

Motion Control Couplings



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.

Motion Control Coupling Selection Process

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



The selection process for determining the proper Motion Control coupling starts with selecting the coupling design that best addresses the application requirements. The Lovejoy Motion Control Coupling Quick Reference Chart (found on page 11) provides a method of weighing performance characteristics of the Beam, Bellows, Mini-Disc, Oldham, Mini-Soft, Curved Jaw, and Mini-Jaw couplings.

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

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

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

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

Formulas

Chart 1

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

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

$$\text{Design Torque} = \text{Nominal Torque} \times \text{Application Service Factor}$$

Steps In Selecting A Coupling

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

Step 2: Select a coupling design from the Lovejoy Motion Control Quick Reference Chart (found on page 11). Proceed to the proper coupling section based on the coupling selected.

Beam Coupling Selection Process

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

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



WARNING

You must refer to page 17 for Important Safety Instructions and Precautions for the selection and use of these products. Failure to follow the instructions and precautions can result in severe injury or death.

Bellows Coupling Selection Process

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

$$\text{Nominal Torque} = \text{in-lbs.} = \text{HP} \times 63025 / \text{RPM}$$

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

The Service Factors for the BWC and BWLC series should be: 1.5 for uniform movements, 2.0 for non-uniform movements, and 2.5 (maximum) non-uniform/shock loading movements. The design torque should always be equal to or lower than the nominal rated torque of the coupling. Please consult the allowable misalignment figures on pages 7 and 10. These figures represent the maximum amount of allowable misalignment.

Mini-Disc Coupling Selection Process

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

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

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

Oldham, Mini-Soft, and Mini-Jaw Coupling Service Factor Chart

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

GS Curved Jaw Coupling Service Factors

Temperature Factor

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

Torsional Stiffness Factor

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

Shock Load Factors

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

GS Curved Jaw Selection Process

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

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

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

$$T_{kn} > \text{Rated torque of machine} \times K3 \times K4$$

Peak Torque

$$\text{Shock load (driver side)} = \text{Peak torque (driver)} \times \text{rotational inertia coefficient (driver)} \times K5$$

$$\text{Shock load (driven side)} = \text{Peak torque (driven)} \times \text{rotational inertia coefficient (driven)} \times K5$$

Check the peak torque for the application against the rating for the coupling (see page 12), checking both driver and driven sides:

$$T_{kmax} > \text{Peak Torque (driver or driven side)} \times K3 \times K4$$

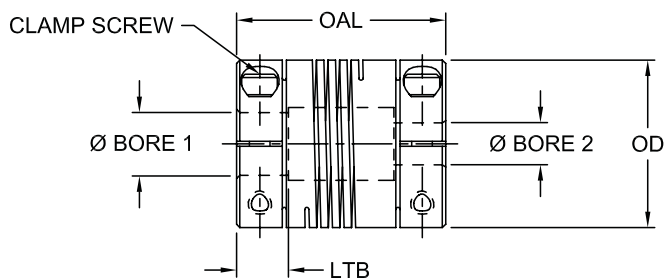
ASB Series - Aluminum Single Beam Clamp Style Coupling

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



Features

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



ASB Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	
ASB 3	0.118	3.00	0.197	5.00	0.500	12.70	0.752	19.10	0.236	6.00	M2
ASB 3.5	0.157	4.00	0.250	6.35	0.626	15.90	0.799	20.30	0.236	6.00	M2.5
ASB 4	0.157	4.00	0.315	8.00	0.752	19.10	0.902	22.90	0.256	6.50	M2.5
ASB 5	0.236	6.00	0.433	11.00	1.000	25.40	1.252	31.80	0.354	9.00	M3
ASB 6	0.236	6.00	0.551	14.00	1.252	31.80	1.752	44.50	0.472	12.00	M4

ASB Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
ASB 3	2.0	318.6	10,000	0.2	5.4	0.00041	5°	0.005	+/- .010
ASB 3.5	3.4	557.6	10,000	0.3	8.3	0.00106	5°	0.005	+/- .010
ASB 4	5	442.5	10,000	0.5	15.1	0.00245	5°	0.005	+/- .010
ASB 5	10	920.4	10,000	1.4	40.6	0.01082	5°	0.005	+/- .010
ASB 6	15	1,770.0	10,000	3.0	86.2	0.03700	5°	0.005	+/- .010

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

Motion Control Couplings



ES and EC Series - Single Beam Style Coupling

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

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

Features

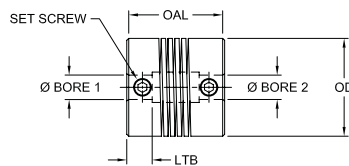
- All-metal coupling
- Easy to install...one piece
- High angular misalignment capability to 5°
- Anodized aluminum finish
- Zero backlash design



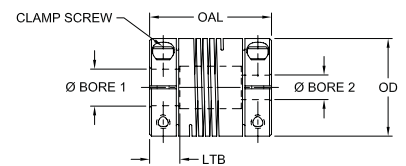
SET SCREW TYPE (ES)



