ 10	1.0	-40° to 180° (-40° to 80°)	Natural	Standard
Tensys™ 20	approximately 1.0	-22° to 195° (-30° to 90°)	Neoprene	Oil Resistant
Tensys™ 30	approximately 1.0	-40° to 180° (-40° to 80°)	Natural	High-Dampening (Motor Bases only)
Tensys™ 40	approximately 0.6	180° to 250° (80° to 120°)	EPDM	High Temperature Resistant
Tensys™ 50	approximately 3.0	-31° to 195° (-35° to 90°)	Urethane	High Torque

Note: ■ *Factor in relation to torque & loads shown on standard selection charts.

Acoustic Isolation (vs. Steel)	
Steel:	1:1
Bronze:	1:1.3
Cork:	1:400
Rubber:	1:800
Air:	1:90,000

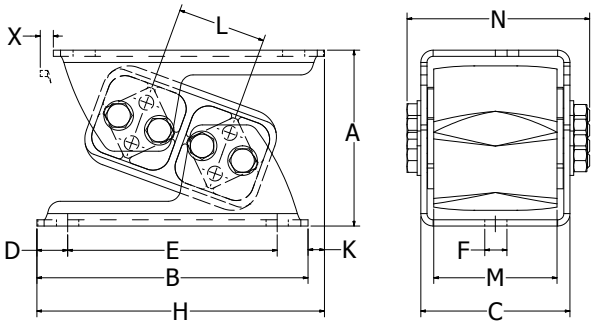


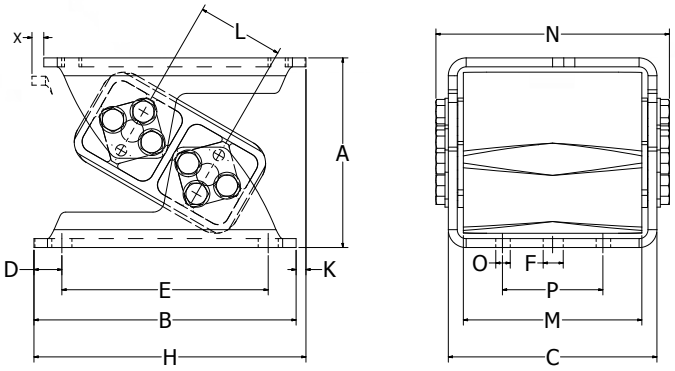
RR

RunRight™ Anti-Vibration Mounts Type RAV D

RunRight™ RAV D Anti-Vibration mounts are designed for applications requiring the absorption of low and medium frequency vibrations. They are used to absorb tensile, pressure and shear loads. Typically mounted horizontally on the floor, they can also be used for wall and ceiling applications. The RAV D are manufactured with cast iron housings, aluminum inner squares and have steel brackets. They are manufactured with standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.







Anti-Vibration Mounts Type RAV D

UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)												
			A UNLOADED	A MAX LOAD	B	C	D	E	F	H	J	K	L	M	N
68514425214	RAV D15	45 to 123 (200 to 550)	2.12 (54)	1.69 (43)	3.34 (85)	1.92 (49)	0.39 (10)	2.55 (65)	0.27 (7)	3.58 (91)	0.07 (2)	0.21 (5.5)	1.00 (25.5)	1.57 (40)	2.30 (58.5)
68514425215	RAV D18	100 to 280 (450 to 1,250)	2.55 (65)	2.00 (51)	4.13 (105)	2.36 (60)	0.49 (12.5)	3.14 (80)	0.37 (9.5)	4.37 (111)	0.09 (2.5)	0.21 (5.5)	1.22 (31)	1.96 (50)	2.71 (69)
68514425216	RAV D27	157 to 449 (700 to 2,000)	3.46 (88)	2.67 (68)	5.51 (140)	2.79 (71)	0.59 (15)	4.33 (110)	0.45 (11.5)	5.82 (148)	0.11 (3)	0.31 (8)	1.73 (44)	2.36 (60)	3.35 (85.3)
68514425217	RAV D38	292 to 854 (1,300 to 3,800)	4.60 (117)	3.58 (91)	6.88 (175)	3.85 (98)	0.68 (17.5)	5.51 (140)	0.55 (14)	7.16 (182)	0.15 (4)	0.27 (7)	2.36 (60)	3.14 (80)	4.60 (117)
68514425218	RAV D45	494 to 1,350 (2,200 to 6,000)	5.62 (143)	4.33 (110)	8.66 (220)	4.72 (120)	0.98 (25)	6.69 (170)	0.70 (18)	9.25 (235)	0.19 (5)	0.51 (13)	2.87 (73)	3.93 (100)	5.43 (138)
68514425219	RAV D50	899 to 2,472 (4,000 to 11,000)	6.69 (170)	5.43 (138)	9.25 (235)	5.59 (142)	0.98 (25)	7.28 (185)	0.70 (18)	9.60 (244)	0.23 (6)	0.35 (9)	3.07 (78)	4.72 (120)	6.37 (162)
68514483847	RAV D50-1.6	1,236 to 3,372 (5,500 to 15,000)	6.69 (170)	5.43 (138)	9.25 (235)	7.32 (186)	0.98 (25)	7.28 (185)	0.70 (18)	9.60 (244)	0.31 (8)	0.35 (9)	3.07 (78)	6.29 (160)	8.11 (206)
68514483848	RAV D50-2.0	1,573 to 4,271 (7,000 to 19,000)	6.69 (170)	5.43 (138)	9.25 (235)	8.89 (226)	0.98 (25)	7.28 (185)	0.70 (18)	9.60 (244)	0.31 (8)	0.35 (9)	3.07 (78)	7.87 (200)	9.68 (246)

Notes:
- The RAV D Mounts shown shaded in gray may be "Mixed & Matched" as required to achieve proper loading.
- The maximum load applied to the x-axis cannot exceed 200% of the z-axis capacity.
- The maximum load applied to the y-axis cannot exceed 20% of the z-axis capacity.
- See page RR-49 for additional product and performance data.

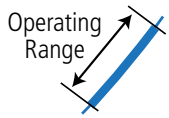
Anti-Vibration Mounts Type RAV D, continued

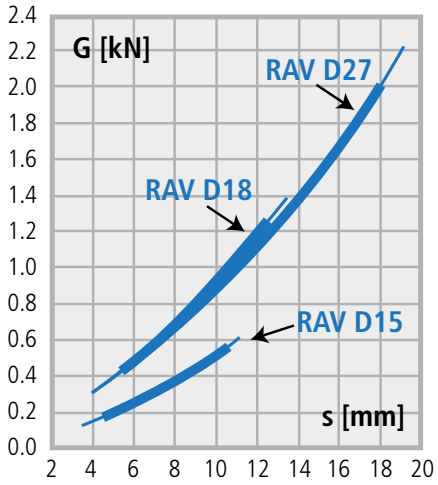
UPC #	Type	Natural Frequency G Min to G Max (Hz)	O inch (mm)	P inch (mm)	X Max inch (mm)	Materials (Zinc Plated Hardware)
68514425214	RAV D15	8.2 - 5.8	—	—	0.06 (1.5)	Aluminum Inner Profiles Cast Iron Housings Steel Brackets Painted Safety Blue
68514425215	RAV D18	7.5 - 5.0	—	—	0.075 (1.9)	
68514425216	RAV D27	6.2 - 4.5	—	—	0.11 (2.7)	
68514425217	RAV D38	5.5 - 4.0	—	—	0.14 (3.6)	
68514425218	RAV D45	5.0 - 3.5	—	—	1.73 (4.4)	
68514425219	RAV D50	5.0 - 3.5	0.53 (13.5)	3.54 (90)	0.39 (10)	Aluminum Inner Profiles Cast Iron Housings Steel Brackets Painted Safety Blue
68514483847	RAV D50-1.6	5.0 - 3.5	0.53 (13.5)	3.54 (90)	0.39 (10)	
68514483848	RAV D50-2.0	5.0 - 3.5	0.53 (13.5)	3.54 (90)	0.39 (10)	

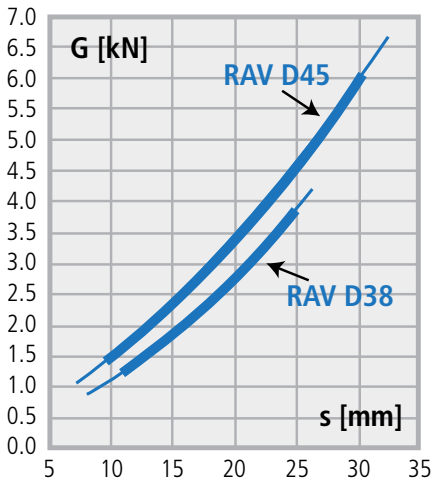
Note: ■ The RAV D Mounts shown shaded in gray boxes may be "Mixed & Matched" as required to achieve proper loading.

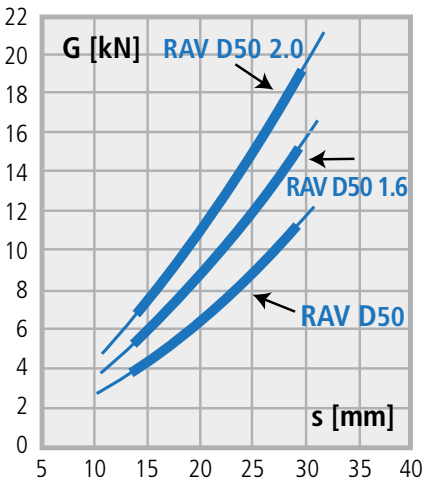
Cold Flow and Deflection Curves

The deflection values shown below indicate the initial cold flow that occurs within a few hours of operation. The deflection values shown in the charts below are not recommended for unit testing. Please see pages RR-4 through RR-7 in this catalog for additional information.







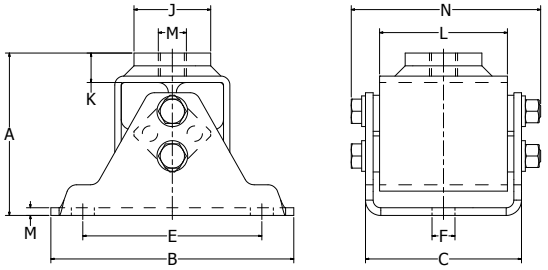


RR

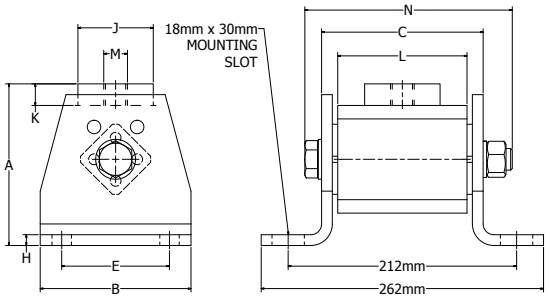
RunRight™ Anti-Vibration Mounts Type RAV

RunRight™ RAV Anti-Vibration mounts are designed for multi-directional applications requiring the absorption of tensile, pressure and shear loads. Typically mounted horizontally on the floor, they can also be used for wall and ceiling applications. They are manufactured with aluminum housings and inner squares and have steel brackets. They are manufactured with standard Tensys™ 10 rubber inserts and can be used for applications operating within a -40˚ to 180˚F (-40˚ to 80˚C) temperature range.





RAV 15 to 45



RAV 50

Anti-Vibration Mounts RAV

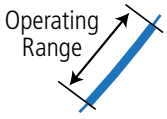
UPC #	Type	G Load Range lbs (N)	Dimensions - Inches (mm)										
			A	B	C	E	F	H	J	K	L	M	N
68514453373	RAV 15	67 to 180 (300 to 800)	1.93 (49)	3.15 (80)	2.01 (51)	2.17 (55)	0.37 (9.5)	0.11 (3)	0.79 (20)	0.39 (10)	1.57 (40)	M10	2.32 (59)
68514457653	RAV 18	135 to 360 (600 to 1,600)	2.6 (66)	3.94 (100)	2.44 (62)	2.95 (75)	0.37 (9.5)	0.14 (3.5)	1.18 (30)	0.51 (13)	1.96 (50)	M10	2.91 (74)
68514457654	RAV 27	292 to 670 (1,300 to 3,000)	3.31 (84)	5.12 (130)	2.87 (73)	3.94 (100)	0.45 (11.5)	0.15 (4)	1.57 (40)	0.57 (14.5)	2.36 (60)	M12	3.35 (85)
68514457655	RAV 38	585 to 1,125 (2,600 to 5,000)	4.13 (105)	6.10 (155)	3.94 (100)	4.72 (120)	0.55 (14)	0.19 (5)	1.77 (45)	0.69 (17.5)	3.14 (80)	M16	4.61 (117)
68514457656	RAV 45	1,000 to 1,800 (4,500 to 8,000)	5.00 (127)	7.48 (190)	4.80 (122)	5.51 (140)	0.70 (18)	0.23 (6)	2.36 (60)	0.87 (22.5)	3.94 (100)	M20	5.63 (143)
68514463661	RAV 50	1,350 to 2,700 (6,000 to 12,000)	5.91 (150)	5.51 (140)	5.91 (150)	3.94 (100)	— —	0.39 (10)	2.76 (70)	0.98 (25)	4.72 (120)	M20	7.60 (193)

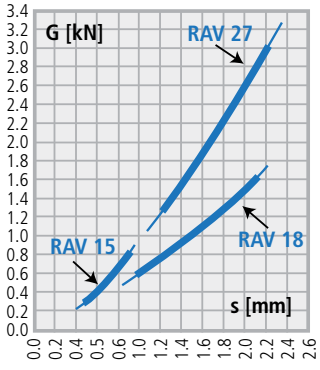
UPC #	Type	Natural Frequency G Min to G Max (Hz)	Materials (Zinc Plated Hardware)
68514453373	RAV 15	23 - 30	Aluminum Inner Square Steel Brackets Painted Safety Blue
68514457653	RAV 18	15 - 25	
68514457654	RAV 27	20 - 28	
68514457655	RAV 38	12 - 14	
68514457656	RAV 45	12 - 15	
68514463661	RAV 50	10 - 12	

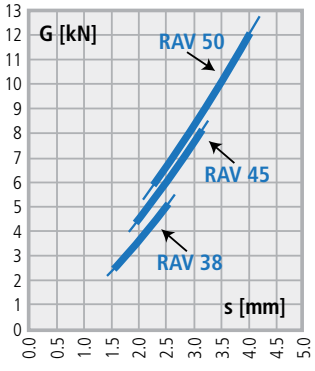
Notes: ■ The maximum load applied to the y-axis, cannot exceed 20% of the x-axis and z-axis capacity.
■ Momentary shock loads of 2.5 g may be applied to the x-axis and z-axis.

Cold Flow and Deflection Curves

The deflection values shown at right indicate the initial cold flow that occurs within a few hours of operation. The deflection values shown in the charts are not recommended for unit testing. Please see pages RR-4 through RR-7 in this catalog for additional information.







RR

where the world turns for

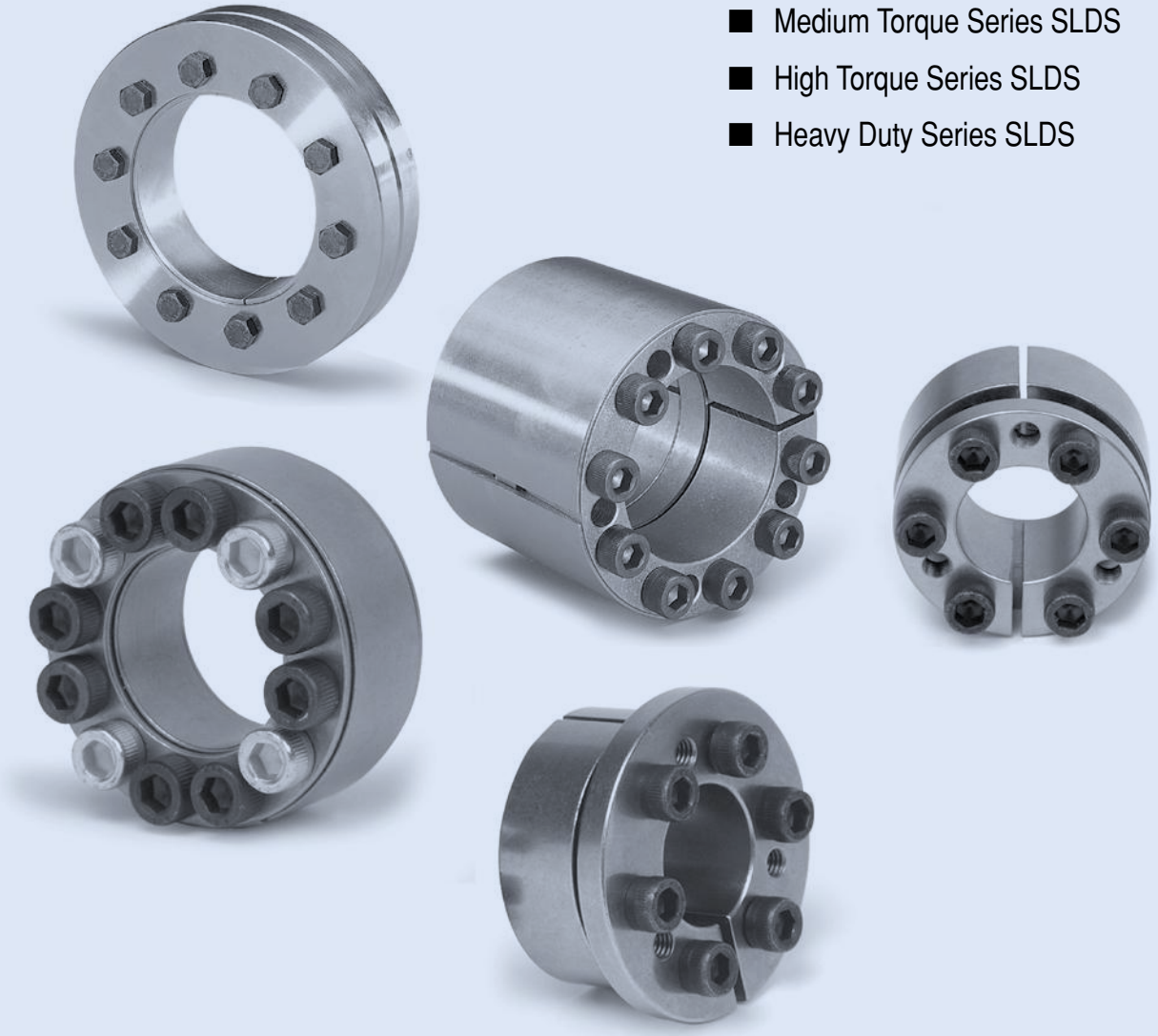
Lovejoy®

Coupling Solutions

Shaft Locking Devices

In This Section:

- Self-Centering Series SLDS
- Low Torque Series SLDS
- Medium Torque Series SLDS
- High Torque Series SLDS
- Heavy Duty Series SLDS



SLD

Shaft Locking Devices

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Shaft Locking Devices

Table of Contents

	Running Page No.	Section Page No.
Overview	466	SLD-4
Applications / SLD 900 Series > Selection Data	468	SLD-6
Hub Sizing > Selection Process	469	SLD-7
Selection Process	470	SLD-8
SLD 900 Series > Dimensional Data	471	SLD-9
SLD 1500 Inch Series > Dimensional Data	472	SLD-10
SLD 1500 Metric Series > Dimensional Data	473	SLD-11
SLD 1850 Inch Series > Dimensional Data	474	SLD-12
SLD 1850 Metric Series > Dimensional Data	475	SLD-13
SLD 1750 Inch Series > Dimensional Data	476	SLD-14
SLD 1750 Metric Series > Dimensional Data	477	SLD-15
SLD 1350 Inch Series > Dimensional Data	478	SLD-16
SLD 1350 Metric Series > Dimensional Data	479	SLD-17
SLD 1450 Inch Series > Dimensional Data	480	SLD-18
SLD 1450 Metric Series > Dimensional Data	481	SLD-19
SLD 2600 Inch Series > Dimensional Data	482	SLD-20
SLD 2600 Metric Series > Dimensional Data	483	SLD-21
SLD 1900 Inch Series > Dimensional Data	484	SLD-22
SLD 1900 Metric Series > Dimensional Data	485	SLD-23
SLD 350 Series > Dimensional Data	486	SLD-24

Overview

Lovejoy Shaft Locking Devices connect hubs solidly to shafts, using a keyless mechanical interference fit, to transmit torque or to withstand axial thrust. This mechanical interference fit utilizes screw tension in the Shaft Locking Device, converted into radial pressure via an inclined plane. This pressure expands the Shaft Locking Device to eliminate the gap between the hub and the shaft. The Shaft Locking Device uses the friction bond between the Shaft Locking Device and the shaft/hub to create a zero backlash connection. This connection is easily releasable to remove the mechanical interference fit.



Lovejoy Shaft Locking Devices expand to fill the gap between the shaft and hub, allowing for easy installation and removal, saving time over traditional interference fit techniques. The contact pressures created using a Shaft Locking Device can be greater than traditional interference fit pressures, allowing for more torque to be transmitted or shorter hubs to be used. The easy installation also allows the hub to be positioned more accurately on the shaft, and can facilitate angular timing of the hub.

Features

Versus Traditional Keyed Connections

- No Backlash due to fit tolerances
- No impact effect from reversing loads
- Ability to adjust axial position and angular timing
- No fretting corrosion due to movement at the fit interface



Versus Traditional Interference Fits

- Easier and quicker to install
- Higher contact pressures can transmit greater torques
- Easy and quick to remove without damaging the shaft or hub - even after years of service

Design Benefits

- Eliminate cost of machining keyways or splines
- Reduce the shaft stress by removing keyways or splines
- Eliminating keyways often allows the use of a smaller diameter shaft
- Can place anywhere on shaft, and allows for easy angular timing
- Easy removal without damaging the shaft or hub means easier maintenance for your customer



Lovejoy SLD offers several types of Shaft Locking Devices, designed to be used in just about any application where a shaft connects to a hub.

SLD

WARNING

You must refer to page SLD-2 (Page 464) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

External Shaft Locking Device



SLD 900

- Self-centering
- Exceptional concentricity
- Suitable for hollow shafts
- Axial hub position fixed during clamping
- Recommended for hollow shafts



Metric 14mm to 240mm
Larger sizes on request
22 - 118,010 ft-lb

Internal Shaft Locking Device



SLD 1500

- Medium high torque
- Self releasing
- Not self-centering
- Axial hub position fixed during clamping



Metric shafts 17mm to 400mm
Inch shafts 3/4 to 7-15/16 inch
Larger sizes on request
170 - 565,563 ft-lb



SLD 1850

- High torque
- Exceptional concentricity
- Self-centering
- Axial hub position can move during clamping

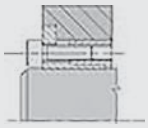


Metric shafts 18mm to 200mm
Inch shafts 3/4 to 4 inch
Larger sizes on request
273 - 44,625 ft-lb



SLD 1750

- High torque
- Exceptional concentricity
- Self-centering
- Axial hub position fixed during clamping



Metric shafts 18mm to 200mm
Inch shafts 3/4 to 4 inch
Larger sizes on request
214 - 35,948 ft-lb



SLD 1350

- High torque
- Exceptional concentricity
- Self-centering
- Axial hub position can move during clamping

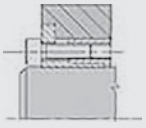


Metric shafts 18mm to 200mm
Inch shafts 3/4 to 4 inch
Larger sizes on request
259 - 40,274 ft-lb



SLD 1450

- High torque
- Exceptional concentricity
- Self-centering
- Axial hub position fixed during clamping

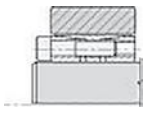


Metric shafts 18mm to 200mm
Inch shafts 3/4 to 4 inch
Larger sizes on request
203 - 34,151 ft-lb



SLD 2600

- Heavy duty
- Very high torque
- Self-centering
- Exceptional concentricity

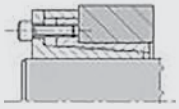


Metric shafts 25mm to 240mm
Inch shafts 1 to 6-1/2 inch
Larger sizes on request
532 - 155,461 ft-lb



SLD 1900

- Medium torque
- Allows smaller diameter hubs
- Exceptional concentricity
- Self-centering
- Axial hub position fixed during clamping



Metric shafts 6mm to 130mm
Inch shafts 3/4 to 2-15/16 inch
Larger sizes on request
10 - 18,618 ft-lb



SLD 350

- Low torque
- Small radial dimensions
- Can be combined for greater torque capacity



Metric shafts 6mm to 150mm
Also available with cut ring
Larger sizes on request
1.73 - 9,104 ft-lb

SLD

Applications

Bevel gears
Braiding machines
Brake drums
Cardboard making machines
Carpet making machines
Chocolate making machines
Clutches
Compressors
Conveyor pulleys
Conveyors
Couplings
Crushers
Fans
Flanges
Flywheels
Footwear machines
Gearboxes, reducers, and gear motors
Graphic machines
Helical gears
Industrial sewing machines
Lamination machines
Levers & cams
Meat & fish processing machines
Mechanical presses
Milk processing machines
Milling & drilling machines
Mixer shafts
Moving sidewalks
Packaging machines
Pasta machines
Printing machines
Pulp industry: drive rolls & cylinders
Pump impellers & turbine rotors
Rolls
Section bar machines
Shaker screens
Sheaves
Ski lifts
Speed reducers
Sprockets
Thermal pumps
Tobacco machines
Vegetable-oil refining machines
Weaving machines
Winches
Wind generators
Worm gears

Steps In Selecting A 900 Series SLD



Step 1: Determine the shaft diameter to be used, or the maximum torque to be transmitted.

Step 2: a. If shaft diameter is the primary consideration, verify that the maximum torque to be transmitted is less than the maximum number listed.
b. If Torque is the primary consideration, use the table to determine the shaft size.

Torque range:

The maximum torque transmission for shaft diameter between those listed can be approximated using the following formula:

$$Ta = \left[\frac{Sa - Smin}{Smax - Smin}\right] X \left[Tmax - Tmin\right] + Tmin$$

Where:

Sa	= actual shaft size (in)	Ta	= actual torque
Smin	= minimum shaft size listed (in)	Tmin	= minimum torque listed
Smax	= maximum shaft size listed (in)	Tmax	= maximum torque listed

SLD

Minimum Outer Diameter of Hub

The hub must be of a size to withstand the pressure exerted by the Shaft Locking Device without yielding. Use the following equations to determine the minimum hub diameter (Dmin) required.

$$Dmin = D \times K, \quad \text{where} \quad K = \sqrt{\frac{Yp + (f \times pH)}{Yp - (f \times pH)}}$$

Where:

D	=	Hub bore (inches)
Yp	=	Yield point of hub material (psi)
f	=	Form factor (see figure 1.)
pH	=	Contact pressure on the hub (psi)

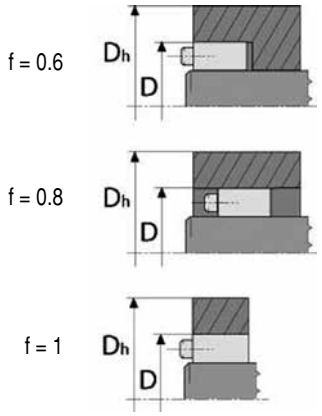


Figure 1

Alternatively, use the table below to determine the Coefficient K.

To use the table, find the column corresponding to the Yield Point of the hub material (in psi), and the Form factor "f" from above (based on the hub's length through bore). Use the row with the pH from the specification table for the Shaft Locking Device model you have selected rounded up to the nearest 1,000 psi. Multiply this K factor by the Hub Bore "D" (in inches) to calculate the minimum required hub OD.

