

where the world turns for

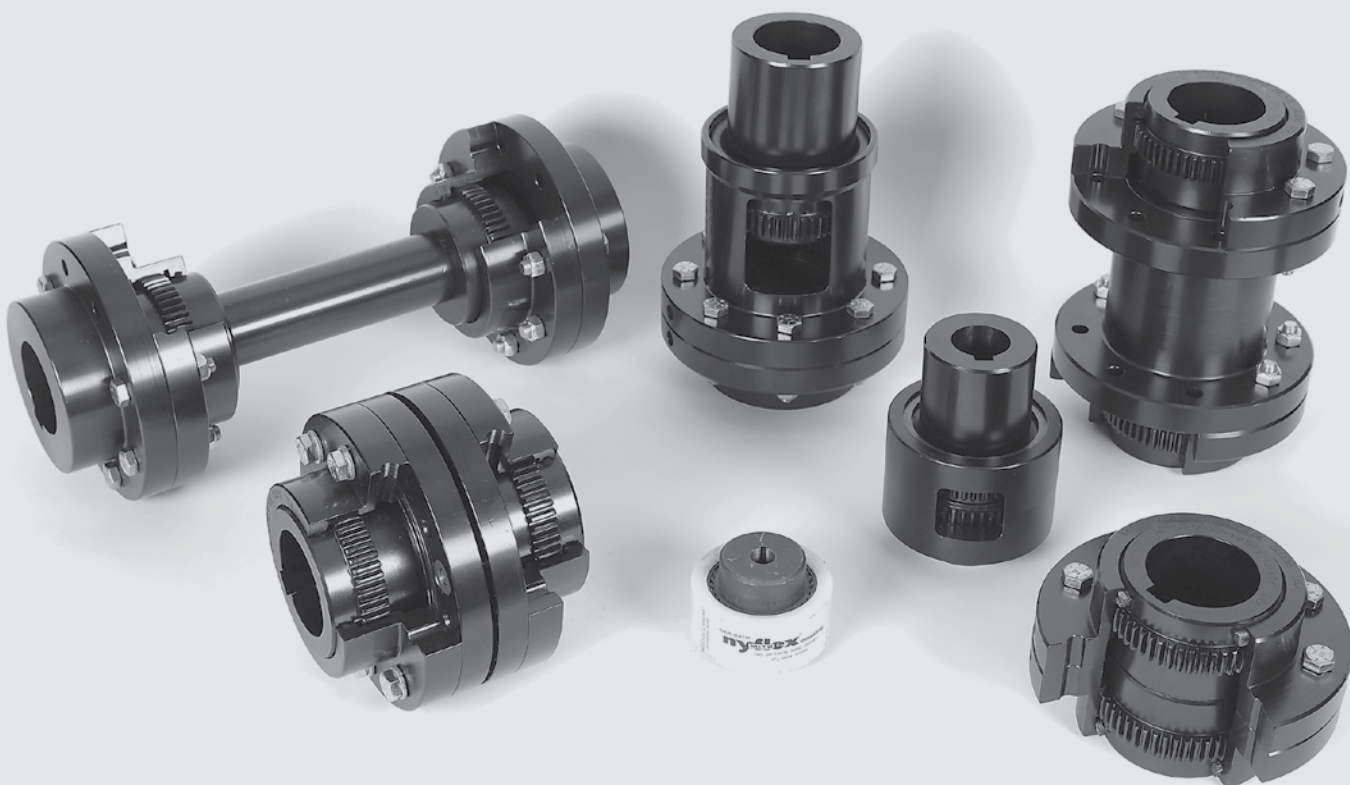
Lovejoy[®]

Couplings

Gear

In This Section:

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



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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.

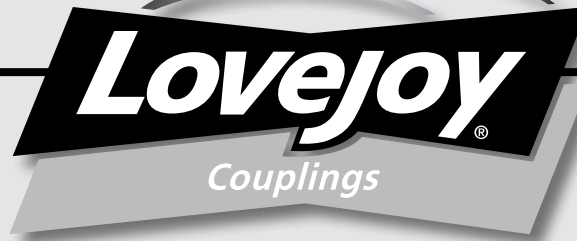
During start up and operation of power transmission product, avoid sudden shock loads. Coupling assembly should operate quietly and smoothly. If coupling assembly vibrates or makes beating sound, shut down immediately, and recheck alignment. Shortly after initial operation and periodically thereafter, 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.

where the world turns for



Gear

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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

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.

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

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 inertia
- 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.

Dentex® / Dentex® FL - The Flexible Coupling



Features

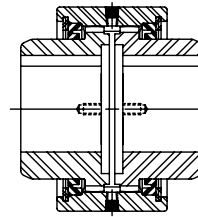
Compensation of axial, radial and angular misalignment of shafts through double cardanic action

- 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

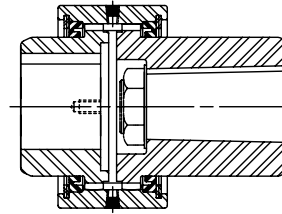


C Type
CFR Type

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

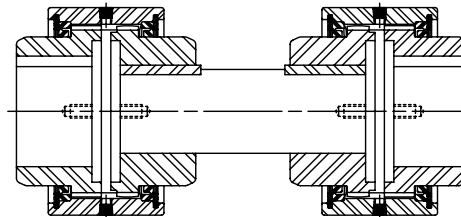


CMM Type

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

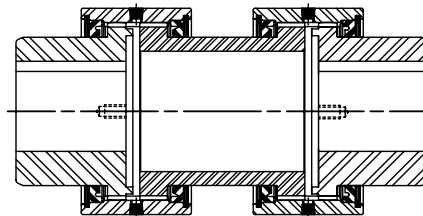


CFS Type

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

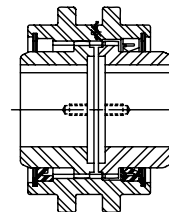


CSPCR Type

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

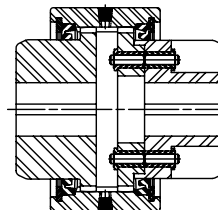


CCS Type

Section Pages G-24 and G-25

Shear Pin CSHP Type

- Designed to limit and protect against excessive torque or sudden shock loads
- Shear 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

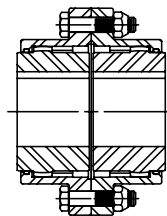
Section Pages G-26 and G-27

G

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)

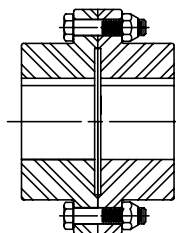


F Type
 FFR Type
 FHD Type

Section Pages G-34 and G-35
 Section Pages G-36 and G-37
 Section Pages G-40 and G-41

Rigid-Rigid FRR Type

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



FRR Type
 FARR Type

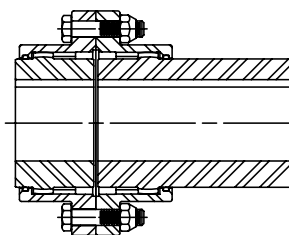
Section Pages G-58 and G-59
 Contact Lovejoy Technical Support

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)

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

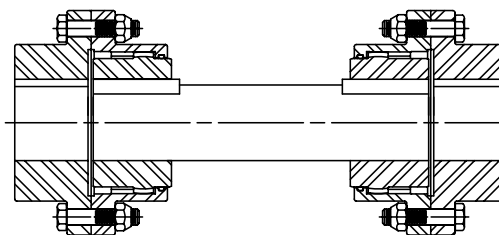


FMM Type

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

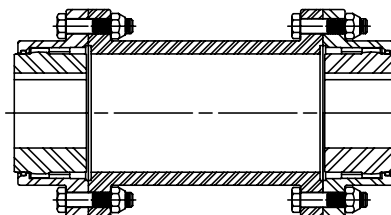


FFS Type
 Section Pages G-38
 and G-39

FHDFS Type
 Section Pages G-44
 and G-45

Spacer FSPCR Type

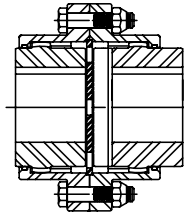
- Drop-out spacer design allows for ease of maintenance without disturbing the equipment mountings
- Lightweight construction reduces load on equipment bearings



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

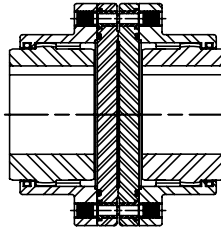


FSL Type
FSLX Type

Section pages G-50, G-51,
G-52 and G-53

Shear Pin FSHP and FSHPB Types

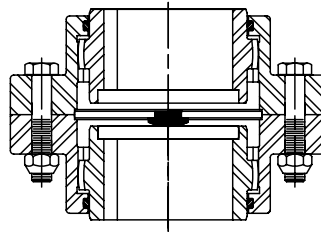
- Designed to limit and protect equipment against excessive torque or sudden shock loads
- Shear pins designed and manufactured to shear at predetermined torque loads
- Pins are inserted in hardened bushings to minimize wear
- Easy to install new pins
- Available with bearing support to maintain alignment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



FSHP and FSHPB Type
Contact Lovejoy Technical Support

Standard Vertical FVX Type

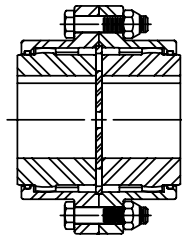
- Designed for use with vertical shafts
- Vertical kit prevents shafts from contacting each other
- Maintains ability to accommodate misalignment
- Available in vertical floating shaft design



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

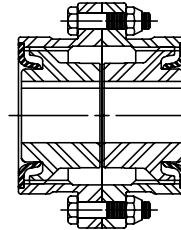
Section pages G-56 and G-57

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

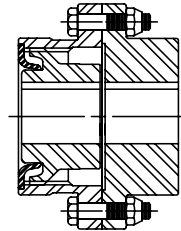


FLA Type

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

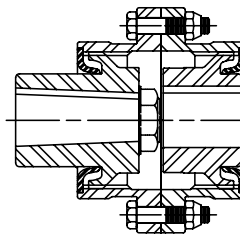


FLAFR Type

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



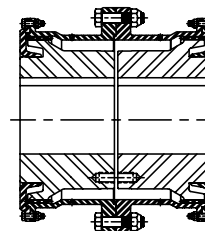
FLAMM Type

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

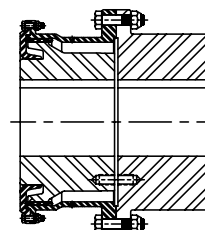


FLHD Type

Contact Lovejoy
 Technical Support

Single Engagement FLHDFR Type

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



FLHDFR Type

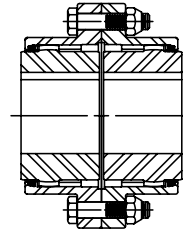
Contact Lovejoy
 Technical Support

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



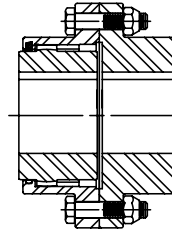
FA Type

Section Pages G-66 and G-67

G

Single engagement FAFR Type

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

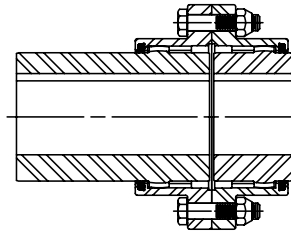


FAFR Type

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



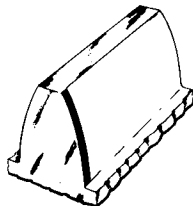
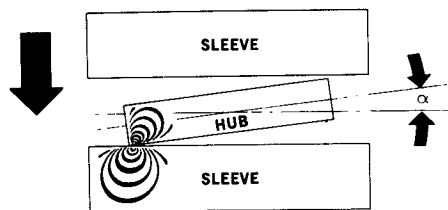
FAMM Type

Contact Lovejoy
 Technical Support

Additional Specialty Coupling Types

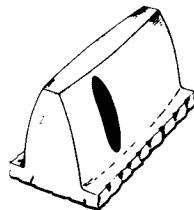
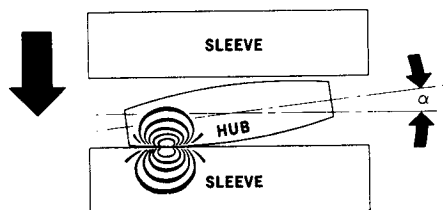
- Stainless Steel
- Nylon Sleeves
- High Speed RAHS Type
- Brake Drum FBD and FBW Types
- Insulated FI Type
- Vertical Floating Shaft FVFS Type
- F Style Cutout Shifter FCS Type

Vari-Crown® Tooth Form



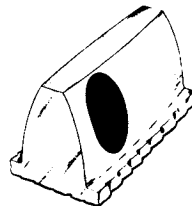
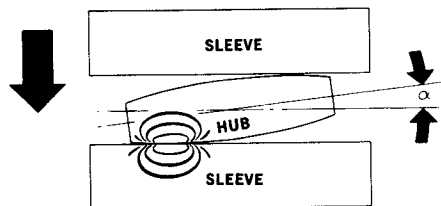
Straight

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 shown¹ 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.

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

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.

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:

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

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

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:

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

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

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

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.

Application Torque (in-lbs) =

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

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

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.



