



Carefully Made Shaft Collars and Couplings



# SHAFT COUPLINGS

Available in Canada From

**/// RotoPRECISION Inc.**

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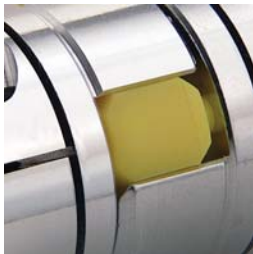
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# Bellows Shaft Couplings



## Bellows Shaft Couplings

### Product Range:

- Stainless Steel Bellows (Inch)  
*BC (Clamp) and BS (Set Screw)*
- Stainless Steel Bellows (Metric)  
*MBC (Clamp) and MBS (Set Screw)*



Bellows couplings are an assembly of two aluminum hubs and a uniform, thin walled stainless steel bellows.

The use of aluminum hubs with a bellows results in a coupling with very low inertia, a feature that is very important in today's highly responsive systems.

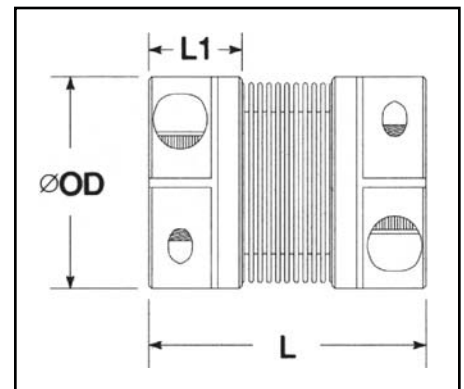
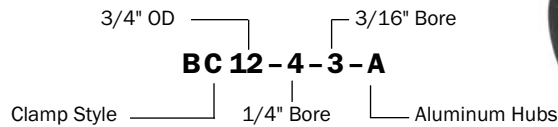
The characteristics of bellows make them an ideal method for transmitting torque in motion control applications. The bellows allow the coupling to bend easily under loads caused by the three basic types of misalignment between shafts (angular, parallel, axial motion). Because they have uniform, thin walls, the bellows provide low bearing loads that remain constant at all points of rotation, without the damaging cyclical high and low loading points found in some other types of couplings. All of this is accomplished while remaining rigid under torsional loads.

Torsional rigidity is a key factor in determining the accuracy of the coupling. The stiffer the coupling, the more accurately motion is translated from the motor to the driven component. Among servo couplings, bellows type couplings are one of the stiffest available, making them ideal in high performance applications that require a high degree of accuracy and repeatability.

PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (in)	BORE 2 (in)	OUTER DIAM. OD (in)	LENGTH L (in)	CLAMP SCREW	SET SCREW	HUB WIDTH L1 (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (lb-in/Deg)	ANGULAR MISALIGNMENT (Deg)	PARALLEL MISALIGNMENT (in)	AXIAL MOTION (in)
BC10	BS10	2 (.125)	2 (.125)	.590	1.0720	M2	M3	.340	22	72	1.50	.004	.008
		3 (.188)	3 (.188)										
		4 (.250)	4 (.250)										
BC12	BS12	3 (.188)	3 (.188)	.750	1.1875	M2.5	M3	.410	40	120	1.50	.004	.010
		4 (.250)	4 (.250)										
		5 (.313)	5 (.313)										
BC16	BS16	4 (.250)	4 (.250)	1.000	1.3125	M3	M4	.467	60	244	1.50	.004	.012
		5 (.313)	5 (.313)										
		6 (.375)	6 (.375)										
BC21	BS21	5 (.313)	5 (.313)	1.313	1.5625	M3	M4	.590	120	400	1.50	.006	.016
		6 (.375)	6 (.375)										
		8 (.500)	8 (.500)										
BC26	BS26	8 (.500)	8 (.500)	1.625	2.0000	M4	M5	.710	250	550	2.00	.010	.020
		10 (.625)	10 (.625)										
		12 (.750)	12 (.750)										
BC32	BS32	8 (.500)	8 (.500)	2.000	2.3125	M5	M6	.810	400	950	2.00	.010	.020
		10 (.625)	10 (.625)										
		12 (.750)	12 (.750)										
		14 (.875)	14 (.875)										
		16 (1.000)	16 (1.000)										

**ORDERING INFORMATION**

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing inches:



- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Parts BS10, BS12, MBS15 and MBS19 have one set screw on each end. BS16, BS21, BS26, BS32, MBS25, MBS33, MBS41 and MBS51 have two set screws 90° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Couplings supplied with black anodized aluminum hubs. Stainless steel hubs available upon request.
- Note 5** Maximum speed 10,000 RPM.

# STAINLESS STEEL BELLOWS COUPLING

## METRIC DIMENSION SERIES

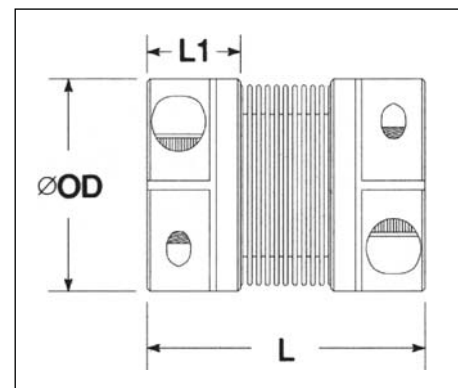
**MBC**  
**MBS**

PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (mm)	BORE 2 (mm)	OUTER DIAM. OD (mm)	LENGTH L (mm)	CLAMP SCREW	SET SCREW	HUB WIDTH L1 (mm)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Nm/Deg)	ANGULAR MISALIGNMENT (Deg)	PARALLEL MISALIGNMENT (mm)	AXIAL MOTION (mm)
MBC15	MBS15	3	3	15	27.2	M2	M3	8.65	2.5	8	1.50	0.10	0.20
		4	4										
		5	5										
		6	6										
MBC19	MBS19	4	4	19	30.2	M2.5	M3	10.40	4.5	14	1.50	0.10	0.25
		5	5										
		6	6										
		8	8										
MBC25	MBS25	6	6	25	33.3	M3	M4	11.85	6.8	27	1.50	0.10	0.30
		8	8										
		10	10										
		12	12										
MBC33	MBS33	8	8	33	39.7	M3	M4	15.00	13.6	45	1.50	0.15	0.40
		10	10										
		12	12										
		14	14										
		15	15										
		16	16										
MBC41	MBS41	10	10	41	50.8	M4	M5	18.05	28.0	63	2.00	0.25	0.50
		12	12										
		14	14										
		15	15										
MBC51	MBS51	16	16	51	58.7	M5	M6	20.55	45.2	108	2.00	0.25	0.50
		20	20										
		25	25										

### ORDERING INFORMATION

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing metrics:

19 mm OD ———— 5 mm Bore  
**MBC 19-6-5-A**  
 Clamp Style ———— 6mm Bore ———— Aluminum Hubs



- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Parts BS10, BS12, MBS15 and MBS19 have one set screw on each end. BS16, BS21, BS26, BS32, MBS25, MBS33, MBS41 and MBS51 have two set screws 90° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Couplings supplied with black anodized aluminum hubs. Stainless steel hubs available upon request.
- Note 5** Maximum speed 10,000 RPM.

# Bellows Technical Information

## Materials

Bellows: AISI 321 Stainless Steel

Hubs: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar

## Surface Finish

Hubs: Sulfuric Anodized MIL-A-8625 Type II, class 2

## Hardware

Socket Head Cap Screws: Alloy steel, heat treated. Meet or exceed ASA specification B18.3. Metric hardware meets or exceeds ASA specifications B18.3.1M and ASTM A574M property class 12.9

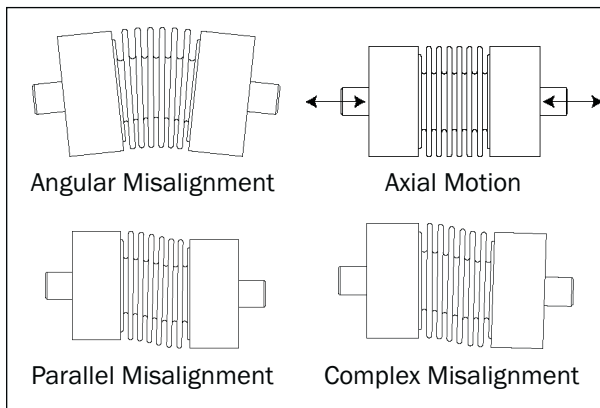
Forged Socket Set Screws: Alloy steel, heat treated, cup point. Meet or exceed ASA specification B18.3

## Temperature Range

-40°F to 200°F

## Maximum Speed

10,000 rpm



## TORQUE RATINGS—CLAMP

METRIC Clamp Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M2	0.60	0.36
M2.5	1.21	0.73
M3	2.10	1.10
M4	4.60	2.50
M5	9.50	5.40
M6	16.00	9.60

## TORQUE RATINGS—SET SCREW

METRIC Set Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M2.5	0.57	0.44
M3	0.92	0.73
M4	2.20	1.76
M5	4.00	3.20
M6	7.20	5.76

## INSTALLATION INSTRUCTIONS

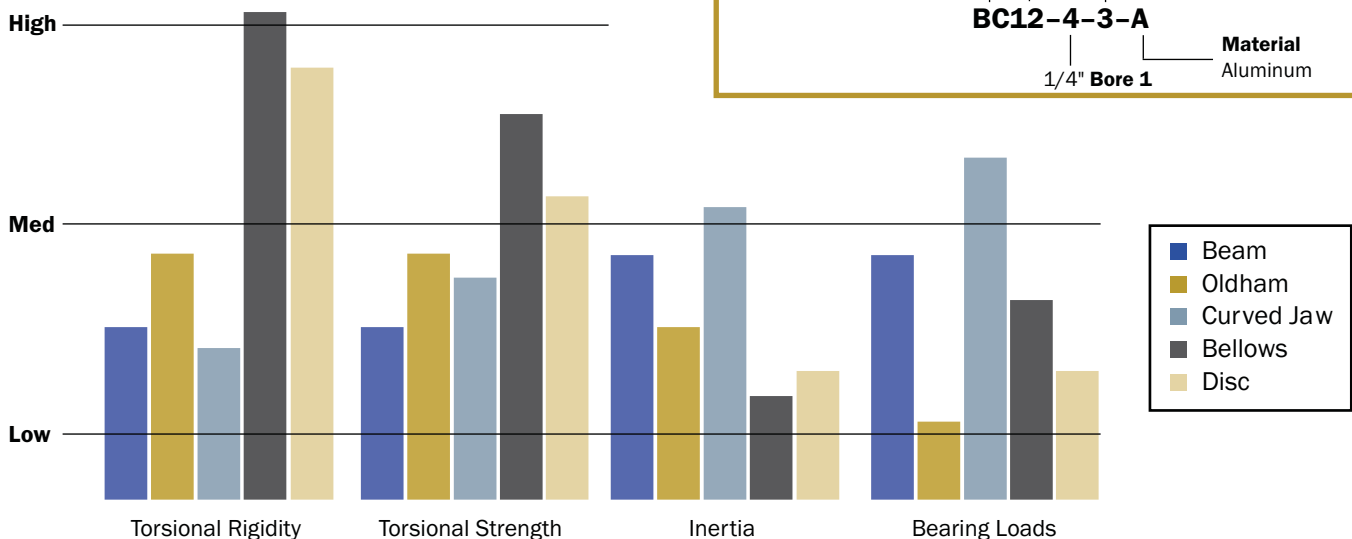
### Bellows Couplings

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Align both hubs of the coupling on the shafts that are to be joined.
3. Fully tighten the screw(s) on one hub to their recommended seating torque (see charts).
4. Before tightening the screw(s) on the second hub, rotate the coupling by hand to allow it to reach its free length.
5. Tighten the hub on the second shaft such that the misalignment angle remains centered along the length of the coupling and the coupling remains axially relaxed.

## ORDERING INFORMATION

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing sixteenths of an inch or millimeters.

Clamp Style ——— 3/4" OD ——— 3/16" Bore 2  
**BC12-4-3-A**  
 ——— 1/4" Bore 1 ——— Material  
 Aluminum



# Disc Couplings



## Disc Couplings

### Product Range:

- Single Disc (Inch)  
*DCS (Clamp) and DSS (Set Screw)*
- Single Disc Clamp (Metric)  
*MDCS (Clamp) and MDSS (Set Screw)*
- Double Disc (Inch)  
*DCD (Clamp) and DSD (Set Screw)*
- Double Disc (Metric)  
*MDCD (Clamp) and MDS D (Set Screw)*
- Electrically Isolating (Metric)  
*MDCDE (Clamp) and MDSDE (Set Screw)*

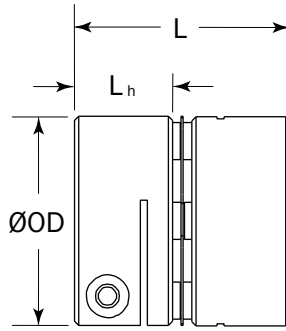
Ruland disc couplings are an assembly of two anodized aluminum hubs and multiple thin, flat stainless steel disc springs.

Single and double disc styles are available with bore sizes ranging from 1/8" to 1 1/4" in the inch series and 3mm to 30mm in the metric series. The double disc styles include a center spacer offered in either anodized aluminum or insulating acetal for electrical isolation.

The discs between the hubs allow for a substantial amount of angular and parallel misalignment between shafts, while remaining rigid under high torque loads.

Disc couplings are high performance motion control couplings ideal for high speed applications of up to 10,000 rpm.





- Accommodates angular misalignment and axial motion
- Inch to metric combinations also available
- No maintenance
- High torsional stiffness
- Zero backlash
- Maximum speed: 10,000 RPM

PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (in)	BORE 2 (in)	ØOD (in)	LENGTH L (in)	CLAMP SCREW	SET SCREW	HUB WIDTH L <sub>H</sub> (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (lb-in/deg)	MISALIGNMENT ANGULAR (deg)	PARALLEL (in)	AXIAL MOTION (in)
DCS10	DSS10	2 (.125)	2 (.125)	.590	0.719	M2	M3	.328	15	50	0.5	N/A	.002
		3 (.188)	3 (.188)										
		4 (.250)	4 (.250)										
DCS12	DSS12	3 (.188)	3 (.188)	.750	0.906	M2.5	M3	.418	25	77	1.0	N/A	.004
		4 (.250)	4 (.250)										
		5 (.313)	5 (.313)										
DCS16	DSS16	4 (.250)	4 (.250)	1.000	1.031	M3	M4	.467	50	94	1.0	N/A	.006
		5 (.313)	5 (.313)										
		6 (.375)	6 (.375)										
DCS21	DSS21	8 (.500)	8 (.500)	1.313	1.313	M3	M4	.590	100	313	1.0	N/A	.008
		5 (.313)	5 (.313)										
		6 (.375)	6 (.375)										
		10 (.625)	10 (.625)										
DCS26	DSS26	6 (.375)	6 (.375)	1.625	1.563	M4	M5	.710	180	625	1.0	N/A	.010
		8 (.500)	8 (.500)										
		10 (.625)	10 (.625)										
DCS32	DSS32	12 (.750)	12 (.750)	2.000	1.813	M5	m6	.810	350	867	1.0	N/A	.012
		8 (.500)	8 (.500)										
		14 (.875)	14 (.875)										
		16 (1.000)	16 (1.000)										
DCS36	DSS36	10 (.625)	10 (.625)	2.250	2.313	M6	M8	1.050	450	1000	1.0	N/A	.015
		12 (.750)	12 (.750)										
		14 (.875)	14 (.875)										
		16 (1.000)	16 (1.000)										
		18 (1.125)	18 (1.125)										
20 (1.250)	20 (1.250)												

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. Parts DSS10 and DSS12 have one set screw on each end. DSS16, DSS21, DSS26, DSS32 and DSS36 have two set screws 90° apart.

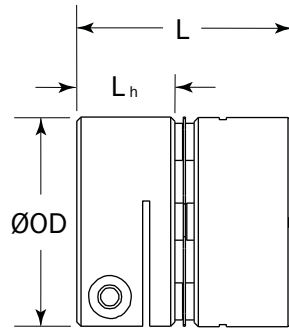
**Note 3** Performance ratings are for guidance only. the user must determine suitability for a particular application.

**Note 4** Ratings are for standard couplings supplied with black anodized aluminum hubs. Stainless steel hubs available upon request.

# SINGLE DISC STYLE C COUPLING

## METRIC DIMENSION SERIES

**MDCS**  
**MDSS**



- Accommodates angular misalignment and axial motion
- Inch to metric combinations also available
- No maintenance
- High torsional stiffness
- Zero backlash
- Maximum speed: 10,000 RPM

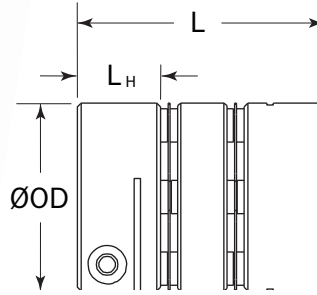
PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (mm)	BORE 2 (mm)	ØOD (mm)	LENGTH L (mm)	CLAMP SCREW	SET SCREW	HUB WIDTH L <sub>h</sub> (mm)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Nm/deg)	MISALIGNMENT ANGULAR (deg)	PARALLEL (mm)	AXIAL MOTION (mm)
MDCS15	MDSS15	3	3	15.0	18.3	M2	M3	8.3	1.7	5.6	0.5	N/A	0.05
		4	4										
		5	5										
		6	6										
MDCS19	MDSS19	4	4	19.1	23.0	M2.5	M3	10.6	2.8	8.7	1.0	N/A	0.10
		5	5										
		6	6										
		8	8										
MDCS25	MDSS25	6	6	25.4	26.2	M3	M4	11.8	5.6	10.6	1.0	N/A	0.15
		8	8										
		10	10										
MDCS33	MDSS33	12	12	33.3	33.3	M3	M4	15.0	11.3	35.4	1.0	N/A	0.20
		8	8										
		10	10										
		12	12										
		14	14										
MDCS41	MDSS41	15	15	41.3	39.7	M4	M5	18.0	20.3	70.6	1.0	N/A	0.25
		16	16										
		20	20										
		12	12										
		14	14										
MDCS51	MDSS51	15	15	50.8	46.1	M5	M6	20.6	39.6	98.0	1.0	N/A	0.32
		16	16										
		20	20										
		25	25										
		14	14										
MDCS57	MDSS57	15	15	57.2	58.8	M6	M8	26.7	50.9	113.0	1.0	N/A	0.38
		16	16										
		20	20										
		25	25										
		30	30										

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. Parts DSS10 and DSS12 have one set screw on each end. DSS16, DSS21, DSS26, DSS32 and DSS36 have two set screws 90° apart.