Hub Material Yield Point

Pressure on the hub (PSI)	32,000			45,000			90,000		
f =	1.00	0.80	0.60	1.00	0.80	0.60	1.00	0.80	0.60
7,000	1.25	1.19	1.14	1.17	1.13	1.10	1.08	1.06	1.05
8,000	1.29	1.22	1.16	1.20	1.15	1.11	1.09	1.07	1.05
9,000	1.34	1.26	1.19	1.22	1.18	1.13	1.11	1.08	1.06
10,000	1.38	1.29	1.21	1.25	1.20	1.14	1.12	1.09	1.07
11,000	1.43	1.33	1.23	1.28	1.22	1.16	1.13	1.10	1.08
12,000	1.48	1.36	1.26	1.31	1.24	1.18	1.14	1.11	1.08
13,000	1.54	1.40	1.28	1.35	1.27	1.19	1.16	1.12	1.09
14,000	1.60	1.44	1.31	1.38	1.29	1.21	1.17	1.13	1.10
15,000	1.66	1.48	1.34	1.41	1.31	1.22	1.18	1.14	1.11
16,000	1.73	1.53	1.36	1.45	1.34	1.24	1.20	1.15	1.11
17,000	1.81	1.57	1.39	1.49	1.37	1.26	1.21	1.16	1.12
18,000	1.89	1.62	1.42	1.53	1.39	1.28	1.22	1.18	1.13
19,000	1.98	1.68	1.45	1.57	1.42	1.30	1.24	1.19	1.14
20,000	2.08	1.73	1.48	1.61	1.45	1.31	1.25	1.20	1.14
21,000	2.20	1.79	1.52	1.66	1.48	1.33	1.27	1.21	1.15
22,000	2.32	1.86	1.55	1.71	1.51	1.35	1.28	1.22	1.16
23,000	2.47	1.93	1.59	1.76	1.54	1.37	1.30	1.23	1.17
24,000	2.65	2.00	1.62	1.81	1.58	1.39	1.31	1.24	1.18
25,000	2.85	2.08	1.66	1.87	1.61	1.41	1.33	1.25	1.18
26,000	3.11	2.17	1.70	1.93	1.65	1.44	1.35	1.27	1.19
27,000	3.44	2.27	1.75	2.00	1.69	1.46	1.36	1.28	1.20
28,000	3.87	2.38	1.79	2.07	1.73	1.48	1.38	1.29	1.12

Combined Torque and Axial Loads

If an axial load is present, then the resulting torque that can be transmitted needs to be adjusted as follows:

$$Mt\ Result = \sqrt{Mt^2 + \left[\frac{F \times d}{24}\right]^2}$$

Where:

d	=	shaft diameter (inches)
Mt	=	maximum torque for device (ft-lbs)
F	=	force (lbf)

Coefficients of Friction and Surface Finish

Lovejoy SLD uses $\mu = 0.12$ which corresponds to a slightly oiled surface

$\sqrt[63]{}$ = 63 µIN RMS for surface finish

Duty Factor

The values Mt and F must be adjusted with a duty factor depending on the setup:

Motor Type	Load		
	Constant	Light overloads	Heavy overloads
Electric	1.0	1.5	2.0
Combustion	1.5	2.0	2.5

Multiple Shaft Locking Devices Used in Series

If more than one Shaft Locking Device is used, the transmissible torque must be reduced by the following factors:

Shaft Locking Device	Number of devices in series		
	2	3	4
SLD 1500	0.80	0.75	0.70
SLD 1850	0.80	0.75	0.70
SLD 1350	0.80	0.75	0.70
SLD 2600	0.85	Not recommended	

Competitive Cross Reference











Lovejoy® Ringfeder® B-LOC	**SLD 1500** Rfn 7012 B400	**SLD 900** Rfn 4071 SD 10	**SLD 1850** Rfn 7013.0	**SLD 1750** Rfn 7013.1	**SLD 1350** Rfc 303 B103	**SLD 1450** Rfc 306 B106	**SLD 1900** RfN 7110 B800	**SLD 2600** TAS 3012 B112	**SLD 350** RfN 8006 B500

SLD

Lovejoy has a full range of Shaft Locking Devices which are comparable to others that are currently being marketed in North America. The items are stocked in the Downers Grove facility. Extra large sizes, and special orders can be made with 8 week leadtimes.

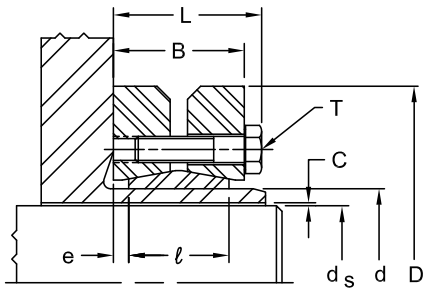
Shaft Locking Devices

SLD 900 Series

Dimensional Data

L	= total width of thrust rings (relaxed state)
B	= width of thrust rings (relaxed state)
T	= locking screw specifications
M_A	= screw tightening torque
e	= width of gap (relaxed state)
ℓ	= length of contact
D	= outer diameter of disc
d	= hub OD diameter
d_S	= shaft diameter
C	= maximum diametrical clearance (difference between hub diameter and shaft diameter)
Mt	= maximum transmissible torque
T_3	= tolerance of hub OD





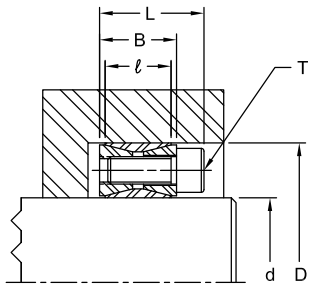
SLD 900 Series Dimensional Data

Size	d in	T_3 in	d_S in	D in	L in	B in	ℓ in	e in	C in	Max Mt ft-lb	T Locking Screws Qty	Size	M_A ft-lb	Weight lb
14	0.551	+0 - 0.0013	0.433 0.472	1.496	0.591	0.433	0.354	0.039	0.001	22 37	4	M5	3	0.33
16	0.630		0.472 0.551	1.614	0.728	0.591	0.433	0.079	0.001	37 66	5	M5	3	0.44
20	0.787		0.551 0.728	1.969	0.906	0.748	0.551	0.098	0.001	79 156	6	M5	3	0.44
24	0.945		0.728 0.866	1.969	0.906	0.748	0.551	0.098	0.001	120 210	6	M5	3	0.44
30	1.181		0.866 1.063	2.362	0.984	0.827	0.630	0.098	0.001	177 306	6	M5	3	0.66
36	1.417	+0 - 0.0015	1.063 1.220	2.835	1.063	0.906	0.709	0.098	0.001	297 465	5	M6	9	0.99
44	1.732		1.250 1.496	3.150	1.142	0.984	0.787	0.098	0.001	454 719	7	M6	9	1.32
50	1.969		1.496 1.654	3.543	1.220	1.063	0.866	0.098	0.001	693 959	8	M6	9	1.76
55	2.165	+0 - 0.0018	1.654 1.890	3.937	1.339	1.181	0.906	0.138	0.001	885 1,401	8	M6	6	2.43
62	2.441		1.890 2.047	4.331	1.339	1.181	0.906	0.138	0.001	1,328 1,770	10	M6	9	2.87
68	2.677		1.969 2.362	4.528	1.339	1.181	0.906	0.138	0.001	1,475 2,286	10	M6	9	3.09
75	2.953		2.165 2.559	5.433	1.496	1.299	0.984	0.157	0.002	1,844 2,876	7	M8	22	3.75
80	3.150		2.362 2.756	5.709	1.496	1.260	0.984	0.138	0.002	2,360 3,393	7	M8	22	4.85
90	3.543	+0 - 0.0021	2.559 2.953	6.102	1.772	1.535	1.181	0.177	0.002	3,467 5,310	10	M8	22	7.28
100	3.937		2.756 3.150	6.693	1.949	1.732	1.339	0.197	0.002	5,089 6,638	12	M8	22	10.14
110	4.331		2.953 3.350	7.283	2.244	1.969	1.535	0.217	0.002	5,310 8,113	9	M10	44	13.01
115	4.528		3.150 3.543	7.402	2.244	1.969	1.535	0.217	0.002	6,269 8,851	9	M10	44	13.89
125	4.921		3.346 3.740	8.465	2.402	2.123	1.654	0.236	0.002	8,113 11,063	12	M10	44	18.96
130	5.118	+0 - 0.0025	3.543 3.937	8.465	2.323	2.047	1.654	0.197	0.002	10,105 13,424	12	M10	44	18.08
140	5.512		3.740 4.134	9.055	2.677	2.362	1.811	0.276	0.002	11,063 14,751	10	M12	74	22.05
155	6.102		4.134 4.528	10.433	2.756	2.441	1.969	0.236	0.003	14,751 19,177	12	M12	74	33.07
165	6.496		4.528 4.921	11.417	3.071	2.677	2.205	0.236	0.003	26,552 32,453	8	M16	184	48.50
175	6.890		4.921 5.315	11.811	3.071	2.677	2.205	0.236	0.003	32,453 36,141	8	M16	184	50.71
185	7.283	+0 - 0.0028	5.315 5.709	12.992	3.780	3.386	2.795	0.295	0.003	44,254 47,942	10	M16	184	79.37
195	7.677		5.512 6.102	13.780	3.780	3.386	2.795	0.295	0.003	48,679 60,480	12	M16	184	88.18
200	7.874		5.906 6.299	13.780	3.780	3.386	2.795	0.295	0.003	56,055 65,643	12	M16	184	105.82
220	8.661		6.299 6.693	14.567	4.488	4.094	3.465	0.315	0.003	70,068 81,132	15	M16	184	119.05
240	9.449		6.693 7.480	15.945	4.803	4.291	3.622	0.335	0.003	88,507 118,010	12	M20	361	147.71

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



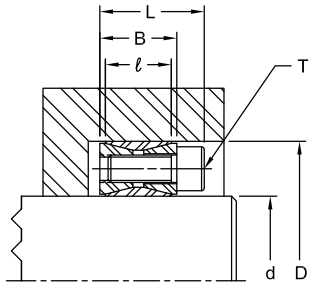


SLD 1500 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750	+0 -0.0013	1.850	-0 +0.002	0.787	0.669	1.023	6,208	194	13,293	32,789	8	M6	11
7/8	0.088		1.850		0.787	0.669	1.023	6,199	226	13,293	28,105	8	M6	11
1	1.000		1.969		0.787	0.669	1.023	6,192	258	12,490	24,592	8	M6	11
1-1/8	1.125	+0 -0.0025	2.165	-0 +0.0025	0.787	0.669	1.023	9,301	436	17,038	32,789	12	M6	11
1-3/16	1.188		2.159		0.813	0.669	1.049	9,297	460	17,086	31,064	12	M6	11
1-1/4	1.250		2.362		0.787	0.669	1.023	9,312	485	15,617	29,511	12	M6	11
1-3/8	1.375		2.365		0.787	0.669	1.023	9,303	533	15,598	26,828	12	M6	11
1-7/16	1.438		2.559		0.787	0.669	1.023	11,637	697	18,019	32,077	15	M6	11
1-1/2	1.500		2.559		0.787	0.669	1.023	11,632	727	18,019	30,740	15	M6	11
1-5/8	1.625		2.953		0.945	0.787	1.260	17,516	1,186	19,993	36,331	12	M8	27
1-11/16	1.688		2.953		0.945	0.787	1.260	17,522	1,232	19,993	34,986	12	M8	27
1-3/4	1.750		2.953		0.945	0.787	1.260	17,513	1,277	19,993	33,736	12	M8	27
1-7/8	1.875		3.150		0.945	0.787	1.260	17,510	1,368	18,742	31,487	12	M8	27
1-15/16	1.938		3.150		0.945	0.787	1.260	16,487	1,331	17,640	28,679	12	M8	27
2	2.000		3.346		0.945	0.787	1.260	20,604	1,717	20,758	34,728	15	M8	27
2-1/8	2.125	+0 -0.0030	3.346	-0 +0.0033	0.945	0.787	1.260	20,612	1,825	20,758	32,686	15	M8	27
2-3/16	2.188		3.543		0.945	0.787	1.260	20,604	1,878	19,604	31,752	15	M8	27
2-1/4	2.250		3.543		0.945	0.787	1.260	20,608	1,932	19,604	30,870	15	M8	27
2-3/8	2.375		3.531		0.945	0.787	1.260	20,605	2,039	19,671	29,245	15	M8	27
2-7/16	2.438		3.740		0.945	0.787	1.260	20,608	2,093	18,571	28,495	15	M8	27
2-1/2	2.500		3.740		0.945	0.787	1.260	20,611	2,147	18,571	27,783	15	M8	27
2-9/16	2.563		3.737		0.945	0.787	1.260	20,605	2,200	18,586	27,105	15	M8	27
2-5/8	2.625		4.331		1.102	0.945	1.496	31,122	3,404	20,169	33,276	15	M10	52
2-11/16	2.688		4.331		1.102	0.945	1.496	31,122	3,485	20,169	32,503	15	M10	52
2-3/4	2.750		4.337		1.102	0.945	1.496	31,121	3,566	20,141	31,764	15	M10	52
2-7/8	2.875		4.528		1.102	0.945	1.496	31,121	3,728	19,291	30,383	15	M10	52
2-15/16	2.938		4.528		1.102	0.945	1.496	31,120	3,809	19,291	29,736	15	M10	52
3	3.000		4.724		1.102	0.945	1.496	31,120	3,890	18,491	29,117	15	M10	52
3-1/8	3.125	+0 -0.0035	4.724	-0 +0.0035	1.102	0.945	1.496	31,119	4,052	18,491	27,952	15	M10	52
3-1/4	3.250		4.921		1.102	0.945	1.496	31,119	4,214	17,751	26,877	15	M10	52
3-3/8	3.375		4.921		1.102	0.945	1.496	31,118	4,376	17,751	25,882	15	M10	52
3-7/16	3.438		5.118		1.102	0.945	1.496	31,118	4,457	17,067	25,411	15	M10	52
3-1/2	3.500		5.118		1.102	0.945	1.496	31,118	4,538	17,067	24,957	15	M10	52
3-3/4	3.750		5.305		1.102	0.945	1.496	37,344	5,835	19,759	27,952	18	M10	52
3-7/8	3.875		5.709		1.260	1.024	1.732	45,560	7,356	20,676	30,456	15	M12	91
3-15/16	3.938		5.709		1.260	1.024	1.732	46,068	7,558	20,906	30,306	15	M12	91
4	4.000		5.843		1.260	1.024	1.732	46,062	7,677	20,423	29,833	15	M12	91
4-3/16	4.188		6.102		1.260	1.024	1.732	46,063	8,037	19,556	28,497	15	M12	91
4-7/16	4.438		6.496		1.260	1.024	1.732	49,136	9,085	19,594	28,684	16	M12	91
4-1/2	4.500		6.496		1.260	1.024	1.771	49,136	9,213	19,594	28,286	16	M12	91
4-15/16	4.938	+0 -0.0040	7.087	-0 +0.0040	1.496	1.339	1.968	61,421	12,636	17,169	24,643	20	M12	91
5	5.000		7.087		1.496	1.339	1.968	61,421	12,796	17,169	24,335	20	M12	91
5-7/16	5.438		7.480		1.496	1.339	1.968	67,562	15,307	17,894	24,615	22	M12	91
5-1/2	5.500		7.492		1.496	1.339	1.968	67,562	15,483	17,865	24,335	22	M12	91
6	6.000		8.628		1.496	1.339	1.968	79,844	19,961	19,132	26,363	26	M12	91
6-7/16	6.438		8.858		1.732	1.496	2.283	86,683	23,251	17,352	23,877	22	M14	138
6-1/2	6.500		8.858		1.732	1.496	2.283	86,684	23,477	17,352	23,647	22	M14	138
6-15/16	6.938		9.252		1.732	1.496	2.283	94,564	27,335	18,123	24,170	24	M14	138
7	7.000		9.252		1.732	1.496	2.283	94,563	27,581	18,123	23,954	24	M14	138
7-1/2	7.500	+0 -0.0045	9.823	-0 +0.0045	2.051	1.811	2.602	110,326	34,477	16,451	21,546	28	M14	138
7-7/8	7.875		10.235		2.051	1.811	2.602	118,205	38,786	16,917	21,986	30	M14	138
8	8.000		10.504		2.051	1.811	2.602	118,206	39,402	16,483	21,643	30	M14	138

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





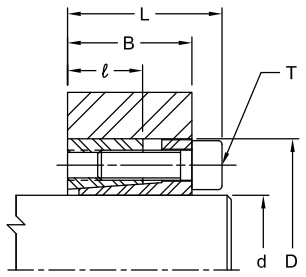
SLD 1500 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
17x47	0.669		1.850		0.787	0.669	1.024	6,083	170	13,343	36,985	8	M6	11.80
18x47	0.709		1.850		0.787	0.669	1.024	6,245	184	13,343	34,954	8	M6	11.80
19x47	0.748		1.850		0.787	0.669	1.024	6,153	192	13,343	33,069	8	M6	11.80
20x47	0.787	+0 -0.0013	1.850	-0 +0.002	0.787	0.669	1.024	6,295	207	13,343	31,473	8	M6	11.80
22x47	0.866		1.850		0.787	0.669	1.024	6,336	229	13,343	28,572	8	M6	11.80
24x50	0.945		1.969		0.787	0.669	1.024	6,182	243	12,618	26,252	8	M6	11.80
25x50	0.984		1.969		0.787	0.669	1.024	6,295	258	12,618	25,237	8	M6	11.80
28x55	1.102		2.165		0.787	0.669	1.024	9,314	428	17,114	33,794	12	M6	11.80
30x55	1.181		2.165		0.787	0.669	1.024	9,442	465	17,114	31,473	12	M6	11.80
32x60	1.260		2.362		0.787	0.669	1.024	9,414	494	15,954	29,443	12	M6	11.80
35x60	1.378		2.362		0.787	0.669	1.024	9,378	538	15,954	26,977	12	M6	11.80
38x65	1.496	+0 -0.0025	2.559	-0 +0.0025	0.787	0.669	1.024	11,714	730	18,130	31,038	15	M6	11.80
40x65	1.575		2.559		0.787	0.669	1.024	11,690	767	18,130	29,443	15	M6	11.80
42x75	1.654		2.953		0.945	0.787	1.260	17,128	1,180	20,305	34,809	12	M8	28.00
45x75	1.772		2.953		0.945	0.787	1.260	16,986	1,254	20,305	32,489	12	M8	28.00
48x80	1.890		3.150		0.945	0.787	1.260	16,861	1,328	17,405	30,458	12	M8	28.00
50x80	1.969		3.150		0.945	0.787	1.260	17,085	1,401	18,855	29,298	12	M8	28.00
55x85	2.165		3.346		0.945	0.787	1.260	21,255	1,918	21,756	33,214	15	M8	28.00
60x90	2.362		3.543		0.945	0.787	1.260	21,357	2,102	20,305	30,458	15	M8	28.00
65x95	2.559	+0 -0.0030	3.740	-0 +0.0030	0.945	0.787	1.260	21,443	2,286	18,855	28,137	15	M8	28.00
70x110	2.756		4.331		1.102	0.945	1.496	34,364	3,946	23,206	34,954	15	M10	55.00
75x115	2.953		4.528		1.102	0.945	1.496	34,351	4,226	21,756	32,634	15	M10	55.00
80x120	3.150		4.724		1.102	0.945	1.496	34,283	4,499	20,305	30,603	15	M10	55.00
85x125	3.346		4.921		1.102	0.945	1.496	34,383	4,794	20,305	28,863	15	M10	55.00
90x130	3.543	+0 -0.0035	5.118	-0 +0.0035	1.102	0.945	1.496	34,471	5,089	18,855	27,267	18	M10	55.00
95x135	3.740		5.315		1.102	0.945	1.496	41,176	6,417	21,756	30,893	18	M10	55.00
100x145	3.937		5.709		1.260	1.024	1.732	50,357	8,261	23,206	33,214	15	M12	96.00
110x155	4.331		6.102		1.260	1.024	1.732	50,275	9,072	21,756	30,168	15	M12	96.00
120x165	4.724		6.496		1.260	1.024	1.732	53,579	10,547	21,756	29,443	16	M12	96.00
130x180	5.118		7.087		1.496	1.339	1.969	67,097	14,309	18,855	25,962	20	M12	96.00
140x190	5.512		7.480		1.496	1.339	1.969	73,866	16,964	20,305	26,542	22	M12	96.00
150x200	5.906	+0 -0.0040	7.874	-0 +0.0040	1.496	1.339	1.969	80,631	19,840	20,305	26,977	24	M12	96.00
160x210	6.299		8.268		1.496	1.339	1.969	87,113	22,864	21,756	27,412	26	M12	96.00
170x225	6.693		8.858		1.732	1.496	2.283	96,007	26,774	20,305	25,527	22	M14	148.00
180x235	7.087		9.252		1.732	1.496	2.283	104,911	30,978	20,305	26,252	24	M14	148.00
190x250	7.480		9.843		2.047	1.811	2.598	122,580	38,206	18,855	23,931	28	M14	148.00
220x260	7.874	+0 -0.0045	10.236	-0 +0.0045	2.047	1.811	2.598	131,064	43,000	18,855	24,366	30	M14	148.00
220x285	8.661		11.220		2.205	1.969	2.835	151,439	54,653	18,855	23,641	26	M16	221.00
240x305	9.449		12.008		2.205	1.969	2.835	174,602	68,741	20,305	24,947	30	M16	221.00
260x325	10.236		12.795		2.205	1.969	2.835	198,005	84,451	21,756	26,107	34	M16	221.00
280x355	11.024	+0 -0.0051	13.976	-0 +0.0051	2.598	2.362	3.307	226,415	103,996	18,855	23,061	32	M18	302.00
300x375	11.811		14.764		2.598	2.362	3.307	254,783	125,386	20,305	24,221	36	M18	302.00
320x405	12.598		15.945		3.071	2.835	3.858	330,891	173,696	20,305	24,511	36	M20	435.00
340x425	13.386		16.732		3.071	2.835	3.858	330,601	184,391	18,855	23,206	36	M20	435.00
360x455	14.173	+0 -0.0055	17.913	-0 +0.0055	3.543	3.307	4.409	410,901	242,658	18,855	23,206	36	M22	583.00
380x475	14.961		18.701		3.543	3.307	4.409	409,862	255,492	17,405	22,046	36	M22	583.00
400x495	15.748		19.488		3.543	3.307	4.409	410,276	269,210	17,405	20,885	36	M22	583.00
420x515	16.535		20.276		3.543	3.307	4.409	455,399	313,759	17,405	22,046	40	M22	583.00
440x545	17.323		21.457		4.016	3.780	4.961	626,808	452,421	20,305	25,382	40	M24	885.00
460x565	18.110	+0 -0.0061	22.244	-0 +0.0061	4.016	3.780	4.961	626,826	472,999	18,855	24,366	40	M24	885.00
480x585	18.898		23.031		4.016	3.780	4.961	658,222	518,285	20,305	24,511	42	M24	885.00
500x605	19.685		23.819		4.016	3.780	4.961	689,534	565,563	20,305	24,656	44	M24	885.00

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



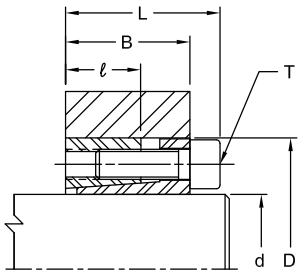


SLD 1850 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750		1.850	-0 +0.0015	1.102	0.669	1.339	9,181	287	19,725	36,840	6	M6	10
7/8	0.875	+0 -0.0013	1.850		1.102	0.669	1.339	9,104	332	19,725	31,763	6	M6	10
1	1.000		1.969		1.102	0.669	1.339	9,063	378	18,565	27,992	6	M6	10
1-1/8	1.125		2.165		1.102	0.669	1.339	9,346	438	16,824	24,076	6	M6	10
1-3/16	1.188		2.165		1.102	0.669	1.339	9,153	453	16,824	23,351	6	M6	10
1-1/4	1.250		2.362		1.102	0.669	1.339	12,377	645	20,595	29,153	8	M6	10
1-3/8	1.375		2.362	-0 +0.0018	1.102	0.669	1.339	12,307	705	20,595	26,687	8	M6	10
1-7/16	1.438		2.559		1.102	0.669	1.339	12,437	745	19,000	25,237	8	M6	10
1-1/2	1.500	+0 -0.0016	2.559		1.102	0.669	1.339	12,238	765	19,000	24,511	8	M6	10
1-5/8	1.625		2.953		1.299	0.787	1.614	23,377	1,583	26,832	36,405	8	M8	26
1-11/16	1.688		2.953		1.299	0.787	1.614	23,612	1,660	26,832	34,664	8	M8	26
1-3/4	1.750		2.953		1.299	0.787	1.614	23,295	1,699	26,832	33,939	8	M8	26
1-7/8	1.875		3.150		1.319	0.787	1.614	23,725	1,853	25,237	31,038	8	M8	26
1-15/16	1.938		3.150		1.319	0.787	1.614	23,434	1,892	25,237	30,458	8	M8	26
2	2.000		3.150		1.319	0.787	1.614	23,631	1,969	25,237	29,298	8	M8	26
2-1/8	2.125		3.346		1.319	0.787	1.614	23,549	2,085	23,641	27,557	8	M8	26
2-3/16	2.188		3.346		1.319	0.787	1.614	23,726	2,163	23,641	26,687	8	M8	26
2-1/4	2.250		3.543		1.319	0.787	1.614	23,476	2,201	22,336	26,107	8	M8	26
2-3/8	2.375		3.543		1.319	0.787	1.614	23,411	2,317	22,336	24,802	8	M8	26
2-7/16	2.438		3.740	-0 +0.0022	1.319	0.787	1.614	23,573	2,394	21,176	24,076	8	M8	26
2-1/2	2.500	+0 -0.0018	3.740		1.319	0.787	1.614	23,720	2,471	21,176	23,351	8	M8	26
2-9/16	2.563		3.740		1.319	0.787	1.614	23,508	2,510	21,176	22,916	8	M8	26
2-11/16	2.688		4.331		1.575	0.945	1.969	38,202	4,278	24,802	29,733	8	M10	52
2-3/4	2.750		4.331		1.575	0.945	1.969	38,435	4,404	24,802	29,008	8	M10	52
2-7/8	2.875		4.528		1.575	0.945	1.969	38,340	4,593	23,786	27,702	8	M10	52
2-15/16	2.938		4.528		1.575	0.945	1.969	38,549	4,718	23,786	26,977	8	M10	52
3	3.000		4.724		1.575	0.945	1.969	38,253	4,782	22,771	26,687	8	M10	52
3-1/4	3.250		4.921		1.575	0.945	1.969	48,203	6,527	27,412	30,458	10	M10	52
3-3/8	3.375		4.921		1.575	0.945	1.969	48,096	6,763	27,412	29,443	10	M10	52
3-7/16	3.438		5.118		1.575	0.945	1.969	47,767	6,842	26,252	29,153	10	M10	52
3-1/2	3.500	+0 -0.0022	5.118	-0 +0.0025	1.575	0.945	1.969	47,996	6,999	26,252	28,427	10	M10	52
3-3/4	3.750		5.315		1.575	0.945	1.969	47,813	7,471	25,382	26,687	10	M10	52
3-15/16	3.938		5.709		1.732	1.024	2.205	53,291	8,743	24,221	28,137	8	M12	85
4	4.000		5.709		1.732	1.024	2.205	53,507	8,918	24,221	27,557	8	M12	85