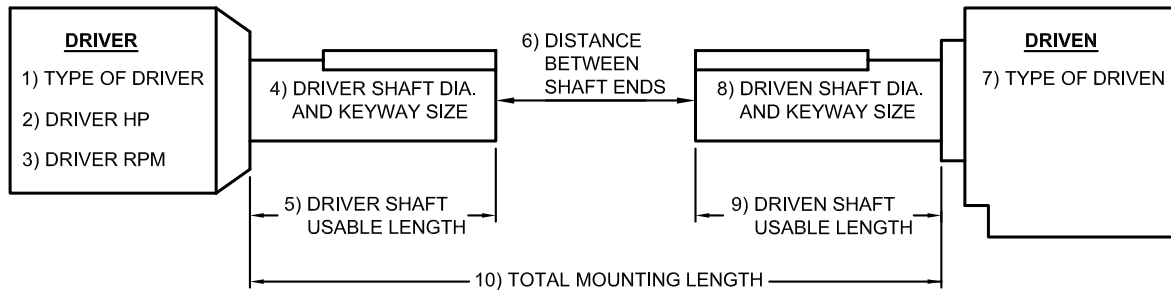
Application Service Factors

<p>Agitators</p> <ul style="list-style-type: none"> Pure Liquids1.0 Liquids—Variable Density1.0 <p>Blowers</p> <ul style="list-style-type: none"> Centrifugal1.0 Lobe1.2 <p>Can Filling Machines1.0</p> <p>Car Dumpers2.0</p> <p>Car Pullers, Intermittent Duty1.5</p> <p>Compressors</p> <ul style="list-style-type: none"> Centrifugal1.0 Reciprocating2.2 Multi-Cylinder2.0 Single Cylinder2.0 <p>Conveyors, Uniformly Loaded or Fed</p> <ul style="list-style-type: none"> Assembly1.2 Belt1.2 Screw1.2 <p>Conveyors, Heavy Duty</p> <ul style="list-style-type: none"> Not Uniformly Fed Assembly1.5 Belt1.5 Oven1.5 Reciprocating2.0 Screw1.5 Shaker1.5 <p>Cranes and Hoists¹</p> <ul style="list-style-type: none"> Main Hoists2.0 Reversing2.0 Skip Hoists2.0 Trolley Drive2.0 Bridge Drive2.0 <p>Crushers</p> <ul style="list-style-type: none"> Ore3.0 Stone3.0 <p>Dredges</p> <ul style="list-style-type: none"> Conveyors2.0 Cutter Head Drives2.0 Maneuvering Winches2.0 Pumps2.0 <p>Fans</p> <ul style="list-style-type: none"> Centrifugal1.0 Cooling Towers Forced Draft1.5 <p>Feeders</p> <ul style="list-style-type: none"> Screw1.5 <p>Generators</p> <ul style="list-style-type: none"> Not Welding1.0 Welding1.5 <p>Hammer Mills2.0</p> <p>Laundry Washers</p> <ul style="list-style-type: none"> Reversing1.5 <p>Lumber Industry</p> <ul style="list-style-type: none"> Barkers—Drum Type2.0 Edger Feed2.0 Live Rolls2.0 Log Haul—Incline2.0 Log Haul—Well Type2.0 Off Bearing Rolls2.0 Planer Feed Chains1.75 Planer Tilting Hoist1.75 Planer Floor Chains1.75 Slab Conveyor1.5 Sorting Table1.5 Trimmer Feed1.5 	<p>Machine Tools</p> <ul style="list-style-type: none"> Bending Roll2.0 Punch Press, Gear Driven2.0 Tapping Machines2.0 Main Drives1.5 Auxiliary Drives1.5 <p>Metal Mills</p> <ul style="list-style-type: none"> Draw Bench—Carriage2.0 Draw Bench—Main Drive2.0 Forming Machines2.0 Slitters1.5 Table Conveyors <ul style="list-style-type: none"> Non-Reversing2.25 Reversing2.5 Wire Drawing & Flattening Machine2.0 Wire Winding Machine1.75 <p>Metal Rolling Mills</p> <ul style="list-style-type: none"> Blooming Mills2.5 Coilers, hot mill2.0 Coilers, cold mill1.5 Cold Mills2.0 Cooling Beds1.75 Door Openers2.0 Draw Benches2.0 Edger Drives1.75 Feed Rolls, Reversing Mills3.5 Furnace Pushers2.5 Hot Mills3.0 Ingot Cars2.5 Kick-outs2.5 Manipulators3.0 Merchant Mills3.0 Piercers3.0 Pusher Rams2.5 Reel Drives1.75 Reel Drums2.0 Reelers3.0 Rod and Bar Mills3.0 Roughing Mill Delivery Table3.0 Runout Tables2.5 Saws, hot & cold2.5 Screwdown Drives3.0 Skelp Mills3.0 Slitters3.0 Slabbing Mills1.75 Soaking Pit Cover Drives3.0 Straighteners2.5 Tables, transfer & runout2.5 Thrust Block3.0 Traction Drive3.0 Tube Conveyor Rolls2.5 Unscramblers2.5 Wire Drawing1.75 <p>Mills, Rotary Type</p> <ul style="list-style-type: none"> Ball2.25 Dryers & Coolers2.0 Hammer1.75 Kilns2.0 Pebble & Rod2.0 Pug1.75 Tumbling Barrels2.0 	<p>Mixers</p> <ul style="list-style-type: none"> Concrete Mixers, Continuous1.5 Concrete Mixers, Intermittent2.0 <p>Oil Industry</p> <ul style="list-style-type: none"> Oil Well Pumping2.0 Rotary Kilns2.0 <p>Paper Mills</p> <ul style="list-style-type: none"> Agitators, Mixers1.5 Barker Auxiliaries, Hydraulic2.0 Barker Mechanical2.0 Barking Drum Spur Gear Only2.0 Beater & Pulper1.75 Bleacher1.0 Calenders2.0 Calenders, Super1.5 Chippers2.5 Coaters1.0 Converting Machines, except Cutters, Platers1.5 Conveyors1.5 Couch Roll1.75 Cutters, Platters2.0 Cylinders1.75 Disc Refiners1.75 Dryers1.75 Felt Stretcher1.25 Felt Whipper2.0 Jordans1.75 Line Shaft1.5 Log Haul2.0 Pulp Grinder1.75 Press Roll2.0 Reel1.5 Stock Chests1.5 Suction Roll1.75 Washers & Thickeners1.5 Winders1.5 <p>Printing Presses1.5</p> <p>Pumps</p> <ul style="list-style-type: none"> Centrifugal1.0 Reciprocating <ul style="list-style-type: none"> Single Acting 3 or more Cylinders1.5 Double Acting 2 or more Cylinders2.0 Rotary, Gear Type, Lobe Vane1.5 <p>Rubber Industry</p> <ul style="list-style-type: none"> Mixer2.0 Rubber Calendar2.0 <p>Screens</p> <ul style="list-style-type: none"> Rotary, Stone or Gravel1.5 <p>Steering Gear1.0</p> <p>Stokers1.0</p> <p>Textile Industry</p> <ul style="list-style-type: none"> Dryers1.5 Dyeing Machinery1.5 <p>Windlass2.0</p>
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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.

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:

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

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: _____

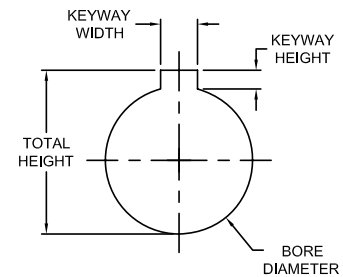
Taper Length: _____ T (Taper Inch per Foot) : _____

Gap or Hub Overhang amount: _____

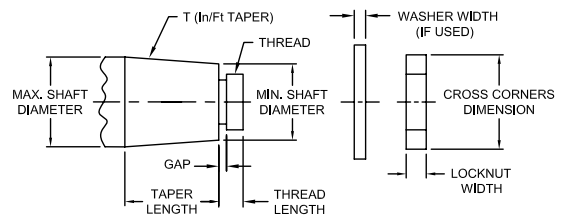
Locknut Width: _____ Size of nut cross corners: _____

Thread Size: _____ Thread Length: _____

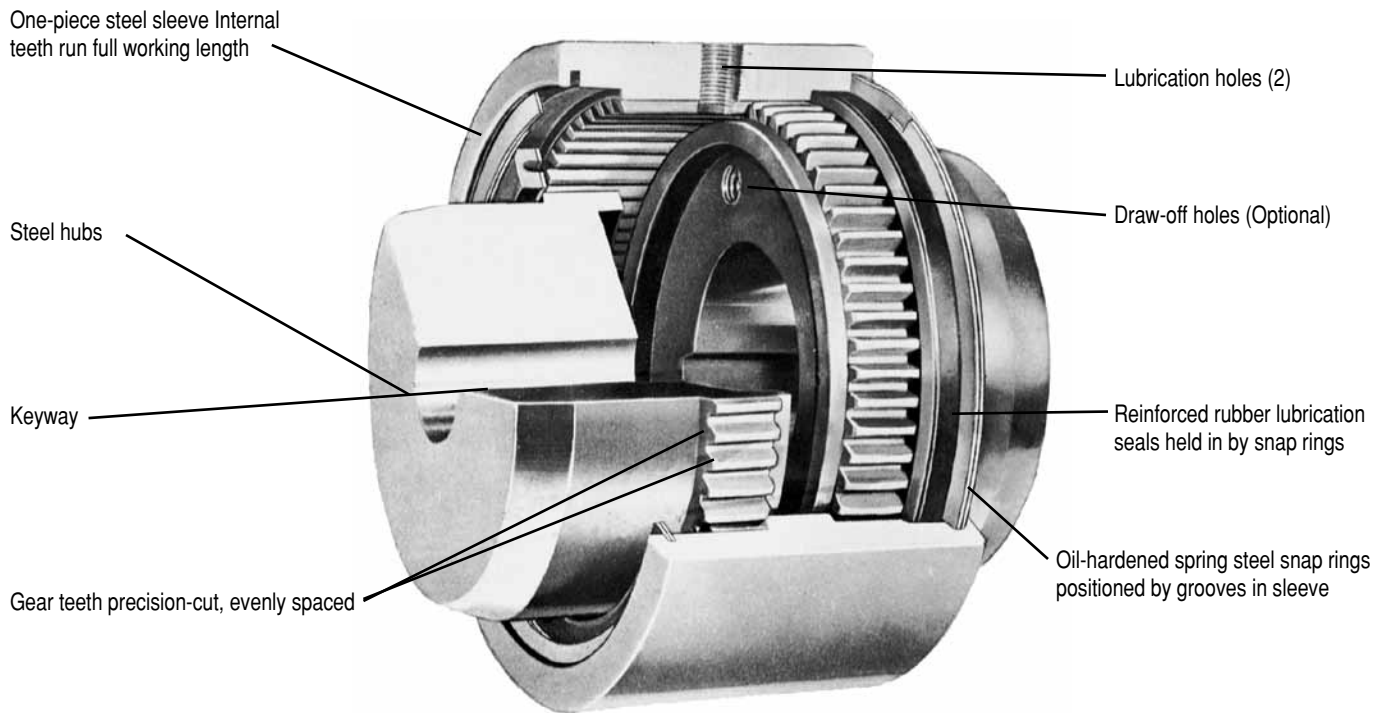
Washer Diameter (if used) : _____ Washer Width: _____



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



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 sleeves 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

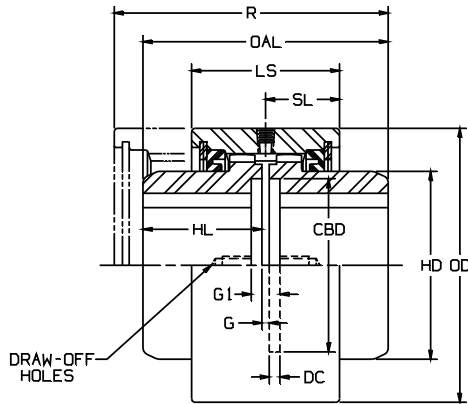
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Angular Misalignment Degrees
					Flex & Rigid Max Bore		Flex & Rigid Rough Stock Bore						
					Unbal RPM	Bal RPM	in	mm					
7/8	2,500	300	6,000	18,000	1.25	31	Solid with Center		5	2	0.005	0.13	1/2° per Mesh
1.5	7,600	900	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	0.25	
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	1/4° per Mesh
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44	91	41	0.012	0.30	
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

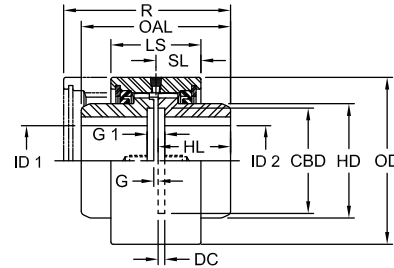
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

C and CFR Type Couplings



C Type Flex-Flex Coupling



CFR Type Flex-Rigid Coupling

C and CFR Type Dimensional Data

Size	R	OAL	LS	SL	ID1 - ID2				HL	DC	BSE		OD	HD	CBD
					Flex & Rigid Max Bore		Flex & Rigid Rough Stock Bore				G	G1			
					in	mm	in	mm							
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 accessory 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 safer operation
- Quick assembly and disassembly



CMM Type Performance Data

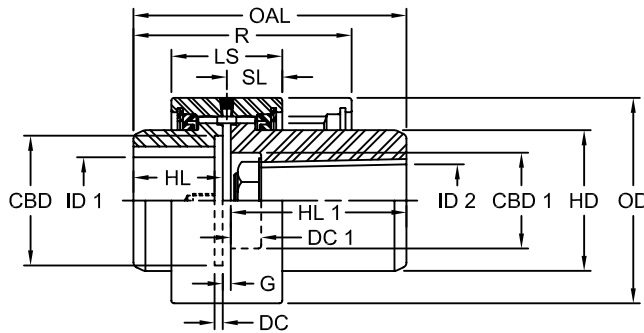
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees				
					Unbal		Bal							Max Bore		Rough Stock Bore	
					RPM	RPM	in	mm						in	mm	lbs	kg
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11	7	3.2	0.005	.13	1/2°				
1.5	7,600	900	5,000	15,000	1.63	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					
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	1/4°				
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					
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

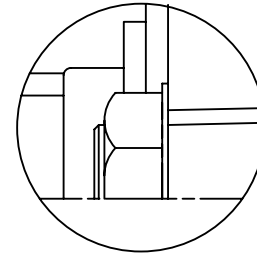
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Shaft sizes.
- Length and taper per foot of Mill Motor shaft.
- Size of nut to be used on 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 in	R in	LS in	SL in	ID1 - ID2				HL in	HL1 in	DC in	DC1 in	G in	OD in	HD in	CBD in	CBD 1 in
					Max Bore		Rough Stock Bore										
					in	mm	in	mm									
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.



CFS Type Performance Data

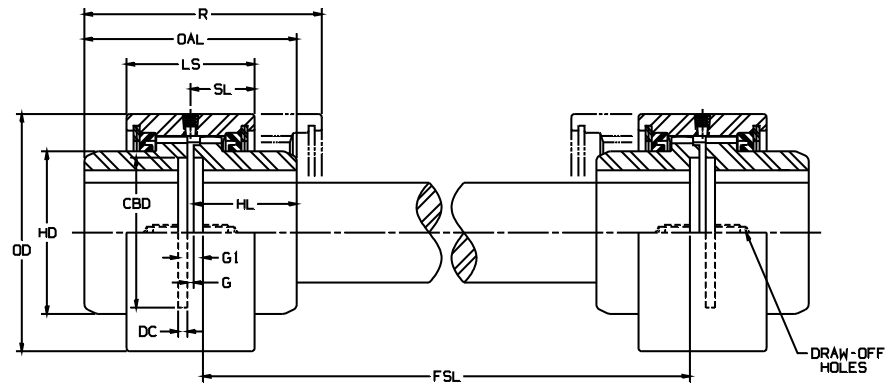
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight Coupling Only		Parallel Misalignment		Max Angular Misalignment Degrees
					Flex & Rigid Max Bore		Flex & Rigid Rough Stock Bore						
					Unbal RPM	Bal RPM	in	mm					
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11	10	4.5	0.005	.13	1/2°
1.5	7,600	900	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	
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	1/4°
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	
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 horsepower 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				HL	DC	BSE Min	G	G1	OD	HD	CBD
					Flex & Rigid Max Bore		Flex & Rigid Rough Stock Bore									
					in	mm	in	mm								
7/8	3.75	3.13	2.00	1.00	1.25	31	0.44	11	2.00	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	2.38	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	3.25	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	3.94	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	4.75	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	5.38	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	6.25	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	7.25	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	8.25	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	9.50	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		Maximum Speed ¹		ID1 - ID2				Weight Couplings Only		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore						
	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	1/2° per Mesh
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	16	7.3	0.007	.18	
2.5	30,200	3 400	3,750	11,250	2.63	70	0.88	22	26	12.0	0.007	.18	
3	50,400	5 700	3,600	9,000	3.13	84	1.19	30	43	20.0	0.010	.25	
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32	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	

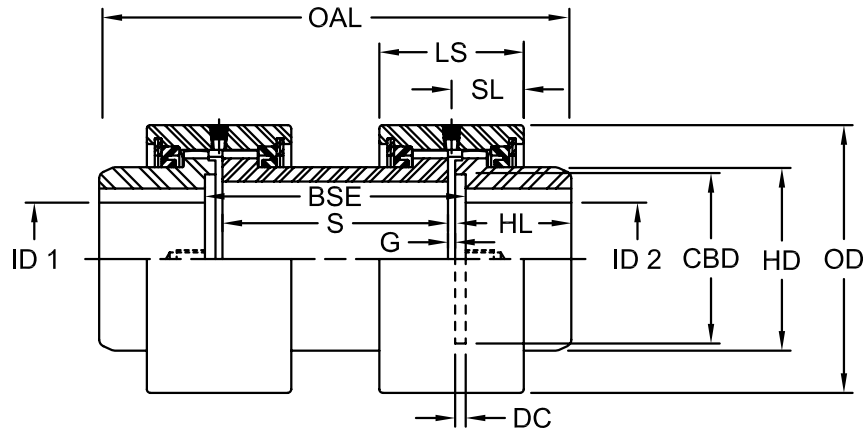
Note: ■ 1 indicates: Maximum RPM of spacer coupling determined by critical speed of spacer shaft.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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				BSE Min in	S Min in	HL in	G in	DC in	OD in	HD in	CBD in
				Max Bore		Rough Stock Bore									
				in	mm	in	mm								
7/8	6.76	2.00	1.00	1.25	31	All Solid	11	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		16	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		19	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		22	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		30	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		32	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 eliminate 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