**Note 3** Performance ratings are for guidance only. the user must determine suitability for a particular application.

**Note 4** Ratings are for standard couplings supplied with black anodized aluminum hubs. Stainless steel hubs available upon request.



- Accommodates angular and parallel misalignment and axial motion
- Inch to metric bores possible
- No maintenance
- High torsional stiffness
- Zero backlash
- Maximum speed: 10,000 RPM

PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (in)	BORE 2 (in)	ØOD (in)	LENGTH L (in)	CLAMP SCREW	SET SCREW	HUB WIDTH L <sub>H</sub> (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (lb-in/deg)	MISALIGNMENT ANGULAR (deg)	PARALLEL (in)	AXIAL MOTION (in)
DCD10	DSD10	2 (.125)	2 (.125)	.590	0.938	M2	M3	.328	15	27	1.0	.002	.004
		3 (.188)	3 (.188)										
		4 (.250)	4 (.250)										
DCD12	DSD12	3 (.188)	3 (.188)	.750	1.188	M2.5	M3	.418	25	51	2.0	.004	.008
		4 (.250)	4 (.250)										
		5 (.313)	5 (.313)										
DCD16	DSD16	4 (.250)	4 (.250)	1.000	1.375	M3	M4	.467	50	61	2.0	.006	.012
		5 (.313)	5 (.313)										
		6 (.375)	6 (.375)										
DCD21	DSD21	6 (.375)	6 (.375)	1.313	1.770	M3	M4	.590	100	253	2.0	.008	.016
		8 (.500)	8 (.500)										
		10 (.625)	10 (.625)										
DCD26	DSD26	6 (.375)	6 (.375)	1.625	2.165	M4	M5	.710	180	375	2.0	.010	.020
		8 (.500)	8 (.500)										
		10 (.625)	10 (.625)										
DCD32	DSD32	12 (.750)	12 (.750)	2.000	2.500	M5	M6	.810	350	595	2.0	.012	.025
		14 (.875)	14 (.875)										
		16 (1.000)	16 (1.000)										
DCD36	DSD36	8 (.500)	8 (.500)	2.250	3.100	M6	M8	1.050	450	769	2.0	.012	.030
		10 (.625)	10 (.625)										
		12 (.750)	12 (.750)										
		14 (.875)	14 (.875)										
		16 (1.000)	16 (1.000)										
18 (1.125)	18 (1.125)												
		20 (1.250)	20 (1.250)										

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. Parts DSD10 and DSD12 have one set screw on each end. DSD16, DSD21, DSD26, DSD32 and DSD36 have two set screws 90° apart.

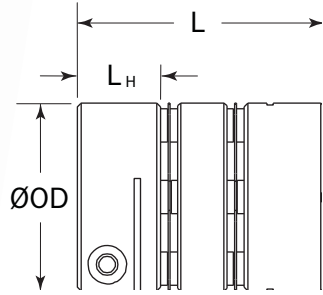
**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 4** Ratings are for standard couplings supplied with black anodized aluminum hubs and center spacers. Stainless steel hubs and center spacers available upon request. Insulating (Acetal) spacers available with our MDCDE/MDSDE series.

# DOUBLE DISC STYLE COUPLING

## METRIC DIMENSION SERIES

**MDCD**  
**MDSD**



- Accommodates angular and parallel misalignment and axial motion
- Inch to metric bores possible
- No maintenance
- High torsional stiffness
- Zero backlash
- Maximum speed: 10,000 RPM

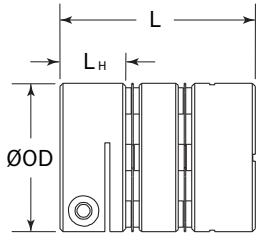
PART NUMBER		SPECIFICATIONS											
CLAMP STYLE	SET SCREW STYLE	BORE 1 (mm)	BORE 2 (mm)	ØOD (mm)	LENGTH L (mm)	CLAMP SCREW	SET SCREW	HUB WIDTH L <sub>H</sub> (mm)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Nm/deg)	MISALIGNMENT ANGULAR (deg)	PARALLEL (mm)	AXIAL MOTION (mm)
MDCD15	MDSD15	3	3	15.0	23.8	M2	M3	8.3	1.7	3.0	1.0	0.05	0.10
		4	4										
		5	5										
		6	6										
MDCD19	MDSD19	4	4	19.1	30.2	M2.5	M3	10.6	2.8	5.8	2.0	0.10	0.20
		5	5										
		6	6										
		8	8										
MDCD25	MDSD25	6	6	25.4	35.3	M3	M4	11.8	5.6	6.9	2.0	0.15	0.30
		8	8										
		10	10										
MDCD33	MDSD33	8	8	33.3	45.5	M3	M4	15.0	11.3	28.6	2.0	0.20	0.40
		10	10										
		12	12										
		14	14										
		15	15										
MDCD41	MDSD41	16	16	41.3	55.8	M4	M5	18.0	20.3	42.4	2.0	0.25	0.51
		20	20										
		12	12										
		14	14										
		15	15										
MDCD51	MDSD51	16	16	50.8	63.5	M5	M6	20.6	39.6	67.2	2.0	0.30	0.64
		20	20										
		25	25										
		14	14										
		15	15										
MDCD57	MDSD57	16	16	57.2	78.7	M6	M8	26.7	50.9	86.9	2.0	0.30	0.76
		20	20										
		25	25										
		30	30										
		14	14										

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. Parts MDSD15 and MDSD19 have one set screw on each end. MDSD25, MDSD33, MDSD41 and MDSD51 have two set screws 90° apart.

**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 4** Ratings are for standard couplings supplied with black anodized aluminum hubs and center spacers. Stainless steel hubs and center spacers available upon request. Insulating (Acetal) spacers available with our MDCDE/MDSE series.



- High torque
- Balanced for high RPM
- Low Inertia
- No maintenance
- Electrically Isolating
- High torsional stiffness
- Constant velocity
- Long life
- Zero backlash
- Bore tolerance: +.050mm / - .000mm
- Maximum speed: 10,000 RPM
- Temperature Range: -10°F to 150°F

PART NUMBER		SPECIFICATIONS											
CLAMP SCREW	SET SCREW	BORE 1 (mm)	BORE 2 (mm)	OUTSIDE DIAMETER OD (mm)	LENGTH L (mm)	CLAMP SCREW	SET SCREW	WIDTH HUB L <sub>H</sub> (mm)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Nm/Deg)	MISALIGNMENT ANGULAR (Deg)	PARALLEL (mm)	AXIAL MOTION (mm)
MDCDE15	MDSDE15	3	3	15.0	23.8	M2	M3	8.3	1.7	3.0	1.00	0.05	0.10
		4	4										
		5	5										
		6	6										
		7	7										
MDCDE19	MDSDE19	4	4	19.1	30.2	M2.5	M3	10.6	2.8	5.8	2.00	0.10	0.20
		5	5										
		6	6										
		7	7										
		8	8										
MDCDE25	MDSDE25	6	6	25.4	35.3	M3	M4	11.8	5.6	6.9	2.00	0.15	0.30
		7	7										
		8	8										
		9	9										
		10	10										
MDCDE33	MDSDE33	10	10	33.3	45.5	M3	M4	15.0	11.3	28.6	2.00	0.20	0.40
		12	12										
		14	14										
		15	15										
		16	16										
MDCDE41	MDSDE41	10	10	41.3	55.8	M4	M5	18.0	20.3	42.4	2.00	0.25	0.51
		12	12										
		14	14										
		15	15										
		16	16										
MDCDE51	MDSDE51	17	17	50.8	63.5	M5	M6	20.6	39.6	67.2	2.00	0.30	0.64
		19	19										
		20	20										
		25	25										
		30	30										
MDCDE57	MDSDE57	14	14	57.2	78.7	M6	M8	26.7	50.9	86.9	2.00	0.30	0.76
		15	15										
		16	16										
		17	17										
		19	19										
20	20												
25	25												
30	30												

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish.

**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 4** Couplings supplied with aluminum hubs and electrically isolating (Acetal) center spacers. Stainless steel hubs available upon request.

# Disc Technical Information

## Materials

Disc Springs: AISI 302 Stainless Steel  
 Hubs and Center Spacers: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar  
 Insulating Center Spacers: Acetal

## Surface Finish

Hubs and Center Spacers: Sulfuric Anodized MIL -A-8625 Type II, class 2

## Hardware

Socket Head Cap Screws: Alloy steel, heat treated. Meet or exceed ASA specifications B18.3.1M and ASTM A574M property class 12.9

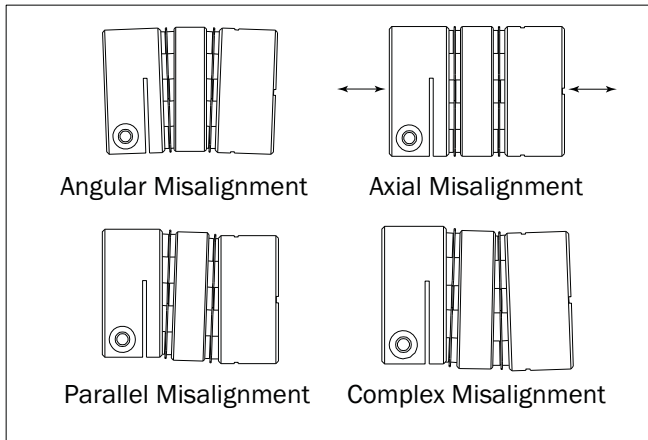
Forged Socket Set Screws: Alloy steel, heat treated, cup point. Meet or exceed ASA specification B18.3

## Temperature Range

-40 °F to 200 °F with Aluminum Center Spacer  
 -10 °F to 150 °F with Insulating Center Spacer

## Maximum Speed

10,000 rpm



## TORQUE RATINGS— CLAMP SCREW

METRIC Clamp Screw	Seating Torque (Nm)
M2	0.60
M2.5	1.21
M3	2.10
M4	4.60
M5	9.50
M6	16.00

## TORQUE RATINGS—SET SCREW

METRIC Set Screw	Seating Torque (Nm)
M3	0.92
M4	2.20
M5	4.00
M6	7.20
M8	17.00

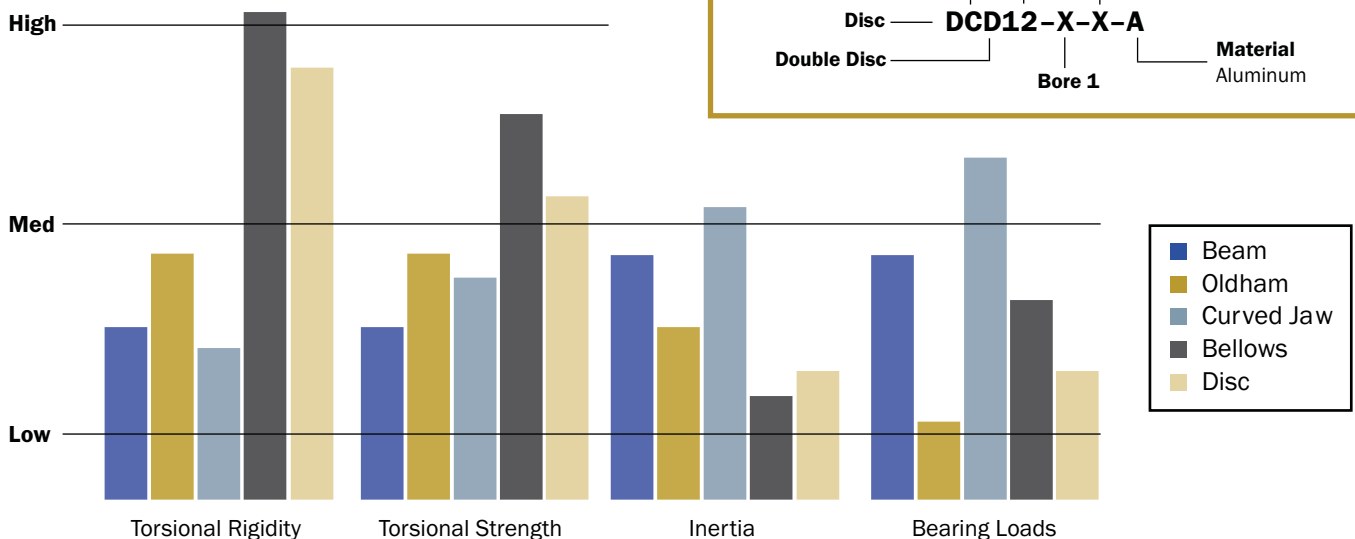
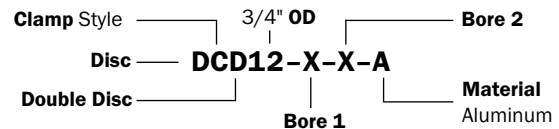
## INSTALLATION INSTRUCTIONS

### Disc Couplings

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Align both hubs of the coupling on the shafts that are to be joined.
3. Fully tighten the screw(s) on one hub to their recommended seating torque (see charts below).
4. Before tightening the screw(s) on the second hub, rotate the coupling by hand to allow it to reach its free length.
5. Tighten the hub on the second shaft such that the misalignment angle remains centered along the length of the coupling and the coupling remains axially relaxed.

## ORDERING INFORMATION

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing sixteenths of an inch or millimeters.



# Flexible Beam Shaft Couplings



## Flexible Beam Shaft Couplings

### Product Range:

- F-Series: Six Beam Flexible (Inch)  
*Aluminum and Stainless Steel*  
*FCR (Clamp) and FSR (Set Screw)*
- F-Series: Six Beam Flexible (Metric)  
*Aluminum and Stainless Steel*  
*FCMR (Clamp) and FSMR (Set Screw)*
- P-Series: Four Beam Flexible (Inch)  
*Aluminum and Stainless Steel*  
*PCR (Clamp) and PSR (Set Screw)*
- P-Series: Four Beam Flexible (Metric)  
*Aluminum and Stainless Steel*  
*PCMR (Clamp) and PSMR (Set Screw)*
- MW-Series: Four Beam Flexible (Metric)  
*Aluminum and Stainless Steel*  
*MWC (Clamp) and MWS (Set Screw)*



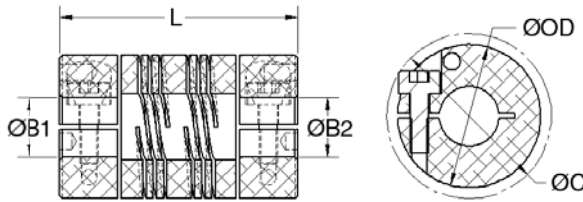
Three series of zero backlash flexible beam couplings are available with inch and metric bores and outside diameters ranging from 3/8" (9.5mm) to 1-1/2" (38mm). Couplings in all three series are machined from a single piece of aluminum or stainless steel and feature multiple spiral cuts. The multiple cut design provides higher torque capabilities and greatly reduced wind-up compared to commodity-type single beam couplings.

The four beam (P and MW Series) and six beam (F Series) each have two sets of spiral slots, a feature that provides superior parallel misalignment capabilities compared to single beam couplings. Angular misalignment, axial motion and any combination of all three types of misalignment are also easily accommodated by flexible beam couplings. Ruland clamp style flexible beam couplings have the additional benefit of dynamic balancing, due to the unique configuration of the socket head cap screws.

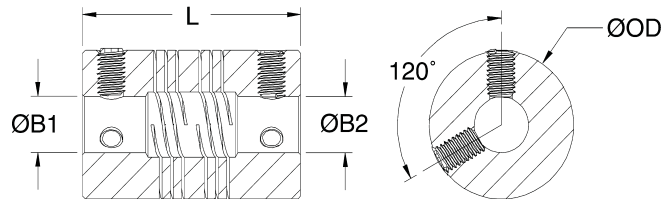
Flexible beam couplings should be used in applications in which misalignment exists between the two shafts being coupled. F series couplings are ideal for light duty power transmission applications such as coupling a servo motor to a lead screw in a motion control system. The couplings feature larger body sizes and stronger beams to provide high torque capacity and very low wind-up, without sacrificing misalignment capabilities. The demanding nature of reversing servo applications make the performance benefits delivered by the F series vital to maintaining the accuracy, repeatability and reliability of the system.

The P and MW series couplings are designed specifically for precision applications, especially those that use delicate components such as encoders and tachometers. The small bearings on these components make low radial forces essential to longevity and continued high performance. The P and MW series couplings provide extra flexibility to yield reduced bearing loads, and shorter industry standard lengths to fit in confined spaces and allow for easy retrofits in existing equipment. At the same time, the multiple cut pattern continues to provide excellent torque capabilities and low wind-up.

FCR



FSR



PART NUMBER	SPECIFICATIONS								PERFORMANCE				
	CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (in)	OUTER DIAM. OD (in)	CLEARANCE DIAM C (in) (FCR) MAX	LENGTH L (in)	CAP SCREW (FCR)	SET SCREW (FSR)	SHAFT PENETRATION (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (Deg/lb-in)	MISALIGNMENT PARALLEL (in)	AXIAL MOTION (in)
FCR10	FSR10	3 (.1875)	0.625	0.796	1.000	M2.5	M4	0.472	13	0.360	0.008	0.005	0.0013
		4 (.2500)							13	0.360			
FCR12	FSR12	3 (.1875)	0.750	0.879	1.250	M3	M4	0.593	26	0.152	0.008	0.005	0.0036
		4 (.2500)							20	0.229			
		5 (.3125)							35	0.064			
		4 (.2500)							33	0.093			
FCR16	FSR16	5 (.3125)	1.000	1.117	1.500	M4	M5	0.704	33	0.093	0.015	0.010	0.0139
		6 (.3750)							33	0.093			
		5 (.3125)							70	0.038			
		6 (.3750)							61	0.048			
FCR20	FSR20	6 (.3750)	1.250	1.459	1.750	M5	M6	0.820	50	0.072	0.015	0.010	0.0401
		8 (.5000)							120	0.022			
		6 (.3750)							110	0.029			
		8 (.5000)							95	0.043			
FCR24	FSR24	10 (.6250)	1.500	1.642	2.250	M5	M6	1.042	80	0.063	0.030	0.015	0.1023
		12 (.7500)											

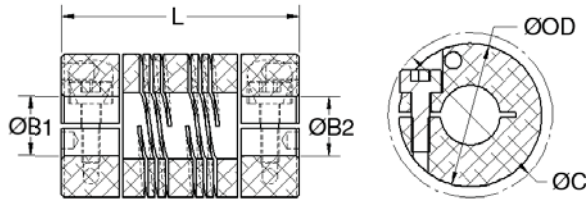
- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Stainless steel hardware is available upon request. FCR series parts have two socket head Nypatch® cap screws on each end with the exception of the M2.5.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.