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



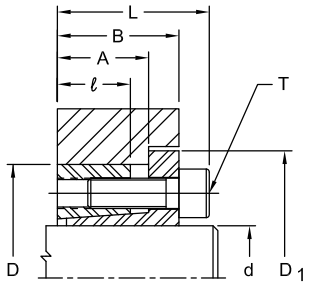


SLD 1850 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
18x47	0.709	+0 -0.0013	1.850	-0 +0.0015	1.102	0.669	1.339	9,242	273	19,725	38,870	6	M6	10
19x47	0.748		1.850		1.102	0.669	1.339	9,253	288	19,725	36,840	6	M6	10
20x47	0.787		1.850		1.102	0.669	1.339	9,217	302	19,725	34,954	6	M6	10
22x47	0.866		1.850		1.102	0.669	1.339	9,197	332	19,725	31,763	6	M6	10
24x50	0.945		1.969		1.102	0.669	1.339	9,198	362	18,565	29,153	6	M6	10
25x50	0.984		1.969		1.102	0.669	1.339	9,208	378	18,565	27,992	6	M6	10
28x55	1.102		2.165		1.102	0.669	1.339	9,201	423	16,824	24,947	6	M6	10
30x55	1.181		2.165	-0 +0.0018	1.102	0.669	1.339	9,202	453	16,824	23,351	6	M6	10
32x60	1.260	+0 -0.0015	2.362		1.102	0.669	1.339	12,280	645	20,595	29,153	8	M6	10
35x60	1.378		2.362		1.102	0.669	1.339	12,281	705	20,595	26,687	8	M6	10
38x65	1.496		2.559		1.102	0.669	1.339	12,270	765	19,000	24,511	8	M6	10
40x65	1.575		2.559		1.102	0.669	1.339	12,275	805	19,000	23,351	8	M6	10
42x75	1.654		2.953		1.299	0.787	1.614	23,541	1,622	26,832	32,343	8	M8	26
45x75	1.772		2.953		1.299	0.787	1.614	23,540	1,738	26,832	33,214	8	M8	26
48x80	1.890		3.150		1.319	0.787	1.614	23,539	1,853	25,237	31,038	8	M8	26
50x80	1.969		3.150		1.319	0.787	1.614	23,533	1,930	25,237	29,878	8	M8	26
55x85	2.165	+0 -0.0018	3.346	-0 +0.0021	1.319	0.787	1.614	23,535	2,123	23,641	27,122	8	M8	26
60x90	2.362		3.543		1.319	0.787	1.614	23,537	2,317	22,336	24,802	8	M8	26
65x95	2.559		3.740		1.319	0.787	1.614	23,539	2,510	21,176	22,916	8	M8	26
70x110	2.756		4.331		1.575	0.945	1.969	38,352	4,404	24,802	29,008	8	M10	52
75x115	2.953		4.528		1.575	0.945	1.969	38,349	4,718	23,786	26,977	8	M10	52
80x120	3.150		4.724		1.575	0.945	1.969	38,352	5,033	22,771	25,382	8	M10	52
85x125	3.346	+0 -0.0021	4.921	-0 +0.0025	1.575	0.945	1.969	47,940	6,685	27,412	29,733	10	M10	52
90x130	3.543		5.118		1.575	0.945	1.969	47,939	7,078	26,252	28,137	10	M10	52
95x135	3.740		5.315		1.575	0.945	1.969	47,939	7,471	25,382	26,687	10	M10	52
100x145	3.937		5.709		1.732	1.024	2.205	53,298	8,743	24,221	28,137	8	M12	85
110x155	4.331		6.102		1.732	1.024	2.205	53,296	9,617	22,626	23,061	8	M12	85
120x165	4.724		6.496		1.732	1.024	2.205	59,960	11,803	23,931	23,786	9	M12	85
130x180	5.118	+0 -0.0025	7.087		2.047	1.339	2.205	79,946	17,049	22,336	24,366	12	M12	85
140x190	5.512		7.480	-0 +0.0028	2.126	1.339	2.677	81,609	18,742	21,611	22,191	9	M14	136
150x200	5.906		7.874		2.126	1.339	2.677	90,676	22,312	22,771	23,061	10	M14	136
160x210	6.299		8.268		2.126	1.339	2.677	108,813	28,560	26,107	25,817	12	M14	136
170x225	6.693		8.858		2.520	1.732	3.071	108,813	30,345	18,855	20,305	12	M14	136
180x235	7.087		9.252		2.520	1.732	3.071	108,813	32,130	17,985	19,145	12	M14	136
190x250	7.480	+0 -0.0028	9.843		2.520	1.732	3.071	136,016	42,394	21,176	22,626	15	M14	136
200x260	7.874		10.236	-0 +0.0032	2.520	1.732	3.071	136,016	44,625	20,305	21,611	15	M14	136

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
A	= width to flange
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



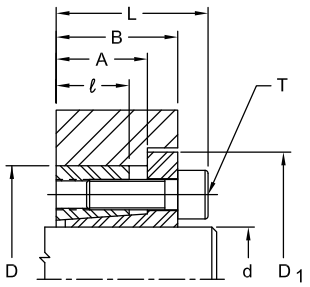


SLD 1750 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	A in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750		1.850	-0 +0.0015	2.204	0.866	1.102	0.669	1.339	7,623	238	15,515	26,024	6	M6	13
7/8	0.875	+0 -0.0013	1.850		2.204	0.866	1.102	0.669	1.339	7,623	278	15,515	22,306	6	M6	13
1	1.000		1.969		2.323	0.866	1.102	0.669	1.339	7,623	318	14,577	19,518	6	M6	13
1-1/8	1.125		2.165		2.519	0.866	1.102	0.669	1.339	7,623	357	13,258	17,349	6	M6	13
1-3/16	1.188		2.165		2.519	0.866	1.102	0.669	1.339	7,623	377	13,258	16,436	6	M6	13
1-1/4	1.250		2.362		2.716	0.866	1.102	0.669	1.339	10,164	529	16,202	20,819	8	M6	13
1-3/8	1.375		2.362		2.716	0.866	1.102	0.669	1.339	10,164	582	16,202	18,926	8	M6	13
1-7/16	1.438		2.559	-0 +0.0018	2.913	0.866	1.102	0.669	1.339	10,164	609	14,955	18,103	8	M6	13
1-1/2	1.500	+0 -0.0016	2.559		2.913	0.866	1.102	0.669	1.339	10,164	635	14,955	17,349	8	M6	13
1-5/8	1.625		2.953		3.307	0.984	1.299	0.787	1.614	18,806	1,273	20,381	24,691	8	M8	30
1-11/16	1.688		2.953		3.307	0.984	1.299	0.787	1.614	18,806	1,322	20,381	23,777	8	M8	30
1-3/4	1.750		2.953		3.307	0.984	1.299	0.787	1.614	18,806	1,371	20,381	22,928	8	M8	30
1-7/8	1.875		3.150		3.504	0.945	1.319	0.787	1.614	18,806	1,469	19,106	21,399	8	M8	30
1-15/16	1.938		3.150		3.504	0.945	1.319	0.787	1.614	18,806	1,518	19,106	20,709	8	M8	30
2	2.000		3.150		3.504	0.945	1.319	0.787	1.614	18,806	1,567	19,109	20,062	8	M8	30
2-1/8	2.125		3.346		3.700	0.945	1.319	0.787	1.614	18,806	1,665	17,987	18,882	8	M8	30
2-3/16	2.188		3.346		3.700	0.945	1.319	0.787	1.614	18,806	1,714	17,987	18,342	8	M8	30
2-1/4	2.250		3.543		3.897	0.945	1.319	0.787	1.614	18,806	1,763	16,987	17,833	8	M8	30
2-3/8	2.375		3.543		3.897	0.945	1.319	0.787	1.614	18,806	1,861	16,987	16,894	8	M8	30
2-7/16	2.438		3.740	-0 +0.0022	4.094	0.945	1.319	0.787	1.614	18,806	1,910	16,092	16,461	8	M8	30
2-1/2	2.500	+0 -0.0018	3.740		4.094	0.945	1.319	0.787	1.614	18,806	1,959	16,092	16,049	8	M8	30
2-9/16	2.563		3.740		4.094	0.945	1.319	0.787	1.614	18,806	2,008	16,092	15,658	8	M8	30
2-11/16	2.688		4.331		4.685	1.142	1.575	0.945	1.969	31,017	3,473	19,100	20,520	8	M10	61
2-3/4	2.750		4.331		4.685	1.142	1.575	0.945	1.969	31,017	3,554	19,100	20,053	8	M10	61
2-7/8	2.875		4.528		4.882	1.142	1.575	0.945	1.969	31,017	3,716	18,269	19,182	8	M10	61
2-15/16	2.938		4.528		4.882	1.142	1.575	0.945	1.969	31,017	3,796	18,269	18,773	8	M10	61
3	3.000		4.724		5.078	1.142	1.575	0.945	1.969	31,017	3,877	17,511	18,382	8	M10	61
3-1/4	3.250		4.921		5.275	1.142	1.575	0.945	1.969	31,017	4,200	16,810	16,968	8	M10	61
3-3/8	3.375		4.921		5.275	1.142	1.575	0.945	1.969	38,771	5,452	21,012	20,425	10	M10	61
3-7/16	3.438		5.118		5.470	1.142	1.575	0.945	1.969	38,771	5,553	20,203	20,053	10	M10	61
3-1/2	3.500	+0 -0.0022	5.118	-0 +0.0025	5.470	1.142	1.575	0.945	1.969	38,771	5,654	20,203	19,695	10	M10	61
3-3/4	3.750		5.315		5.669	1.142	1.575	0.945	1.969	38,771	6,058	19,455	18,382	10	M10	61
3-15/16	3.938		5.708		6.603	1.220	1.732	1.024	2.205	45,836	7,520	19,768	18,627	8	M12	107
4	4.000		5.709		6.603	1.220	1.732	1.024	2.205	45,836	7,639	19,766	18,336	8	M12	107

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
A	= width to flange
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





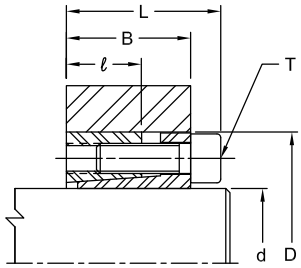
SLD 1750 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	A in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
18x47	0.709		1.850		2.205	0.866	1.102	0.669	1.339	7,242	214	16,328	28,991	6	M6	10
19x47	0.748		1.850		2.205	0.866	1.102	0.669	1.339	7,242	226	16,328	27,465	6	M6	10
20x47	0.787		1.850	-0 +0.0015	2.205	0.866	1.102	0.669	1.339	7,242	238	16,328	26,092	6	M6	10
22x47	0.866	+0 -0.0013	1.850		2.205	0.866	1.102	0.669	1.339	7,242	261	16,328	23,720	6	M6	10
24x50	0.945		1.969		2.323	0.866	1.102	0.669	1.339	7,242	285	15,348	21,743	6	M6	10
25x50	0.984		1.969		2.323	0.866	1.102	0.669	1.339	7,242	297	15,348	20,874	6	M6	10
28x55	1.102		2.165		2.520	0.866	1.102	0.669	1.339	7,242	333	13,953	18,637	6	M6	10
30x55	1.181		2.165		2.520	0.866	1.102	0.669	1.339	7,242	356	13,953	17,395	6	M6	10
32x60	1.260		2.362		2.717	0.866	1.102	0.669	1.339	9,656	507	17,054	21,743	8	M6	10
35x60	1.378		2.362		2.717	0.866	1.102	0.669	1.339	9,656	554	17,054	19,880	8	M6	10
38x65	1.496		2.559	-0 +0.0018	2.913	0.866	1.102	0.669	1.339	9,656	602	15,742	18,310	8	M6	10
40x65	1.575	+0 -0.0015	2.559		2.913	0.866	1.102	0.669	1.339	9,656	634	15,742	17,395	8	M6	10
42x75	1.654		2.953		3.307	0.984	1.299	0.787	1.614	17,866	1,231	21,455	25,542	8	M8	26
45x75	1.772		2.953		3.307	0.984	1.299	0.787	1.614	17,866	1,319	21,455	23,839	8	M8	26
48x80	1.890		3.150		3.504	0.945	1.319	0.787	1.614	17,866	1,407	20,114	22,349	8	M8	26
50x80	1.969		3.150		3.504	0.945	1.319	0.787	1.614	17,866	1,465	20,114	21,455	8	M8	26
55x85	2.165		3.346		3.701	0.945	1.319	0.787	1.614	17,866	1,612	18,931	19,505	8	M8	26
60x90	2.362		3.543		3.898	0.945	1.319	0.787	1.614	17,866	1,758	17,880	17,880	8	M8	26
65x95	2.559	+0 -0.0018	3.740	-0 +0.0021	4.094	0.945	1.319	0.787	1.614	17,866	1,905	16,939	16,504	8	M8	26
70x110	2.756		4.331		4.685	1.142	1.575	0.945	1.969	29,466	3,384	20,106	21,064	8	M10	52
75x115	2.953		4.528		4.882	1.142	1.575	0.945	1.969	29,466	3,625	19,232	19,659	8	M10	52
80x120	3.150		4.724		5.079	1.142	1.575	0.945	1.969	29,466	3,867	18,431	18,431	8	M10	52
85x125	3.347		4.921		5.276	1.142	1.575	0.945	1.969	36,832	5,136	22,117	21,683	10	M10	52
90x130	3.543		5.118		5.472	1.142	1.575	0.945	1.969	36,832	5,438	21,266	20,479	10	M10	52
95x135	3.740	+0 -0.0021	5.315		5.669	1.142	1.575	0.945	1.969	36,832	5,740	20,479	19,401	10	M10	52
100x145	3.937		5.709	-0 +0.0025	6.063	1.220	1.732	1.024	2.205	43,544	7,143	20,807	19,610	8	M12	85
110x155	4.331		6.102		6.457	1.220	1.732	1.024	2.205	43,544	7,857	19,464	17,827	8	M12	85
120x165	4.724		6.496		6.850	1.220	1.732	1.024	2.205	48,987	9,643	20,570	18,384	9	M12	85
130x180	5.118		7.087		7.441	1.535	2.047	1.339	2.520	65,316	13,929	19,226	18,856	12	M12	85
140x190	5.512		7.480		7.835	1.535	2.126	1.339	2.677	65,743	15,098	18,333	16,919	9	M14	136
150x200	5.906	+0 -0.0025	7.874		8.228	1.535	2.126	1.339	2.677	73,047	17,974	19,351	17,545	10	M14	136
160x210	6.299		8.268	-0 +0.0028	8.622	1.535	2.126	1.339	2.677	87,657	23,007	22,116	19,738	12	M14	136
170x225	6.693		8.858		9.213	1.929	2.520	1.732	3.071	87,657	24,445	15,950	15,481	12	M14	136
180x235	7.087		9.252		9.606	1.929	2.520	1.732	3.071	87,657	25,883	15,271	14,621	12	M14	136
190x250	7.480	+0 -0.0028	9.843		10.197	1.929	2.520	1.732	3.071	109,571	34,151	17,944	17,314	15	M14	136
200x260	7.874		10.236	-0 +0.0032	10.591	1.929	2.520	1.732	3.071	109,571	35,948	17,254	16,449	15	M14	136

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



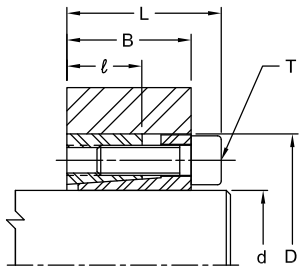


SLD 1350 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750		1.850	-0 +0.0015	1.102	0.669	1.339	8,733	273	18,710	34,954	6	M6	10
7/8	0.875	+0 -0.0013	1.850		1.102	0.669	1.339	8,659	316	18,710	30,168	6	M6	10
1	1.000		1.969		1.102	0.669	1.339	8,603	358	17,550	26,542	6	M6	10
1-1/8	1.125		2.165		1.102	0.669	1.339	8,874	416	15,954	22,916	6	M6	10
1-3/16	1.188		2.165		1.102	0.669	1.339	8,705	431	15,954	22,191	6	M6	10
1-1/4	1.250		2.362		1.102	0.669	1.339	11,754	612	19,580	27,702	8	M6	10
1-3/8	1.375		2.362	-0 +0.0018	1.102	0.669	1.339	11,689	670	19,580	25,382	8	M6	10
1-7/16	1.438		2.559		1.102	0.669	1.339	11,822	708	18,130	23,931	8	M6	10
1-1/2	1.500	+0 -0.0016	2.559		1.102	0.669	1.339	11,636	727	18,130	23,351	8	M6	10
1-5/8	1.625		2.953		1.299	0.787	1.614	22,211	1,504	25,527	34,519	8	M8	26
1-11/16	1.688		2.953		1.299	0.787	1.614	22,427	1,557	25,527	32,924	8	M8	26
1-3/4	1.750		2.953		1.299	0.787	1.614	22,132	1,614	25,527	32,198	8	M8	26
1-7/8	1.875		3.150		1.319	0.787	1.614	22,535	1,761	23,931	29,588	8	M8	26
1-15/16	1.938		3.150		1.319	0.787	1.614	22,265	1,797	23,931	28,863	8	M8	26
2	2.000		3.150		1.319	0.787	1.614	22,445	1,870	23,931	27,847	8	M8	26
2-1/8	2.125		3.346		1.319	0.787	1.614	22,375	1,981	22,481	26,252	8	M8	26
2-3/16	2.188		3.346		1.319	0.787	1.614	22,537	2,054	22,481	25,237	8	M8	26
2-1/4	2.250		3.543		1.319	0.787	1.614	22,304	2,091	21,321	24,802	8	M8	26
2-3/8	2.375		3.543	-0+ 0.0022	1.319	0.787	1.614	22,241	2,201	21,321	23,641	8	M8	26
2-7/16	2.438	+0 -0.0018	3.740		1.319	0.787	1.614	22,389	2,274	20,160	22,916	8	M8	26
2-1/2	2.500		3.740		1.319	0.787	1.614	22,538	2,348	20,160	22,191	8	M8	26
2-9/16	2.563		3.740		1.319	0.787	1.614	22,333	2,385	20,160	21,756	8	M8	26
2-11/16	2.688		4.331		1.575	0.945	1.969	36,292	4,064	23,641	28,282	8	M10	52
2-3/4	2.750		4.331		1.575	0.945	1.969	36,510	4,183	23,641	27,557	8	M10	52
2-7/8	2.875		4.528		1.575	0.945	1.969	36,425	4,363	22,626	26,397	8	M10	52
2-15/16	2.938		4.528		1.575	0.945	1.969	36,626	4,483	22,626	25,672	8	M10	52
3	3.000		4.724		1.575	0.945	1.969	36,341	4,543	21,611	25,382	8	M10	52
3-1/4	3.250		4.921		1.575	0.945	1.969	45,790	6,201	25,962	29,008	10	M10	52
3-3/8	3.375		4.921		1.575	0.945	1.969	45,688	6,425	25,962	27,992	10	M10	52
3-7/16	3.438	+0 -0.0022	5.118	-0 +0.0025	1.575	0.945	1.969	45,378	6,499	24,947	27,702	10	M10	52
3-1/2	3.500		5.118		1.575	0.945	1.969	45,594	6,649	24,947	26,977	10	M10	52
3-3/4	3.750		5.315		1.575	0.945	1.969	45,424	7,098	24,076	25,382	10	M10	52
3-15/16	3.938		5.709		1.732	1.024	2.205	50,625	8,306	22,916	26,687	8	M12	85
4	4.000		5.709		1.732	1.024	2.205	50,830	8,472	22,916	26,252	8	M12	85

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





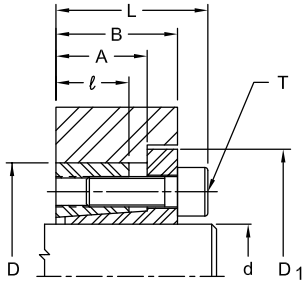
SLD 1350 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
18x47	0.709	+0 -0.0013	1.850	-0 +0.0015	1.102	0.669	1.339	8,780	259	18,710	36,985	6	M6	10
19x47	0.748		1.850		1.102	0.669	1.339	8,790	274	18,710	34,954	6	M6	10
20x47	0.787		1.850		1.102	0.669	1.339	8,308	273	18,710	33,214	6	M6	10
22x47	0.866		1.850		1.102	0.669	1.339	8,310	300	18,710	30,168	6	M6	10
24x50	0.945		1.969		1.102	0.669	1.339	8,311	327	17,550	27,702	6	M6	10
25x50	0.984		1.969		1.102	0.669	1.339	8,304	341	17,550	26,542	6	M6	10
28x55	1.102		2.165		1.102	0.669	1.339	8,314	382	15,954	23,786	6	M6	10
30x55	1.181		2.165		1.102	0.669	1.339	8,315	409	15,954	22,191	6	M6	10
32x60	1.260	+0 -0.0015	2.362	-0 +0.0018	1.102	0.669	1.339	11,079	582	19,580	27,702	8	M6	10
35x60	1.378		2.362		1.102	0.669	1.339	11,081	636	19,580	25,382	8	M6	10
38x65	1.496		2.559		1.102	0.669	1.339	11,083	691	18,130	23,351	8	M6	10
40x65	1.575		2.559		1.102	0.669	1.339	11,074	727	18,130	22,191	8	M6	10
42x75	1.654		2.953		1.299	0.787	1.614	21,245	1,464	25,527	30,748	8	M8	26
45x75	1.772		2.953		1.299	0.787	1.614	21,243	1,568	25,527	31,473	8	M8	26
48x80	1.890		3.150		1.319	0.787	1.614	21,241	1,673	23,931	29,588	8	M8	26
50x80	1.969		3.150		1.319	0.787	1.614	21,246	1,743	23,931	28,282	8	M8	26
55x85	2.165	+0 -0.0018	3.346	-0 +0.0021	1.319	0.787	1.614	21,240	1,916	22,481	25,817	8	M8	26
60x90	2.362		3.543		1.319	0.787	1.614	21,243	2,091	21,321	23,641	8	M8	26
65x95	2.559		3.740		1.319	0.787	1.614	21,245	2,265	20,160	21,756	8	M8	26
70X110	2.756		4.331		1.575	0.945	1.969	34,610	3,974	23,641	27,557	8	M10	52
75x115	2.953		4.528		1.575	0.945	1.969	34,615	4,259	22,626	25,672	8	M10	52
80x120	3.150		4.724		1.575	0.945	1.969	34,614	4,543	21,611	24,076	8	M10	52
85x125	3.346	+0 -0.0021	4.921	-0 +0.0025	1.575	0.945	1.969	43,266	6,033	25,962	28,282	10	M10	52
90x130	3.543		5.118		1.575	0.945	1.969	43,264	6,387	24,947	26,687	10	M10	52
95x135	3.740		5.315		1.575	0.945	1.969	43,267	6,743	24,076	25,382	10	M10	52
100x145	3.937		5.709		1.732	1.024	2.205	48,100	7,890	22,916	26,687	8	M12	85
110x155	4.331		6.102		1.732	1.024	2.205	48,100	8,679	21,466	21,901	8	M12	85
120x165	4.724		6.496		1.732	1.024	2.205	54,115	10,652	22,771	22,626	9	M12	85
130x180	5.118	+0 -0.0025	7.087	-0 +0.0028	2.047	1.339	2.520	72,150	15,386	21,176	23,206	12	M12	85
140x190	5.512		7.480		2.126	1.339	2.677	73,654	16,915	20,595	21,031	9	M14	136
150x200	5.906		7.874		2.126	1.339	2.677	81,837	20,137	21,611	21,901	10	M14	136
160x210	6.299		8.268		2.126	1.339	2.677	98,204	25,775	24,802	24,511	12	M14	136
170x225	6.693		8.858		2.520	1.732	3.071	98,204	27,386	17,840	19,290	12	M14	136
180x235	7.087		9.252		2.520	1.732	3.071	98,204	28,997	17,114	18,130	12	M14	136
190x250	7.480	+0 -0.0028	9.843		2.520	1.732	3.071	122,755	38,260	20,160	21,611	15	M14	136
200x260	7.874		10.236	-0 +0.0032	2.520	1.732	3.071	122,755	40,274	19,290	20,450	15	M14	136

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
A	= width to flange
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



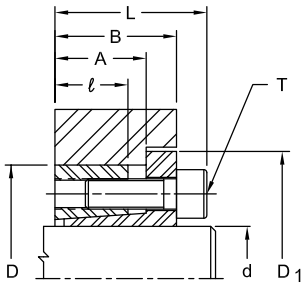


SLD 1450 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	A in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750		1.850	-0 +0.0015	2.204	0.866	1.102	0.669	1.339	7,242	226	14,739	24,723	6	M6	12
7/8	0.875	+0 -0.0013	1.850		2.204	0.866	1.102	0.669	1.339	7,242	264	14,739	21,191	6	M6	12
1	1.000		1.969		2.323	0.866	1.102	0.669	1.339	7,242	302	13,848	18,542	6	M6	12
1-1/8	1.125		2.165		2.519	0.866	1.102	0.669	1.339	7,242	339	12,595	16,482	6	M6	12
1-3/16	1.188		2.165		2.519	0.866	1.102	0.669	1.339	7,242	358	12,595	15,614	6	M6	12
1-1/4	1.250		2.362		2.716	0.866	1.102	0.669	1.339	9,656	503	15,392	19,778	8	M6	12
1-3/8	1.375		2.362	-0 +0.0018	2.716	0.866	1.102	0.669	1.339	9,656	553	15,392	17,980	8	M6	12
1-7/16	1.438		2.559		2.913	0.866	1.102	0.669	1.339	9,656	578	14,207	17,198	8	M6	12
1-1/2	1.500	+0 -0.0016	2.559		2.913	0.866	1.102	0.669	1.339	9,656	604	14,207	16,482	8	M6	12
1-5/8	1.625		2.953		3.307	0.984	1.299	0.787	1.614	17,866	1,210	19,362	23,457	8	M8	29
1-11/16	1.688		2.953		3.307	0.984	1.299	0.787	1.614	17,866	1,256	19,362	22,588	8	M8	29
1-3/4	1.750		2.953		3.307	0.984	1.299	0.787	1.614	17,866	1,303	19,362	21,781	8	M8	29
1-7/8	1.875		3.150		3.504	0.945	1.319	0.787	1.614	17,866	1,396	18,151	20,329	8	M8	29
1-15/16	1.938		3.150		3.504	0.945	1.319	0.787	1.614	17,866	1,442	18,151	19,673	8	M8	29
2	2.000		3.150		3.504	0.945	1.319	0.787	1.614	17,866	1,489	18,153	19,059	8	M8	29
2-1/8	2.125		3.346		3.700	0.945	1.319	0.787	1.614	17,866	1,582	17,088	17,938	8	M8	29
2-3/16	2.188		3.346		3.700	0.945	1.319	0.787	1.614	17,866	1,628	17,088	17,425	8	M8	29
2-1/4	2.250		3.543		3.897	0.945	1.319	0.787	1.614	17,866	1,675	16,138	16,941	8	M8	29
2-3/8	2.375		3.543		3.897	0.945	1.319	0.787	1.614	17,866	1,768	16,138	16,049	8	M8	29
2-7/16	2.438		3.740	-0 +0.0022	4.094	0.945	1.319	0.787	1.614	17,866	1,814	15,288	15,638	8	M8	29
2-1/2	2.500	+0 -0.0018	3.740		4.094	0.945	1.319	0.787	1.614	17,866	1,861	15,288	15,247	8	M8	29
2-9/16	2.563		3.740		4.094	0.945	1.319	0.787	1.614	17,866	1,908	15,288	14,875	8	M8	29
2-11/16	2.688		4.331		4.685	1.142	1.575	0.945	1.969	29,466	3,300	18,145	19,494	8	M10	58
2-3/4	2.750		4.331		4.685	1.142	1.575	0.945	1.969	29,466	3,376	18,145	19,051	8	M10	58
2-7/8	2.875		4.528		4.882	1.142	1.575	0.945	1.969	29,466	3,530	17,355	18,222	8	M10	58
2-15/16	2.938		4.528		4.882	1.142	1.575	0.945	1.969	29,466	3,607	17,355	17,835	8	M10	58
3	3.000		4.724		5.078	1.142	1.575	0.945	1.969	29,466	3,683	16,635	17,463	8	M10	58
3-1/4	3.250		4.921		5.275	1.142	1.575	0.945	1.969	29,466	3,990	15,969	16,120	8	M10	58
3-3/8	3.375		4.921		5.275	1.142	1.575	0.945	1.969	36,832	5,180	19,962	19,404	10	M10	58
3-7/16	3.438		5.118		5.470	1.142	1.575	0.945	1.969	36,832	5,275	19,193	19,051	10	M10	58
3-1/2	3.500	+0 -0.0022	5.118	-0 +0.0025	5.470	1.142	1.575	0.945	1.969	36,832	5,371	19,193	18,711	10	M10	58
3-3/4	3.750		5.315		5.669	1.142	1.575	0.945	1.969	36,832	5,755	18,482	17,463	10	M10	58
3-15/16	3.938		5.708		6.603	1.220	1.732	1.024	2.205	43,544	7,144	18,780	17,696	8	M12	102
4	4.000		5.709		6.603	1.220	1.732	1.024	2.205	43,544	7,257	18,778	17,419	8	M12	102

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
A	= width to flange
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