CCS Type Performance Data

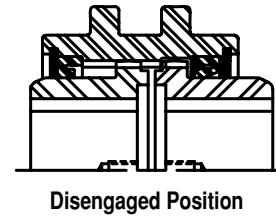
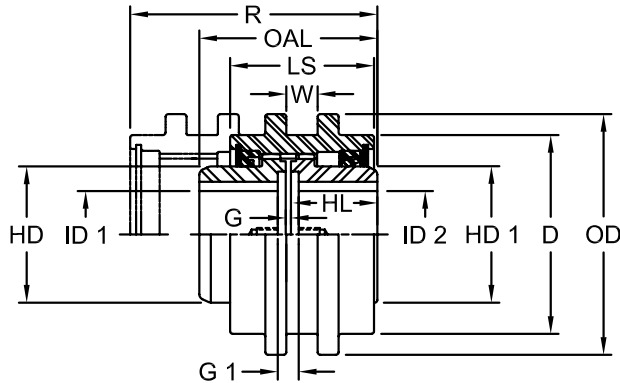
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees					
					Max Bore		Rough Stock Bore											
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm						
7/8	2,500	300	6,000	18,000	1.25	31	0.44	11	Weight Determined by W & OD Dimensions supplied by Customer	0.005	.13	1/2°						
1.5	7,600	900	5,000	15,000	1.63	42	0.63	16					0.007	.18				
2	20,200	2 300	4,200	12,600	2.13	56	0.73	19							0.007	.18		
2.5	30,200	3 400	3,750	11,250	2.63	70	0.88	22									0.010	.25
3	50,400	5 700	3,600	9,000	3.13	84	1.19	30										
3.5	88,200	10 000	2,800	8,400	3.63	97	1.25	32		0.012	.30							
4	126,000	14 200	2,400	7,200	4.13	111	1.75	44				0.007	.18					
4.5	184,000	20 800	2,200	6,600	4.75	130	2.38	60						0.007	.18			
5	270,000	30 600	2,100	6,300	5.75	160	2.88	73								0.007	.18	
6	378,000	42 700	2,000	6,000	6.75	186	3.88	99										0.009

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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



CCS Type Dimensional Data

Size	R	OAL	LS	W	ID1 - ID2				HL	BSE		OD	D	HD1	HD	T ¹
					Max Bore		Rough Stock Bore			G	G1					
					in	mm	in	mm								
7/8	4.31	3.13	2.56	Per Cust Specs	1.25	31	0.44	11	1.50	0.13	0.38	Per Cust Specs	3.31	1.985	2.00	0.38
1.5	5.38	3.75	3.31		1.63	42	0.63	16	1.81	0.13	0.50		3.75	2.365	2.38	0.63
2	5.75	4.25	3.44		2.13	56	0.73	19	2.06	0.13	0.50		4.75	3.235	3.25	0.56
2.5	6.41	4.75	3.88		2.63	70	0.88	22	2.25	0.25	0.75		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

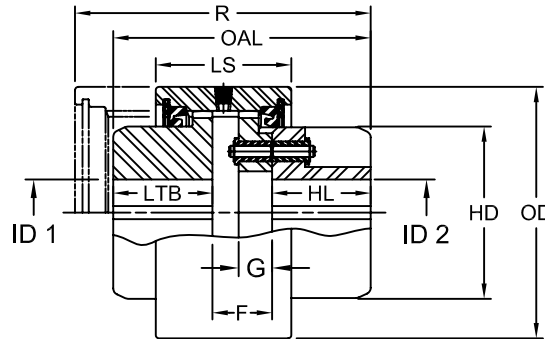
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Flex or Rigid Max Bore		Shear Hub Max Bore						
					Unbal RPM	Bal RPM	in	mm					
1.5	7,600	900	5,000	15,000	1.63	42	0.938	24	8	4	0.007	.18	1/2°
2	20,200	2 300	4,200	12,600	2.13	56	1.500	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	1/4°
3.5	88,200	10 000	2,800	8,400	3.63	97	2.625	66	47	21	0.012	.30	
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	1/4°
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 horsepower 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	OAL	LS	SL	ID1		ID2		LTB	HL	G	F	OD	HD
					Flex or Rigid	Max Bore	Shear Hub	Max Bore						
	in	in	in	in	in	m	in	mm	in	in	in	in	in	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 Spirolox rings.

Features

- No lubrication required eliminating the need for seals
- Sintered Iron hubs with crowned teeth to provide greater misalignment and gouging of nylon sleeve
- Resilient, lightweight, abrasion and corrosion resistant nylon sleeve accurately molded to mesh with hubs eliminating 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 retaining rings yet capable of easy removal and still withstand a 5,000 lbs end thrust
- Minimum backlash operating in an ambient temperature environment of -40 to 150° F



G

Nyflex and Mite Type Performance Data

Speed RPM	Nyflex			Mite		
	HP	Torque in-lb	Torque Nm	HP	Torque in	Torque 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°.
 ■ Clearance fit bores standard through 1.250 inch bores.
 ■ Interference fit bores standard over 1.250 inch bores.

Ordering Information

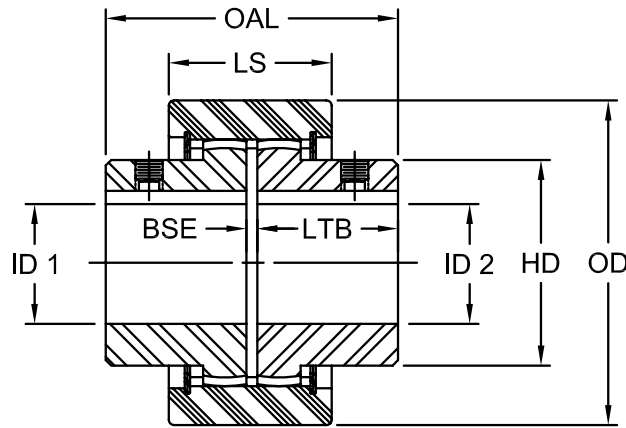
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower or torque requirement.
- Speed: Motor RPM or Driven RPM.

Nyflex		Mite	
Bore in	Keyway in	Bore in	Keyway 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.

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:
- Clearance 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

Size	Torque Capacity				Max Speed RPM	Misalignment				Weight ¹		ID1 - ID2 ²				
	Nominal		Maximum			Angular Degrees	Axial		Parallel		kg	lbs	Min Bore		Max Bore	
	in-lbs	Nm	in-lbs	Nm			in	mm	in	mm			in	mm	in	mm
B 14	89	10	177	20	8,000	1° Per Hub	+/-0.039	+/-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

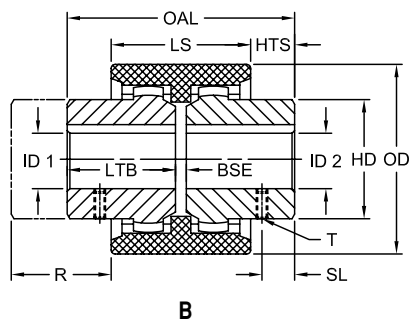
Size	Torque Capacity				Max Speed RPM	Misalignment				Weight 1		ID1 - ID2 2				
	Nominal		Maximum			Angular Degrees	Axial		Parallel		kg	lbs	Min Bore		Max Bore	
	in-lbs	Nm	in-lbs	Nm			in	mm	in	mm			in	mm	in	mm
B4R 32	708	80	1,416	160	7,000	1° Per Hub	+/-0.039	+/-1	0.016	0.4	1.1	2.4	0.50	12	1.25	32
B4R 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.

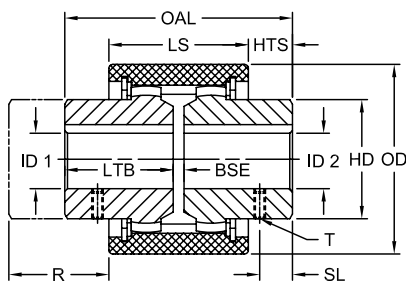
Dentex® B3R - Series Performance Data

Size	Torque Capacity				Max Speed RPM	Misalignment				Weight 1		ID1 - ID2 2				
	Nominal		Maximum			Angular Degrees	Axial		Parallel		kg	lbs	Min Bore		Max Bore	
	in-lbs	Nm	in-lbs	Nm			in	mm	in	mm			in	mm	in	mm
B3R 24	177	20	354	40	10,200	1° Per Hub	+/-0.039	+/-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

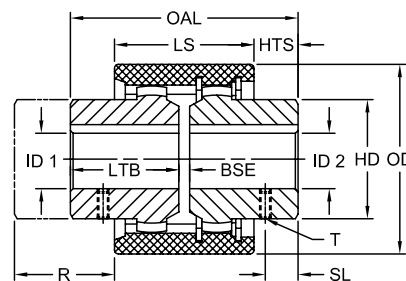
Notes: ■ 1 indicates: Weight is calculated using maximum bore and no keyway.
 ■ 2 indicates: Minimum and maximum bore sizes are given for straight bores. For Taper bores and splines, contact Lovejoy Technical Support.



B



B4R



B3R

Dentex® B - Series Dimensional Data

Size	OAL		LS		HTS		LTB		BSE		OD		HD		R (Clearance)		T - Metric Set Screw		T - Inch Set Screw	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size	SL (mm)	Size	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		LS		HTS		LTB		BSE		OD		HD		R (Clearance)		T - Metric Set Screw		T - Inch Set Screw	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size	SL (mm)	Size	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

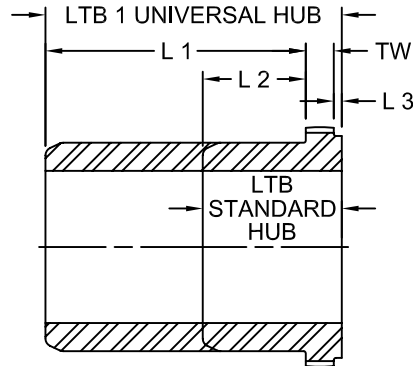
Dentex® B3R - Series Dimensional Data

Size	OAL		LS		HTS		LTB		BSE		OD		HD		R (Clearance)		T - Metric Set Screw		T - Inch Set Screw	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Size	SL (mm)	Size	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	3/8-16	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	3/8-16	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	3/8-16	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

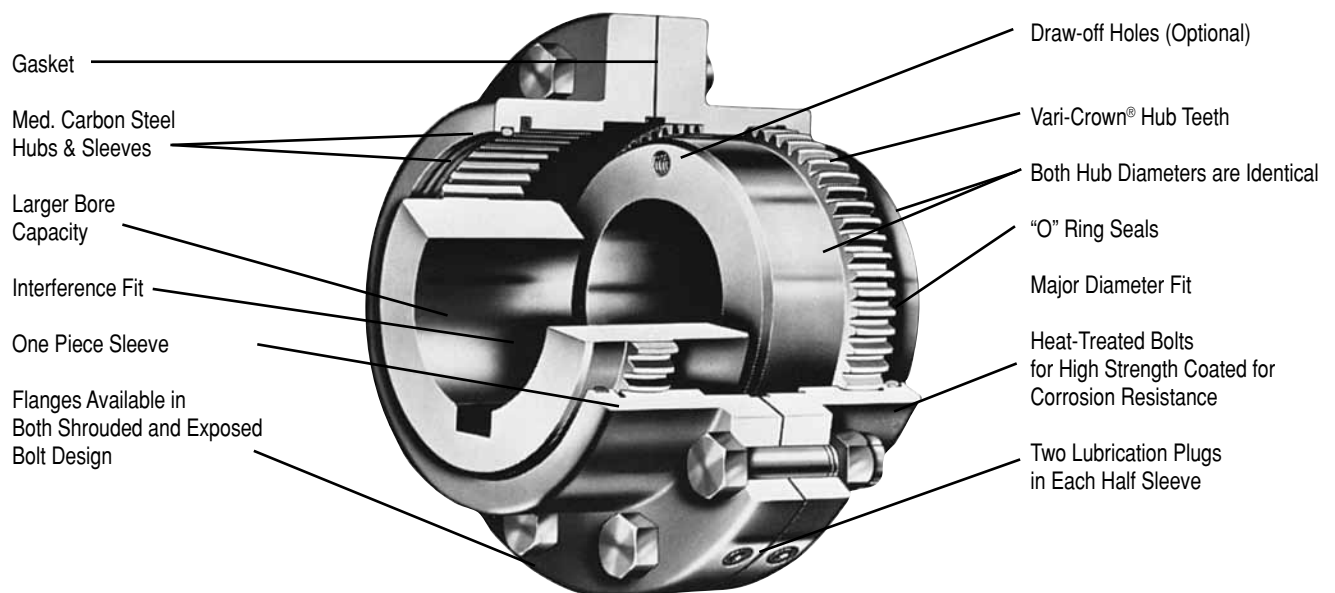
C Type Universal Hub



C Standard and Universal Hub Dimensions

Size	L1 in	L2 in	L3 in	TW in	LTB STD HUB in	LTB1 UNIV HUB in
7/8	3.38	1.13	0.13	0.25	1.50	3.75
1.5	3.36	1.17	0.13	0.52	1.81	4.00
2	4.06	1.50	0.13	0.44	2.06	4.63
2.5	4.39	1.52	0.16	0.58	2.25	5.13
3	4.89	1.77	0.25	0.61	2.63	5.75
3.5	5.58	3.33	0.25	0.67	4.25	6.50
4	5.52	3.27	0.25	0.86	4.38	6.63
4.5	6.64	3.89	0.25	0.86	5.00	7.75
5	6.39	4.52	0.25	1.23	6.00	7.88
6	7.64	4.52	0.25	1.61	6.38	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



F Type Performance Data

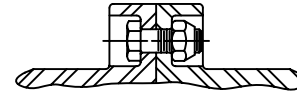
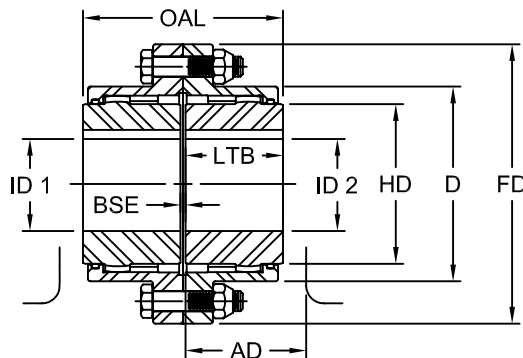
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Axial Misalignment		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore						
					Unbal RPM	Bal RPM	in	mm					
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	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	
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 horsepower 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 in	ID1 - ID2				LTB in	BSE in	AD in	FD in	D in	HD in
		Max Bore		Rough Stock Bore							
		in	mm	in	mm						
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 FFR 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

