

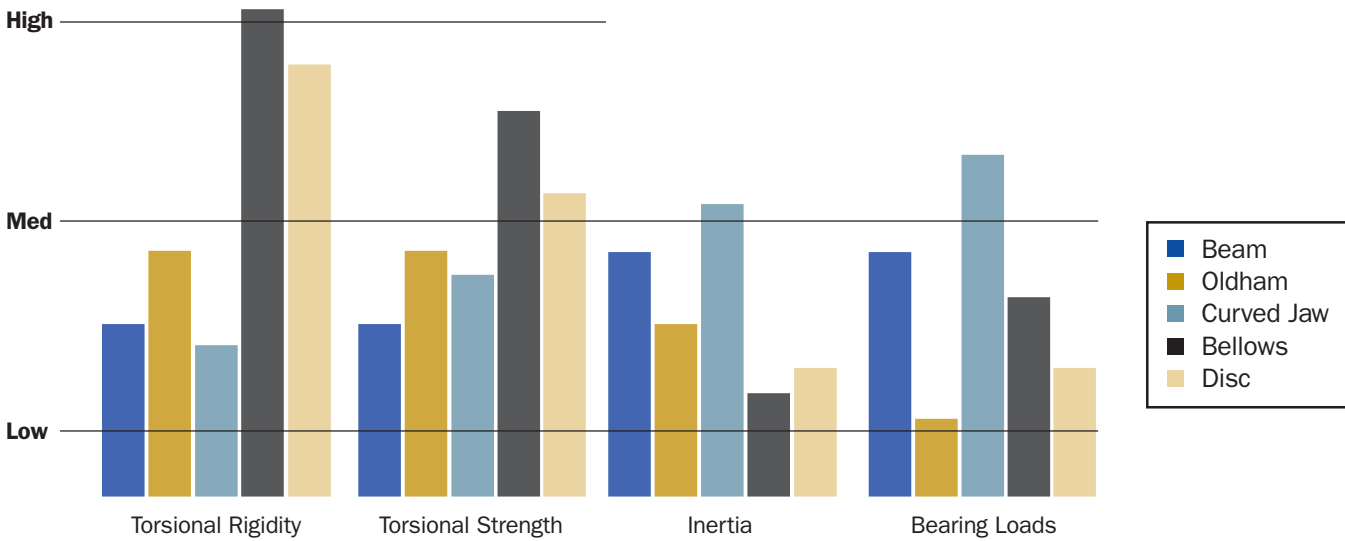
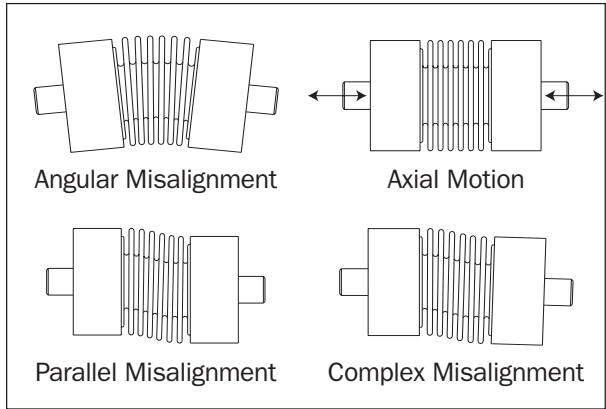
Materials
Bellows: AISI 321 Stainless Steel
Hubs: 2024 T351 or 7075 T651 Extruded and Drawn Aluminum Bar

Surface Finish
Hubs: Type II Sulfuric Anodized

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



Hardware Torque Charts

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

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			
1/4-20	87.0	70.00			

Installation Instructions

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 above).
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.

We are committed to have 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. Please contact us with your custom needs.



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BELFLEX™ COUPLINGS

Ruland Manufacturing Co., Inc. has been supplying carefully made products since 1937. We have manufactured everything from bicycle pumps to high pressure valves, including the valve that pressurized the spacesuit of the first American to walk in space. In recent years, all of our expertise has been devoted to making the best shaft collars and couplings available. Belflex™ bellows couplings are just one design in the full line of motion control couplings manufactured by Ruland (see back cover).

