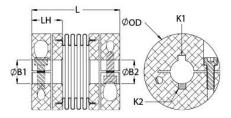




## MBCK51-16-14-A

Ruland MBCK51-16-14-A, 16mm x 14mm Bellows Coupling, Aluminum, Clamp Style With Keyway, 50.8mm OD, 61.3mm Length





## Description

Ruland MBCK51-16-14-A is a clamp bellows coupling with 16mm x 14mm bores, 50.8mm OD, 61.3mm length and 5mm x 5mm keyways. It is zero-backlash and has a balanced design for reduced vibration at high speeds. MBCK51-16-14-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 MBCK51-16-14-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. MBCK51-16-14-A is carefully manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications**

16 mm	Small Bore (B2)	14 mm
5 mm	Keyway (K2)	5 mm
27.9 mm	<b>B2 Max Shaft Penetration</b>	27.9 mm
50.8 mm	Bore Tolerance	+0.03 mm / -0.00 mm
61.3 mm	Length Tolerance	+/- 0.76 mm
20.55 mm	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm
M5	Screw Material	Alloy Steel
4.0 mm	Screw Finish	Black Oxide
9.5 Nm	Number of Screws	2 ea
11.30 Nm	Angular Misalignment	2.0°
22.60 Nm	Parallel Misalignment	0.25 mm
45.2 Nm	Axial Motion	0.50 mm
108 Nm/Deg	Moment of Inertia	8.183 x 10 <sup>-5</sup> kg-m <sup>2</sup>
10,000 RPM	Full Bearing Support Required?	Yes
Yes	Balanced Design	Yes
TW:BT-4C-3/8-86	Recommended Hex Key	Metric Hex Keys
Hubs: 2024-T351 Aluminum Bar	Temperature	-40°F to 200°F (-40°C to 93°C)
Bellows: Type 321 Stainless Steel		
	Bellows Attachment Method	Ероху
	Country of Origin	USA
0		634529167632
8483.60.8000	UNSPC	31163018
Stainless steel hubs are available upon request.		
• •		
Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Torque ratings for the couplings are based on the physical limitations/failure point of the metal bellows. Under		
normal/typical conditions the hubs are capable of holding up to the rated torque of the metal bellows. Please		
consult technical support for more a	assistance.	
known to the State of California to c	ause cancer, and Bisphenol A and E	Ethylene Thiourea, known to the State
	5 mm 5 mm 27.9 mm 50.8 mm 61.3 mm 20.55 mm M5 4.0 mm 9.5 Nm 11.30 Nm 22.60 Nm 45.2 Nm 108 Nm/Deg 10,000 RPM Yes <u>TW:BT-4C-3/8-86</u> Hubs: 2024-T351 Aluminum Bar Bellows: Type 321 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize Ruland Manufacturing 0.484300 8483.60.8000 Stainless steel hubs are available u Torque ratings are at maximum mis Performance ratings are for guidand Torque ratings for the couplings are normal/typical conditions the hubs a consult technical support for more a <b>WARNING</b> This product can exp	5 mmKeyway (K2)27.9 mmB2 Max Shaft Penetration50.8 mmBore Tolerance61.3 mmLength Tolerance20.55 mmRecommended Shaft ToleranceM5Screw Material4.0 mmScrew Finish9.5 NmNumber of Screws11.30 NmAngular Misalignment22.60 NmParallel Misalignment22.60 NmParallel Misalignment45.2 NmAxial Motion108 Nm/DegMoment of Inertia10,000 RPMFull Bearing Support Required?YesBalanced DesignTW:BT-4C-3/8-86Recommended Hex KeyHubs: 2024-T351 Aluminum Bar Bellows: Type 321 Stainless SteelTemperatureSulfuric Anodized MIL-A-8625 Type Black AnodizeBellows Attachment MethodII, Class 2 and ASTM B580 Type B Black AnodizeUPC8483.60.8000UNSPCStainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Performance ratings are for guidance only. The user must determine su Torque ratings for the couplings are based on the physical limitations/fa

- Align the bores of the MBCK51-16-14-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:* 2.0°, *Parallel Misalignment*. 0.25 mm, *Axial Motion*: 0.50 mm)
- 2. Fully tighten the M5 screw on the first hub to the recommended seating torque of 9.5 Nm using a 4.0 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 27.9 mm.