FFR Type Performance Data

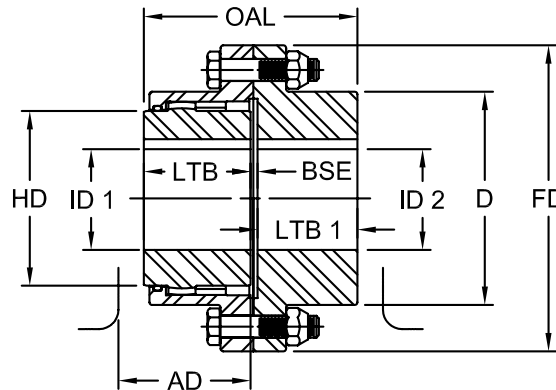
Size	Nominal Torque		Maximum Speed		ID1				ID2				Weight		Max Angular Misalignment Degrees
					Flex Hubs Max Bore		Flex Hubs Rough Stock Bore		Rigid Hubs Max Bore		Rigid Hubs Rough Stock Bore				
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	2.125	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	
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 horsepower 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



FFR Type Dimensional Data

Size	OAL in	ID1				ID2				LTB in	LTB 1 in	BSE in	AD in	FD in	D in	HD in
		Flex Hubs Max Bore		Flex Hubs Rough Stock Bore		Rigid Hubs Max Bore		Rigid Hubs Rough Stock Bore								
		in	mm	in	mm	in	mm	in	mm							
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	18.34	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

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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	
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	
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	

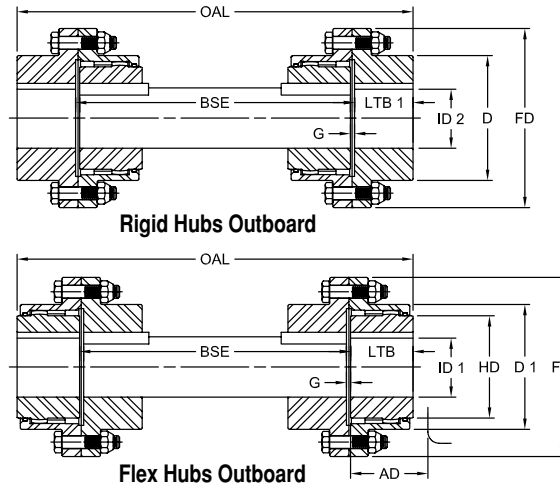
Note: ■ 1 indicates: Maximum RPM of floating shaft set determined by critical speed of floating shaft.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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



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				ID1 - ID2				LTB 1 in	LTB in	G in	AD in	FD in	D in	D 1 in	HD in		
			Rigid Hubs Max Bore		Rigid Hubs Rough Stock Bore		Flex Hubs Max Bore		Flex Hubs Rough Stock Bore											
			in	mm	in	mm	in	mm	in	mm										
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	18.34	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



FHD Type Performance Data

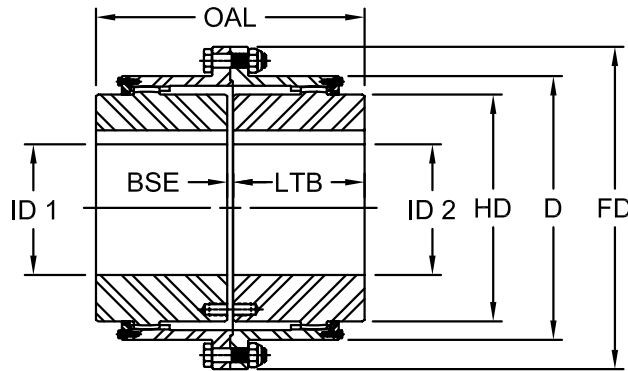
Size	Nominal Torque		Maximum Speed		ID1 - ID2		Weight		Parallel Misalignment		Angular Misalignment Degrees
					Max Bore Standard Keyway						
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	lbs	kg	in	mm	
7	1,008,000	110 000	2,000	3,000	9.500	255	950	431	0.135	3.429	0.75° Per Gear Mesh
8	1,323,500	150 000	1,900	2,850	11.500	310	1,560	708	0.160	4.064	
9	1,827,700	210 000	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 horsepower 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



FHD Type Dimensional Data

Size	OAL in	ID1 - ID2 Max Bore Standard Keyway		1 Rectangular Keyway		LTB in	BSE in	FD in	D in	HD in
		in	mm	Width in	Depth 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

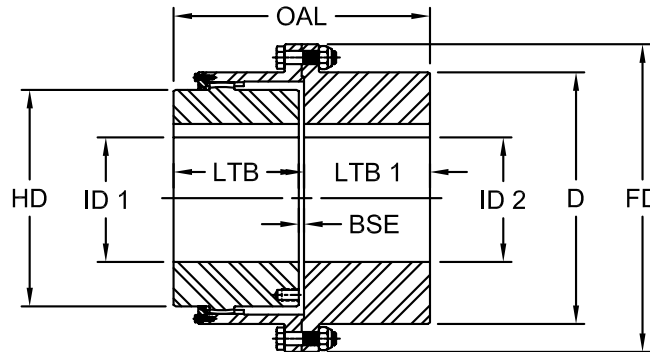
Size	Nominal Torque		Maximum Speed		ID1		ID2		Weight		Max Angular Misalignment Degrees
					Flex Hubs		Rigid Hubs				
	in-lb x 1000	Nm	Unbal RPM	Bal RPM	Max Bore Std Keyway in	Max Bore Std Keyway mm	Max Bore Std Keyway in	Max Bore Std Keyway mm	lbs	kg	
7	1,008	110	2,000	3,000	9.500	255	12.000	320	1,017	462	0.75° Per Gear Mesh
8	1,324	150	1,900	2,850	11.500	310	14.000	375	1,609	730	
9	1,827	210	1,750	2,625	12.500	340	15.500	415	2,128	966	
10	2,521	280	1,550	2,325	13.750	355	17.000	455	2,723	1,236	
11	3,466	390	1,400	2,100	15.500	410	18.500	500	3,640	1,653	
12	4,412	500	1,300	1,950	17.000	435	20.250	—	4,508	2,047	
13	5,249	600	1,150	1,725	18.250	480	22.000	—	5,600	2,542	
14	6,429	730	1,050	1,575	19.500	—	23.500	—	6,837	3,104	
15	7,752	880	900	1,350	21.000	—	24.250	—	8,244	3,743	
16	9,454	1 070	800	1,200	22.500	—	26.000	—	9,848	4,471	
18	12,605	1 420	550	825	25.500	—	28.000	—	12,673	5,754	
20	17,017	1 920	450	675	28.000	—	31.000	—	18,113	8,223	
22	21,429	2 420	380	570	31.000	—	34.000	—	23,671	10,747	
24	26,471	2 990	325	485	34.000	—	37.000	—	29,958	13,601	
26	32,773	3 700	280	420	37.000	—	40.000	—	37,014	16,845	
28	39,076	4 410	240	360	40.000	—	43.000	—	44,012	19,981	
30	47,269	5 340	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 horsepower 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 in	ID1		ID2		LTB in	LTB1 in	BSE in	FD in	D in	HD in
		Flex Hubs Max Bore Std Keyway in	mm	Rigid Hubs Max Bore Std Keyway in	mm						
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	18.34	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	33.75	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

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FHDFS Type Performance Data

Size	Nominal Torque		Maximum Speed ¹		ID1		ID2		Weight		Max Angular Misalignment Degrees
					Flex Hubs Max Bore Std Keyway		Rigid Hubs Max Bore Std Keyway				
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	
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	

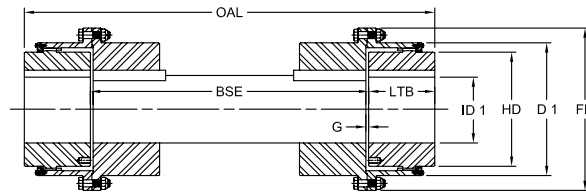
Note: ■ 1 indicates: Maximum RPM of floating shaft set determined by critical speed of floating shaft.

Ordering Information

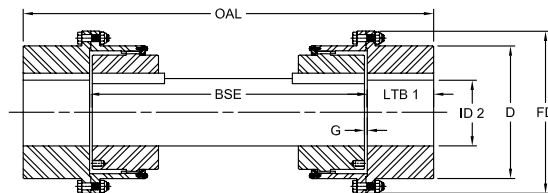
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (BSE).
- Connecting equipment shaft sizes.
- Specify which hubs are to be used on the equipment (Rigid 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

FHDFS Type Dimensional Data

Size	OAL in	BSE in	ID1		ID2		LTB 1 in	LTB in	G in	FD in	D in	D 1 in	HD in
			in	mm	in	mm							
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	18.34	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	33.75	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



FMM Type Performance Data

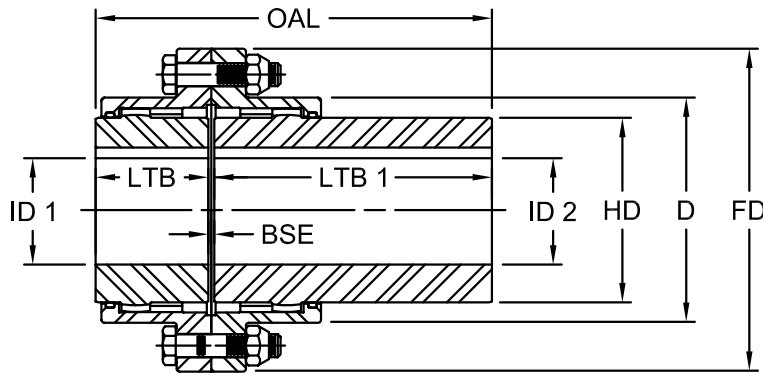
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore						
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	12	5	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	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	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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 in	ID1 - ID2				LTB in	LTB1 Max in	BSE in	FD in	D in	HD in
		Max Bore		Rough Stock Bore							
		in	mm	in	mm						
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



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FMM Type Mill Motor Performance Data

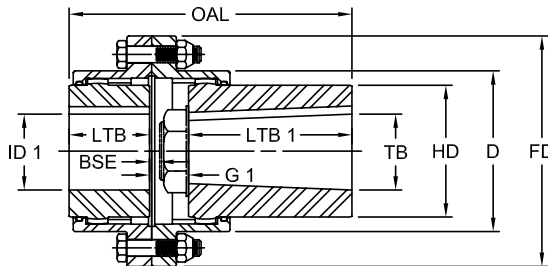
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore						
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	12	5	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	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	

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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 in	BSE in	FD in	D in	HD in	TB in	Mill Motor Hub Kw	
												W in	H in
1.5	602/802	6.00	2.125	1.94	3.00	1.06 *	0.13	6.00	3.97	3.00	1.7485 - 1.7495	0.50	0.25
	603/803	6.56			3.50	1.13 *					1.998 - 1.999	0.50	0.25
	604/804	6.56			3.50	1.13 *					1.998 - 1.999	0.50	0.25
2	603/803	7.06	2.750	2.44	3.50	1.13	0.13	7.00	4.86	4.00	1.998 - 1.999	0.50	0.25
	604/804	7.06			3.50	1.13					1.998 - 1.999	0.50	0.25
	606/806	7.69			4.00	1.25					2.498 - 2.499	0.50	0.25
2.5	603/803	7.72	3.250	3.03	3.50	1.19	0.19	8.38	5.84	4.63	1.998 - 1.999	0.50	0.25
	604/804	7.72			3.50	1.19					1.998 - 1.999	0.50	0.25
	606/806	8.34			4.00	1.31					2.498 - 2.499	0.50	0.25
3	608/808	8.34	4.000	3.59	4.50	1.44	0.19	9.44	6.84	5.63	2.998 - 2.999	0.75	0.25
	606/806	8.91			4.00	1.31					2.498 - 2.499	0.50	0.25
	608/808	9.53			4.50	1.44					2.998 - 2.999	0.75	0.25
3.5	610/810	9.66	4.625	4.19	4.50	1.56	0.25	11.00	7.91	6.50	3.248 - 3.249	0.75	0.25
	612/812	10.28			5.00	1.69					3.623 - 3.624	0.75	0.25
	614/814	10.94			5.00	1.75					4.270 - 4.2485	1.00	0.38
4	614/814	11.06	5.375	4.75	5.00	1.88	0.25	12.50	9.25	7.50	4.2470 - 4.2485	1.00	0.38
	610/810	10.88			4.50	1.63					3.248 - 3.249	0.75	0.25
	612/812	11.50			5.00	1.75					3.623 - 3.624	0.75	0.25
4.5	614/814	11.63	6.000	5.31	5.00	1.88	0.31	13.63	10.38	8.50	4.2470 - 4.2485	1.00	0.38
	616/816	12.25			5.50	2.06					4.6220 - 4.6235	1.25	0.38
	618/818	12.31			6.00	1.56					4.9970 - 4.9985	1.25	0.50
5	614/814	12.25	6.500	6.03	5.00	1.94	0.31	15.31	11.56	9.50	4.2470 - 4.2485	1.00	0.38
	616/816	12.94			6.00	1.63					4.6220 - 4.6235	1.25	0.38
	618/818	13.59			6.75	2.06					4.9970 - 4.9985	1.25	0.50
5.5	620	14.84	7.500	6.91	6.00	1.63	0.31	16.75	12.72	10.50	5.8720 - 5.8735	1.50	0.75
	618/818	14.47			5.50	2.06					4.6220 - 4.6235	1.25	0.38
	618/818	14.53			6.00	1.63					4.9970 - 4.9985	1.25	0.50
6	620	15.72	8.250	7.41	6.75	2.06	0.31	18.00	14.00	11.50	5.8720 - 5.8735	1.50	0.75
	622	16.84			7.25	2.69					6.2470 - 6.2485	1.50	0.75
	616/816	14.97			5.50	2.06					4.6220 - 4.6235	1.25	0.38

- 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



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FSL Type Performance Data

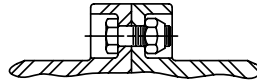
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore				
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	
2	31,500	3 560	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	
7	1,008,000	113 900	2,000	3,000	9.500	255	5.75	139	950	431	

Ordering Information

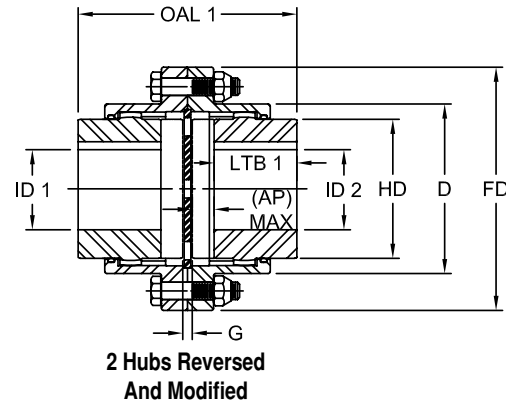
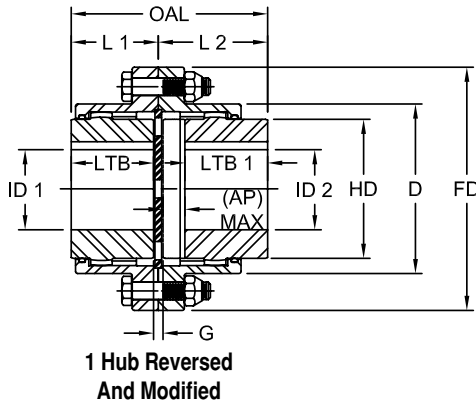
- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower or torque requirement.
- Speed: Motor RPM or Driven RPM.
- Distance between shaft ends (maximum-minimum shaft separation).
- Shaft sizes.
- Amount of slide required.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

FSL Type Slide Couplings



**Shrouded Bolt Design
 Also Available**



FSL Type Dimensional Data

Size	OAL	OAL1	L1 Std Hub in	L2 Slide Half in	ID1 - ID2				LTB Std Hub in	LTB1 Slide Hub in	AP ¹ Max in	G Min in	FD in	D in	HD in
	One Hub Reversed in	Two Hubs Reversed in			Max Bore		Rough Stock Bore								
					in	mm	in	mm							
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

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FSLX Type Performance Data

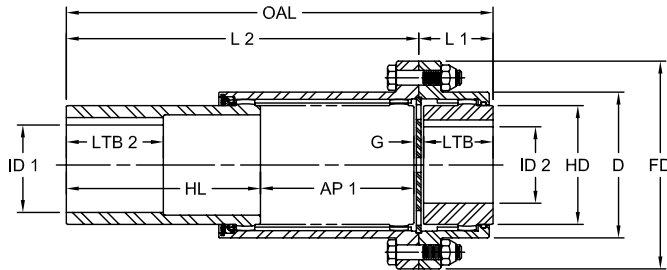
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore				
					Unbal RPM	Bal RPM	in	mm			
1.5	18,900	2 140	5,500	8,250	2.125	56	0.69	18	19	9	1.5° Per Gear Mesh
2	31,500	3 560	5,000	7,500	2.750	73	0.94	24	34	15	
2.5	56,700	6 410	4,400	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	
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 horsepower 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.