CLAMPING TYPE (EC)



SET SCREW TYPE (ES)



CLAMPING TYPE (EC)

ES and EC Series Dimensional Data

Size	Min Bore		Max Bore		O.D.		OAL		LTB		Set Screw or Clamp Screw	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
ES050	0.118	3.00	0.118	3.00	0.512	13.00	0.512	13.00	0.118	3.00	4-40	M2.5
EC050	0.118	3.00	0.118	3.00	0.512	13.00	0.748	19.00	0.197	5.00	1-72	M1.6
ES075	0.157	4.00	0.236	6.00	0.748	19.00	0.748	19.00	0.197	5.00	8-32	M4
EC075	0.157	4.00	0.315	8.00	0.748	19.00	0.906	23.00	0.236	6.00	4-40	M2.5
ES100	0.236	6.00	0.394	10.00	0.984	25.00	0.984	25.00	0.276	7.00	10-24	M5
EC100	0.236	6.00	0.394	10.00	0.984	25.00	1.260	32.00	0.315	8.00	6-32	M3
ES112	0.315	8.00	0.472	12.00	1.102	28.00	1.102	28.00	0.276	7.00	1/4-20	M6
EC112	0.315	8.00	0.472	12.00	1.102	28.00	1.496	38.00	0.433	11.00	6-32	M3

ES and EC Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
ES050	1.8	42.8	10,000	0.1	3.6	2.73	5°	0.005	+/- .010
EC050	1.8	42.8	10,000	0.2	5.8	4.10	5°	0.005	+/- .010
ES075	5.0	119.4	10,000	0.4	12.0	20.16	5°	0.005	+/- .010
EC075	5.0	119.4	10,000	0.5	15.0	24.95	5°	0.005	+/- .010
ES100	11.0	286.5	10,000	1.1	30.0	86.80	5°	0.005	+/- .010
EC100	11.0	286.5	10,000	1.3	38.0	111.74	5°	0.005	+/- .010
ES112	17.0	409.3	10,000	1.4	39.0	148.99	5°	0.005	+/- .010
EC112	17.0	409.3	10,000	1.9	54.0	207.08	5°	0.005	+/- .010

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

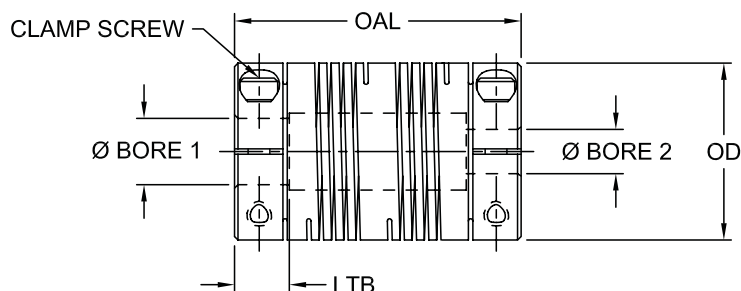
NOTE: Specify Bore 1 and Bore 2 when ordering.

ADB Series - Aluminum Double Beam Clamp Style Coupling

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

Features

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



ADB Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		Set Screw or Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	
ADB 3	0.118	3.00	0.250	6.35	0.500	12.70	0.902	22.90	0.209	5.30	M2
ADB 3.5	0.197	5.00	0.315	8.00	0.626	15.90	1.000	25.40	0.256	6.50	M2.5
ADB 4	0.236	6.00	0.394	10.00	0.752	19.10	1.043	26.50	0.256	6.50	M2.5
ADB 5	0.295	7.50	0.500	12.70	1.000	25.40	1.500	38.10	0.433	11.00	M3
ADB 6	0.394	10.00	0.748	19.00	1.252	31.80	2.252	57.20	0.630	16.00	M4
ADB 7	0.394	10.00	0.866	22.00	1.500	38.10	2.626	66.70	0.709	18.00	M5

ADB Series Performance Data

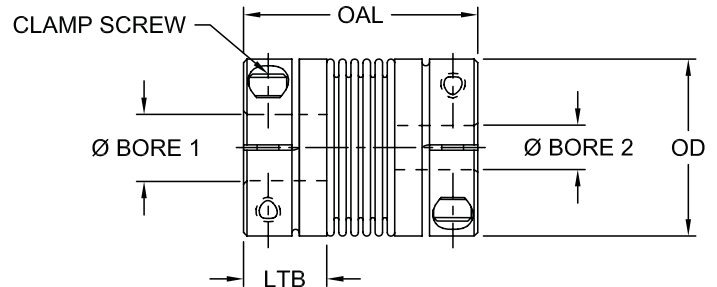
Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia+ lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
ADB 3	3.5	1,097	10,000	0.2	6.5	0.0005	5°	0.007	+/- .010
ADB 3.5	6.2	2,584	10,000	0.4	11.5	0.0011	7°	0.008	+/- .010
ADB 4	12.0	4,460	10,000	0.6	16.7	0.0028	7°	0.010	+/- .010
ADB 5	20.0	6,266	10,000	1.6	44.3	0.0132	7°	0.015	+/- .010
ADB 6	38.0	15,266	10,000	3.7	105.8	0.0492	7°	0.020	+/- .010
ADB 7	88.0	20,514	10,000	6.2	175.1	0.1180	7°	0.024	+/- .010