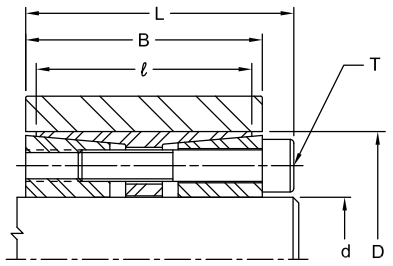
SLD 1450 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	A in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
18x47	0.709		1.850		2.205	0.866	1.102	0.669	1.339	6,880	203	15,512	27,542	6	M6	12
19x47	0.748		1.850		2.205	0.866	1.102	0.669	1.339	6,880	214	15,512	26,092	6	M6	12
20x47	0.787		1.850	-0 +0.0015	2.205	0.866	1.102	0.669	1.339	6,880	226	15,512	24,788	6	M6	12
22x47	0.866	+0 -0.0013	1.850		2.205	0.866	1.102	0.669	1.339	6,880	248	15,512	22,534	6	M6	12
24x50	0.945		1.969		2.323	0.866	1.102	0.669	1.339	6,880	271	14,581	20,656	6	M6	12
25x50	0.984		1.969		2.323	0.866	1.102	0.669	1.339	6,880	282	14,581	19,830	6	M6	12
28x55	1.102		2.165		2.520	0.866	1.102	0.669	1.339	6,880	316	13,255	17,705	6	M6	12
30x55	1.181		2.165		2.520	0.866	1.102	0.669	1.339	6,880	339	13,255	16,525	6	M6	12
32x60	1.260		2.362		2.717	0.866	1.102	0.669	1.339	9,173	482	16,201	20,656	8	M8	29
35x60	1.378		2.362		2.717	0.866	1.102	0.669	1.339	9,173	527	16,201	18,886	8	M8	29
38x65	1.496		2.559	-0 +0.0018	2.913	0.866	1.102	0.669	1.339	9,173	572	14,955	17,395	8	M8	29
40x65	1.575	+0 -0.0015	2.559		2.913	0.866	1.102	0.669	1.339	9,173	602	14,955	16,525	8	M8	29
42x75	1.654		2.953		3.307	0.984	1.299	0.787	1.614	16,972	1,169	20,383	24,265	8	M8	29
45x75	1.772		2.953		3.307	0.984	1.299	0.787	1.614	16,972	1,253	20,383	22,647	8	M8	29
48x80	1.890		3.150		3.504	0.945	1.319	0.787	1.614	16,972	1,336	19,109	21,232	8	M8	29
50x80	1.969		3.150		3.504	0.945	1.319	0.787	1.614	16,972	1,392	19,109	20,383	8	M8	29
55x85	2.165		3.346		3.701	0.945	1.319	0.787	1.614	16,972	1,531	17,985	18,530	8	M8	29
60x90	2.362		3.543		3.898	0.945	1.319	0.787	1.614	16,972	1,670	16,986	16,986	8	M8	29
65x95	2.559	+0 -0.0018	3.740	-0 +0.0021	4.094	0.945	1.319	0.787	1.614	16,972	1,810	16,092	15,679	8	M8	29
70x110	2.756		4.331		4.685	1.142	1.575	0.945	1.969	27,993	3,214	19,101	20,010	8	M10	58
75x115	2.953		4.528		4.882	1.142	1.575	0.945	1.969	27,993	3,444	18,270	18,676	8	M10	58
80x120	3.150		4.724		5.079	1.142	1.575	0.945	1.969	27,993	3,674	17,509	17,509	8	M10	58
85x125	3.347		4.921		5.276	1.142	1.575	0.945	1.969	34,991	4,879	21,011	20,599	10	M10	58
90x130	3.543		5.118		5.472	1.142	1.575	0.945	1.969	34,991	5,166	20,203	19,455	10	M10	58
95x135	3.740	+0 -0.0021	5.315		5.669	1.142	1.575	0.945	1.969	34,991	5,453	19,455	18,431	10	M10	58
100x145	3.937		5.709	-0 +0.0025	6.063	1.220	1.732	1.024	2.205	41,367	6,786	19,766	18,630	8	M12	102
110x155	4.331		6.102		6.457	1.220	1.732	1.024	2.205	41,367	7,464	18,491	16,936	8	M12	102
120x165	4.724		6.496		6.850	1.220	1.732	1.024	2.205	46,538	9,161	19,542	17,465	9	M12	102
130x180	5.118		7.087		7.441	1.535	2.047	1.339	2.205	62,050	13,232	18,264	17,913	12	M12	102
140x190	5.512		7.480		7.835	1.535	2.126	1.339	2.677	62,455	14,343	17,416	16,073	9	M14	161
150x200	5.906		7.874		8.228	1.535	2.126	1.339	2.677	69,395	17,076	18,384	16,668	10	M14	161
160x210	6.299	+0 -0.0025	8.268	-0 +0.0028	8.622	1.535	2.126	1.339	2.677	83,274	21,857	21,010	18,751	12	M14	161
170x225	6.693		8.858		9.213	1.929	2.520	1.732	3.071	87,657	24,445	15,153	14,707	12	M14	161
180X235	7.087		9.252		9.606	1.929	2.520	1.732	3.071	83,274	24,589	14,508	13,890	12	M14	161
190x250	7.480	+0 -0.0028	9.843		10.197	1.929	2.520	1.732	3.071	104,092	32,443	17,047	16,449	15	M14	161
200x260	7.874		10.236	-0 +0.0032	10.591	1.929	2.520	1.732	3.071	104,092	34,151	16,391	15,626	15	M14	161

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



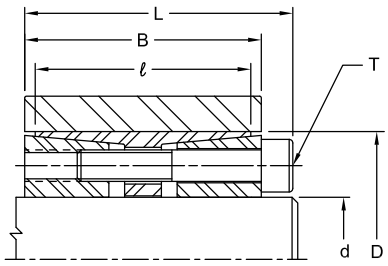


SLD 2600 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
1	1.000	+0 -0.0013	1.969	-0 +0.0018	1.772	1.614	2.008	12,965	540	12,022	24,886	6	M6	12.5
1-1/8	1.125		2.165		1.772	1.614	2.008	19,447	810	14,579	29,495	8	M6	12.5
1-3/16	1.188		2.165		1.772	1.614	2.008	18,247	855	14,579	27,942	8	M6	12.5
1-1/4	1.250	+0 -0.0015	2.362		1.772	1.614	2.008	18,196	900	13,363	26,545	8	M6	12.5
1-3/8	1.375		2.362		1.772	1.614	2.008	19,015	990	13,363	24,132	8	M6	12.5
1-7/16	1.438		2.559		1.772	1.614	2.008	18,072	1,035	13,363	23,083	8	M6	12.5
1-1/2	1.500		2.559		1.772	1.614	2.008	22,547	1,350	15,418	27,651	10	M6	12.5
1-5/8	1.625		2.953		1.772	1.614	2.008	23,408	1,463	15,418	25,524	10	M6	12.5
1-3/4	1.750		2.953		1.772	1.614	2.008	34,443	2,332	19,775	35,081	8	M8	30.2
1-7/8	1.875		3.150	-0 +0.0021	2.520	2.205	2.835	34,267	2,499	13,573	27,760	8	M8	30.2
1-15/16	1.938		3.150		2.520	2.205	2.835	33,049	2,582	13,573	26,864	8	M8	30.2
2	2.000	+0 -0.0018	3.150		2.520	2.205	2.835	33,014	2,665	13,573	26,025	8	M8	30.2
2-1/8	2.125		3.346		2.520	2.205	2.835	33,981	2,832	12,778	24,494	8	M8	30.2
2-3/16	2.188		3.346		2.520	2.205	2.835	32,923	2,915	12,778	23,794	8	M8	30.2
2-1/4	2.250		3.543		2.520	2.205	2.835	41,120	3,748	15,084	28,916	10	M8	30.2
2-3/8	2.375		3.543		2.520	2.205	2.835	42,199	3,956	15,084	27,394	10	M8	30.2
2-7/16	2.438		3.740		2.520	2.205	2.835	41,030	4,060	14,290	26,692	10	M8	30.2
2-1/2	2.500		3.740		2.520	2.205	2.835	41,003	4,164	14,290	26,025	10	M8	30.2
2-9/16	2.563		3.740		2.520	2.205	2.835	40,978	4,268	14,290	25,390	10	M8	30.2
2-5/8	2.625		4.331		3.071	2.756	3.465	67,545	7,212	16,282	33,579	10	M10	61.2
2-11/16	2.688		4.331		3.071	2.756	3.465	67,507	7,384	16,282	32,798	10	M10	61.2
2-3/4	2.750		4.331		3.071	2.756	3.465	67,470	7,555	16,282	32,053	10	M10	61.2
2-7/8	2.875		4.331		3.071	2.756	3.465	68,934	7,899	16,282	30,659	10	M10	61.2
2-15/16	2.938		4.331		3.071	2.756	3.465	80,844	9,684	17,913	36,008	12	M10	61.2
3	3.000		4.724		3.071	2.756	3.465	80,808	9,891	17,913	35,258	12	M10	61.2
3-1/8	3.125		4.724		3.071	2.756	3.465	82,421	10,303	17,913	33,848	12	M10	61.2
3-1/4	3.250	+0 -0.0021	4.724	-0 0.0025	3.071	2.756	3.465	82,289	10,715	17,913	32,546	12	M10	61.2
3-3/8	3.375		4.921		3.071	2.756	3.465	82,167	11,127	16,534	31,341	12	M10	61.2
3-7/16	3.438		5.118		3.071	2.756	3.465	80,589	11,333	16,534	30,771	12	M10	61.2
3-1/2	3.500		5.118		3.071	2.756	3.465	80,563	11,539	16,534	30,221	12	M10	61.2
3-5/8	3.625		5.315		3.071	2.756	3.465	81,950	11,951	16,534	29,179	12	M10	61.2
3-3/4	3.750		5.709		3.937	3.543	4.409	120,959	18,270	17,036	33,346	12	M12	106.9
3-7/8	3.875		5.709		3.937	3.543	4.409	120,824	18,879	17,036	32,270	12	M12	106.9
3-15/16	3.938		5.709		3.937	3.543	4.409	118,813	19,183	17,036	31,758	12	M12	106.9
4	4.000		5.709		3.937	3.543	4.409	118,783	19,488	17,036	31,262	12	M12	106.9
4-1/4	4.250		6.102		3.937	3.543	4.409	124,235	20,706	15,939	29,423	12	M12	106.9
4-3/8	4.375		6.102		3.937	3.543	4.409	120,366	21,315	15,939	28,582	12	M12	106.9
4-7/16	4.438		6.496		3.937	3.543	4.409	138,363	25,223	17,468	32,876	14	M12	106.9
4-1/2	4.500		6.496		3.937	3.543	4.409	138,336	25,578	17,468	32,420	14	M12	106.9
4-3/4	4.750	+0 -0.0025	6.496		3.937	3.543	4.409	143,993	26,999	17,468	30,714	14	M12	106.9
4-15/16	4.938		7.087		4.567	4.094	5.118	163,115	32,283	15,938	29,015	12	M14	169.6
5	5.000		7.087		4.567	4.094	5.118	158,907	32,692	15,938	28,652	12	M14	169.6
5-1/4	5.250		7.480	-0 +0.0028	4.567	4.094	5.118	192,228	40,048	17,618	31,836	14	M14	169.6
5-7/16	5.438		7.480		4.567	4.094	5.118	189,613	41,478	17,618	30,738	14	M14	169.6
5-1/2	5.500		7.480		4.567	4.094	5.118	185,179	41,955	17,618	30,389	14	M14	169.6
5-3/4	5.750		7.874		4.567	4.094	5.118	218,739	50,128	19,127	33,220	16	M14	169.6
5-15/16	5.938		7.874		4.567	4.094	5.118	216,051	51,762	19,127	32,171	16	M14	169.6
6	6.000		8.268		4.567	4.094	5.118	211,431	52,307	18,216	31,836	16	M14	169.6
6-7/16	6.438		8.858		5.748	5.276	6.378	308,120	77,030	18,112	32,112	16	M16	261.8
6-1/2	6.500		8.858		5.748	5.276	6.378	289,968	77,778	18,112	31,803	16	M16	261.8

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





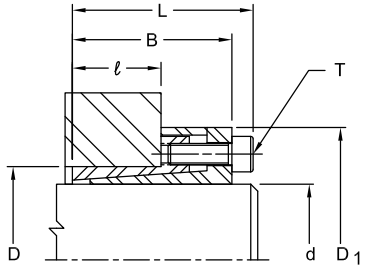
SLD 2600 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
25x50	0.984		1.969		1.772	1.614	2.008	12,965	532	12,026	25,284	6	M6	12.5
30x55	1.181	+0 -0.0013	2.165		1.772	1.614	2.008	20,744	851	14,576	28,094	8	M6	12.5
32x60	1.260		2.362		1.772	1.614	2.008	18,439	907	13,362	26,338	8	M6	12.5
35x60	1.378		2.362	-0 +0.0018	1.772	1.614	2.008	18,907	992	13,362	24,080	8	M6	12.5
40x65	1.575	+0 -0.0015	2.559		1.772	1.614	2.008	24,695	1,418	16,702	26,338	10	M6	12.5
45x75	1.772		2.953		1.772	1.614	2.008	35,980	2,361	19,777	34,652	8	M8	30.2
50x80	1.969		3.150		2.520	2.283	2.835	35,536	2,623	13,107	26,441	8	M8	30.2
55x85	2.165		3.346		2.520	2.283	2.835	35,181	2,886	12,336	24,037	8	M8	30.2
60x90	2.362		3.543		2.520	2.283	2.835	43,612	3,935	14,563	27,543	10	M8	30.2
65x95	2.559	+0 -0.0018	3.740	-0 +0.0021	2.520	2.283	2.835	43,310	4,263	13,796	25,424	10	M8	30.2
70x110	2.756		4.331		3.071	2.756	3.465	71,009	7,571	16,283	31,984	10	M10	61.2
75x115	2.953		4.528		3.071	2.756	3.465	70,646	8,112	15,575	29,852	10	M10	61.2
80x120	3.150		4.724		3.071	2.756	3.465	84,399	10,384	17,911	33,583	12	M10	61.2
85x125	3.346		4.921		3.071	2.756	3.465	84,069	11,033	17,195	31,608	12	M10	61.2
90x130	3.543		5.118		3.071	2.756	3.465	83,778	11,682	16,533	29,852	12	M10	61.2
95x135	3.740	+0 -0.0021	5.315	-0 +0.0025	3.071	2.756	3.465	83,520	12,331	15,804	28,281	12	M10	61.2
100x145	3.937		5.709		3.937	3.622	4.409	123,081	19,181	16,667	31,762	12	M12	106.9
110x155	4.331		6.102		3.937	3.622	4.409	128,620	21,099	15,592	28,875	12	M12	106.9
120x165	4.724		6.496		3.937	3.622	4.409	148,816	26,853	17,088	30,880	14	M12	106.9
130x180	5.118		7.087		4.567	4.252	5.118	169,998	33,464	15,349	27,991	12	M14	169.6
140x190	5.512		7.480		4.567	4.252	5.118	197,157	42,045	16,965	30,324	14	M14	169.6
150x200	5.906	+0 -0.0025	7.874		4.567	4.252	5.118	224,173	51,483	18,419	32,345	16	M14	169.6
160x210	6.299		8.268	-0 +0.0028	4.567	4.252	5.118	223,177	54,916	17,542	30,324	16	M14	169.6
170x225	6.693		8.858		5.748	5.354	6.378	266,987	70,075	15,615	27,026	14	M16	261.8
180x235	7.087		9.252		5.748	5.354	6.378	304,072	84,797	17,086	29,170	16	M16	261.8
190x250	7.480		9.843		5.748	5.354	6.378	303,134	89,508	16,061	27,635	16	M16	261.8
200x260	7.874	+0 -0.0028	10.236		5.748	5.354	6.378	302,294	94,219	15,443	26,253	16	M16	261.8
220x285	8.661		11.220	-0 +0.0032	5.748	5.354	6.378	394,872	129,551	17,611	29,833	20	M16	261.8
240x305	9.449		12.008		5.748	5.354	6.378	430,769	155,461	18,101	30,082	22	M16	261.8

SLD

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore



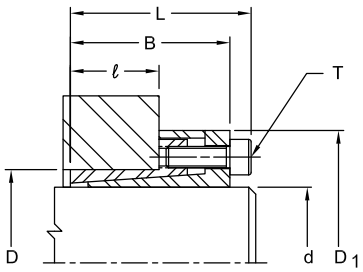


SLD 1900 Inch Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
3/4	0.750	+0 -0.0013	1.063	-0 +0.0015	1.890	1.496	0.709	1.732	5,568	174	11,592	8,966	4	M6	12
7/8	0.875		1.260		2.126	1.772	0.984	2.008	6,496	203	7,419	6,675	4	M6	12
1-5/16	0.938		1.339		2.205	1.772	0.984	2.008	5,952	217	7,154	6,385	4	M6	12
1	1.000		1.339		2.205	1.772	0.984	2.008	5,939	232	7,154	5,985	4	M6	12
1-1/8	1.125	+0 -0.0016	1.535		2.402	1.772	0.984	2.008	9,384	391	9,851	8,399	6	M6	12
1-3/16	1.188		1.614		2.441	1.772	0.984	2.008	8,811	413	9,692	8,231	6	M6	12
1-1/4	1.250		1.693		2.559	1.772	0.984	2.008	11,702	579	12,327	11,129	8	M6	12
1-3/8	1.375		1.850		2.717	1.969	1.181	2.205	12,230	637	9,677	8,679	8	M6	12
1-7/16	1.438		1.969		2.835	1.969	1.181	2.205	11,625	666	9,274	8,468	8	M6	12
1-1/2	1.500		1.969		2.835	1.969	1.181	2.205	11,603	695	9,274	8,115	8	M6	12
1-5/8	1.625		2.165	-0 +0.0018	3.071	2.244	1.260	2.480	12,048	753	8,025	5,800	8	M6	12
1-11/16	1.688		2.323		3.346	2.559	1.575	2.874	18,447	1,249	9,414	8,787	8	M8	30
1-3/4	1.750		2.323		3.346	2.559	1.575	2.874	18,432	1,296	9,414	8,473	8	M8	30
1-7/8	1.875		2.441		3.425	2.756	1.772	3.071	19,035	1,388	8,176	8,120	8	M8	30
1-15/16	1.938		2.559		3.622	2.756	1.772	3.071	22,950	1,793	9,664	8,976	10	M8	30
2	2.000	+0 -0.0018	2.795		3.858	2.953	1.969	3.071	22,929	1,851	8,165	8,917	10	M8	30
2-1/8	2.125		2.795		3.858	2.953	1.969	3.268	23,604	1,967	8,165	8,392	10	M8	30
2-3/16	2.188		3.031		4.094	2.953	1.969	3.268	22,859	2,024	7,694	8,331	10	M8	30
2-3/8	2.375		3.031		4.094	2.953	1.969	3.268	24,115	2,198	7,694	7,673	10	M8	30
2-7/16	2.438		3.307	-0 +0.0021	4.370	2.953	1.969	3.268	22,797	2,256	7,209	7,643	10	M8	30
2-1/2	2.500		3.307		4.370	2.953	1.969	3.268	22,784	2,314	7,209	7,452	10	M8	30
2-3/4	2.750		3.543		4.685	3.583	2.362	3.976	37,915	4,147	9,131	10,229	10	M10	60
2-7/8	2.875		3.740		4.961	3.583	2.362	3.976	37,833	4,335	8,623	8,012	10	M10	60
2-15/16	2.938		3.740		4.961	3.583	2.362	3.976	36,981	4,430	8,623	7,841	10	M10	60
3	3.000		3.740		4.961	3.583	2.362	3.976	36,962	4,524	8,623	7,247	10	M10	60

L	= total width (relaxed state)
B	= width of thrust rings (relaxed state)
ℓ	= length of contact
T	= locking screw specifications
M_A	= screw tightening torque
D	= outer diameter of shaft locking device
D_1	= diameter to flange
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





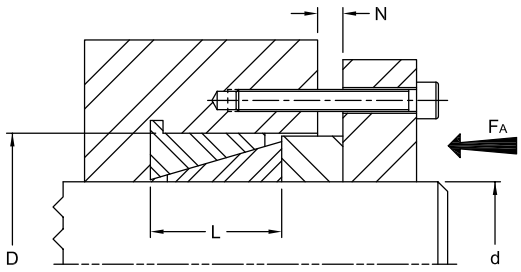
SLD 1900 Metric Series Dimensional Data

Size	d in	T_1 in	D in	T_2 in	D_1 in	B in	ℓ in	L in	Max F lbf	Max Mt ft-lb	Pressures pH psi	Pressures pS psi	T Locking Screws Qty	T Locking Screws Size	T Locking Screws M_A ft-lb
6x14	0.236	+0 -0.0009	0.591	-0 +0.0011	0.984	0.846	0.354	0.965	1,049	10	13,779	14,939	4	M3	1.50
8x15	0.315		0.591		1.063	0.984	0.472	1.142	2,098	21	14,649	15,084	3	M4	3.70
9x16	0.354		0.630		1.102	0.984	0.551	1.220	2,304	30	15,664	17,840	4	M4	3.70
10x16	0.394		0.630		1.142	1.024	0.551	1.181	2,298	34	15,664	15,954	4	M4	3.70
11x18	0.433	+0 -0.0011	0.709		1.260	1.024	0.551	1.181	2,248	37	13,924	14,504	4	M4	3.70
12x18	0.472		0.709		1.260	1.024	0.551	1.181	2,248	41	13,924	12,763	4	M4	3.70
14x23	0.551		0.906	-0 +0.0013	1.496	1.024	0.551	1.181	2,398	47	10,878	10,878	4	M4	3.70
15x24	0.591		0.945		1.732	1.417	0.630	1.654	4,593	105	19,145	14,794	4	M6	11.1
16x24	0.630		0.945		1.732	1.417	0.630	1.654	4,556	112	19,145	13,924	4	M6	11.1
17x25	0.669		0.984		1.772	1.417	0.630	1.654	4,552	119	18,275	13,053	4	M6	11.1
18x26	0.709		1.024		1.850	1.496	0.709	1.732	5,422	151	18,710	14,794	4	M6	12.5
19x27	0.748	+0 -0.0013	1.063		1.890	1.496	0.709	1.732	5,420	160	18,130	14,069	4	M6	12.5
20x28	0.787		1.102		1.929	1.496	0.709	1.732	5,395	168	17,405	13,343	4	M6	12.5
22x32	0.866		1.260	-0 +0.0015	2.126	1.772	0.984	2.008	5,643	185	11,023	10,008	4	M6	12.5
24x34	0.945		1.339		2.205	1.772	0.984	2.008	5,600	202	10,298	9,137	4	M6	12.5
25x34	0.984		1.339		2.205	1.772	0.984	2.008	5,339	210	10,298	8,847	4	M6	12.5
28x39	1.102		1.535		2.402	1.772	0.984	2.008	8,615	353	13,489	11,748	6	M6	12.5
30x41	1.181		1.614		2.441	1.772	0.984	2.008	8,238	378	12,908	11,023	6	M6	12.5
32x43	1.260	+0 -0.0015	1.693		2.559	1.772	0.984	2.205	10,941	538	16,389	12,183	8	M6	12.5
35x47	1.378		1.850		2.717	1.969	1.181	2.205	11,212	589	12,473	11,168	8	M6	12.5
38x50	1.496		1.969		2.835	1.969	1.181	2.205	11,125	639	11,748	10,298	8	M6	12.5
40x53	1.575		2.087	-0 +0.0018	2.953	1.969	1.181	2.205	10,791	673	11,023	9,718	8	M6	12.5
42x55	1.654		2.165		3.071	2.244	1.260	2.480	19,727	1,294	18,275	12,908	8	M8	30.2
45x59	1.772		2.323		3.346	2.559	1.575	2.874	20,126	1,387	13,634	12,183	8	M8	30.2
48x62	1.890		2.441		3.425	2.756	1.772	3.071	20,033	1,479	11,458	10,443	8	M8	30.2
50x65	1.969		2.559		3.622	2.756	1.772	3.071	24,457	1,926	13,779	12,618	10	M8	30.2
55x71	2.165	+0 -0.0018	2.795		3.858	2.953	1.969	3.268	25,826	2,118	11,313	10,588	10	M8	30.2
60x77	2.362		3.031		4.094	2.953	1.969	3.268	25,612	2,311	10,443	9,718	10	M8	30.2
65x84	2.559		3.307	-0 +0.0021	4.370	2.953	1.969	3.268	25,433	2,503	9,573	8,992	10	M8	30.2
70x90	2.756		3.543		4.685	3.583	2.362	3.976	40,244	4,291	11,893	13,198	10	M10	61.2
75x95	2.953		3.740		4.961	3.583	2.362	3.976	40,035	4,597	11,168	10,153	10	M10	61.2
80x100	3.150		3.937		5.157	3.780	2.559	4.173	47,827	5,884	11,748	10,733	12	M10	61.2
85x106	3.346	+0 -0.0021	4.173		5.394	3.780	2.559	4.173	47,643	6,252	11,168	10,153	15	M10	61.2
90x112	3.543		4.409		5.630	3.780	2.559	4.173	59,350	8,275	13,198	12,038	15	M10	61.2
95x120	3.740		4.724		6.024	3.780	2.559	4.173	59,165	8,735	12,328	11,313	12	M10	61.2
100x125	3.937		4.921	-0 +0.0025	6.378	4.016	2.559	4.488	68,924	10,741	13,779	11,893	12	M12	107
110x140	4.331		5.512		7.087	5.039	3.543	5.512	72,024	11,815	8,847	8,412	12	M12	107
120x155	4.724		6.102		7.795	5.039	3.543	5.512	71,428	12,889	7,977	7,687	12	M12	107
130x165	5.118		6.496		8.189	5.039	3.543	5.512	94,577	18,618	10,008	9,427	16	M12	107

SLD

N	= recommended distance to clamp device
D	= outer diameter of shaft locking device
L	= total width (relaxed state)
F_A	= preload force required to generate Mt
d	= shaft diameter
F	= maximum transmissible axial force
Mt	= maximum transmissible torque
pH	= pressure on the hub
pS	= pressure on the shaft
T_1	= tolerance of shaft
T_2	= tolerance of hub bore