# SIX BEAM FLEXIBLE COUPLING

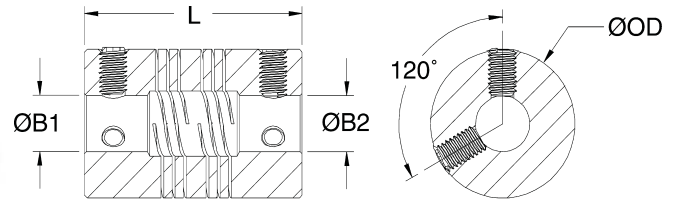
## INCH DIMENSION SERIES • STAINLESS STEEL

**FCR**  
**FSR**

FCR

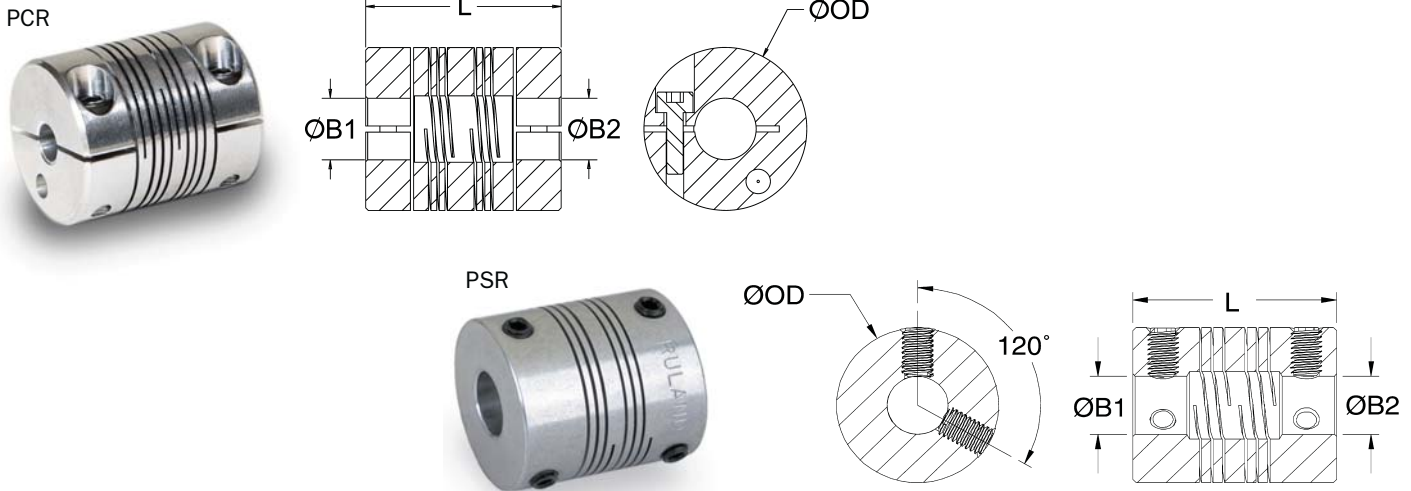


FSR



PART NUMBER	SPECIFICATIONS								PERFORMANCE				
	CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (in)	OUTER DIAM. OD (in)	CLEARANCE DIAM C (in) (FCR) MAX	LENGTH L (in)	CAP SCREW (FCR)	SET SCREW (FSR)	SHAFT PENETRATION (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (Deg/lb-in)	MISALIGNMENT PARALLEL (in)	AXIAL MOTION (in)
FCR10	FSR10	3 (.1875)	0.625	0.796	1.000	M2.5	M4	0.472	18	0.088	0.008	0.005	0.0037
		4 (.2500)							18	0.088			
FCR12	FSR12	3 (.1875)	0.750	0.879	1.250	M3	M4	0.593	41	0.079	0.008	0.005	0.0100
		5 (.3125)							31	0.096			
		4 (.2500)							53	0.034			
FCR16	FSR16	5 (.3125)	1.000	1.117	1.500	M4	M5	0.704	50	0.046	0.015	0.010	0.0381
		6 (.3750)							50	0.046			
		5 (.3125)							142	0.017			
FCR20	FSR20	6 (.3750)	1.250	1.459	1.750	M5	M6	0.820	129	0.023	0.015	0.010	0.1094
		8 (.5000)							107	0.037			
		6 (.3750)							208	0.016			
FCR24	FSR24	8 (.5000)	1.500	1.642	2.250	M5	M6	1.042	190	0.021	0.030	0.015	0.2814
		10 (.6250)							175	0.031			
		12 (.7500)							145	0.045			

- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Stainless steel hardware is available upon request. FCR series parts have two socket head Nypatch® cap screws on each end with the exception of the M2.5.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.



PART NUMBER		SPECIFICATIONS						PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (in)	OUTER DIAM. OD (in)	LENGTH L (in) (PCR/PSR)	CAP SCREW (PCR)	SET SCREW (PSR)	SHAFT PENETRATION (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (Deg/lb-in)	PARALLEL MISALIGNMENT (in)	AXIAL MOTION (in)	MOMENT OF INERTIA (lb-in <sup>2</sup> )
PCR6	PSR6	1.5 (.0938)	0.375	0.563	M1.6	M2	0.265	5.5	1.34	0.008	0.005	0.0001
PCR8	PSR8	1.5 (.0938)	0.500	0.750	M2	M2	0.356	8	0.75	0.008	0.005	0.0004
		2 (.1250)						8	0.75			
PCR10	PSR10	2.5 (.1563)	0.625	0.800	M2	M3	0.377	15	0.36	0.008	0.005	0.0011
		2 (.1250)						12	0.54			
		3 (.1875)						12	0.54			
PCR12	PSR12	2.5 (.1563)	0.750	0.900	M2.5	M4	0.422	26	0.18	0.008	0.005	0.0025
		3 (.1875)						17	0.26			
		4 (.2500)						17	0.26			
		3 (.1875)						14	0.33			
PCR14	PSR14	4 (.2500)	0.875	1.063	M3	M4	0.499	20	0.17	0.008	0.005	0.0056
		5 (.3125)						18	0.21			
		4 (.2500)						16	0.27			
PCR16	PSR16	5 (.3125)	1.000	1.250	M4	M4	0.579	36	0.16	0.015	0.010	0.0116
		6 (.3750)						33	0.18			
		4 (.2500)						30	0.20			
PCR18	PSR18	5 (.3125)	1.125	1.500	M4	M5	0.695	47	0.10	0.015	0.010	0.0217
		6 (.3750)						44	0.11			
		8 (.5000)						40	0.14			
		4 (.2500)						34	0.22			
PCR20	PSR20	5 (.3125)	1.250	1.500	M4	M6	0.695	68	0.06	0.015	0.010	0.0340
		6 (.3750)						64	0.06			
		8 (.5000)						60	0.07			
		4 (.2500)						52	0.12			

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. PCR series parts have socket head cap screws on each end. PSR series parts: sizes 6 through 12 have one set screw on each end; sizes 14 through 20 have two set screws on each end 120° apart.

**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 4** Angular misalignment on all couplings is 3°.

**Note 5** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.

**Note 6** Coupling torque and torsional stiffness are determined by the largest bore selected.

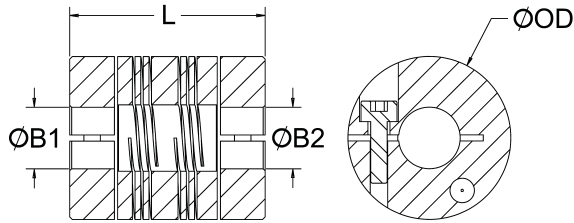
**Note 7** Maximum speed 6,000 RPM.

# FOUR BEAM FLEXIBLE COUPLINGS

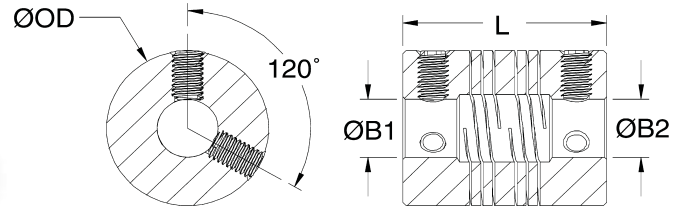
## INCH DIMENSION SERIES • STAINLESS STEEL

PCR/PSR

PCR



PSR



PART NUMBER		SPECIFICATIONS						PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (in)	OUTER DIAM. OD (in)	L (in) (PCR/PSR)	CAP SCREW (PCR)	SET SCREW (PSR)	SHAFT PENETRATION (in)	STATIC TORQUE (lb-in)	TORSIONAL STIFFNESS (Deg/lb-in)	PARALLEL MISALIGNMENT (in)	AXIAL MOTION (in)	MOMENT OF INERTIA (lb-in <sup>2</sup> )
PCR6	PSR6	1.5 (.0938)	0.375	0.563	M1.6	M2	0.265	7.5	0.751	0.008	0.005	0.0003
PCR8	PSR8	1.5 (.0938) 2 (.1250)	0.500	0.750	M2	M2	0.356	11 11	0.368 0.368	0.008	0.005	0.0012
PCR10	PSR10	2.5 (.1563) 3 (.1875)	0.625	0.800	M2	M3	0.377	20 16	0.184 0.286	0.008	0.005	0.0030
PCR12	PSR12	2.5 (.1563) 3 (.1875) 4 (.2500)	0.750	0.900	M2.5	M4	0.422	35 23 23	0.085 0.151 0.151	0.008	0.005	0.0070
PCR14	PSR14	3 (.1875) 4 (.2500) 5 (.3125)	0.875	1.063	M3	M5	0.499	19 24 22	0.179 0.091 0.107	0.008	0.005	0.0157
PCR16	PSR16	4 (.2500) 5 (.3125) 6 (.3750)	1.000	1.250	M4	M4	0.579	49 41	0.079 0.103	0.015	0.010	0.0317
PCR18	PSR18	4 (.2500) 5 (.3125) 6 (.3750) 8 (.5000)	1.125	1.500	M4	M5	0.695	63 60 54	0.053 0.056 0.071	0.015	0.010	0.0603
PCR20	PSR20	4 (.2500) 5 (.3125) 6 (.3750) 8 (.5000)	1.250	1.500	M4	M6	0.695	46 92 86 81	0.111 0.031 0.037 0.044	0.015	0.010	0.0922
								70	0.064			

**Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.

**Note 2** Hardware is alloy steel with black oxide finish. PCR series parts have socket head cap screws on each end. PSR series parts: sizes 6 through 12 have one set screw on each end; sizes 14 through 20 have two set screws on each end 120° apart.

**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

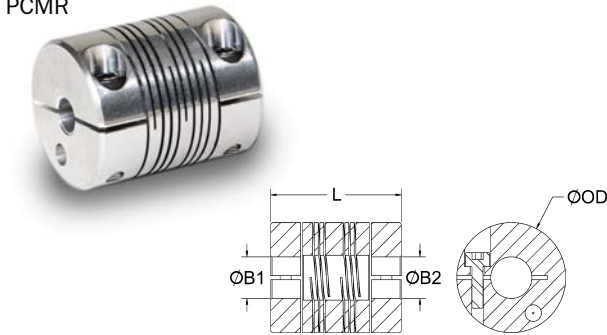
**Note 4** Angular misalignment on all couplings is 3°.

**Note 5** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.

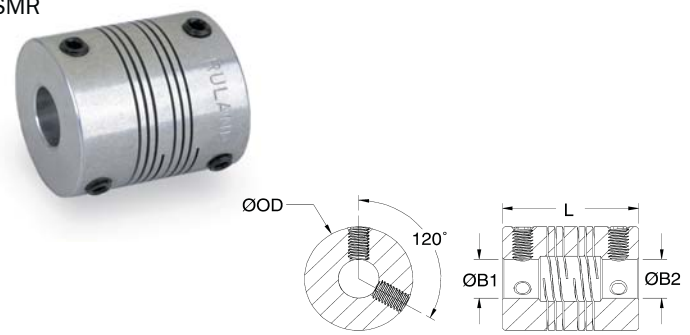
**Note 6** Coupling torque and torsional stiffness are determined by the largest bore selected.

**Note 7** Maximum speed 6,000 RPM.

PCMR



PSMR



PART NUMBER		SPECIFICATIONS						PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (mm)	OUTER DIAM OD (mm)	LENGTH L (mm) (PCMR/PSMR)	CAP SCREW (PCMR)	SET SCREW (PSMR)	SHAFT PENETRATION (in)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Deg/Nm)	MISALIGNMENT		MOMENT OF INERTIA (x10 <sup>6</sup> kg-m <sup>2</sup> )
										PARALLEL (mm)	AXIAL MOTION (mm)	
PCMR10	PSMR10	3	9.5	14.3	M1.6	M2	6.73	0.62	11.83	0.203	0.127	0.029
PCMR13	PSMR13	3	12.7	19.1	M2	M2	9.05	0.90	6.66	0.203	0.127	0.117
		3						1.70	3.21			
PCMR16	PSMR16	4	15.9	20.3	M2	M3	9.57	1.36	4.78	0.203	0.127	0.322
		5						1.36	4.78			
		3						2.94	1.57			
PCMR19	PSMR19	4	19.1	22.9	M2.5	M4	10.73	1.92	2.27	0.203	0.127	0.731
		5						1.92	2.27			
		6						1.58	2.90			
		5						2.26	1.49			
PCMR22	PSMR22	6	22.2	27.0	M3	M4	12.69	2.03	1.88	0.203	0.127	1.639
		7						1.81	2.43			
		8						1.81	2.43			
		6						4.07	1.41			
PCMR25	PSMR25	7	25.4	31.8	M4	M4	14.69	4.07	1.41	0.381	0.254	3.394
		8						3.73	1.57			
		9						3.39	1.80			
		6						5.31	0.86			
		7						5.31	0.86			
		8						4.97	0.94			
PCMR29	PSMR29	9	28.6	38.1	M4	M5	17.65	4.52	1.25	0.381	0.254	6.349
		10						4.52	1.25			
		11						3.84	1.96			
		12						3.84	1.96			
		6						7.68	0.53			
		7						7.68	0.53			
		8						7.23	0.53			
PCMR32	PSMR32	9	31.8	38.1	M4	M6	17.65	6.78	0.53	0.381	0.254	9.948
		10						6.78	0.62			
		11						5.88	1.10			
		12						5.88	1.10			

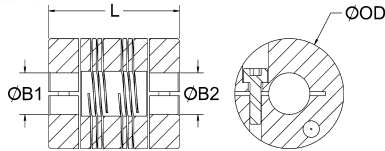
- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. PCMR series parts have socket head cap screws on each end. Parts PSMR10 through PSMR19 have one set screw on each end. PSMR22 through PSMR32 have two set screws 120° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.

# FOUR BEAM FLEXIBLE COUPLINGS

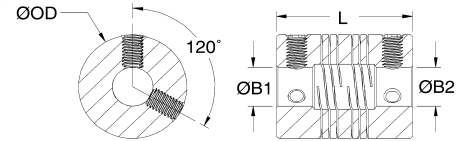
## METRIC DIMENSION SERIES • STAINLESS STEEL

# PCMR/PSMR

PCMR

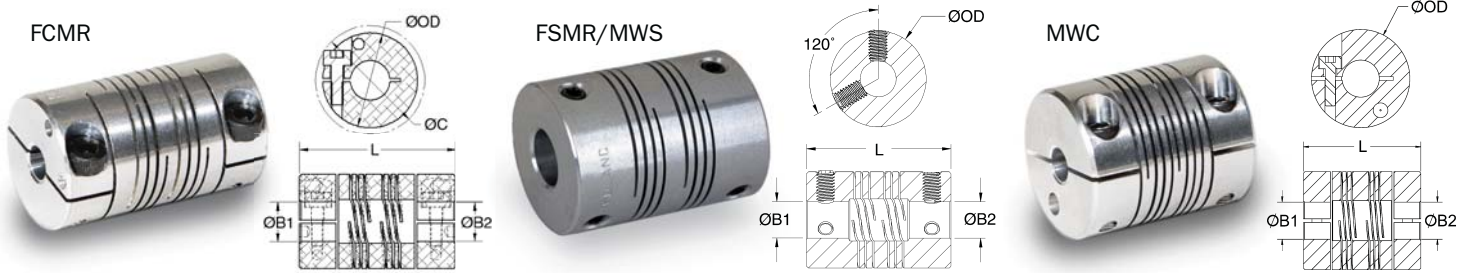


PSMR/ISMR



PART NUMBER		SPECIFICATIONS						PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (mm)	OD (mm)	LENGTH (mm) (PCMR/PSMR)	SCREW CAP (PCMR)	SET (PSMR)	SHAFT PENETRATION (in)	STATIC TORQUE (Nm)	TORSIONAL STIFFNESS (Deg/Nm)	MISALIGNMENT PARALLEL (mm)	AXIAL MOTION (mm)	MOMENT OF INERTIA (x10 <sup>6</sup> kg-m <sup>2</sup> )
PCMR10	PSMR10	3	9.5	14.3	M1.6	M2	6.73	0.85	6.65	0.203	0.127	0.088
PCMR13	PSMR13	3	12.7	19.1	M2	M2	9.05	1.24	3.26	0.203	0.127	0.351
		3						2.26	1.63			
PCMR16	PSMR16	4	15.9	20.3	M2	M3	9.57	1.81	2.53	0.203	0.127	0.878
		5						1.81	2.53			
		3						3.95	0.75			
PCMR19	PSMR19	4	19.1	22.9	M2.5	M4	10.73	2.60	1.34	0.203	0.127	2.048
		5						2.60	1.34			
		6						2.15	1.58			
		5						3.05	0.81			
PCMR22	PSMR22	6	22.2	27.0	M3	M4	12.69	2.71	0.95	0.203	0.127	4.594
		7						2.49	1.19			
		8						2.49	1.19			
		6						5.54	0.70			
PCMR25	PSMR25	7	25.4	31.8	M4	M4	14.69	4.97	0.83	0.381	0.254	9.275
		8						4.97	0.83			
		9						4.63	0.91			
		6						7.12	0.47			
		7						6.78	0.50			
		8						6.78	0.50			
PCMR29	PSMR29	9	28.6	38.1	M4	M5	17.65	6.10	0.63	0.381	0.254	17.643
		10						6.10	0.63			
		11						5.20	0.98			
		12						5.20	0.98			
		6						10.40	0.27			
		7						9.72	0.33			
		8						9.72	0.33			
PCMR32	PSMR32	9	31.8	38.1	M4	M6	17.65	9.15	0.39	0.381	0.254	26.977
		10						9.15	0.39			
		11						7.91	0.57			
		12						7.91	0.57			

- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. PCMR series parts have socket head cap screws on each end. Parts PSMR10 through PSMR19 have one set screw on each end. PSMR22 through PSMR32 have two set screws 120° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.