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

BWC Series - Bellows Clamp Style Coupling

The BWC (Bellows Clamp) Series coupling provides a new range of coupling options with the high torsional stiffness. The higher torsional stiffness provides the benefit of accuracy and repeatability in motion control applications. The BWC series coupling features aluminum hubs and corrosion resistant steel bellows. The compact design also offers the benefit of low inertia. The BWC Series also has a torque capacity of up to 89 in-lbs, with a maximum bore capacity of .750 inches in diameter. The BWC utilizes clamping style hubs that provide easy installation and removal of the coupling. The bellows design also offers up to .016 inches of axial misalignment, with low reactionary loading on bearings.



Features

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

BWC Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	
BWC-21	0.118	3.00	0.256	6.50	0.591	15.00	0.827	21.00	0.276	7.00	M2
BWC-23	0.118	3.00	0.256	6.50	0.591	15.00	0.906	23.00	0.276	7.00	M2
BWC-26	0.118	3.00	0.394	10.00	0.748	19.00	1.024	26.00	0.354	9.00	M2.5
BWC-32	0.118	3.00	0.472	12.00	0.945	24.00	1.260	32.00	0.472	12.00	M3
BWC-41	0.236	6.00	0.630	16.00	1.260	32.00	1.614	41.00	0.551	14.00	M4
BWC-47	0.315	8.00	0.748	19.00	1.575	40.00	1.850	47.00	0.571	14.50	M4

BWC Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
BWC-21	3.54	2,248	15,000	0.3	9	0.00889	1.2°	0.004	0.008
BWC-23	7.97	4,487	15,000	0.3	9	0.00889	1.2°	0.004	0.008
BWC-26	13.28	6,620	15,000	0.8	22	0.03759	1.2°	0.004	0.010
BWC-32	17.70	13,541	15,000	1.3	36	0.08543	1.2°	0.004	0.012
BWC-41	39.83	57,083	15,000	2.6	74	0.33488	1.2°	0.004	0.012
BWC-47	88.50	71,420	15,000	4.2	120	0.78937	1.2°	0.006	0.016

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

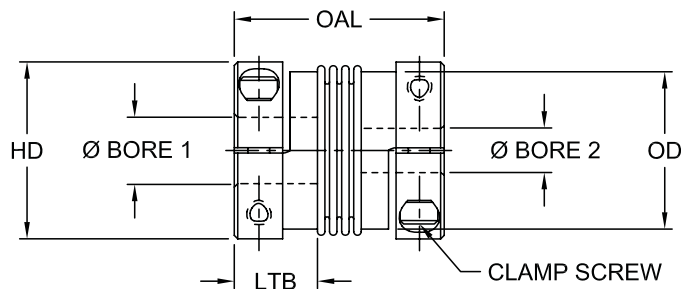
Motion Control Couplings

BWLC Series - Bellows Clamp Style Coupling

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

Features

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



BWLC Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		HD**		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
BWLC-63	0.394	10.00	0.984	25.00	1.772	45.00	2.480	63.00	0.472	12.00	1.772	45	M5
BWLC-65	0.394	10.00	0.984	25.00	2.205	56.00	2.559	65.00	0.591	15.00	1.850/2.205	47/56	M6
BWLC-78	0.551	14.00	1.378	35.00	2.598	66.00	3.071	78.00	0.768	19.50	2.244/2.598	57/66	M8
BWLC-91	0.787	20.00	1.575	40.00	3.228	82.00	3.583	91.00	0.846	21.50	2.677/3.150/3.307	68/80/84	M10

** Various hub diameters available to accommodate different size bore diameters.

BWLC Series Performance Data

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

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

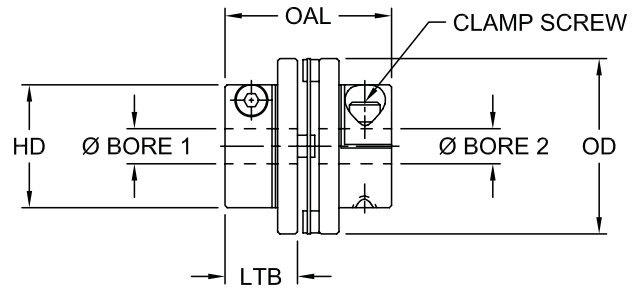
Motion Control Couplings

MDSD Series - Mini Disc Single Disc Clamp Style Coupling

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

Features

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



MDSD Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		HD		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
MDSD-32C	0.118	3.00	0.394	10.00	1.260	32.00	1.260	32.00	0.539	13.70	0.866	22.00	M3
MDSD-40C	0.236	6.00	0.551	14.00	1.575	40.00	1.496	38.00	0.650	16.50	1.102	28.00	M4
MDSD-50C	0.394	10.00	0.787	20.00	1.969	50.00	1.732	44.00	0.764	19.40	1.535	39.00	M5
MDSD-63C	0.472	12.00	0.984	25.00	2.480	63.00	1.969	50.00	0.878	22.30	1.772	45.00	M6

MDSD Series Performance Data







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

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.








