Gear Couplings

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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.

For variable speed drives, variable speed pulley rim speeds must never exceed 10,500 feet per minute. Companion pulley speeds beyond the ratings contained in this catalog are not recommended. For Fixed Center Drives, do not start until a torque arm bracket is installed. Failure to install torque arm bracket will cause torque arm to rotate rapidly and may cause severe injury from moving parts. Do not attempt to disassemble spring loaded pulley because parts may be thrown with sufficient force to cause injury or death.

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

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

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

Lovejoy/Sier-Bath Gear Couplings

Lovejoy offers a variety of designs and models in its gear coupling family. From standard, off-the-shelf stock to new, high speed, special designs, Lovejoy can satisfy your gear coupling needs.

Continuous and Flanged Sleeve

The original Continuous Sleeve, or "C", coupling offers a lightweight, compact, and simple design without compromising torque carrying capacity. The Flanged Sleeve, or "F", coupling is available in exposed or shrouded bolt styles in which the number of bolts, size of bolts, and bolt circle are identical with industry standards. Within these two basic product lines, modifications and variations exist to serve a wide variety of applications such as extended distances between shaft ends, Mill Motors, limited end float, or vertical. Many designs can be created for unique applications as well.

CONTINUOUS SLEEVE GEAR COUPLING

Nylon Sleeve

The nylon sleeve gear couplings, Nyflex and Mite, are compact, lightweight couplings that use a nylon sleeve and two sintered iron hubs. Lubrication is not required with the nylon sleeve. With speeds up to 5,000 RPM, the nylon sleeve gear couplings are effectively used in applications such as motor/generator sets, motor/pump sets, and many other light duty industrial settings.

FLANGED SLEEVE GEAR COUPLING

All Metal Labyrinth Seal and Alloy Steel

In addition to the Lovejoy/Sier-Bath Continuous Sleeve, Flanged Sleeve, and nylon sleeve couplings, Lovejoy has an All Metal Labyrinth Seal coupling and an Alloy Steel coupling. The All Metal Labyrinth Seal coupling, or "FLA", is a flanged sleeve style but uses no elastomeric seals. The Alloy Steel coupling, or FA, is made from AISI 4140 steel. It is based on the standard "F" coupling, but it has a special seal and grade 8 bolts.

Lovejoy maintains a large inventory of "C", "F", "FLA", and "FA" couplings in both rough bore and pre-bored forms. In addition, Lovejoy can bore to your specifications. Challenge us with your applications and let us serve your needs.

⚠ WARNING

You must refer to page G-1 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 Continuous Sleeve Series

Absorbs Misalignment, End-Float

The basic principle of the Lovejoy/Sier-Bath Gear Coupling is similar to that of 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 misalignment (angular and offset), and end-float. The Lovejoy/Sier-Bath Coupling accomplishes this through the rocking action of the hubs in the sleeve.

Simplified Method of Closure

The essential difference between the Lovejoy/Sier-Bath Coupling and conventional types is its simplified design. This is made possible by the advanced assembly and lubrication sealing arrangement, which eliminates the need for cumbersome flanges, bolts and nuts. BUNA N lubrication seals and steel snap rings hold in the lubricant and provide the means of assembly.

Standard Types and Sizes

Lovejoy/Sier-Bath Couplings are stocked in Standard, Mill Motor, Vertical, Floating Shaft and Spacer Types—sizes $^{7}/_{8}$ to 12, to accommodate bores up to 12.50″. Load capacities range from 4 to 4,000 HP per 100 RPM.

Special Types and Sizes

Many special types have been manufactured, such as Brakedrum Type, Sliding Hub Type, Jordan Type, etc. Specifications on sizes larger than standard are available. Size range is virtually unlimited. Exceptional simplicity makes great design flexibility possible. Unusual requirements can also be met.

Features and Benefits of Continuous Sleeve Type Couplings

- Simple and inexpensive type of gear coupling.
- All steel sleeves and hubs.
- Reinforced rubber seals with steel snap rings to hold lubricant in place.
- Available as vertical and horizontal couplings.
- Wide variety of special variations available such as full-flex, flex–rigid, mill motor, floating shaft and spacer types.
- Standard configurations are available off-the-shelf.

Two Hubs — One Sleeve

Major components are machined from medium carbon steel. Gear teeth are precision cut 20° pressure angle with minimum backlash and are smaller for even distribution of load, greater capacity, and longer life. Interference fit on bore is standard.

Two Seals

The seals are made of BUNA N with two reinforcing washers bonded to the inside faces which positively retain lubricant and seal interior against foreign matter. Seals are patented Lovejoy/Sier-Bath design and are tested.

Two Snap Rings

The spiral wound rings are made of oil hardened spring steel and securely hold the coupling together. Each ring is simple to install and remove yet withstands over 100,000 pounds of end-thrust.

Lovejoy/Sier-Bath Continuous Sleeve Series

Standard Type

This is the basis for all types of Lovejoy/Sier-Bath Continuous Sleeve Flexible Gear Couplings, and it is suitable for most applications. Great simplicity allows inexpensive adaptation to a wide variety of special types.

Mill Motor Type

Designed specifically for mill motors with tapered shafts, one hub is taper bored to the customer's specifications. This longer hub is counterbored for the nut on the end of the motor shaft. The sleeve and other hub are standard.

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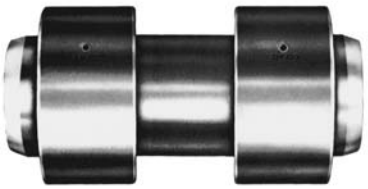
Floating Shaft Type

Two Flex-Rigid couplings connected by an intermediate shaft serve remote drive and excessive misalignment problems. Usually the coupling hubs on 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.

Spacer Type

Spacer couplings are used in applications where it becomes necessary to remove the hubs from either shaft without disturbing the mountings of the connected units. The hubs on both the driven and driver shaft are flexible and the spacer has spline teeth to mate with the sleeves of each coupling.



Cut-out Type

Designed to permit quick disengagement between the driver and driven shafts without disassembling the coupling, this coupling is widely used on dual drives and on equipment operated in tandem. A special seal is provided on the disengaged hub to eliminate undue friction when the hub is turning in the sleeve. Cut-out Type couplings are also available with pins to maintain the sleeves in both engaged and disengaged positions.

Shear Pin Type

Shear pin couplings are designed to limit excessive torque or sudden shock loads. The shear pins in the Lovejoy/Sier-Bath Coupling are designed and manufactured to shear at predetermined loads and are in hardened bushings. New pins may be quickly inserted.

Lovejoy/Sier-Bath Flanged Sleeve Series

Misalignment and End-Float Capability

The Lovejoy/Sier-Bath Flanged Sleeve gear coupling is a flexible coupling that compensates for angular misalignment, parallel misalignment, and end float. Angular and parallel misalignment, and combinations thereof, will result in angular misalignment at the gear mesh. Lovejoy/Sier-Bath Flanged Sleeve couplings can accommodate 1½° of relative angular misalignment in each gear mesh up to size 5½. Sizes 6 and larger can accommodate ¾° of angular misalignment at each gear mesh. The hub teeth are fully crowned to provide for a larger contact area and lower stresses under misaligned conditions. The crowned tooth design also avoids the end loading that occurs on straight teeth under misalignment.

Features and Benefits of Flanged Sleeve Couplings

- Patented Vari-Crown® tooth form for long life.
- Standard 20° pressure angle.
- Heat treated bolts for greater strength.
- Bolts and nuts are coated for corrosion resistance and ease of maintenance.
- Interchangeable with industry standards.
- Large bore and torque capacities.
- Piloted gear fit for higher speeds and less vibration.
- Interference fit on bore is standard.

Standard and Special Types and Sizes

The standard Flanged Sleeve series is offered in exposed and shrouded bolt patterns through size 5½. The exposed bolt pattern is available for sizes larger than size 6. It has the same number of bolts, size of bolts, and bolt circle as industry standards up to size 7. Heat treated bolts are plated for corrosion resistance.

Modifications and variations of the standard Flanged Sleeve coupling exist to suit specific or unique applications. Sizes can go as large as size 30 which can accommodate up to 54" bores. Insulated couplings, Jordan types, extended slide, vertical, brakedrum, and continuously lubricated are some of the special designs that can be made.

Lovejoy/Sier-Bath Flanged Sleeve Series

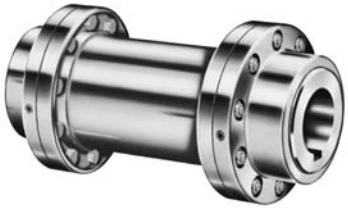
Standard Type
Double engagement (Flex-Flex) provides standard engagement for parallel misalignment, angular misalignment, and end float with the ability to accommodate close coupled application requirements. The coupling meets requirements of all standard mechanical power transmission applications for shaft sizes up to 45.50″ shaft diameter and is interchangeable with industry standards.

Single Engagement/Floating Shaft Type
Single engagement (Flex-Rigid) accommodates angular misalignment only. This design consists of a flexible and rigid half and is most commonly used in floating shaft applications to solve remote drive and excessive misalignment problems. Available in sizes to accommodate up to 54″ shaft diameter.

Mill Motor Type
Designed specifically for mill motors with tapered shafts, one hub is taper bored to the customer's specifications. Space is provided for the nut on the end of the motor shaft. The sleeves and other hub are standard.

Slide Type
Slide couplings allow for a predetermined amount of axial travel which is generally greater than that allowed by standard couplings. Standard components can be used to provide the standard amount of slide. A longer hub and sleeve can be designed for greater slide capacity.

Spacer Type
Spacer couplings are used in applications where it becomes necessary to remove the hubs from either shaft without disturbing the mountings of the connected unit. The hubs on both the driver and driven shaft are flexible. The spacer bolts up to the sleeves and can be made in lengths from a few inches to a few feet.



Lovejoy/Sier-Bath Flanged Sleeve Series

Limited End Float Type

Basically designed for equipment with sleeve bearings, this coupling restricts axial travel of the driver or driven shaft. A plate is placed between the hub ends to reduce the amount of travel.

Rigid-Rigid Type

This type of coupling provides for no misalignment. It is used to connect two rigidly-mounted shafts such as on line shafting.

Special Coupling Types

Special coupling designs can be provided through Lovejoy Engineering.

- Limited End Float Spacer
- High Speed
- Vertical Floating Shaft
- Vertical
- Insulated
- Cut Out/Disengaging Shifter
- Cut Out/Disengaging Pin
- Spindle Couplings

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Lovejoy/Sier-Bath All Metal Labyrinth Seal Series

- All metal alloy design 4140
- No rubber seals - metal labyrinth design.
- Fully interchangeable with industry standard.
- Ideal for high temperature applications.
- Exposed bolts are standard.

Standard Type

Double engagement (Flex-Flex) provides standard engagement for parallel misalignment, angular misalignment, and end float with the ability to accommodate close coupled application requirements. The coupling offers a maximum bore range of 1.63 to 8″.

Single Engagement Type

Single engagement (Flex-Rigid) accommodates angular misalignment only. This design consists of a flexible and rigid half and is most commonly used in floating shaft applications to solve remote drive and excessive misalignment problems. The coupling offers a bore range of 2.63 to 10″.

Mill Motor Type

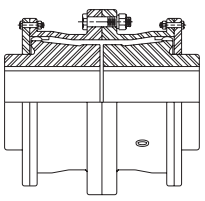
Designed specifically for mill motors with tapered shafts, one hub is taper bored to the customer's specifications. Space is provided for the nut on the end of the motor shaft. The sleeves and other hub are standard.

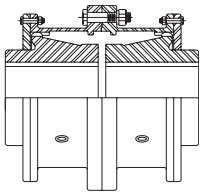
Lovejoy Forged Steel Series

- Exposed bolts are standard.
- Piloted Sleeves.
- Well suited for high torques at low speeds.
- Configurations are subject to change due to technical improvements. Please consult Lovejoy Engineering for dimensional data.

Standard Type

Double engagement (Flex-Flex) provides standard engagement for parallel misalignment, angular misalignment, and end float with the ability to accommodate close coupled application requirements.

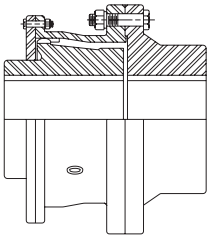




The coupling offers a bore range of 7.75 to 4.88″,and a torque range of 370,000 to 54,390,000 in-lb (41,800 to 6,145,800 Nm).

Single Engagement Type

Single engagement (Flex-Rigid) accommodates angular misalignment only. This design consists of a flexible and rigid half and is most commonly used in floating shaft applications to solve remote drive and excessive misalignment problems.



The coupling offers a bore range of 7.75 to 44.88″, and a torque of 370,000 to 54,390,000 in-lb (41,800 to 6,145,800 Nm).

Lovejoy/Sier-Bath Series Alloy Steel

- Couplings are made of Alloy steel.
- Fully molded seals maintain proper lubricant retention during misalignment conditions.
- Exposed bolts are standard; shrouded bolts are optional.

Standard Type

Double engagement (Flex-Flex) provides standard engagement for parallel misalignment, angular misalignment, and end float with the ability to accommodate close coupled application requirements.

Single Engagement Type

Single engagement (Flex-Rigid) accommodates angular misalignment only. This design consists of a flexible and rigid half and is most commonly used in floating shaft applications to solve remote drive and excessive misalignment problems.

Mill Motor Type

Designed specifically for mill motors with tapered shafts, one hub is taper bored to the customer's specifications. Space is provided for the nut on the end of the motor shaft. The sleeves and other hub are standard.

Special Coupling Types

- Shear Bolt
- Shear Pin
- Shear Pin Adapters
- Slide
- Limited End Float
- Insulated
- Vertical
- Continuous Lubricated
- Sliding Sleeve Disengaging
- Brakewheel
- Spacer
- High Angle/High Misalignment
- Floating Shaft
- Sliding Hub Disengaging

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Lovejoy/Sier-Bath Nyflex & 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. Not requiring lubrication readily permits the use of these couplings in vertical and blind assembly applications where the slip-together components offer easy inspection and adjustment.

When completely assembled, the Mite coupling weighs less than 1 lb (.45Kg) and the Nyflex only 3.50 lbs (1.59 Kg).

Features of mite and nyflex couplings:

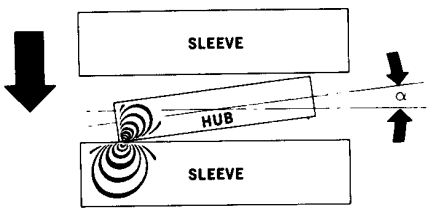
- Molded nylon sleeve.
- No internal frictional loss or heat buildup.
- Minimum backlash
- High ambient temperature allowed.
- Resistance to dirt, moisture, most chemicals.
- Low maintenance (no seals, lubricant, retainers).
- High torque, low inertia.
- Standard bores are available.

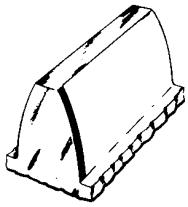
2 Spirolox Retaining Rings
Sleeve is securely held on the hubs by these spring-steel retaining rings. Removed in seconds, yet they'll withstand 5,000 lbs end-thrust.

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

2 Hubs
Sintered Iron Hubs are standards in the Nyflex & Mite. Teeth are crowned to provide greater misalignment capacity and to prevent gouging of Nylon sleeve. Maintain .13″ spacing between hubs.

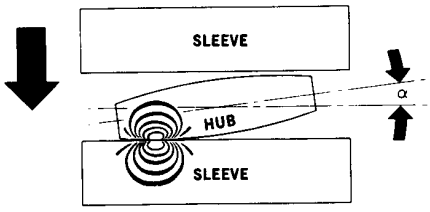
Vari-Crown Tooth Form

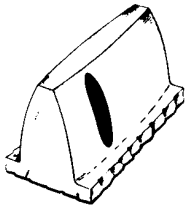




Straight

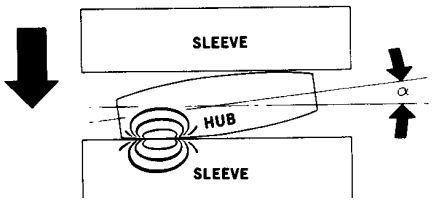
With straight hub teeth, there is a high concentration of load under misaligned conditions. As misalignment increases, more of the load is carried by the ends of the teeth, resulting in premature breakdown and coupling failure.

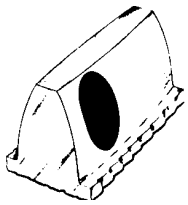




Conventional Crown

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





Lovejoy/Sier-Bath Vari-Crown

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

Patented Vari-Crown Tooth Form for Long Life

Facts

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

- Gear tooth couplings have fewer teeth in contact as misalignment increases.

Lower Stresses

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

Constant Velocity Power Transmission

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

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

Less Backlash

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

Notes: **1.** Hertz's study of contact stresses of curved surfaces.

Gear Coupling Selection Process

Factors Affecting Selection

Following is a list of factors that may have to be considered. No priority can be put on these factors. Factors have to be weighed based on specifications and what is technically, environmentally, and economically feasible. **Only a few of these factors will come into play on any one application.**

- Interchangeability with other brands.
- Bore size capacity.
- Torque capacity.
- Maximum speed capacity.
- Special balancing.
- Weight or low inertia.
- Previous purchase history.
- Availability.
- Alignment requirements.
- Rebore capability.
- Adaptability — Special modifications.
- Axial freedom or axial restrictions.
- Special seals.
- High or low temperature. requirements.
- Chemical resistance.
- Ease of installation.
- Ease of maintenance and serviceability.

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Finding the Right Type of Coupling

For any one application you will find that only a few of the factors listed will have a high priority. List those priorities. This will be very helpful in picking the right type of coupling.

Selection of Type

Refer to Gear Coupling Selection Charts shown on pages G-15 through G-17. These charts summarize all Lovejoy Gear Coupling products and show individual product capacities. List the factors that are most important to selection of the right type of coupling. By the process of elimination you will eliminate those types that do not apply to the application. Here are a few examples.

1. If an exact retrofit is required all other types of couplings are eliminated from contention.
2. A retrofit or a close proximity will narrow the choices.
3. High Speed requirements eliminate all non high speed couplings or those that cannot be balanced for the RPM required.
4. Spacer or floating shaft couplings eliminate all other types.
5. Torque or HP/100 RPM requirements sometimes eliminate certain coupling types. For instance, if the application has a required torque of 2,000,000 inch pounds, smaller capacity coupling types would not be considered.

Selection of Size

Once the best type has been chosen then the coupling size is determined. Make a list of the physical attributes required, using the following list as a guideline:

- Bore and Keyway
- Bore tolerances if specified
- Nominal torque
- Peak torque a) at startup b) during operation.
- HP/100 RPM required
- Nominal RPM
- Balance tolerances if specified
- Shaft separation- BSE
- Driven equipment description, for use in applying a service factor.
- Shrouded or exposed bolts
- For modified or engineered couplings more information has to be recorded. Please consult Lovejoy Engineering.

Application Service Factors

No additional service factor should be applied if the driver side input HP or torque has already compensated for the load characteristics. By knowing the actual torque load we can compare this with the driver side torque available. If there is enough service factor applied to the driver side then match the coupling torque to the driver torque. This may be especially important if the coupling is being used between a speed reducer and the driven machine.

After the torque or horsepower is known, a service factor may have to be applied. Refer to page G-14 for the Gear Coupling Application Service Factors chart.

Application service factors are applied in order to give reasonably good life to the coupling to prevent premature wear of gear teeth and do not guarantee that the coupling will last indefinitely. Application service factors cannot compensate for poor alignment, improper selection or overlooked environmental conditions. No amount of application service factor can compensate for having selected the wrong size of coupling.

Step by Step Procedure

Having considered the preceding, the selection process steps are:

1. Choose the gear coupling series and type that meets the application requirement.
2. Determine the nominal torque in in–lbs of your application by using the following formula:

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

   $\text{Nm} = \frac{(\text{KW} \times 9550)}{\text{RPM}}$
3. Find the application in the Application Service Factor chart. Multiply the nominal torque by the application service factor to determine the total required torque.
4. Compare the required torque to the maximum torque capacity found in the Gear Coupling Selection chart for the coupling type selected.
5. Check that the maximum bore size and the maximum RPM of the coupling type selected are capable of meeting the application requirements.
6. Specify any special requirements. This includes the BSE dimension for floating shaft and spacer types, shear pin torque, slide coupling detail, and mill motor tapered shaft data.

Lovejoy Engineering will assist with any application problem.

Gear Coupling Examples

Selection Example 1: Flanged Coupling

The application is a 400 HP electric motor driving a high pressure centrifugal water pump. RPM is 3600. The motor shaft is 2.375″. Pump shaft is 2.875″. A flange type coupling is requested.

Step 1: Since a flange type is specified, this eliminates the "C" series. Choose the "F" series.

Step 2: Refer to pages G-20 and G-21 for Flanged Series Double Engagement coupling information. Review of the bore size compatibility shows that Size F 2½ is requested to accommodate a 2.875″ shaft requirement.

Step 3: Using the Application Service chart on page G-14, notice that the application service factor for centrifugal pumps is 1.0.

Step 4: Check the power capacity. Find the HP/100 RPM required for 400 HP at 3600 RPM.

$$\frac{\text{HP}}{100\ \text{RPM}} = \frac{\text{HP} \times 100}{\text{RPM}}$$

$$\frac{\text{HP}}{100\ \text{RPM}} = \frac{400 \times 100}{3600} = 11.11$$

The size F 2½ is rated at 90 HP/100 RPM. The coupling may seem too large, but it is needed to accommodate the maximum shaft size of 2.875″.

Step 5: Check the RPM. Size F 2½ is rate for 4400 RPM Max.

Step 6: Specify any special requirements, such as shaft fit, coatings, etc.

Step 7: Referring to the Gear Coupling Selection chart, the code for this coupling is F (size). Specify F 2½ and give the bore and keyway data. All couplings in this series are made with an interference fit in the bore unless otherwise specified.

Selection Example 2: Spacer Coupling

Assume the same conditions as Example 1 except that a spacer type coupling is required, with a 7″ spacer, or dropout. Follow steps 1 through 4, as in example 1, arriving at an "F" type spacer coupling. See pages G-42 for F type spacer couplings.

Step 5: Check the maximum RPM. This must be submitted to engineering to check the critical frequency for 3,600 RPM operation.

Step 6: Special requirements are the length of the spacer, S=7″. Note that the BSE dimension is going to be greater than the S dimension.
BSE = S + 2R = 7 + 2 x .094 = 7.188″
If the BSE was given as 7″ then the actual drop out would have been only 7 - 2 x .094 or 6.812. Always be sure that the coupling selected provides for the actual BSE needed.

Step 7: Referring to the Gear Coupling Selection chart, page G-16, the code for a Flanged Series Spacer Coupling is FSPCR. Specify the spacer or BSE dimension needed, the bore and keyway data and the RPM, plus any other special conditions.