SLD 350 Series Dimensional Data

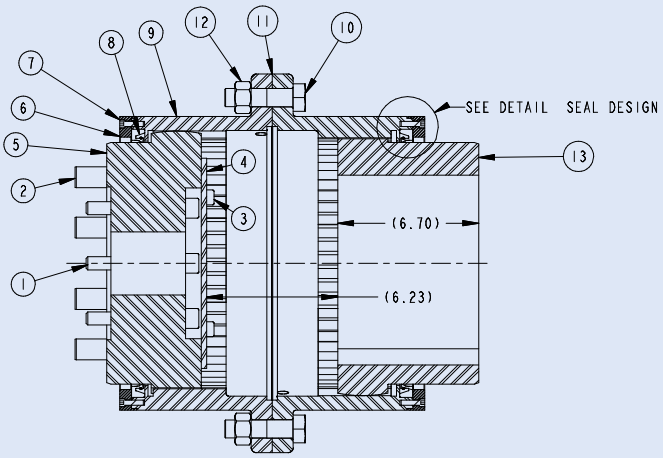
Size	d in	T_1 in	D in	T_2 in	L in	N Distance (in) Number of Elements 1	2	3	4	Max F lbf	Max Mt ft-lb	Pressures pH psi	pS psi	F_A lb
6x9	0.236		0.354	-0 +0.0006	0.177	0.118	0.118	0.118	0.157	176	1.73	10,878	15,954	899
7X10	0.276		0.394		0.177	0.118	0.118	0.118	0.157	220	2.53	12,473	15,594	1,124
8X11	0.315	+0 -0.0003	0.433		0.177	0.118	0.118	0.118	0.157	265	3.47	13,053	15,664	1,349
9X12	0.354		0.472		0.177	0.118	0.118	0.118	0.157	309	4.56	13,053	15,594	1,574
10x13	0.394		0.512	-0 +0.0007	0.177	0.118	0.118	0.118	0.157	344	5.64	14,504	16,244	1,754
12x15	0.472		0.591		0.177	0.118	0.118	0.118	0.157	410	8.07	13,053	16,099	2,091
13x16	0.512		0.630		0.177	0.118	0.118	0.118	0.157	463	9.88	13,053	16,099	2,360
14x18	0.551		0.709		0.248	0.118	0.157	0.157	0.197	683	15.70	13,053	16,099	3,485
15x19	0.591	+0 -0.0004	0.748		0.248	0.118	0.157	0.157	0.197	736	18.10	13,053	16,099	3,754
16x20	0.630		0.787		0.248	0.118	0.157	0.157	0.197	828	21.70	13,053	16,099	4,002
17x21	0.669		0.827		0.248	0.118	0.157	0.157	0.197	816	22.70	13,053	16,099	4,159
18x22	0.709		0.866		0.248	0.118	0.157	0.157	0.197	931	27.50	13,053	16,099	4,496
19x24	0.748		0.945	-0 +0.0008	0.248	0.118	0.157	0.157	0.197	982	30.60	13,053	16,099	4,743
20x25	0.787		0.984		0.248	0.118	0.157	0.157	0.197	1,033	33.90	13,053	16,099	4,991
22x26	0.866		1.024		0.248	0.118	0.157	0.157	0.197	1,135	41.00	13,053	16,099	5,485
24x28	0.945	+0 -0.0005	1.102		0.248	0.118	0.157	0.157	0.197	1,582	62.30	14,504	20,595	7,644
25x30	0.984		1.181		0.248	0.118	0.157	0.157	0.197	1,238	50.80	14,504	15,519	5,980
28x32	1.102		1.260		0.248	0.118	0.157	0.157	0.197	1,447	66.50	14,504	16,099	6,992
30x35	1.181		1.378		0.248	0.118	0.157	0.157	0.197	1,550	76.30	14,504	16,099	7,486
32x36	1.260		1.417		0.248	0.118	0.157	0.157	0.197	1,652	86.70	14,504	16,099	7,981
35x40	1.378	+0 -0.0006	1.575	-0 +0.0010	0.276	0.118	0.157	0.157	0.197	2,048	118.00	14,504	16,099	9,892
36x42	1.417		1.654		0.276	0.118	0.157	0.157	0.197	2,011	119.00	14,504	16,099	10,251
38x44	1.496		1.732		0.276	0.157	0.197	0.197	0.236	2,225	139.00	14,504	16,099	10,746
40x45	1.575		1.772		0.315	0.157	0.197	0.197	0.236	2,574	169.00	14,504	16,099	12,432
42x48	1.654		1.890		0.315	0.157	0.197	0.197	0.236	2,704	186.00	14,504	16,099	13,061
45x52	1.772	+0 -0.0015	2.047		0.394	0.157	0.197	0.197	0.236	3,774	279.00	14,504	16,099	18,232
48x55	1.890		2.165		0.394	0.157	0.197	0.197	0.236	4,026	317.00	14,504	16,099	19,446
50x57	1.969		2.244		0.394	0.157	0.197	0.197	0.236	4,193	344.00	14,504	16,099	20,255
55x62	2.165		0.394	-0 +0.0012	0.394	0.157	0.197	0.197	0.236	4,612	416.00	14,504	16,099	22,279
56x64	2.205		2.520		0.472	0.157	0.197	0.236	0.276	5,048	464.00	14,504	16,099	25,741
60x68	2.362		2.677		0.472	0.157	0.197	0.236	0.276	6,097	600.00	14,504	16,099	29,450
65x73	2.559	+0 -0.0018	2.874		0.472	0.157	0.197	0.236	0.276	6,609	705.00	14,504	16,099	31,923
70x79	2.756		3.110		0.551	0.157	0.197	0.236	0.276	8,331	957.00	14,504	16,099	40,241
75x84	2.953		3.307		0.551	0.157	0.197	0.236	0.276	8,936	1,099.00	14,504	16,099	43,163
80x91	3.150		3.583		0.669	0.197	0.236	0.276	0.315	11,682	1,533.00	14,504	19,870	56,427
85x96	3.346		3.780	-0 +0.0014	0.669	0.197	0.236	0.276	0.315	11,746	1,638.00	14,504	16,099	59,889
90x101	3.543		3.976		0.669	0.197	0.236	0.276	0.315	13,171	1,945.00	14,504	16,099	63,621
95x106	3.740	+0 -0.0021	4.173		0.669	0.197	0.236	0.276	0.315	14,021	2,185.00	14,504	16,099	71,489
100x114	3.937		4.488		0.827	0.197	0.236	0.315	0.354	18,244	2,993.00	13,053	16,099	88,125
110x124	4.331		4.882		0.827	0.197	0.236	0.315	0.354	20,059	3,620.00	13,053	16,099	96,893
120x134	4.724		5.276		0.827	0.197	0.236	0.315	0.354	21,874	4,306.00	13,053	16,099	105,660
130x148	5.118		5.827	-0 +0.0016	1.102	0.236	0.276	0.354	0.433	32,066	6,838.00	13,053	16,099	154,893
140x158	5.512	+0 -0.0025	6.220		1.102	0.236	0.276	0.354	0.433	34,533	7,931.00	13,053	16,099	166,808
150x168	5.906		6.614		1.102	0.236	0.276	0.354	0.433	36,999	9,104.00	13,053	16,099	178,723

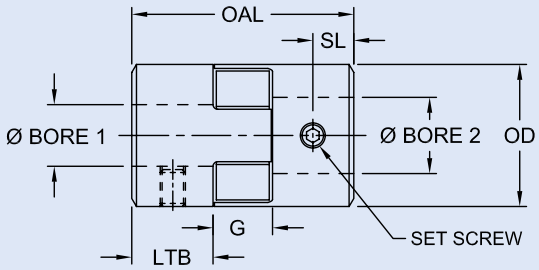
Notes:
- Do not use Molybdenum Disulfide lubricant.
- Locking devices can be provided with a slit that allows the device to be expanded or contracted to accommodate many inch size shafts.

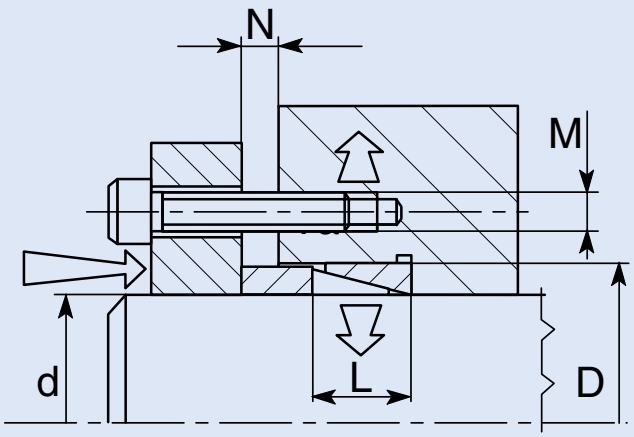
Engineering Data

In This Section:

- Misalignment Fundamentals
- U.S. Inch Clearance / Interference Fit Standards
- Keyway Recommendations
- Lovejoy, Inc Metric Clearance / Interference Fit Standards
- IEC Motor and Nema Motor Frame Standards







ED

Engineering Data

Safety Warning

When using Lovejoy products, you must follow these instructions and take the following precautions. Failure to do so may cause the power transmission product to break and parts to be thrown with sufficient force to cause severe injury or death.

Refer to this Lovejoy Catalog for proper selection, sizing, horsepower, torque range, and speed range of power transmission products, including elastomeric elements for couplings. Follow the installation instructions included with the product, and in the individual product catalogs for proper installation of power transmission products. Do not exceed catalog ratings.

During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, where applicable, inspect coupling assembly for: alignment, wear of elastomeric element, bolt torques, and flexing elements for signs of fatigue. Do not operate coupling assembly if alignment is improper, or where applicable, if elastomeric element is damaged, or worn to less than 75% of its original thickness.

For variable speed drives, variable speed pulley rim speeds must never exceed 10,500 feet per minute. Companion pulley speeds beyond the ratings contained in this catalog are not recommended. For Fixed Center Drives, do not start until a torque arm bracket is installed. Failure to install torque arm bracket will cause torque arm to rotate rapidly and may cause severe injury from moving parts. Do not attempt to disassemble spring loaded pulley because parts may be thrown with sufficient force to cause injury or death.

Do not use any of these power transmission products for elevators, man lifts, or other devices that carry people. If the power transmission product fails, the lift device could fall resulting in severe injury or death.

For all power transmission products, you must install suitable guards in accordance with OSHA and American Society of Mechanical Engineers Standards. Do not start power transmission product before suitable guards are in place. Failure to properly guard these products may result in severe injury or death from personnel contacting moving parts or from parts being thrown from assembly in the event the power transmission product fails.

If you have any questions, contact the Lovejoy Engineering Department at 1-630-852-0500.

Engineering Data

Table of Contents

	Running Page No.	Section Page No.
Misalignment Fundamentals	490	ED-4
HP, RPM, Kilowatts and Torque > Overview	492	ED-6
Overhung Loads > Overview	493	ED-7
Formulas / Equations > Overview	494	ED-8
Sleeve and Flexible Element > Chemical Resistance Chart	495	ED-9
U.S. Customary Inch / Clearance-fit and Interference-fit > Bore and Keyway Standards	496	ED-10
Inch / Metric One Key > Recommended Keys	501	ED-15
Inch / Metric Keys and Metric Shaft Bores	502	ED-16
Lovejoy, Inc. Customary Metric / Clearance-fit and Interference-fit > Bore and Keyway Standards	503	ED-17
IEC Motor Frames > Dimensional Data	506	ED-20
IEC Motor Frame Drawings > Dimensional Data	507	ED-21
Nema Quick Reference Chart – Inch > Dimensional Data	508	ED-22
Nema Motor Frame > Dimensional Data	509	ED-23

A Brief Tutorial on Misalignment

The function of a coupling is to connect driving and driven equipment. In addition, a coupling serves to protect costly equipment from the effects of misalignment, shock loads, vibration and shaft end float. Of these factors, the most common is misalignment and end float (also known as axial misalignment).

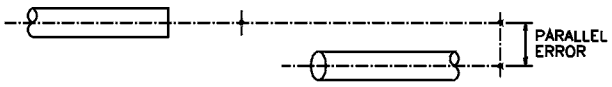
Misalignment is a condition created by two shafts whose axes are not in the same straight line. There are three forms of misalignment: parallel, angular, or the combination of the two. End float is the relative motion of two shaft ends.

Parallel misalignment occurs when the axes of the connected shafts are parallel, but not in the same straight line (figure 1). Angular misalignment occurs when the axes of the shafts intersect at the center point of the coupling (figure 2). End float occurs when one shaft moves along its axis relative to the other shaft. (figure 3)

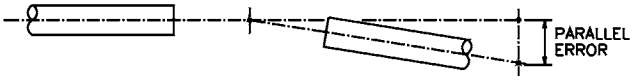
Misalignment can result from a combination of manufacturing tolerances, poor installation practices, thermal growth or shrinkage, foundation movement, and/or component wear. The combination of angular and parallel misalignment within a system may be more detrimental to the coupling and equipment than either of the individual misalignment (figure 4). Axial misalignment- result of either thrust loads, reaction loads, or heat generated movement - compounds the problem. Not understanding the amount of misalignment that the coupling must handle or installing a coupling where it exceeds a maximum rated misalignment can result in premature coupling failure and/or significant equipment damage.

Misalignment and Coupling Failure

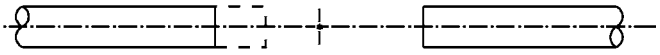
The life expectancy of a coupling is affected by the degree of misalignment. The larger the misalignment, the shorter the life of the coupling as shown in figure 5. Misalignment may cause heat generation, fatigue, and an increase in wear in bearings of the drive and driven components.



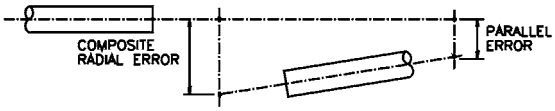
Parallel Misalignment
Figure 1



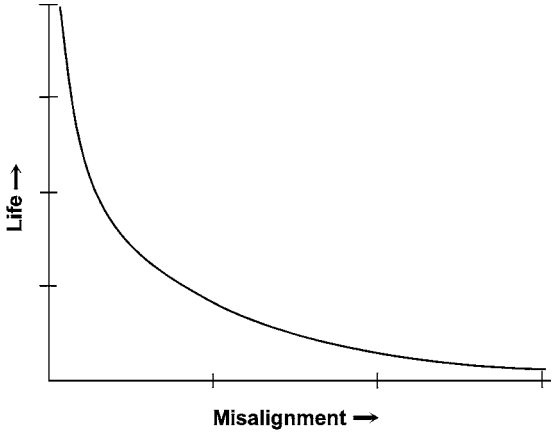
Angular Misalignment
Figure 2



Axial Misalignment
Figure 3



Composite Radial Misalignment
Figure 4



Life Versus Misalignment
Figure 5

WARNING

You must refer to page ED-2 (Page 488) for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

When Misalignment Can Not be Measured

When it is not possible to measure the misalignment of a system, or in designing a new system, the following method can be used to estimate angular, parallel and combined misalignment. Each type of misalignment is first calculated and then the results are combined.

To calculate the maximum angular misalignment, the distance (L) and angle (a) must be known or estimated (see example below). First, calculate the angular misalignment noting the critical plane or midpoint of the shaft ends. Second, using the maximum parallel misalignment, be sure to consider both horizontal and vertical directions (figure 3). Maximum parallel misalignment occurs when the shafts are diagonally opposed. Third, combine the results.

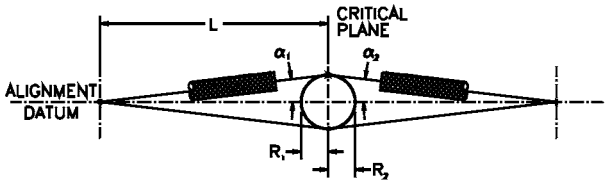


Figure 1

Worked example

Calculate the worst possible composite alignment misalignment when:

α_1 max = ±0.4°
α_2 max = ±0.4°

L max = 3 in	L max = 75 mm (LH and RH shafts)
P_1 max = 0.008 in	P_1 max = 0.2 mm
P_2 max = 0.008 in	P_2 max = 0.2 mm

1. Worst possible angular misalignment (figure 1) $= \alpha_1 + \alpha_2$
   $= 0.4° + 0.4°$
   $= 0.8°$

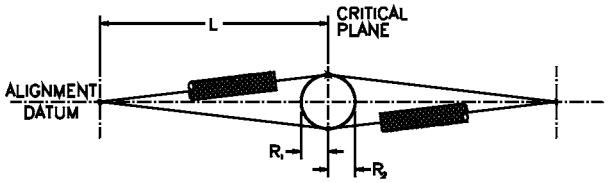


Figure 2

2. Maximum radial misalignment (figure 2) = $R_1 + R_2$

   Since α_1 and α_2 are equal, $R_1 = R_2$

Calculate for $2(R_1)$	$= 2 (\tan \alpha_1 \times L)$
$= 2 (\tan \alpha_1 \times L)$	$= 2 (\tan 0.4 \times 75)$
$= 2 (\tan 0.4 \times 3)$	$= 2 (0.007 \times 75)$
$= 2 (0.007 \times 3)$	$= 1.05$ mm
$= 0.042$ in	

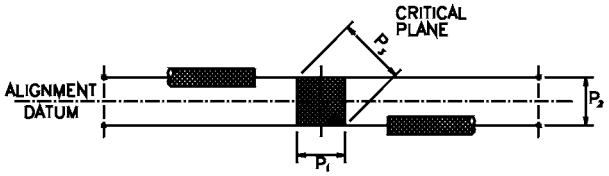


Figure 3

3. Maximum parallel misalignment P_3 (figure 3)= $\sqrt{P_1^2 + P_2^2}$

$= \sqrt{0.008^2 + 0.008^2}$	$= \sqrt{0.2^2 + 0.2^2}$
$= 0.0113$ in	$= 0.28$ mm

4. Worst possible misalignment (figure 4) $R_C = R_1 + R_2 + P_3$

$= 0.042 + 0.0113$	$= 1.05 + 0.28$
$= 0.0533$ in	$= 1.33$ mm

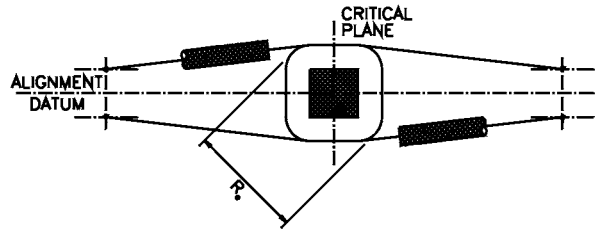


Figure 4

Note: ■ Relatively minor angular misalignments can produce disproportionate radial misalignments. In this example, they account for approximately 80% of the worst possible composite misalignment.

Summary

Worst possible angular misalignment	$= \alpha_1 + \alpha_2$ (figure 1)
Maximum radial misalignment	$= R_1 + R_2$ (figure 2)
Maximum parallel misalignment $\sqrt{(P_1^2 + P_2^2)}$	$= P_3$ (figure 3)
Worst possible composite radial misalignment R_C	$= R_1 + R_2 + P_3$ (figure 4)

Figures 1 through 4 represent that $\alpha_1 = \alpha_2$ and $P_1 = P_2$, and that L is the same for LH and RH shafts.

ED

Formulas and Equations

Horsepower

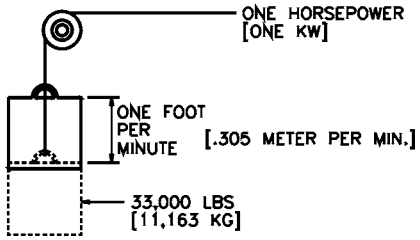
One HP is the rate of work required to raise 33,000 pounds one foot in one minute.

$$HP = \frac{\text{Force} \times \text{FPM}}{33{,}000} \qquad HP = \frac{\text{Torque (in pound-inches)} \times \text{RPM}}{63{,}025}$$

$$HP = \frac{\text{Torque (in pound-feet)} \times \text{RPM}}{5{,}252}$$

FPM = Feet per minute

RPM = Revolutions per minute



Horsepower per Hundred RPM

When the HP is given and the RPM, N, is known, HP/C is:

$$HP/C = \frac{HP \times 100}{N}$$

Once HP/C is known, HP @ N RPM is found by HP=HP/C x N

Example:

15 HP @ 1750 RPM is:

$$HP/C = \frac{15 \times 100}{1750} = .85 \text{ HP per 100 RPM (HP/C)}$$

Using .85 HP/C, the HP rating @ 800 RPM is:

$$\frac{.85}{100} \times 800 = .85 \times 8 = 6.8 \text{ HP}$$

Kilowatts

One KW is the rate of work required to raise 11,163 kg 0.305 meter in one minute.

$$KW = \frac{Nm \times RPM}{9{,}550}$$

Torque

The twisting or turning effort around a shaft tending to cause rotation. Torque is determined by multiplying the applied force by the distance from the point where force is applied to the shaft center.

TQ = F (force) x R (radius)

Inch example:

20 HP at 100 RPM = 12,605 pound-inches Torque

$$\text{Torque (in-lb)} = \frac{63{,}025 \times HP}{RPM}$$

$$= \text{Force} \times \text{Lever Arm (in inches)}$$

$$\text{Torque (ft-lb)} = \frac{5{,}252 \times HP}{RPM}$$

$$= \text{Force} \times \text{Lever Arm (in feet)}$$

Force = Working load in pounds

Lever Arm = Distance from the force to the center of rotation in inches or feet.

Conversions

KW x 1.341 = HP
HP x 0.7457 = KW
Nm x 0.737562 = ft-lb
Nm x 8.85 = in-lb
ft-lb x 1.356 = Nm
in-lb x 0.113 = Nm
HP x 550 = ft-lb/sec

Metric example:

10 KW at 100 RPM = 955 Nm:

$$\text{Torque (Nm)} = \frac{KW \times 9{,}550}{RPM}$$

Force = Working load in Newtons

Lever Arm = Distance from the Force to the center of rotation in millimeters.

ED

Formulas and Equations

Overhung Loads

An overhung load is a bending force imposed on a shaft due to the torque transmitted by V-drives, chain drives and other power transmission devices, other than flexible couplings.

Most motor and reducer manufacturers list the maximum values allowable for overhung loads. These values should be compared with the load actually imposed by the connected drive.

Weights of the drive components are usually negligible. The formulas are based on the assumption that the load is applied at a point equal to one shaft diameter from the bearing face. Factor F, shown at right, depends on the type of drive used.

F =
- 1.00 for single chain drives
- 1.10 for timing belt drives
- 1.25 for spur or helical gear or double chain drives
- 1.50 for V-belt drives
- 2.50 for flat belt drives

Inch example:

Find the overhung load imposed on a reducer by a double chain drive transmitting 7 HP @ 30 RPM. The pitch diameter of the sprocket is 10 in; service factor is 1.3.

Solution:

$$\text{O.H.L} = \frac{(63{,}025)\ (7 \times 1.3)\ (1.25)}{(30)\ (5)} = 4{,}779.4 \text{ lbs}$$

$$\text{O.H.L.} = \frac{63{,}025 \times \text{HP} \times \text{F}}{\text{N} \times \text{R}}$$

HP = Transmitted HP x service factor
N = RPM of shaft
R = Radius of sprocket, pulley, etc.
F = Factor

Metric example:

Find the overhung load imposed on a reducer by a double chain drive transmitting 10 KW @ 30 RPM. The pitch diameter of the sprocket is 254 mm; service factor is 1.3.

Solution:

$$\text{O.H.L} = \frac{(376)\ (10 \times 1.3)\ (1.25)}{(30)\ (1.27)} = 160 \text{ N}$$

$$\text{O.H.L.} = \frac{376 \times \text{KW} \times \text{F}}{\text{N} \times \text{R}}$$

KW = Transmitted KW x service factor
N = RPM of shaft
R = Radius of sprocket, pulley, etc. (mm)
F = Factor

Formulas and Equations

Horsepower / Speed / Torque Relationships

HP		Speed (RPM)		Torque	
Constant	—	Increases	↑	Decreases	↓
Constant	—	Decreases	↓	Increases	↑
Increases	↑	Constant	—	Increases	↑
Decreases	↓	Constant	—	Decreases	↓
Increases	↑	Increases	↑	Constant	—
Decreases	↓	Decreases	↓	Constant	—

Electrical Formulas

To Find	Alternating Current		To Find	Alternating or Direct Current
	Single Phase	Three Phase		
Amperes when horsepower is known	$\frac{HP \times 746}{E \times Eff \times pf}$	$\frac{HP \times 746}{1.73 \times E \times Eff \times pf}$	Amperes when voltage and resistance are known	$\frac{E}{R}$
Amperes when kilowatts are known	$\frac{KW \times 1{,}000}{E \times pf}$	$\frac{KW \times 1{,}000}{1.73 \times E \times pf}$	Voltage when resistance and current are known	IR
Amperes when Kva are known	$\frac{Kva \times 1{,}000}{E}$	$\frac{Kva \times 1{,}000}{1.73 \times E}$	Resistance when voltage and current are known	$\frac{E}{I}$
Kilowatts	$\frac{I \times E \times pf}{1{,}000}$	$\frac{1.73 \times I \times E \times pf}{1{,}000}$	**General Information (Approximation)**	
Kva	$\frac{I \times E}{1{,}000}$	$\frac{1.73 \times I \times E}{1{,}000}$	***(All values at 100% load)***	
Horsepower = (Output)	$\frac{I \times E \times Eff \times pf}{746}$	$\frac{1.73 \times I \times E \times Eff \times pf}{746}$	At 1,800 RPM, a motor develops 36 in-lb per HP At 1,200 RPM, a motor develops 54 in-lb per HP At 575 volts, a three-phase motor draws 1 amp per HP At 460 volts, a three-phase motor draws 1.25 amp per HP At 230 volts, a three-phase motor draws 2.5 amp per HP At 230 volts, a single-phase motor draws 5 amp per HP At 115 volts, a single-phase motor draws 10 amp per HP	
I = Amperes; E = Volts; Eff = Efficiency; pf = power factor; Kva = Kilovolt amperes; KW = Kilowatts; R = Ohms			**Temperature conversion** Deg C = (Deg. F - 32) x 5/9 Deg F = (Deg. C x 9/5) + 32	

Motor Amps @ Full Load[1]

HP	Alt Current		DC	HP	Alt Current		DC	HP	Alt Current		DC	HP	Alt Current		DC
	Single-Phase	Three-Phase			Single-Phase	Three-Phase			Single-Phase	Three-Phase			Single-Phase	Three-Phase	
1/2	4.9	2.0	2.7	**5**	28	14.4	20	**25**	–	60	92	**75**	–	180	268
1	8.0	3.4	4.8	**7-1/2**	40	21.0	29	**30**	–	75	110	**100**	–	240	355
1-1/2	10.0	4.8	6.6	**10**	50	26.0	38	**40**	–	100	146	**125**	–	300	443
2	12.0	6.2	8.5	**15**	–	38.0	56	**50**	–	120	180	**150**	–	360	534
3	17.0	8.6	12.5	**20**	–	50.0	74	**60**	–	150	215	**200**	–	480	712

Notes: ■ 1 indicates: Values are for all speeds and frequencies @ 230 volts.
■ Amperage other than 230 volts can be figured:

$$V = \frac{230 \times \text{Amp from Table}}{\text{New Voltage}}$$

Example:

For 60 HP, three-phase @ 550 volts: $\frac{(230 \times 150)}{550} = 62$ amps

Power factor estimated @ 80 percent for most motors. Efficiency is usually 80 to 90 percent.

ED

Sleeve and Flexible Element Chemical Resistance Chart

Legend: A = Fluid has little or no effect; B = Fluid has minor to moderate effect; C = Fluid has severe effect; = No data available.

Resistance to:	NBR ("SOX")	Urethane	Hytrel®	EPDM	Neoprene
Acetone	C	C	B	A	B
Ammonia Anhydrous	–	–	–	A	A
Ammonium Hydroxide Solutions	C	C	A	A	A (158°F)
ASTM oil No. 1	A	A	A	C	A
ASTM oil No. 3	A	B	A	C	B-C (158°F)
ASTM reference fuel A	A	A	A	C	B
ASTM reference fuel B	A	B	A	C	C
ASTM reference fuel C	B	C	B	C	C
Benzene	C	C	B	C	C
Butane	A	A	A	C	A
Carbon Tetrachloride	C	C	C	C	C
Chlorobenzene	C	C	C	C	C
Chloroform	C	C	C	C	C
Chromic Acid 10-50%	C	C	–	C	C
Dowtherm A or E solvent	–	–	–	C	C
Ethyl Alcohol	C	C	A	A	A (158°F)
Ethylene Glyco	A	B	A	A	A (158°F)
Fuel Oil	A	C	–	C	A
Gasoline	A	B	A	C	B
Glycerine	A	C	A	A	A
Hydraulic Oils (Petroleum Based)	A	A	A	C	A-B
Hydrochloric Acid, 37% (cold)	C	C	C	A	A-B
Hydrogen Peroxide, 90%	C	–	–	C	C
Isopropyl Alcohol	B	C	A	A	A-B
Kerosene	A	B	A	C	B-C
Lacquer Solvents (MEK)	C	C	C	C	C
Lubricating Oils	B	–	A	C	B
Methyl Alcohol	C	C	A	A	A
Mineral Oil	A	A	A	C	B
Naphtha	C	C	A	C	C
Nitric Acid, 10%	C	C	B	B	B
Nitrobenzene	C	C	C	C	C
Phenol	C	C	B	C	C
Phosphoric Acid, 20%	C	A	–	A	B
Phosphate Esters	–	–	A	C	C
Pickling Solution (20% Nitric Acid, 4% HP)	C	C	C	C	C
Soap Solutions	A	A	A	A	A(158°F)
Sodium Hydroxide, 20%	B	B	A	A	B
Stearic Acid	B	A	A	B	B (158°F)
Sulfuric Acid, up to 50%	C	C	A	B	A-B (158°F)
Sulfuric Acid, 50% to 80%	C	C	C	B	B-C
Tannic Acid, 10%	A	–	A	A	A-B
Toluene	C	C	A	C	C
Trichloroethylene	C	C	B	C	C
Turpentine	A	C	–	C	C
Water	A	–	B (158°F)	A (158°F)	A (212°F)
Xylene	C	C	B	C	C

U.S. Customary Inch - Clearance-fit and Interference-fit Bore and Keyway Standards

Bore and Keyway dimensions comply with ANSI/AGMA 9002-B04 Standard.