Motion Control Couplings

Quick Reference

Coupling Types	Beam			Bellows		Mini
						
Summary of Design	ES/EC Series	ASB Series	ADB Series	BWC Series	BWLC Series	MD S
	Single beam with setscrew or clamping options	Single beam with clamping style for higher torque applications	Double Beam clamping style coupling	Standard Bellows style coupling	Bellows style coupling	Star mini config utilizing disc
Material Type	Anodized Aluminum	Anodized Aluminum	Aluminum	Aluminum hubs with stainless steel bellows	Aluminum hubs with stainless steel bellows	Aluminum with stainless steel
Torque Capacity (Nominal)	up to 17 in-lbs.	up to 15 in-lbs.	up to 88 in-lbs.	up to 88.5 in-lbs.	up to 1,328 in-lbs.	up to 111 in-lbs.
Torsional Stiffness	up to 409 in-lb/rad	up to 1,770 in-lb/rad	up to 20,514 in-lb/rad	up to 71,420 in-lb/rad	up to 1,336,350 in-lb/rad	up to 26,550 in-lb/rad
Bore Capacity	up to .500 inches	up to .551 inches	up to .866 inches.	up to .748 inches.	up to 1.574 inches.	up to 1.18 inches
Maximum RPM	up to 10,000 RPM	up to 10,000 RPM	up to 10,000 RPM	up to 15,000 RPM	up to 12,700 RPM	up to 10,000 RPM
Angular Misalignment	up to 5°	up to 5°	up to 7°	up to 1.2°	up to 1.5°	up to 1.5°
Parallel Misalignment	.005 inches	.005 inches	.024 inches	.006 inches	.008 inches	.006 inches
Axial Misalignment	+/- .010 inches	+/- .010 inches	+/- .010 inches	up to +/- .016 inches	up to +/- .020 inches	+/- .020 inches
Maximum Temperature	200° F	200° F	200° F	212° F	212° F	300° F
Moment of Inertia	Up to 207 [lb-in ²]	Up to 0.037 [lb-in ²]	Up to 118 [lb-in ²]	Up to .78937 [lb-in ²]	Up to 9.561 [lb-in ²]	Up to 1.0 [lb-in ²]

Motion Control Couplings



Disc			Oldham	Mini Soft	GS Curved Jaw	Mini Jaw
						
Series	MDS Series	MDSD Series				
Standard disc duration two backs	Spacer version of the minidisc style coupling	Single disc pack version of the mini disc coupling	Three piece coupling design with Polyacetel insert	Three piece design with Polyurethane sleeve insert	Three piece jaw coupling design with Urethane or Hytrek insert	Three piece jaw design with buna-N Urethane, or Hytrek Spider
um hubs stainless disc	Aluminum hubs with stainless steel disc	Aluminum hubs with stainless steel disc	Aluminum hubs, polyacetel insert	Zinc Alloy/ sintered iron hubs, polyurethane	Aluminum or steel hubs, urethane or Hytrek insert	Sintered iron hubs, Buna-N, Urethane, or Hytrek Spider
to n-lbs.	up to 221 in-lbs.	up to 89 in-lbs.	up to 40 in-lbs.	up to 27 in-lbs.	up to 7301 in-lbs.	up to 50 in-lbs.
to in-lb/rad	up to 22,125 in-lb/rad	up to 44,250 in-lb/rad	up to 7,877 in-lb/rad	up to 266 in-lb/rad	up to 366,921 in-lb/rad	N/A
to inches	up to 1.000 inches	up to 1.000 inches	up to .500 inches.	up to .500 inches	up to 2.75 inches	up to .625 inches
to RPM	up to 4,800 RPM	up to 4,800 RPM	up to 24,000 RPM	up to 24,000 RPM	up to 25,400 RPM	up to 31,000 RPM
to 1.5°	up to 2°	up to 1°	up to 3°	up to 2°	up to 1.3°	up to 1°
inches	.010 inches	N/A	.100 inches	.010 inches	.027 inches	.015 inches
inches	+/- .031 inches	+/- .008 inches	+/- .008 inches	N/A	N/A	N/A
° F	300° F	300° F	176° F	140° F	up to 248° F	up to 250° F
to .72 in ²	Up to .376 [lb-in ²]	Up to .287 [lb-in ²]	Up to .034 [lb-in ²]	Up to .092 [lb-in ²]	Up to .135 [lb-in ²]	Up to .070 [lb-in ²]