Selection Example 3: Floating Shaft Coupling

The application requires a test stand dynamometer to be driven by a DC motor. The products tested are subject to occasional shock load of not more that 2x running torque and not more often than four times an hour. Design HP 1440 at 1000 RPM, with 3000 RPM maximum. The shafts are 20″ apart (BSE) and shaft sizes are 4.000″ and 3.500″. The outside diameter cannot exceed 10″, and must be greased packed.

Step 1: Since there is a 20″ BSE, this calls for a floating shaft type of coupling.

Step 2: Refer to pages G-20, G-21, and G-36 for Flanged Series Floating Shaft coupling information for a review of bore sizes available.

Step 3: Note that the rigid half of the original coupling mounts on the shafts, and that the maximum bore of the rigid half is greater than that of the flex half. Maximum bore of the size 2½ is 4.250″ (rigid); the OD is 8.38″.
Determine the HP/100 RPM for the application.

$$\frac{\text{HP}}{100\ \text{RPM}} = \frac{\text{HP} \times 100}{\text{RPM}}$$

$$\frac{\text{HP}}{100\ \text{RPM}} = \frac{1440 \times 100}{1000} = 144$$

No service factor is listed for dynamometer drives, but the shock load is not high and is infrequent and probably not a a factor in the life of the coupling. Therefore, selection will be based on the 144 HP/100 RPM.

Step 4: The size 2½ is only rated for 90 HP/100 RPM. Therefore, size 3 with a rating or 150 HP/100 RPM is required. This has an OD of 9.44" (size 3½ with a 240 HP/100 RPM rating has an OD of 11″).

Step 5: Since the RPM peaks at 3000, and the BSE is 20″, the application must be submitted to engineering.

Step 6: State any special requirements.

Step 7: Referring to the Gear Coupling Selection chart, the code for this coupling is FFS (size). Specify FFS 3 and give the bore and keyway data. All couplings in this series are made with an interference fit in the bore unless otherwise specified.

Lovejoy engineering will assist in any application problem.

Application Service Factors for Gear Couplings

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.

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

Lovejoy/Sier-Bath "C" Continuous Sleeve Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)1	Torque Range Low	Torque Range Med	Torque Range High
Standard (Double Engagement)	C	G-26	7/8 12	1.250 12.500	31 330	2,520 2,520,000	284.7 284,746.0	6,000 550	1° ½°	X	X	
Flex-Rigid (Single Engagement)	CFR	G-26	7/8 6	1.250 6.625	31 186	2,520 378,000	284.7 42,712.0	6,000 2,000	½° ¼°	X		
Mill Motor	CMM	G-27	7/8 6	1.250 6.625	31 186	2,520 378,000	284.7 42,712.0	6,000 2,000	1° ½°	X		
Floating Shaft	CFS	G-28	7/8 6	1.250 6.625	31 186	2,520 378,000	284.7 42,712.0	Note 2	1° ½°	X		
Spacer	CSPCR	G-29	7/8 6	1.250 6.625	31 186	2,520 378,000	284.7 42,712.0	Note 3	1° ½°	X		
Cut-out	CCS	G-30	7/8 6	1.250 6.625	31 186	2,520 378,000	284.7 42,712.0	6,000 2,000	1° ½°	X		
Shear Pin	CSHP	G-31	1½ 6	1.250 6.625	31 186	Per Customer Specifications		6,000 2,100	1° ½°	X		

Notes: **1.** These are maximum values. For reasonable life expectancy and low reactionary loads, the misalignment should not exceed ¾° for small couplings and ½° for larger couplings.

2. The maximum RPM of a Floating Shaft coupling set may be determined by the critical speed of the floating shaft itself.

3. Maximum RPM may be determined by dimensions of spacer.

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Lovejoy/Sier-Bath "F" Flanged Sleeve Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)1	Torque Range Low	Torque Range Med	Torque Range High
Standard (Double Engagement)	F	G-34	1 9	1.625 12.000	42 340	7,600 1,827,700	859 206,520	6,000 1,800	3˚ 1½˚	X	X	
Standard Heavy Duty	FHD	G-35	7 30	9.750 45.500	255 1155[4]	1,008,400 47,269,000	113,944 5,341,130	2,000 220	1½˚		X	X
Flex-Rigid (Single Engagement)	FFR	G-36-37	1 30	1.625 45.500	42 1155[4]	7,600 47,269,000	859 5,341,130	6,000 220	1½˚ ¾˚	X	X	X
Floating Shaft	FFS	G-36-37	1 30	1.625 45.500	42 1155[4]	7,600 47,269,000	859 5,341,130	Note 2	3˚ 1½˚	X	X	X
Mill Motor	FMM	G-38-39	1 6	1.625 8.000	42 225	7,600 749,700	859 87,746	6,000 2,100	3˚ 1½˚	X		
Sliding Hub	FSL FSLX	G-40-41	1 7	1.625 9.000	42 254	7,600 1,008,400	859 113,944	6,000 2,000	3˚ 1½˚	X	X	
Spacer	FSPCR	G-42	1 7	1.625 9.000	42 254	7,600 1,008,400	859 113,944	Note 3	3˚ 1½˚	X	X	
Rigid-Rigid	FRR	G-44	1 7	2.125 11.250	56 318	7,600 1,008,400	859 113,944	6,000 2,000	0˚	X	X	

Notes: **1.** These are maximum values. For reasonable life expectancy and low reactionary loads the misalignment should not exceed ¾º for small couplings and ½º for larger couplings.

2. The maximum RPM of a Floating Shaft coupling set may be determined by the critical speed of the floating shaft itself.

3. Maximum RPM may be determined by dimensions of spacer.

4. Consult Lovejoy Engineering for Metric Bores over 500 mm.

Lovejoy/Sier-Bath Alloy Steel Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)[1]	Torque Range Low	Torque Range Med	Torque Range High
Standard (Double Engagement)	FA		1	1.75	44	11,000	1,242	10,000	3°	X	X	
		G-48	7	9.75	247	1,008,000	113,898	2,200	2°			
Flex-Rigid (Single Engagement)	FAFR		1	1.75	44	11,000	1,242	10,000	1½°			
		.....	7	9.75	247	1,008,000	113,898	2,200	1°	X	X	
Mill Motor	FAMM		1	1.75	44	11,000	1,242	10,000	3°	X	X	
		.....	7	9.75	247	1,008,000	113,898	2,200	2°			

Lovejoy/Sier-Bath All Metal Labyrinth Seal Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)[1]	Torque Range Low	Torque Range Med	Torque Range High
Standard (Double Engagement)	FLA		1½	1.62	44	15,000	1,695	12,000	1°	X	X	
		G-46	7	8.00	247	1,512,500	170,912	3,000				
Flex-Rigid (Single Engagement)	FLAFR		1½	1.62	44	15,000	1,695	12,000	½°	X	X	
		G-46	7	8.00	247	1,512,500	170,912	3,000				
Mill Motor	FLAMMFR		1½		consult	15,000	1,695	12,000	1°	X	X	
		G-47	7		engineering	1,512,500	170,898	3,000				

Lovejoy/Sier-Bath Standard Heavy Duty Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)[1]	Torque Range Low	Torque Range Med	Torque Range High
Standard (Double Engagement)	FHD		7+	9.75	247	1,008,000	113,900	2,000	¾°		X	X
		G-35	30	44.00	1139[4]	47,300,000	5,340,000	220	¾°			
Flex-Rigid (Single Engagement)	FHDFR		7+	9.75	247	1,008,000	113,900	2,000	¾°		X	X
		G-36	30	44.00	1139[4]	47,300,000	5,340,000	220	¾°			
Floating Shaft	FHDFS		7+	9.75	247	1,008,000	113,900	Note 2	¾°		X	X
		G-37	30	44.00	1139[4]	47,300,000	5,340,000		¾°			

Lovejoy/Sier-Bath Nylon Sleeve Series

Coupling Type	Code	Page No.	Size Range	Max. Bore inch	Max. Bore mm	Max. Torque Capacity in-lb	Max. Torque Capacity Nm	Max. RPM	Max. Angular Misalignment (degrees)	Torque Range Low	Torque Range Med	Torque Range High
				1.63	42	1,420	160.5	100	5°	X		
Nyflex	Nyflex	G-49				530	59.9	5,000				
Mite	Mite	G-49		1.13	28	360	40.7	100	3°	X		
						243	27.5	5,000				

Notes: **1.** These are maximum values. For reasonable life expectancy and low reactionary loads, misalignment per mesh should not exceed ¾° for small couplings and ½° for larger couplings.

2. The maximum RPM of a Floating Shaft coupling set may be determined by the critical speed of the floating shaft itself.

3. Consult Lovejoy Engineering for Metric Bores over 500 mm.

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After review of the selection process, the examples and the general selection information on pages G-12 through G-17, you can use the following charts to obtain specific information on torque capability, maximum bore, maximum misalignment, lubrication quantities and weights. For convenience, data is listed in English and metric units.

Continuous Sleeve Series

Chart 1

G

Size C	Capacity HP 100RPM	Capacity Torque in-lb x 10^3	Capacity Torque Nm x 10^3	Shear Pin Torque RPM	Max. Speed Unbal[1]	Parallel Misalignment inch	Parallel Misalignment mm	Grease Capacity Weight US	Grease Capacity Weight Metric	Grease Capacity Volume US	Grease Capacity Volume Metric
⅞	4	2.5	0.3	Determined By Customer Specifications	6,000	.005	.13	1.0 oz	28 g	2 oz-liq	59 mL
1½	12	7.6	0.9		5,000	.007	.18	1.5 oz	42 g	3 oz-liq	89 mL
2	32	20.2	2.3		4,200	.007	.18	2.8 oz	78 g	6 oz-liq	178 mL
2½	48	30.2	3.4		3,750	.010	.25	5.0 oz	142 g	12 oz-liq	355 mL
3	80	50.4	5.7		3,000	.012	.30	0.5 lb	226 g	18 oz-liq	533 mL
3½	140	88.2	10.0		2,800	.012	.30	0.8 lb	340 g	26 oz-liq	770 mL
4	200	126.0	14.2		2,400	.007	.18	1.0 lb	453 g	1.1 qts	1.1 L
4½	292	184.0	20.8		2,200	.007	.18	1.3 lbs	566 g	1.5 qts	1.4 L
5	430	270.9	30.6		2,100	.009	.23	1.5 lbs	679 g	1.8 qts	1.7 L
6	600	378.0	42.7		2,000	.010	.25	2.0 lbs	906 g	2.3 qts	2.2 L
7	950	598.5	67.6		1,000	.011	.28	2.5 lbs	1.1 kg	2.9 qts	2.8 L
9	2,000	1,260.0	142.4		800	.013	.33	4.5 lbs	2.0 kg	1.3 gal	5.0 L
11	3,500	2,205.0	249.2		600	.014	.36	4.8 lbs	2.2 kg	1.4 gal	5.2 L
12	4,000	2,520.0	284.7		550	.014	.36	6.5 lbs	3.0 kg	1.9 gal	7.2 L

Notes: **1.** Max Speed Balanced — Approximately 3 Times Speed Shown Unbalanced

2. Horsepower, Torque, and Parallel Misalignment Capacity for sizes ⅞ through 3½ are based on ½° misalignment per gear mesh.

3. Horsepower, Torque, and Parallel Misalignment Capacity for sizes 4 through 12 are based on ¼° misalignment per gear mesh.

Chart 2

Size C	Approximate Weight–Rough Bore Flex-Flex lb	Flex-Flex kg	Flex-Universal (mill motor) lb	Flex-Universal (mill motor) kg	Floating Shaft (cplg only – no shaft) lb	Floating Shaft (cplg only – no shaft) kg	Spacer (cplg only – no spacer) lb	Spacer (cplg only – no spacer) kg	Cut-out Shifter lb	Cut-out Shifter kg	Shear Pin lb	Shear Pin kg	Inertia - Rough Bore Flex-Flex in-lb-sec²	Flex-Flex Nm-sec²	Flex-Universal (mill motor) in-lb-sec²	Flex-Universal (mill motor) Nm-sec²
⅞	5.0	2.3	7	3.2	10	4.5	7.0	3.2	Determined by W and OD Dimension		N/A	N/A	.016	.002	.018	.002
1½	8.0	3.6	11	5.0	16	7.3	11	5.0			8	4	.034	.004	.039	.004
2	13	5.9	19	8.6	26	12	16	7.3			10	5	.088	.010	.109	.012
2½	20	9.1	29	13	40	18	26	12			15	7	.194	.022	.244	.028
3	33	15	46	21	66	30	43	20			23	10	.466	.053	.578	.065
3½	63	29	77	35	126	57	79	36			47	21	.989	.112	1.120	.127
4	91	41	109	49	182	83	115	52			90	41	1.99	.225	2.240	.252
4½	126	57	155	70	252	114	158	72			112	51	3.330	.376	3.870	.437
5	195	89	220	100	390	177	248	113			177	80	7.080	.800	7.690	.869
6	267	121	315	143	534	242	340	154			250	114	13.000	1.470	14.600	1.650
7	320	145											23.800	2.690		
9	520	236											54.200	6.120		
11	925	420											128.000	14.500		
12	1,200	545											168.000	19.000		

Continuous Sleeve Series Con't.

Chart 3

Size C	Rough Bore				Maximum Bore[1]			
					1 Sq. Key[1]		Metric Key	
	std. or rigid hub		shear hub		std. hub	shear	std.	shear
	inch	mm	inch	mm	inch	inch	mm	mm
⅞	0.44	11	N/A	N/A	1.250	N/A	31	N/A
1½	0.63	15	0.50	13	1.625	.938	42	24
2	0.73	18	0.88	22	2.125	1.500	56	38
2½	0.88	22	1.00	25	2.625	1.750	70	44
3	1.19	30	1.50	38	3.125	2.250	84	57
3½	1.25	32	1.50	38	3.625	2.625	97	66
4	1.75	44	2.00	51	4.125	3.625	111	92
4½	2.38	60	2.50	64	4.750	4.125	130	104
5	2.88	73	3.00	76	5.750	4.500	160	114
6	3.88	98	4.00	102	6.625	5.875	186	149
7	4.69	119	.....	.....	7.500[2]	.....	200	.....
9	5.88	149	.....	.....	9.500[2]	.....	240	.....
11	7.75	197	.....	.....	11.500[2]	.....	305	.....
12	9.75	248	.....	.....	12.500[2]	.....	330	.....

Note: **1.** Bores and Keyways are standard per AGMA 9002-A86 for inch sizes through 9.000; see page ED-17 in Engineering Data section, Metric Bores are per ISO R286 and Keyways are per DIN 6885; see page ED-15 in Engineering Data section.

2. These bores have a reduced keyway.

Flanged Sleeve Series Sizes 1 to 9

Chart 4

Size F	Capacity			Max. Speed Unbal[3]	Parallel Misalignment	
	HP	Torque				
	100RPM	in-lb x 10^3	Nm x 10^3	RPM	in	mm
1	12	7.6	0.85	6,000	0.0555	1.4
1½	30	18.9	2.14	5,500	0.060	1.5
2	50	31.5	3.56	5,000	0.085	2.2
2½	90	56.7	6.41	4,400	0.105	2.7
3	150	94.5	10.7	4,000	0.115	2.9
3½	240	151.2	17.1	3,500	0.130	3.3
4	350	220.5	24.9	3,000	0.150	3.8
4½	480	302.4	34.2	2,700	0.175	4.4
5	690	434.7	49.1	2,500	0.200	5.1
5½	910	573.3	64.8	2,200	0.220	5.6
6	1,190	749.7	84.7	2,100	0.120	3.0
7	1,600	1,008	113.9	2,000	0.135	3.4
8	2,100	1,323	149.5	1,900	0.160	4.1
9	2,900	1,827	206.4	1,800	0.165	4.2

Notes: **1.** Horespower Torque Capacity and Parallel Misalignment Capacity for sizes 1 through 5½, are based on 1½° misalignment per gear mesh and maximum bore. Consult Lovejoy for greater capacity.

2. Horsepower, Torque Capacity and Parallel Misalignment Capacity for sizes 6 through 9 are bases on ¾° misalignment per gear mesh and maximum bore. Consult Lovejoy for greater capacity.

3. For couplings operating at higher speeds, consult Lovejoy engineering.

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Flanged Sleeve Series Sizes 1 to 9 con't.

Chart 5

Size F	Lube Capacity flex-flex				Lube Capacity flex-rigid			
	Weight		Volume		Weight		Volume	
	US	Metric	US	Metric	US	Metric	US	Metric
1	2 oz	57g	2 oz-liq	59 mL	1 oz	28 g	1 oz-liq	30 mL
1½	4 oz	113 g	4 oz-liq	118 mL	2 oz	57 g	2 oz-liq	59 mL
2	6 oz	163 g	6 oz-liq	178 mL	3 oz	81 g	3 oz-liq	89 mL
2½	11 oz	297 g	12 oz-liq	355 mL	5 oz	149 g	6 oz-liq	178mL
3	1.0 lb	454 g	18 oz-liq	533 mL	0.5 lb	227 g	9 oz-liq	266mL
3½	1.3 lbs	568 g	24 oz-liq	710 mL	0.6 lb	284 g	12 oz-liq	355mL
4	2.0 lbs	908 g	1.1 qts	1.1 L	1.0 lb	454 g	18 oz-liq	532mL
4½	3.5 lbs	1.59 kg	2.0 qts	1.9 L	1.8 lbs	795 g	1.0 qt	946mL
5	4.5 lbs	2.04 kg	2.5 qts	2.4 L	2.3 lbs	1.0 kg	1.3 qts	1.2 L
5½	6.5 lbs	2.95 kg	3.5 qts	3.3 L	3.3 lbs	1.5 kg	1.8 qts	1.7 L
6	7.3 lbs	3.29 kg	1.0 gal	3.8 L	3.6 lbs	1.6 kg	0.5 gal	1.9 L
7	9.3 lbs	4.20 kg	1.3 gals	4.7 L	4.6 lbs	2.1 kg	0.6 gal	2.4 L
8	18 lbs	7.95 kg	2.3 gals	8.5 L	8.8 lbs	4.0 kg	1.1 gals	4.3 L
9	20 lbs	9.08 kg	2.8 gals	10.4 L	10.0 lbs	4.5 kg	1.4 gals	5.2 L

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Chart 6

Size F	Approximate Weight-Solid								Inertia-Solid							
	flex-rigid		flex-flex		flex-universal		rigid-rigid		flex-flex		flex-rigid		flex-universal		rigid-rigid	
	lb	kg	lb	kg	lb	kg	lb	kg	in-lb-sec²	Nm-sec²	in-lb-sec²	Nm-sec²	in-lb-sec²	Nm-sec²	in-lb-sec²	Nm-sec²
1	9	4	9	4	12	5	10	5	0.049	0.006	0.049	0.006	0.049	0.006	0.049	0.006
1½	17	8	19	9	24	11	20	9	0.168	0.019	0.176	0.020	0.183	0.021	0.184	0.021
2	34	15	34	15	45	20	34	15	0.388	0.044	0.393	0.044	0.445	0.050	0.399	0.045
2½	55	25	54	25	71	32	60	27	0.88	0.100	0.939	0.106	0.994	0.112	1.00	0.113
3	86	39	80	36	104	47	91	41	1.70	0.192	1.79	0.203	1.94	0.219	1.89	0.214
3½	135	61	130	59	151	69	143	65	3.84	0.435	3.94	0.446	4.27	0.482	4.05	0.457
4	195	89	190	86	234	86	211	96	7.05	0.80	7.34	0.831	7.85	0.887	7.63	0.863
4½	268	122	250	114	310	141	289	131	11.1	1.25	11.7	1.33	12.5	1.41	12.4	1.40
5	394	179	380	173	450	204	417	189	21.4	2.42	22.3	2.52	23.5	2.65	23.1	2.61
5½	526	239	520	236	609	276	541	246	33.1	3.75	34.4	3.89	36.3	4.10	35.7	4.04
6	687	312	650	295	764	347	724	329	44.7	5.06	48.3	5.46	49.6	5.60	51.8	5.86
7	1,017	462	950	431	.....	.....	1,084	492	83.3	9.42	91.5	10.3	.....	.....	99.6	11.27
8	1,609	730	1,560	708	.....	.....	.....	.....	167	18.91	185	21.0	.....	.....	204	23.02
9	2,128	966	2,015	915	.....	.....	.....	.....	287	32.47	305	34.5	.....	.....	323	36.54

Chart 7

Size F	Rough Bore				Maximum Bore[1]					
					1 Sq. Key		1 Red. Key		Metric Key	
	flex hubs		rigid hubs		flex	rigid	flex	rigid	flex	rigid
	inch	mm	inch	mm	inch	inch	inch	inch	mm	mm
1	0.44	11	SOLID W/CENTER		1.625	2.125	1.750	2.250	42	56
1½	0.69	18			2.125	2.813	2.250	3.062	56	76
2	0.94	24			2.750	3.500	2.875	3.750	73	95
2½	1.44	37			3.250	4.250	3.375	4.500	88	114
3	1.44	37			4.000	4.875	4.250	5.250	107	134
3½	1.81	46			4.625	5.625	4.875	5.875	124	150
4	2.44	62			5.375	6.500	5.625	6.500	147	176
4½	3.00	76			6.000	7.375	6.500	7.625	167	202
5	3.00	76	4.00	101	6.500	8.375	7.000	8.750	176	231
5½	4.00	101	4.50	114	7.375	9.250	7.625	9.750	202	260
6	4.00	101	5.50	127	8.000	10.125	8.500	10.750	225	288
7	5.00	127	5.75	139	9.000	11.250	9.750	12.000	254	318
8	6.00	152	6.50	165	11.000	13.500	11.750	14.250	312	380
9	7.00	177	7.50	190	12.000	15.000	12.750	15.750	340	418

Note: 1. Bores and Keyways are standard per AGMA 9002-A86 for inch sizes through 9.000; see page ED-17 in Engineering Data section. Metric Bores are per ISO R286, and Keyways are per DIN 6885, JS9; see page ED-15 in Engineering Data section

Flanged Sleeve Series Sizes 7 to 30

Chart 8

Size F FHD	Capacity HP/100RPM	Capacity Torque in-lb x 10^6	Capacity Torque Nm x 10^6	Max. Speed Unbal² RPM	Parallel Misalignment flex-flex inch	Parallel Misalignment flex-flex mm	Inertia-Solid flex-flex in-lb-sec²	Inertia-Solid flex-flex N-M-sec²	Inertia-Solid flex-rigid in-lb-sec²	Inertia-Solid flex-rigid N-M-sec²	Inertia-Solid rigid-rigid in-lb-sec²	Inertia-Solid rigid-rigid N-M-sec²
7+	1,600	1.0	0.11	2,000	0.135	3.429	82.8	9.4	90.6	10.2	98.3	11.1
8+	2,100	1.3	0.15	1,900	0.160	4.064	165.6	18.7	186.3	21.1	207.0	23.4
9+	2,900	1.8	0.21	1,750	0.165	4.191	284.7	32.2	302.8	34.2	320.9	36.3
10	4,000	2.5	0.28	1,550	0.180	4.572	416.7	47.1	471.0	53.2	525.4	59.4
11	5,500	3.5	0.39	1,400	0.205	5.207	672.9	76.0	758.3	85.7	843.7	95.3
12	7,000	4.4	0.50	1,300	0.210	5.334	983.4	111.1	1110	125.5	1,237	139.8
13	8,400	5.3	0.60	1,150	0.230	5.842	1,475	166.7	1636	184.8	1,796	202.9
14	10,200	6.4	0.73	1,050	0.255	6.477	2,070	233.9	2308	260.8	2,547	287.7
15	12,300	7.7	0.88	900	0.280	7.112	2,795	315.8	3098	350	3,401	384.3
16	15,000	9.5	1.07	800	0.295	7.493	3,830	432.8	4195	474	4,560	515.3
18	20,000	12.6	1.42	550	0.295	7.493	6,237	704.8	6744	762	7,252	819.4
20	27,000	17.0	1.92	450	0.280	7.112	10,507	1,187	11,731	1,326	12,955	1,464
22	34,000	21.4	2.42	380	0.310	7.874	16,369	1,850	18,364	2,075	20,360	2,301
24	42,000	26.5	2.99	325	0.300	7.620	24,495	2,768	27,466	3,104	30,437	3,439
26	52,000	32.8	3.70	280	0.300	7.620	34,446	3,892	38,988	4,405	43,530	4,919
28	62,000	39.1	4.41	240	0.320	8.128	47,800	5,401	53,641	6,061	59,482	6,721
30	75,000	47.3	5.34	220	0.320	8.128	62,811	7,097	70,626	7,980	78,442	8,864

Notes:
1. Horsepower, Torque Capacity and Parallel Misalignment Capacity, for sizes 7 through 30 are based on $^3/_4{}^\circ$ misalignment per gear mesh and maximum bore. Consult Lovejoy for greater capacity.
2. For couplings operating at higher speeds consult Lovejoy.
3. + indicates end cap design.

