



MBC80-45-42-A

Ruland MBC80-45-42-A, 45mm x 42mm Bellows Coupling, High Stiffness, Aluminum, 79.4mm, OD 96.9mm Length



Description

Ruland MBC80-45-42-A is a high stiffness bellows coupling with 45mm x 42mm bores, 79.4 mm OD, and 96.9 mm length. It has fewer convolutions than comparably sized increased misalignment styles allowing for increased torsional stiffness making it the ideal choice for precision positioning applications. MBC80-45-42-A is comprised of two anodized aluminum hubs and a stainless steel bellows for lightweight and low inertia. It is also engineered with a balanced design for reduced vibration at high speeds up to 10,000 RPM. The thin walls of the bellows are able to flex while remaining rigid under torsional loads allowing for the accommodation of all forms of misalignment. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. MBC80-45-42-A is machined from meticulously selected bar stock that is sourced exclusively from North American mills. It is carefully made in our ISO 9001:2015 advanced manufacturing facility in Marlborough, MA under strict controls using proprietary processes. MBC80-45-42-A is RoHS3, REACH, and Conflict Minerals compliant.

Product Specifications

Bore (B1)	45 mm	Small Bore (B2)	42 mm
B1 Min Shaft Penetration	22.2 mm	B2 Min Shaft Penetration	22.2 mm
B1 Max Shaft Penetration	44.5 mm	B2 Max Shaft Penetration	44.5 mm
Outer Diameter (OD)	3.125 in (79.4 mm)	Bore Tolerance	+0.03 mm / -0.00 mm
Length (L)	3.816 in (96.9 mm)	Length Tolerance	+/- 0.76 mm
Hub Width (LH)	34.93 mm	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm
Forged Clamp Screw	M8	Screw Material	Alloy Steel
Hex Wrench Size	6.0 mm	Screw Finish	Black Oxide
Seating Torque	39 Nm	Number of Screws	2
Dynamic Torque Reversing	38 Nm	Angular Misalignment	2.0°
Dynamic Torque Non-Reversing	76 Nm	Parallel Misalignment	0.30 mm
Static Torque	152 Nm	Axial Motion	0.76 mm
Torsional Stiffness	395.5 Nm/Deg	Moment of Inertia	7.742 ⁻⁴ kg-m ²
Maximum Speed	10,000 RPM	Full Bearing Support Required?	Yes
Average Load at Max Parallel Offset	233.22 N	Average Slope	1072.4 N/mm
Zero-Backlash?	Yes	Balanced Design	Yes
Torque Wrench	TW:BT-4C-3/8-345	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	Epoxy
Manufacturer	Ruland Manufacturing	Country of Origin	USA
Weight (lbs)	1.622898	UPC	65432939663
Tariff Code	8483.60.8000	UNSPC	31163018