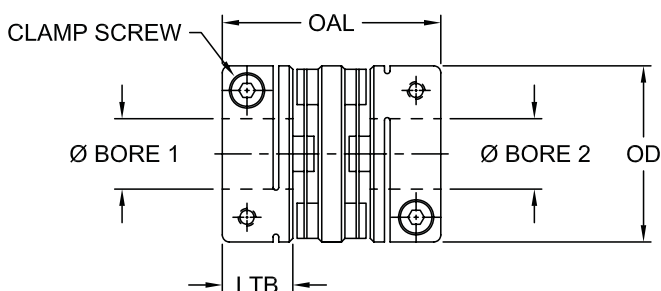
Motion Control Couplings

MD Series - Mini Disc Clamp Style Coupling

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

Features

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



MD Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	
MD-19C	0.118	3.00	0.315	8.00	0.748	19.00	1.063	27.00	0.315	8.00	M2
MD-25C	0.197	5.00	0.472	12.00	0.984	25.00	1.220	31.00	0.394	10.00	M2.5
MD-32C	0.236	6.00	0.591	15.00	1.260	32.00	1.575	40.00	0.472	12.00	M3
MD-40C	0.394	10.00	0.787	20.00	1.575	40.00	1.732	44.00	0.551	14.00	M4
MD-50C	0.394	10.00	0.984	25.00	1.969	50.00	2.244	57.00	0.709	18.00	M5
MD-63C	0.512	13.00	1.181	30.00	2.480	63.00	2.402	61.00	0.787	20.00	M6

MD Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
MD-19C	6	1,770	10,000	0.635	18	0.0030	1.5°	0.005	+/- .020
MD-25C	9	3,983	8,000	0.882	25	0.0092	1.5°	0.005	+/- .020
MD-32C	22	9,735	6,000	2.116	60	0.0328	1.5°	0.006	+/- .020
MD-40C	31	12,390	5,000	3.527	100	0.0649	1.5°	0.006	+/- .020
MD-50C	80	19,470	4,000	7.408	210	0.2768	1.5°	0.006	+/- .020
MD-63C	111	26,550	3,000	11.993	340	0.7176	1.5°	0.006	+/- .020

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

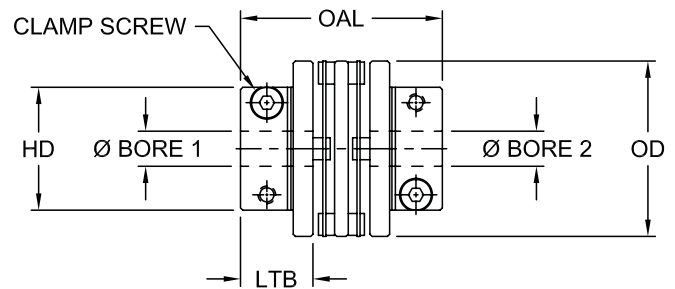
Motion Control Couplings

MDS Series - Mini Disc Spacer Clamp Style Coupling

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

Features

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



MDS Series Dimensional Data

Size	Min bore		Max Bore		OD		OAL		LTB		HD		Clamp Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
MDS-32C	0.118	3.00	0.394	10.00	1.260	32.00	1.575	40.00	0.539	13.70	0.866	22.00	M3
MDS-40C	0.236	6.00	0.551	14.00	1.575	40.00	1.811	46.00	0.650	16.50	1.102	28.00	M4
MDS-50C	0.394	10.00	0.787	20.00	1.969	50.00	2.047	52.00	0.764	19.40	1.535	39.00	M5
MDS-63C	0.394	10.00	0.984	25.00	2.480	63.00	2.283	58.00	0.878	22.30	1.772	45.00	M6

MDS Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
MDS-32C	18	8,850	4,800	1.69	48	0.211860	2°	0.006	+/-0.016
MDS-40C	35	13,275	3,800	2.86	81	0.054675	2°	0.007	+/-0.0196
MDS-50C	66	17,700	3,100	5.29	150	0.157190	2°	0.007	+/-0.024
MDS-63C	89	22,125	2,400	8.11	230	0.375888	2°	0.012	+/-0.031

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

Motion Control Couplings

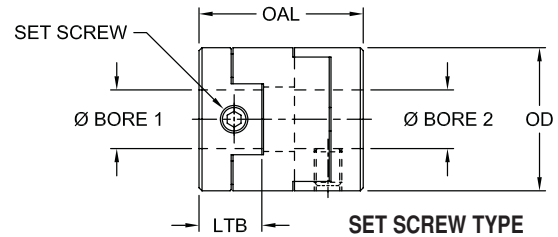
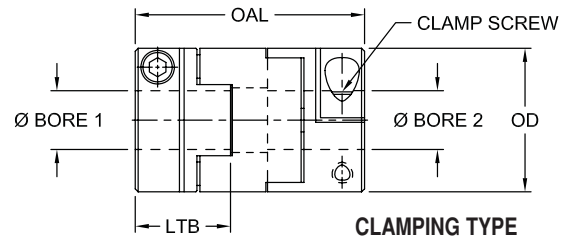