Chart 9

Size FHD	Maximum Bore–Flex Hub 2 Sq. Keys inch	Keyway W inch	Keyway H inch	2 Red. Keys inch	Keyway W inch	Keyway H inch	Maximum Bore–Rigid Hub 2 Sq. Key inch	Keyway W inch	Keyway H inch	2 Red. Keys inch	Keyway W inch	Keyway H inch	Max. Bore Metric flex mm	Max. Bore Metric rigid mm
7+	9.75	1.50	0.75	10.25	1.50	0.50	12.25	1.75	0.88	12.75	1.75	0.63	Refer to Lovejoy	
8+	12.00	1.75	0.88	12.50	1.75	0.63	14.50	2.25	1.13	15.25	2.25	0.75		
9+	13.00	2.00	1.00	13.50	2.00	0.69	16.25	2.50	1.25	17.00	2.50	0.81		
10	14.00	2.25	1.13	14.75	2.25	0.75	17.75	2.75	1.63	18.75	2.75	0.88		
11	16.25	2.50	1.25	17.00	2.50	0.81	19.50	3.00	1.50	20.50	3.00	1.00		
12	17.25	2.75	1.38	18.00	2.75	0.88	21.00	3.25	1.63	22.00	3.25	1.13		
13	19.00	3.00	1.50	20.00	3.00	1.00	23.00	3.50	1.75	24.00	3.50	1.25		
14	20.25	3.25	1.63	21.25	3.25	1.13	25.00	3.50	1.75	26.00	3.50	1.25		
15	21.50	3.50	1.75	22.50	3.50	1.25	26.50	4.00	2.00	27.50	4.00	1.50		
16	23.25	3.50	1.75	24.50	3.50	1.25	28.00	4.00	2.00	29.00	4.00	1.50		
18	26.00	4.00	2.00	27.00	4.00	1.50	31.50	4.50	2.25	32.50	4.50	1.75		
20	29.00	4.50	2.25	30.00	4.50	1.75	34.75	5.00	2.50	36.00	5.00	1.88		
22	32.50	4.50	2.25	33.50	4.50	1.75	38.50	5.00	2.50	39.75	5.00	1.88		
24	35.00	5.00	2.50	36.25	5.00	1.88	41.50	6.00	3.00	43.00	6.00	2.25		
26	39.25	5.00	2.50	41.50	5.00	1.88	45.00	6.00	3.00	46.50	6.00	2.25		
28	41.00	6.00	3.00	42.50	6.00	2.25	48.50	6.00	3.00	50.00	6.00	2.25		
30	44.00	6.00	3.00	45.50	6.00	2.25	52.50	6.00	3.00	54.00	6.00	2.25		

Note: 1. + indicates end cap design.

Flanged Sleeve Series Sizes 7 to 30 con't.

Chart 10

Size FHD	Approximate Weight Solid						Lube Capacity flex-flex				Lube Capacity flex-rigid			
	flex-flex		flex-rigid		rigid-rigid		Weight		Volume		Weight		Volume	
	lb	kg	lb	kg	lb	kg	US	Metric	US	Metric	US	Metric	US	Metric
7+	950	431	1,017	462	1,084	492	9 lbs	4.2 kg	1.3 gal	4.7 L	4.6 lbs	2.1 kg	0.6 gal	2.4 L
8+	1,560	708	1,609	730	1,658	753	18 lbs	7.9 kg	2.3 gal	8.5 L	8.8 lbs	4.0 kg	1.1 gal	4.3 L
9+	2,015	915	2,128	966	2,241	1,017	20 lbs	9.1 kg	2.8 gal	10.4 L	10.0 lbs	4.5 kg	1.4 gal	5.2 L
10	2,500	1,135	2,723	1,236	2,946	1,337	25 lbs	11.2 kg	3.5 gal	13.2 L	12.4 lbs	5.6 kg	1.8 gal	6.6 L
11	3,380	1,535	3,640	1,653	3,900	1,771	30 lbs	13.5 kg	4.0 gal	15.1 L	14.9 lbs	6.8 kg	2.0 gal	7.6 L
12	4,165	1,891	4,508	2,047	4,851	2,202	39 lbs	17.5 kg	5.3 gal	19.9 L	19.3 lbs	8.7 kg	2.6 gal	9.9 L
13	5,215	2,368	5,600	2,542	5,985	2,717	46 lbs	20.9 kg	6.3 gal	23.7 L	23.0 lbs	10.4 kg	3.1 gal	11.8 L
14	6,400	2,906	6,837	3,104	7,274	3,302	62 lbs	28.3 kg	8.3 gal	31.2 L	31.1 lbs	14.1 kg	4.1 gal	15.6 L
15	7,710	3,500	8,244	3,743	8,778	3,985	73 lbs	32.9 kg	9.8 gal	36.9 L	36.3 lbs	16.5 kg	4.9 gal	18.4 L
16	9,250	4,200	9,848	4,471	10,446	4,742	87 lbs	39.6 kg	11.8 gal	44.5 L	43.6 lbs	19.8 kg	5.9 gal	22.2 L
18	11,890	5,398	12,673	5,754	13,456	6,109	104 lbs	47.2 kg	14.0 gal	53.0 L	52.0 lbs	23.6 kg	7.0 gal	26.5 L
20	16,830	7,641	18,113	8,223	19,396	8,806	134 lbs	60.8 kg	18.0 gal	68.1 L	67.0 lbs	30.4 kg	9.0 gal	34.1 L
22	21,970	9,974	23,671	10,747	25,372	11,519	174 lbs	79.0 kg	23.0 gal	87.0 L	87.0 lbs	39.5 kg	11.5 gal	43.5 L
24	27,735	12,592	29,958	13,601	32,181	14,610	206 lbs	93.5 kg	27.5 gal	104.1 L	103.0 lbs	46.8 kg	13.8 gal	52.0 L
26	34,370	15,604	37,104	16,845	39,838	18,086	251 lbs	114.0 kg	33.5 gal	126.8 L	125.5 lbs	57.0 kg	16.8 gal	63.4 L
28	40,910	18,573	44,012	19,981	47,114	21,390	279 lbs	126.7 kg	37.0 gal	140.0 L	139.5 lbs	63.3 kg	18.5 gal	70.0 L
30	47,470	21,551	51,065	23,184	54,660	24,816	322 lbs	146.2 kg	42.8 gal	161.8 L	161.0 lbs	73.1 kg	21.4 gal	80.9 L

Notes: **1.** + indicates end cap design.

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All Metal Labyrinth Seal Series

Chart 11

Size FLA	Capacity HP/100RPM	Capacity Torque in-lb x 10^3	Capacity Torque Nm x 10^3	Max. Speed Unbal RPM	Parallel Misalignment flex-flex inch	Parallel Misalignment flex-flex mm	Inertia Solid flex-flex lb-in-sec^2	Inertia Solid flex-flex N-M-sec^2	Inertia Solid flex-rigid in-lb-sec^2	Inertia Solid flex-rigid N-M-sec^2	Inertia Solid rigid-rigid lb-in-sec^2	Inertia Solid rigid-rigid N-M-sec^2
1½	24	15.0	1.7	12,000	0.028	0.7	0.179	0.020	0.181	0.020	0.184	0.021
2	56	35.5	4.0	9,300	0.035	0.9	0.378	0.043	0.388	0.044	0.399	0.045
2½	110	69.3	7.8	7,900	0.044	1.1	0.939	0.106	0.969	0.110	1	0.113
3	189	118.9	13.4	6,800	0.052	1.3	1.66	0.187	1.78	0.201	1.89	0.214
3½	300	118.8	21.3	6,000	0.061	1.5	3.75	0.424	3.90	0.441	4.05	0.457
4	450	283.8	32.1	5,260	0.070	1.8	7.09	0.801	7.36	0.832	8	0.86
4½	625	393.8	44.5	4,770	0.079	2.0	10.7	1.21	11.5	1.31	12	1.40
5	875	551.3	62.3	4,300	0.087	2.2	21.2	2.40	22.2	2.51	23	2.61
5½	1162	732.5	82.8	3,880	0.096	2.4	26.7	3.02	31.2	3.53	36	4.04
6	1511	952.5	107.6	3,600	0.105	2.7	37.7	4.26	44.8	5.06	52	5.86
7	2400	1512.5	170.9	3,000	0.122	3.1	81.0	9.16	90.3	10.2	100	11.27

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Chart 12

Size FLA	Lube Capacity Volume–Grease US	Lube Capacity Volume–Grease Metric	Lube Capacity Volume–Oil US	Lube Capacity Volume–Oil Metric	Approximate Wt.– Solid Flex–Flex lb	Approximate Wt.– Solid Flex–Flex kg	Approximate Wt.– Solid Flex–rigid lbs	Approximate Wt.– Solid Flex–rigid kg
1½	6 oz-liq	178 mL	2 oz-liq	59 mL	17.6	8.0	18.5	8.4
2	8 oz-liq	237 mL	3 oz-liq	89 mL	29.1	13.2	30.9	14.0
2½	16 oz-liq	474 mL	5 oz-liq	148 mL	50.9	23.1	54.8	24.9
3	24 oz-liq	710 mL	8 oz-liq	237 mL	74.4	33.8	83.1	37.7
3½	1.1 qts.	1.1 L	12 oz-liq	355 mL	120	54.5	131.0	59.5
4	1.9 qts.	1.8 L	20 oz-liq	592 mL	185	84.0	193.0	87.6
4½	2.3 qts.	2.1 L	24 oz-liq	710 mL	240	109.0	258.0	117.1
5	3.0 qts.	2.8 L	1.0 qt.	946 mL	365	165.7	383.0	173.9
5½	4.8 qts.	4.5 L	1.6 qts.	1.5 L	435	197.5	436.0	197.9
6	6.3 qts.	5.9 L	1.9 qts.	1.8 L	538	244.3	536.0	243.3
7	8.3 qts.	7.8 L	2.9 qts.	2.7 L	860	390.4	851.0	386.4

Chart 13

Size FLA	Rough Bore flex inch	Rough Bore flex mm	Rough Bore rigid inch	Rough Bore rigid mm	Maximum Bore[1] 1 Sq. Key flex inch	Maximum Bore[1] 1 Sq. Key rigid inch	Maximum Bore[1] Metric Key flex mm	Maximum Bore[1] Metric Key rigid mm
1½	0.38	9	0.75	19	1.625	3.06	41	76
2	0.50	12	1.00	25	2.125	3.75	53	95
2½	0.75	19	1.50	38	2.750	4.50	69	114
3	1.13	28	1.75	44	3.125	5.25	79	134
3½	1.50	38	2.50	63	3.750	5.88	95	150
4	1.50	38	3.00	76	4.250	6.50	107	176
4½	1.50	38	3.50	88	4.750	7.63	120	202
5	2.50	63	4.00	101	5.500	8.75	139	231
5½	3.00	76	4.50	114	5.875	9.75	149	260
6	4.00	101	5.00	127	6.500	10.75	165	288
7	4.50	114	5.50	139	8.000	12.00	203	318

Note: **1.** Bores and Keyways are per AGMA 9002-A86 for inch sizes; see page ED–17 in Engineering Data section, Metric Bores are per ISO R286 and Keyways are per DIN 6885, JS9; see page ED-15 in Engineering Data section.

Alloy Steel Series

Chart 14

Size FA	Capacity HP / 100 RPM	Capacity Torque in-lb x 10^3	Capacity Torque Nm x 10^3	Maximum Speed Unbal. RPM	Parallel Misalignment flex-flex inch	Parallel Misalignment flex-flex mm
1	19	11.3	1.28	6,000	0.055	1.4
1-1/2	36	22.7	2.56	5,500	0.066	1.7
2	62	39.0	4.41	5,000	0.085	2.2
2-1/2	110	69.3	7.83	4,400	0.105	2.7
3	187	118.0	13.33	4,000	0.115	2.9
3-1/2	281	177.0	20.00	3,500	0.130	3.3
4	418	263.4	29.76	3,000	0.150	3.8
4-1/2	562	354.0	40.00	2,700	0.175	4.4
5	720	508.6	57.47	2,500	0.200	5.1
5-1/2	994	670.7	75.79	2,200	0.220	5.6
6	1190	877.1	99.11	2,100	0.120	3.0
7	1600	1179.3	133.26	2,000	0.135	3.4

Chart 15

Size FA	Lube Capacity flex-flex Weight US	Weight Metric	Volume US	Volume Metric	Lube Capacity flex-rigid Weight US	Weight Metric	Volume US	Volume Metric
1	2 oz	57g	2 oz-liq	59 mL	1 oz	28 g	1 oz-liq	30 mL
1½	4 oz	113 g	4 oz-liq	118 mL	2 oz	57 g	2 oz-liq	59 mL
2	6 oz	163 g	6 oz-liq	178 mL	3 oz	81 g	3 oz-liq	89 mL
2½	11 oz	297 g	12 oz-liq	355 mL	5 oz	149 g	6 oz-liq	178mL
3	1.0 lb	454 g	18 oz-liq	533 mL	0.5 lb	227 g	9 oz-liq	266mL
3½	1.3 lbs	568 g	24 oz-liq	710 mL	0.6 lb	284 g	12 oz-liq	355mL
4	2.0 lbs	908 g	1.1 qts	1.1 L	1.0 lb	454 g	18 oz-liq	532mL
4½	3.5 lbs	1.59 kg	2.0 qts	1.9 L	1.8 lbs	795 g	1.0 qt	946mL
5	4.5 lbs	2.04 kg	2.5 qts	2.4 L	2.3 lbs	1.0 kg	1.3 qts	1.2 L
5½	6.5 lbs	2.95 kg	3.5 qts	3.3 L	3.3 lbs	1.5 kg	1.8 qts	1.7 L
6	7.3 lbs	3.29 kg	1.0 gal	3.8 L	3.6 lbs	1.6 kg	0.5 gal	1.9 L
7	9.3 lbs	4.20 kg	1.3 gals	4.7 L	4.6 lbs	2.1 kg	0.6 gal	2.4 L

Notes: **1.** Horsepower, Torque, and Parallel Misalignment capacity for sizes 1 through 5½ are based on 1½° per gear mesh and maximum bore. Consult Lovejoy for greater capacity.
2. Horsepower, Torque, and Parallel Misalignment capacity for sizes 6 and 7 are based on ¾° per gear mesh and maximum bore. Consult Lovejoy for greater capacity.
3. For couplings operating at higher speeds, consult Lovejoy engineering.

Chart 16

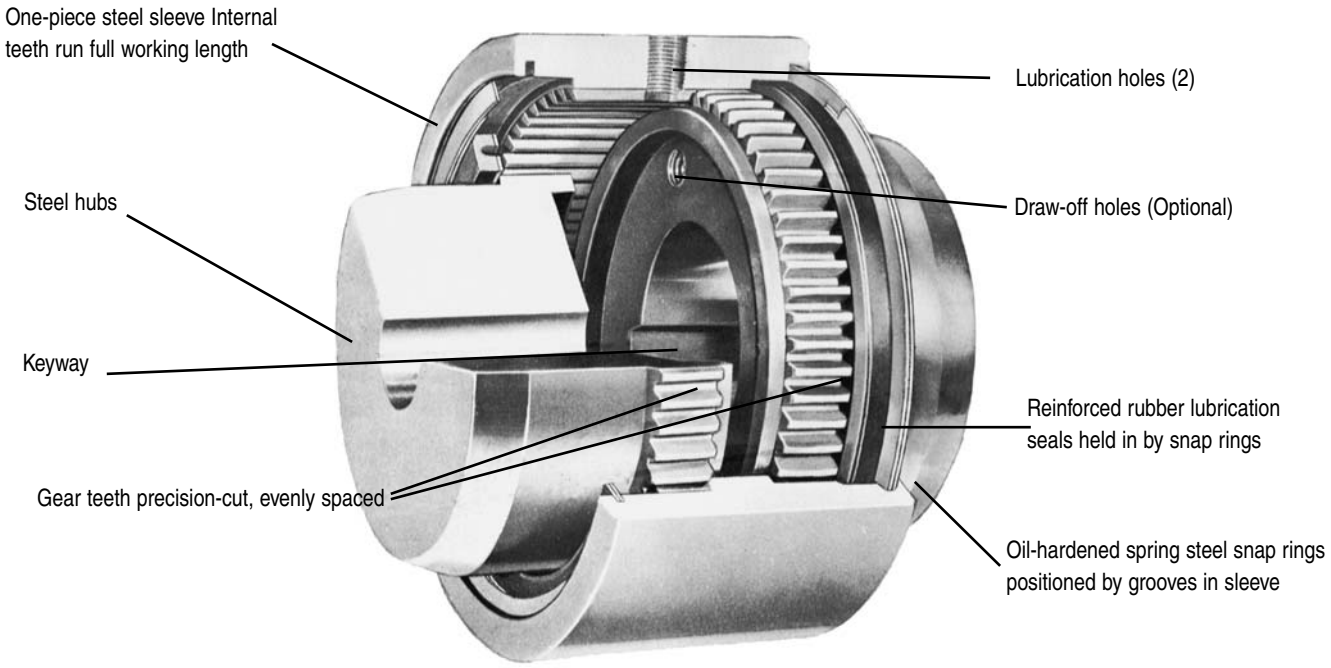
Size FA	Approximate Weight-Solid flex-rigid lb	flex-rigid kg	flex-flex lb	flex-flex kg	flex-universal lb	flex-universal kg	rigid-rigid lb	rigid-rigid kg	flex-flex in-lb-sec²	flex-flex Nm-sec²	Inertia-Solid flex-rigid in-lb-sec²	flex-rigid Nm-sec²	flex-universal in-lb-sec²	flex-universal Nm-sec²	rigid-rigid in-lb-sec²	rigid-rigid Nm-sec²
1	9	4	9	4	12	5	10	5	0.049	0.006	0.049	0.006	0.049	0.006	0.049	0.006
1½	17	8	19	9	24	11	20	9	0.168	0.019	0.176	0.020	0.183	0.021	0.184	0.021
2	34	15	34	15	45	20	34	15	0.388	0.044	0.393	0.044	0.445	0.050	0.399	0.045
2½	55	25	54	25	71	32	60	27	0.88	0.100	0.939	0.106	0.994	0.112	1.00	0.113
3	86	39	80	36	104	47	91	41	1.70	0.192	1.79	0.203	1.94	0.219	1.89	0.214
3½	135	61	130	59	151	69	143	65	3.84	0.435	3.94	0.446	4.27	0.482	4.05	0.457
4	195	89	190	86	234	86	211	96	7.05	0.80	7.34	0.831	7.85	0.887	7.63	0.863
4½	268	122	250	114	310	141	289	131	11.1	1.25	11.7	1.33	12.5	1.41	12.4	1.40
5	394	179	380	173	450	204	417	189	21.4	2.42	22.3	2.52	23.5	2.65	23.1	2.61
5½	526	239	520	236	609	276	541	246	33.1	3.75	34.4	3.89	36.3	4.10	35.7	4.04
6	687	312	650	295	764	347	724	329	44.7	5.06	48.3	5.46	49.6	5.60	51.8	5.86
7	1,017	462	950	431	.....	.....	1,084	492	83.3	9.42	91.5	10.3	.....	.....	99.6	11.27

Chart 17

Size FA	Rough Bore flex hubs inch	flex hubs mm	rigid hubs inch	rigid hubs mm	Maximum Bore[1] 1 Sq. Key flex inch	1 Sq. Key rigid inch	1 Red. Key flex inch	1 Red. Key rigid inch	Metric Key flex mm	Metric Key rigid mm
1	0.44	11	0.63	15	1.625	2.125	1.750	2.250	42	56
1½	0.69	18	0.75	19	2.125	2.813	2.250	3.062	56	76
2	0.94	24	1.00	25	2.750	3.500	2.875	3.750	73	95
2½	1.44	37	1.50	38	3.250	4.250	3.375	4.500	88	114
3	1.44	37	1.75	44	4.000	4.875	4.250	5.250	107	134
3½	1.81	46	2.50	63	4.625	5.625	4.875	5.875	124	150
4	2.44	62	3.00	76	5.375	6.500	5.625	6.500	147	176
4½	3.00	76	3.50	88	6.000	7.375	6.500	7.625	167	202
5	3.00	76	4.00	101	6.500	8.375	7.000	8.75	176	231
5½	4.00	101	4.50	114	7.375	9.250	7.625	9.75	202	260
6	4.00	101	5.00	127	8.000	10.125	8.500	10.75	225	288
7	5.00	127	5.50	139	9.000	11.250	9.750	12.00	254	318

Note: **1.** Bores and Keyways are standard per AGMA 9002-A86 for inch sizes through 9.000; see page ED-17 in Engineering Data Section. Metric bores are per ISO R286 and Keyways are per DIN 6885, JS9; see page ED-15 in Engineering Data Section.