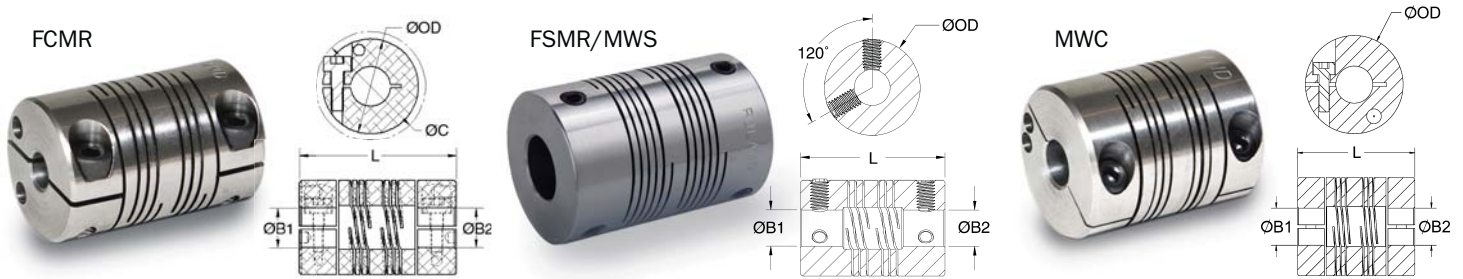
PART NUMBER		SPECIFICATIONS								PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1,B2 (mm)	OUTER DIAM OD (mm)	CLEARANCE DIAM C (mm) (FCMR) MAX	LENGTH L (mm) (FCMR/MWC)	LENGTH L (mm) (FSMR/MWS)	CAP SCREW (FCMR/MWC)	SET SCREW (FSMR/MWS)	SHAFT PENETRATION (MM)	STATIC TORQUE (Nm)	TORSIONAL (Deg/Nm)	PARALLEL MISALIGNMENT (mm)	AXIAL MOTION (mm)	MOMENT OF INERTIA (x10 <sup>6</sup> kg-m <sup>2</sup> )
FCMR16	FSMR16	5	15.88	20.22	25.4	25.4	M3	M4	12.00	1.47	3.211	0.203	0.127	0.380
		6								1.47	3.211			
FCMR19	FSMR19	5	19.05	22.23	31.75	31.75	M3	M4	15.06	2.94	1.331	0.203	0.127	1.037
		6								2.94	1.331			
		7								2.71	1.666			
		8								2.26	2.036			
		6								3.95	0.548			
		7								3.95	0.548			
FCMR25	FSMR25	8	25.4	28.37	38.1	38.1	M4	M5	17.87	3.73	0.862	0.381	0.254	4.120
		9								3.73	0.862			
		10								3.73	0.862			
		11								3.28	1.097			
		12								2.82	1.566			
		8								7.91	0.313			
FCMR32	FSMR32	9	31.75	37.06	44.45	44.45	M5	M6	20.82	6.89	0.392	0.381	0.254	11.885
		10								6.89	0.392			
		11								5.65	0.627			
		12								5.65	0.627			
		14								5.08	0.705			
		15								4.86	0.862			
FCMR38	FSMR38	10	38.1	41.71	57.15	57.15	M5	M6	26.47	13.56	0.157	0.762	0.381	30.032
		11								12.43	0.235			
		12								12.43	0.235			
		14								12.43	0.235			
		15								10.73	0.392			
		16								10.73	0.392			
MWC15	MWS15	3	15		22	20	M2	M3	10.41	0.85	0.20	0.12	0.293	
		4							9.41	4.44				
		5							0.81	5.21				
MWC20	MWS20	4	20		28	20	M3	M3	13.34	1.30	0.20	0.12	1.053	
		5							9.34	2.01				
		6							1.15	2.48				
MWC25	MWS25	6	25		30	24	M3	M4	13.79	3.42	0.38	0.25	2.955	
		8							11.29	1.22				
		10							3.10	1.75				
MWC30	MWS30	8	30		38	30	M4	M5	17.65	6.90	0.38	0.25	7.958	
		10							13.65	0.71				
		12							6.60	0.93				

- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Stainless steel hardware is available upon request. FCMR and MWC series parts have two socket head Nypatch® cap screws on each end. FSMR and MWS parts have two set screws on each end 120° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.

# SIX BEAM AND FOUR BEAM COUPLINGS

## METRIC DIMENSION SERIES • STAINLESS STEEL

# FCMR/FSMR MWC/MWS



PART NUMBER		SPECIFICATIONS								PERFORMANCE				
CLAMP STYLE	SET SCREW STYLE	BORES B1, B2 (mm)	OUTER DIAM OD (mm)	CLEARANCE DIAM C (mm) (FCMR) MAX	LENGTH L (mm) (FCMR/MWC)	LENGTH L (mm) (FSMR/MWS)	CAP SCREW (FCMR/MWC)	SET SCREW (FSMR/MWS)	SHAFT PENETRATION (MM)	STATIC TORQUE (Nm)	TORTIONAL (Deg/Nm)	PARALLEL MISALIGNMENT (mm)	AXIAL MOTION (mm)	MOMENT OF INERTIA (x10 <sup>6</sup> kg·m <sup>2</sup> )
FCMR16	FSMR16	5	15.88	20.22	25.4	25.4	M3	M4	12.00	2.04	0.78	0.381	0.254	1.097
		6								2.04	0.78			
		5								4.64	0.70			
FCMR19	FSMR19	6	19.05	22.23	31.75	31.75	M3	M4	15.06	4.64	0.70	0.203	0.127	2.964
		7								3.51	0.85			
		8								3.51	0.85			
		6								6.00	0.30			
		7								6.00	0.30			
		8								5.66	0.41			
FCMR25	FSMR25	9	25.4	28.37	38.1	38.1	M4	M5	17.87	5.66	0.41	0.381	0.254	11.293
		10								5.66	0.41			
		11								4.40	0.74			
		12								4.40	0.74			
		8								16.08	0.15			
		9								16.08	0.15			
		10								16.08	0.15			
FCMR32	FSMR32	11	31.75	37.06	44.45	44.45	M5	M6	20.82	14.60	0.20	0.381	0.254	32.426
		12								14.60	0.20			
		14								11.32	0.33			
		15								11.32	0.33			
		10								23.53	0.14			
		11								21.52	0.19			
		12								21.52	0.19			
FCMR38	FSMR38	14	38.1	41.71	57.15	55	M5	M6	26.47	21.52	0.19	0.762	0.381	83.407
		15								19.82	0.27			
		16								19.82	0.27			
		19								16.42	0.40			
		3								1.30	2.23			
MWC15	MWS15	4	15		22	20	M2	M3	10.41	1.30	2.23	0.20	0.12	0.731
		5							9.41	1.20	2.52			
		4								2.00	0.98			
MWC20	MWS20	5	20		28	20	M3	M3	13.34	2.00	0.98	0.20	0.12	2.984
		6							9.34	1.70	1.29			
		6								5.10	0.58			
MWC25	MWS25	8	25		30	24	M3	M4	13.79	5.10	0.58	0.38	0.25	7.871
		10							11.29	4.60	0.83			
		8								10.40	0.33			
MWC30	MWS30	10	30		38	30	M4	M5	17.65	10.40	0.33	0.38	0.25	20.920
		12							13.65	10.00	0.46			

- Note 1** Static torque ratings are at maximum misalignment. To obtain dynamic rating, static ratings should be divided by 2 for non-reversing applications and by 4 for reversing applications.
- Note 2** Hardware is alloy steel with black oxide finish. Stainless steel hardware is available upon request. FCMR and MWC series parts have two socket head Nypatch® cap screws on each end. FSMR and MWS parts have two set screws on each end 120° apart.
- Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.
- Note 4** Coupling torque and torsional stiffness are determined by the largest bore selected.
- Note 5** Angular misalignment on all couplings is 3°.
- Note 6** Shafts may penetrate up to 0.5 x L. Be certain shafts do not touch.
- Note 7** Maximum speed 6,000 RPM.

# Flexible Beam Technical Information

## Materials

Aluminum Products: 7075-T651 Extruded and Drawn Aluminum Bar.

Stainless Steel Products: 18-8 (Type 303) Austenitic, Nonmagnetic bar or 17-4 ph

## Finishes

Aluminum Products: Bright Finish.

Stainless Steel Products: Bright Finish.

## Hardware

**Inch Couplings in Aluminum and Stainless Steel:** Alloy Steel Socket Cap Screws, heat treated. ASA specification B18.3

**Metric Couplings in Aluminum and Stainless Steel:** Alloy Steel Socket Cap Screws, heat treated, meet or exceed ASA specification B18.3.1M and ASTM A574M property class 12.9

## Temperature Range

Aluminum: -40°C (-40°F) to 107°C (225°F)

Stainless Steel: -40°C (-40°F) to 177°C (350°F)

## Maximum Speed

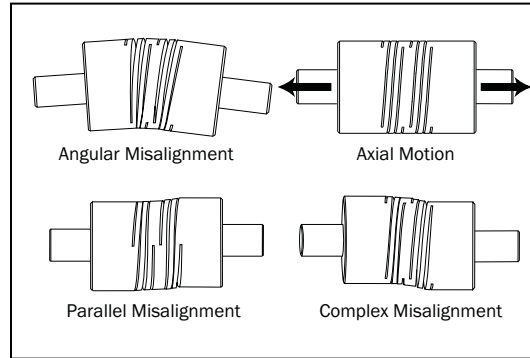
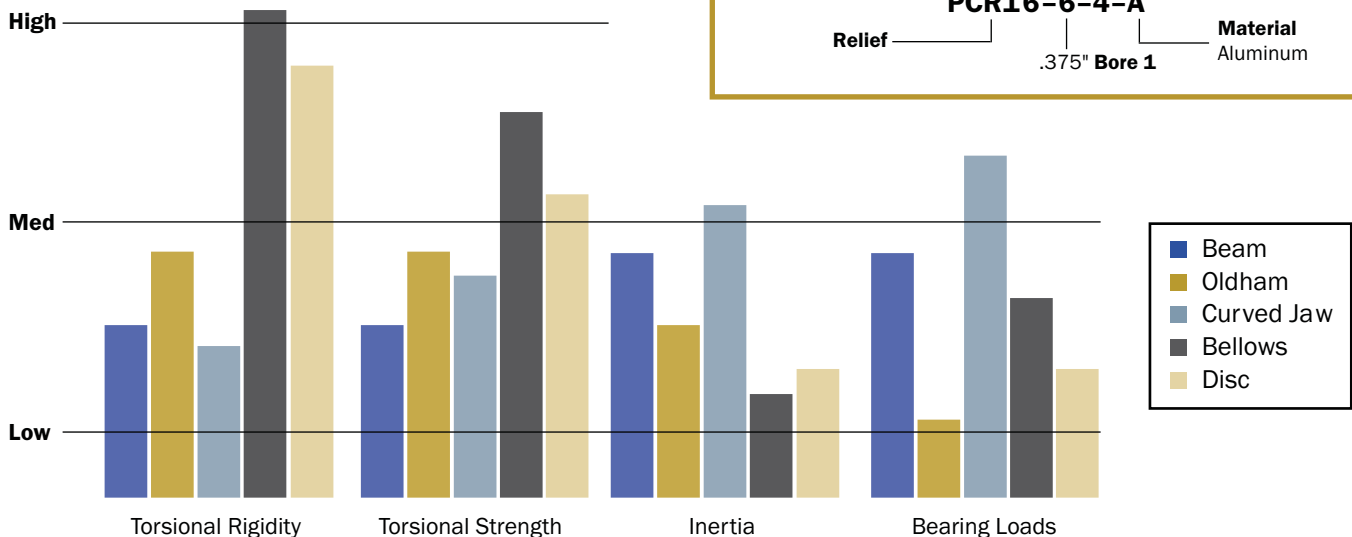
6,000 rpm

## TORQUE RATINGS— CLAMP SCREW

METRIC Clamp Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M1.6	0.29	0.17
M2	0.60	0.36
M2.5	1.21	0.73
M3	2.10	1.10
M4	4.60	2.50
M5	9.50	5.40
M6	16.00	9.60

## TORQUE RATINGS— SET SCREW

METRIC Set Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M2	0.21	0.13
M2.5	0.57	0.44
M3	0.92	0.73
M4	2.20	1.76
M5	4.00	3.20
M6	7.20	5.76



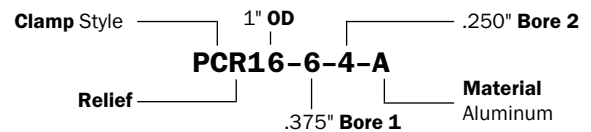
## INSTALLATION INSTRUCTIONS

### Flexible Beam Couplings

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Align both hubs of the coupling on the shafts that are to be joined.
3. Fully tighten the screw(s) on one hub to their recommended seating torque using an unplated wrench. (See charts.)
4. Before tightening the screw(s) on the second hub, rotate the coupling by hand to allow it to reach its free length.
5. Tighten the hub on the second shaft such that the misalignment angle remains centered along the length of the coupling and the coupling remains axially relaxed.
6. On relief bore couplings, the shafts may be extended into the relieved area of the coupling without affecting coupling performance.

## ORDERING INFORMATION

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing sixteenths of an inch or millimeters.



# Jaw Couplings



## Jaw Couplings

### Product Range:

- Jaw Couplings (Inch)  
*JC (Clamp) and JS (Set Screw)*
- Jaw Couplings (Metric)  
*MJC (Clamp) and MJS (Set Screw)*
- Jaw Couplings with Keyway (Inch)  
*JCC (Clamp) and JSC (Set Screw)*
- Jaw Couplings with Keyway (Metric)  
*MJCC (Clamp) and MJSC (Set Screw)*

Zero backlash jaw couplings are three piece couplings comprised of two hubs and an elastic element.

The spider, made of an advanced polyurethane material, provides dampening of impulse loads, minimizing shock to the motor and other sensitive equipment. Available in three durometers, these spiders allow the user to customize the jaw coupling's performance. Selecting a soft spider will give the jaw coupling the greatest dampening characteristics, while a hard spider will provide the greatest torsional stiffness and strength.

All spiders are press fit onto a curved jaw profile, assuring zero backlash operation. The curved jaw profile concentrates the forces to the center of the spider's limbs, improving the effectiveness of the elastomer material.

Raised contact points on the spider limbs help maintain proper spacing between the two hubs, assuring electrical isolation and full angular misalignment capabilities.

Jaw couplings are considered fail safe because, even if a spider fails, the jaws of the two hubs interlock allowing direct power transmission, allowing the application to be safely shut down for maintenance.



HUBS

PART NUMBER		SPECIFICATIONS						
CLAMP STYLE	SET SCREW STYLE	BORE (in)	OUTER DIAM. OD (in)	HUB LENGTH L <sub>H</sub> (in)	COUPLING LENGTH L (in)	SHAFT PENETRATION (in)	CLAMP SCREW	SET SCREW
JC10-2-A	JS10-2-A	.1250						
JC10-3-A	JS10-3-A	.1875	0.590	0.300	0.860	0.300	M2	M3
JC10-4-A	JS10-4-A	.2500						
JC12-3-A	JS12-3-A	.1875						
JC12-4-A	JS12-4-A	.2500	0.750	0.385	1.070	0.385	M2.5	M3
JC12-5-A	JS12-5-A	.3125						
JC16-4-A	JS16-4-A	.2500						
JC16-5-A	JS16-5-A	.3125	1.000	0.467	1.390	0.467	M3	M4
JC16-6-A	JS16-6-A	.3750						
JC16-8-A	JS16-8-A	.5000						
JC21-5-A	JS21-5-A	.3125						
JC21-6-A	JS21-6-A	.3750	1.313	0.590	1.750	0.590	M3	M4
JC21-8-A	JS21-8-A	.5000						
JC21-10-A	JS21-10-A	.6250						
JC26-6-A	JS26-6-A	.3750						
JC26-8-A	JS26-8-A	.5000	1.625	0.710	2.086	0.710	M4	M5
JC26-10-A	JS26-10-A	.6250						
JC26-12-A	JS26-12-A	.7500						
JC32-8-A	JS32-8-A	.5000						
JC32-10-A	JS32-10-A	.6250						
JC32-12-A	JS32-12-A	.7500	2.000	0.820	2.400	0.820	M5	M6
JC32-14-A	JS32-14-A	.8750						
JC32-16-A	JS32-16-A	1.0000						
JC36-8-A	JS36-8-A	.5000						
JC36-10-A	JS36-10-A	.6250						
JC36-12-A	JS36-12-A	.7500						
JC36-14-A	JS36-14-A	.8750	2.250	1.130	3.150	1.130	M6	M8
JC36-16-A	JS36-16-A	1.0000						
JC36-18-A	JS36-18-A	1.1250						
JC36-20-A	JS36-20-A	1.2500						

SPIDERS

PART NUMBER	OUTER DIAM. OD		DUROMETER	TORSIONAL STIFFNESS		NOMINAL TORQUE		PEAK TORQUE		ANGULAR MISALIGNMENT	PARALLEL MISALIGNMENT		AXIAL MOTION	
	(in)	(mm)		(Deg/lb-in)	(Deg/Nm)	(lb-in)	(Nm)	(lb-in)	(Nm)	(Deg)	(in)	(mm)	(in)	(mm)
JD10/15-98R	0.590	15.0	98 Shore A	.121	1.068	8	0.9	16	1.8	0.8	0.002	0.05	0.020	0.51
JD12/19-98R	0.750	19.1	98 Shore A	.114	1.007	15	1.7	30	3.4	0.8	0.003	0.08	0.020	0.51
JD16/25-98R	1.000	25.4	98 Shore A	.024	0.212	75	8.5	150	17.0	0.8	0.003	0.08	0.030	0.76
JD21/33-98R	1.313	33.3	98 Shore A	.012	0.106	87	9.9	174	19.7	0.8	0.003	0.08	0.030	0.76
JD26/41-98R	1.625	41.3	98 Shore A	.006	0.053	165	18.7	330	37.4	0.8	0.004	0.10	0.050	1.27
JD32/51-98R	2.000	50.8	98 Shore A	.004	0.035	275	31.2	550	62.3	0.8	0.005	0.13	0.050	1.27
JD36/57-98R	2.250	57.2	98 Shore A	.003	0.026	410	46.5	820	92.9	0.8	0.004	0.10	0.050	1.27
JD10/15-92Y	0.590	15.0	92 Shore A	.270	2.384	5	0.6	10	1.1	0.9	0.004	0.10	0.020	0.51
JD12/19-92Y	0.750	19.1	92 Shore A	.257	2.269	9	1.0	18	2.0	0.9	0.004	0.10	0.020	0.51
JD16/25-92Y	1.000	25.4	92 Shore A	.067	0.592	29	3.3	58	6.6	0.9	0.005	0.13	0.030	0.76
JD21/33-92Y	1.313	33.3	92 Shore A	.045	0.397	35	4.0	70	7.9	0.9	0.005	0.13	0.030	0.76
JD26/41-92Y	1.625	41.3	92 Shore A	.012	0.106	97	11.0	194	22.0	0.9	0.006	0.15	0.050	1.27
JD32/51-92Y	2.000	50.8	92 Shore A	.005	0.044	220	24.9	440	49.8	0.9	0.006	0.15	0.050	1.27
JD36/57-92Y	2.250	57.2	92 Shore A	.004	0.035	285	32.3	570	64.6	0.9	0.005	0.13	0.050	1.27
JD10/15-85B	0.590	15.0	85 Shore A	.450	3.972	2.4	0.3	4.8	0.5	1	0.005	0.13	0.020	0.51
JD12/19-85B	0.750	19.1	85 Shore A	.406	3.583	5	0.6	10	1.1	1	0.005	0.13	0.020	0.51
JD16/25-85B	1.000	25.4	85 Shore A	.108	0.953	15	1.7	30	3.4	1	0.006	0.15	0.030	0.76
JD21/33-85B	1.313	33.3	85 Shore A	.075	0.662	18	2.0	36	4.1	1	0.006	0.15	0.030	0.76

**Note 1** Hardware is alloy steel with black oxide finish. Parts JS10, JS12, MJS15 and MJS19 have one set screw on each end. JS16, JS21, JS26, JS32, JS36, MJS25, MJS33, MJS41, MJS51 and MJS57 have two set screws 90° apart.