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.001/ -0.000	Min	Max	-0.0005/ -0.0010	Min	Max	Width +0.002/ -0.000	Height (ref)	+0.015/-0.000
3/8	0.3750	0.3750	0.3760	0.3750	0.3740	0.3745	0.0938	0.0469	0.421
7/16	0.4375	0.4375	0.4385	0.4375	0.4365	0.4370	0.0938	0.0469	0.484
1/2	0.5000	0.5000	0.5010	0.5000	0.4990	0.4995	0.1250	0.0625	0.560
9/16	0.5625	0.5625	0.5635	0.5625	0.5615	0.5620	0.1250	0.0625	0.623
5/8	0.6250	0.6250	0.6260	0.6250	0.6240	0.6245	0.1875	0.0938	0.709
11/16	0.6875	0.6875	0.6885	0.6875	0.6865	0.6870	0.1875	0.0938	0.773
3/4	0.7500	0.7500	0.7510	0.7500	0.7490	0.7495	0.1875	0.0938	0.837
13/16	0.8125	0.8125	0.8135	0.8125	0.8115	0.8120	0.1875	0.0938	0.900
7/8	0.8750	0.8750	0.8760	0.8750	0.8740	0.8745	0.1875	0.0938	0.964
15/16	0.9375	0.9375	0.9385	0.9375	0.9365	0.9370	0.2500	0.1250	1.051
1	1.0000	1.0000	1.0010	1.0000	0.9990	0.9995	0.2500	0.1250	1.114
1-1/16	1.0625	1.0625	1.0635	1.0625	1.0615	1.0620	0.2500	0.1250	1.178
1-1/8	1.1250	1.1250	1.1260	1.1250	1.1240	1.1245	0.2500	0.1250	1.241
1-3/16	1.1875	1.1875	1.1885	1.1875	1.1865	1.1870	0.2500	0.1250	1.304
1-1/4	1.2500	1.2500	1.2510	1.2500	1.2490	1.2495	0.2500	0.1250	1.367
1-5/16	1.3125	1.3125	1.3135	1.3125	1.3115	1.3120	0.3125	0.1562	1.455
1-3/8	1.3750	1.3750	1.3760	1.3750	1.3740	1.3745	0.3125	0.1562	1.518

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.001/ -0.000	Min	Max	-0.0005/ -0.0010	Min	Max	Width +0.0025/-0.0000	Height (ref)	+0.015/-0.000
1-7/16	1.4375	1.4375	1.4385	1.4375	1.4365	1.4370	0.3750	0.1875	1.605
1-1/2	1.5000	1.5000	1.5010	1.5000	1.4990	1.4995	0.3750	0.1875	1.669

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.001/ -0.000	Min	Max	-0.001/ -0.002	Min	Max	Width +0.0025/-0.0000	Height (ref)	+0.015/-0.000
1-9/16	1.5625	1.5625	1.5635	1.5625	1.5605	1.5615	0.3750	0.1875	1.732
1-5/8	1.6250	1.6250	1.6260	1.6250	1.6230	1.6240	0.3750	0.1875	1.796
1-11/16	1.6875	1.6875	1.6885	1.6875	1.6855	1.6865	0.3750	0.1875	1.859
1-3/4	1.7500	1.7500	1.7510	1.7500	1.7480	1.7490	0.3750	0.1875	1.922
1-13/16	1.8125	1.8125	1.8135	1.8125	1.8105	1.8115	0.5000	0.2500	2.032
1-7/8	1.8750	1.8750	1.8760	1.8750	1.8730	1.8740	0.5000	0.2500	2.096
1-15/16	1.9375	1.9375	1.9385	1.9375	1.9355	1.9365	0.5000	0.2500	2.160
2	2.0000	2.0000	2.0010	2.0000	1.9980	1.9990	0.5000	0.2500	2.223

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.0015/ -0.0000	Min	Max	-0.001/ -0.002	Min	Max	Width +0.0025/-0.0000	Height (ref)	+0.015/-0.000
2-1/16	2.0625	2.0625	2.0640	2.0625	2.0605	2.0615	0.5000	0.2500	2.287
2-1/8	2.1250	2.1250	2.1265	2.1250	2.1230	2.1240	0.5000	0.2500	2.350
2-3/16	2.1875	2.1875	2.1890	2.1875	2.1855	2.1865	0.5000	0.2500	2.414
2-1/4	2.2500	2.2500	2.2515	2.2500	2.2480	2.2490	0.5000	0.2500	2.477

Note: ■ Class 1 clearance fits assumed.

U.S. Customary Inch - Clearance-fit and Interference-fit Bore and Keyway Standards

Bore and Keyway dimensions comply with ANSI/AGMA 9002-B04 Standard.

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.0015/ -0.0000	Min	Max	-0.001/ -0.002	Min	Max	Width +0.003/-0.000	Height (ref)	+0.015/-0.000
2-5/16	2.3125	2.3125	2.3140	2.3125	2.3105	2.3115	0.6250	0.3125	2.587
2-3/8	2.3750	2.3750	2.3765	2.3750	2.3730	2.3740	0.6250	0.3125	2.651
2-7/16	2.4375	2.4375	2.4390	2.4375	2.4355	2.4365	0.6250	0.3125	2.714
2-1/2	2.5000	2.5000	2.5015	2.5000	2.4980	2.4990	0.6250	0.3125	2.778
2-9/16	2.5625	2.5625	2.5640	2.5625	2.5605	2.5615	0.6250	0.3125	2.841
2-5/8	2.6250	2.6250	2.6265	2.6250	2.6230	2.6240	0.6250	0.3125	2.905
2-11/16	2.6875	2.6875	2.6890	2.6875	2.6855	2.6865	0.6250	0.3125	2.968
2-3/4	2.7500	2.7500	2.7515	2.7500	2.7480	2.7490	0.6250	0.3125	3.032
2-13/16	2.8125	2.8125	2.8140	2.8125	2.8105	2.8115	0.7500	0.3750	3.142
2-7/8	2.8750	2.8750	2.8765	2.8750	2.8730	2.8740	0.7500	0.3750	3.205
2-15/16	2.9375	2.9375	2.9390	2.9375	2.9355	2.9365	0.7500	0.3750	3.269
3	3.0000	3.0000	3.0015	3.0000	2.9980	2.9990	0.7500	0.3750	3.332

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.0015/ -0.0000	Min	Max	-0.0015/ -0.0030	Min	Max	Width +0.003/-0.000	Height (ref)	+0.015/-0.000
3-1/16	3.0625	3.0625	3.0640	3.0625	3.0595	3.0610	0.7500	0.3750	3.396
3-1/8	3.1250	3.1250	3.1265	3.1250	3.1220	3.1235	0.7500	0.3750	3.459
3-3/16	3.1875	3.1875	3.1890	3.1875	3.1845	3.1860	0.7500	0.3750	3.523
3-1/4	3.2500	3.2500	3.2515	3.2500	3.2470	3.2485	0.7500	0.3750	3.586
3-5/16	3.3125	3.3125	3.3140	3.3125	3.3095	3.3110	0.8750	0.4375	3.696
3-3/8	3.3750	3.3750	3.3765	3.3750	3.3720	3.3735	0.8750	0.4375	3.760
3-7/16	3.4375	3.4375	3.4390	3.4375	3.4345	3.4360	0.8750	0.4375	3.823
3-1/2	3.5000	3.5000	3.5015	3.5000	3.4970	3.4985	0.8750	0.4375	3.887
3-9/16	3.5625	3.5625	3.5640	3.5625	3.5595	3.5610	0.8750	0.4375	3.950
3-5/8	3.6250	3.6250	3.6265	3.6250	3.6220	3.6235	0.8750	0.4375	4.014
3-11/16	3.6875	3.6875	3.6890	3.6875	3.6845	3.6860	0.8750	0.4375	4.077
3-3/4	3.7500	3.7500	3.7515	3.7500	3.7470	3.7485	0.8750	0.4375	4.141
3-13/16	3.8125	3.8125	3.8140	3.8125	3.8095	3.8110	1.0000	0.5000	4.251
3-7/8	3.8750	3.8750	3.8765	3.8750	3.8720	3.8735	1.0000	0.5000	4.314
3-15/16	3.9375	3.9375	3.9390	3.9375	3.9345	3.9360	1.0000	0.5000	4.378
4	4.0000	4.0000	4.0015	4.0000	3.9970	3.9985	1.0000	0.5000	4.441

Nominal Bore Diameter	Clearance Bore			Interference Bore			Keyway		"T"-DIM
	+0.0015/ -0.0000	Min	Max	-0.0020/ -0.0035	Min	Max	Width +0.003/-0.000	Height (ref)	+0.015/-0.000
4-1/16	4.0625	4.0625	4.0640	4.0625	4.0590	4.0605	1.0000	0.5000	4.505
4-1/8	4.1250	4.1250	4.1265	4.1250	4.1215	4.1230	1.0000	0.5000	4.568
4-3/16	4.1875	4.1875	4.1890	4.1875	4.1840	4.1855	1.0000	0.5000	4.632
4-1/4	4.2500	4.2500	4.2515	4.2500	4.2465	4.2480	1.0000	0.5000	4.695
4-5/16	4.3125	4.3125	4.3140	4.3125	4.3090	4.3105	1.0000	0.5000	4.759
4-3/8	4.3750	4.3750	4.3765	4.3750	4.3715	4.3730	1.0000	0.5000	4.822
4-7/16	4.4375	4.4375	4.4390	4.4375	4.4340	4.4355	1.0000	0.5000	4.885
4-1/2	4.5000	4.5000	4.5015	4.5000	4.4965	4.4980	1.0000	0.5000	4.949

Note: ■ Class 1 clearance fits assumed.

ED

U.S. Customary Inch - Clearance-fit and Interference-fit Bore and Keyway Standards

Bore and Keyway dimensions comply with ANSI/AGMA 9002-B04 Standard.

Nominal Bore Diameter	Clearance Bore +0.0015/-0.0000	Clearance Bore Min	Clearance Bore Max	Interference Bore -0.0020/-0.0035	Interference Bore Min	Interference Bore Max	Keyway Width +0.0035/-0.0000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
4-9/16	4.5625	4.5625	4.5640	4.5625	4.5590	4.5605	1.2500	0.6250	5.105
4-5/8	4.6250	4.6250	4.6265	4.6250	4.6215	4.6230	1.2500	0.6250	5.169
4-11/16	4.6875	4.6875	4.6890	4.6875	4.6840	4.6855	1.2500	0.6250	5.233
4-3/4	4.7500	4.7500	4.7515	4.7500	4.7465	4.7480	1.2500	0.6250	5.296
4-13/16	4.8125	4.8125	4.8140	4.8125	4.8090	4.8105	1.2500	0.6250	5.360
4-7/8	4.8750	4.8750	4.8765	4.8750	4.8715	4.8730	1.2500	0.6250	5.424
4-15/16	4.9375	4.9375	4.9390	4.9375	4.9340	4.9355	1.2500	0.6250	5.487
5	5.0000	5.0000	5.0015	5.0000	4.9965	4.9980	1.2500	0.6250	5.551

Nominal Bore Diameter	Clearance Bore +0.0015/-0.0000	Clearance Bore Min	Clearance Bore Max	Interference Bore -0.0025/-0.0040	Interference Bore Min	Interference Bore Max	Keyway Width +0.0035/-0.0000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
5-1/16	5.0625	5.0625	5.0640	5.0625	5.0585	5.0600	1.2500	0.6250	5.614
5-1/8	5.1250	5.1250	5.1265	5.1250	5.1210	5.1225	1.2500	0.6250	5.678
5-3/16	5.1875	5.1875	5.1890	5.1875	5.1835	5.1850	1.2500	0.6250	5.741
5-1/4	5.2500	5.2500	5.2515	5.2500	5.2460	5.2475	1.2500	0.6250	5.805
5-5/16	5.3125	5.3125	5.3140	5.3125	5.3085	5.3100	1.2500	0.6250	5.868
5-3/8	5.3750	5.3750	5.3765	5.3750	5.3710	5.3725	1.2500	0.6250	5.931
5-7/16	5.4375	5.4375	5.4390	5.4375	5.4335	5.4350	1.2500	0.6250	5.995
5-1/2	5.5000	5.5000	5.5015	5.5000	5.4960	5.4975	1.2500	0.6250	6.058
5-9/16	5.5625	5.5625	5.5640	5.5625	5.5585	5.5600	1.5000	0.7500	6.214
5-5/8	5.6250	5.6250	5.6265	5.6250	5.6210	5.6225	1.5000	0.7500	6.278
5-11/16	5.6875	5.6875	5.6890	5.6875	5.6835	5.6850	1.5000	0.7500	6.342
5-3/4	5.7500	5.7500	5.7515	5.7500	5.7460	5.7475	1.5000	0.7500	6.405
5-13/16	5.8125	5.8125	5.8140	5.8125	5.8085	5.8100	1.5000	0.7500	6.469
5-7/8	5.8750	5.8750	5.8765	5.8750	5.8710	5.8725	1.5000	0.7500	6.533
5-15/16	5.9375	5.9375	5.9390	5.9375	5.9335	5.9350	1.5000	0.7500	6.596
6	6.0000	6.0000	6.0015	6.0000	5.9960	5.9975	1.5000	0.7500	6.660
6-1/16	6.0625	6.0625	6.0640	6.0625	6.0585	6.0600	1.5000	0.7500	6.723
6-1/8	6.1250	6.1250	6.1265	6.1250	6.1210	6.1225	1.5000	0.7500	6.787
6-3/16	6.1875	6.1875	6.1890	6.1875	6.1835	6.1850	1.5000	0.7500	6.850
6-1/4	6.2500	6.2500	6.2515	6.2500	6.2460	6.2475	1.5000	0.7500	6.914
6-5/16	6.3125	6.3125	6.3140	6.3125	6.3085	6.3100	1.5000	0.7500	6.977
6-3/8	6.3750	6.3750	6.3765	6.3750	6.3710	6.3725	1.5000	0.7500	7.041
6-7/16	6.4375	6.4375	6.4390	6.4375	6.4335	6.4350	1.5000	0.7500	7.104
6-1/2	6.5000	6.5000	6.5015	6.5000	6.4960	6.4975	1.5000	0.7500	7.167

Nominal Bore Diameter	Clearance Bore No Standard Tolerance	Interference Bore -0.0020/-0.0040	Interference Bore Min	Interference Bore Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
6-9/16		6.5625	6.5585	6.5600	1.7500	0.7500	7.199
6-5/8		6.6250	6.6210	6.6225	1.7500	0.7500	7.262
6-11/16		6.6875	6.6835	6.6850	1.7500	0.7500	7.326
6-3/4		6.7500	6.7460	6.7475	1.7500	0.7500	7.390
6-13/16		6.8125	6.8085	6.8100	1.7500	0.7500	7.453
6-7/8		6.8750	6.8710	6.8725	1.7500	0.7500	7.517
6-15/16		6.9375	6.9335	6.9350	1.7500	0.7500	7.580
7		7.0000	6.9960	6.9975	1.7500	0.7500	7.644

Notes:
- Class 1 clearance fits assumed; no standards for clearance fit above 6-1/2 inches.
- Clearance fit bore tolerance is +.002/-.000 for cast iron components on bores above 4-1/2 inches.

ED

U.S. Customary Inch - Clearance-fit and Interference-fit Bore and Keyway Standards

Bore and Keyway dimensions comply with ANSI/AGMA 9002-B04 Standard.

Nominal Bore Diameter	Interference Bore -0.003/-0.005 Min	Interference Bore -0.003/-0.005 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
7-1/8	7.1250	7.1220	1.7500	0.7500	7.771
7-1/4	7.2500	7.2470	1.7500	0.7500	7.898
7-3/8	7.3750	7.3720	1.7500	0.7500	8.025
7-1/2	7.5000	7.4970	1.7500	0.7500	8.151
7-5/8	7.6250	7.6220	2.0000	0.7500	8.247
7-3/4	7.7500	7.7470	2.0000	0.7500	8.374
7-7/8	7.8750	7.8720	2.0000	0.7500	8.501
8	8.0000	7.9970	2.0000	0.7500	8.628

Nominal Bore Diameter	Interference Bore -0.0035/-0.0055 Min	Interference Bore -0.0035/-0.0055 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
8-1/8	8.1250	8.1215	2.0000	0.7500	8.755
8-1/4	8.2500	8.2465	2.0000	0.7500	8.882
8-3/8	8.3750	8.3715	2.0000	0.7500	9.009
8-1/2	8.5000	8.4965	2.0000	0.7500	9.136
8-5/8	8.6250	8.6215	2.0000	0.7500	9.262
8-3/4	8.7500	8.7465	2.0000	0.7500	9.389
8-7/8	8.8750	8.8715	2.0000	0.7500	9.516
9	9.0000	8.9965	2.0000	0.7500	9.642

Nominal Bore Diameter	Interference Bore -0.004/-0.006 Min	Interference Bore -0.004/-0.006 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
9-1/8	9.1250	9.1210	2.5000	0.8750	9.830
9-1/4	9.2500	9.2460	2.5000	0.8750	9.958
9-3/8	9.3750	9.3710	2.5000	0.8750	10.085
9-1/2	9.5000	9.4960	2.5000	0.8750	10.213
9-5/8	9.6250	9.6210	2.5000	0.8750	10.340
9-3/4	9.7500	9.7460	2.5000	0.8750	10.467
9-7/8	9.8750	9.8710	2.5000	0.8750	10.594
10	10.0000	9.9960	2.5000	0.8750	10.721

Nominal Bore Diameter	Interference Bore -0.0045/-0.0065 Min	Interference Bore -0.0045/-0.0065 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
10-1/8	10.1250	10.1205	2.5000	0.8750	10.848
10-1/4	10.2500	10.2455	2.5000	0.8750	10.975
10-3/8	10.3750	10.3705	2.5000	0.8750	11.102
10-1/2	10.5000	10.4955	2.5000	0.8750	11.229
10-5/8	10.6250	10.6205	2.5000	0.8750	11.356
10-3/4	10.7500	10.7455	2.5000	0.8750	11.483
10-7/8	10.8750	10.8705	2.5000	0.8750	11.609
11	11.0000	10.9955	2.5000	0.8750	11.736

Note: ■ No standard for clearance fit above 6-1/2 inches; please contact Lovejoy Technical Support.

ED

U.S. Customary Inch - Clearance-fit and Interference-fit Bore and Keyway Standards

Bore and Keyway dimensions comply with ANSI/AGMA 9002-B04 Standard.

Nominal Bore Diameter	Interference Bore -0.005/-0.007 Min	Interference Bore -0.005/-0.007 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
11-1/4	11.2500	11.2450	3.0000	1.0000	12.051
11-1/2	11.5000	11.4950	3.0000	1.0000	12.306
11-3/4	11.7500	11.7450	3.0000	1.0000	12.560
12	12.0000	11.9950	3.0000	1.0000	12.814

Nominal Bore Diameter	Interference Bore -0.0055/-0.0075 Min	Interference Bore -0.0055/-0.0075 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
12-1/4	12.2500	12.2445	3.0000	1.0000	13.068
12-1/2	12.5000	12.4945	3.0000	1.0000	13.322
12-3/4	12.7500	12.7445	3.0000	1.0000	13.576
13	13.0000	12.9945	3.0000	1.0000	13.830

Nominal Bore Diameter	Interference Bore -0.0065/-0.0085 Min	Interference Bore -0.0065/-0.0085 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
13-1/4	13.2500	13.2435	3.5000	1.2500	14.270
13-1/2	13.5000	13.4935	3.5000	1.2500	14.524
13-3/4	13.7500	13.7435	3.5000	1.2500	14.779
14	14.0000	13.9935	3.5000	1.2500	15.033

Nominal Bore Diameter	Interference Bore -0.007/-0.009 Min	Interference Bore -0.007/-0.009 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
14-1/4	14.2500	14.2430	3.5000	1.2500	15.287
14-1/2	14.5000	14.4930	3.5000	1.2500	15.541
14-3/4	14.7500	14.7430	3.5000	1.2500	15.794
15	15.0000	14.9930	3.5000	1.2500	16.048

Nominal Bore Diameter	Interference Bore -0.0075/-0.0100 Min	Interference Bore -0.0075/-0.0100 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
15-1/4	15.2500	15.2425	4.0000	1.5000	16.488
15-1/2	15.5000	15.4925	4.0000	1.5000	16.742
15-3/4	15.7500	15.7425	4.0000	1.5000	16.997
16	16.0000	15.9925	4.0000	1.5000	17.251

Nominal Bore Diameter	Interference Bore -0.0080/-0.0105 Min	Interference Bore -0.0080/-0.0105 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
16-1/4	16.2500	16.2420	4.0000	1.5000	17.505
16-1/2	16.5000	16.4920	4.0000	1.5000	17.759
16-3/4	16.7500	16.7420	4.0000	1.5000	18.013
17	17.0000	16.9920	4.0000	1.5000	18.266

Nominal Bore Diameter	Interference Bore -0.0085/-0.0110 Min	Interference Bore -0.0085/-0.0110 Max	Keyway Width +0.004/-0.000	Keyway Height (ref)	"T"-DIM +0.015/-0.000
17-1/4	17.2500	17.2415	4.0000	1.5000	18.520
17-1/2	17.5000	17.4915	4.0000	1.5000	18.773
17-3/4	17.7500	17.7415	4.0000	1.5000	19.027
18	18.0000	17.9915	4.0000	1.5000	19.280

Note: ■ No standard for clearance fit above 6-1/2 inches; please contact Lovejoy Technical Support.

Recommended Keys for Bores with One Key - Inch Series

Per ANSI/AGMA 9002-B04 Standard.

Shaft Diameter		Key	Key	Key	Key
Over	To (incl)	Square	Square	Rectangular	Rectangular
0.313	0.438	.0937 x .0937	3/32 x 3/32	—	—
0.438	0.562	.1250 x .1250	1/8 x 1/8	.125 x .0937	1/8 x 3/32
0.562	0.875	.1875 x .1875	3/16 x 3/16	.1875 x .125	3/16 x 1/8
0.875	1.250	.2500 x .2500	1/4 x 1/4	.250 x .1875	1/4 x 3/16
1.250	1.375	.3125 x .3125	5/16 x 5/16	.3125 x .2500	5/16 x 1/4
1.375	1.750	.3750 x .3750	3/8 x 3/8	.3750 x .2500	3/8 x 1/4
1.750	2.250	.5000 x .5000	1/2 x 1/2	.5000 x .3750	1/2 x 3/8
2.250	2.750	.6250 x .6250	5/8 x 5/8	.6250 x .4375	5/8 x 7/16
2.750	3.250	.7500 x .7500	3/4 x 3/4	.7500 x .5000	3/4 x 1/2
3.250	3.750	.8750 x .8750	7/8 x 7/8	.8750 x .6250	7/8 x 5/5
3.750	4.500	1.0000 x 1.0000	1 x 1	1.0000 x .7500	1 x 3/4
4.500	5.500	1.2500 x 1.2500	1-1/4 x 1-1/4	1.2500 x .8750	1-1/4 x 7/8
5.500	6.500	1.5000 x 1.5000	1-1/2 x 1-1/2	1.5000 x 1.0000	1-1/2 x 1
6.500	7.500	1.7500 x 1.7500	1-3/4 x 1-3/4	1.7500 x 1.5000	1-3/4 x 1-1/2
7.500	9.000	2.0000 x 2.0000	2 x 2	2.0000 x 1.5000	2 x 1-1/2
9.000	11.000	2.5000 x 2.5000	2-1/2 x 2-1/2	2.5000 x 1.7500	2-1/2 x 1-3/4
11.000	13.000	3.0000 x 3.0000	3 x 3	3.0000 x 2.0000	3 x 2
13.000	15.000	3.5000 x 3.5000	3-1/2 x 3-1/2	3.5000 x 2.5000	3-1/2 x 2-1/2
15.000	18.000	—	—	4.0000 x 3.0000	4 x 3

Note: ■ Rectangular keys preferred for bore sizes above 6½ inches.

Recommended Keys for Bores with One Key - Metric Series (mm)

Per ANSI/AGMA 9112-A04 and ISO R773 Standards.

Shaft Diameter		Key
Over	To (incl)	Width x Height
6	8	2 x 2
8	10	3 x 3
10	12	4 x 4
12	17	5 x 5
17	22	6 x 6
22	30	8 x 7
30	38	10 x 8
38	44	12 x 8
44	50	14 x 9
50	58	16 x 10
58	65	18 x 11
65	75	20 x 12
75	85	22 x 14

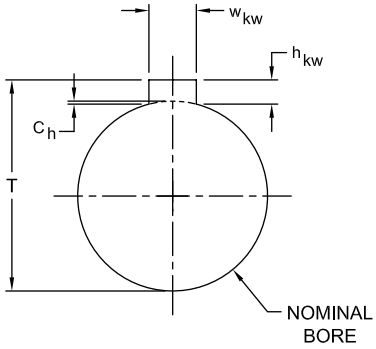
Shaft Diameter		Key
Over	To (incl)	Width x Height
85	95	25 x 14
95	110	28 x 16
110	130	32 x 18
130	150	36 x 20
150	170	40 x 22
170	200	45 x 25
200	230	50 x 28
230	260	56 x 32
260	290	63 x 32
290	330	70 x 36
330	380	80 x 40
380	440	90 x 45
440	500	100 x 50

Inch Series: hub keyway depth is one-half the nominal height of the key and measured from the side corner. The dimension from the top of the keyway to the opposite bore side, "T-dim", is calculated from (refer to ANSI/AGMA 9002-B04) the following:

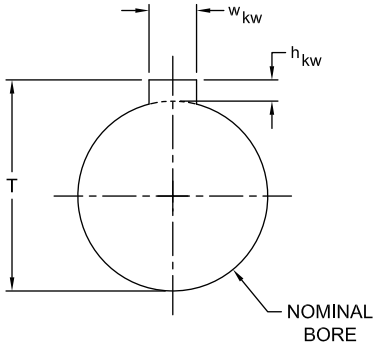
T = bore + (hkw – Ch)

Metric Series: hub keyway depth is not one-half of the nominal height of the key. Keyway depth is calculated to the top of the bore and cannot be determined by direct measurement. The "T-dim" from the top of the keyway to the opposite bore side is calculated from (refer to ANSI/AGMA 9112-A04) the following:

T = bore + hkw



Inch Series



Metric Series

Recommended Bores for Metric Shafts (mm)

Per ANSI/AGMA 9112-A04; ISO/R775:1969 Standards

Nominal Shaft Diameter			Bore Diameter Tolerance		
Over	To (incl)	Tolerance	Clearance	Transitional	Interference
incl 12	18	j6	F7	H7	M6
18	30	j6	F7	H7	M6
30	50	k6	F7	H7	K6
50	80	m6	F7	H7	K7
80	100	m6	F7	H7	M7
100	120	m6	F7	H7	P7
120	180	m6	F7	H7	P7
180	200	m6	F7	H7	P7
200	225	m6	F7	H7	R7
225	250	m6	F7	H7	R7
250	280	m6	F7	H7	R7
280	315	m6	F7	H7	R7
315	355	m6	F7	H7	R7
355	400	m6	F7	H7	R8
400	450	m6	F7	H7	R8
450	500	m6	F7	H7	R8

Lovejoy, Inc. Customary Metric / Clearance-fit and Interference-fit Bore and Keyway Standards

Lovejoy, Inc. Customary Metric Clearance-fit and Interference-fit Bore and Keyway Standards (millimeters)

Keyway Tolerances per ISO 286-2

Lovejoy, Inc. assumes H7 tolerances as standard clearance and P7 tolerances as standard interference fits if shaft and/or bore tolerances are not specified.