MOL Series - Oldham Style Coupling

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

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

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



Features

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

MOL Series Dimensional Data

Size	Attachment	Min Bore		Max Bore		OD		OAL		LTB		Set Screw Size
		in	mm	in	mm	in	mm	in	mm	in	mm	
MOL-16	Set Screw	0.118	3.00	0.236	6.00	0.630	16.00	0.709	18.00	0.276	7.00	M3
MOL-16C	Clamp	0.118	3.00	0.236	6.00	0.630	16.00	1.142	29.00	0.492	12.50	M2.6
MOL-20	Set Screw	0.118	3.00	0.315	8.00	0.787	20.00	0.906	23.00	0.354	9.00	M4
MOL-20C	Clamp	0.118	3.00	0.315	8.00	0.787	20.00	1.299	33.00	0.551	14.00	M2.6
MOL-25	Set Screw	0.197	5.00	0.394	10.00	0.984	25.00	1.102	28.00	0.433	11.00	M5
MOL-25C	Clamp	0.197	5.00	0.394	10.00	0.984	25.00	1.535	39.00	0.650	16.50	M3
MOL-32	Set Screw	0.315	8.00	0.551	14.00	1.260	32.00	1.299	33.00	0.512	13.00	M6
MOL-32C	Clamp	0.315	8.00	0.551	14.00	1.260	32.00	1.772	45.00	0.748	19.00	M4

MOL Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
MOL-16	6.2	620	24,000	0.2	7	0.00085	3°	.04	N/A
MOL-16C	6.2	620	9,500	0.4	11	0.00137	3°	.04	N/A
MOL-20	10.6	974	19,000	0.5	15	0.00266	3°	.06	N/A
MOL-20C	10.6	974	7,600	0.8	22	0.00376	3°	.06	N/A
MOL-25	17.7	1,770	15,000	1.0	28	0.00788	3°	.08	N/A
MOL-25C	17.7	1,770	6,100	1.4	40	0.01127	3°	.08	N/A
MOL-32	39.8	7,877	12,000	1.9	55	0.02494	3°	.10	N/A
MOL-32C	39.8	7,877	4,800	2.6	75	0.03417	3°	.10	N/A

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

Motion Control Couplings



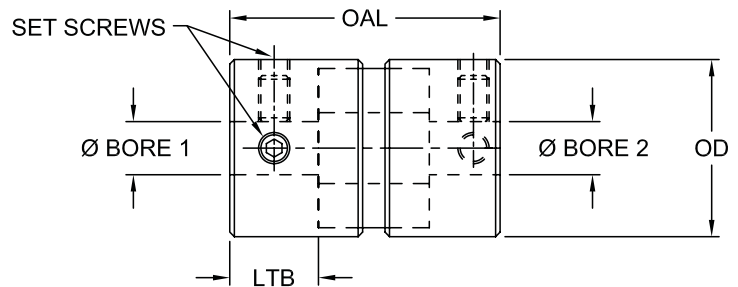
MSF Series - Mini Soft Style Coupling

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

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

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

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



Features

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

MSF Series Dimensional Data

Size	Min Bore		Max Bore		OD		OAL		LTB		Set Screw Size
	in	mm	in	mm	in	mm	in	mm	in	mm	
MSF-16	0.118	3.00	0.315	8.00	0.630	16.00	1.063	27.00	0.315	8.00	M3
MSF-20	0.197	5.00	0.394	10.00	0.787	20.00	1.339	34.00	0.394	10.00	M3
MSF-25	0.197	5.00	0.472	12.00	0.984	25.00	1.614	41.00	0.472	12.00	M4
MSF-32	0.315	8.00	0.551	14.00	1.260	32.00	1.890	48.00	0.551	14.00	M4

MSF Series Performance Data

Size	Torque Nominal in-lbs*	Torsional Stiffness in-lb/rad*	Max RPM	Weight*		Moment of Inertia* lb-in ²	Misalignment		
				oz	Grams		Angular	Parallel (in)	Axial (in)
MSF-16	4.4	27	24,000	0.8	22	0.00314	2°	0.01	N/A
MSF-20	8.9	80	19,000	1.5	43	0.00958	2°	0.01	N/A
MSF-25	13.3	106	15,000	3.0	84	0.02838	2°	0.01	N/A
MSF-32	26.6	266	12,000	5.6	160	0.09228	2°	0.01	N/A

* Nominal torque, torsional stiffness, weight and moment of inertia are based on minimum bore size.

NOTE: Specify Bore 1 and Bore 2 when ordering.

