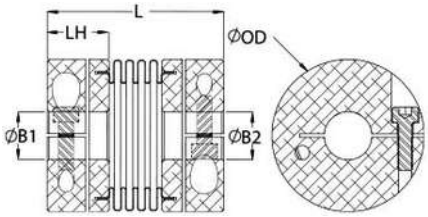
# MBC80-40-28-A

Ruland MBC80-40-28-A, 40mm x 28mm Bellows Coupling, High Stiffness, Aluminum, 79.4mm, OD 96.9mm Length






## Description

Ruland MBC80-40-28-A is a high stiffness bellows coupling with 40mm x 28mm 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. MBC80-40-28-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. MBC80-40-28-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. MBC80-40-28-A is RoHS3, REACH, and Conflict Minerals compliant.

## Product Specifications

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|---|---|---|---|
| **Bore (B1)** | 40 mm | **Small Bore (B2)** | 28 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** | $8.099^{-4}$ 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<br>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)** | 1.841328 | **UPC** | 65432939642 |
| **Tariff Code** | 8483.60.8000 | **UNSPC** | 31163018 |