Lovejoy/Sier–Bath Continuous Sleeve Series



The One-Piece Sleeve Gear Coupling

Lovejoy/Sier-Bath Continuous Sleeve Series "C" and "CFR"

Flex-Flex

The basis for all types of Lovejoy/Sier–Bath Continuous Sleeve Flexible Gear Couplings. Suitable for most applications. Great simplicity allows inexpensive adaptation to a wide variety of special types.

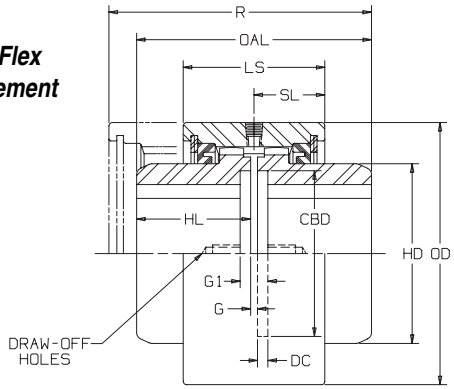
Flex-Rigid

The Flex-Rigid Gear Coupling consists of a flexible hub and rigid hub with a single sleeve. The flexible hub is a standard reborable hub. The rigid hub uses a splined reborable type hub. Flex-Rigid type gear couplings are most commonly used in floating shaft applications, or on line shafting to accommodate axial expansion. The Flex-Rigid coupling accommodates angular misalignment only.

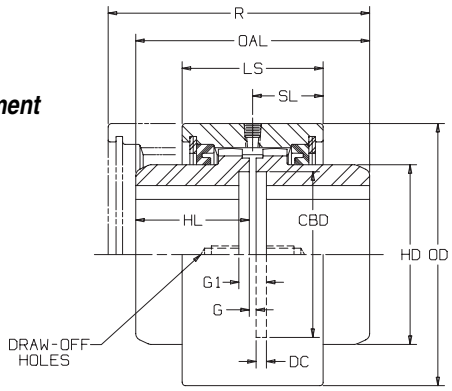
G

Use These Specifications for Both Standard & Vertical Shaft Type.

Standard Flex-Flex Double Engagement (C)



Flex-Rigid Single Engagement (CFR)



Size C CFR	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	OD inch	HD inch	HL inch	LS inch	SL inch	Distance Between Shafts G inch	Distance Between Shafts G1 inch	R inch	DC inch	CBD inch
7/8	2,520	6,000	1.250	31	0.44	3.13	3.31	2.00	1.50	2.00	1.00	0.13	0.38	3.75	0.13	1.94
1 1/2	7,560	5,000	1.625	42	0.63	3.75	3.75	2.38	1.81	2.53	1.27	0.13	0.50	4.59	0.19	2.25
2	20,160	4,200	2.125	56	0.73	4.25	4.75	3.25	2.06	2.56	1.28	0.13	0.50	4.88	0.19	3.00
2 1/2	30,240	3,750	2.625	70	0.88	4.75	5.50	3.94	2.25	3.06	1.53	0.25	0.75	5.72	0.25	3.75
3	50,400	3,000	3.125	84	1.19	5.50	6.63	4.75	2.63	3.75	1.88	0.25	0.75	6.88	0.25	4.75
3 1/2	88,200	2,800	3.625	97	1.25	8.75	7.50	5.38	4.25	4.00	2.00	0.25	0.75	9.25	0.25	5.50
4	126,000	2,400	4.125	111	1.75	9.00	8.75	6.25	4.38	4.63	2.31	0.25	0.75	9.50	0.25	6.50
4 1/2	183,960	2,200	4.750	130	2.38	10.25	9.50	7.25	5.00	4.88	2.44	0.25	0.75	10.38	0.25	7.25
5	270,900	2,100	5.750	160	2.88	12.25	10.75	8.25	6.00	5.75	2.88	0.25	0.75	12.25	0.25	8.13
6	378,000	2,000	6.625	186	3.88	13.00	12.25	9.50	6.38	6.50	3.25	0.25	0.75	13.38	0.25	9.25
7	598,500	1,000	7.500[2]	200	4.69	14.88	14.00	10.50	7.25	7.50	3.75	0.38	0.88	15.38	0.25	9.75
9	1,260,000	800	9.5002	240	5.88	19.00	16.25	12.63	9.25	8.13	4.06	0.50	1.00	19.00	0.25	12.50
11	2,205,900	600	11.500[2]	305	7.75	22.50	19.25	15.63	11.00	8.13	4.06	0.50	1.00	22.50	0.25	15.50
12	2,520,000	550	12.500[2]	330	9.75	25.00	20.50	16.50	12.25	8.38	4.19	0.50	1.00	25.00	0.25	16.00

Notes:

1. Draw–off holes are optional at additional charge in sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
2. Larger sizes are available – consult Lovejoy Engineering.
3. The distance between shafts may be any dimension between G and G1.
4. For Performance Data see pages G-18 and G-19.

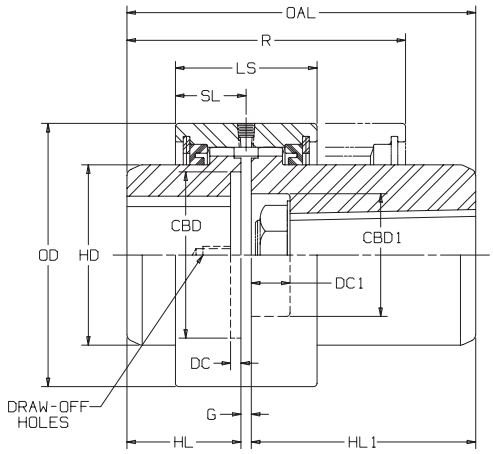
When ordering, please specify:

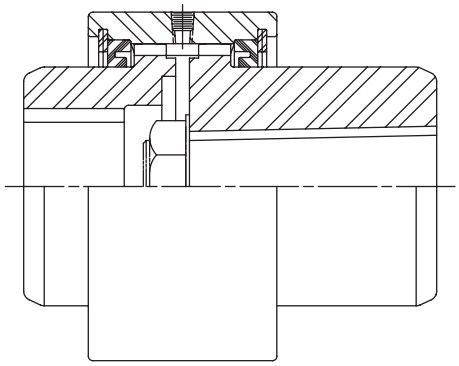
1. Required inside diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and horsepower of driving unit.

Lovejoy/Sier-Bath Continuous Sleeve Series Mill Motor Type – "CMM"

Designed specifically for mill type motors with tapered shafts. The sleeve and one hub are standard, the other hub is taper bored to customer specifications, with a counter bore for the nut on end of the motor shaft.

The Mill Motor coupling is designed with a smooth, cylindrical, one-piece sleeve for smoother, faster, quieter, and safer operation while also allowing quicker assembly and disassembly.





ALTERNATE STYLE

Size CMM	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	OD inch	HD inch	HL std. hub universal[2] inch	HL1 std. hub universal[2] inch	LS inch	SL inch	G inch	R inch	DC inch	DC1 inch	CBD inch	CBD1[3] inch
7/8	2,520	6,000	1.250	31	0.44	Determined by Length of Mill Motor Hub	3.31	2.00	1.50	3.75	2.00	1.00	0.13	3.75	0.13	Determined by Customer Specifications	1.94	1.63
1 1/2	7,560	5,000	1.625	42	0.63		3.75	2.38	1.81	4.00	2.53	1.27	0.13	4.59	0.19		2.25	1.88
2	20,160	4,200	2.125	56	0.73		4.75	3.25	2.06	4.63	2.56	1.28	0.13	4.88	0.19		3.00	2.75
2 1/2	30,240	3,750	2.625	70	0.88		5.50	3.94	2.25	5.13	3.06	1.53	0.25	5.72	0.25		3.75	3.25
3	50,400	3,000	3.125	84	1.19		6.63	4.75	2.63	5.75	3.75	1.88	0.25	6.88	0.25		4.75	3.88
3 1/2	88,200	2,800	3.625	97	1.25		7.50	5.38	4.25	6.50	4.00	2.00	0.25	9.25	0.25		5.50	4.50
4	126,000	2,400	4.125	111	1.75		8.75	6.25	4.38	6.63	4.63	2.31	0.25	9.50	0.25		6.50	5.13
4 1/2	183,960	2,200	4.750	130	2.38		9.50	7.25	5.00	7.75	4.88	2.44	0.25	10.38	0.25		7.25	5.50
5	270,900	2,100	5.750	160	2.88		10.75	8.25	6.00	7.88	5.75	2.88	0.25	12.25	0.25		8.13	6.50
6	378,000	2,000	6.625	186	3.88		12.25	9.50	6.38	9.25	6.50	3.25	0.25	13.38	0.25		9.25	7.75

Notes:

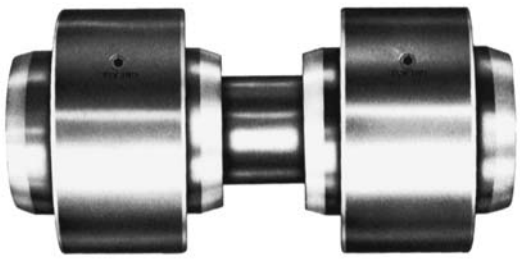
1. Larger Sizes are available – consult Lovejoy Engineering
2. Dimensions shown are maximum lengths of Universal Hubs kept in stock and altered to customer's specifications. Longer Length Hubs are made to order. Rough bore mill motor hubs are manufactured to HL1 length with straight rough bore.
3. Dimension "CBD1" as shown is the maximum safe counterbore. Diameter of this counterbore is to customer's specifications.
4. Draw-off holes are optional at an additional charge in sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
5. For Performance Data see pages G-18 and G-19.

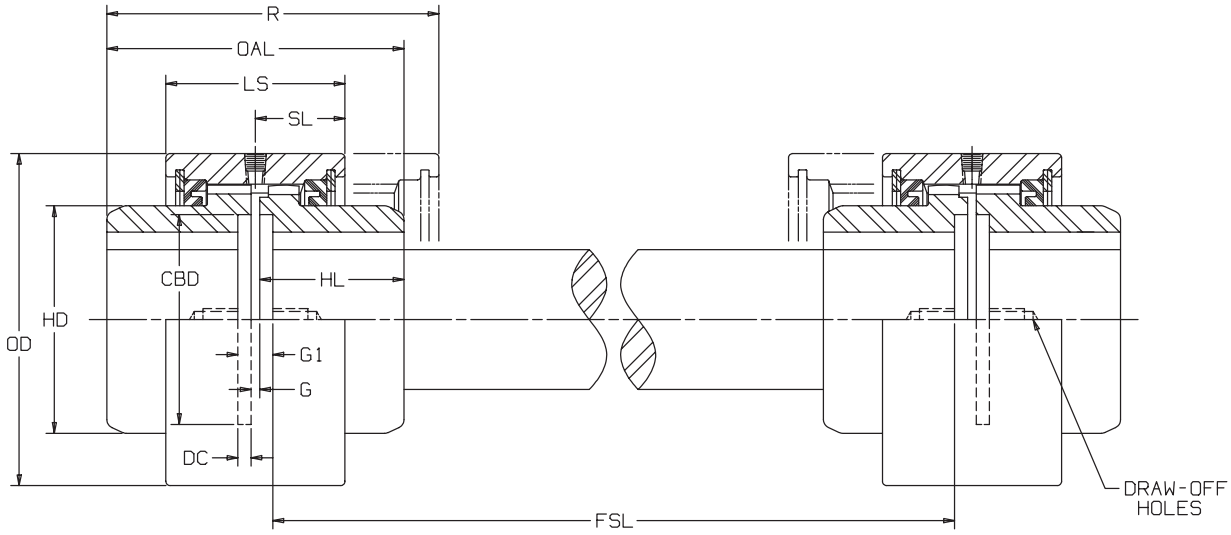
When ordering, please specify:

1. Required inside diameter of both hubs, with tolerances.
2. Length and taper per foot of Mill Motor Shaft.
3. Size of nut to be used on Mill Motor Shaft (DC1 and CBD1).
4. Sizes of keyways, if desired and whether parallel to shaft axis or taper.
5. Speed and horsepower of driving unit. Set screws not supplied unless specified.

Lovejoy/Sier-Bath Continuous Sleeve Series Floating Shaft Type – "CFS"

The Floating Shaft Type coupling is designed for remote drive and excessive misalignment problems. The coupling hubs on the driver and driven ends are rigid while the two center hubs connected by the center shaft are flexible. These hubs can be reversed if necessary without sacrificing ease of installation or disassembly.





G

Size CFS	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	OD inch	HD inch	G HL inch	LS inch	SL inch	Distance Between Shafts[3] G1 inch	Distance Between Shafts[3] G1 inch	R inch	DC inch	CBD inch	FSL[4] inch
7/8	2,520	6,000	1.250	31	0.44	3.13	3.31	2.00	1.50	2.00	1.00	0.13	0.38	3.75	0.13	1.94	3.00
1 1/2	7,560	5,000	1.625	42	0.63	3.75	3.75	2.38	1.81	2.53	1.27	0.13	0.50	4.59	0.19	2.25	3.63
2	20,160	4,200	2.125	56	0.73	4.25	4.75	3.25	2.06	2.56	1.28	0.13	0.50	4.88	0.19	3.00	4.13
2 1/2	30,240	3,750	2.625	70	0.88	4.75	5.50	3.94	2.25	3.06	1.53	0.25	0.75	5.72	0.25	3.75	4.50
3	50,400	3,000	3.125	84	1.19	5.50	6.63	4.75	2.63	3.75	1.88	0.25	0.75	6.88	0.25	4.75	5.25
3 1/2	88,200	2,800	3.625	97	1.25	8.75	7.50	5.38	4.25	4.00	2.00	0.25	0.75	9.25	0.25	5.50	8.00
4	126,000	2,400	4.125	111	1.75	9.00	8.75	6.25	4.38	4.63	2.31	0.25	0.75	9.50	0.25	6.50	8.25
4 1/2	183,960	2,200	4.750	130	2.38	10.25	9.50	7.25	5.00	4.88	2.44	0.25	0.75	10.38	0.25	7.25	9.50
5	270,900	2,100	5.750	160	2.88	12.25	10.75	8.25	6.00	5.75	2.88	0.25	0.75	12.25	0.25	8.13	11.50
6	378,000	2,000	6.625	186	3.88	13.00	12.25	9.50	6.38	6.50	3.25	0.25	0.75	13.38	0.25	9.25	12.25

Notes:

1. Larger sizes are available – consult Lovejoy Engineering.
2. Draw-off holes are optional at additional charge in sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
3. May be any dimension between G and G1.
4. Minimum length of floating shaft.
5. For Performance Data see pages G-18 and G-19.

When ordering, please specify:

1. Required inside diameter of all hubs, with tolerances. Indicate which bores are for flexible and which for rigid hubs.

2. Sizes of keyways, if desired. Set screws not supplied unless specified.

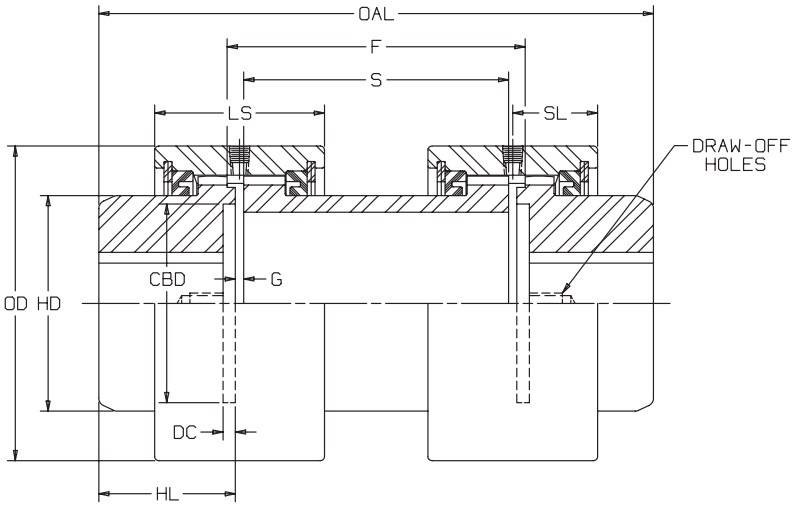
3. Speed and horsepower of driving unit.

4. A Floating Shaft coupling consists of two flexible hubs, two rigid hubs, two sleeves, four accessory kits, one shaft, and two keys, and should be ordered as "One Set Floating Shaft coupling."

5. Distance between ends of shafts to be connected.

Lovejoy/Sier-Bath Continuous Sleeve Series Spacer Type – "CSPCR"

The Spacer Type coupling is designed for applications where it becomes necessary to remove the hubs from either shaft without disturbing the mountings of the connected units. The hubs on both the driven and driver shaft are flexible and the spacer has spline teeth to mate with the sleeves of each coupling. Split seals are used on the spacer.



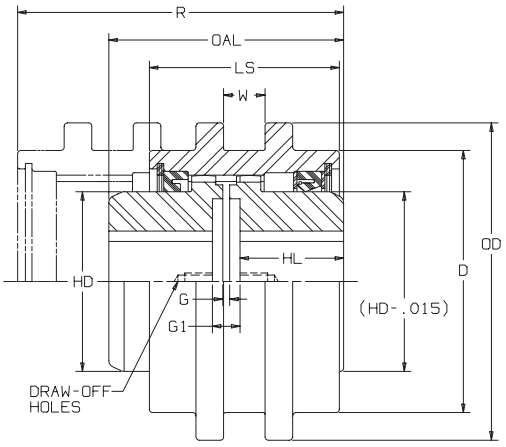
Size CFS	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL min. inch	OD inch	HD inch	LS m inch	SL inch	G inch	DC inch	CBD inch	F in. inch	S min. inch
7/8	2,520	6,000	1.250	31	0.44	6.76	3.31	2.00	2.00	1.00	0.13	0.13	1.94	4.00	3.50
1 1/2	7,560	5,000	1.625	42	0.63	7.38	3.75	2.38	2.53	1.27	0.13	0.19	2.25	4.13	3.50
2	20,160	4,200	2.125	56	0.73	8.51	4.75	3.25	2.56	1.28	0.13	0.19	3.00	4.75	4.13
2 1/2	30,240	3,750	2.625	70	0.88	9.50	5.50	3.94	3.06	1.53	0.25	0.25	3.75	5.50	4.50
3	50,400	3,000	3.125	84	1.19	11.01	6.63	4.75	3.75	1.88	0.25	0.25	4.75	6.25	5.25
3 1/2	88,200	2,800	3.625	97	1.25	15.00	7.50	5.38	4.00	2.00	0.25	0.25	5.50	7.00	6.00
4	126,000	2,400	4.125	111	1.75	15.89	8.75	6.25	4.63	2.31	0.25	0.25	6.50	7.63	6.63
4 1/2	183,960	2,200	4.750	130	2.38	17.38	9.50	7.25	4.88	2.44	0.25	0.25	7.25	7.88	6.88
5	270,900	2,100	5.750	160	2.88	20.25	10.75	8.25	5.75	2.88	0.25	0.25	8.13	8.75	7.75
6	378,000	2,000	6.625	186	3.88	21.76	12.25	9.50	6.50	3.25	0.25	0.25	9.25	9.50	8.50

Notes:
1. Larger sizes are available – consult Lovejoy Engineering.
2. Draw-off holes are available at an additional charge on sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
3. For Performance Data see pages G-18 and G-19.

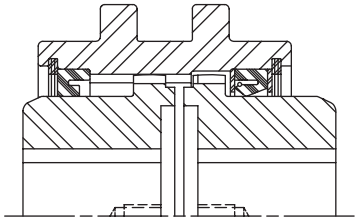
When ordering, please specify:
1. Required inside diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed, horsepower and application.
4. Distance between ends of shafts to be connected.

Lovejoy/Sier-Bath Continuous Sleeve Series
Cut-out Shifter Type – "CCS"

The Cut–out coupling is designed to permit quick disengagement between the driver and driven shafts without disassembling the coupling. This type coupling is widely used on dual drives and on equipment operated in tandem. A special seal is provided on the hub that disengages to eliminate undue friction when the disengaged hub is turning in the sleeve. Cut-out type couplings are also manufactured with pins to maintain the sleeve in both engaged and disengaged positions.



Engaged



Disengaged

Size CCS CFR	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	D inch	LS inch	HD inch	HL inch	Distance Between Shafts[3] G inch	Distance Between Shafts[3] G1 inch	R inch	T[4] inch	W inch	OD inch
7/8	2,520	6,000	1.250	31	0.44	3.13	3.31	2.56	2.00	1.50	0.13	0.38	4.31	0.38	Determined by Customer Specifications	
1 1/2	7,560	5,000	1.625	42	0.63	3.75	3.75	3.31	2.38	1.81	0.13	0.50	5.38	0.63		
2	20,160	4,200	2.125	56	0.73	4.25	4.75	3.44	3.25	2.06	0.13	0.50	5.75	0.56		
2 1/2	30,240	3,750	2.625	70	0.88	4.75	5.50	3.88	3.94	2.25	0.25	0.75	6.41	0.69		
3	50,400	3,000	3.125	84	1.19	5.50	6.63	4.63	4.75	2.63	0.25	0.75	7.69	0.75		
3 1/2	88,200	2,800	3.625	97	1.25	8.75	7.50	4.88	5.38	4.25	0.25	0.75	9.63	0.81		
4	126,000	2,400	4.125	111	1.75	9.00	8.75	5.81	6.25	4.38	0.25	0.75	10.69	1.00		
4 1/2	183,960	2,200	4.750	130	2.38	10.25	9.50	5.94	7.25	5.00	0.25	0.75	11.44	1.00		
5	270,900	2,100	5.750	160	2.88	12.25	10.75	7.50	8.25	6.00	0.25	0.75	14.00	1.50		
6	378,000	2,000	6.625	186	3.88	13.00	12.25	8.56	9.50	6.38	0.25	0.75	15.44	1.88		

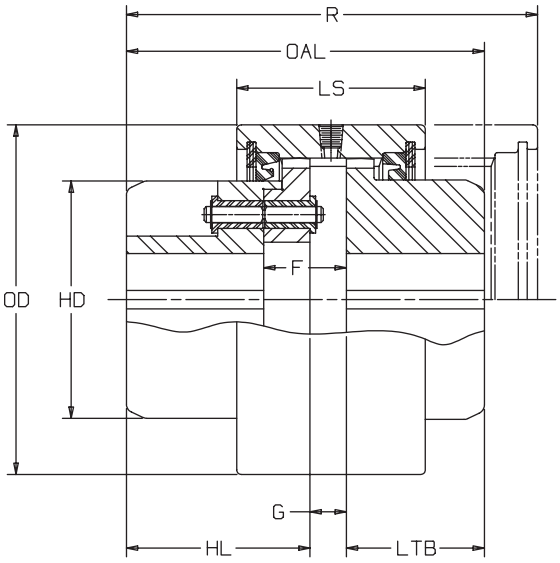
Notes:
1. Larger sizes are available – consult Lovejoy Engineering.
2. Draw-off holes are available at an additional charge on sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
3. May be any dimension between G and G1.
4. T—Length of travel to disengage sleeve.
5. For Performance Data see pages G-18 and G-19.