GS Series - Curved Jaw Style Coupling

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

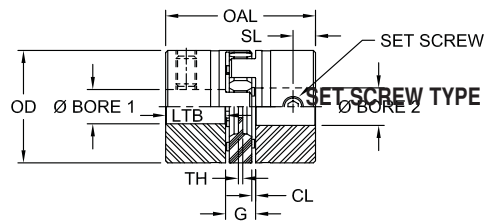
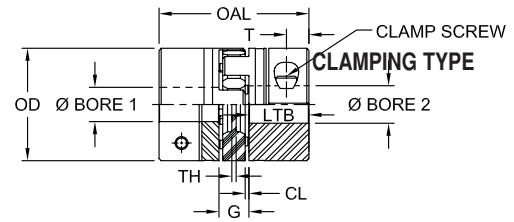
The GS Series spider features a straight center of the spider tooth, providing higher stiffness due to coupling prestress. The crowning of the ends of the spider legs allows for misalignment, while the curved jaws and solid spider center provide high-speed capability.

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

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

Features

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



Typical Applications

Measurement And Control Systems

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

Servo And Positioning Drives

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

Main Spindle Drives

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

GS Series Dimensional Data

Size	Material	Min Bore		Max Bore		OD		OAL		LTB		Set Screw/ Clamp Size
		in	mm	in	mm	in	mm	in	mm	in	mm	
14	Aluminum	0.197	5.00	0.551	14.00	1.181	30.00	1.378	35.00	0.433	11.00	M3
19/24	Aluminum	0.315	8.00	0.945	24.00	1.575	40.00	2.598	66.00	0.984	25.00	M2.6
24/32	Aluminum	0.472	12.00	1.260	32.00	2.165	55.00	3.071	78.00	1.181	30.00	M4
28/38	Aluminum	0.709	18.00	1.496	38.00	2.559	65.00	3.543	90.00	1.378	35.00	M2.6
38/45	Aluminum	0.709	18.00	1.772	45.00	3.150	80.00	4.488	114.00	1.772	45.00	M5
42/55	Steel	0.709	18.00	2.165	55.00	3.740	95.00	4.961	126.00	1.969	50.00	M3
48/60	Steel	0.709	18.00	2.362	60.00	4.134	105.00	5.512	140.00	2.205	56.00	M6
55/70	Steel	1.024	26.00	2.758	70.00	4.724	120.00	6.299	160.00	2.559	65.00	M4

NOTE: Specify Bore 1 and Bore 2 when ordering.

Specify keyway size if needed when ordering.

Motion Control Couplings



GS Series - Curved Jaw Style Coupling

GS Series Dimensional Data, Continued

Size	Material	G		CL		TH		Set Screw Type		Clamp Screw Type	
								Set Screw Size	Set Screw Location	Clamp Screw Size	Clamp Screw Location
		in	mm	in	mm	in	mm	in	SL	mm	T
14	Aluminum	0.512	13.00	0.039	1.00	0.079	2.00	8-32	0.200	M3	0.200
19/24	Aluminum	0.630	16.00	0.079	2.00	0.118	3.00	10-24	0.390	M2.6	0.470
24/32	Aluminum	0.709	18.00	0.079	2.00	0.118	3.00	10-24	0.390	M4	0.550
28/38	Aluminum	0.787	20.00	0.098	2.50	0.157	4.00	5/16-18	0.590	M2.6	0.590
38/45	Aluminum	0.945	24.00	0.118	3.00	0.157	4.00	5/16-18	0.590	M5	0.790
42/55	Steel	1.024	26.00	0.118	3.00	0.157	4.00	5/16-18	0.790	M3	0.790
48/60	Steel	1.102	28.00	0.138	3.50	0.157	4.00	5/16-18	0.790	M6	0.870
55/70	Steel	1.181	30.00	0.157	4.00	0.177	4.50	3/8-16	0.790	M4	0.980