**Note 2** Performance ratings are for guidance only. The user must determine suitability for a particular application.

# ZERO BACKLASH JAW COUPLING METRIC DIMENSION SERIES

**MJC**  
**MJS**

## HUBS

PART NUMBER		SPECIFICATIONS						
CLAMP STYLE	SET SCREW STYLE	BORE (mm)	OUTER DIAM. OD (mm)	HUB LENGTH L <sub>H</sub> (mm)	COUPLING LENGTH L (mm)	SHAFT PENETRATION (mm)	CLAMP SCREW	SET SCREW
MJC15-3-A	MJS15-3-A	3						
MJC15-4-A	MJS15-4-A	4	15.0	7.6	21.8	7.6	M2	M3
MJC15-5-A	MJS15-5-A	5						
MJC15-6-A	MJS15-6-A	6						
MJC19-4-A	MJS19-4-A	4						
MJC19-5-A	MJS19-5-A	5						
MJC19-6-A	MJS19-6-A	6	19.1	9.8	27.2	9.8	M2.5	M3
MJC19-7-A		7						
MJC19-8-A	MJS19-8-A	8						
MJC25-6-A	MJS25-6-A	6						
MJC25-7-A		7						
MJC25-8-A	MJS25-8-A	8	25.4	11.9	35.3	11.9	M3	M4
MJC25-9-A		9						
MJC25-10-A	MJS25-10-A	10						
MJC25-12-A	MJS25-12-A	12						
MJC33-8-A	MJS33-8-A	8						
MJC33-9-A		9						
MJC33-10-A	MJS33-10-A	10						
MJC33-12-A	MJS33-12-A	12	33.3	15.0	44.5	15.0	M3	M4
MJC33-14-A	MJS33-14-A	14						
MJC33-15-A	MJS33-15-A	15						
MJC33-16-A	MJS33-16-A	16						
MJC41-10-A	MJS41-10-A	10						
MJC41-12-A	MJS41-12-A	12						
MJC41-14-A	MJS41-14-A	14						
MJC41-15-A	MJS41-15-A	15	41.3	18.0	53.0	18.0	M4	M5
MJC41-16-A	MJS41-16-A	16						
MJC41-17-A		17						
MJC41-19-A		19						
MJC41-20-A	MJS41-20-A	20						
MJC51-12-A	MJS51-12-A	12						
MJC51-14-A	MJS51-14-A	14						
MJC51-15-A	MJS51-15-A	15						
MJC51-16-A	MJS51-16-A	16	50.8	20.8	61.0	20.8	M5	M6
MJC51-17-A		17						
MJC51-19-A		19						
MJC51-20-A	MJS51-20-A	20						
MJC51-25-A	MJS51-25-A	25						
MJC57-14-A	MJS57-14-A	14						
MJC57-15-A	MJS57-15-A	15						
MJC57-16-A	MJS57-16-A	16						
MJC57-17-A		17	57.2	28.7	80.0	28.7	M6	M8
MJC57-19-A		19						
MJC57-20-A	MJS57-20-A	20						
MJC57-25-A	MJS57-25-A	25						
MJC57-30-A	MJS57-30-A	30						



### ORDERING INFORMATION

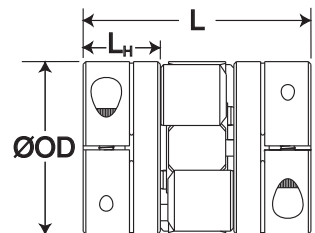
For a complete coupling, order two hubs and one spider.

To order hubs, choose any bore size (inch, metric or mixed) available in a body size. Part numbers are in the following format with numbers representing millimeters:

Style — **MJC25-6-A** — Material Aluminum  
Clamp OD 25 mm Bore 6 mm

To order spider, choose durometer and hub body size (OD). Inch dimensions are on the left side of the “/” and metric sizes are on the right. For example:

**JD16/25-98R** — Durometer/Color 98 Shore A/Red  
Inch OD 1 inch Metric OD 25 mm



**HUBS**

PART NUMBER		SPECIFICATIONS							
CLAMP STYLE	SET SCREW STYLE	BORE (in)	OUTER DIAM. OD (in)	HUB LENGTH L <sub>H</sub> (in)	COUPLING LENGTH L (in)	SHAFT PENETRATION (in)	KEYWAY (in)	CLAMP SCREW	SET SCREW
JCC16-6-A	JSC16-6-A	.3750	1.000	0.467	1.390	0.467	3/32	M3	M4
JCC16-8-A	JSC16-8-A	.5000					1/8		
JCC21-6-A	JSC21-6-A	.3750					3/32		
JCC21-8-A	JSC21-8-A	.5000	1.313	0.590	1.750	0.590	1/8	M3	M4
JCC21-10-A	JSC21-10-A	.6250					3/16		
JCC26-6-A	JSC26-6-A	.3750					3/32		
JCC26-8-A	JSC26-8-A	.5000	1.625	0.710	2.086	0.710	1/8	M4	M5
JCC26-10-A	JSC26-10-A	.6250					3/16		
JCC26-12-A	JSC26-12-A	.7500					3/16		
JCC32-8-A	JSC32-8-A	.5000					1/8		
JCC32-10-A	JSC32-10-A	.6250					3/16		
JCC32-12-A	JSC32-12-A	.7500	2.000	0.820	2.400	0.820	3/16	M5	M6
JCC32-14-A	JSC32-14-A	.8750					3/16		
JCC32-16-A	JSC32-16-A	1.0000					1/4		
JCC36-8-A	JSC36-8-A	.5000					1/8		
JCC36-10-A	JSC36-10-A	.6250					3/16		
JCC36-12-A	JSC36-12-A	.7500					3/16		
JCC36-14-A	JSC36-14-A	.8750	2.250	1.130	3.150	1.130	3/16	M6	M8
JCC36-16-A	JSC36-16-A	1.0000					1/4		
JCC36-18-A	JSC36-18-A	1.1250					1/4		
JCC36-20-A	JSC36-20-A	1.2500					1/4		

**SPIDERS**

PART NUMBER	OUTER DIAM. OD		DUROMETER	TORSIONAL STIFFNESS		NOMINAL TORQUE		PEAK TORQUE		ANGULAR MISALIGNMENT	PARALLEL MISALIGNMENT		AXIAL MOTION	
	(in)	(mm)		(Deg/lb-in)	(Deg/Nm)	(lb-in)	(Nm)	(lb-in)	(Nm)	(Deg)	(in)	(mm)	(in)	(mm)
JD10/15-98R	0.590	15.0	98 Shore A	.121	1.068	8	0.9	16	1.8	0.8	0.002	0.05	0.020	0.51
JD12/19-98R	0.750	19.1	98 Shore A	.114	1.007	15	1.7	30	3.4	0.8	0.003	0.08	0.020	0.51
JD16/25-98R	1.000	25.4	98 Shore A	.024	0.212	75	8.5	150	17.0	0.8	0.003	0.08	0.030	0.76
JD21/33-98R	1.313	33.3	98 Shore A	.012	0.106	87	9.9	174	19.7	0.8	0.003	0.08	0.030	0.76
JD26/41-98R	1.625	41.3	98 Shore A	.006	0.053	165	18.7	330	37.4	0.8	0.004	0.10	0.050	1.27
JD32/51-98R	2.000	50.8	98 Shore A	.004	0.035	275	31.2	550	62.3	0.8	0.005	0.13	0.050	1.27
JD36/57-98R	2.250	57.2	98 Shore A	.003	0.026	410	46.5	820	92.9	0.8	0.004	0.10	0.050	1.27
JD10/15-92Y	0.590	15.0	92 Shore A	.270	2.384	5	0.6	10	1.1	0.9	0.004	0.10	0.020	0.51
JD12/19-92Y	0.750	19.1	92 Shore A	.257	2.269	9	1.0	18	2.0	0.9	0.004	0.10	0.020	0.51
JD16/25-92Y	1.000	25.4	92 Shore A	.067	0.592	29	3.3	58	6.6	0.9	0.005	0.13	0.030	0.76
JD21/33-92Y	1.313	33.3	92 Shore A	.045	0.397	35	4.0	70	7.9	0.9	0.005	0.13	0.030	0.76
JD26/41-92Y	1.625	41.3	92 Shore A	.012	0.106	97	11.0	194	22.0	0.9	0.006	0.15	0.050	1.27
JD32/51-92Y	2.000	50.8	92 Shore A	.005	0.044	220	24.9	440	49.8	0.9	0.006	0.15	0.050	1.27
JD36/57-92Y	2.250	57.2	92 Shore A	.004	0.035	285	32.3	570	64.6	0.9	0.005	0.13	0.050	1.27
JD10/15-85B	0.590	15.0	85 Shore A	.450	3.972	2.4	0.3	4.8	0.5	1	0.005	0.13	0.020	0.51
JD12/19-85B	0.750	19.1	85 Shore A	.406	3.583	5	0.6	10	1.1	1	0.005	0.13	0.020	0.51
JD16/25-85B	1.000	25.4	85 Shore A	.108	0.953	15	1.7	30	3.4	1	0.006	0.15	0.030	0.76
JD21/33-85B	1.313	33.3	85 Shore A	.075	0.662	18	2.0	36	4.1	1	0.006	0.15	0.030	0.76

**Note 1** Hardware is alloy steel with black oxide finish. Parts JSC10, JSC12, MJSC15 and MJSC19 have one set screw on each end. JSC16, JSC21, JSC26, JSC32, JSC36, MJSC25, MJSC33, MJSC41, MJSC51 and MJSC57 have two set screws 90° apart.

**Note 2** Performance ratings are for guidance only. The user must determine suitability for a particular application.

# ZERO BACKLASH JAW COUPLING METRIC DIMENSION SERIES WITH KEYWAY

**MJCC**  
**MJSC**

## HUBS

PART NUMBER		SPECIFICATIONS							
CLAMP STYLE	SET SCREW STYLE	BORE (mm)	OUTER DIAM. OD (mm)	HUB LENGTH L <sub>H</sub> (mm)	COUPLING LENGTH L (mm)	SHAFT PENETRATION (mm)	KEYWAY (mm)	CLAMP SCREW	SET SCREW
MJCC25-10-A	MJSC25-10-A	10	25.4	11.9	35.3	11.9	3	M3	M4
MJCC25-12-A	MJSC25-12-A	12					4		
MJCC33-10-A	MJSC33-10-A	10					3		
MJCC33-12-A	MJSC33-12-A	12					4		
MJCC33-14-A	MJSC33-14-A	14	33.3	15.0	44.5	15.0	5	M3	M4
MJCC33-15-A	MJSC33-15-A	15					5		
MJCC33-16-A	MJSC33-16-A	16					5		
MJCC41-10-A	MJSC41-10-A	10					3		
MJCC41-12-A	MJSC41-12-A	12					4		
MJCC41-14-A	MJSC41-14-A	14					5		
MJCC41-15-A	MJSC41-15-A	15	41.3	18.0	53.0	18.0	5	M4	M5
MJCC41-16-A	MJSC41-16-A	16					5		
MJCC41-17-A	MJSC41-17-A	17					5		
MJCC41-19-A	MJSC41-19-A	19					6		
MJCC41-20-A	MJSC41-20-A	20					6		
MJCC51-12-A	MJSC51-12-A	12					4		
MJCC51-14-A	MJSC51-14-A	14					5		
MJCC51-15-A	MJSC51-15-A	15					5		
MJCC51-16-A	MJSC51-16-A	16	50.8	20.8	61.0	20.8	5	M5	M6
MJCC51-17-A	MJSC51-17-A	17					5		
MJCC51-19-A	MJSC51-19-A	19					6		
MJCC51-20-A	MJSC51-20-A	20					6		
MJCC51-25-A	MJSC51-25-A	25					8		
MJCC57-14-A	MJSC57-14-A	14					5		
MJCC57-15-A	MJSC57-15-A	15					5		
MJCC57-16-A	MJSC57-16-A	16					5		
MJCC57-17-A	MJSC57-17-A	17	57.2	28.7	80.0	28.7	5	M6	M8
MJCC57-19-A	MJSC57-19-A	19					6		
MJCC57-20-A	MJSC57-20-A	20					6		
MJCC57-25-A	MJSC57-25-A	25					8		
MJCC57-30-A	MJSC57-30-A	30					8		



### ORDERING INFORMATION

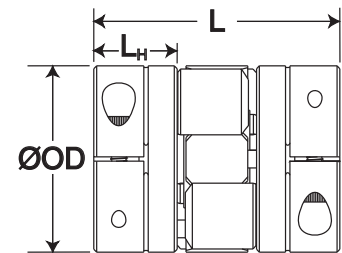
**For a complete coupling, order two hubs and one spider.**

**To order hubs**, choose any bore size (inch, metric or mixed) available in a body size. Part numbers are in the following format with numbers representing millimeters:

Style — **MJCC25-6-A** — Material  
Clamp Aluminum  
OD 25 mm — Bore 6 mm

**To order spider**, choose durometer and hub body size (OD). Inch dimensions are on the left side of the “/” and metric sizes are on the right. For example:

**JD16/25-98R** — Durometer/Color  
98 Shore A/Red  
Inch OD 1 inch — Metric OD 25 mm



# Zero Backlash Jaw Technical Information

## Materials

Spiders: Polyurethane  
Hubs: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar

## Surface Finish

Hubs: Bright Finish

## Hardware

Socket Head Cap Screws: Alloy steel, heat treated. Meet or exceed ASA specification B18.3. Metric hardware meets or exceeds ASA specifications B18.3.1M and ASTM A574M property class 12.9

Forged Socket Set Screws: Alloy steel, heat treated, cup point. Meet or exceed ASA specification B18.3

## Temperature Range

-10°F to 180°F

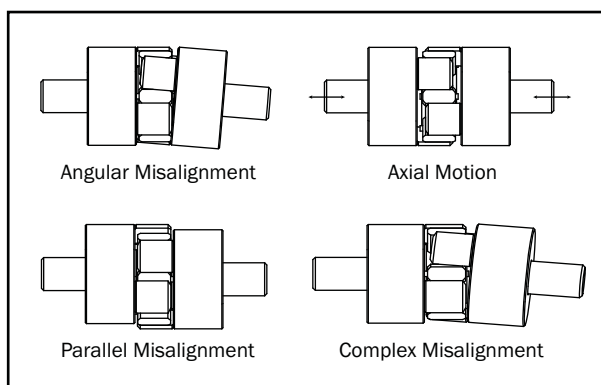
## Bore Tolerance

+0.002"/-.000"

+0.050 mm/-.000mm

## Maximum Speed

8,000 rpm



## TORQUE RATINGS— CLAMP SCREW

METRIC Clamp Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M2	0.60	0.36
M2.5	1.21	0.73
M3	2.10	1.10
M4	4.60	2.50
M5	9.50	5.40
M6	16.00	9.60

## TORQUE RATINGS— SET SCREW

METRIC Set Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL
M3	0.92	0.73
M4	2.20	1.76
M5	4.00	3.20
M6	7.20	5.76
M8	17.00	13.60

## INSTALLATION INSTRUCTIONS

### Zero Backlash Jaw Couplings

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Slide a hub onto each shaft to be joined with the drive tenons facing each other.
3. Fully tighten the screw(s) on the first hub to the recommended seating torque (see charts).
4. Insert a spider into the jaws of one hub until the raised points contact the base of the hub.
5. Insert the jaws of the second hub into the spider openings until the raised points contact the base of the second hub. Some force will be required to insert the second hub. This is normal.
6. Assure that a gap is maintained between the two hubs so there is no metal to metal contact. Fully tighten the screw(s) on the second hub to the recommended seating torque (see charts).

## ORDERING INFORMATION

For a complete coupling, order two hubs and one spider.

**To Order Hubs:** Choose any bore size (inch, metric or mixed) available in a body size. Part numbers are in the following format with numbers representing sixteenths of an inch or millimeters.

Style — **JC-32-10-A** — Material  
Clamp — Aluminum  
OD 2.0" — .625" Bore

**To Order Spider:** Choose Durometer and hub body size (OD). Inch dimensions are on the left side of the "/" and metric on the right.

**JD16/25-98R** — Durometer/Colour  
98 Shore A/Red  
Inch OD 1.0" — 25mm Metric OD

# Oldham Shaft Couplings



## Oldham Shaft Couplings

### Product Range:

- Oldham (Inch)  
*OCT (Clamp) and OST (Set Screw)*
- Oldham (Metric)  
*MOCT (Clamp) and MOST (Set Screw)*
- Oldham with Keyway (Inch)  
*OCC (Clamp) and OSC (Set Screw)*
- Oldham with Keyway (Metric)  
*MOCC (Clamp) and MOSC (Set Screw)*



Oldham couplings are three piece couplings comprised of two hubs and a center member. The center disk, which is available in a choice of acetal for high torsional stiffness or nylon for vibration and shock absorption, is the torque transmitting element.

Torque transmission is accomplished by mating slots in the center disk, located on opposite sides of the disk and oriented 90 degrees apart, with the drive tenons on the hubs. The slots of the disk fit on the tenons of the hub with a slight press fit. This press fit allows the coupling (with an acetal disk) to operate with zero backlash.