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.015) Min	Clearance Bore H7 Bore (+0.000/+0.015) Max	Interference Bore P7 Bore (-0.009/-0.024) Min	Interference Bore P7 Bore (-0.009/-0.024) Max	Keyway Width (Js9) +/- 0.0125	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.1/-0.0
8	8.000	8.015	7.976	7.991	2	1.988	2.013	1	9.00
9	9.000	9.015	8.976	8.991	3	2.988	3.013	1.4	10.40
10	10.000	10.015	9.976	9.991	3	2.988	3.013	1.4	11.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.018) Min	Clearance Bore H7 Bore (+0.000/+0.018) Max	Interference Bore P7 Bore (-0.011/-0.029) Min	Interference Bore P7 Bore (-0.011/-0.029) Max	Keyway Width (Js9) +/- 0.0150	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.1/-0.0
11	11.000	11.018	10.971	10.989	4	3.985	4.015	1.8	12.80
12	12.000	12.018	11.971	11.989	4	3.985	4.015	1.8	13.80
13	13.000	13.018	12.971	12.989	5	4.985	5.015	2.3	15.30
14	14.000	14.018	13.971	13.989	5	4.985	5.015	2.3	16.30
15	15.000	15.018	14.971	14.989	5	4.985	5.015	2.3	17.30
16	16.000	16.018	15.971	15.989	5	4.985	5.015	2.3	18.30
17	17.000	17.018	16.971	16.989	5	4.985	5.015	2.3	19.30
18	18.000	18.018	17.971	17.989	6	5.985	6.015	2.8	20.80

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.021) Min	Clearance Bore H7 Bore (+0.000/+0.021) Max	Interference Bore P7 Bore (-0.014/-0.035) Min	Interference Bore P7 Bore (-0.014/-0.035) Max	Keyway Width (Js9) +/- 0.0150	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.1/-0.0
19	19.000	19.021	18.965	18.986	6	5.985	6.015	2.8	21.80
20	20.000	20.021	19.965	19.986	6	5.985	6.015	2.8	22.80
21	21.000	21.021	20.965	20.986	6	5.985	6.015	2.8	23.80
22	22.000	22.021	21.965	21.986	6	5.985	6.015	2.8	24.80

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.021) Min	Clearance Bore H7 Bore (+0.000/+0.021) Max	Interference Bore P7 Bore (-0.014/-0.035) Min	Interference Bore P7 Bore (-0.014/-0.035) Max	Keyway Width (Js9) +/- 0.0180	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.20/-0.00
23	23.000	23.021	22.965	22.986	8	7.982	8.018	3.3	26.30
24	24.000	24.021	23.965	23.986	8	7.982	8.018	3.3	27.30
25	25.000	25.021	24.965	24.986	8	7.982	8.018	3.3	28.30
26	26.000	26.021	25.965	25.986	8	7.982	8.018	3.3	29.30
27	27.000	27.021	26.965	26.986	8	7.982	8.018	3.3	30.30
28	28.000	28.021	27.965	27.986	8	7.982	8.018	3.3	31.30
29	29.000	29.021	28.965	28.986	8	7.982	8.018	3.3	32.30
30	30.000	30.021	29.965	29.986	8	7.982	8.018	3.3	33.30

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.025) Min	Clearance Bore H7 Bore (+0.000/+0.025) Max	Interference Bore P7 Bore (-0.017/-0.042) Min	Interference Bore P7 Bore (-0.017/-0.042) Max	Keyway Width (Js9) +/- 0.0180	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.20/-0.00
32	32.000	32.025	31.958	31.983	10	9.982	10.018	3.3	35.30
35	35.000	35.025	34.958	34.983	10	9.982	10.018	3.3	38.30
38	38.000	38.025	37.958	37.983	10	9.982	10.018	3.3	41.30

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.025) Min	Clearance Bore H7 Bore (+0.000/+0.025) Max	Interference Bore P7 Bore (-0.017/-0.042) Min	Interference Bore P7 Bore (-0.017/-0.042) Max	Keyway Width (Js9) +/- 0.0215	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.20/-0.00
40	40.000	40.025	39.958	39.983	12	11.979	12.022	3.3	43.30
42	42.000	42.025	41.958	41.983	12	11.979	12.022	3.3	45.30
45	45.000	45.025	44.958	44.983	14	13.979	14.022	3.8	48.80
48	48.000	48.025	47.958	47.983	14	13.979	14.022	3.8	51.80
50	50.000	50.025	49.958	49.983	14	13.979	14.022	3.8	53.80

Lovejoy, Inc. Customary Metric Clearance-fit and Interference-fit Bore and Keyway Standards (millimeters)

Keyway Tolerances per ISO 286-2

Lovejoy, Inc. assumes H7 tolerances as standard clearance and P7 tolerances as standard interference fits if shaft and/or bore tolerances are not specified.

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.030) Min	Clearance Bore H7 Bore (+0.000/+0.030) Max	Interference Bore P7 Bore (-0.021/-0.051) Min	Interference Bore P7 Bore (-0.021/-0.051) Max	Keyway Width (Js9) +/- 0.0215	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.25/-0.00
55	55.000	55.030	54.949	54.979	16	15.979	16.022	4.3	59.30
56	56.000	56.030	55.949	55.979	16	15.979	16.022	4.3	60.30
60	60.000	60.030	59.949	59.979	18	17.979	18.022	4.4	64.40
63	63.000	63.030	62.949	62.979	18	17.979	18.022	4.4	67.40
65	65.000	65.030	64.949	64.979	18	17.979	18.022	4.4	69.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.030) Min	Clearance Bore H7 Bore (+0.000/+0.030) Max	Interference Bore P7 Bore (-0.021/-0.051) Min	Interference Bore P7 Bore (-0.021/-0.051) Max	Keyway Width (Js9) +/- 0.0260	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.25/-0.00
70	70.000	70.030	69.949	69.979	20	19.974	20.026	4.9	74.90
71	71.000	71.030	70.949	70.979	20	19.974	20.026	4.9	75.90
75	75.000	75.030	74.949	74.979	20	19.974	20.026	4.9	79.90
80	80.000	80.030	79.949	79.979	22	21.974	22.026	5.4	85.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.035) Min	Clearance Bore H7 Bore (+0.000/+0.035) Max	Interference Bore P7 Bore (-0.024/-0.059) Min	Interference Bore P7 Bore (-0.024/-0.059) Max	Keyway Width (Js9) +/- 0.0260	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.25/-0.00
85	85.000	85.035	84.941	84.976	22	21.974	22.026	5.4	90.40
90	90.000	90.035	89.941	89.976	25	24.974	25.026	5.4	95.40
95	95.000	95.035	94.941	94.976	25	24.974	25.026	5.4	100.40
100	100.000	100.035	99.941	99.976	28	27.974	28.026	6.4	106.40
110	110.000	110.035	109.941	109.976	28	27.974	28.026	6.4	116.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.035) Min	Clearance Bore H7 Bore (+0.000/+0.035) Max	Interference Bore P7 Bore (-0.024/-0.059) Min	Interference Bore P7 Bore (-0.024/-0.059) Max	Keyway Width (Js9) +/- 0.0310	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.25/-0.00
115	115.000	115.035	114.941	114.976	32	31.969	32.031	7.4	122.40
120	120.000	120.035	119.941	119.976	32	31.969	32.031	7.4	127.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.040) Min	Clearance Bore H7 Bore (+0.000/+0.040) Max	Interference Bore P7 Bore (-0.028/-0.068) Min	Interference Bore P7 Bore (-0.028/-0.068) Max	Keyway Width (Js9) +/- 0.0310	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.25/-0.00
125	125.000	125.040	124.932	124.972	32	31.969	32.031	7.4	132.40
130	130.000	130.040	129.932	129.972	32	31.969	32.031	7.4	137.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.040) Min	Clearance Bore H7 Bore (+0.000/+0.040) Max	Interference Bore P7 Bore (-0.028/-0.068) Min	Interference Bore P7 Bore (-0.028/-0.068) Max	Keyway Width (Js9) +/- 0.0310	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
140	140.000	140.040	139.932	139.972	36	35.969	36.031	8.4	148.40
150	150.000	150.040	149.932	149.972	36	35.969	36.031	8.4	158.40
160	160.000	160.040	159.932	159.972	40	39.969	40.031	9.4	169.40
170	170.000	170.040	169.932	169.972	40	39.969	40.031	9.4	179.40
180	180.000	180.040	179.932	179.972	45	44.969	45.031	10.4	190.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.046) Min	Clearance Bore H7 Bore (+0.000/+0.046) Max	Interference Bore P7 Bore (-0.033/-0.079) Min	Interference Bore P7 Bore (-0.033/-0.079) Max	Keyway Width (Js9) +/- 0.0310	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
190	190.000	190.046	189.921	189.967	45	44.969	45.031	10.4	200.40
200	200.000	200.046	199.921	199.967	45	44.969	45.031	10.4	210.40
210	210.000	210.046	209.921	209.967	50	49.969	50.031	11.4	221.40
220	220.000	220.046	219.921	219.967	50	49.969	50.031	11.4	231.40
225	225.000	225.046	224.921	224.967	50	49.969	50.031	11.4	236.40
230	230.000	230.046	229.921	229.967	50	49.969	50.031	11.4	241.40

Lovejoy, Inc. Customary Metric Clearance-fit and Interference-fit Bore and Keyway Standards (millimeters)

Keyway Tolerances per ISO 286-2

Lovejoy, Inc. assumes H7 tolerances as standard clearance and P7 tolerances as standard interference fits if shaft and/or bore tolerances are not specified.

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.046) Min	Clearance Bore H7 Bore (+0.000/+0.046) Max	Interference Bore P7 Bore (-0.033/-0.079) Min	Interference Bore P7 Bore (-0.033/-0.079) Max	Keyway Width (Js9) +/- 0.0370	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
240	240.000	240.046	239.921	239.967	56	55.963	56.037	12.4	252.40
250	250.000	250.046	249.921	249.967	56	55.963	56.037	12.4	262.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.052) Min	Clearance Bore H7 Bore (+0.000/+0.052) Max	Interference Bore P7 Bore (-0.036/-0.088) Min	Interference Bore P7 Bore (-0.036/-0.088) Max	Keyway Width (Js9) +/- 0.0370	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
260	260.000	260.052	259.912	259.964	56	55.963	56.037	12.4	272.40
270	270.000	270.052	269.912	269.964	63	62.963	63.037	12.4	282.40
280	280.000	280.052	279.912	279.964	63	62.963	63.037	12.4	292.40
290	290.000	290.052	289.912	289.964	63	62.963	63.037	12.4	302.40
300	300.000	300.052	299.912	299.964	70	69.963	70.037	14.4	314.40
310	310.000	310.052	309.912	309.964	70	69.963	70.037	14.4	324.40
315	315.000	315.052	314.912	314.964	70	69.963	70.037	14.4	329.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.057) Min	Clearance Bore H7 Bore (+0.000/+0.057) Max	Interference Bore P7 bore (-0.041/-0.098) Min	Interference Bore P7 bore (-0.041/-0.098) Max	Keyway Width (Js9) +/- 0.0370	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
320	320.000	320.057	319.902	319.959	70	69.963	70.037	14.4	334.40
330	330.000	330.057	329.902	329.959	70	69.963	70.037	14.4	344.40
340	340.000	340.057	339.902	339.959	80	79.963	80.037	15.4	355.40
350	350.000	350.057	349.902	349.959	80	79.963	80.037	15.4	365.40
355	355.000	355.057	354.902	354.959	80	79.963	80.037	15.4	370.40
360	360.000	360.057	359.902	359.959	80	79.963	80.037	15.4	375.40
370	370.000	370.057	369.902	369.959	80	79.963	80.037	15.4	385.40
380	380.000	380.057	379.902	379.959	80	79.963	80.037	15.4	395.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.057) Min	Clearance Bore H7 Bore (+0.000/+0.057) Max	Interference Bore P7 Bore (-0.041/-0.098) Min	Interference Bore P7 Bore (-0.041/-0.098) Max	Keyway Width (Js9) +/- 0.0435	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
390	390.000	390.057	389.902	389.959	90	89.957	90.044	17.4	407.40
400	400.000	400.057	399.902	399.959	90	89.957	90.044	17.4	417.40

Nominal Bore Diameter	Clearance Bore H7 Bore (+0.000/+0.063) Min	Clearance Bore H7 Bore (+0.000/+0.063) Max	Interference Bore P7 Bore (-0.045/-0.108) Min	Interference Bore P7 Bore (-0.045/-0.108) Max	Keyway Width (Js9) +/- 0.0435	Keyway Width (Js9) Min	Keyway Width (Js9) Max	Keyway Height Nominal	"T"-DIM +0.30/-0.00
410	410.000	410.063	409.892	409.955	90	89.957	90.044	17.4	427.40
420	420.000	420.063	419.892	419.955	90	89.957	90.044	17.4	437.40
430	430.000	430.063	429.892	429.955	90	89.957	90.044	17.4	447.40
440	440.000	440.063	439.892	439.955	90	89.957	90.044	17.4	457.40
450	450.000	450.063	449.892	449.955	100	99.957	100.044	19.5	469.50
460	460.000	460.063	459.892	459.955	100	99.957	100.044	19.5	479.50
470	470.000	470.063	469.892	469.955	100	99.957	100.044	19.5	489.50
480	480.000	480.063	479.892	479.955	100	99.957	100.044	19.5	499.50
490	490.000	490.063	489.892	489.955	100	99.957	100.044	19.5	509.50
500	500.000	500.063	499.892	499.955	100	99.957	100.044	19.5	519.50

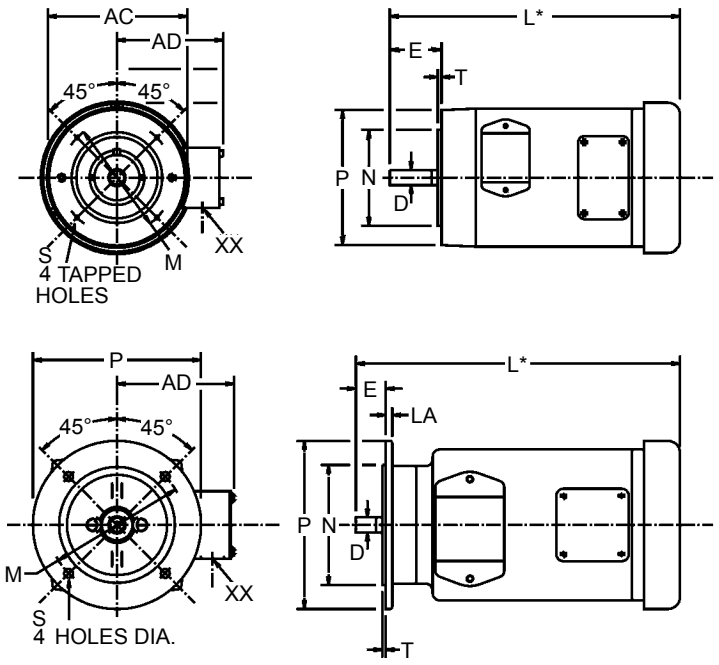
IEC Motor Frame Dimensional Data

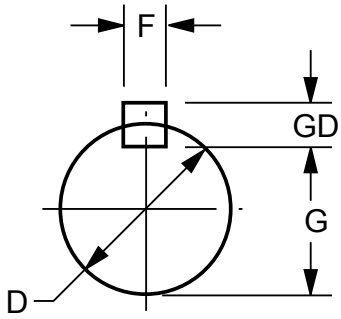
IEC Frame	Type	Foot Mounting				Shaft		BS Flange						B14 Face						General			
		A	B	C	H	D	E	LA	M	N	P	S	T	M	N	P	S	T	L	AC	AD	HC	XX
63	300	**100** 3.937	**80** 3.150	**40** 1.570	**63** 2.480	**11** 0.433	**23** 0.906	**8** 0.313	**115** 4.528	**95** 3.740	**140** 5.512	**9** 0.354	**3** 0.118	**75** 2.953	**60** 2.362	**90** 3.540	M5	**2.5** 0.098	*	**119** 4.690	**102** 4 **116d** 4.567d	**121** 4.760 **136d** 5.375d	**13** 0.500 **22d** 0.880d
71	300 400	**112** 4.409	**90** 3.543	**45** 1.770	**71** 2.800	**14** 0.551	**30** 1.181	**8** 0.313	**130** 5.118	**110** 4.331	**160** 6.299	**10** 0.393	**3.5** 0.138	**85** 3.347	**70** 2.756	**105** 4.130	M6	**2.5** 0.098	*	**119** 4.690 **145d** 5.690d	**102** 4	**131** 5.140 **149d** 5.880d	**18** 0.690 **21d** 0.844d
80	400 500	**125** 4.921	**100** 3.937	**50** 1.969	**80** 3.150	**19** 0.748	**40** 1.575	**13** 0.500	**†165** 6.496	**130** 5.118	**200** 7.874	**11** 0.430	**3.5** 0.138	**100** 3.937	**80** 3.150	**120** 4.724	M6	**3** 0.118	*	**145** 5.690 **168d** 6.614d	**116** 4.510 **130** 5.120	**152** 6 **162d** 6.380d	**22** 0.880 **21d** 0.844d
90	S L	**140** 5.511	**100** 3.937 **125** 4.921	**56** 2.205	**90** 3.543	**24** 0.945	**50** 1.969	**13** 0.500	**165** 6.496	**130** 5.118	**200** 7.874	**12** 0.472	**3.5** 0.138	**115** 4.530	**95** 3.740	**140** 5.512	M8	**3** 0.118	*	**168** 6.614 **144d** 5.687d	**130** 5.120 **107d** 4.250d	**173** 6.810 **165d** 6.531d	**22** 0.880 **21d** 0.844d
100	S L	**160** 6.300	**112** 4.409 **140** 5.512	**63** 2.480	**100** 3.937	**28** 1.102	**60** 2.362	**14** 0.562	**215** 8.465	**180** 7.087	**250** 9.840	**14** 0.560	**4** 0.160	**130** 5.108	**110** 4.331	**160** 6.299	M8	**3.5** 0.138	*	**200** 7.875	**149** 5.875 **153d** 6.060d	**180** 7.906 **239d** 9.440d	**27** 1.062
112	S M	**190** 7.480	**114** 4.488 **140** 5.512	**70** 2.760	**112** 4.409	**28** 1.102	**60** 2.362	**14** 0.562	**215** 8.465	**180** 7.087	**250** 9.840	**14** 0.560	**4** 0.160	**130** 5.108	**110** 4.331	**160** 6.299	M8	**3.5** 0.138	*	**200** 7.875	**149** 5.875	**214** 8.437	**27** 1.062
132	S M	**216** 8.504	**140** 5.512 **178** 7.008	**89** 3.504	**132** 5.197	**38** 1.496	**80** 3.150	**14** 0.562	**265** 10.433	**230** 9.055	**300** 11.811	**14** 0.560	**4** 0.160	**165** 6.496	**130** 5.118	**200** 7.874	M8	**3.5** 0.138	*	**243** 9.562	**187** 7.375	**256** 10.062	**27** 1.062
160	M L	**254** 10	**210** 8.268 **254** 10	**108** 4.252	**160** 6.299	**42** 1.654	**110** 4.331	**20** 0.787	**300** 11.811	**250** 9.842	**350** 13.780	**19** 0.748	**5** 0.200	**215** 8.465	**180** 7.087	**250** 9.840	M12	**4** 0.160	*	**329** 12.940	**242** 9.510	**329** 12.940	**35** 1.375
180	M L	**279** 10.984	**241** 9.488 **279** 10.984	**121** 4.764	**180** 7.087	**48** 1.890	**110** 4.331	—	**300** 11.811	**250** 9.842	**350** 13.780	**19** 0.748	**5** 0.200	—	—	—	—	—	*	**395** 15.560	**333** 13.120	**372** 14.640	**51** 2.008
200	L M	**318** 12.520	**267** 10.512 **305** 12.008	**133** 5.236	**200** 7.874	**55** 2.165	**110** 4.331	—	**350** 13.780	**300** 11.811	**400** 15.748	**19** 0.748	—	—	—	—	—	—	*	**441** 17.375	**359** 14.125	**416** 16.375	**63** 2.500
225	S M	**356** 14.016	**286** 11.260 **311** 12.244	**149** 5.866	**225** 8.858	**60** 2.362	**140** 5.512	—	**400** 15.748	**350** 13.780	**450** 17.716	**19** 0.748	—	—	—	—	—	—	*	**495** 19.488	**383** 15.079	**483** 19.016	**63** 2.500
250	S M	**406** 15.984	**311** 12.244 **349** 13.740	**168** 6.614	**250** 9.843	**70** 2.756	**140** 5.512	—	—	—	—	—	—	—	—	—	—	—	*	**520** 20.472	**457** 17.992	**513** 20.197	**63** 2.500
280	S M	**457** 17.992	**368** 14.488 **419** 16.496	**190** 7.485	**280** 11.025	**80** 3.150	**170** 6.693	—	LEGEND **Metric dimensions (millimeters) in bold.** Inch dimensions in plain type. **d = DC Motors** **1 mm = 0.03937 inches** **1 inch = 25.40 mm**									—	*	**616** 24.252	**497** 19.567	**581** 22.874	**63** 2.500
315	S M	**508** 20	**406** 16 **457** 18	**216** 8.500	**315** 12.400	**85** 3.346	**170** 6.693	—										—	*	**759** 29.900	**683** 26.880	**682** 26.840	**102** 4
355	S L	**610** 24	**500** 19.690 **630** 24.800	**254** 10	**355** 13.980	**85** 3.346	**170** 6.693	—										—	*	**759** 29.900	**683** 26.880	**719** 28.320	**102** 4

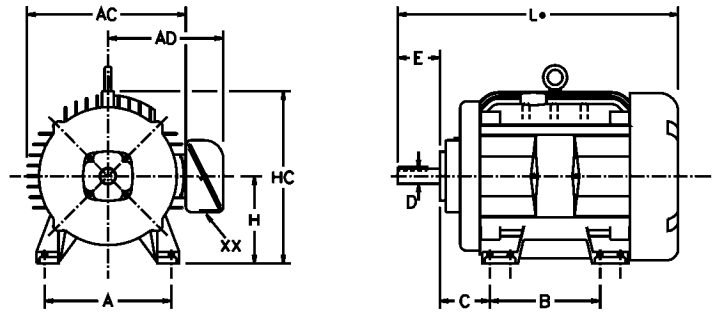
Note: ■ * indicates: This dimension varies depending upon manufacturer.

ED

IEC Motor Frame Drawings







Note: ■ Drawings represent standard TEFC general purpose motors. Dimensions are for reference only.

Key and Keyseat Dimensions

Frame	D	G	F	GD
63	11	8.5	4	4
71	14	11	5	5
80	19	15.5	6	6
90	24	20	8	7
100	28	24	8	7
112	28	24	8	7
132	38	33	10	8
160	37	42	12	8
180	48	42.5	14	9
200	55	49	16	10
225	60	53	18	11
250	65	67.5	20	12
280	80	71	22	14
315	85	76	22	14
355	85	76	22	14

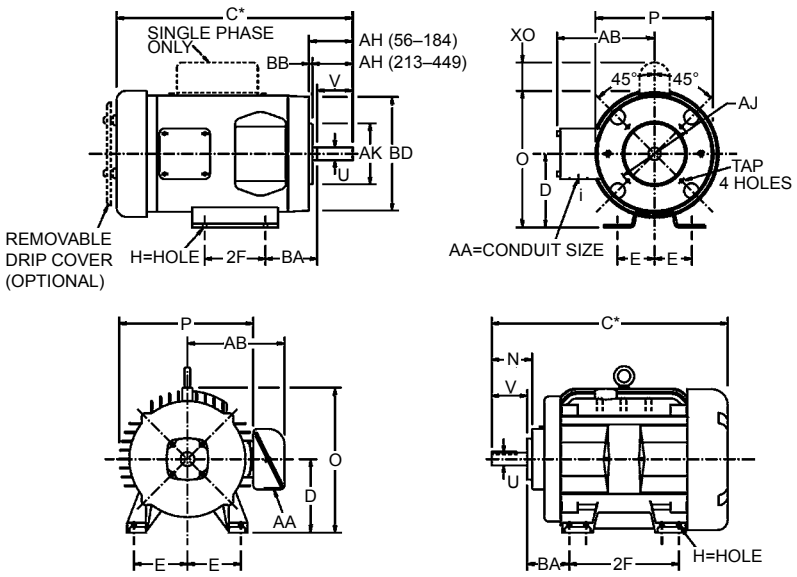
NEMA Quick Reference Chart - Inch

NEMA Frame	D	E	2F	H	N	O	P	U	V	AA	AB	AH	AJ	AK	BA	BB	BD	XO	TAP
42	2-5/8	1-3/4	1-11/16	9/32*	1-1/2	5	4-11/16	3/8	1-1/8	3/8	4-1/32	1-5/16	3-3/4	3	2-7/16	1/8	4-5/8	1-9/16	1/4-20
48	3	2-1/8	2-3/4	11/32*	1-7/8	5-7/8	5-11/16	1/2	1-1/2	1/2	4-3/8	1-11/16	3-3/4	3	2-1/2	1/8	5-5/8	2-1/4	1/4-20
56 56H	3-1/2	2-7/16	3 5	11/32*	2-7/16 2-1/8	6-7/8	6-5/8	5/8	1-7/8	1/2	5	2-1/16	5-7/8	4-1/2	2¾	1/8	6-1/2	2-1/4	3/8-16
143T 145T	3-1/2	2-3/4	4 5	11/32	2-1/2	6-7/8	6-5/8	7/8	2-1/4	3/4	5-1/4	2-1/8	5-7/8	4-1/2	2-1/4	1/8	6-1/2	2-1/4	3/8-16
182 184 182T 184T	4-1/2	3-3/4	4-1/2 5-1/2 4-1/2 5-1/2	13/32	2-11/16 2-11/16 3-9/16 3-9/16	8-11/16	7-7/8	7/8 7/8 1-1/8 1-1/8	2-1/4 2-1/4 2-3/4 2-3/4	3/4	5-7/8	2-1/8 2-1/8 2-5/8 2-5/8	5-7/8 5-7/8 7-1/4 7-1/4	4-1/2 4-1/2 8-1/2 8-1/2	2-3/4	1/8 1/8 1/4 1/4	6-1/2 6-1/2 9 9	2-3/8	3/8-16 3/8-16 1/2-13 1/2-13
213 215 213T 215T	5-1/4	4-1/4	5-1/2 7 5-1/2 7	13/32	3-1/2 3-1/2 3-7/8 3-7/8	10-1/4	9-9/16	1-3/8 1-3/8 1-3/8 1-3/8	3 3 3-3/8 3-3/8	3/4	7-3/8	2-3/4 2-3/4 3-1/8 3-1/8	8-1/2	8-1/2	3-1/2	1/4	9	2-3/4	1/2-13
254U 256U 254T 256T	6-1/4	5	5-1/8 10 8-1/8 10	17/32	4-1/16 4-1/16 4-5/16 4-5/16	12-7/8	12-15/16	1-3/8 1-3/8 1-5/8 1-5/8	3-3/4 3-3/4 4 4	1	9-5/8	3-1/2 3-1/2 3-3/4 3-3/4	7-1/4	8-1/2	4-1/4	1/4	10	—	1/2-13
284U 286U 284T 286T 284TS 286TS	7	5-1/2	9-1/2 11 9-1/2 11 9-1/2 11	17/32	5-7/8 5-7/8 4-7/8 4-7/8 3-3/8 3-3/8	14-5/8	14-5/8	1-5/8 1-5/8 1-7/8 1-7/8 1-5/8 1-5/8	4-7/8 4-7/8 4-5/8 4-5/8 3-1/4 3-1/4	1-1/2	13-1/8	4-5/8 4-5/8 4-3/8 4-3/8 3 3	9	10-1/2	4-3/4	1/4	11-1/4	—	1/2-13
324U 326U 324T 326T 324TS 326TS	8	6-1/4	10-1/2 12 10-1/2 12 10-1/2 12	21/32	5-7/8 5-7/8 5-1/2 5-1/2 3-15/16 3-15/16	16-1/2	16-1/2	1-7/8 1-7/8 2-1/8 2-1/8 1-7/8 1-7/8	5-5/8 5-5/8 5-1/4 5-1/4 3-3/4 3-3/4	2	14-1/8	5-3/8 5-3/8 5 5 3-1/2 3-1/2	11	12-1/2	5-1/4	1/4	13-3/8	—	5/8-11
364U 365U 364T 365T 364TS 365TS	9	7	11-1/4 12-1/4 11-1/4 12-1/4 11-1/4 12-1/4	21/32	6-3/4 6-3/4 6-1/4 6-1/4 4 4	18-1/2	18-1/4	2-1/8 2-1/8 2-3/8 2-3/8 1-7/8 1-7/8	6-3/8 6-3/8 5-7/8 5-7/8 3-3/4 3-3/4	2-1/2	15-1/16	6-1/8 6-1/8 5-5/8 5-5/8 3-1/2 3-1/2	11	12-1/2	5-7/8	1/4	13-3/8	—	5/8-11
404U 405U 404T 405T 404TS 405TS	10	8	12-1/4 13-3/4 12-1/4 13-3/4 12-1/4 13-3/4	13/16	7-3/16 7-3/16 7-5/16 7-5/16 4-1/2 4-1/2	20-5/16	1/8 20 22-3/8 22-3/8	2-3/8 2-3/8 2-7/8 2-7/8 2-1/8 2-1/8	7-1/8 7-1/8 7-1/4 7-1/4 4-1/4 4-1/4	3	18	6-7/8 6-7/8 7 7 4 4	11	12-1/2	6-5/8	1/4	13-7/8	—	5/8-11
444U 445U 444T 445T 447T 449T 444TS 445TS 447TS 449TS	11	9	14-1/2 16-1/2 14-1/2 16-1/2 20 25 14-1/2 16-1/2 20 25	13/16	8-5/8 8-5/8 8-1/2 8-1/2 8-15/16 8-15/16 5-3/16 5-3/16 4-15/16 4-15/16	22-7/8 22-7/8 22-7/8 22-7/8 22-15/16 22-15/16 22-7/8 22-7/8 22-15/16 22-15/16	22-3/8 22-3/8 22-3/8 22-3/8 22-3/8 22-3/8 22-3/4 22-3/4	2-7/8 2-7/8 3-3/8 3-3/8 3-3/8 3-3/8 2-3/8 2-3/8 2-3/8 2-3/8	8-5/8 8-5/8 8-1/2 8-1/2 8-1/2 8-1/2 4-3/4 4-3/4 4-3/4 4-3/4	3 4NPT 4NPT	19-9/16 19-9/16 19-9/16 19-9/16 21-11/16 21-11/16 19-9/16 19-9/16 21-11/16 21-11/16	8-3/8 8-3/8 8-1/4 8-1/4 8-1/4 8-1/4 4-1/2 4-1/2 4-1/2 4-1/2	14	16	7-1/2	1/4	16-3/4	—	5/8-11

Note: ■ * indicates: Slot.