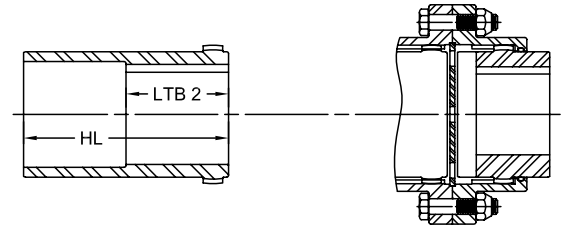
Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings

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

FSLX Type Dimensional Data

Size	OAL	L1 Std Hub	L2 Slide Half	ID1 - ID2				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
				Max Bore		Rough Stock Bore											
				in	mm	in	mm										
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



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FSPCR Type Performance Data

Size	Nominal Torque		Maximum Speed ¹		ID1 - ID2				Weight Less Spacer		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore				
					Unbal RPM	Bal RPM	in	mm			
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	
7	1,008,000	113 900	2,000	3,000	9.500	255	5.00	127	950	431	

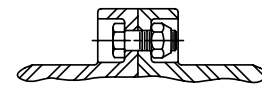
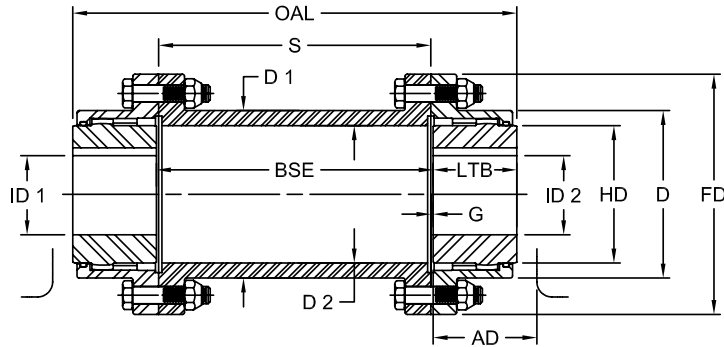
Note: ■ 1 indicates: Maximum RPM of spacer set determined by critical speed of spacer.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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

FSPCR Type Dimensional Data

Size	OAL in	S in	AD in	ID1 - ID2				LTB in	BSE in	G in	FD in	D in	HD in	D1 in	D2 in
				Max Bore		Rough Stock Bore									
				in	mm	in	mm								
1	Determined by Shaft Separation		2.04	1.625	42	0.44	11	1.69	Determined by Customer Specs	0.06	4.56	3.06	2.31	3.00	2.41
1.5			2.32	2.125	56	0.69	18	1.94		0.06	6.00	3.97	3.00	3.75	3.13
2			2.94	2.750	73	0.94	24	2.44		0.06	7.00	4.86	4.00	4.75	4.00
2.5			3.47	3.250	85	1.44	37	3.03		0.09	8.38	5.84	4.63	5.50	4.78
3			3.97	4.000	107	1.44	37	3.59		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 restricted 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

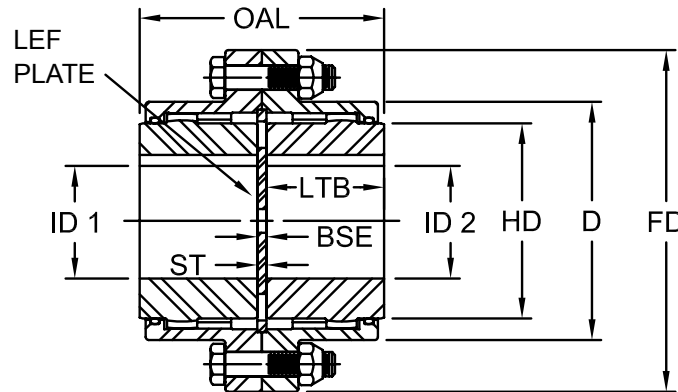
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore						
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	in	mm	
1	7,600	850	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	18,900	2 140	5,500	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	
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 horsepower 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 in	ID1 - ID2				LTB in	BSE in	F ¹ (ref) in	ST in	FD in	D in	HD in
		Max Bore		Rough Stock Bore								
		in	mm	in	mm							
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

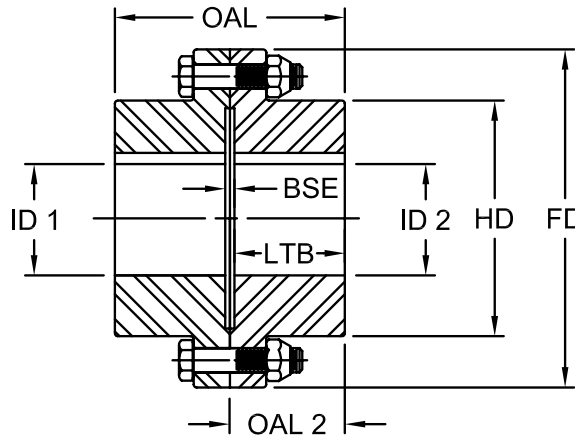
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Max Angular Misalignment Degrees
					Max Bore		Rough Stock Bore				
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	lbs	kg	
1	7,600	850	6,000	9,000	2.125	56	solid	solid	10	5	0°
1.5	18,900	2 140	5,500	8,250	2.813	76	solid	solid	20	9	
2	31,500	3 560	5,000	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 horsepower 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



FRR Type Dimensional Data

Size	OAL in	OAL2 in	ID1 - ID2				LTB in	BSE in	FD in	HD in
			Max Bore		Rough Stock Bore					
			in	mm	in	mm				
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	7.25	0.50	18.00	14.00
7	17.88	8.94	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

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FLA Type Performance Data

Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore Standard		Rough Stock Bore						
					Unbal RPM	Bal RPM	Keyway						
1.5	15,000	1 700	12,000	18,000	1.625	41	0.38	9	17.6	8	0.028	0.7	1.5° 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	0.700	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	

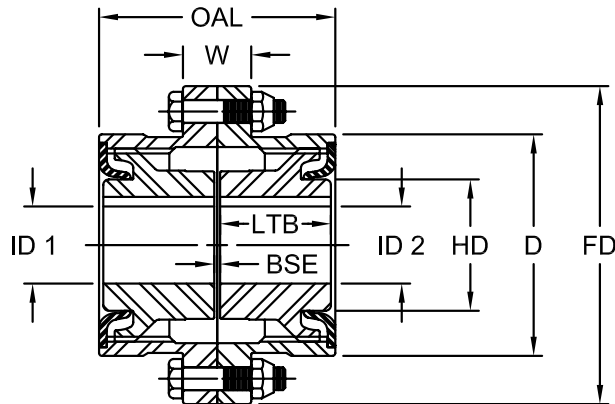
Note: ■ 1 Indicates: Maximum bore for square keyway.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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



FLA Type Dimensional Data

Size	OAL in	W in	ID1 - ID2				LTB in	BSE in	FD in	D in	HD in	C/L - C/L of Teeth*	Puller Holes
			Max Bore Standard Keyway		Rough Stock Bore								
			in	mm	in	mm							
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

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FLAFR Type Performance Data

Size	Nominal Torque		Maximum Speed		ID1		ID2		ID1		ID2		Weight		Max Angular Misalignment Degrees
					Flex Hubs		Flex Hubs		Rigid Hubs		Rigid Hubs				
	in-lb	Nm	Unbal RPM	Bal RPM	Max Bore Standard Keyway	Rough Stock Bore	Max Bore Standard Keyway	Rough Stock Bore	in	mm	in	mm	lbs	kg	
1.5	15,000	1 700	12,000	18,000	1.625	41	0.38	9	2.813	76	0.75	19	19	8	.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	

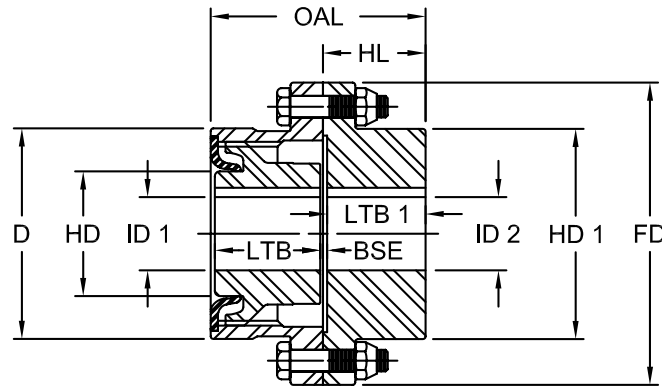
Note: ■ 1 indicates: Maximum bore for square keyway.

Ordering Information

- Application: Driver and Driven.
- Type and size of coupling, horizontal, vertical etc.
- Power: Motor horsepower 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 in	HL in	ID1		ID2		ID1		ID2		LTB in	LTB1 in	BSE in	FD in	HD1 in	HD in	D in	Puller Holes	
			Flex Hubs Max Bore Standard Keyway	Flex Hubs Rough Stock Bore	Rigid Hubs Max Bore Standard Keyway	Rigid Hubs Rough Stock Bore	Flex Hub	Rigid Hub											
			in	mm	in	mm	in	mm	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

FLAMM and FLAMMFR Type Performance Data

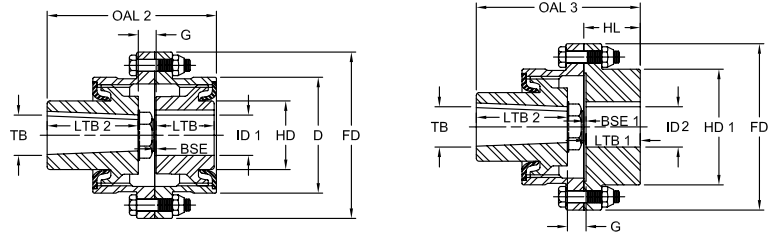
Size	Nominal Torque		Max Speed		ID1		ID2		ID1		ID2		Weight		Parallel Misalignment FLAMM only		Max Angular Misalignment Degrees
					Flex Hub Max Bore Standard Keyway	Flex Hub Rough Stock Bore	Rigid Hub Max Bore Standard Keyway	Rigid Hub Rough Stock Bore									
	in-lb	Nm	Unbal RPM	Bal RPM	in	mm	in	mm	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	.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	117	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 horsepower 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	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
	602/802	6.50	6.34			3.00	1.06							1.7485 - 1.7495	0.50	0.25
2	603/803	7.06	6.91	2.44	2.28	3.50	1.13	0.13	0.16	7.00	4.91	2.88	4.86	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
	602/802	7.16	7.03			3.00	1.13							1.7485 - 1.7495	0.50	0.25
2.5	603/803	7.72	7.59	3.03	2.28	3.50	1.19	0.19	0.19	8.38	5.91	3.63	5.84	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
	602/802	7.72	7.53			3.00	1.13							1.7485 - 1.7495	0.50	0.25
3	603/803	8.28	8.09	3.59	2.91	3.50	1.19	0.19	0.19	9.44	6.91	4.25	6.84	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
	603/803	8.88	8.66			3.50	1.19							1.998 - 1.999	0.50	0.25
3.5	604/804	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
	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
	606/806	10.13	9.81			4.00	1.38							2.498 - 2.499	0.50	0.25
4	608/808	10.75	10.44	4.75	4.44	4.50	1.50	0.25	0.31	12.50	9.25	5.75	9.25	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
	610/810	11.50	11.22			4.50	1.69							3.248 - 3.249	0.75	0.25
4.5	612/812	12.12	11.84	5.31	5.03	5.00	1.81	0.31	0.34	13.63	10.38	6.50	10.38	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
	612/812	12.84	12.50			5.00	1.81							3.623 - 3.624	0.75	0.25
5	614/814	12.97	12.63	6.03	5.69	5.00	1.94	0.31	0.34	15.31	11.56	7.31	11.56	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
	616/816	14.47	13.72			5.50	2.06							4.6220 - 4.6235	1.25	0.38
5.5	618/818	14.53	13.78	6.91	6.16	6.00	1.63	0.31	0.34	16.75	12.81	8.00	12.72	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
	620	16.22	16.22			6.75	2.06							5.8720 - 5.8735	1.50	0.75
6	622	17.34	17.34	7.41	7.41	7.25	2.69	0.31	0.41	18.00	14.00	8.81	14.00	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
	622	18.69	18.69			7.25	2.75							6.2470 - 6.2485	1.50	0.75
7	624	20.69	20.69	8.69	8.69	9.25	2.75	0.38	0.50	20.75	15.75	10.31	15.75	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



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FA Type Performance Data

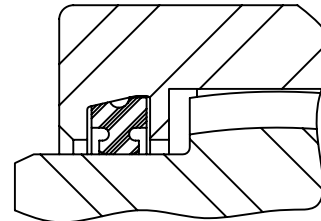
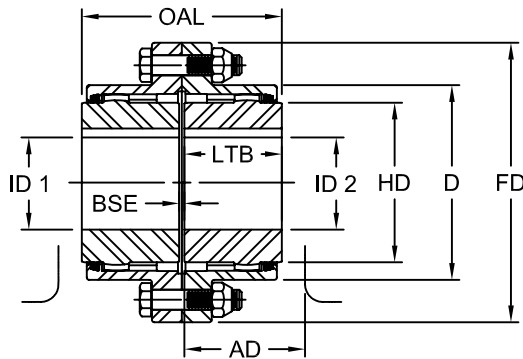
Size	Nominal Torque		Maximum Speed		ID1 - ID2				Weight		Parallel Misalignment		Max Angular Misalignment Degrees
					Max Bore Standard Keyway		Rough Stock Bore						
					Unbal RPM	Bal RPM	in	mm					
1	11,300	1 280	6,000	9,000	1.625	42	0.44	11	9	4	0.056	1.4	1.5° Per Gear Mesh
1.5	22,700	2 560	5,500	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	
7	1,179,300	1 332 600	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 horsepower 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



FA Type Dimensional Data

Size	OAL in	AD in	ID1 - ID2				LTB in	BSE in	FD in	D in	HD in
			Max Bore Standard Keyway		Rough Stock Bore						
			in	mm	in	mm					
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



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RA and RAHS Type Performance Data

Size	HP/100 RPM	Nominal Torque in-lb	Thrust Capacity lbs	Motor & Pump Hubs		Motor & Pump Hubs	
				Min Bore		Max Bore	
				in	mm	in	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