When ordering, please specify:

1. Required inside diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and horsepower of driving unit.
4. Dimensions of shifter lever groove (W and OD dimensions).
5. Which hub will be on stationary shaft when coupling is disengaged.
6. Complete application details if it is desired to disengage coupling while operating under load.

Lovejoy/Sier-Bath Continuous Sleeve Series Shear Pin Type – "CSHP"

The Shear Pin coupling is designed to prevent damage to connected equipment resulting from excessive torque or sudden shock. The shear pins in the Lovejoy coupling are manufactured to shear at predetermined loads which are specified by the customer. New pins may be quickly inserted.



Size CSHP	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore std. or rigid hub sq. key inch	Maximum Bore std. or rigid hub metric key mm	Maximum Bore Shear hub sq. key inch	Maximum Bore Shear hub metric key mm	Minimum Bore inch	OAL inch	OD inch	LS inch	HD inch	LTB inch	HL inch	F inch	G inch	R inch
1 1/2	7,560	5,000	1.625	42	0.938	24	0.63	4.38	3.75	2.53	2.38	1.63	2.25	1.13	0.50	5.28
2	20,160	4,200	2.125	56	1.500	38	0.73	4.88	4.75	2.56	3.25	1.88	2.50	1.13	0.50	5.56
2 1/2	30,240	3,750	2.625	70	1.750	44	0.88	5.44	5.50	3.06	3.94	2.00	2.69	1.50	0.75	6.50
3	50,400	3,000	3.125	84	2.250	57	1.19	6.38	6.63	3.75	4.75	2.38	3.25	1.63	0.75	7.75
3 1/2	88,200	2,800	3.625	97	2.625	66	1.25	8.13	7.50	4.00	5.38	4.00	3.38	1.75	0.75	8.13
4	126,000	2,400	4.125	111	3.625	92	1.75	9.00	8.75	4.63	6.25	4.13	4.13	2.00	0.75	9.50
4 1/2	183,960	2,200	4.750	130	4.125	104	2.38	9.75	9.50	4.88	7.25	4.75	4.25	2.00	0.75	9.88
5	270,900	2,100	5.750	160	4.500	114	2.88	11.50	10.75	5.75	8.25	5.75	5.00	2.25	0.75	11.50
6	378,000	2,000	6.625	186	5.875	149	3.88	13.00	12.25	6.50	9.50	6.13	6.13	2.88	0.75	13.13

Notes:
1. Larger sizes are available – consult Lovejoy Engineering.
2. Draw-off holes are available at an additional charge on sizes $^{7}/_{8}$ through $3^{1}/_{2}$. They are standard on sizes 4 and up.
3. For Performance Data see pages G-18 and G-19.

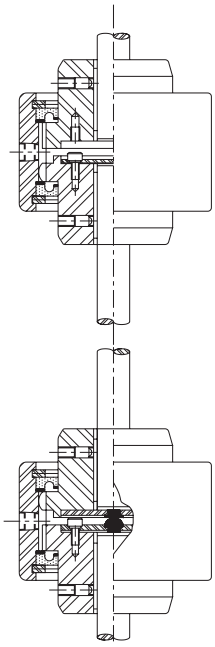
When ordering, please specify:

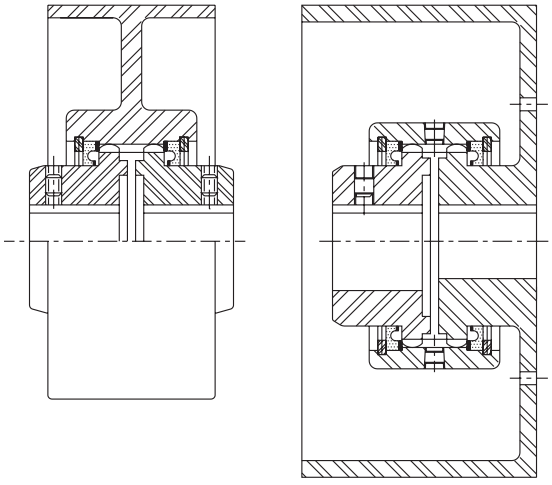
1. Required inside diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and horsepower of driving unit.
4. Complete operational data of application.
5. Which is shear hub, and torque at which pins are to shear.

Lovejoy/Sier-Bath Continuous Sleeve Series Special Couplings

Vertical Floating Shaft Type

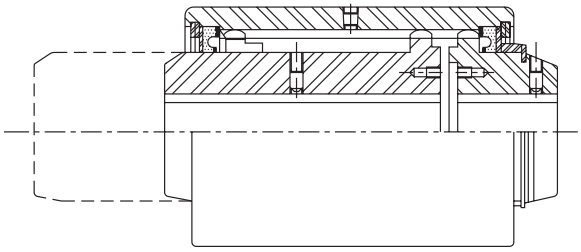
Upper coupling is Standard Vertical Type. Lower coupling has hardened crowned button inserted in plate of lower hub and hardened flat button inserted in plate of upper hub. The entire floating assembly rests on these two buttons, which carry the weight of the floating assembly, maintain the spacing between the two lower hubs, and allow for flexibility. The hubs on the floating assembly are flexible, and the hubs of the driver and driven shafts are rigid.





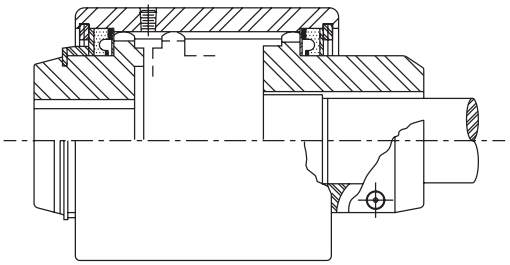
Brakedrum Type

Two different designs of brakedrum couplings are illustrated. One shows the brakedrum as an 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.



Sliding Hub Type

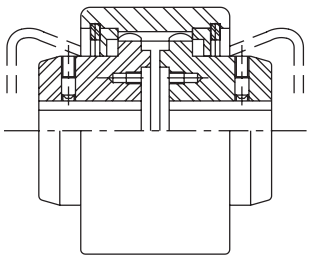
The sleeve is longer than standard and is designed to allow for a predetermined amount of axial travel on one shaft. The short hub is secured to the sleeve by means of a spacer washer and snap ring, which prevent travel. This type is also manufactured to allow for travel of both hubs in the sleeve. This coupling also available with a rigid type short hub.



Jordan Type

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

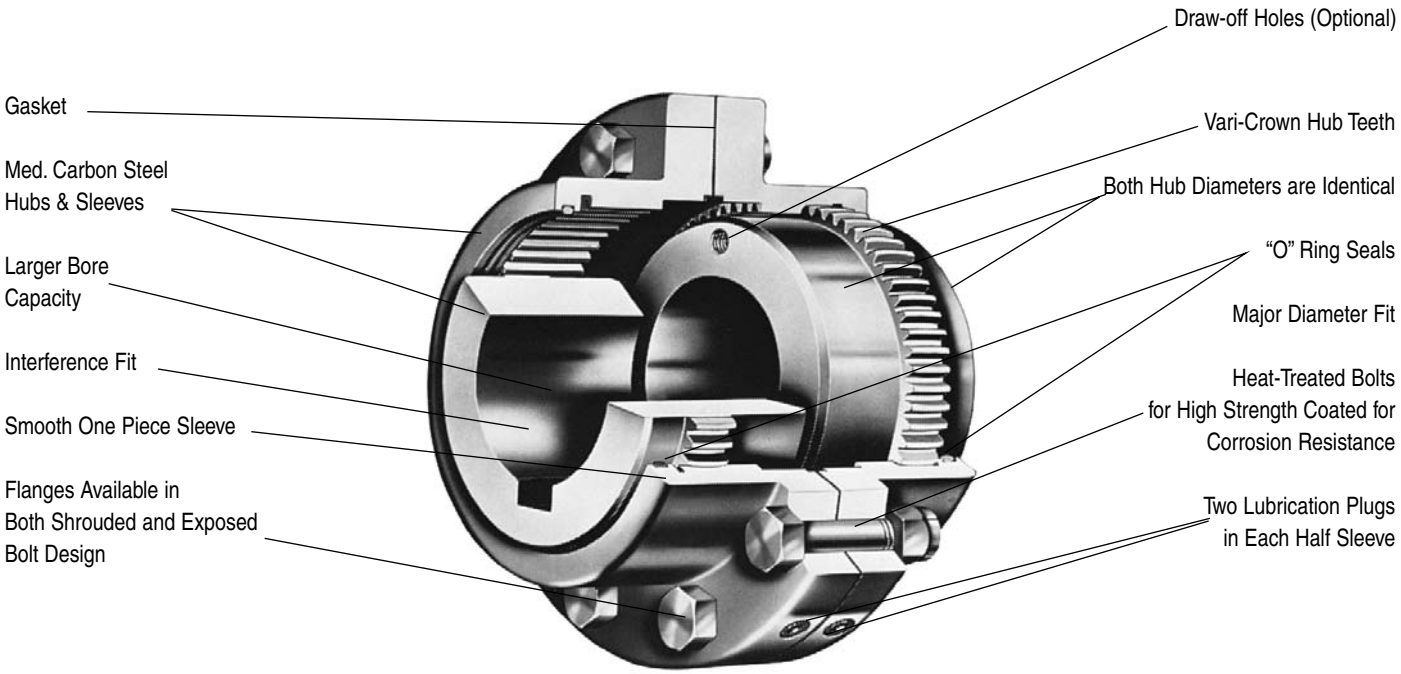
Note: Only a few special types of couplings are illustrated.



Continuous Lubricated Type

Adapted from our Standard Type, except the standard seals have been replaced with 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.

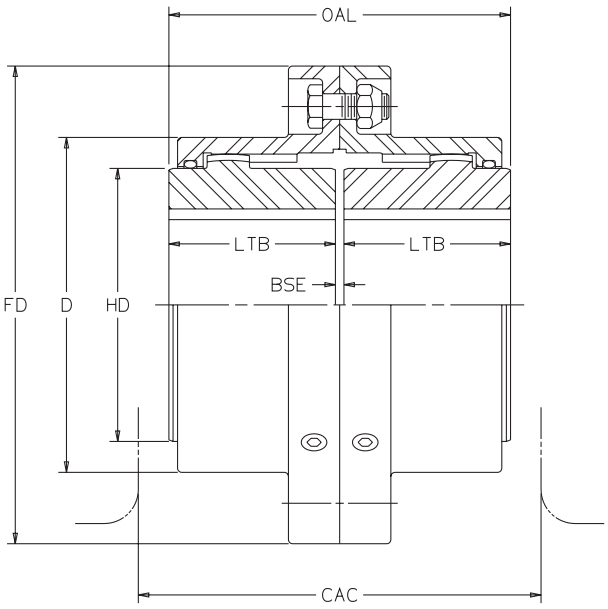
Lovejoy/Sier-Bath Flanged Sleeve Series

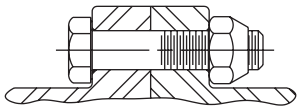


Lovejoy/Sier-Bath Flanged Sleeve Series —"F"

Double Engagement (Flex – Flex)

The standard "F" is the basis for the other models in the Flanged Sleeve Series. It provides standard double engagement for parallel misalignment, angular misalignment, and end float.





EXPOSED BOLT DESIGN
ALSO AVAILABLE

Size F	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTB inch	BSE inch	CAC inch
1	7,600	6,000	1.625	42	0.44	3.50	4.56	3.06	2.31	1.69	0.13	4.19
1 1/2	18,900	5,500	2.125	56	0.69	4.00	6.00	3.97	3.00	1.94	0.13	4.75
2	31,500	5,000	2.750	73	0.94	5.00	7.00	4.91	4.00	2.44	0.13	6.00
2 1/2	56,700	4,400	3.250	88	1.44	6.25	8.38	5.91	4.63	3.03	0.19	7.13
3	94,500	4,000	4.000	107	1.44	7.38	9.44	6.91	5.63	3.59	0.19	8.13
3 1/2	151,200	3,500	4.625	124	1.81	8.63	11.00	7.91	6.50	4.19	0.25	9.38
4	220,500	3,000	5.375	147	2.44	9.75	12.50	9.25	7.50	4.75	0.25	10.25
4 1/2	302,400	2,700	6.000	167	3.00	10.94	13.63	10.38	8.50	5.31	0.31	11.50
5	434,700	2,500	6.500	176	3.00	12.38	15.31	11.56	9.50	6.03	0.31	13.00
5 1/2	573,300	2,200	7.375	202	4.00	14.13	16.75	12.81	10.50	6.91	0.31	14.38
6	749,700	2,100	8.000	225	4.00	15.13	18.00	14.00	11.50	7.41	0.31	17.00
7	1,008,400	2,000	9.000	254	5.00	17.75	20.75	15.75	13.00	8.69	0.38	20.00
8	1,323,500	1,900	11.000	312	6.00	22.38	23.25	18.50	15.50	11.00	0.38	25.00
9	1,827,700	1,800	12.000	340	7.00	23.50	26.00	20.38	17.00	11.50	0.50	26.50

Notes:

1. Shrouded bolts are standard on sizes 1 through $5^{1}/_{2}$. Exposed bolts are standard on sizes 6 through 9.
2. Draw off holes are available at an additional charge on sizes F1 through $3^{1}/_{2}$. They are standard on sizes 4 and up.
3. For Performance Data see pages G-19 and G-20.

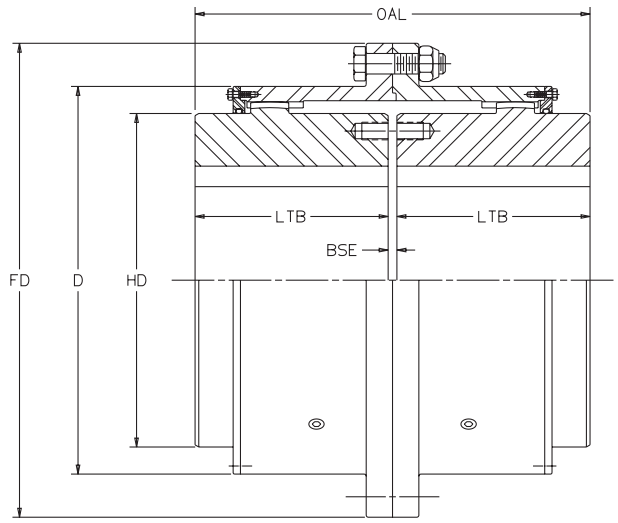
When ordering, please specify:

1. Required bore diameter of both hubs, with tolerance.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and Horsepower of driving unit.

Lovejoy/Sier-Bath Flanged Sleeve Series Standard Heavy Duty Type — "FHD"

Double Engagement (Flex–Flex)

Similar in design to the standard "F", these larger sizes satisfy high-torque low-speed applications such as those that occur in mill operations.



Size FHD	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore 2-sq. Keys inch	OAL inch	FD inch	D inch	HD inch	LTB inch	BSE inch
7+	1,008,400	2,000	9.75	17.75	20.75	15.75	13.00	8.69	0.38
8+	1,323,500	1,900	11.00	22.38	23.25	18.50	15.50	11.00	0.38
9+	1,827,700	1,800	12.00	23.50	26.00	20.38	17.00	11.50	0.50
10	2,521,000	1,550	14.00	24.50	28.00	22.38	18.50	12.00	0.50
11	3,466,000	1,400	16.25	26.75	30.50	24.50	21.00	13.13	0.50
12	4,412,000	1,300	17.25	28.25	33.00	26.63	22.75	13.88	0.50
13	5,294,000	1,150	19.00	30.00	35.75	28.88	24.75	14.63	0.75
14	6,429,000	1,050	20.25	31.75	38.00	31.00	26.50	15.50	0.75
15	7,752,000	900	21.50	33.75	40.50	33.13	28.50	16.50	0.75
16	9,454,000	800	23.25	35.75	43.00	35.13	30.38	17.38	1.00
18	12,605,000	550	26.00	37.00	47.25	39.25	34.25	18.00	1.00
20	17,017,000	450	29.00	43.25	53.50	43.50	38.00	21.13	1.00
22	21,429,000	380	32.25	47.00	59.00	47.63	41.81	23.00	1.00
24	26,471,000	325	35.00	50.50	64.25	51.75	45.50	24.75	1.00
26	32,773,000	280	39.25	54.00	68.50	55.88	49.38	26.50	1.00
28	39,076,000	240	41.00	55.25	73.75	60.00	53.00	27.13	1.00
30	47,269,000	220	44.00	56.25	78.00	64.13	57.00	27.63	1.00

Notes:

1. \+ indicates end cap seal design as shown. Specify FHD and size for this design, otherwise these sizes will be supplied as shown on page G-34.
2. Exposed bolts are standard on sizes 7 through 30.
3. For Performance Data see pages G-21 and G-22.

When ordering, please specify:

1. Required bore diameter of both hubs, with tolerance.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and Horsepower of driving unit.

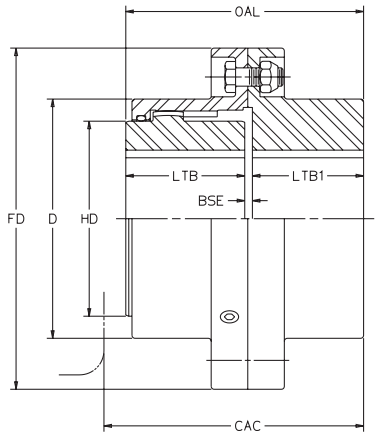
Lovejoy/Sier-Bath Flanged Sleeve Series
Flex – Rigid and Floating Shaft Type — "FFR" and "FFS"

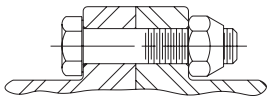
Single Engagement (Flex-Rigid)

Single Engagement type couplings consist of a flexible and a rigid half. These couplings only accommodate angular misalignment. Single Engagement type gear couplings are most commonly used in floating shaft applications. The floating shaft configuration allows removal of the center assembly for ease of maintenance without repositioning machinery. Also, rigid hubs can accommodate larger shaft diameters than the flex hub when additional bore capacity is required.

G

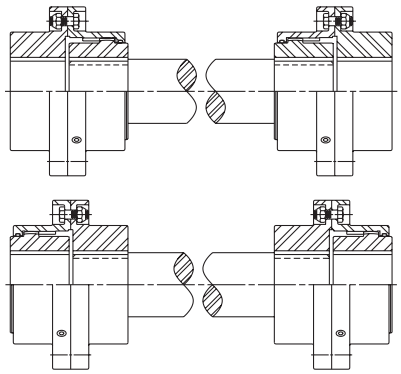
Single Engagement
Flex-Rigid
(FFR)





EXPOSED BOLT DESIGN
ALSO AVAILABLE

Floating Shaft (FFS)



MAXIMUM RPM OF FLOATING SHAFT SET DETERMINED BY CRITICAL SPEED OF FLOATING SHAFT.

Size FFR FFS	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore Flex Hub sq. key inch	Maximum Bore Flex Hub metric key mm	Maximum Bore Rigid Hub red key inch	Maximum Bore Rigid Hub metric key mm	Minimum Bore Flex Hub inch	Minimum Bore Rigid Hub inch	OAL inch	FD inch	D inch	HD inch	LTB inch	LTB1 inch	BSE inch	CAC inch
1	7,600	6,000	1.625	42	2.250	56	0.44		3.41	4.56	3.06	2.31	1.69	1.56	0.16	3.75
1 1/2	18,900	5,500	2.125	56	3.062	76	0.69		3.94	6.00	3.97	3.00	1.94	1.84	0.16	4.31
2	31,500	5,000	2.750	73	3.750	95	0.94		4.88	7.00	4.91	4.00	2.44	2.28	0.16	5.38
2 1/2	56,700	4,400	3.250	88	4.500	114	1.44		6.13	8.38	5.91	4.63	3.03	2.91	0.19	6.56
3	94,500	4,000	4.000	107	5.250	134	1.44		7.19	9.44	6.91	5.63	3.59	3.41	0.19	7.56
3 1/2	151,200	3,500	4.625	124	5.875	150	1.81		8.38	11.00	7.91	6.50	4.19	3.97	0.22	8.75
4	220,500	3,000	5.375	147	6.500	176	2.44		9.50	12.50	9.25	7.50	4.75	4.44	0.31	9.75
4 1/2	302,400	2,700	6.000	167	7.625	202	3.00		10.69	13.63	10.38	8.50	5.31	5.03	0.34	11.00
5	434,700	2,500	6.500	176	8.750	231	3.00	4.00	12.06	15.31	11.56	9.50	6.03	5.69	0.34	12.38
5 1/2	573,300	2,200	7.375	202	9.750	260	4.00	4.50	13.41	16.75	12.81	10.50	6.91	6.16	0.34	13.50
6	749,700	2,100	8.000	225	10.750	288	4.00	5.00	15.22	18.00	14.00	11.50	7.41	7.41	0.41	16.19
7	1,008,400	2,000	9.000	254	12.000	318	5.00	5.50	17.88	20.75	15.75	13.00	8.69	8.69	0.50	19.00
8	1,323,500	1,900	11.000	312	14.250	380	6.00	6.50	22.50	23.25	18.50	15.50	11.00	11.00	0.50	23.81
9	1,827,700	1,800	12.000	340	15.750	418	7.00	7.50	23.56	26.00	20.38	17.00	11.50	11.50	0.56	25.06

Solid w/Centers

Notes:
1. Shrouded bolts are standard on sizes 1 through $5^1/_2$. Exposed bolts are standard on sizes 6 through 9.
2. FFR is used for Single Engagement Flex-Rigid.
3. FFS is used for Floating Shaft.
4. For Performance Data see pages G-19 and G-20.

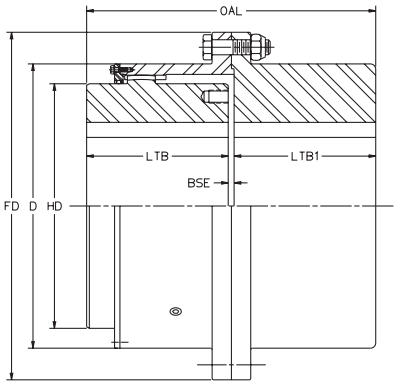
When ordering, please specify:

1. Required bore diameter of both hubs, with tolerances.
2. Indicate which bore is for Flex Hub and which is for Rigid Hub.
3. Sizes of keyways, if desired. Set screws not supplied unless specified.
4. Speed and horsepower of driving unit.
5. If two Single Engagement couplings are to be used as a Floating Shaft set, submit drawing if available.
6. Shaft separation—exact distance between connected shaft ends required if floating shaft is to be supplied by Lovejoy.
7. Floating Shaft type supplied less shaft unless otherwise specified.