While over time the sliding of the disk over the tenons will create wear and the coupling will cease to be zero backlash, the disk can be easily replaced and the coupling's original performance restored. In operation, the center disk slides on the tenon of the hub to accommodate misalignment.

This design is particularly well suited for handling relatively large amounts of parallel misalignment.

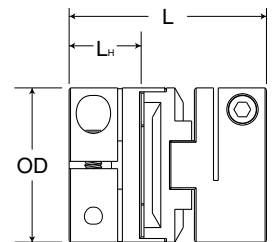
The disks are also electrically isolating and can act as a mechanical fuse. When the plastic insert fails, it breaks cleanly and does not allow any transmission of power, preventing other damage from occurring to more expensive machinery components.

## HUBS

PART NUMBER		SPECIFICATIONS									
CLAMP STYLE	SET SCREW STYLE	BORE (in)	OUTER DIAM. OD (in)	HUB LENGTH L <sub>H</sub> (in)		COUPLING LENGTH L (in)		SHAFT PENETRATION (in)		CLAMP SCREW	SET SCREW
				(OCT)	(OST)	(OCT)	(OST)	(OCT)	(OST)		
	OST8-2-A	.1250									
	OST8-3-A	.1875	0.500		0.222		0.625		0.222		M3
	OST8-4-A	.2500									
OCT12-3-A	OST12-3-A	.1875									
OCT12-4-A	OST12-4-A	.2500	0.750	0.380	0.300	1.000	0.875	0.380	0.300	M2.5	M3
OCT12-5-A	OST12-5-A	.3125									
OCT16-4-A	OST16-4-A	.2500									
OCT16-5-A	OST16-5-A	.3125	1.000	0.467	0.390	1.250	1.125	0.467	0.390	M3	M4
OCT16-6-A	OST16-6-A	.3750									
OCT16-8-A	OST16-8-A	.5000									
OCT21-5-A	OST21-5-A	.3125									
OCT21-6-A	OST21-6-A	.3750	1.313	0.590	0.590	1.875	1.875	0.590	0.590	M3	M4
OCT21-8-A	OST21-8-A	.5000									
OCT21-10-A	OST21-10-A	.6250									
OCT26-6-A	OST26-6-A	.3750									
OCT26-8-A	OST26-8-A	.5000	1.625	0.710	0.710	2.000	2.000	0.710	0.710	M4	M5
OCT26-10-A	OST26-10-A	.6250									
OCT26-12-A	OST26-12-A	.7500									
OCT32-8-A		.5000									
OCT32-10-A		.6250									
OCT32-12-A		.7500	2.000	0.820		2.350		0.820		M5	
OCT32-14-A		.8750									
OCT32-16-A		1.0000									
OCT36-8-A		.5000									
OCT36-10-A		.6250									
OCT36-12-A		.7500	2.250	1.130		3.100		1.130		M6	
OCT36-14-A		.8750									
OCT36-16-A		1.0000									

## DISKS

PART NUMBER	MATERIAL	OUTER DIAM. OD (in)	TORSIONAL STIFFNESS (Deg/lb-in)	RATED TORQUE (lb-in)	BREAK TORQUE (lb-in)	PARALLEL MISALIGNMENT (in)	AXIAL MOTION (in)
OD8/13-AT	Acetal	0.500	.072	6.0	34	0.004	0.002
OD12/19-AT	Acetal	0.750	.043	20.0	93	0.008	0.004
OD16/25-AT	Acetal	1.000	.033	42.0	168	0.008	0.004
OD21/33-AT	Acetal	1.313	.009	70.0	350	0.008	0.006
OD26/41-AT	Acetal	1.625	.008	130.0	480	0.010	0.006
OD32/51-AT	Acetal	2.000	.005	250.0	750	0.010	0.008
OD36/57-AT	Acetal	2.250	.003	375.0	1100	0.010	0.008
OD8/13-NL	Nylon 11	0.500	.290	1.5	25	0.004	0.002
OD12/19-NL	Nylon 11	0.750	.140	5.0	85	0.008	0.004
OD16/25-NL	Nylon 11	1.000	.126	10.0	140	0.008	0.004
OD21/33-NL	Nylon 11	1.313	.052	18.0	300	0.008	0.006
OD26/41-NL	Nylon 11	1.625	.037	32.0	400	0.010	0.006



**Note 1** Couplings can accommodate angular misalignment up to 0.5°.

**Note 2** Hardware is alloy steel with black oxide finish. Parts OST8, OST12, MOST13 and MOST19 have one set screw on each end. OST16, OST21, OST26, MOST25, MOST33 and MOST41 have two set screws 90° apart.

**Note 3** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 4** Couplings supplied with black anodized aluminum hubs.

## HUBS

PART NUMBER		SPECIFICATIONS									
CLAMP STYLE	SET SCREW STYLE	BORE (mm)	OUTER DIAM. OD (mm)	HUB LENGTH L <sub>H</sub> (mm)		COUPLING LENGTH L (mm)		SHAFT PENETRATION (mm)		CLAMP SCREW	SET SCREW
				(MOCT)	(MOST)	(MOCT)	(MOST)	(MOCT)	(MOST)		
	MOST13-3-A	3									
	MOST13-4-A	4	12.7		5.6		15.9		5.6		M3
	MOST13-5-A	5									
	MOST13-6-A	6									
MOCT19-4-A	MOST19-4-A	4									
MOCT19-5-A	MOST19-5-A	5	19.1	9.7	7.6	25.4	22.2	9.7	7.6	M2.5	M3
MOCT19-6-A	MOST19-6-A	6									
MOCT19-8-A	MOST19-8-A	8									
MOCT25-6-A	MOST25-6-A	6									
MOCT25-8-A	MOST25-8-A	8	25.4	11.9	9.9	31.8	28.6	11.9	9.9	M3	M4
MOCT25-10-A	MOST25-10-A	10									
MOCT25-12-A	MOST25-12-A	12									
MOCT33-8-A	MOST33-8-A	8									
MOCT33-10-A	MOST33-10-A	10									
MOCT33-12-A	MOST33-12-A	12	33.3	15.0	15.0	47.6	47.6	15.0	15.0	M3	M4
MOCT33-14-A	MOST33-14-A	14									
MOCT33-16-A	MOST33-16-A	16									
MOCT41-10-A	MOST41-10-A	10									
MOCT41-12-A	MOST41-12-A	12									
MOCT41-14-A	MOST41-14-A	14	41.3	18.0	18.0	50.8	50.8	18.0	18.0	M4	M5
MOCT41-16-A	MOST41-16-A	16									
MOCT41-20-A	MOST41-20-A	20									
MOCT51-12-A	MOST51-12-A	12									
MOCT51-14-A	MOST51-14-A	14									
MOCT51-16-A	MOST51-16-A	16	50.8	20.8		59.7		20.8		M5	
MOCT51-20-A	MOST51-20-A	20									
MOCT51-25-A	MOST51-25-A	25									
MOCT57-14-A	MOST57-14-A	14									
MOCT57-16-A	MOST57-16-A	16									
MOCT57-20-A	MOST57-20-A	20	57.2	28.7		78.7		28.7		M6	
MOCT57-25-A	MOST57-25-A	25									
MOCT57-30-A	MOST57-30-A	30									

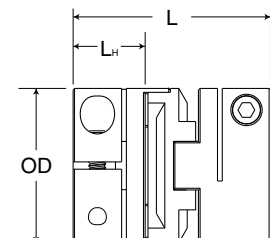
## DISKS

PART NUMBER	MATERIAL	OUTER DIAM. OD (mm)	TORSIONAL STIFFNESS (Deg/Nm)	RATED TORQUE (Nm)	BREAK TORQUE (Nm)	PARALLEL MISALIGNMENT (mm)	AXIAL MOTION (mm)
OD8/13-AT	Acetal	12.7	0.636	0.68	3.9	0.10	0.05
OD12/19-AT	Acetal	19.1	0.380	2.25	10.5	0.20	0.10
OD16/25-AT	Acetal	25.4	0.291	4.75	19.0	0.20	0.10
OD21/33-AT	Acetal	33.3	0.079	8.00	39.5	0.20	0.15
OD26/41-AT	Acetal	41.3	0.068	14.75	54.5	0.25	0.15
OD32/51-AT	Acetal	50.8	0.044	28.50	85.0	0.25	0.20
OD36/57-AT	Acetal	57.2	0.027	42.50	125.0	0.25	0.20
OD8/13-NL	Nylon 11	12.7	2.560	0.17	2.8	0.10	0.05
OD12/19-NL	Nylon 11	19.1	1.240	0.57	9.6	0.20	0.10
OD16/25-NL	Nylon 11	25.4	1.110	1.13	15.9	0.20	0.10
OD21/33-NL	Nylon 11	33.3	0.460	2.05	34.0	0.20	0.15
OD26/41-NL	Nylon 11	41.3	0.330	3.65	45.3	0.25	0.15

### ORDERING INFORMATION

**For a complete coupling, order two hubs and one disk.**

For example: order MOCT19-4-A, MOCT19-6-A, and OD12/19-AT to form a complete coupling with a 19.1 mm OD, 4 mm and 6 mm bores and a zero backlash disk.



## HUBS

PART NUMBER		SPECIFICATIONS										
CLAMP STYLE	SET SCREW STYLE	KEYWAY (in)	BORE (in)	OUTER DIAM. OD (in)	HUB LENGTH L <sub>H</sub> (in)		COUPLING LENGTH L (in)		SHAFT PENETRATION (in)		CLAMP SCREW	SET SCREW
					(OCC)	(OSC)	(OCC)	(OSC)	(OCC)	(OSC)		
OCC16-6-A	OSC16-6-A	3/32	.3750	1.000	0.467	0.390	1.250	1.125	0.467	0.390	M3	M4
OCC16-8-A	OSC16-8-A	1/8	.5000									
OCC21-6-A	OSC21-6-A	3/32	.3750	1.313	0.590	0.590	1.875	1.875	0.590	0.590	M3	M4
OCC21-8-A	OSC21-8-A	1/8	.5000									
OCC21-10-A	OSC21-10-A	3/16	.6250									
OCC26-6-A	OSC26-6-A	3/32	.3750									
OCC26-8-A	OSC26-10-A	1/8	.5000	1.625	0.710	0.710	2.000	2.000	0.710	0.710	M4	M5
OCC26-10-A	OSC26-12-A	3/16	.6250									
OCC26-12-A	OSC26-14-A	3/16	.7500	2.000	0.820		2.350		0.820		M5	
OCC32-8-A		1/8	.5000									
OCC32-10-A		3/16	.6250									
OCC32-12-A		3/16	.7500									
OCC32-14-A		3/16	.8750									
OCC32-16-A		1/4	1.000									
OCC36-8-A		1/8	.5000	2.250	1.130		3.100		1.130		M6	
OCC36-10-A		3/16	.6250									
OCC36-12-A		3/16	.7500									
OCC36-14-A		3/16	.8750									
OCC36-16-A		1/4	1.000									

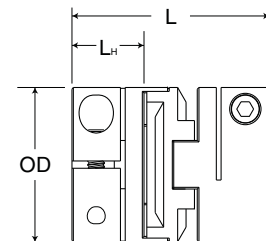
## DISKS

PART NUMBER	MATERIAL	OUTER DIAM. OD (in)	RATED TORQUE (lb-in)	TORSIONAL STIFFNESS (Deg/lb-in)	BREAK TORQUE (lb-in)	ANGULAR (Deg)	PARALLEL MISALIGNMENT (in)	AXIAL MOTION (in)
OD8/13-AT	Acetal	0.500	6	.072	34	0.5	0.004	0.002
OD12/19-AT	Acetal	0.750	20	.043	93	0.5	0.008	0.004
OD16/25-AT	Acetal	1.000	42	.033	168	0.5	0.008	0.004
OD21/33-AT	Acetal	1.313	70	.009	350	0.5	0.008	0.006
OD26/41-AT	Acetal	1.625	130	.008	480	0.5	0.010	0.006
OD32/51-AT	Acetal	2.000	250	.005	750	0.5	0.010	0.008
OD36/57-AT	Acetal	2.250	375	.003	1100	0.5	0.010	0.008
OD8/13-NL	Nylon 11	0.500	1.5	.290	25	0.5	0.004	0.002
OD12/19-NL	Nylon 11	0.750	5.0	.140	85	0.5	0.008	0.004
OD16/25-NL	Nylon 11	1.000	10.0	.126	140	0.5	0.008	0.004
OD21/33-NL	Nylon 11	1.313	18.0	.052	300	0.5	0.008	0.006
OD26/41-NL	Nylon 11	1.625	32.0	.037	400	0.5	0.010	0.006

### ORDERING INFORMATION

**For a complete coupling, order two hubs and one disk.**

For example: order OCC32-12-A, OCC32-10-A and OD32/51-AT to form a complete coupling with a 2 in OD, .75 in and .625 in bores and a zero backlash disk.



**Note 1** Hardware is alloy steel with black oxide finish.

**Note 2** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 3** Couplings supplied with black anodized aluminum hubs.

## HUBS

PART NUMBER		SPECIFICATIONS										
CLAMP STYLE	SET SCREW STYLE	KEYWAY (mm)	BORE (mm)	OUTER DIAM. OD (mm)	HUB LENGTH L <sub>H</sub> (mm)		COUPLING LENGTH L (mm)		SHAFT PENETRATION (mm)		CLAMP SCREW	SET SCREW
					(MOCC)	(MOSC)	(MOCC)	(MOSC)	(MOCC)	(MOSC)		
MOCC25-10-A	MOSC25-10-A	3	10	25.4	11.9	9.9	31.8	28.6	11.9	9.9	M3	M4
MOCC25-12-A	MOSC25-12-A	4	12									
MOCC33-10-A	MOSC33-10-A	3	10	33.3	15.0	15.0	47.6	47.6	15.0	15.0	M3	M4
MOCC33-12-A	MOSC33-12-A	4	12									
MOCC33-14-A	MOSC33-14-A	5	14									
MOCC33-16-A	MOSC33-16-A	5	16									
MOCC41-10-A	MOSC41-10-A	3	10	41.3	18.0	18.0	50.8	50.8	18.0	18.0	M4	M5
MOCC41-12-A	MOSC41-12-A	4	12									
MOCC41-14-A	MOSC41-14-A	5	14									
MOCC41-16-A	MOSC41-16-A	5	16									
MOCC41-20-A	MOSC41-20-A	6	20	50.8	20.8	59.7	20.8	20.8	20.8	M5	M5	
MOCC51-12-A		4	12									
MOCC51-14-A		5	14									
MOCC51-16-A		5	16									
MOCC51-20-A		6	20									
MOCC51-25-A		8	25									
MOCC57-14-A		5	14	57.2	28.7	78.7	28.7	28.7	28.7	M6	M6	
MOCC57-16-A		5	16									
MOCC57-20-A		6	20									
MOCC57-25-A		8	25									
MOCC57-30-A		8	30									

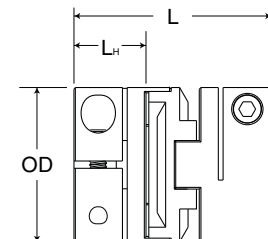
## DISKS

PART NUMBER	MATERIAL	OUTER DIAM. OD (mm)	RATED TORQUE (Nm)	TORSIONAL STIFFNESS (Deg/Nm)	BREAK TORQUE (Nm)	ANGULAR (Deg)	PARALLEL MISALIGNMENT (mm)	AXIAL MOTION (mm)
OD8/13-AT	Acetal	12.7	0.68	0.636	3.9	0.5	0.10	0.05
OD12/19-AT	Acetal	19.1	2.25	0.380	10.5	0.5	0.20	0.10
OD16/25-AT	Acetal	25.4	4.75	0.291	19.0	0.5	0.20	0.10
OD21/33-AT	Acetal	33.3	8.00	0.079	39.5	0.5	0.20	0.15
OD26/41-AT	Acetal	41.3	14.75	0.068	54.5	0.5	0.25	0.15
OD32/51-AT	Acetal	50.8	28.50	0.044	85.0	0.5	0.25	0.20
OD36/57-AT	Acetal	57.2	42.50	0.027	125.0	0.5	0.25	0.20
OD8/13-NL	Nylon 11	12.7	0.17	2.560	2.8	0.5	0.10	0.05
OD12/19-NL	Nylon 11	19.1	0.57	1.240	9.6	0.5	0.20	0.10
OD16/25-NL	Nylon 11	25.4	1.13	1.110	15.9	0.5	0.20	0.10
OD21/33-NL	Nylon 11	33.3	2.05	0.460	34.0	0.5	0.20	0.15
OD26/41-NL	Nylon 11	41.3	3.65	0.330	45.3	0.5	0.25	0.15

### ORDERING INFORMATION

**For a complete coupling, order two hubs and one disk.**

For example: order MOCC33-14-A, MOCC33-10-A and OD21/33-AT to form a complete coupling with a 33.3 mm OD, 14 mm and 10 mm bores and a zero backlash disk.



