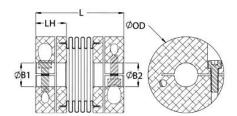




## BC16-1/2"-10MM-A

Ruland BC16-1/2"-10MM-A, 1/2" x 10mm Bellows Coupling, Aluminum, Clamp Style, 1.000" (25.4mm) OD, 1.345" (34.2mm) Length





## **Description**

Ruland BC16-1/2"-10MM-A is a clamp bellows coupling with 0.5000" x 10mm bores, 1.000" (25.4mm) OD, and 1.345" (34.2mm) length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. BC16-1/2"-10MM-A is comprised of two anodized aluminum hubs and a stainless steel bellows. The bellows are able to flex while remaining rigid under torsional loads allowing for all types of misalignment to be accommodated. This bellows coupling is lightweight and has low inertia making it suitable for applications with speeds up to 10,000 RPM. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. Ruland BC16-1/2"-10MM-A has four convolutions allowing for high torsional rigidity and making it an excellent fit for precise positioning stepper servo applications as well as encoders. It is machined from solid bar stock that is sourced exclusively from North American mills and RoHS3 and REACH compliant. BC16-1/2"-10MM-A is carefully manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

ı	D	r	_	٨	h	10	4	S	n	_	ci	fi	0	ati	n	6
1	_			10						_			1	411		•

r roduct opecifications								
Bore (B1)	0.5000 in	Small Bore (B2)	10 mm					
B1 Max Shaft Penetration	0.626 in (15.9 mm)	B2 Max Shaft Penetration	0.626 in (15.9 mm)					
Outer Diameter (OD)	1.000 in (25.4 mm)	Bore Tolerance	+0.001 in / -0.000 in (+0.03 mm / -0.00 mm)					
Length (L)	1.345 in (34.2 mm)	Length Tolerance	+/- 0.030 in (0.76 mm)					
Hub Width (LH)	0.467 in (11.85 mm)	Recommended Shaft Tolerance	+0.0000 / -0.0005 " (+0.000 / -0.013 mm)					
Forged Clamp Screw	M3	Screw Material	Alloy Steel					
Hex Wrench Size	2.5 mm	Screw Finish	Black Oxide					
Seating Torque	2.1 Nm	Number of Screws	2 ea					
Dynamic Torque Reversing	15 lb-in (1.70 Nm)	Angular Misalignment	1.5°					
Dynamic Torque Non-Reversing	30 lb-in (3.40 Nm)	Parallel Misalignment	0.004 in (0.10 mm)					
Static Torque	60 lb-in (6.8 Nm)	Axial Motion	0.012 in (0.30 mm)					
Torsional Stiffness	244 lb-in/Deg (27 Nm/Deg)	Moment of Inertia	0.009092 lb-in <sup>2</sup> , 2.661 x10 <sup>-6</sup> kg-m <sup>2</sup>					
Maximum Speed	10,000 RPM	Full Bearing Support Required?	Yes					
Zero-Backlash?	Yes	Balanced Design	Yes					
Torque Wrench	TW:BT-1R-1/4-18.3	Recommended Hex Key	Metric Hex Keys					
Material Specification	Hubs: 2024-T351 Aluminum Bar Bellows: Type 321 Stainless Steel	Temperature	-40°F to 200°F (-40°C to 93°C)					
Finish Specification	Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize	Bellows Attachment Method	Ероху					
Manufacturer	Ruland Manufacturing	Country of Origin	USA					
Weight (lbs)	0.066400	UPC	634529140420					
Tariff Code	8483.60.8000	UNSPC	31163018					
Note 1	Stainless steel hubs are available u	pon request.						
Note 2	Torque ratings are at maximum misalignment.							
Note 3	Performance ratings are for guidance only. The user must determine suitability for a particular application.							
Note 4	normal/typical conditions the hubs a cases, especially when the smallest	are capable of holding up to the rated	ilure point of the metal bellows. Unde d torque of the metal bellows. In some shafts are undersized, slippage on the are available to provide additional					

torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.

## Prop 65

MARNING This product can expose you to chemicals including Ethylene Thiourea and Nickel (metallic), known to the State of California to cause cancer, and Bisphenol A and Ethylene Thiourea, known to the State of California to cause birth defects or other reproductive harm. For more information go to <a href="https://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>.

## **Installation Instructions**

- 1. Align the bores of the BC16-1/2"-10MM-A bellows coupling on the shafts that are to be joined and determine if the misalignment parameters are within the limits of the coupling. (*Angular Misialignment*: 1.5°, *Parallel Misalignment*: 0.004 in (0.10 mm), *Axial Motion*: 0.012 in (0.30 mm))
- 2. Fully tighten the M3 screw on the first hub to the recommended seating torque of 2.1 Nm using a 2.5 mm hex torque wrench.
- 3. Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.
- Tighten the screw on the second hub to the recommended seating torque. Make sure the coupling remains axially relaxed and the misalignment angle remains centered along the length of the coupling.
- 5. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 0.626 in (15.9 mm).