Belflex™ 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.



WARRANTY / DISCLAIMER OF UNSTATED WARRANTIES / LIMITATION OF LIABILITY

Warranty. Ruland warranties that the products sold hereunder meet Ruland's size and materials specifications as set forth in this catalog. Products not meeting Ruland's size and material specifications will, at Ruland's option, be replaced or the purchase price refunded.

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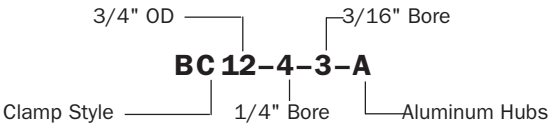
Limitation of Liability. IT IS UNDERSTOOD AND AGREED THAT SELLER'S LIABILITY SHALL NOT EXCEED THE AMOUNT OF THE PURCHASE PRICE. SELLER SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES. THE PRICE STATED FOR THE PRODUCT IS A CONSIDERATION IN LIMITING RULAND'S LIABILITY.

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	#1-72	#4-40	.340	22	72	1.50	.004	.008
		3 (.188)	3 (.188)										
		4 (.250)	4 (.250)										
BC12	BS12	3 (.188)	3 (.188)	.750	1 3⁄16	#2-56	#6-32	.410	40	120	1.50	.004	.010
		4 (.250)	4 (.250)										
		5 (.313)	5 (.313)										
BC16	BS16	4 (.250)	4 (.250)	1.000	1 5⁄16	#4-40	#8-32	.467	60	244	1.50	.004	.012
		5 (.313)	5 (.313)										
		6 (.375)	6 (.375)										
BC21	BS21	8 (.500)	8 (.500)	1.313	1 3⁄16	#6-32	#8-32	.590	120	400	1.50	.006	.016
		10 (.625)	10 (.625)										
		6 (.375)	6 (.375)										
BC26	BS26	8 (.500)	8 (.500)	1.625	2	#8-32	#10-32	.710	250	550	2.00	.010	.020
		10 (.625)	10 (.625)										
		12 (.750)	12 (.750)										
BC32	BS32	8 (.500)	8 (.500)	2.000	2 5⁄16	#10-32	1/4-20	.810	400	950	2.00	.010	.020
		10 (.625)	10 (.625)										
		12 (.750)	12 (.750)										



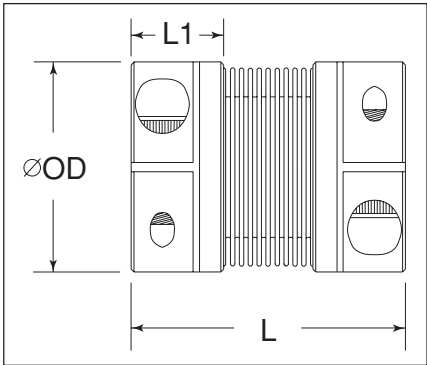
ORDERING INFORMATION

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



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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	25	M2	M3	8.65	2.5	8	1.50	0.10	0.20
		4	4										
		5	5										
MBC19	MBS19	6	6	19	30	M2.5	M3	10.40	4.5	14	1.50	0.10	0.25
		4	4										
		5	5										
MBC25	MBS25	6	6	25	33	M3	M4	11.85	6.8	27	1.50	0.10	0.30
		8	8										
		10	10										
MBC33	MBS33	12	12	33	40	M3	M4	15.00	13.6	45	1.50	0.15	0.40
		8	8										
		10	10										
MBC41	MBS41	12	12	41	51	M4	M5	18.05	28.0	63	2.00	0.25	0.50
		14	14										
		15	15										
MBC51	MBS51	16	16	51	59	M5	M6	20.55	45.2	108	2.00	0.25	0.50
		20	20										
		25	25										



For engineering information, see page 5. For warranty information, see page 2.

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