**Note 1** Hardware is alloy steel with black oxide finish.

**Note 2** Performance ratings are for guidance only. The user must determine suitability for a particular application.

**Note 3** Couplings supplied with black anodized aluminum hubs.

# Oldham Technical Information

## Materials

Torque Disks: Acetal or Nylon 11

Hubs: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar

## Surface Finish

Hubs: Sulfuric Anodized MIL-A-8625 Type II, class 2

## Hardware

Socket Head Cap Screws: Alloy steel, heat treated. Meet or exceed ASA specification B18.3. Metric hardware meets or exceeds ASA specifications B18.3.1M and ASTM A574M property class 12.9

Forged Socket Set Screws: Alloy steel, heat treated, cup point. Meet or exceed ASA specification B18.3

## Temperature Range

-10°F to 150°F with Acetal disk

-10°F to 130°F with Nylon 11 disk

## Bore Tolerance

+0.002"/-0.000"

+0.050 mm/-0.000mm

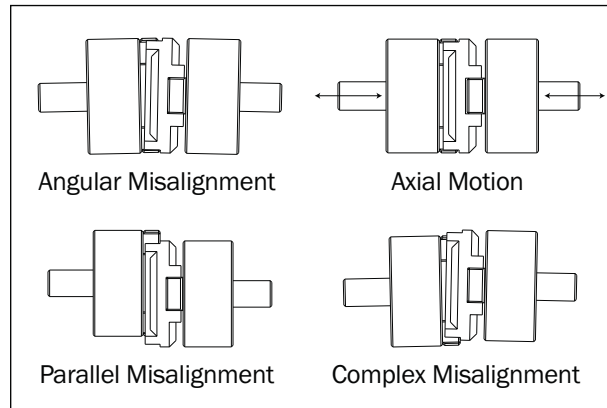
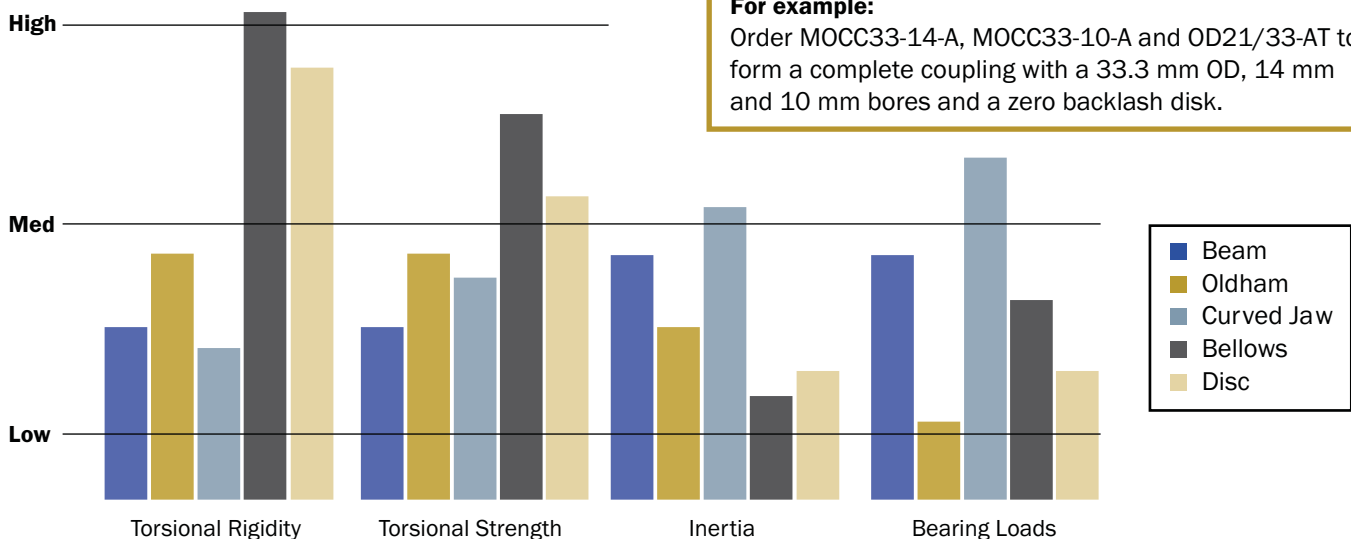
## Maximum Speed 4,500 rpm

### Torque Ratings— Clamp Screw

METRIC Clamp Screw	Seating Torque(Nm)	
	ALLOY	STAINLESS STEEL
M2	0.60	0.36
M2.5	1.21	0.73
M3	2.10	1.10
M4	4.60	2.50
M5	9.50	5.40
M6	16.00	9.60

### Torque Ratings— Set Screw

METRIC Set Screw	Seating Torque(Nm)	
	ALLOY	STAINLESS STEEL
M2.5	0.57	0.44
M3	0.92	0.73
M4	2.20	1.76
M5	4.00	3.20
M6	7.20	5.76



## INSTALLATION INSTRUCTIONS

### Oldham Couplings

1. Assure that the misalignment between shafts is within the coupling's ratings.
2. Slide a hub onto each shaft to be joined with the drive tenons facing each other.
3. Rotate the hubs on the shaft so the drive tenons are located 90° from each other.
4. Place a torque disk so one groove fits over the drive tenons of a hub and center the disk by hand.
5. Insert a shim with the thickness of the coupling's axial motion rating into the groove of the torque disk.
6. Slide the tenons of the second hub into the mating groove in the disk until it touches the shim stock.
7. Fully tighten the screw(s) on each hub to their recommended seating torque (see charts).
8. Remove the shim stock to leave a small gap between the top of the drive tenons and the torque disk to allow for axial movement.

### ORDERING INFORMATION

For a complete coupling, order two hubs and one disk.

#### For example:

Order MOCC33-14-A, MOCC33-10-A and OD21/33-AT to form a complete coupling with a 33.3 mm OD, 14 mm and 10 mm bores and a zero backlash disk.

# Rigid Shaft Couplings



## Rigid Shaft Couplings

### Product Range:

- 1 and 2-Piece Rigid (Inch/Metric)  
*Without Keyway*  
CLX/MCLX (One-Piece Clamp)  
SPX/MSPX (Two-Piece Clamp)
- 1 and 2-Piece Rigid (Inch/Metric)  
*With Keyway*  
CLC/MCLC (One-Piece Clamp)  
SPC/MSPC (Two-Piece Clamp)
- Set Screw Rigid (Inch/Metric)  
*Without Keyway*  
SCX/MSCX (Set Screw)
- Set Screw Rigid (Inch/Metric)  
*With Keyway*  
SCC/MSCC (Set Screw)



Ruland's rigid couplings are available in one- and two-piece clamp designs, and set screw style, with and without keyways in a variety of materials. A large number of standard sizes are available to fit shafts from 1/8" to 2" in the inch series and 3mm to 50mm in the metric series. Rigid couplings are stamped with the Ruland name and the bore sizes for easy identification.

Clamp style rigid couplings wrap around the shaft, providing high torsional holding power without the shaft damage and fretting that occurs when set screw style couplings are used. Two-piece clamp styles also allow for disassembly and maintenance without removal of other machine components and feature opposing hardware for a balanced design.

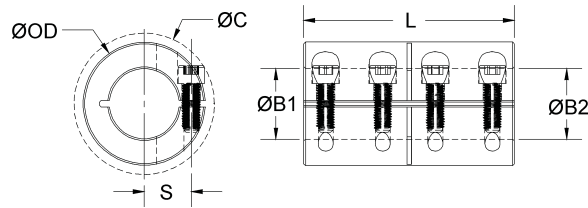
We take extra steps in the manufacture of rigid couplings to provide important performance benefits. For example, the bores of Ruland straight-bore couplings are precision honed. Honing ensures the bores are concentric and also corrects any residual distortions caused by stresses introduced during the manufacturing process. This results in a round, precisely sized bore yielding easier installation and greater torque transmission capability.

Clamp style rigid couplings are supplied with Ruland's Nypatch® socket head cap screws. Nypatch® involves a process of depositing a 360° ring of nylon on several threads of the screws. This coating reduces screw vibration, which can cause the screws to loosen and torque transmission ability to diminish during the course of normal use.

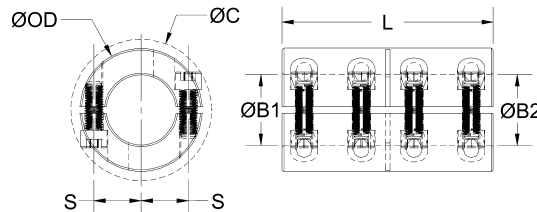
# ONE- AND TWO-PIECE RIGID COUPLINGS WITHOUT KEYWAY • INCH DIMENSION SERIES

**CLX  
SPX**

CLX



SPX

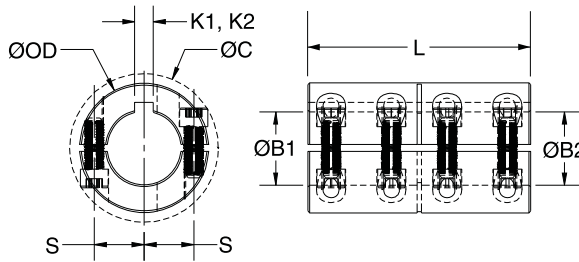
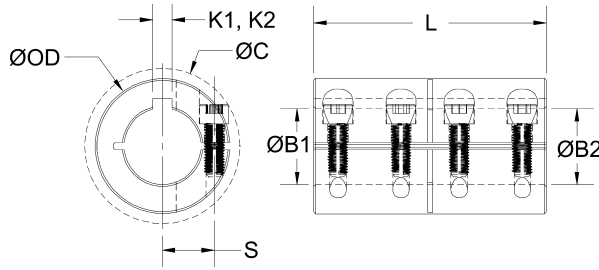


- Does not mar the shaft.
- Precision honed bore on straight bore couplings.
- 3-piece styles available.
- Nypatch® Anti-vibration hardware.
- Opposing hardware on 2-piece styles.
- Additional sizes available.
- Bore tolerance: +.002"  
+.0005"
- Maximum speed: 4,000 rpm

**PART NUMBER**

**SPECIFICATIONS**

ONE-PIECE		TWO-PIECE			BORE B1 (in)	BORE B2 (in)	OUTER DIAM. OD (in)	SCREW LOCATION S (in)	CLEARANCE DIAMETER C (in) MAX	LENGTH L (in)	FORGED CLAMP SCREW
BLACK OXIDE STEEL	ALUMINUM	BLACK OXIDE STEEL	STAINLESS STEEL	STAINLESS STEEL							
CLX-2-2-F	CLX-2-2-A	CLX-2-2-SS	SPX-2-2-F	SPX-2-2-SS	0.125	0.125	1/2	0.150	0.578	13/16	#2-56
CLX-3-3-F	CLX-3-3-A	CLX-3-3-SS	SPX-3-3-F	SPX-3-3-SS	0.188	0.188	9/16	0.185	0.651	7/8	#2-56
CLX-4-3-F	CLX-4-3-A	CLX-4-3-SS	SPX-4-3-F	SPX-4-3-SS	0.250	0.188	5/8	0.219	0.815	1	#4-40
CLX-4-4-F	CLX-4-4-A	CLX-4-4-SS	SPX-4-4-F	SPX-4-4-SS	0.250	0.250	5/8	0.219	0.815	1	#4-40
CLX-6-4-F	CLX-6-4-A	CLX-6-4-SS	SPX-6-4-F	SPX-6-4-SS	0.375	0.250	7/8	0.313	1.033	1-3/8	#6-32
CLX-6-6-F	CLX-6-6-A	CLX-6-6-SS	SPX-6-6-F	SPX-6-6-SS	0.375	0.375	7/8	0.313	1.033	1-3/8	#6-32
CLX-8-6-F	CLX-8-6-A	CLX-8-6-SS	SPX-8-6-F	SPX-8-6-SS	0.500	0.375	1-1/8	0.430	1.328	1-3/4	#8-32
CLX-8-8-F	CLX-8-8-A	CLX-8-8-SS	SPX-8-8-F	SPX-8-8-SS	0.500	0.500	1-1/8	0.430	1.328	1-3/4	#8-32
CLX-10-8-F	CLX-10-8-A	CLX-10-8-SS	SPX-10-8-F	SPX-10-8-SS	0.625	0.500	1-5/16	0.484	1.514	2	#10-32
CLX-10-10-F	CLX-10-10-A	CLX-10-10-SS	SPX-10-10-F	SPX-10-10-SS	0.625	0.625	1-5/16	0.484	1.514	2	#10-32
CLX-12-8-F		CLX-12-8-SS	SPX-12-8-F	SPX-12-8-SS	0.750	0.500	1-1/2	0.545	1.842	2-1/4	1/4-28
CLX-12-10-F		CLX-12-10-SS	SPX-12-10-F	SPX-12-10-SS	0.750	0.625	1-1/2	0.545	1.842	2-1/4	1/4-28
CLX-12-12-F		CLX-12-12-SS	SPX-12-12-F	SPX-12-12-SS	0.750	0.750	1-1/2	0.545	1.842	2-1/4	1/4-28
CLX-14-10-F		CLX-14-10-SS	SPX-14-10-F	SPX-14-10-SS	0.875	0.625	1-5/8	0.600	1.932	2-1/2	1/4-28
CLX-14-14-F		CLX-14-14-SS	SPX-14-14-F	SPX-14-14-SS	0.875	0.875	1-5/8	0.600	1.932	2-1/2	1/4-28
CLX-16-8-F		CLX-16-8-SS	SPX-16-8-F	SPX-16-8-SS	1.000	0.500	1-3/4	0.670	2.049	3	1/4-28
CLX-16-12-F		CLX-16-12-SS	SPX-16-12-F	SPX-16-12-SS	1.000	0.750	1-3/4	0.670	2.049	3	1/4-28
CLX-16-16-F		CLX-16-16-SS	SPX-16-16-F	SPX-16-16-SS	1.000	1.000	1-3/4	0.670	2.049	3	1/4-28
CLX-18-16-F		CLX-18-16-SS	SPX-18-16-F	SPX-18-16-SS	1.125	1.000	1-7/8	0.748	2.182	3-1/8	1/4-28
CLX-18-18-F		CLX-18-18-SS	SPX-18-18-F	SPX-18-18-SS	1.125	1.125	1-7/8	0.748	2.182	3-1/8	1/4-28
CLX-20-16-F		CLX-20-16-SS	SPX-20-16-F	SPX-20-16-SS	1.250	1.000	2-1/16	0.807	2.286	3-1/4	1/4-28
CLX-20-20-F		CLX-20-20-SS	SPX-20-20-F	SPX-20-20-SS	1.250	1.250	2-1/16	0.807	2.286	3-1/4	1/4-28
CLX-22-16-F		CLX-22-16-SS	SPX-22-16-F	SPX-22-16-SS	1.375	1.000	2-1/2	0.986	2.772	3-5/8	5/16-24
CLX-22-22-F		CLX-22-22-SS	SPX-22-22-F	SPX-22-22-SS	1.375	1.375	2-1/2	0.986	2.772	3-5/8	5/16-24
CLX-24-16-F		CLX-24-16-SS	SPX-24-16-F	SPX-24-16-SS	1.500	1.000	2-5/8	1.050	2.886	3-7/8	5/16-24
CLX-24-24-F		CLX-24-24-SS	SPX-24-24-F	SPX-24-24-SS	1.500	1.500	2-5/8	1.050	2.886	3-7/8	5/16-24
CLX-28-28-F		CLX-28-28-SS	SPX-28-28-F	SPX-28-28-SS	1.750	1.750	3-1/8	1.305	3.365	4-1/2	3/8-24
CLX-32-32-F		CLX-32-32-SS	SPX-32-32-F	SPX-32-32-SS	2.000	2.000	3-3/8	1.391	3.717	4-7/8	3/8-24



- Does not mar the shaft.
- Precision honed bore on straight bore couplings.
- 3-piece styles available.
- Nypatch® Anti-vibration hardware.
- Opposing hardware on 2-piece styles.
- Additional sizes available.
- Bore tolerance: +.002"  
+.0005"
- Maximum speed: 4,000 rpm

**PART NUMBER**

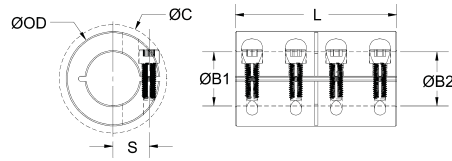
**SPECIFICATIONS**

ONE-PIECE BLACK OXIDE STEEL	STAINLESS STEEL	TWO-PIECE BLACK OXIDE STEEL	STAINLESS STEEL	BORE B1 (in)	BORE B2 (in)	OD (in)	LENGTH L (in)	SCREW LOCATION S (in)	CLEARANCE DIAMETER C (in) MAX	KEYWAY K1 (in)	KEYWAY K2 (in)	FORGED CLAMP SCREW
		SPC-6-4-F	SPC-6-4-SS	0.375	0.250	7/8	1-3/8	0.313	1.033	3/32	N/A	#6-32
CLC-6-6-F	CLC-6-6-SS	SPC-6-6-F	SPC-6-6-SS	0.375	0.375	7/8	1-3/8	0.313	1.033	3/32	3/32	#6-32
		SPC-8-6-F	SPC-8-6-SS	0.500	0.375	1-1/8	1-3/4	0.430	1.328	1/8	3/32	#8-32
CLC-8-8-F	CLC-8-8-SS	SPC-8-8-F	SPC-8-8-SS	0.500	0.500	1-1/8	1-3/4	0.430	1.328	1/8	1/8	#8-32
		SPC-10-8-F	SPC-10-8-SS	0.625	0.500	1-5/16	2	0.484	1.514	3/16	1/8	#10-32
CLC-10-10-F	CLC-10-10-SS	SPC-10-10-F	SPC-10-10-SS	0.625	0.625	1-5/16	2	0.484	1.514	3/16	3/16	#10-32
		SPC-12-8-F	SPC-12-8-SS	0.750	0.500	1-1/2	2-1/4	0.545	1.842	3/16	1/8	1/4-28
		SPC-12-10-F	SPC-12-10-SS	0.750	0.625	1-1/2	2-1/4	0.545	1.842	3/16	3/16	1/4-28
CLC-12-12-F	CLC-12-12-SS	SPC-12-12-F	SPC-12-12-SS	0.750	0.750	1-1/2	2-1/4	0.545	1.842	3/16	3/16	1/4-28
		SPC-14-10-F	SPC-14-10-SS	0.875	0.625	1-5/8	2-1/2	0.600	1.932	3/16	3/16	1/4-28
CLC-14-14-F	CLC-14-14-SS	SPC-14-14-F	SPC-14-14-SS	0.875	0.875	1-5/8	2-1/2	0.600	1.932	3/16	3/16	1/4-28
		SPC-16-8-F	SPC-16-8-SS	1.000	0.500	1-3/4	3	0.670	2.049	1/4	1/8	1/4-28
		SPC-16-12-F	SPC-16-12-SS	1.000	0.750	1-3/4	3	0.670	2.049	1/4	3/16	1/4-28
CLC-16-16-F	CLC-16-16-SS	SPC-16-16-F	SPC-16-16-SS	1.000	1.000	1-3/4	3	0.670	2.049	1/4	1/4	1/4-28
		SPC-18-16-F	SPC-18-16-SS	1.125	1.000	1-7/8	3-1/8	0.748	2.182	1/4	1/4	1/4-28
CLC-18-18-F	CLC-18-18-SS	SPC-18-18-F	SPC-18-18-SS	1.125	1.125	1-7/8	3-1/8	0.748	2.182	1/4	1/4	1/4-28
		SPC-20-16-F	SPC-20-16-SS	1.250	1.000	2-1/16	3-1/4	0.807	2.286	1/4	1/4	1/4-28
CLC-20-20-F	CLC-20-20-SS	SPC-20-20-F	SPC-20-20-SS	1.250	1.250	2-1/16	3-1/4	0.807	2.286	1/4	1/4	1/4-28
		SPC-22-16-F	SPC-22-16-SS	1.375	1.000	2-1/2	3-5/8	0.986	2.772	5/16	1/4	5/16-24
CLC-22-22-F	CLC-22-22-SS	SPC-22-22-F	SPC-22-22-SS	1.375	1.375	2-1/2	3-5/8	0.986	2.772	5/16	5/16	5/16-24
		SPC-24-16-F	SPC-24-16-SS	1.500	1.000	2-5/8	3-7/8	1.050	2.886	3/8	1/4	5/16-24
CLC-24-24-F	CLC-24-24-SS	SPC-24-24-F	SPC-24-24-SS	1.500	1.500	2-5/8	3-7/8	1.050	2.886	3/8	3/8	5/16-24
CLC-28-28-F	CLC-28-28-SS	SPC-28-28-F	SPC-28-28-SS	1.750	1.750	3-1/8	4-1/2	1.305	3.365	3/8	3/8	3/8-24
CLC-32-32-F	CLC-32-32-SS	SPC-32-32-F	SPC-32-32-SS	2.000	2.000	3-3/8	4-7/8	1.391	3.717	1/2	1/2	3/8-24