ED

NEMA Motor Frame Dimensions



U	R	S
NEMA Shaft	Keyseat Dimensions	
3/8	21/64	FLAT
1/2	29/64	FLAT
5/8	33/64	3/16
7/8	49/64	3/16
1-1/8	63/64	1/4
1-3/8	1-13/64	5/16
1-5/8	1-13/32	3/8
1-7/8	1-19/32	1/2
2-1/8	1-27/32	1/2
2-3/8	2-1/64	5/8
2-1/2	2-3/16	5/8
2-7/8	2-29/64	3/4
3-3/8	2-7/8	7/8
3-7/8	3-5/16	1

Notes:
- Drawings represent standard TEFC general purpose motors.
- Dimensions are for reference only.

NEMA C-Face	BA Dimensions
143-5TC	2-3/4
182-4TC	3-1/2
213-5TC	4-1/4
254-6TC	4-3/4

5000 Frame	D	E	2F	H	O	P	U	V	AA	AB	BA
5007S	12-1/2	10	22	15/16	26-27/32	30	2-1/2	6-1/2	4-NPT	26-7/8	8-1/2
5007L	12-1/2	10	22	15/16	26-27/32	30	3-7/8	11-1/8	4-NPT	26-7/8	8-1/2
5009S	12-1/2	10	28	15/16	26-27/32	30	2-1/2	6-1/2	4-NPT	26-7/8	8-1/2
5009L	12-1/2	10	28	15/16	26-27/32	30	3-7/8	11-1/8	4-NPT	26-7/8	8-1/2
5011S	12-1/2	10	36	15/16	26-27/32	30	2-1/2	6-1/2	4-NPT	26-7/8	8-1/2
5011L	12-1/2	10	36	15/16	26-27/32	30	3-7/8	11-1/8	4-NPT	26-7/8	8-1/2

Frames Prior to 1963

Frame	D	E	F	N	U	V	BA
66	4-1/8	2-15/16	2-1/2	2-1/4	3/4	2-1/4	3-1/8
203 204	5	4	2-3/4 3-1/4	2-7/16	3/4	2	3-1/8
224 225	5-1/2	4-1/2	3-3/8 3-3/4	3-1/4	1	3	3-1/2
254	6-1/4	5	4-1/8	3-7/16	1-1/8	3-3/8	4-1/4
284	7	5-1/2	4-3/4	4-1/4	1-1/4	3-3/4	4-3/4
324 326	8	6-1/4	5-1/4 6	5-3/8	1-5/8	4-7/8	5-1/4
364 365	9	7	5-5/8 6-1/8	5-5/8	1-78/83	5-3/8	5-7/8
404 405	10	8	6-1/8 6-7/8	6-3/8	2-1/8	6-7/8	6-5/8
444 445	11	9	7-1/4 8-1/4	7-1/8	2-3/8	6-7/8	7-1/2
504 505	12-1/2	10	8 9	8-5/8	2-7/8	8-3/8	8-1/2

ED

Notes

Notes

Notes

Curved Jaw Couplings 49-70

CJ Series Design / Elastomers > Overview 52
CJ Series > Selection Process 53
CJ Series Elastomer Torque Rating > Performance Data 54
CJ Series Spiders > Dimensional Data 56
CJ Series Powder Metal / Steel > Dimensional Data 57
CJ Series Aluminum / Cast Iron / Nodular Iron > Dimensional Data 58
CJ Series Powder Metal / Cast Iron > Item Selection 59
CJ Series Aluminum > Item Selection 60
CJ Series > Displacement / Misalignment 61
CJ Series CJDB / CJSB > Dimensional Data 62
CJ Series CJLFH / CJDLF / CJSFH / CJDSF > Dimensional Data 63
CJ Series CJSPC / CJDSPC > Dimensional Data 64
Taper Lock > Dimensional Data 65
GS Series > Selection Process 66
GS Series > Overview / Performance / Dimensional Data 67
GS Series Performance / Torque Ratings > Performance Data 68
GS Series Hubs > Selection Data 69
GS Series Misalignment > Performance Data 70

Disc Couplings 231-260

Overview 236
Selection Process 238
Application Service Factors > Selection Data 239
Disc Coupling Selection Worksheet 240
Specifications > Performance Data 241
SU-6 > Performance Data 242
SU-6 > Dimensional Data 243
SX-6 > Performance Data 245
SX-6 > Dimensional Data 245
SX-8 > Performance Data 246
SX-8 > Dimensional Data 247
SXC-6 > Performance Data 248
SXC-6 > Dimensional Data 249
SXCS-6 > Performance Data 250
SXCS-6 > Dimensional Data 251
SXCST-6 > Performance Data 252
SXCST-6 > Dimensional Data 253
DI-6 > Performance Data 254
DI-6 > Dimensional Data 255
DI-8 > Performance Data 256
DI-8 > Dimensional Data 257
DIR-6 and DILR-6 > Performance / Selection Process 258
DIRA-6 and DILRA-6 > Performance / Dimensional Data 259
Various Examples 260

Engineering Data 488-509

Misalignment Fundamentals 490
HP, RPM, Kilowatts and Torque > Overview 492
Overhung Loads > Overview 493
Formulas / Equations > Overview 494
Sleeve and Flexible Element > Chemical Resistance Chart 495
U.S. Customary Inch / Clearance-fit and Interference-fit > Bore and Keyway Standards 496
Inch / Metric One Key > Recommended Keys 501
Inch / Metric Keys and Metric Shaft Bores 502
Lovejoy, Inc. Customary Metric / Clearance-fit and Interference-fit > Bore and Keyway Standards 503
IEC Motor Frames > Dimensional Data 506
IEC Motor Frame Drawings > Dimensional Data 507
Nema Quick Reference Chart – Inch > Dimensional Data 508
Nema Motor Frame > Dimensional Data 509

Gear Couplings 115-192

Overview 118
Selection Process 126
Application Service Factors > Selection Data 127
Gear Coupling Selection Worksheet 128
Continuous Sleeve > Cut Away 129
C and CFR Type > Performance / Dimensional Data 130
CMM Type > Performance / Dimensional Data 132
CFS Type > Performance / Dimensional Data 134
CSPCR Type > Performance / Dimensional Data 136
CCS Type > Performance / Dimensional Data 138
CSHP Type > Performance / Dimensional Data 140
Nylex® and Mite® Type > Performance / Dimensional Data 142
Dentex® Type > Performance / Dimensional Data 144
C Universal Hub > Dimensional Data 146
Flanged Sleeve > Cut Away 147
F Type > Performance / Dimensional Data 148
FFR Type > Performance / Dimensional Data 150
FFS Type > Performance / Dimensional Data 152
FHD Type > Performance / Dimensional Data 154
FHDFR Type > Performance / Dimensional Data 156
FHDFS Type > Performance / Dimensional Data 158
FMM Mill Type > Performance / Dimensional Data 160
FMM Mill Motor Type > Performance / Dimensional Data 162
FSL Type > Performance / Dimensional Data 164
FSXL Type > Performance / Dimensional Data 166
FSPCR Type > Performance / Dimensional Data 168
FLEF Type > Performance / Dimensional Data 170
FRR Type > Performance / Dimensional Data 172
FLA Type > Performance / Dimensional Data 174
FLAFR Type > Performance / Dimensional Data 176
FLAMM and FLAMMFR Type > Performance / Dimensional Data 178
FA Type > Performance / Dimensional Data 180
RA and RAHS Type > Performance / Dimensional Data 182
F Universal Hub and Puller Holes > Dimensional Data 184
F Flange and Hub Gap Details > Dimensional Data 185
Continuous Sleeve > Overview 186
Flanged Sleeve > Overview 188
Standard Flanged Sleeve Maximum Bores Inch / Metric > Dimensional Data 190
Rigid Hub Maximum Bores – Interference Fit > Dimensional Data 191
Coupling Grease 192

Grid Couplings.....213-232
Overview.....216
Selection Process.....217
Application Service Factors > Selection Data.....219
Grid Coupling Selection Worksheet.....221
Standard Coupling > Performance Data.....222
Standard Coupling > Dimensional Data.....223
Spacer Style > Performance / Dimensional Data.....224
Spacer Style > Spacer Hub Selection.....225
Misalignment Capability > Item Selection.....226
Industry Standard Interchange Chart > Item Selection.....227
Grid Coupling Hubs – Inch Bore / Keyway > Item Selection.....228
Grid Coupling Hubs – Metric Bore / Keyway > Item Selection.....229
Grid Coupling – Taper Lock Hubs > Item Selection.....230
Grid Coupling – Component Part Numbers > Item Selection.....231

High Performance Gear Couplings.....193-212
Overview.....196
FHS Type > Performance Data.....198
FHS Type > Dimensional Data.....199
FHSA Type > Performance Data.....200
FHSA Type > Dimensional Data.....201
FHSAA Type > Performance Data.....202
FHSAA Type > Dimensional Data.....203
FHSPAA Type > Performance Data.....204
FHSPAA Type > Dimensional Data.....205
FHSMA Type > Performance Data.....206
FHSMA Type > Dimensional Data.....207
FAC Type > Performance Data.....208
FAC Type > Dimensional Data.....209
High Speed Standard Couplings > Overview.....210
High Speed Special Couplings > Overview.....211
High Speed Spindle Couplings > Overview.....212

Jaw Coupings.....13-39
Overview.....16
Elastomers > Overview.....17
Selection Process.....18
Application Service Factors > Selection Data.....20
Performance Data.....21
L Type Spiders / Hub Spline Bores > Item Selection.....22
L Type Inch Bore / Keyway > Item Selection.....23
L Type Metric Bore / Keyway > Item Selection.....24
LC Type Inch Bore / Keyway > Item Selection.....25
LC Type Spiders / Metric Bore / Keyway > Item Selection.....26
AL and SS Type Inch Bore / Keyway > Item Selection.....27
AL Type Spiders / Metric Bore / Keyway > Item Selection.....28
RRS and RRSC Type / Inch Bore / Keyway > Item Selection.....29
RRS Type Spacer / Metric Bore / Keyway > Item Selection.....30
C Type Cushions / Collar and Inch / Metric Bore / Keyway.....31
H Type Cushions / Collar and Inch / Metric Bore / Keyway.....32
RRC Type Spacer / Adapter Hubs.....33

Jaw Coupings (Continued).....13-39
L, AL, LC, C, H, and RRS Type Ratings > Performance Data.....34
Elastomers > Dimensional Data.....35
L, C and H Type > Dimensional Data.....36
LC and AL Type > Dimensional Data.....37
RRS and RRC Type > Dimensional Data.....38
RRS Type Metric Spacer, L Type Special Lengths > Dimensional Data.....39

Jaw In-Shear Couplings.....41-48
Overview.....44
Selection Process.....45
Torque Rating > Performance Data.....46
6 Pin > Dimensional Data.....47
6 Pin Spacer > Dimensional Data.....48

Motion Control Couplings.....93-114
Selection Process.....96
ASB Series > Performance / Dimensional Data.....98
ES and EC Series > Performance / Dimensional Data.....99
ADB Series > Performance / Dimensional Data.....100
BWC Series > Performance / Dimensional Data.....101
BWLC Series > Performance / Dimensional Data.....102
MDSD Series > Performance / Dimensional Data.....103
Quick Reference.....104
MD Series > Performance / Dimensional Data.....106
MDS Series > Performance / Dimensional Data.....107
MOL Series > Performance / Dimensional Data.....108
MSF Series > Performance / Dimensional Data.....109
GS Series > Overview.....110
GS Series > Performance Data.....111
GS Series > Dimensional Data.....112
GS Series > Hub Designs.....113
L Series > Performance / Dimensional Data.....114

RunRight™ Tensioner Devices.....412-462
Overview.....414
Tensioner Devices > Selection Guide.....418
Tensioner Devices > Overview.....419
Tensioner Devices > RT, RT N, RT H, RT R (Imperial).....420
Tensioner Devices > RT F (Imperial) and Sprockets.....421
Tensioner Devices > RT, RT N, RT H (Metric).....422
Tensioner Devices > RT F, RT B (Metric).....423
Tensioner Devices > Accessories - Sprockets.....424
Tensioner Devices > Accessories - Chain Riders.....425
Tensioner Devices > Accessories - Tensioning Rollers.....426
Tensioner Devices > Accessories - RLB Brackets and Safety Sockets.....427
Tensioner Devices > RT T, RT P.....428
Tensioner Devices > RT M.....429
Motorbases > Overview.....430
Motorbases > Selection Guide.....431

RunRight™ Tensioner Devices (continued) 412-462

Motorbases > RCM C20, RCM C30 432
Motorbases > RCM C38 433
Motorbases > RCM C50 434
Motorbases > RCM C70 435
Motorbases > RCM L100, RCM T100 436
Oscillating Mounts > Selection Guides 437
Oscillating Mounts > RSC 15 to 45 439
Oscillating Mounts > RSC 50 440
Oscillating Mounts > RSC HD 441
Oscillating Mounts > RSC D 442
Oscillating Mounts > RSC SS 443
Oscillating Mounts > RSC HS 444
Oscillating Mounts > RSC R 445
Oscillating Mounts > RDH Drive Heads 446
Oscillating Mounts > RSD A Spring Accumulators 447
Oscillating Mounts > RSC V 448
Oscillating Mounts > RSC UJ 449
Rubber Suspension Units > Selection Guide 450
Rubber Suspension Units > Torque Chart 451
Rubber Suspension Units > RSS A, RSS C 452
Rubber Suspension Units > RSS S, RBS Clamps 453
Rubber Suspension Units > RSR A, RSR S, RBR Clamps 454
Rubber Suspension Units > RSF A15 to 38, RSF C15 to 38 455
Rubber Suspension Units > RSF A45 to 50, RSF A60 to 100 456
Rubber Suspension Units > RSD A15 to 45, RSD A50 457
Rubber Suspension Units > Accessories - RLB Brackets 458
Anti-Vibration Mounts > Technical Data and Selection Guide 459
Anti-Vibration Mounts > RAV D 460
Anti-Vibration Mounts > RAV 462

S-Flex Couplings 71-91

Overview 74
Elastomer Designs 75
Selection Process 76
Application Service Factors > Selection Data 77
Performance Data 78
S Type Inch Bore / Keyway > Item Selection 79
Standard Sleeve, J and S Type Metric Bore / Keyway > Item Selection 80
J, SC, SCF and SCHS Type > Item Selection 81
Ratings > Performance Data 82
Sleeves > Dimensional Data 83
J Type > Dimensional Data 84
S Type > Dimensional Data 85
S Type Shallow Keyway > Dimensional Data 86
B Type with Bushings > Dimensional Data 87
T Type > Dimensional Data 88
SC Type > Dimensional Data 89
SC Type Flange > Dimensional Data 90
SC Type Hub > Dimensional Data 91

Shaft Locking Devices 463-486

Overview 466
Applications / SLD 900 Series > Selection Data 468
Hub Sizing > Selection Process 469
Selection Process 470
SLD 900 Series > Dimensional Data 471
SLD 1500 Inch Series > Dimensional Data 472
SLD 1500 Metric Series > Dimensional Data 473
SLD 1850 Inch Series > Dimensional Data 474
SLD 1850 Metric Series > Dimensional Data 475
SLD 1750 Inch Series > Dimensional Data 476
SLD 1750 Metric Series > Dimensional Data 477
SLD 1350 Inch Series > Dimensional Data 478
SLD 1350 Metric Series > Dimensional Data 479
SLD 1450 Inch Series > Dimensional Data 480
SLD 1450 Metric Series > Dimensional Data 481
SLD 2600 Inch Series > Dimensional Data 482
SLD 2600 Metric Series > Dimensional Data 483
SLD 1900 Inch Series > Dimensional Data 484
SLD 1900 Metric Series > Dimensional Data 485
SLD 350 Series > Dimensional Data 486

Specialty Products 303-330

Overview 306
Deltaflex > Overview 307
Deltaflex Types > Overview 309
Deltaflex Types > Selection Process 311
Application Service Factors > Selection Process 312
Deltaflex HP / Torque Ratings > Performance Data 313
Deltaflex Type 1 > Dimensional Data 314
Deltaflex Type 2 and 2A > Dimensional Data 315
Deltafllex Type 3 and 4 > Dimensional Data 316
Deltaflex Delta and Round Hub > Dimensional Data 318
Uniflex > Overview 319
Uniflex > Selection Process 320
Uniflex > Performance Data 321
Uniflex > Dimensional Data 322
Uniflex RRU and UF Type > Dimensional Data 323
Uniflex UFH Type > Dimensional Data 324
Saga > Overview 325
Saga > Performance / Dimensional Data 326
Rigid Sleeve > Dimensional Data 327
Shaft Collars Zinc / Stainless > Selection / Dimensional Data 328
Shaft Collars One-Piece > Selection / Dimensional Data 329
Shaft Collars Two-Piece > Selection / Dimensional Data 330

Torsional Couplings 261-302

Overview 264
Engine Application > Selection Process 266
Industrial Application > Selection Process 268
Applications Service Factors > Selection Data 269
Coupling Selection Worksheet 270
L-LOC Clamping Feature and Spline Identification > Overview 271
LF Series > Overview 272
LF Series – Elements > Overview 273
LF Series – Base Element, Models 1, 1/S, 2 and 2/S > Selection Data 274
LF Series – Models 3, 3/S, 6, 6/S and 6B > Selection Data 275
LF Series > Performance Data 276
LF Series – Base Element and Model 1 > Dimensional Data 278
LF Series – Models 1/S, 2 and 2/S > Dimensional Data 279
LF Series – Models 3 and 3/S > Dimensional Data 280
LF Series – Models 3, 3/S and Flywheel Housings > Dimensional Data 281
LF Series – Models 6, 6/S and 6B > Selection Process 282
LF Series – Models 6, 6/S and 6B > Dimensional Data 283
LF Series – Models 6 and 6B > Maximum Length and Speed Data 284
LF Series – Weights and Mass Moment of Inertia 286
LF Series Floating-Shaft – Models 6 and 6B > Selection Process 287
LVK Series > Overview / Performance Data 288
LVK Series – SAE J620 Flywheel Application > Dimensional Data 289
LV Series > Overview / Performance Data 290
LV Series – SAE J620 Flywheel Application > Dimensional Data 291
LM Series > Overview 292
LM Series – Types SB, SC, SBE and SCE > Selection Data 293
LM Series – Types SB, SCA and SCB (HTR) > Performance Data 294
LM Series – Types SB, SCA and SCB (HTR) > Dimensional Data 295
LM Series – Types SBE and SCE (HTR) > Performance Data 296
LM Series – Types SBE and SCE (HTR) > Dimensional Data 297
LK Series > Overview / Performance Data 298
LK Series > Dimensional Data 299
Pump Mounting Plates – SAE J744 > Dimensional Data 300
Pump Mounting Plates – SAE J620 > Dimensional Data 301
Pump Mounting Housings – Overview 302

Universal Joints 331-341

Overview 334
Pin & Block > Selection Process 335
Application Service Factors > Selection Data 336
D, HD and NB Type Running Curves > Selection Data 337
D and HD Type > Dimensional Data 338
D 303 Stainless and NB Type > Dimensional Data 339
DD and DDX Type > Dimensional Data 340
LOJ and JR-4 Types / Boots > Dimensional Data 341

Variable Speed Drive 343-410

Overview 346
Adjustable Center > Selection Process 350
Fixed Center > Selection Process 351
Adjustable Center Example > Selection Process 352

Variable Speed Drive (continued) 343-410

Fixed Center Example > Selection Process 353
Quick Reference List > Selection Data 354
Econoline Series > Overview 356
Econoline Inch Bore / Keyway > Item Selection 357
Econoline Spring-Pulley > Dimensional Data 358
Econoline M Type > Item Selection 360
Econoline M and MLA Type > Item Selection 361
Econoline Fixed Center Bore / Keyway > Item Selection 362
Econoline Fixed Center Belts > Item Selection 363
Econoline Two Sided – Inch Bore / Keyway > Item Selection 364
Econoline Two Sided / Adjustable Center / Belts > Item Selection 365
Aluminoline > Overview 366
Aluminoline Models 145 and 145-HD > Item Selection 367
Aluminoline Models 160 and 160-HD > Item Selection 368
Aluminoline Models 170, 175 and 180 > Item Selection 369
WB Series > Overview 370
WB Models 245, 260 and 260-HD > Item Selection 371
WB Models 301E and 301E-HD > Item Selection 372
WB Models 3030E and 3030E-HD > Item Selection 373
WB Models 303E and 303E-HD > Item Selection 374
WB Models 401E, 402E and 403E > Item Selection 375
WB Models 3050E and 3050E-HD > Item Selection 376
WB Models 3075B, 3100B and 3150B > Item Selection 377
WB Models M-007, 245 and 260 > Item Selection 378
WB Models M-1, 301C and 301D > Item Selection 379
Models M-3, 3030C and 3030D > Item Selection 380
Hi-Ratio Series > Overview 381
Hi-Ratio Models M-14 and 1401 > Item Selection 382
Hi-Ratio Models M-19, 1902 and 1903 > Item Selection 383
Hi-Ratio Models M-23, 2303 and 2305 > Item Selection 384
Hexadrive Series > Overview 385
Hexadrive Models 11407 and 11401 > Item Selection 387
Hexadrive Models 11901, 11902 and 11903 > Item Selection 388
Hexadrive Models 12905 and 12907 > Item Selection 389
Hexadrive Models 13207, 13210, 13220 and 13230 > Item Selection 390
Hexadrive Models 14407, 14420 and 14430 > Item Selection 391
Hexadrive Models 121407 and 21401 > Item Selection 392
Hexadrive Models 21901, 21902 and 21903 > Item Selection 393
Hexadrive Models 22905 and22907 > Item Selection 394
Hexadrive Models 23207, 23210, 23220 and 23230 > Item Selection 395
Hexadrive Models 24407, 24410, 24420 and 24430 > Item Selection 396
Hexadrive Models M-007 and 21407 > Item Selection 397
Hexadrive Models HM-3, Pulleys C and Z > Item Selection 398
Hexadrive Models HM-7, Pulleys C and Z > Item Selection 399
Hexadrive Models HM-30, Pulleys C and Z > Item Selection 400
Hexadrive HEC > Dimensional Data 401
Hexadrive HLA > Dimensional Data 402
Adjusta-Sheave Series > Dimensional Data 403
Adjustable Motor Bases > Overview 404
Motor Base SMB > Dimensional Data 405
Motor Base Sliding Dove Tail Type > Overview / Dimensional Data 406
Companion Sheaves – Flat / Grooved > Overview / Dimensional Data 407
Companion Sheaves Grooved > Dimensional Data 408
Belts > Item Selection 409
Pulley Service Factors / Equations > Engineering Data 410

Warranty Information 520

Product Warranty

Lovejoy, Inc. warrants all products it manufactures to be free from defects in material and workmanship at the time of delivery to the purchaser. Defective products may be returned to Lovejoy after inspection by the purchaser and upon receipt from Lovejoy of shipping instructions specific to the defective products authorized by Lovejoy to be returned. Products returned in accordance with the foregoing procedure will be replaced or repaired, at the option of Lovejoy, without charge and returned to the purchaser F.O.B. Downers Grove, Illinois or South Haven, Michigan, depending upon origin of manufacture. In all cases, transportation costs and charges for returned products shall be paid by the purchaser and Lovejoy hereby disclaims all responsibility for any and all such transportation costs and charges.

This warranty is subject to the following LIMITATIONS:

The purchaser's exclusive remedy under this warranty is limited to the repair or replacement of defective products supplied by Lovejoy, as set forth above. LOVEJOY IS NOT RESPONSIBLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE BREACH OF THIS OR ANY OTHER EXPRESS OR IMPLIED WARRANTY WITH RESPECT TO THE PRODUCTS, WHETHER ARISING IN TORT OR BY CONTRACT. LOVEJOY FURTHER DISCLAIMS ALL LIABILITY FROM PERSONAL INJURY RELATING TO ITS PRODUCTS TO THE EXTENT PERMITTED BY LAW. BY ACCEPTANCE OF ANY OF LOVEJOY'S PRODUCTS, THE PURCHASER ASSUMES ALL LIABILITY FOR THE CONSEQUENCES ARISING FROM THEIR USE OR MISUSE.

This express warranty is the only warranty applicable to this transaction. IT EXCLUDES ALL OTHER EXPRESS ORAL OR WRITTEN WARRANTIES AND ALL WARRANTIES IMPLIED BY LAW WITH RESPECT TO THE PRODUCTS, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Every claim under this warranty shall be deemed waived by the purchaser unless made in writing within one (1) year of the receipt of the products to which such claim relates. This warranty is void in the event that repairs are made by anyone other than Lovejoy without prior authorization from Lovejoy. No person, firm or corporation is authorized to assume for Lovejoy any other liability in connection with the sale of its products. No person, firm or corporation is authorized to modify or waive the terms of this Warranty unless done in writing and signed by a duly authorized agent of Lovejoy.

Note: Specifications are subject to change without notice, and without liability therefor.

The leader in power transmission products.

Lovejoy, Inc.
World Headquarters

2655 Wisconsin Avenue
Downers Grove, IL 60515 U.S.A.
Phone: 630-852-0500
Fax: 630-852-2120
info@lovejoy-inc.com

www.lovejoy-inc.com

R+L Hydraulics GmbH

Friedrichstrasse 6
D-58791 Werdohl
Germany
Phone +49 (0) 23 92 / 5 09-0
Fax +49 (0) 23 92 / 5 09-509
info@rl-hydraulics.com

www.rl-hydraulics.com

Lovejoy Canada

171 Superior Boulevard
Mississauga, Ontario
Canada L5T 2L6
Phone: 905-670-9421
Fax: 905-670-4594
lovejoycanada@lovejoy-inc.com

www.lovejoy-inc.com

Your Authorized Lovejoy Distributor is:

Lovejoy® is a registered trademark of Lovejoy, Inc. All other trademarks, brands, and names mentioned in this publication are property of their respective owners.

1/19 Rev D2 UPC 68514450174