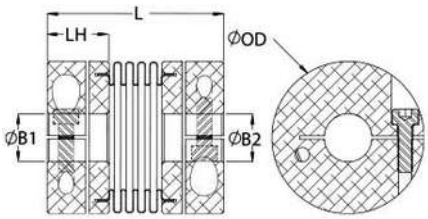
MBC80-45-42-A

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