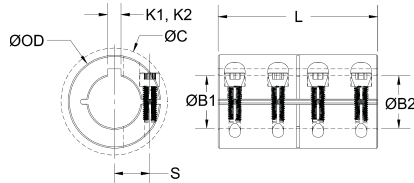
# ONE- AND TWO-PIECE RIGID COUPLINGS WITHOUT OR WITH KEYWAY • METRIC DIMENSION SERIES

# MCLX/MSPX MCLC/MSPC

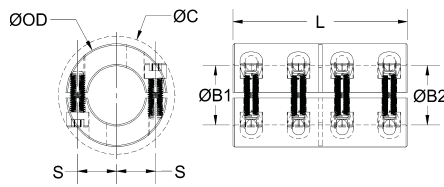
MCLX



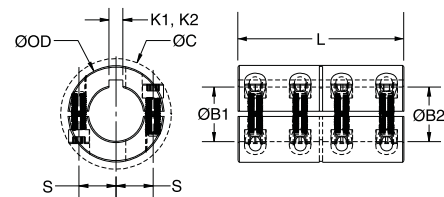
MCLC



MSPX



MSPC

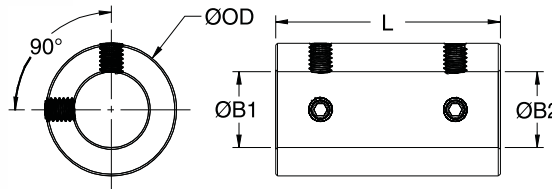


- Does not mar the shaft.
- Precision honed bore on straight bore couplings.
- 3-piece styles available.
- Nypatch® Anti-vibration hardware.
- Opposing hardware on 2-piece styles.
- Additional sizes available.
- Bore tolerance: +.050 mm  
+.012 mm
- Maximum speed: 4,000 rpm

**PART NUMBER**

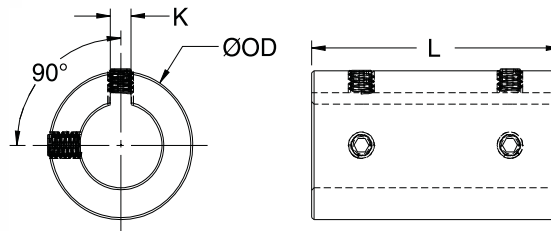
<b>ONE-PIECE</b>			<b>TWO-PIECE</b>		<b>SPECIFICATIONS</b>						
BLACK OXIDE STEEL	ALUMINUM	STAINLESS STEEL	BLACK OXIDE STEEL	STAINLESS STEEL	BORES B1, B2 (mm)	OD (mm)	LENGTH L (mm)	SCREW LOC. S (mm)	CLEARANCE DIAM. C (mm) MAX	KEYWAY K1, K2 (mm)	FORGED CLAMP SCREW
MCLX-3-3-F	MCLX-3-3-A	MCLX-3-3-SS	MSPX-3-3-F	MSPX-3-3-SS	3	15	22	4.6	15.0		M2
MCLX-4-4-F	MCLX-4-4-A	MCLX-4-4-SS	MSPX-4-4-F	MSPX-4-4-SS	4	15	22	4.6	15.0		M2
MCLX-5-5-F	MCLX-5-5-A	MCLX-5-5-SS	MSPX-5-5-F	MSPX-5-5-SS	5	15	22	4.6	15.0		M2
MCLX-6-6-F	MCLX-6-6-A	MCLX-6-6-SS	MSPX-6-6-F	MSPX-6-6-SS	6	18	30	5.9	21.5		M3
MCLX-8-8-F	MCLX-8-8-A	MCLX-8-8-SS	MSPX-8-8-F	MSPX-8-8-SS	8	24	35	9.0	27.1		M3
MCLX-10-10-F	MCLX-10-10-A	MCLX-10-10-SS	MSPX-10-10-F	MSPX-10-10-SS	10	29	45	10.6	33.0		M4
MCLX-12-12-F	MCLX-12-12-A	MCLX-12-12-SS	MSPX-12-12-F	MSPX-12-12-SS	12	29	45	10.6	33.0		M4
MCLX-14-14-F		MCLX-14-14-SS	MSPX-14-14-F	MSPX-14-14-SS	14	34	50	12.0	39.4		M5
MCLX-15-15-F		MCLX-15-15-SS	MSPX-15-15-F	MSPX-15-15-SS	15	34	50	12.0	39.4		M5
MCLX-16-16-F		MCLX-16-16-SS	MSPX-16-16-F	MSPX-16-16-SS	16	34	50	12.0	39.4		M5
MCLX-20-20-F		MCLX-20-20-SS	MSPX-20-20-F	MSPX-20-20-SS	20	42	65	15.4	48.9		M6
MCLX-25-25-F		MCLX-25-25-SS	MSPX-25-25-F	MSPX-25-25-SS	25	45	75	16.9	51.5		M6
MCLX-30-30-F		MCLX-30-30-SS	MSPX-30-30-F	MSPX-30-30-SS	30	53	83	20.9	58.7		M6
MCLX-35-35-F		MCLX-35-35-SS	MSPX-35-35-F	MSPX-35-35-SS	35	67	95	26.7	74.7		M8
MCLX-40-40-F		MCLX-40-40-SS	MSPX-40-40-F	MSPX-40-40-SS	40	77	108	31.8	84.0		M8
MCLX-50-50-F		MCLX-50-50-SS	MSPX-50-50-F	MSPX-50-50-SS	50	85	124	34.1	94.2		M10
MCLC-6-6-F		MCLC-6-6-SS	MSPC-6-6-F	MSPC-6-6-SS	6	18	30	5.9	21.5	2	M3
MCLC-8-8-F		MCLC-8-8-SS	MSPC-8-8-F	MSPC-8-8-SS	8	24	35	9.0	27.1	2	M3
MCLC-10-10-F		MCLC-10-10-SS	MSPC-10-10-F	MSPC-10-10-SS	10	29	45	10.6	33.0	3	M4
MCLC-12-12-F		MCLC-12-12-SS	MSPC-12-12-F	MSPC-12-12-SS	12	29	45	10.6	33.0	4	M4
MCLC-14-14-F		MCLC-14-14-SS	MSPC-14-14-F	MSPC-14-14-SS	14	34	50	12.0	39.4	5	M5
MCLC-15-15-F		MCLC-15-15-SS	MSPC-15-15-F	MSPC-15-15-SS	15	34	50	12.0	39.4	5	M5
MCLC-16-16-F		MCLC-16-16-SS	MSPC-16-16-F	MSPC-16-16-SS	16	34	50	12.0	39.4	5	M5
MCLC-20-20-F		MCLC-20-20-SS	MSPC-20-20-F	MSPC-20-20-SS	20	42	65	15.4	48.9	6	M6
MCLC-25-25-F		MCLC-25-25-SS	MSPC-25-25-F	MSPC-25-25-SS	25	45	75	16.9	51.5	8	M6
MCLC-30-30-F		MCLC-30-30-SS	MSPC-30-30-F	MSPC-30-30-SS	30	53	83	20.9	58.7	8	M6
MCLC-35-35-F		MCLC-35-35-SS	MSPC-35-35-F	MSPC-35-35-SS	35	67	95	26.7	74.7	10	M8
MCLC-40-40-F		MCLC-40-40-SS	MSPC-40-40-F	MSPC-40-40-SS	40	77	108	31.8	84.0	12	M8
MCLC-50-50-F		MCLC-50-50-SS	MSPC-50-50-F	MSPC-50-50-SS	50	85	124	34.1	94.2	14	M10

SCX / MSCX



- Precision honed bore on straight bore couplings.
- Additional sizes available.
- Bore tolerance:  
INCH SIZES: +.002"  
                 +.0005"  
METRIC SIZES: +.050 mm  
                  +.012 mm
- Maximum speed: 4,000 rpm

SCC / MSCC



PART NUMBER				SPECIFICATIONS					
WITHOUT KEYWAY		WITH KEYWAY		BORE 1 (in)	BORE 2 (in)	OUTER DIAM. OD (in)	LENGTH L (in)	KEYWAY K (SCC ONLY) (in)	FORGED SOCKET SET SCREW
BLACK OXIDE STEEL	STAINLESS STEEL	BLACK OXIDE STEEL	STAINLESS STEEL						
SCX-4-4-F	SCX-4-4-SS			0.250	0.250	5/8	1	n/a	#10-32
SCX-6-6-F	SCX-6-6-SS	SCC-6-6-F	SCC-6-6-SS	0.375	0.375	7/8	1-3/8	3/32	1/4-20
SCX-8-8-F	SCX-8-8-SS	SCC-8-8-F	SCC-8-8-SS	0.500	0.500	1-1/8	1-3/4	1/8	1/4-20
SCX-10-10-F	SCX-10-10-SS	SCC-10-10-F	SCC-10-10-SS	0.625	0.625	1-5/16	2	3/16	5/16-18
SCX-12-12-F	SCX-12-12-SS	SCC-12-12-F	SCC-12-12-SS	0.750	0.750	1-1/2	2-1/4	3/16	5/16-18
SCX-14-14-F	SCX-14-14-SS	SCC-14-14-F	SCC-14-14-SS	0.875	0.875	1-5/8	2-1/2	3/16	5/16-18
SCX-16-16-F	SCX-16-16-SS	SCC-16-16-F	SCC-16-16-SS	1.000	1.000	1-3/4	3	1/4	5/16-18
SCX-18-18-F	SCX-18-18-SS	SCC-18-18-F	SCC-18-18-SS	1.125	1.125	1-7/8	3-1/8	1/4	3/8-16
SCX-20-20-F	SCX-20-20-SS	SCC-20-20-F	SCC-20-20-SS	1.250	1.250	2-1/16	3-1/4	1/4	3/8-16
SCX-22-22-F	SCX-22-22-SS	SCC-22-22-F	SCC-22-22-SS	1.375	1.375	2-1/2	3-5/8	5/16	3/8-16
SCX-24-24-F	SCX-24-24-SS	SCC-24-24-F	SCC-24-24-SS	1.500	1.500	2-5/8	3-7/8	3/8	3/8-16
SCX-28-28-F	SCX-28-28-SS	SCC-28-28-F	SCC-28-28-SS	1.750	1.750	3-1/8	4-1/2	3/8	1/2-13
SCX-32-32-F	SCX-32-32-SS	SCC-32-32-F	SCC-32-32-SS	2.000	2.000	3-3/8	4-7/8	1/2	1/2-13
WITHOUT KEYWAY		WITH KEYWAY		BORE 1 (mm)	BORE 2 (mm)	OUTER DIAM. OD (mm)	LENGTH L (mm)	KEYWAY K (MSCC ONLY) (mm)	FORGED SOCKET SET SCREW
BLACK OXIDE STEEL	STAINLESS STEEL	BLACK OXIDE STEEL	STAINLESS STEEL						
MSCX-6-6-F	MSCX-6-6-SS			6	6	18	30	2	M4
MSCX-8-8-F	MSCX-8-8-SS	MSCC-8-8-F	MSCC-8-8-SS	8	8	24	35	2	M4
MSCX-10-10-F	MSCX-10-10-SS	MSCC-10-10-F	MSCC-10-10-SS	10	10	29	45	3	M5
MSCX-12-12-F	MSCX-12-12-SS	MSCC-12-12-F	MSCC-12-12-SS	12	12	29	45	4	M6
MSCX-14-14-F	MSCX-14-14-SS	MSCC-14-14-F	MSCC-14-14-SS	14	14	34	50	5	M6
MSCX-16-16-F	MSCX-16-16-SS	MSCC-16-16-F	MSCC-16-16-SS	16	16	34	50	5	M6
MSCX-18-18-F	MSCX-18-18-SS	MSCC-18-18-F	MSCC-18-18-SS	18	18	42	65	6	M6
MSCX-20-20-F	MSCX-20-20-SS	MSCC-20-20-F	MSCC-20-20-SS	20	20	42	65	6	M6
MSCX-25-25-F	MSCX-25-25-SS	MSCC-25-25-F	MSCC-25-25-SS	25	25	45	75	8	M8
MSCX-30-30-F	MSCX-30-30-SS	MSCC-30-30-F	MSCC-30-30-SS	30	30	53	83	8	M8
MSCX-35-35-F	MSCX-35-35-SS	MSCC-35-35-F	MSCC-35-35-SS	35	35	67	95	10	M8
MSCX-40-40-F	MSCX-40-40-SS	MSCC-40-40-F	MSCC-40-40-SS	40	40	77	108	12	M10
MSCX-50-50-F	MSCX-50-50-SS	MSCC-50-50-F	MSCC-50-50-SS	50	50	85	124	14	M10

# Rigid Technical Information

## All Products are RoHS and REACH Compliant

### Materials

Steel Products: 1215 Cold Drawn Bar.

Aluminum Products: 2024-T351 Extruded and Drawn Aluminum Bar.

Product part numbers ending in "SS ": 18-8 (type 303) austenitic, non-magnetic bar.

Product part numbers ending in "ST ": type 316L.

Plastic: Acetal (white)

### Finishes:

Steel Products: Hot Process Black Oxide surface preparation, impregnated with naphthenic oil, centrifugally dried.

Zinc Plated Steel Products: Zinc Yellow "Trivalent" Chromate Conversion Coating to ASTM B633-85.

Aluminum Products: Bright Finish, Sulfuric Anodized

MIL -A-8625 Type II , class 2

Stainless Steel Products: Bright Finish.

### Black Oxide

The black oxide on our carbon steel collars and couplings is formulated as part of the total performance of the product. It enhances the holding ability of the collar/coupling, has anti-stick-slip characteristics and helps to keep the torque rating of the screw within its designed parameters. It also provides corrosion protection, although it is not intended to be used as an outside weather protective finish.

### Temperature Range

Black Oxide Steel: -40°F to 350°F

Stainless Steel: -40°F to 350°F

Zinc Plated Steel: -40°F to 350°F

Aluminum: -40°F to 225°F

Anodized Aluminum: -40°F to 200°F

Plastic: -10°F to 185°F

### Torque Ratings - Clamp Screw

INCH Clamp Screw	Seating Torque (lb-in)		METRIC Clamp Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL		ALLOY	STAINLESS STEEL
#2-56	6	3.8	M2	0.60	0.36
#4-40	15	8	M2.5	1.21	0.73
#6-32	28	15	M3	2.10	1.10
#8-32	49	28	M4	4.60	2.50
#10-32	76	45	M5	9.50	5.40
1/4-28	170	110	M6	16.00	9.60
5/16-24	325	190	M8	39.00	23.00
3/8-24	570	345	M10	77.00	46.00

### Torque Ratings - Set Screw

INCH Set Screw	Seating Torque (lb-in)		METRIC Set Screw	Seating Torque (Nm)	
	ALLOY	STAINLESS STEEL		ALLOY	STAINLESS STEEL
#1-72	0.8	0.48	M2.5	0.57	0.44
#2-56	1.8	1.08	M3	0.92	0.73
#4-40	5.0	3.00	M4	2.20	1.76
#6-32	10.0	6.00	M5	4.00	3.20
#8-32	15.0	12.00	M6	7.20	5.76
#10-32	25.0	18.00	M8	17.00	13.60
1/4-20	87.0	70.00	M10	33.00	26.40
5/16-18	165.0	130.00			
3/8-16	290.0	230.00			
1/2-13	620.0	500.00			

## HARDWARE

**Inch alloy steel socket cap screws:** heat treated, meet or exceed ANSI /ASME B18.3 and ASTM A574-90. Nypatch® vibration resistant feature on coupling screws. Zinc yellow chromate plated on zinc plated collars.

**Metric alloy steel socket cap screws:** heat treated, meet or exceed ANSI /ASME B18.3.1M and ASTM A574M-90 property class 12.9. Nypatch® vibration resistant feature on coupling screws.

**Inch stainless steel socket cap screws:** 18-8 (300 series) austenitic stainless steel, meet or exceed ANSI /ASME B18.3 and ASTM F837-91. Nypatch® vibration resistant feature on coupling screws.

**Metric stainless steel socket cap screws:** 18-8 (300 series) austenitic stainless steel, meet or exceed ANSI /ASME B18.3.1M and ASTM F837M-91. Nypatch® vibration resistant feature on coupling screws.

**Inch alloy and stainless steel socket set screws:** cup point, heat treated, meet or exceed ANSI /ASME B18.3, forged socket.

**Metric alloy and stainless steel socket set screws:** cup point, heat treated, meet or exceed ANSI /ASME B18.3.6M, forged socket.

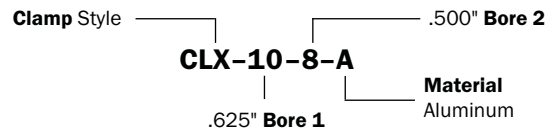
## INSTALLATION INSTRUCTIONS

### Rigid Couplings

1. Align the coupling on the two shafts to be connected.
2. Tighten the Nypatch® clamp screws with an unplated wrench to half of the recommended seating torque.
3. Tighten screws to the full recommended seating torque. (See charts on this page.)
4. Be sure to maintain the gap between the two halves of the coupling on two-piece styles.

## ORDERING INFORMATION

Choose any bore **b1** and any bore **b2** available in a body size. Part numbers are in the following format with numbers representing sixteenths of an inch or millimeters.



**Specials:** As a service to our customers, we offer our extensive machining experience and capabilities to manufacture custom parts. If you don't see what you are looking for in our standard line, please inquire about our custom fabrication service.

Ruland is committed to having the largest variety of sizes and styles in the industry. In addition to the items listed below, we can manufacture an extensive variety of special designs. In Canada, please contact RotoPrecision with your custom needs.

**OLDHAM  
COUPLING**

Clamp and  
Set Screw  
Styles



**BELLOWS  
COUPLING**

Clamp and  
Set Screw  
Styles



**BEAM  
COUPLING**

Clamp and  
Set Screw  
Styles



**JAW  
COUPLING**

Clamp and  
Set Screw  
Styles



**QUICK  
COLLAR**

Clamp and  
Set Screw  
Styles



**SHAFT  
COLLAR**

Clamp and  
Set Screw  
Styles



**DISC  
COUPLING**

Clamp and  
Set Screw  
Styles



**RIGID  
COUPLING**

Clamp and  
Set Screw  
Styles



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