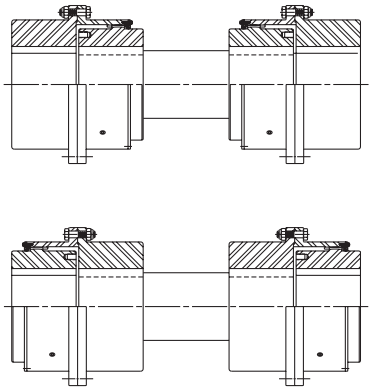
Lovejoy/Sier-Bath Flanged Sleeve Series Heavy Duty Flex – Rigid and Floating Shaft Type — "FHDFR" and "FHDFS"

Single Engagement (Flex-Rigid)

Similar in design to the standard Flex-Rigid, these larger sizes satisfy high-torque low-speed applications such as those that occur in mill operations.



"FHDFR"



MAXIMUM RPM OF FLOATING SHAFT SET DETERMINED BY CRITICAL SPEED OF FLOATING SHAFT.

"FHDFS"

Size FHDFR FHDFS	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore 2-sq. Keys Flex Hub inch	Maximum Bore 2-sq. Keys Rigid Hub inch	OAL inch	FD inch	D inch	HD inch	LTB inch	LTB1 inch	BSE inch
7+	1,008,400	2,000	9.75	12.25	17.81	20.75	15.75	13.00	8.69	8.69	0.50
8+	1,323,500	1,900	11.00	14.50	22.50	23.25	18.50	15.50	11.00	11.00	0.50
9+	1,827,700	1,800	12.00	16.25	23.56	26.00	20.38	17.00	11.50	11.50	0.56
10	2,521,000	1,550	14.00	17.75	24.63	28.00	22.38	18.50	12.00	12.00	0.63
11	3,466,000	1,400	16.25	19.50	26.88	30.50	24.50	21.00	13.13	13.13	0.63
12	4,412,000	1,300	17.25	21.00	28.38	33.00	26.63	22.75	13.88	13.88	0.63
13	5,294,000	1,150	19.00	23.00	30.00	35.75	28.88	24.75	14.63	14.63	0.75
14	6,429,000	1,050	20.25	25.00	31.75	38.00	31.00	26.50	15.50	15.50	0.75
15	7,752,000	900	21.50	26.50	33.75	40.50	33.13	28.50	16.50	16.50	0.75
16	9,454,000	800	23.25	28.00	35.75	43.00	35.13	30.38	17.38	17.38	1.00
18	12,605,000	550	26.00	31.50	37.00	47.25	39.25	34.25	18.00	18.00	1.00
20	17,017,000	450	29.00	34.75	43.25	53.50	43.50	38.00	21.13	21.13	1.00
22	21,429,000	380	32.25	38.50	47.13	59.00	47.63	41.81	23.00	23.00	1.13
24	26,471,000	325	35.00	41.50	50.63	64.25	51.75	45.50	24.75	24.75	1.13
26	32,773,000	280	39.25	45.00	54.13	68.50	55.88	49.38	26.50	26.50	1.13
28	39,076,000	240	41.00	48.50	55.38	73.75	60.00	53.00	27.13	27.13	1.13
30	47,269,000	220	44.00	52.50	56.38	78.00	64.13	57.00	27.63	27.63	1.13

Notes: **1.** + indicates end cap seal design as shown. Specify FHDFR or FHDFS and size for this design, otherwise these sizes will be supplied as shown on page G-34.

2. Exposed bolts are standard on sizes 7 through 30.

3. For Performance Data see pages G-21.

When ordering, please specify:

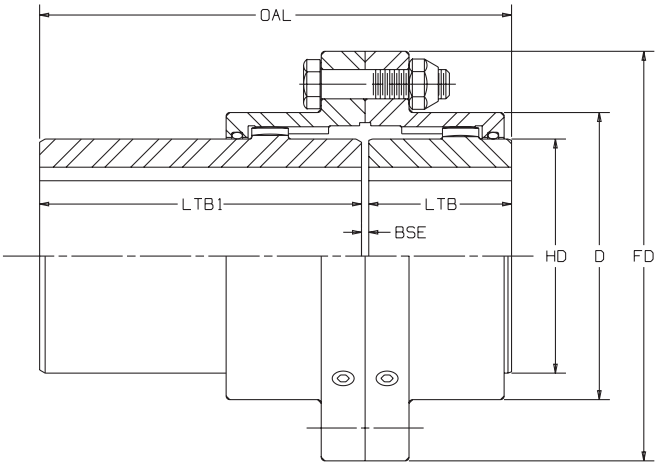
1. Required bore diameter of both hubs, with tolerances.

2. Sizes of keyways, if desired. Set screws not supplied unless specified.

3. Speed and Horsepower of driving unit.

Lovejoy/Sier-Bath Flanged Sleeve Series Mill Motor Type – "FMM"

Designed specifically for mill type motors with tapered shafts. The sleeves and one hub are standard, the other hub is taper bored to customer specifications and cut off for the nut on end of the motor shaft.



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Size FMM	Torque Rating in-lbs..	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTD inch	LTB[1] max. inch	BSE inch
1	7,600	6,000	1.625	42	0.44	5.81	4.56	3.06	2.31	1.69	4.00	0.13
1 1/2	18,900	5,500	2.125	56	0.69	6.56	6.00	3.97	3.00	1.94	4.50	0.13
2	31,500	5,000	2.750	73	0.94	8.06	7.00	4.91	4.00	2.44	5.50	0.13
2 1/2	56,700	4,400	3.250	88	1.44	9.72	8.38	5.91	4.63	3.03	6.50	0.19
3	94,500	4,000	4.000	107	1.44	10.78	9.44	6.91	5.63	3.59	7.00	0.19
3 1/2	151,200	3,500	4.625	124	1.81	11.94	11.00	7.91	6.50	4.19	7.50	0.25
4	220,500	3,000	5.375	147	2.44	13.25	12.50	9.25	7.50	4.75	8.25	0.25
4 1/2	302,400	2,700	6.000	167	3.00	14.63	13.63	10.38	8.50	5.31	9.00	0.31
5	434,700	2,500	6.500	176	3.00	15.84	15.31	11.56	9.50	6.03	9.50	0.31
5 1/2	573,300	2,200	7.375	202	4.00	17.72	16.75	12.81	10.50	6.91	10.50	0.31
6	749,700	2,100	8.000	225	4.00	18.97	18.00	14.00	11.50	7.41	11.25	0.31

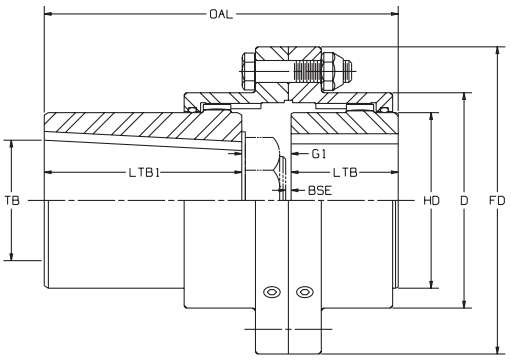
Notes:

1. LTB1 Dimensions shown are maximum lengths of Universal Hubs kept in stock and altered to customer's specifications. Longer length hubs are made to order.
2. Dimension G1 shown on page G-36.
3. For Performance Data see pages G-19 and G-20.

When ordering, please specify:

1. Required bore diameter of both hubs, with tolerance. Include dimensions of large end and small end of bore.
2. Taper per foot and length of tapered portion of shaft.
3. Sizes of keyways, if desired. Specify if they are parallel to the center line of the shaft or parallel to the bore. Set screws not supplied unless specified.
4. Speed and horsepower of driving unit.
5. Specify counter bore dimensions if desired.
6. Submit drawing if available.
7. Mill motor frame size if applicable.

Lovejoy/Sier-Bath Flanged Sleeve Series
Mill Motor Type — "FMM"

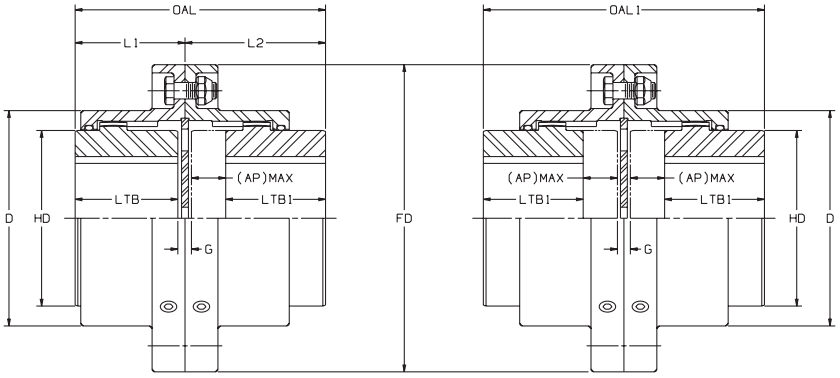


Size	AISE Frame	OAL	LTB	LTB1	G1	TB[2]	MM Hub Keyway W	MM Hub Keyway H
FMM	No.	inch	inch	inch	inch	inch	inch	inch
1½	602/802	6.00	1.94	3.00	1.06+	1.7485-1.7495	0.50	0.25
	603/803	6.56		3.50	1.13+	1.998-1.999	0.50	0.25
	604/804	6.56		3.50	1.13+	1.998-1.999	0.50	0.25
2	603/803	7.06	2.44	3.50	1.13	1.998-1.999	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
2½	603/803	7.72	3.03	3.50	1.19	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
	608/808	8.34		4.50	1.44	2.998-2.999	0.75	0.25
3	606/806	8.91	3.59	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
	610/810	9.66		4.50	1.56	3.248-3.249	0.75	0.25
	612/812	10.28		5.00	1.69	3.623-3.624	0.75	0.25
3½	608/808	10.19	4.19	4.50	1.50	2.998-2.999	0.75	0.25
	610/810	10.31		4.50	1.63	3.248-3.249	0.75	0.25
	612/812	10.94		5.00	1.75	3.623-3.624	0.75	0.25
	614/814	11.06		5.00	1.88	4.2470-4.2485	1.00	0.38
4	610/810	10.88	4.75	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
	614/814	11.63		5.00	1.88	4.2470-4.2485	1.00	0.38
	616/816	12.25		5.50	2.00	4.6220-4.6235	1.25	0.38
	618/818	12.31		6.00	1.56	4.9970-4.9985	1.25	0.50
4½	614/814	12.25	5.31	5.00	1.94	4.2470-4.2485	1.00	0.38
	616/816	12.88		5.50	2.06	4.6220-4.6235	1.25	0.38
	618/818	12.94		6.00	1.63	4.9970-4.9985	1.25	0.50
5	614/814	12.97	6.03	5.00	1.94	4.2470-4.2485	1.00	0.38
	616/816	13.59		5.50	2.06	4.6220-4.6235	1.25	0.38
	618/818	13.66		6.00	1.63	4.9970-4.9985	1.25	0.50
	620	14.84		6.75	2.06	5.8720-5.8735	1.50	0.75
5½	616/816	14.47	6.91	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
	620	15.72		6.75	2.06	5.8720-5.8735	1.50	0.75
	622	16.84		7.25	2.69	6.2470-6.2485	1.50	0.75
6	616/816	14.97	7.41	5.50	2.06	4.6220-4.6235	1.25	0.38
	618/818	15.03		6.00	1.63	4.9970-4.9985	1.25	0.50
	620	16.22		6.75	2.06	5.8720-5.8735	1.50	0.75
	622	17.34		7.25	2.69	6.2470-6.2485	1.50	0.75

Notes: **1.** + indicates that a counterbore is required.
2. Bore taper is 1¼″ per foot on diameter
3. For Performance Data see pages G-19 to G-20.

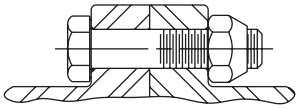
Lovejoy/Sier-Bath Flanged Sleeve Series Slide Type – "FSL"

By utilizing standard and/or modified gear coupling parts, Slide couplings can be assembled to suit a wide range of axial movement. The basic coupling consists of two long tooth sleeve assemblies, standard hubs and/or modified mill motor hubs and a center plate. The plates are provided with lube holes so that both halves of the coupling will be adequately lubricated.



1 HUB REVERSED AND MODIFIED.

2 HUBS REVERSED AND MODIFIED.



EXPOSED BOLT DESIGN ALSO AVAILABLE

Size FSL	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL 1 Hub Reversed inch	OAL1 2 Hubs Reversed inch	FD inch	D inch	HD inch	LTB std. inch	LTB1 slide hub inch	L1 std. inch	L2 slide half inch	G min. inch	AP Max.[1] inch
1	7,600	6,000	1.625	42	0.44	3.81	4.13	4.56	3.06	2.31	1.59	1.50	1.75	2.06	0.31	0.41
1 1/2	18,900	5,500	2.125	56	0.69	4.25	4.50	6.00	3.97	3.00	1.84	1.75	2.00	2.25	0.31	0.34
2	31,500	5,000	2.750	73	0.94	5.69	6.38	7.00	4.91	4.00	2.34	2.25	2.50	3.19	0.31	0.78
2 1/2	56,700	4,400	3.250	88	1.44	7.03	7.81	8.38	5.91	4.63	2.94	2.78	3.13	3.91	0.38	0.94
3	94,500	4,000	4.000	107	1.44	8.03	8.69	9.44	6.91	5.63	3.50	3.13	3.69	4.34	0.38	1.03
3 1/2	151,200	3,500	4.625	124	1.81	9.19	9.75	11.00	7.91	6.50	4.09	3.59	4.31	4.88	0.44	1.06
4	220,500	3,000	5.375	147	2.44	10.44	11.13	12.50	9.25	7.50	4.56	3.94	4.88	5.56	0.63	1.31
4 1/2	302,400	2,700	6.000	167	3.00	12.00	13.06	13.63	10.38	8.50	5.13	4.50	5.47	6.53	0.69	1.69
5	434,700	2,500	6.500	176	3.00	13.72	15.06	15.31	11.56	9.50	5.84	5.22	6.19	7.53	0.69	1.97
5 1/2	573,300	2,200	7.375	202	4.00	15.34	16.56	16.75	12.81	10.50	6.72	5.88	7.06	8.28	0.69	2.06
6	749,700	2,100	8.000	225	4.00	16.53	17.94	18.00	14.00	11.50	7.16	7.09	7.56	8.97	0.81	1.47
7	1,008,400	2,000	9.000	254	5.00	19.06	20.38	20.75	15.75	13.00	8.38	7.78	8.88	10.19	1.00	1.91

Notes:

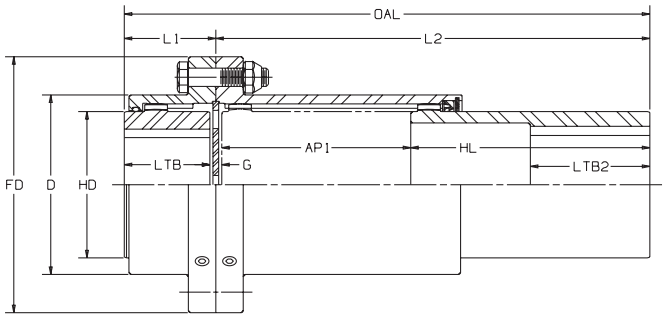
1. AP Max. = Maximum slide per half coupling.
2. Shrouded bolts are standard on sizes 1 through $5^{1}/_{2}$. Exposed bolts are standard on sizes 6 & 7.
3. For Performance Data see pages G-19 and G-20.

When ordering, please specify:

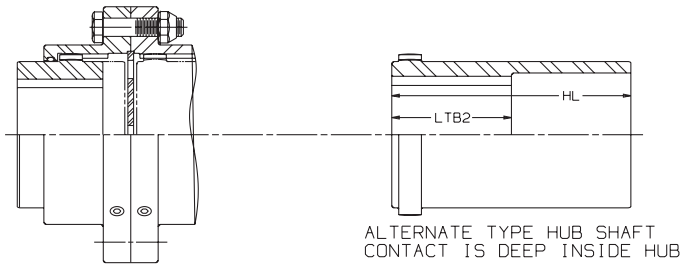
1. Required bore diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless otherwise specified.
3. Speed, horsepower, and application details.
4. Amount of slide required.
5. Maximum–minimum shaft separation.

Lovejoy/Sier-Bath Flanged Sleeve Series Long Slide Type — "FSLX"

By utilizing standard and/or modified gear coupling parts, Slide couplings can be assembled to suit a wide range of axial movement. The basic coupling consists of a standard half and a custom designed long slide half. A center plate is provided with lube holes so that both halves of the coupling will be adequately lubricated.



STANDARD HALF LONG SLIDE HALF



STANDARD HALF WITH SLIDE (SEE PREVIOUS PAGE) REVERSED AND REDUCED HUB.

ALTERNATE TYPE HUB SHAFT CONTACT IS DEEP INSIDE HUB

G

Size FSLX	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTB inch	LTB2 inch	HL inch	L1 inch	L2 inch	G inch	AP1 max. long slide inch	AP2 Max.[3] slide inch	AP3 Max.[4] slide inch
1 1/2	18,900	5,500	2.125	56	0.69	10.41	6.00	3.97	3.00	1.84	2.19	4.88	2.00	8.41	0.31	3.38	3.72	6.75
2	31,500	5,000	2.750	73	0.94	10.88	7.00	4.91	4.00	2.34	2.69	4.91	2.50	8.38	0.31	3.31	4.09	6.63
2 1/2	56,700	4,400	3.250	88	1.44	13.59	8.38	5.91	4.63	2.94	3.28	6.13	3.13	10.47	0.38	4.16	5.09	8.31
3	94,500	4,000	4.000	107	1.44	21.72	9.44	6.91	5.63	3.50	3.84	10.06	3.69	18.03	0.38	7.78	8.81	15.56
3 1/2	151,200	3,500	4.625	124	1.81	22.38	11.00	7.91	6.50	4.09	4.44	10.19	4.31	18.06	0.44	7.66	8.72	15.31
4	220,500	3,000	5.375	147	2.44	23.00	12.50	9.25	7.50	4.56	5.00	10.31	4.88	18.13	0.63	7.50	8.81	15.00
4 1/2	302,400	2,700	6.000	167	3.00	23.75	13.63	10.38	8.50	5.13	5.56	10.56	5.47	18.28	0.69	7.38	9.06	14.75
5	434,700	2,500	6.500	176	3.00	24.16	15.31	11.56	9.50	5.84	6.28	10.56	6.19	17.97	0.69	7.06	9.03	14.13
5 1/2	573,300	2,200	7.375	202	4.00	25.09	16.75	12.81	10.50	6.72	6.88	10.88	7.06	18.03	0.69	6.81	8.88	13.63
6	749,700	2,100	8.000	225	4.00	25.66	18.00	14.00	11.50	7.16	7.66	10.88	7.56	18.09	0.81	6.81	8.28	13.63
7	1,008,400	2,000	9.000	254	5.00	27.06	20.75	15.75	13.00	8.38	8.94	10.88	8.88	18.19	1.00	6.81	8.72	13.63

Notes:

1. Shrouded bolts are standard on sizes $1^1/_2$ through $5^1/_2$. Exposed bolts are standard on sizes 6 and 7.

2. Longer slide available in all sizes. Consult Lovejoy.

3. AP2 Max. = Standard half with slide one side, long slide other.

4. AP3 Max. = Both halves with long slide.

5. For Performance Data see pages G-19 and G-20.

When ordering, please specify:

1. Required bore diameter of both hubs, with tolerances.

2. Sizes of keyways, if desired. Set screws not supplied unless otherwise specified.

3. Speed, horsepower, and application details.

4. Amount of slide required.

5. Maximum–minimum shaft separation.

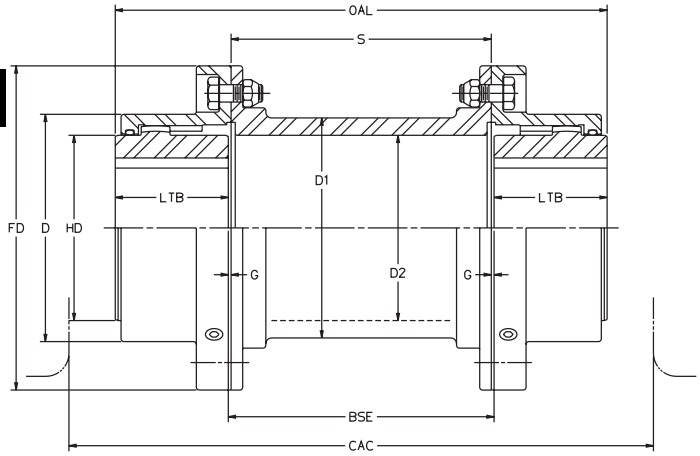
6. HL dimension.

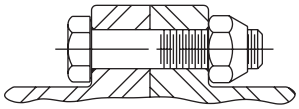
7. LTB2 dimension.

Lovejoy/Sier-Bath Flanged Sleeve Series
Spacer Type – "FSPCR"

Spacer Gear couplings allow additional spacing between shafting where ease of maintenance is required. The spacer allows a number of service functions to be performed while providing room for the removal of the standard coupling half from the shaft without moving the driver or driven units.

This coupling consists of standard full-flex hubs and sleeve assemblies bolted to a flanged spacer. Thus, a wide variety of shaft spacings can be accommodated. Consult Lovejoy for price and delivery for shaft spacings. This coupling has angular and parallel misalignment capabilities in addition to end float.





EXPOSED BOLT DESIGN
ALSO AVAILABLE

Size FSPCR	Torque Rating in-lbs.	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTB inch	G inch	BSE inch	CAC inch	D1 inch	D2 inch	S inch
1	7,600	1.625	42	0.44	Determined by Shaft Separation	4.56	3.06	2.31	1.69	0.06	Determined by Customer Specifications	Determined by Shaft Separation	3.00	2.41	Determined by Shaft Separation
1 1/2	18,900	2.125	56	0.69		6.00	3.97	3.00	1.94	0.06			3.75	3.13	
2	31,500	2.750	73	0.94		7.00	4.91	4.00	2.44	0.06			4.75	4.00	
2 1/2	56,700	3.250	88	1.44		8.38	5.91	4.63	3.03	0.09			5.50	4.78	
3	94,500	4.000	107	1.44		9.44	6.91	5.63	3.59	0.09			6.50	5.75	
3 1/2	151,200	4.625	124	1.81		11.00	7.91	6.50	4.19	0.13			7.38	6.63	
4	220,500	5.375	147	2.44		12.50	9.25	7.50	4.75	0.13			8.63	7.75	
4 1/2	302,400	6.000	167	3.00		13.63	10.38	8.50	5.31	0.16			9.38	8.50	
5	434,700	6.500	176	3.00		15.31	11.56	9.50	6.03	0.16			10.38	9.56	
5 1/2	573,300	7.375	202	4.00		16.75	12.81	10.50	6.91	0.16			11.44	10.56	
6	749,700	8.000	225	4.00		18.00	14.00	11.50	7.41	0.16			12.38	11.44	
7	1,008,400	9.000	254	5.00		20.75	15.75	13.00	8.69	0.19			14.00	13.00	

Notes: **1.** Shrouded bolts are standard on sizes $1^1/_2$ through $5^1/_2$. Exposed bolts are standard on sizes 6 and 7.

