



MBCK70-38-24-A

Ruland MBCK70-38-24-A, 38mm x 24mm Bellows Coupling with Keyways, High Stiffness, Aluminum, 69.9mm, OD 87.4mm Length



Description

Ruland MBCK70-38-24-A is a high stiffness bellows coupling with 38mm x 24mm bores, 69.9mm OD, 87.4mm length, and 10mm x 8mm keyways. It has fewer convolutions than comparably sized increased misalignment styles allowing for increased torsional stiffness making it the ideal choice for precision positioning applications. MBCK70-38-24-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. MBCK70-38-24-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. MBCK70-38-24-A is RoHS3, REACH, and Conflict Minerals compliant.

Product Specifications

Bore (B1)	38 mm	Small Bore (B2)	24 mm
Keyway (K1)	10 mm	Keyway (K2)	8 mm
B1 Min Shaft Penetration	19.1 mm	B2 Min Shaft Penetration	19.1 mm
B1 Max Shaft Penetration	40.2 mm	B2 Max Shaft Penetration	40.2 mm
Outer Diameter (OD)	2.750 in (69.9 mm)	Bore Tolerance	+0.03 mm / -0.00 mm
Length (L)	3.439 in (87.4 mm)	Length Tolerance	+/- 0.76 mm
Hub Width (LH)	30.48 mm	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm
Key Width (K1)	10 mm	Key Width (K2)	8 mm
Key Height (K1)	8 mm	Key Height (K2)	7 mm
Keyway 1 Height (T1)	41.3 mm	Keyway 2 Height (T2)	27.3 mm
Keyway 1 Width Tolerance	+0.018 mm / -0.018 mm	Keyway 1 Height Tolerance	+0.2 mm / 0 mm
Keyway 2 Width Tolerance	+0.018 mm / -0.018 mm	Keyway 2 Height Tolerance	+0.2 mm / 0 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 ea
Dynamic Torque Reversing	26.13 Nm	Angular Misalignment	2.0°
Dynamic Torque Non-Reversing	52.25 Nm	Parallel Misalignment	0.30 mm
Static Torque	104.5 Nm	Axial Motion	0.76 mm
Torsional Stiffness	237 Nm/Deg	Moment of Inertia	4.154 ⁻⁴ kg-m ²
Maximum Speed	10,000 RPM	Full Bearing Support Required?	Yes
Average Load at Max Parallel Offset	99.37 N	Average Slope	342.7 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	Bellows Attachment Method	Epoxy

II, Class 2 and ASTM B580 Type B
Black Anodize

Manufacturer	Ruland Manufacturing	Country of Origin	USA
Weight (lbs)	1.205895	UPC	65432939703
Tariff Code	8483.60.8000	UNSPC	31163018
Note 1	Stainless steel hubs are available upon 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	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. In some cases, especially when the smallest standard bores are used or where shafts are undersized, slippage on the shaft is possible below the rated torque of the metal bellows. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		