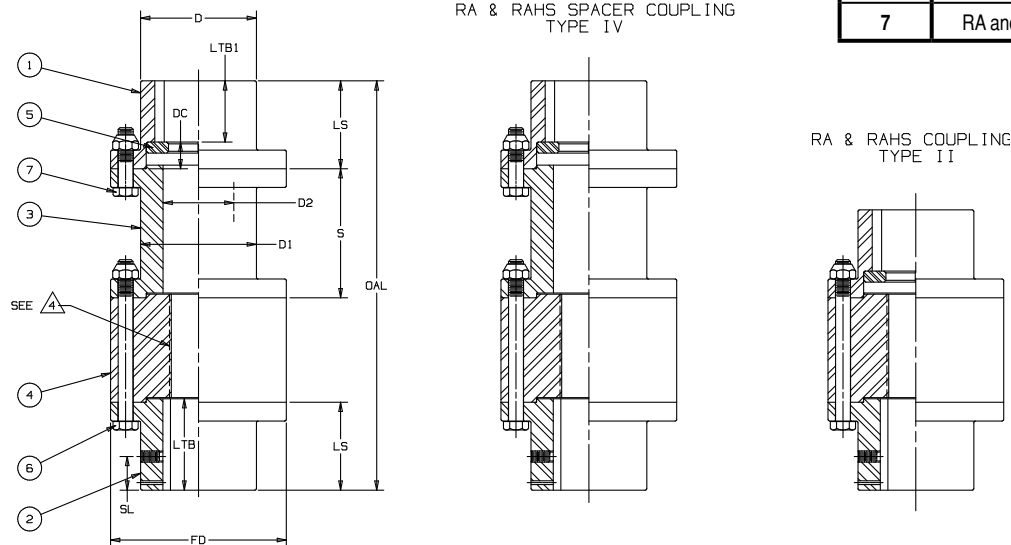
Ordering Information

- Application: Driver and Driven.
- Power: Motor horsepower 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

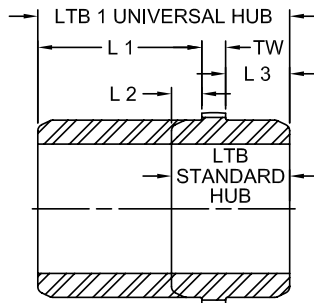


RA and RAHS Type Dimensional Data

Size	STD OAL		FD	D	LTB	LTB1	LS	DC	N	SL	D1	D2	S		BOLTS		B.C. Dia in
	Type II in	Type IV in											Std in	Min in	Qty	Size	
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:
- Clearance 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

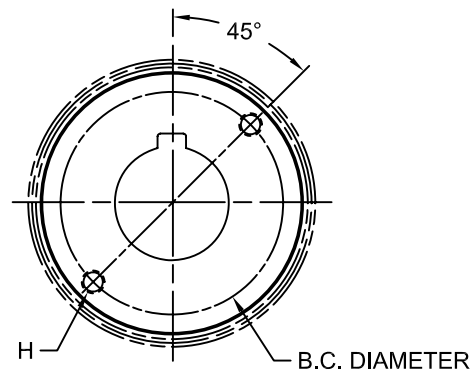


F Type Standard and Universal Hub Dimensions

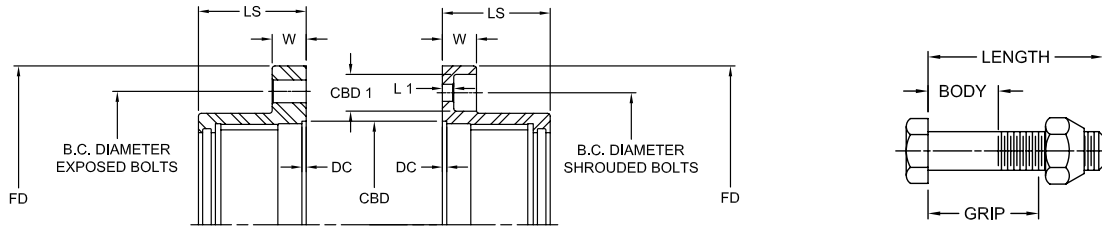
Size	L1 in	L2 in	L3 in	TW in	LTB STD in	LTB1 UNIV HUB in
1	2.75	0.44	0.75	0.50	1.69	4.00
1.5	3.13	0.56	0.81	0.56	1.94	1.50
2	3.63	0.56	1.25	0.63	2.44	4.50
2.5	4.22	0.75	1.53	0.75	3.03	6.50
3	4.44	1.03	1.69	0.88	3.59	7.00
3.5	4.63	1.31	1.88	1.00	4.19	7.50
4	4.97	1.47	2.16	1.13	4.75	8.25
4.5	5.19	1.50	2.56	1.25	5.31	9.00
5	5.06	1.59	2.94	1.50	6.03	9.50
5.5	5.56	1.97	3.19	1.75	6.91	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	5/8 - 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

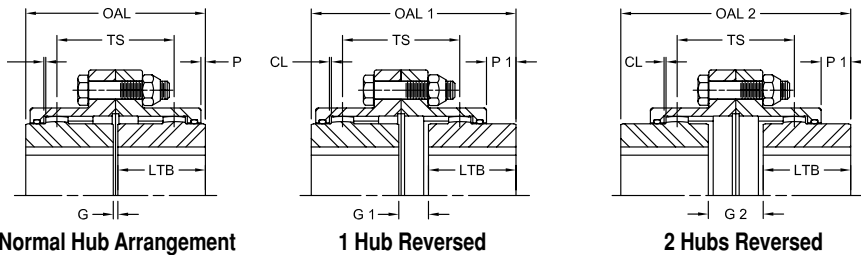


Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



Flange Details

Size	LS in	W in	DC in	FD in	CBD in	B.C. Dia		Exposed Bolts				Shrouded Bolts				CBD 1 in	L1 in			
						in	in	Qty	Size	Length in	Min Body in	Max Grip in	in	Qty	Size			Length in	Min Body in	Max Grip 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	3/8-16	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	3-1/4	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	—	—	—									



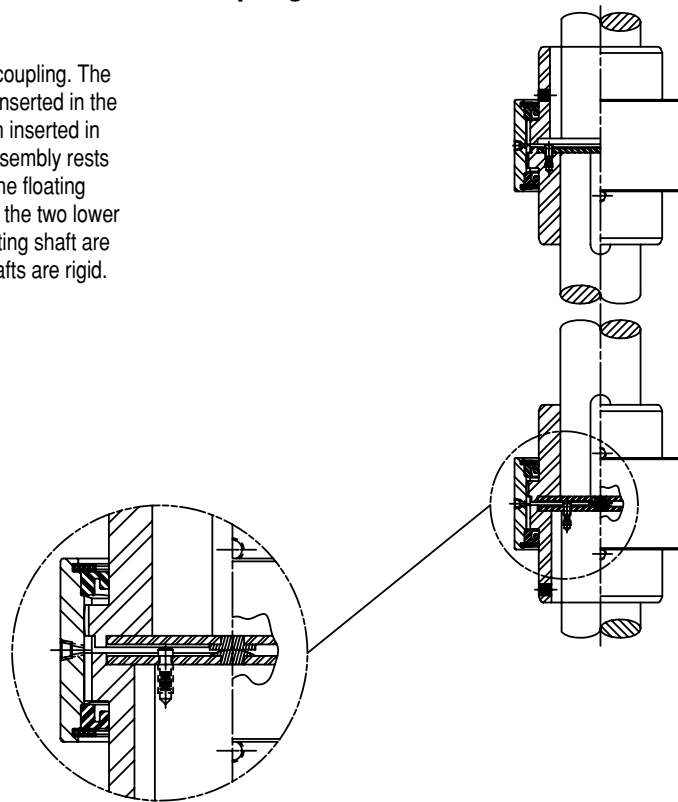
Minimum and Maximum Hub Gaps

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

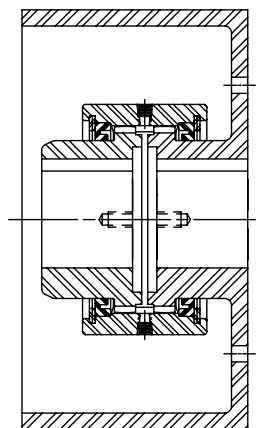
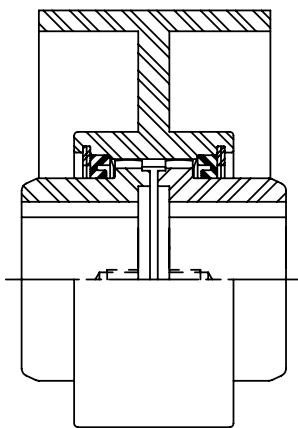
Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings

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.

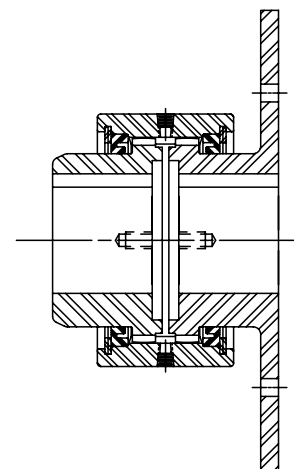
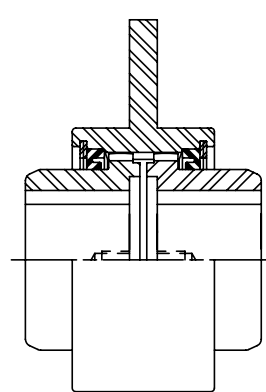


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Brakedrum Type

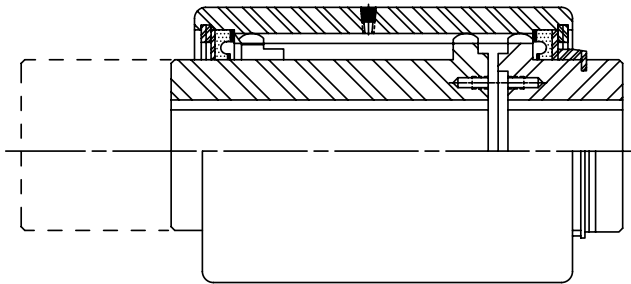
Two different designs of brakedrum couplings are illustrated. One shows the brakedrum as an integral part of the sleeve and the two hubs are standard. The other design utilizes one standard hub and a standard sleeve with the brakedrum as part of a special hub.



Brake Disc Type

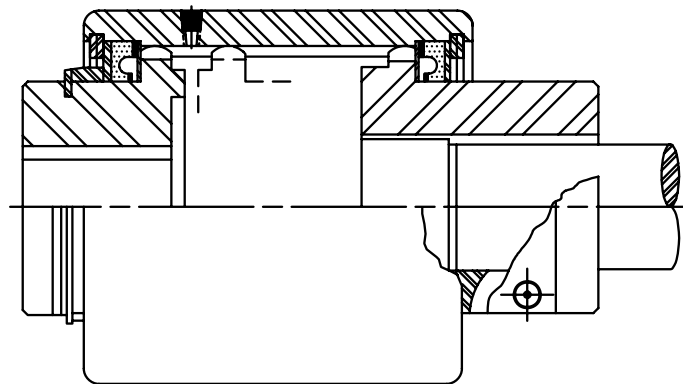
Two different designs of brake disc couplings are illustrated. One shows the brake disc as an integral part of the sleeve and the two hubs are standard. The other design utilizes one standard hub and a standard sleeve with the brakedrum as part of a special hub.

Lovejoy / Sier-Bath Continuous Sleeve Gear Couplings



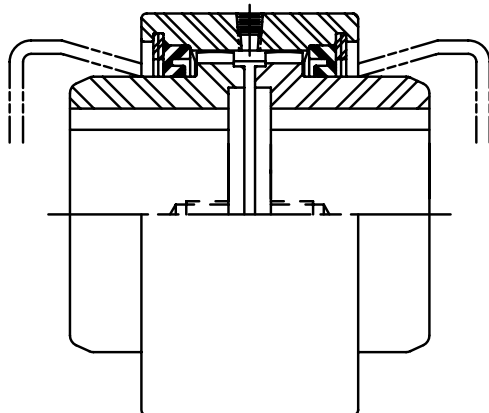
Sliding Hub Type

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

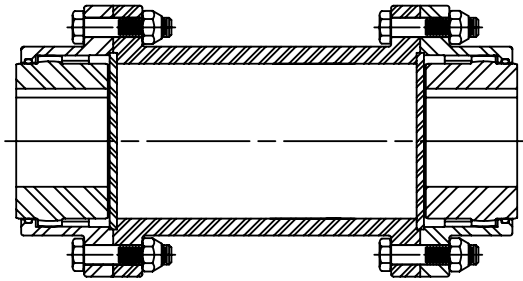
Used on Jordan machines and refiners, this design is similar to the Sliding Hub Type coupling except the long hub is split and secured to the shaft with a bolt. This permits for quick axial adjustment of the Jordan shafts in the hub.



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.

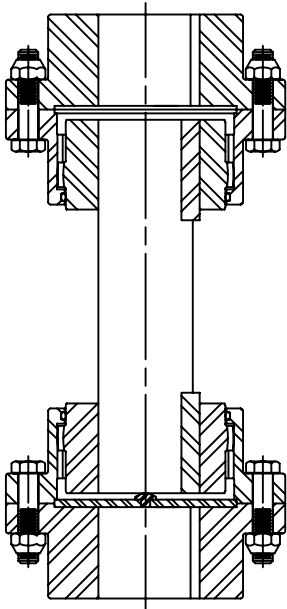
Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



Limited End Float Spacer Type

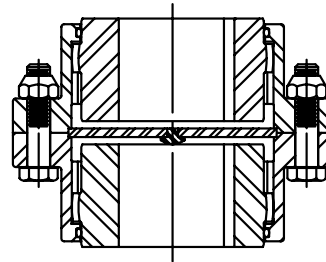
The addition of plates restricts axial travel to the drive or driven shaft. The spacer makes it possible to remove the hubs from either shaft without disturbing the connected units.

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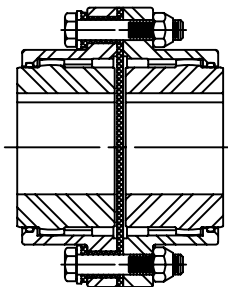
Vertical Floating Shaft Type

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.



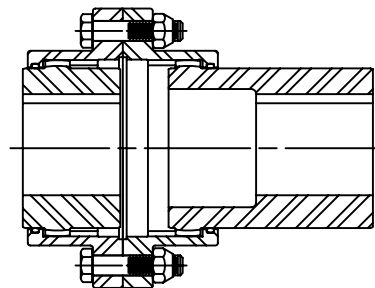
Vertical Type

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

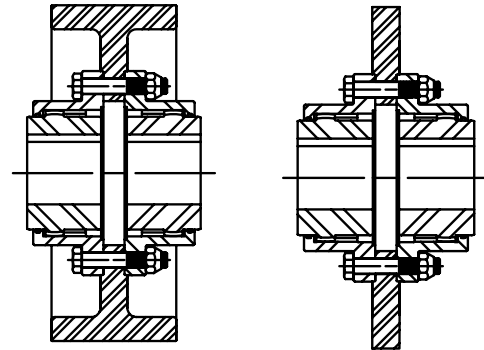
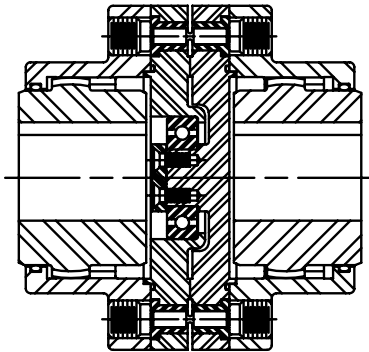
Use of a non-metallic material between flanges and around the bolts prevents any stray currents from one shaft to the other.



