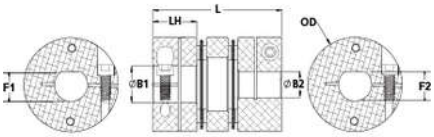
MDCD15-5/4.5D-3/2.5D-A

Ruland MDCD15-5/4.5D-3/2.5D-A, 5/4.5Dmm x 3/2.5Dmm Double Disc Coupling with D-Bores, Aluminum, 15.0mm OD, 23.8mm Length





Description

Ruland MDCD15-5/4.5D-3/2.5D-A is a d-bore double disc coupling with 5/4.5Dmm x 3/2.5Dmm bores, 15,0mmOD, and 23,8mm length. The d-bore allows for positive drive in applications where the coupling can not slip. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The double disc design is comprised of two anodized aluminum hubs, two sets of thin stainless steel disc springs, and a center spacer allowing each disc to bend individually and accommodate all types of misalignment. MDCD15-5/4.5D-3/2.5D-A is lightweight and has low inertia making it well suited 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 manufactures MDCD15-5/4.5D-3/2.5D-A to be torisionally rigid and an excellent fit for precise positioning stepper servo applications commonly found in semiconductor, solar, printing, machine tool, and test and measurement systems. It is machined from solid bar stock that is sourced exclusively from North American mills and RoHS3 and REACH compliant. MDCD15-5/4.5D-3/2.5D-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	5/4.5D mm	**Small Bore (B2)**	3/2.5D mm
B1 Max Shaft Penetration	11.6 mm	**B2 Max Shaft Penetration**	11.6 mm
Flat (F1)	4.50 mm	**Flat (F2)**	2.50 mm
Flat Tolerance	+.002”/-.000”	**Outer Diameter (OD)**	0.590 in (15.0 mm)
Bore Tolerance	+0.03 mm / -0.00 mm	**Length (L)**	0.937 in (23.8 mm)
Hub Width (LH)	8.33 mm	**Recommended Shaft Tolerance**	+0.000 mm / -0.013 mm
Forged Clamp Screw	M2	**Screw Material**	Alloy Steel
Hex Wrench Size	1.5 mm	**Screw Finish**	Black Oxide
Seating Torque	0.6 Nm	**Number of Screws**	2 ea
Dynamic Torque Reversing	0.43 Nm	**Angular Misalignment**	1.0°
Dynamic Torque Non-Reversing	0.85 Nm	**Parallel Misalignment**	0.05 mm
Static Torque	1.7 Nm	**Axial Motion**	0.10 mm
Torsional Stiffness	3.0 Nm/Deg	**Moment of Inertia**	2.880×10^{-7} kg-m^2
Maximum Speed	10,000 RPM	**Full Bearing Support Required?**	Yes
Average Load at Max Parallel Offset	1.94 N	**Average Slope**	14.91 N/mm
Zero-Backlash?	Yes	**Balanced Design**	Yes
Torque Wrench	TW:BT-1R-1/4-5.3	**Recommended Hex Key**	Metric Hex Keys
Material Specification	Hubs and Center Spacer: 2024-T351 Aluminum Bar Disc Springs: Type 302 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	**Manufacturer**	Ruland Manufacturing
Country of Origin	USA	**Weight (lbs)**	0.020772

UPC	65432942010	**Tariff Code**	8483.60.8000
UNSPC	31163008		
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 disc springs. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. 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 disc springs. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		