Elastomer Performance Data

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

GS Series Performance Data

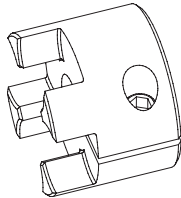
Coupling Size	Spider Durometer	Maximum Speed for Clamping Styles RPM			Torque in-lbs		Static Torsional Stiffness	Dynamic Torsional Stiffness	Radial Stiffness	Complete Coupling, maximum bore w/o kw	
		Clamping Hub	Set Screw Hub	Locking Device Hub	Tkn	Tkmax	lb in/rad	lb in/rad	b/in	Weight lb	Polar Moment of Inertia J (lb-in²) (x10⁴)
14	80 Sh A	12,700	15,900	25,400	35.4	70.8	532.8	1,593	874	0.098	57
	92 Sh A				66.4	132.8	1,014.0	3,044	1,920		
	98 Sh A				110.6	221.3	1,521.0	4,540	3,452		
	64 Sh D				141.6	283.2	2,072.0	6,212	4,892		
19/24	80 Sh A	9,550	11,900	19,000	43.4	86.7	3,042.0	9,115	3,326	0.306	374
	92 Sh A				88.5	177.0	5,071.0	15,222	6,401		
	98 Sh A				150.5	300.9	7,606.0	22,833	11,487		
	64 Sh D				185.9	371.7	10,976.0	32,922	16,745		
24/32	92 Sh A	6,950	8,850	13,800	309.8	619.5	12,673.0	38,019	8,458	0.621	965
	98 Sh A				531.0	1,062.0	18,257.0	54,772	14,630		
	64 Sh D				663.8	1,327.0	26,355.0	79,065	21,123		
28/38	92 Sh A	5,850	7,350	11,700	840.8	1,681.0	20,284.0	60,852	10,173	1.178	3,691
	98 Sh A				1416.0	2,832.0	30,426.0	91,278	18,288		
	64 Sh D				1770.0	3,540.0	38,497.0	115,492	24,849		
38/45	92 Sh A	4,750	5,950	9,550	1681.0	3,363.0	40,568.0	121,705	12,430	2.112	7,485
	98 Sh A				2876.0	5,752.0	63,366.0	190,151	25,146		
	64 Sh D				3584.0	7,168.0	93,279.0	279,837	36,999		
42/55	92 Sh A	4,000	5,000	8,050	2345.0	4,690.0	55,755.0	128,236	13,887	8.324	40,639
	98 Sh A				3982.0	7,965.0	169,920.0	424,800	31,833		
	64 Sh D				4956.0	9,912.0	244,083.0	610,207	41,548		
48/60	92 Sh A	3,600	4,550	7,200	2743.0	5,487.0	69,472.0	159,786	14,745	11.317	68,782
	98 Sh A				4646.0	9,292.0	197,974.0	494,936	33,890		
	64 Sh D				5796.0	11,593.0	320,370.0	800,925	47,286		
55/70	92 Sh A	3,150	3,950	6,350	3628.0	7,257.0	84,075.0	193,372	17,031	16.993	135,334
	98 Sh A				6062.0	12,124.0	210,630.0	526,575	38,210		
	64 Sh D				7301.0	14,602.0	366,921.0	917,302	52,852		

GS Series Hub Design Descriptions

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

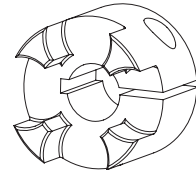
Clamping Hub With Single Slot Without Keyway (C)

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



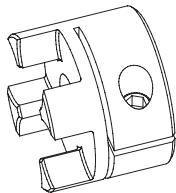
Clamping Hub With Single Slot With Keyway (CWK)

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



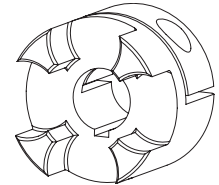
Clamping Hub With Double Slot Without Keyway (DSC)

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



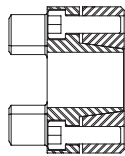
Clamping Hub With Double Slot With Keyway (DSCK)

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



Hub With Frictional Locking (LD)

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



Motion Control Couplings

L Series - Miniature Jaw Style Coupling

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

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

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

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



Elastomer Materials

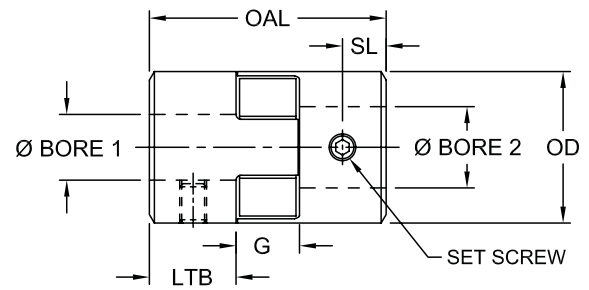
NBR (SOX) Rubber – Nitrile Butadiene Rubber NBR (SOX) is a flexible insert material that is oil resistant, resembles natural rubber in resilience and elasticity and operates effectively in a temperature range of -40° to +212°F (-40° to +100°C). NBR (SOX) also provides good resistance to oil and is the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

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

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

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

■ Hub Material:	<i>Sintered iron</i>	
■ Center Material:	<i>NBR (SOX) Rubber</i>	<i>L035 & L050</i>
	<i>Urethane</i>	<i>L050 only</i>
	<i>Hytrel</i>	<i>L050 only</i>
	<i>Bronze</i>	<i>L050 only</i>



Features

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

L Series Dimensional Data

Size	Torque Nominal	Min Bore		Max Bore		OD		OAL		LTB	
	in-lbs	in	mm	+ .001 in	H8 mm	in	mm	in	mm	in	mm
L-035	3.5	0.118	3.00	0.394	10.00	0.630	16.00	0.752	19.10	0.276	7.00
L-050	26.3	0.236	6.00	0.630	16.00	1.063	27.00	0.799	20.30	0.472	12.00

Size	G		Set Screw Location SL		Set Screw Size	Approximate Weight (lbs)		Moment Of Inertia lb-in ² (solid)
	in	mm	in	mm		Solid	Max Bore	
L-035	0.276	7.00	0.13	3.30	M2	0.1	0.083	0.003
L-050	0.630	16.00	0.31	8.00	M2.5	0.3	0.240	0.054

NOTE: Specify Bore 1 and Bore 2 when ordering.
Specify keyway size if needed when ordering.

Product Warranty



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