Jordan Type

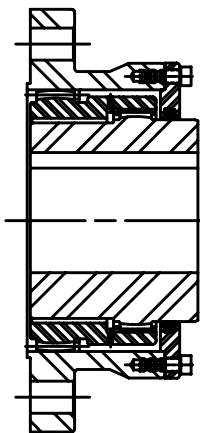
Used on Jordan machines and refiners, this design is similar to the slide type coupling except the long hub is split and secured to the shaft with a bolt clamp. This permits quick axial adjustment of the Jordan shafts in this hub.

Lovejoy / Sier-Bath Flanged Sleeve Gear Couplings



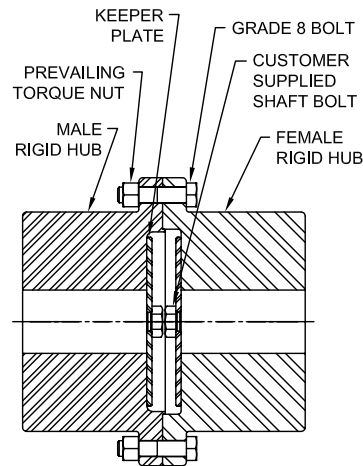
Engineered Shear Pin Type

Shear pin couplings are primarily used to limit transmitted torque to a redetermined load. This in turn disconnects 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.



Gear

Standard Flanged Sleeve Maximum Bores Inch / Metric Dimensional Data

Standard Flanged Sleeve Maximum Bores - Inches and Millimeters

Flex Hub Maximum Bores - Interference Fit

Size	Inch						Metric				
	Max Bore in	1 Square Keyway		Max Bore in	1 Rectangular Keyway		Max Bore mm	Metric Keyway			
		Width in	Depth in		Width in	Depth in		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.



Gear

Rigid Hub Maximum Bores – Interference Fit Dimensional Data

Rigid Hub Maximum Bores – Interference Fit

Rigid Hub Maximum Bores - Interference Fit

Size	Inch						Metric				
	Max Bore in	1 Square Keyway Width in Depth in		Max Bore in	1 Rectangular Keyway Width in Depth in		Max Bore mm	Metric Keyway Width mm Depth 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.

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 be 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 an 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-Ball 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)

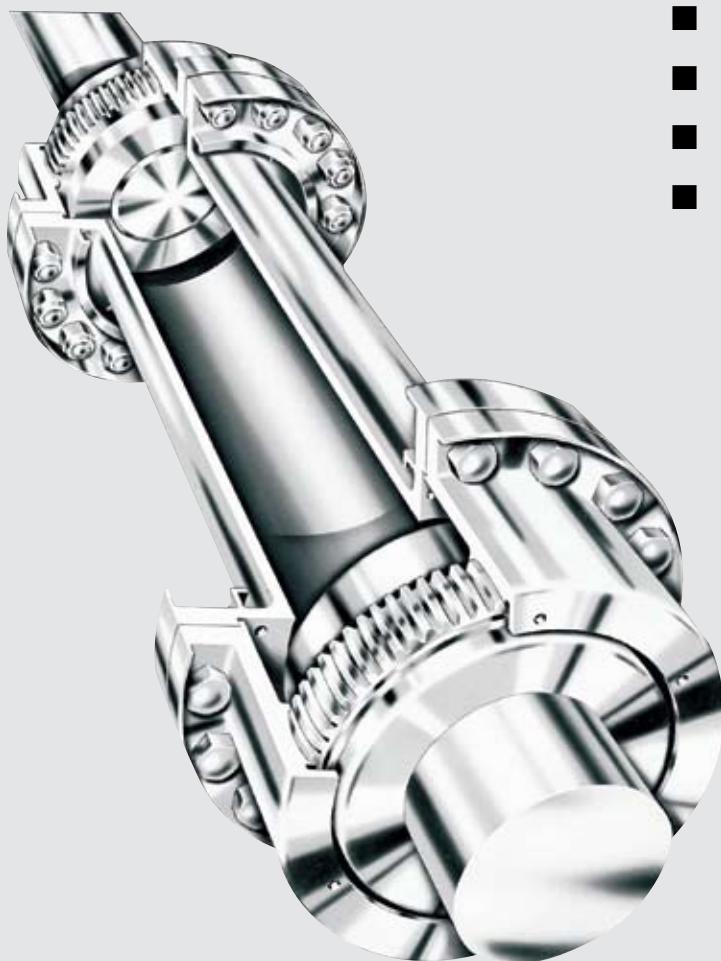
where the world turns for couplings

Lovejoy[®]

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



HP

where the world turns for couplings

Lovejoy[®]

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.

HP

where the world turns for couplings



High Performance Gear

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HP

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.

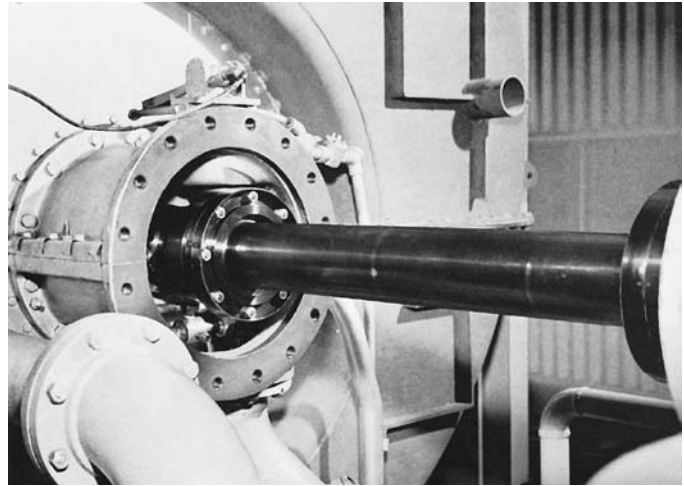
Lovejoy / Sier-Bath High Speed Couplings

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 $R_c 30-35$, 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

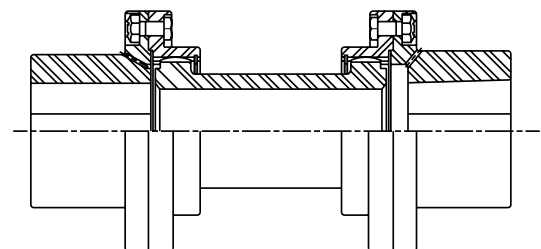
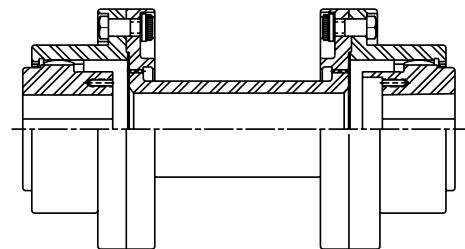
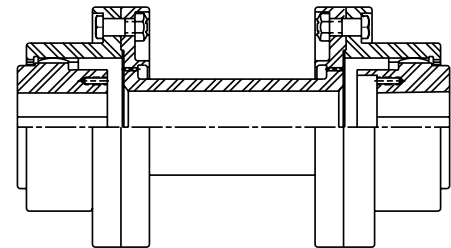
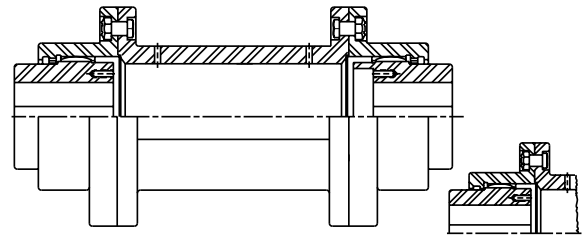
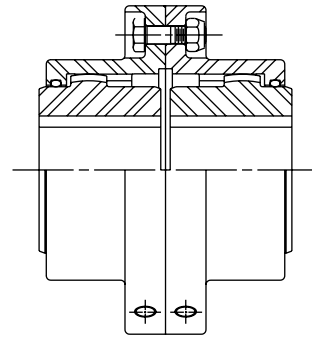
The Lovejoy / Sier-Bath High Speed Precision gear couplings are made of alloy steel with a core hardness of $R_c 30-35$ and are magnetic particle inspected. They have close tolerances and precision manufactured mating surfaces with bores ground to accurate tolerances. In addition, gear couplings are 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.





High Performance Gear

FHS Type

Performance Data

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

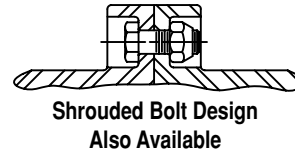
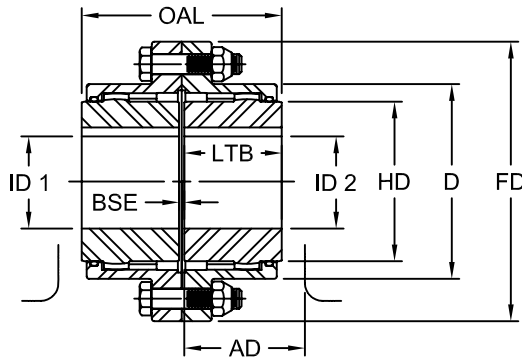
Size	Torque		Max Speed ¹ RPM	ID1 - ID2			Weight		Inertia		Torsional Stiffness		Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb x 10 ³	Nm x 10 ³		Max Bore			lb	kg	WR ² lb-in ²	GD ² Nm ²	in-lb/rad x 10 ⁶	Nm/rad x 10 ⁶	in	mm	
				Square Keyway in	Standard Keyway in	Metric Keyway mm									
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	3/4°
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	
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	1/2°
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	

- 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.

HP

Lovejoy / Sier-Bath High Speed Gear Couplings

FHS Type High Speed Close Coupled Couplings



FHS Type Dimensional Data

Size	OAL in	ID1 - ID2 Max Bore			LTB in	BSE in	AD in	FD in	D in	HD in
		Square Keyway in	Standard Keyway in	Metric Keyway mm						
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

HP



High Performance Gear FHSA Type Performance Data

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		Max Speed RPM	ID1 - ID2 Max Bore		Nominal BSE		Weight		Inertia		Torsional Stiffness		Max Angular Misalignment Degrees
	in-lb x 10 ³	Nm x 10 ³		Square Keyway in	Metric Keyway mm					WR ² lb-in ²	GD ² Nm ²	in-lb/rad x 10 ⁶	Nm/rad x 10 ⁶	
						in	mm	lb	kg					
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	1/2°
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	
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	

HP

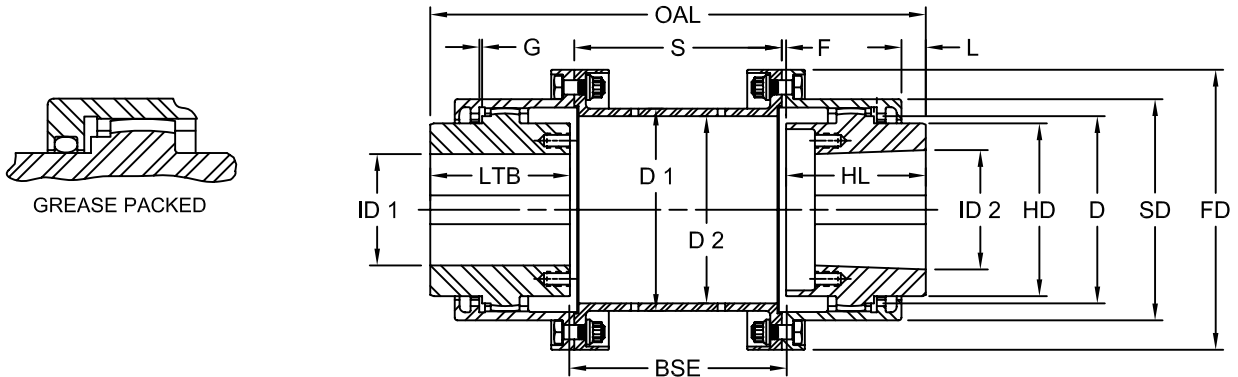
FHSA Type High Speed Standard Performance Data

Size	Weight						WR ²					Torsional Stiffness	
	Hub	Sleeve	Spacer Per Dim S	Bolts & Nuts Per Flange	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Hub	Sleeve	Spacer Per Dim S	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Spacer Cplg Per BSE (ksi) in-lb/rad x 10 ⁶	Spacer Body Per Inch (ki) in-lb/rad x 10 ⁶
	lb	lb	lb	lb	lb	lb	lb-in ²	lb-in ²	lb-in ²	lb-in ²	lb-in ²		
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	13,797.7	129.6	157.3	5,499

Notes: ■ All weights, WR² 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/kx + 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?
 $1/kx = 1/2 + 3 \times 1/55 = 0.55454$. 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	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

HP



High Performance Gear FHSAA Type Performance Data

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		Max Speed RPM	ID1 - ID2 Max Bore		Nominal BSE		Weight		Inertia		Torsional Stiffness		Max Angular Misalignment Degrees
	in-lb x 10 ³	Nm x 10 ³		Square Keyway in	Metric Keyway mm					WR ² lb-in ²	GD ² Nm ²	in-lb/rad x 10 ⁶	Nm/rad x 10 ⁶	
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	

HP

FHSAA Type High Speed Precision Performance Data

Size	Weight						WR ²					Torsional Stiffness	
	Hub	Sleeve	Spacer Per Dim S	Bolts & Nuts Per Flange	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Hub	Sleeve	Spacer Per Dim S	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Spacer Cplg Per BSE (ksi) in-lb/rad x 10 ⁶	Spacer Body Per Inch (ki) in-lb/rad x 10 ⁶
	lb	lb	lb	lb	lb	lb	lb-in ²	lb-in ²	lb-in ²	lb-in ²	lb-in ²		
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, WR² 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 k_x = new stiffness factor

n = number of additional inches of spacer

k_s = stiffness factor for standard coupling from table

k_i = stiffness factor for 1 inch length of standard spacer body from table

Then $1/k_x + n/1/k_i$

Example: What is the new stiffness factor for a size 1.5 coupling if the spacer length is 3 inches longer than standard?

$$1/k_x = 1/21.7 + 3 \times 1/12 = 0.83823 \dots k_x = 1.192$$

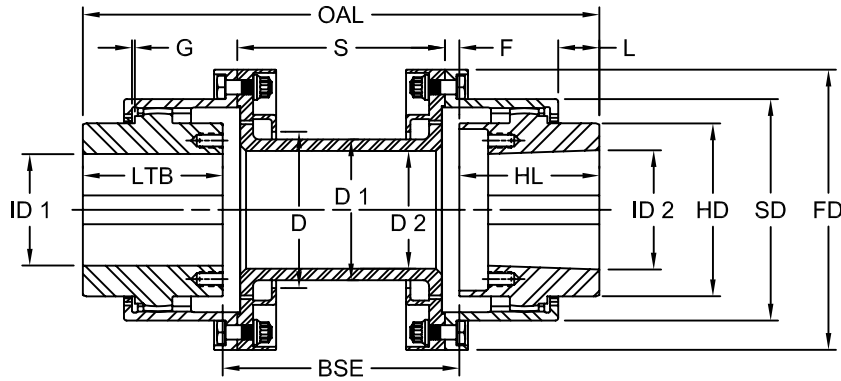
If coupling spacer is shorter than standard, the formula becomes $1/k_x = 1/k_s - n/1/k_i$.