2. For Performance Data see pages G-19 to G-20.

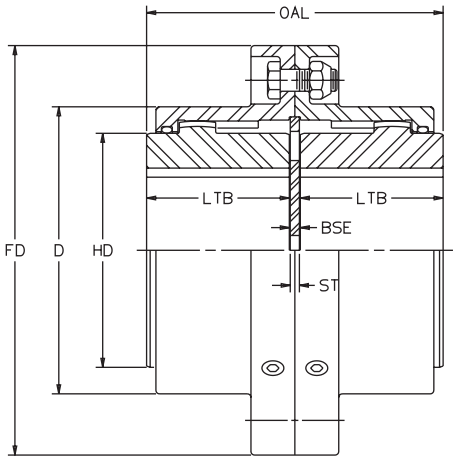
When ordering, please specify:

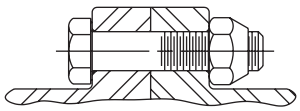
1. Required bore diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed, horsepower and application details.
4. Length of spacer or distance between ends of shafts to be connected.
5. Submit drawing if available.

Lovejoy/Sier-Bath Flanged Sleeve Series Limited End Float Type – "FLEF"

The Limited End Float Gear coupling is used where axial movement must be limited. It is predominately used where end float must be restricted and maintained. For example, in sleeve bearings and rotor systems where thrust is not permitted, the coupling must maintain the position of driving units and driven units.

This coupling uses standard full-flex components with the addition of a steel plate to limit the movement. There is an optional plate with flow-through lube holes.





EXPOSED BOLT DESIGN
ALSO AVAILABLE

Size FLEF	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTD inch	F ref[1] inch	BSE inch	ST inch
1	7,600	6,000	1.625	42	0.44	3.56	4.56	3.06	2.31	1.69	0.13	0.19	0.13
1 1/2	18,900	5,500	2.125	56	0.69	4.06	6.00	3.97	3.00	1.94	0.13	0.19	0.13
2	31,500	5,000	2.750	73	0.94	5.06	7.00	4.91	4.00	2.44	0.13	0.19	0.13
2 1/2	56,700	4,400	3.250	88	1.44	6.34	8.38	5.91	4.63	3.03	0.19	0.28	0.19
3	94,500	4,000	4.000	107	1.44	7.47	9.44	6.91	5.63	3.59	0.19	0.28	0.19
3 1/2	151,200	3,500	4.625	124	1.81	8.69	11.00	7.91	6.50	4.19	0.25	0.31	0.19
4	220,500	3,000	5.375	147	2.44	9.88	12.50	9.25	7.50	4.75	0.25	0.38	0.25
4 1/2	302,400	2,700	6.000	167	3.00	11.06	13.63	10.38	8.50	5.31	0.25	0.44	0.31
5	434,700	2,500	6.500	176	3.00	12.59	15.31	11.56	9.50	6.03	0.31	0.53	0.38
5 1/2	573,300	2,200	7.375	202	4.00	14.34	16.75	12.81	10.50	6.91	0.31	0.53	0.38
6	749,700	2,100	8.000	225	4.00	15.28	18.00	14.00	11.50	7.41	0.31	0.47	0.31
7	1,008,400	2,000	9.000	254	5.00	17.94	20.75	15.75	13.00	8.69	0.38	0.56	0.38

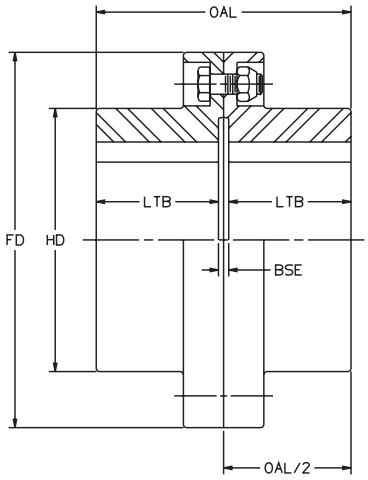
Notes:
1. F is total end float. (May be modified.)
2. Shrouded bolts are standard on sizes 1 through 5 1/2. Exposed bolts are standard on sizes 6 and 7.
3. For Performance Data see pages G-19 and G-20.

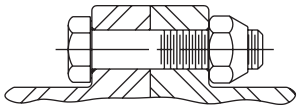
When ordering, please specify:
1. Required bore diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not furnished unless otherwise specified.
3. Speed, horsepower and application details.
4. Amount of thrust on either or both shafts.
5. Amount of end float required.
6. Submit drawing if available.

Lovejoy/Sier-Bath Flanged Sleeve Series Rigid–Rigid Type – "FRR"

Rigid-Rigid type couplings provide a convenient means of rigidly connecting shafts on applications which require no flexing within the coupling. The all-steel construction offers torque capacities which exceed those of mild steel shafts to be coupled.

Flanged style hubs are used with shrouded Grade 5 bolts. Hubs with exposed bolts are available. Rigid coupling halves are used with other style couplings. One such configuration is the Single Engagement Flex-Rigid coupling.





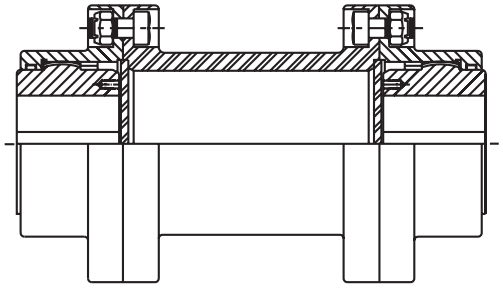
EXPOSED BOLT DESIGN
ALSO AVAILABLE

Size FRR	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore red key inch	Maximum Bore metric key mm	Minimum Bore Rigid Hub inch	OAL inch	FD inch	HD inch	LTB inch	BSE inch
1	7,600	6,000	2.250	56	Solid w/Centers	3.31	4.56	3.06	1.56	0.19
1 1/2	18,900	5,500	3.062	76		3.88	6.00	3.97	1.84	0.19
2	31,500	5,000	3.750	95		4.75	7.00	4.91	2.28	0.19
2 1/2	56,700	4,400	4.500	114		6 .00	8.38	5.91	2.91	0.19
3	94,500	4,000	5.250	134		7.00	9.44	6.91	3.41	0.19
3 1/2	151,200	3,500	5.875	150		8.13	11.00	7.91	3.97	0.19
4	220,500	3,000	6.500	176		9.25	12.50	9.25	4.44	0.38
4 1/2	302,400	2,700	7.625	202		10.44	13.63	10.38	5.03	0.38
5	434,700	2,500	8.750	231	4.00	11.75	15.31	11.56	5.69	0.38
5 1/2	573,300	2,200	9.750	260	4.50	12.69	16.75	12.81	6.16	0.38
6	749,700	2,100	10.750	288	5.00	14.88	18.00	14.00	7.25	0.50
7	1,008,400	2,000	12.000	318	5.50	17.88	20.75	15.75	8.69	0.63

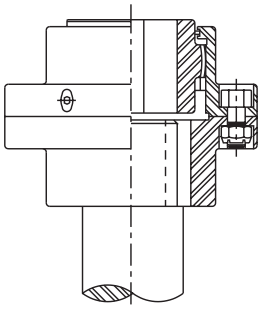
Notes:
1. Shrouded bolts are standard on sizes 1 through $5^{1}/_{2}$. Exposed bolts are standard on sizes 6 and 7.
2. Length of one rigid hub equals one half of OAL.
3. For Performance Data see pages G-19 and G-20.

When ordering, please specify:
1. Required bore diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired. Set screws not furnished unless otherwise specified.
3. Speed, horsepower and application details.
4. Submit drawing if available.

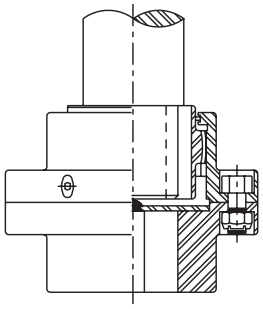
Lovejoy/Sier-Bath Flanged Sleeve Series Special Couplings

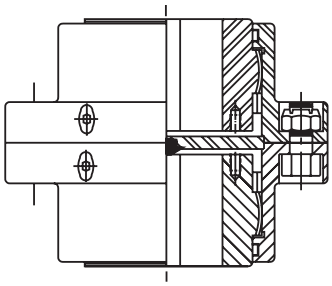


Limited End Float Spacer
The addition of plates restricts axial travel of the drive or driven shaft. The spacer makes it possible to remove the hubs from either shaft without disturbing the connected units.

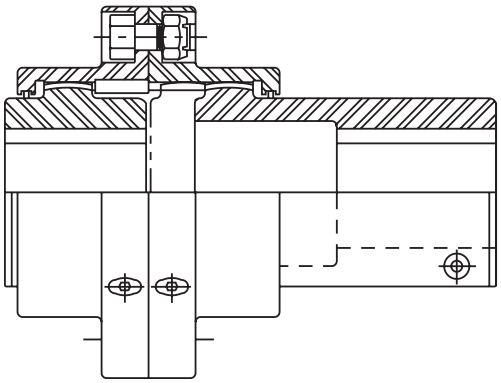


Vertical Floating Shaft
The lower coupling has a hardened crowned button inserted in the plate of the lower hub. The entire floating assembly rests on this button. Optional construction of upper coupling would be a flexible hub on the floating shaft with a rigid hub on top.

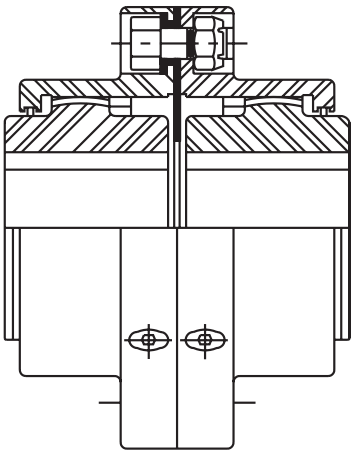




Vertical
This coupling has the same horsepower, RPM and misalignment capacities as standard couplings of corresponding sizes. A plate with a hardened crowned button rests on the lower shaft which supports the weight of the sleeve.



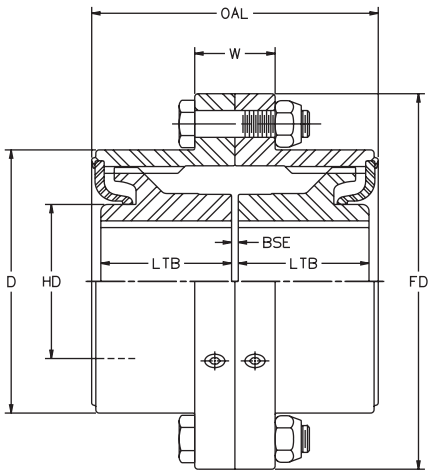
Jordan
Used on Jordan machines and refiners, this design is similar to the slide type, except the long hub is split and secured to the shaft with a bolt clamp. This permits quick axial adjustment of the Jordan shafts in this hub.



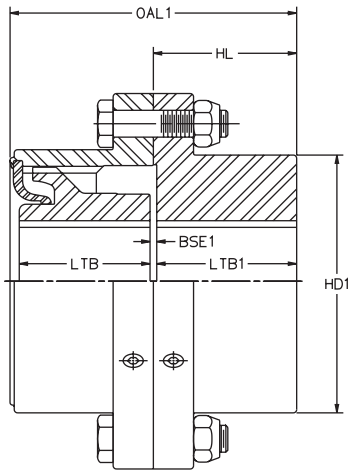
Insulated
Use of a special non–metallic material between flanges and around bolts prevents passage of stray currents from one shaft to the other.

Lovejoy/Sier-Bath All-Metal Labyrinth Seal Series Standard Type — "FLA" and "FLAFR"

Fully interchangeable with industry standard, the FL uses an all metal labyrinth seal. It is made from 4140 alloy steel.



Double Engagement Flex-Flex (FF)



Single Engagement Flex-Rigid (FR)

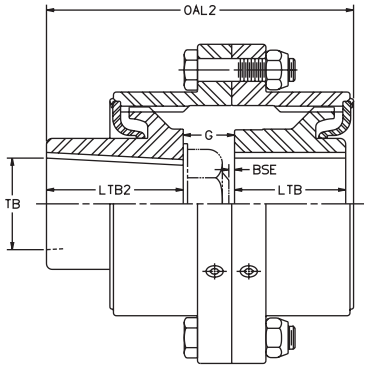
Size FLA FLAFR	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	FD inch	D inch	HD inch	HD1 inch	BSE inch	BSE1 inch	LTB inch	LTB1 inch	OAL inch	OAL1 inch	W inch	HL inch	C/L-C/L of teeth inch	Draw-off Holes inch
1 1/2	15,000	12,000	1.625	41	0.38	6.00	3.97	2.19	3.97	0.13	0.16	1.94	1.84	4.19	4.03	1.50	1.94	3.25	1/4-20
2	35,500	9,300	2.125	53	0.50	7.00	4.91	2.88	4.91	0.13	0.16	2.44	2.28	5.19	4.97	1.50	2.38	4.00	3/8-16
2 1/2	69,250	7,900	2.750	69	0.75	8.38	5.91	3.63	5.91	0.19	0.19	3.03	2.91	6.44	6.22	1.75	3.00	5.00	1/2-13
3	118,875	6,800	3.125	79	1.13	9.44	6.91	4.25	6.91	0.19	0.19	3.59	3.41	7.69	7.41	1.75	3.50	6.00	5/8-11
3 1/2	188,750	6,000	3.750	95	1.50	11.00	7.91	5.00	7.91	0.25	0.22	4.19	3.97	8.88	8.56	2.25	4.06	7.00	5/8-11
4	283,750	5,260	4.250	107	1.50	12.50	9.25	5.75	9.25	0.25	0.31	4.75	4.44	10.13	9.69	2.50	4.63	8.00	7/8-9
4 1/2	393,750	4,770	4.750	120	1.50	13.63	10.38	6.50	10.38	0.31	0.34	5.31	5.03	11.38	10.91	2.50	5.22	9.00	1-8
5	551,250	4,300	5.500	139	2.50	15.31	11.56	7.31	11.56	0.31	0.34	6.03	5.69	12.63	12.19	3.00	5.88	10.00	1-8
5 1/2	732,500	3,880	5.875	149	3.00	16.75	12.81	8.00	12.81	0.31	0.34	6.91	6.16	14.13	13.41	1.88	6.34	11.00	1-8
6	952,500	3,600	6.500	165	4.00	18.00	14.00	8.81	14.00	0.31	0.41	7.41	7.41	15.13	15.22	2.00	7.66	12.00	1-8
7	1,512,500	3,000	8.000	203	4.50	20.75	15.75	10.31	15.75	0.38	0.50	8.69	8.69	17.75	17.88	2.25	9.00	14.00	1 1/4-7

Notes:
1. Series FLA are furnished with exposed bolt unless otherwise specified.
2. Draw-off holes are available at an additional charge on sizes $1^1/_2$ through $3^1/_2$. They are standard on sizes 4 and up.
3. For Performance Data see page G-23.

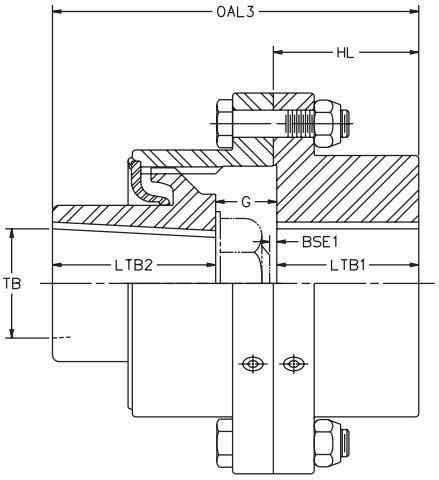
When ordering, please specify:
1. Required bore diameter of both hubs, with tolerance.
2. Sizes of keyways, if desired. Set screws not supplied unless specified.
3. Speed and Horsepower of driving unit.

Lovejoy/Sier-Bath — All-Metal Labyrinth Seal Series
Mill Motor Type — "FLAMM" and "FLAMMFR"

Size FLMM FLMMFR	A.I.S.E. Frame No.	OAL2 inch	OAL3 inch	LTB inch	LTB1 inch	LTB2 inch	G inch	TB[1] inch	MM Hub Keyway W inch	MM Hub Keyway H inch
1½	602/802	6.00	5.91	1.94	1.84	3.00	1.06	1.7485-1.7495	.50	.13
	602/802	6.50	6.34			3.00	1.06	1.7485-1.7495	.50	.25
2	603/803	7.06	6.91	2.44	2.28	3.50	1.13	1.998-1.999	.50	.25
	604/804	7.06	6.91			3.50	1.13	1.998-1.999	.50	.25
	602/802	7.16	7.03			3.00	1.13	1.7485-1.7495	.50	.25
2½	603/803	7.72	7.59	3.03	2.91	3.50	1.19	1.998-1.999	.50	.25
	604/804	7.72	7.59			3.50	1.19	1.998-1.999	.50	.25
	606/806	8.34	8.22			4.00	1.31	2.498-2.499	.50	.25
	602/802	7.72	7.53			3.00	1.13	1.7485-1.7495	.50	.25
	603/803	8.28	8.09			3.50	1.19	1.998-1.999	.50	.25
3	604/804	8.28	8.09	3.59	3.41	3.50	1.19	1.998-1.999	.50	.25
	606/806	8.91	8.72			4.00	1.31	2.498-2.499	.50	.25
	608/808	9.53	9.34			4.50	1.44	2.998-2.999	.75	.25
	610/810	9.66	9.47			4.50	1.56	3.248-3.249	.75	.25
	603/803	8.88	8.66			3.50	1.19	1.998-1.999	.50	.25
	604/804	8.88	8.66			3.50	1.19	1.998-1.999	.50	.25
3½	606/806	9.50	9.28	4.19	3.97	4.00	1.31	2.498-2.499	.50	.25
	608/808	10.13	9.91			4.50	1.44	2.998-2.999	.75	.25
	610/810	10.25	10.03			4.50	1.56	3.248-3.249	.75	.25
	612/812	10.94	10.72			5.00	1.75	3.623-3.624	.75	.25
	606/806	10.13	9.81			4.00	1.38	2.498-2.499	.50	.25
	608/808	10.75	10.44			4.50	1.50	2.998-2.999	.75	.25
4	610/810	10.88	10.56	4.75	4.44	4.50	1.63	3.248-3.249	.75	.25
	612/812	11.50	11.19			5.00	1.75	3.623-3.624	.75	.25
	614/814	11.63	11.31			5.00	1.88	4.2470-4.2485	1.00	.38
	616/816	12.25	11.94			5.00	2.00	4.6220-46235	1.25	.28
	610/810	11.50	11.22			4.50	1.69	3.248-3.249	.75	.25
	612/812	12.12	11.84			5.00	1.81	3.623-3.624	.75	.25
4½	614/814	12.25	11.97	5.31	5.03	5.00	1.94	4.2470-4.2485	1.00	.38
	616/816	12.88	12.59			5.50	2.06	4.6220-4.6235	1.25	.38
	618/818	12.94	12.66			6.00	1.63	4.9970-49985	1.25	.50
	612/812	12.84	12.50			5.00	1.81	3.623-3.624	.75	.25
5	614/814	12.97	12.63	6.03	5.69	5.00	1.94	4.2470-4.2485	1.00	.38
	616/816	13.59	13.25			5.50	2.06	4.6220-4.6235	1.25	.38
	618/818	13.66	13.31			6.00	1.63	4.9970-4.9985	1.25	.50
	616/816	14.47	13.72			5.50	2.06	4.6220-4.6235	1.25	.38
5½	618/818	14.53	13.78	6.91	6.16	6.00	1.63	4.9970-4.9985	1.25	.50
	620	15.72	14.97			6.75	2.06	5.8720-5.8735	1.50	.75
	622	16.84	16.09			7.25	2.69	6.2470-6.2485	1.50	.56
	620	16.22	16.22			6.75	2.06	5.8720-5.8735	1.50	.75
6	622	17.34	17.34	7.41	7.41	7.25	2.69	6.2470-6.2485	1.50	.75
	624	19.34	19.34			9.25	2.69	6.9970-6.9985	1.50	.50
7	622	18.69	18.69	8.69	8.69	7.25	2.75	6.2470-6.2485	1.50	.75
	624	20.69	20.69			9.25	2.75	6.9970-6.9985	1.50	.75



"FLAMM"



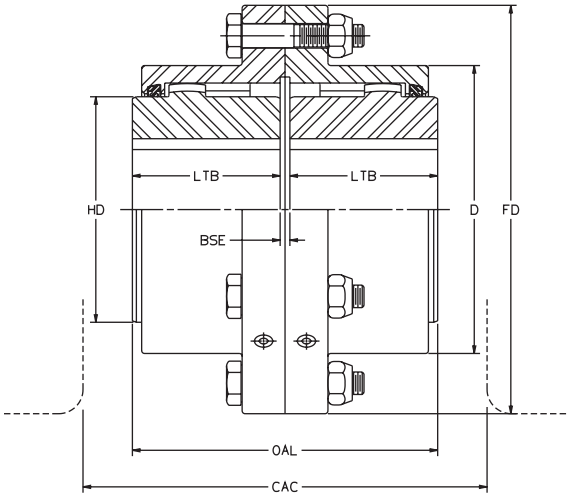
"FLAMMFR"

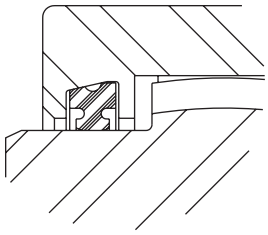
Notes: **1.** Bore taper is 1¼" per foot on diameter.
2. For Performance Data see page G-23.

Lovejoy/Sier-Bath Alloy Steel Series Standard Type — "FA"

Double Engagement (Flex-Flex)

Interchangeable with all other industry standard couplings, it is available in exposed bolts and shrouded bolts. Can be furnished as special. Angular misalignment is possible up to $1^{1}/_{2}^{o}$ per gear mesh. FA Series Couplings are made of 4140 Alloy Steel. Fully molded seals maintain proper lubricant retention during misaligned conditions.