High Performance Gear FHSAA Type Dimensional Data

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	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

HP



High Performance Gear FHSPAA Type Performance Data

Lovejoy / Sier-Bath High Speed Gear Couplings

FHSPAA Type High Speed Ultra Precision

The High Speed Ultra Precision gear couplings are made of Nit alloy 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		Max Speed RPM	ID1 - ID2 Max Bore		Nominal BSE		Weight		Inertia		Torsional Stiffness		Max Angular Misalignment Degrees
	in-lb x 10 ³	Nm x 10 ³		Square Keyway in	Metric Keyway mm	in	mm	lb	kg	WR ² lb-in ²	GD ² Nm ²	in-lb/rad x 10 ⁶	Nm/rad x 10 ⁶	
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	

HP

FHSPAA Type High Speed Ultra Precision Performance Data

Size	Weight						WR ²					Torsional Stiffness	
	Hub	Sleeve	Spacer Per Dim S	Bolts & Nuts Per Flange	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Hub	Sleeve	Spacer Per Dim S	Complete Cplg Per Dim BSE	Spacer Body Per Inch	Spacer Cplg Per BSE (ksi) in-lb/rad x 10 ⁶	Spacer Body Per Inch (ki) in-lb/rad x 10 ⁶
	lb	lb	lb	lb	lb	lb	lb-in ²	lb-in ²	lb-in ²	lb-in ²	lb-in ²		
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

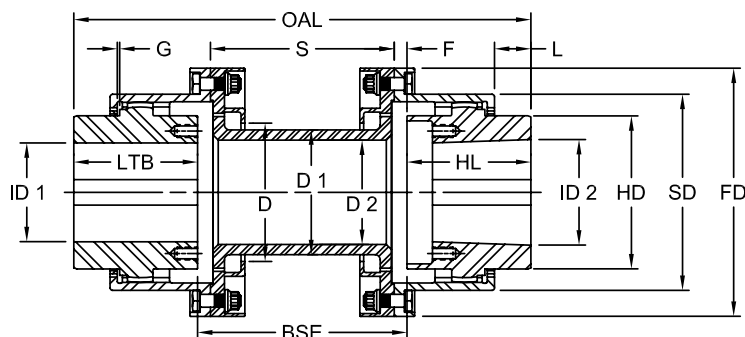
Notes: ■ All weights, WR² and Torsional Stiffness are based on maximum bore.
 ■ To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:
 Let kx = new stiffness factor
 n = number of additional inches of spacer
 ks = stiffness factor for standard coupling from table
 ki = stiffness factor for 1 inch length of standard spacer body from table
 Then 1/kx + 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.



High Performance Gear FHSPAA Type Dimensional Data

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	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

HP



High Performance Gear

FHSMA Type

Performance Data

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		Max Speed RPM	ID1 - ID2		Nominal BSE		Weight		Inertia		Torsional Stiffness		Max Angular Misalignment Degrees
	in-lb x 10 ³	Nm x 10 ³		Max Bore		in	mm	lb	kg	WR ² lb-in ²	GD ² Nm ²	in-lb/rad x 10 ⁶	Nm/rad x 10 ⁶	
				Square Keyway in	Metric Keyway mm									
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	

HP

FHSMA Type High Speed Marine Performance Data

Size	Weight						WR ²					Torsional Stiffness		
	Hub lb	Sleeve lb	Spacer Per Dim S lb	Bolts & Nuts Per Flange lb	Complete Cplg Per Dim BSE lb	Spacer Body Per Inch lb	Hub lb-in ²	Sleeve lb-in ²	Spacer Per Dim S lb-in ²	Complete Cplg Per Dim BSE lb-in ²	Spacer Body Per Inch lb-in ²	Spacer Cplg Per BSE (ksi) in-lb/rad x 10 ⁶	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	

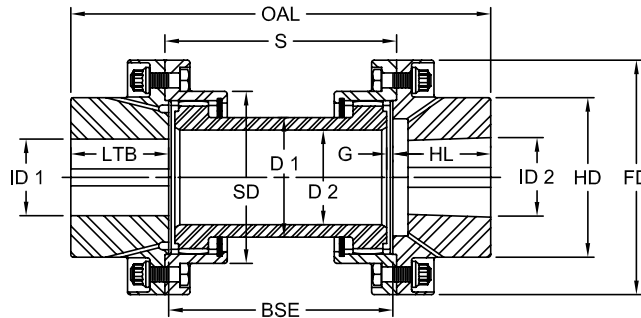
Notes: ■ All weights, WR² and Torsional Stiffness are based on maximum bore.
 ■ To find the stiffness factor for a coupling assembly with a spacer "n" inches longer than standard:
 Let kx = new stiffness factor
 n = number of additional inches of spacer
 ks = stiffness factor for standard coupling from table
 ki = stiffness factor for 1 inch length of standard spacer body from table
 Then 1/kx + 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.



High Performance Gear FHSMA Type Dimensional Data

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	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

HP



High Performance Gear FAC Type Performance Data

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.

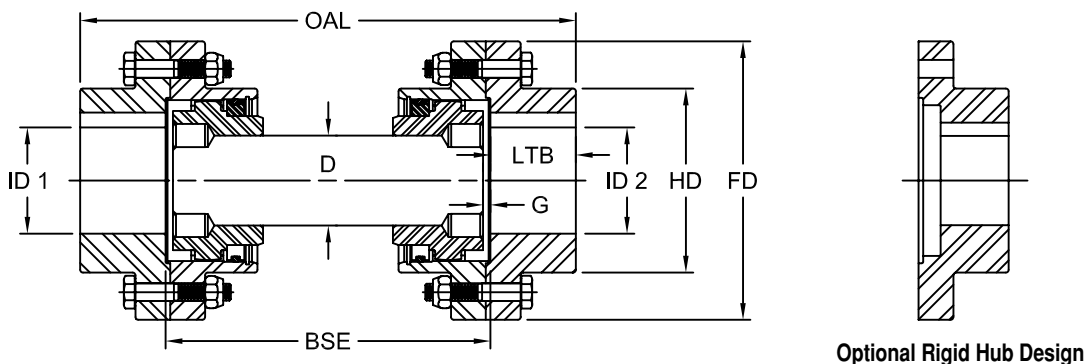
FAC Type Engineered Centrifugal Pump Performance Data

Size	Torque		Max Speed		ID1 - ID2			Nominal BSE		Weight Solid		Inertia		Max Bore Parallel Misalignment		Max Angular Misalignment Degrees
	in-lb	Nm	Bal	Unbal	Square Keyway	Standard Keyway	Metric Keyway	in	mm	lb	kg	WR ²	GD ²	in	mm	
	x 10 ³	x 10 ³	RPM	RPM	in	in	mm					lb-in ²	Nm ²			
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	
1.5	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	

HP

Lovejoy / Sier-Bath High Speed Gear Couplings

FAC Type Engineered Centrifugal Pump Couplings



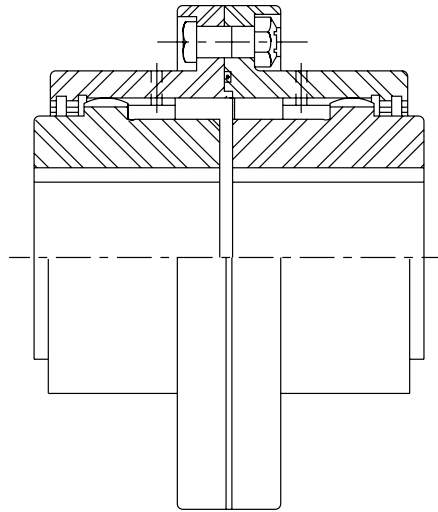
FAC Type Dimensional Data

Size	OAL in	ID1 - ID2		LTB in	G in	BSE in	FD in	HD in	D in
		Max Bore							
		Square Keyway in	Metric Keyway mm						
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

HP

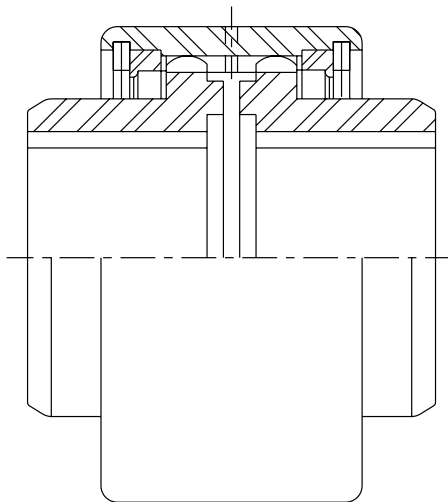
Lovejoy / Sier-Bath F Type High Speed Standard Couplings

Additional Standard Designs



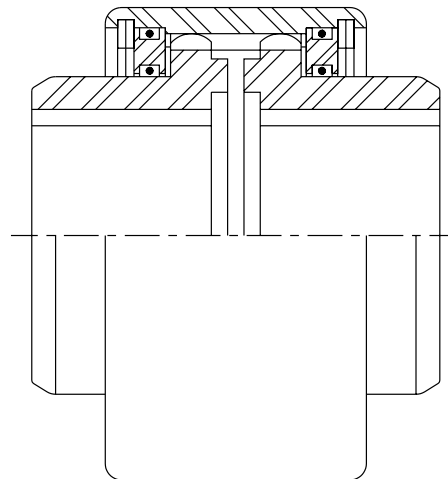
Standard High Speed Flanged Coupling
Continuously Lubricated

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

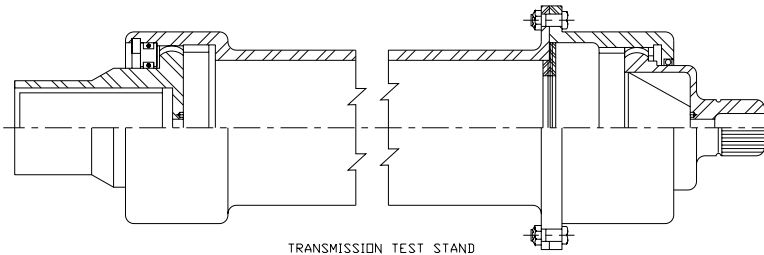
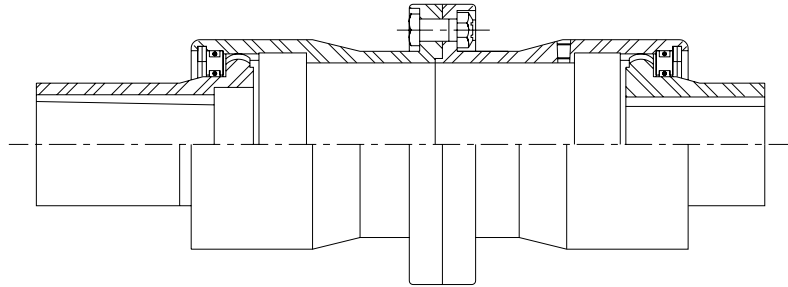
For lighter weight, close coupled, grease packed applications where flange joint is not required. Materials, heat treatments, and precision manufacturing methods outlined on previous pages apply.

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.



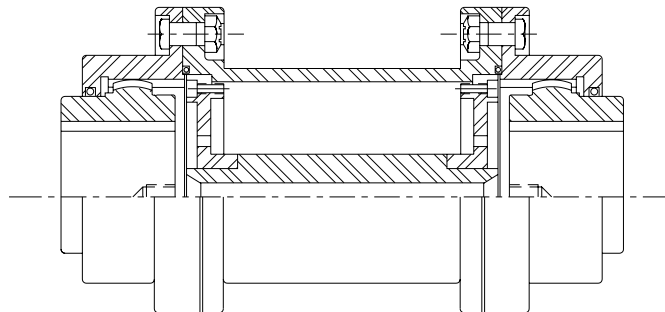
TRANSMISSION TEST STAND

Light Weight Coupling

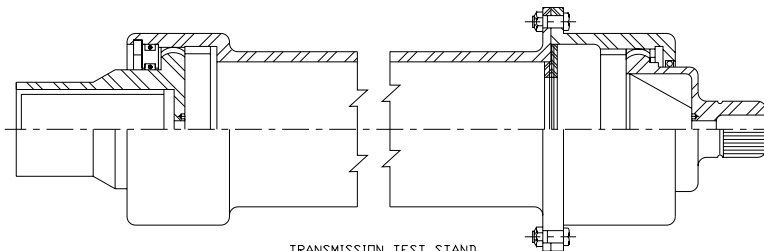
Made of extremely light weight, vacuum melted, AMS material with magnetic particle inspection. The overall length is 29.5 inches and the weight is 19.4 lbs.

Test Stand

High Speed Spacer coupling with internal support for instrumentation wires. Maximum speed of 7,000 RPM.



TEST STAND HIGH SPEED SPACER COUPLING



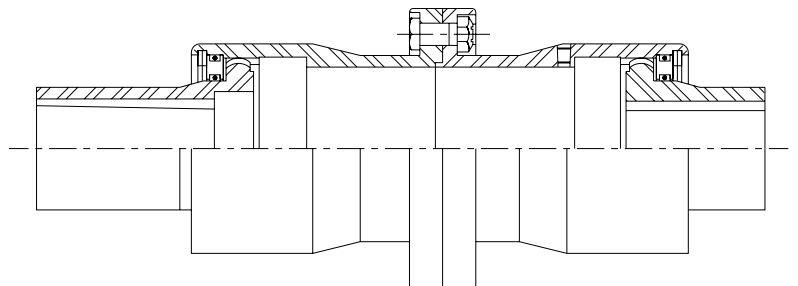
TRANSMISSION TEST STAND

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.



HP

Lovejoy / Sier-Bath Flanged Sleeve Type

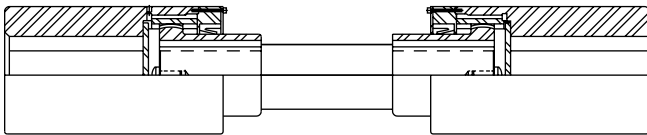
Spindle Couplings

Special Load and No Load Applications

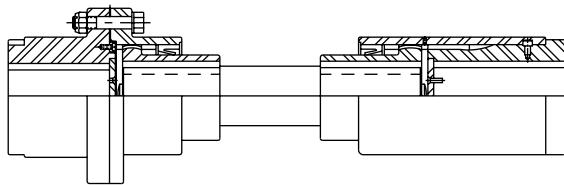
For cases where a spindle coupling operates under a load at a given misalignment angle and requires a higher no load misalignment angle, we design special Vari-Crown® tooth forms. Such forms have compound curvature wherein the Vari-Crown is used for maximum radii of curvature at the load angle. At no 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.

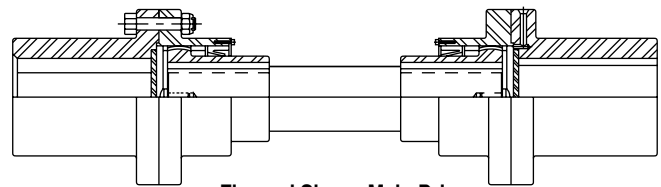
HP



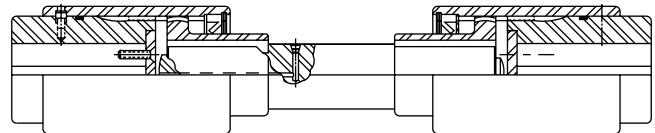
Replaceable Gearing
 Spindle Coupling



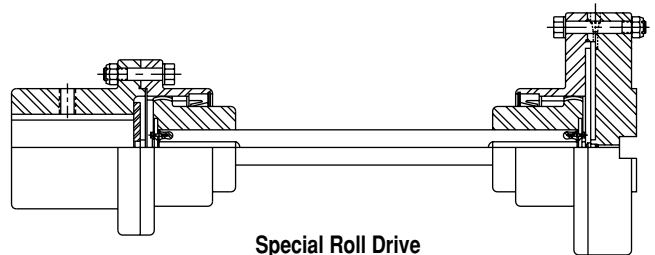
Special Indexing
 Spindle Coupling



Flanged Sleeve Main Drive
 Spindle Coupling



Leveling and Pinch Roll
 Spindle Coupling



Special Roll Drive
 Spindle Coupling

Only a few special types of couplings are illustrated. Additional special types are available on request.