Size FA	Torque Rating in-lbs.	Max Speed Unbalanced RPM	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	OAL inch	FD inch	D inch	HD inch	LTB inch	BSE inch	CAC inch
1	11,300	6,000	1.625	42	0.44	0.50	4.56	3.06	2.31	1.69	0.13	4.19
1 1/2	22,700	5,500	2.125	56	0.69	4.00	6.00	3.97	3.00	1.94	0.13	4.75
2	39,000	5,000	2.750	73	0.94	5.00	7.00	4.91	4.00	2.44	0.13	6.00
2 1/2	69,300	4,400	3.250	88	1.44	6.25	8.38	5.91	4.63	3.03	0.19	7.13
3	118,000	4,000	4.000	107	1.44	7.38	9.44	6.91	5.63	3.59	0.19	8.13
3 1/2	177,000	3,500	4.625	124	1.81	8.63	11.00	7.91	6.50	4.19	0.25	9.38
4	263,400	3,000	5.375	147	2.44	9.75	12.50	9.25	7.50	4.75	0.25	10.25
4 1/2	354,000	2,700	6.000	167	3.00	10.94	13.63	10.38	8.50	5.31	0.31	11.50
5	508,600	2,500	6.500	176	3.00	12.38	15.31	11.56	9.50	6.03	0.31	13.00
5 1/2	670,700	2,200	7.375	202	4.00	14.13	16.75	12.81	10.50	6.91	0.31	14.38
6	877,100	2,100	8.000	225	4.00	15.13	18.00	14.00	11.50	7.41	0.31	17.00
7	1,179,300	2,000	9.000	254	5.00	17.75	20.75	15.75	13.00	8.69	0.38	20.00

Notes: **1.** Shrouded bolts are standard on sizes 1 through $5^{1}/_{2}$. Exposed bolts are standard on sizes 6 through 9.

2. For Performance Data see page G-24.

When ordering, please specify:

1. Required bore diameter of both hubs, with tolerance.

2. Sizes of keyways, if desired. Set screws not supplied unless specified.

3. Speed and Horsepower of driving unit.

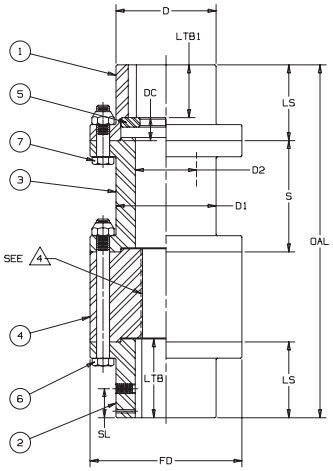
Lovejoy/Sier-Bath Rigid Adjustable Coupling

The RA/RAHS series of couplings features axial positioning of the pump impeller in vertical pump applications. The clearance fit bores with keyway allow for easy installation and maintenance for the pump and/or motor. We offer two different styles; 1) Type II Coupling consisting of two Rigid Hubs, Adjusting Nut and Split Ring for Motor hub 2) Type IV Coupling consisting of two Rigid Hubs, Adjusting Nut, Split Ring for Motor hub and Spacer. The RA type coupling meets standard tolerances and the RSHS conforms to API 610 8th edition tolerances.

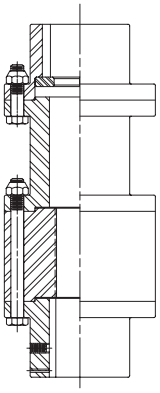
Benefits:

- Easily Adjustable for Vertical Clearance.
- AISI 1045 Steel.
- Removable Spacer for Easy Maintenance.
- Stainless Steel Coupling Also Available.

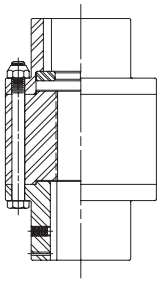
Parts List	
Item	**Description**
01	Upper Hub – Motor
02	Lower Hub – Pump
03	Spacer
04	Adjusting Nut
05	Washer, Split
06	RA & RAHS Accessory Kit
07	RA & RAHS Accessory Kit



RA & RAHS SPACER COUPLING
TYPE IV



RA & RAHS COUPLING
TYPE II



Lovejoy/Sier-Bath Flanged Sleeve Series Rigid Adjustable Type – "RA & RAHS"

Size RA & RAHS	HP/100 RPM	Thrust Capacity lbs.	Maximum Bore sq. key inch	Maximum Bore metric key mm	Minimum Bore inch	STD OAL Type II inch	STD OAL Type IV inch	FD inch	D inch	LTB inch	LTB1 inch	LS inch	DC inch	N inch	SL inch	D1 inch	D2 inch	S STD inch	S MIN inch	Bolts Number & Size	B.C. Diameter
1125	2.7	4,500	1.125	29	0.44	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	8.0	11,000	1.625	42	0.63	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	17.9	31,000	2.125	56	0.73	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	33.8	31,000	2.625	70	0.88	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	44.4	31,000	2.875	77	0.88	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	57.0	41,000	3.125	84	1.19	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	109.0	73,000	3.875	103	1.25	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	310.0	160,000	5.000	135	2.38	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	404.0	200,000	6.000	167	2.88	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	712.0	300,000	7.250	194	4.00	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
8500	1148.0	350,000	8.500	225	4.00	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	2164.0	400,000	10.500	276	5.00	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: Exposed bolts are standard on all sizes.

When ordering, please specify:

1. Required bore diameter of both hubs, with tolerances.
2. Sizes of keyways, if desired.
3. Speed, horsepower and application details.
4. Amount of thrust on either or both shafts.
5. Submit drawing if available.

Lovejoy/Sier-Bath Nylon Sleeve Series

Nyflex & 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. Not requiring lubrication readily permits the use of these couplings in vertical and blind assembly applications 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 up to -40° F to 150° F. The Nylon Sleeve coupling has a precision molded sleeve and hubs with no bolts, pins, flanges, or protrusions to affect balance or safety. The nylon sleeve permits misalignment up to 5° for the Nyflex and 3° for the Mite.

When completely assembled, the Mite coupling weighs less than 1lb and the Nyflex only 3.50 lbs.

G

2 Spirolox Retaining Rings
Sleeve is securely held on the hubs by these spring-steel retaining rings. 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. Almost frictionless properties eliminate lubrication need.

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 .13″ spacing between hubs.

Certain acids and alkalis are harmful to Nylon. If in doubt about your application, contact Lovejoy Engineering.

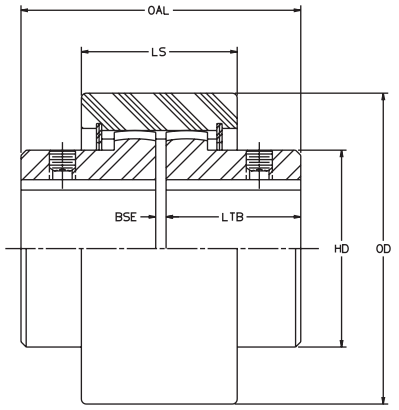
Speeds to 5,000 rpm

Speed RPM	Nyflex		Mite	
	H.P.	Torque (in-lbs)	H.P.	Torque (in-lbs)
100	2.25	1,420	.6	360
500	9.5	1,190	2.4	307
1,000	18.0	1,125	4.5	285
1,150	20.3	1,110	5.1	282
1,500	24.0	970	6.4	274
1,750	25.0	900	7.5	270
2,000	26.6	840	8.4	267
2,500	29.8	750	11.1	262
3,000	32.5	680	12.1	256
3,500	35.3	630	13.8	254
4,000	37.5	590	17.6	251
5,000	42.0	530	19.4	243

Bore sizes available from stock

	Nyflex Bore Size	Nyflex Keyway	Mite Bore Size	Mite Keyway
	3/8 rough	none	5/16 rough	none
Clearance Fit	.500	1/8 x 1/16	.500	1/8 x 1/16
	.625	3/16 x 3/32	.625	3/16 x 3/32
	.750	3/16 x 3/32	.750	3/16 x 3/32
	.875	3/16 x 3/32	.875	3/16 x 3/32
	.937	1/4 x 1/8	.9375	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		
Interference Fit	1.311	5/16 x 5/32		
	1.374	5/16 x 5/32		
	1.436	3/8 x 3/16		
	1.499	3/8 x 3/16		
	1.624	3/8 x 3/16		

All Bore Tolerances are +.001/-.000 up to 1.25″



Dimensions

Coupling	OAL	LS	OD	HD	LTB	BSE	Weight lbs
Nyflex	3.38	1.88	3.75	2.38	1.63	.13	3.50
Mite	2.38	1.31	2.88	1.75	1.13	.13	<1.00

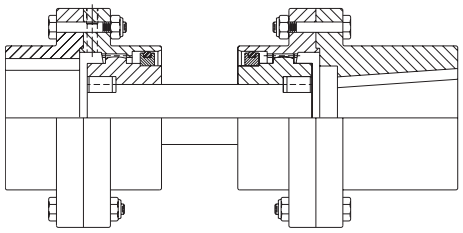
Blind Assembly

The no-lubrication feature of Lovejoy/Sier-Bath Nylon Sleeve couplings readily permits their use in vertical applications and for blind assembly. To install, mount both hubs on the shafts; then place the sleeve with a ring in the center groove over one hub. When the connected unit is placed in position, the coupling is fully installed.

Lovejoy Engineered Special Couplings

Engineered Centrifugal Pump—"FAC"

This coupling is designed specifically for centrifugal pumps and compressors. It's easy to install and replace, efficiently designed to reduce spare part inventory, and is precision manufactured.

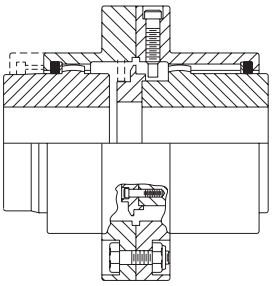


Individual components are easy to assemble, and easy to replace. Component balanced parts eliminate your need to keep complete couplings in stock. Grease seals are replaceable without major disassembly. Four sizes accommodate 80% of all normally used shaft diameters. Other features include extended time 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.

G

Engineered Cut-out Pin Engaged—"FCP"

The Pin Engaged Cut-out Gear coupling is for applications which require infrequent shifting. They consist of shrouded sleeves which can be shifted, when the coupling is stopped, into an engaged or disengaged position by loosening the screw type pins in the sleeve flange. Tightening of the pins prevents shifting and locks the sleeve in the desired position.

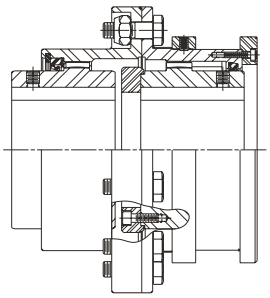


A complete coupling consists of modified hubs and sleeve assemblies: one hub machined to receive a stop ring, and the sleeve assemblies altered to house the locating screws.

Dual drive units commonly use cut-out couplings in pairs. An auxiliary drive is often used making it necessary to engage one of the couplings while the other is disengaged. This function is readily performed by the cut-out coupling.

Engineered Cut-out Shifter Collar Engaged—"FCS"

This Shifter Collar Cut-out Gear coupling is similar to the pin engaged version. The shifter collar type was designed for applications which require more frequent shifting.



A bronze collar or cam roller bearing can be used with a shifter lever. A suitable means should be provided to support a shifter lever. Shifter levers are not furnished with the coupling.

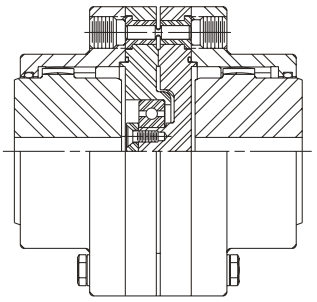
Cut-out couplings are often used in pairs on twin drives where one drive is used as an auxiliary driver. Shifting is allowed only while the coupling is at a standstill, disengaging one and engaging the other.

Lovejoy Engineered Special Couplings

Engineered Shear Pin—"FSHP" and "FSHPB"

Shear pin couplings are primarily used to limit transmitted torque to a predetermined 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-usable after pins shear. The coupling will retain lubricant for a short period to allow equipment to be shut down.

When ordering, please specify torque limit allowing for normal starting torque of the motor.



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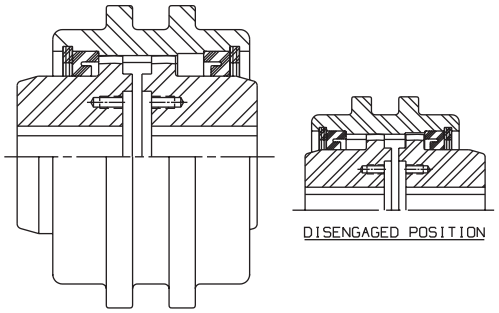
Lovejoy/Sier-Bath Continuous Sleeve Series

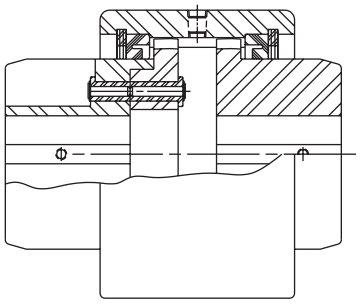
Cut-out Shifter Type—"CCS"

The Cut-out coupling is designed to permit quick disengagement between the driver and driven shafts without disassembling the coupling. This toe coupling is widely used on dual drives and on equipment operated in tandem. A special seal is provided on the hub that disengages to eliminate undue friction when the disengaged hub is turning in the sleeve. Cut-out type couplings are also manufactured with pins to maintain the sleeve in both engage and disengaged positions.



Shear Pin Type—"CSHP"

The Shear Pin coupling is designed to prevent damage to connected equipment resulting from excessive torque or sudden shock. The shear pins in the Lovejoy coupling are manufactured to shear at predetermined loads which are specified by the customer. New pins may be quickly inserted.



Coupling Grease

Lovejoy provides high quality coupling grease for low to high-speed applications. The grease is designed to address the problems that are unique to gear coupling applications such as high pressure, high centrifugal force, prolonged work periods, and corrosive environments. Please see pages G-20, 22, 23, and 24 for specific quantities per product line.

Lubrication

Centrifugal separation of the oil and thickener during operation is a basic problem in gear coupling applications, especially high speed applications. The higher the operating speed, the greater the amount of separation can be expected. This causes the soap properties in the grease to accumulate in the areas where lubrication is required. The soap does not provide adequate lubrication which results in accelerating the coupling wear. The Lovejoy grease properties are designed to resist centrifugal separation.

Changes in consistency to address different situations is the key to successful lubrication. Lovejoy grease is manufactured to a No. 1 consistency grade. During prolonged use, the grease will become semi-fluid. When inactive, the grease will thicken, become heavier, and will not leak out of the coupling. The ability to change consistency provides successful lubrication across the complete range of requirements.

Contents

The Lovejoy grease contains ingredients that have been proven to operate successfully in gear coupling applications. The grease contains:

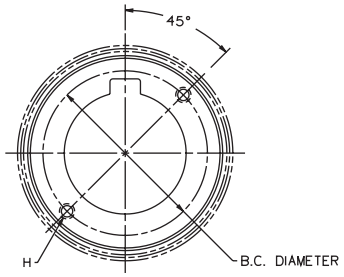
- Lithium Soap
- Highly Refined Paraffinio Mineral Oil
- Rust Inhibitors
- Anti-oxidants
- EP/Anti-wear additive

G

Hub Puller Hole Data—F Hubs

Size	Bolt Circle Diameter	Hole Size
1	None	None
1 1/2	None	None
2	3.38	5/16-18 x .50 DP.
2 1/2	3.94	3/8 -16 x .56 DP.
3	4.94	1/2 -13 x .75 DP.
3 1/2	5.56	1/2-13 x .75 DP.
4	6.44	5/8-11 x .94 DP.

Size	Bolt Circle Diameter	Hole Size
4 1/2	7.38	5/8-11 x .94 DP.
5	8.00	3/4-10 x 1.13 DP.
5 1/2	9.00	1-8 x 1.50 DP.
6	9.75	1-8 x 1.50 DP.
7	11.63	1-8 x 1.50 DP.
8	14.00	1-8 x 1.50 DP.
9	15.25	1 1/4-7 x 1.88 DP.



PULLER HOLES

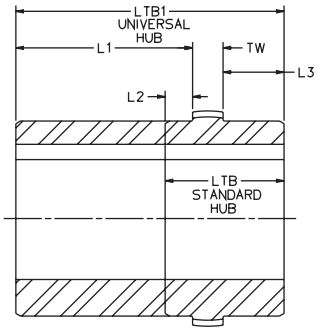
Standard & Universal Hub Dimensions

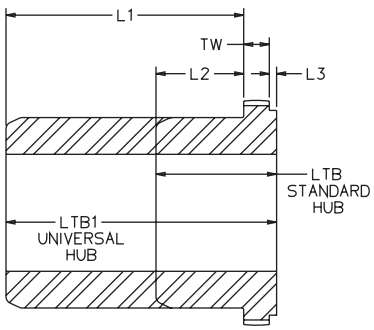
F Hubs—Inch

Size	L 1	L2	L3	TW	STD. LTB	UNIV. HUB LTB 1
1	2.75	0.44	0.75	0.50	1.69	4.00
1 1/2	3.13	0.56	0.81	0.56	1.94	4.50
2	3.63	0.56	1.25	0.63	2.44	5.50
2 1/2	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 1/2	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 1/2	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 1/2	5.56	1.97	3.19	1.75	6.91	10.50

C Hubs—Inch

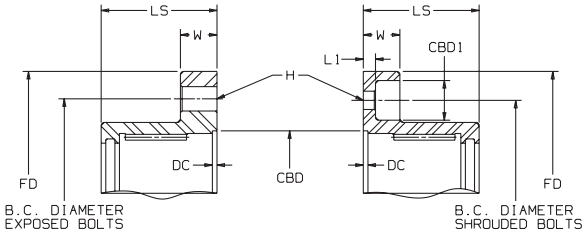
Size	L 1	L2	L3	TW	STD. LTB	UNIV. HUB LTB 1
7/8	3.38	1.13	0.13	0.25	1.50	3.75
1 1/2	3.36	1.17	0.13	0.52	1.81	4.00
2	4.06	1.50	0.13	0.44	2.06	4.63
2 1/2	4.39	1.52	0.16	0.58	2.25	5.13
3	4.89	1.77	0.25	0.61	2.63	5.75
3 1/2	5.58	3.33	0.25	0.67	4.25	6.50
4	5.52	3.27	0.25	0.86	4.38	6.63
4 1/2	6.64	3.89	0.25	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





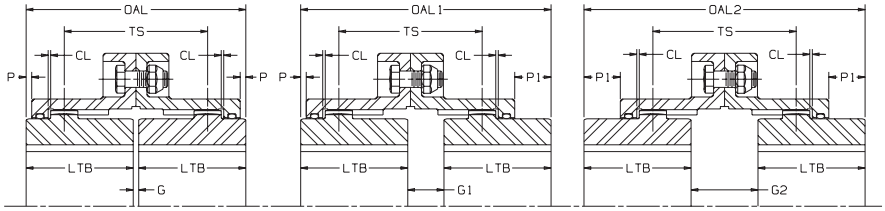
Lovejoy/Sier-Bath Flanged Sleeve Series (only)

Flange Details—Inch



Size	FD	DC	W	CBD	LS	Exposed Bolts: Bolts No. & Size	Exposed Bolts: B.C. Dia.	Exposed Bolts: H	Shrouded Bolts: Bolts No. & Size	Shrouded Bolts: B.C. Dia.	Shrouded Bolts: H	CBD1	L1
1	4.56	.09	.56	2.812	1.66	6 1/4-28	3.750	.250	6 1/4-28	3.750	.250	.64	.25
1 1/2	6.00	.09	.75	3.562	1.88	8 3/8-24	4.812	.375	8 3/8-24	4.812	.375	.81	.25
2	7.00	.09	.75	4.562	2.38	6 1/2-20	5.875	.500	10 3/8-24	5.812	.375	.81	.25
2 1/2	8.38	.09	.88	5.437	2.88	6 5/8-18	7.125	.625	10 1/2-20	7.000	.500	1.06	.31
3	9.44	.09	.88	6.437	3.31	8 5/8-18	8.125	.625	12 1/2-20	8.000	.500	1.06	.31
3 1/2	11.00	.09	1.13	7.375	3.81	8 3/4-16	9.500	.750	12 5/8-18	9.281	.625	1.31	.38
4	12.50	.19	1.13	8.750	4.25	8 3/4-16	11.000	.750	14 5/8-18	10.625	.625	1.31	.38
4 1/2	13.63	.19	1.13	9.750	4.81	10 3/4-16	12.000	.750	14 5/8-18	11.750	.625	1.31	.38
5	15.31	.19	1.50	10.750	5.50	8 7/8-14	13.500	.875	14 3/4-16	13.188	.750	1.56	.56
5 1/2	16.75	.19	1.50	12.125	6.00	14 7/8-14	14.500	.875	16 3/4-16	14.437	.750	1.56	.56
6	18.00	.25	1.00	13.000	6.69	14 7/8-14	15.750	.875					
7	20.75	.31	1.13	14.625	7.38	16 1-14	18.250	1.000	***EXPOSED BOLTS ONLY***				
8	23.25	.31	1.31	17.750	8.38	16 1 1/8-12	20.750	1.125					
9	26.00	.31	1.50	19.000	9.00	18 1 1/4-12	23.250	1.250					

Minimum–Maximum Hub Gap



NORMAL HUB ARRANGEMENT ONE HUB REVERSED TWO HUBS REVERSED

Size	OAL	OAL1	OAL2	LTB	G	G1	G2	TS	CL	P	P1
1	3.50	3.81	4.13	1.69	.13	.44	.75	2.13	.06	.09	.41
1 1/2	4.00	4.25	4.50	1.94	.13	.38	.63	2.31	.06	.13	.38
2	5.00	5.81	6.38	2.44	.13	.81	1.50	3.25	.06	.13	.81
2 1/2	6.25	7.03	7.81	3.03	.19	.97	1.75	4.00	.09	.25	1.03
3	7.38	8.03	8.69	3.59	.19	.84	1.50	4.44	.09	.38	1.03
3 1/2	8.63	9.19	9.75	4.19	.25	.81	1.38	5.00	.09	.50	1.06
4	9.75	10.44	11.13	4.75	.25	.94	1.63	5.69	.13	.63	1.31
4 1/2	10.94	12.00	13.06	5.31	.31	1.38	2.44	6.69	.13	.66	1.72
5	12.38	13.72	15.06	6.03	.31	1.66	3.00	7.69	.19	.69	2.03
5 1/2	14.13	15.34	16.56	6.91	.31	1.53	2.75	8.44	.19	1.06	2.28
6	15.13	16.53	17.94	7.41	.31	1.72	3.13	9.13	.16	.88	2.28
7	17.75	19.06	20.38	8.69	.38	1.69	3.00	10.38	.19	1.50	2.81
8	22.38	23.13	23.88	11.00	.38	1.13	1.88	12.13	.19	2.81	3.56
9	23.50	24.25	25.00	11.50	.50	1.25	2.00	12.75	.38	2.75	3.50

Notes: OAL & G—Standard. OAL1 & G1—1 Hub reversed. OAL2 & G2—2 Hubs reversed.