## MDCS51-15-14-A

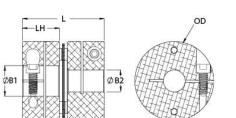
Ruland MDCS51-15-14-A, 15mm x 14mm Single Disc Coupling, Aluminum, Clamp Style, 50.8mm OD, 46.1mm Length

## Description

Ruland MDCS51-15-14-A is a clamp single disc coupling with 15mm x 14mm bores, 50.8mm OD, and 46.1mm length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The single disc design is comprised of two anodized aluminum hubs and two sets of thin stainless steel disc springs which can accommodate angular misalignment and axial motion, however does not allow for any parallel misalignment. MDCS51-15-14-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 MDCS51-15-14-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. MDCS51-15-14-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

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Product	Specifications

15 mm	Small Bore (B2)	14 mm
22.2 mm	B2 Max Shaft Penetration	22.2 mm
50.8 mm	Bore Tolerance	+0.03 mm / -0.00 mm
46.1 mm	Hub Width (LH)	20.6 mm
+0.000 mm / -0.013 mm	Forged Clamp Screw	M5
Alloy Steel	Hex Wrench Size	4.0 mm
Black Oxide	Seating Torque	9.5 Nm
2 ea	Dynamic Torque Reversing	9.90 Nm
1.0°	Dynamic Torque Non-Reversing	19.80 Nm
0.00 mm	Static Torque	39.6 Nm
0.32 mm	Torsional Stiffness	98.0 Nm/Deg
7.498 x 10 <sup>-5</sup> kg-m <sup>2</sup>	Maximum Speed	10,000 RPM
Yes	Zero-Backlash?	Yes
Yes	Torque Wrench	TW:BT-4C-3/8-86
Metric Hex Keys	Material Specification	Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel
-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
Ruland Manufacturing	Country of Origin	USA
0.474100	UPC	634529085455
8483.60.8000	UNSPC	31163008
Stainless steel hubs are available upon request.		
Torque ratings are at maximum misalignment.		
Performance ratings are for guidance	ce only. The user must determine su	itability for a particular application.
normal/typical conditions the hubs a cases, especially when the smalles shaft is possible below the rated tor	are capable of holding up to the rated t standard bores are used or where s que of the disc springs. Keyways are	d torque of the disc springs. In some shafts are undersized, slippage on the e available to provide additional
	22.2 mm 50.8 mm 46.1 mm +0.000 mm / -0.013 mm Alloy Steel Black Oxide 2 ea 1.0° 0.00 mm 0.32 mm 7.498 x 10 <sup>-5</sup> kg-m <sup>2</sup> Yes Yes Metric Hex Keys -40°F to 200°F (-40°C to 93°C) Ruland Manufacturing 0.474100 8483.60.8000 Stainless steel hubs are available u Torque ratings are at maximum mis Performance ratings are for guidant Torque ratings for the couplings are normal/typical conditions the hubs are cases, especially when the smalless shaft is possible below the rated tor torque capacity in the shaft/hub cor	22.2 mm B2 Max Shaft Penetration   50.8 mm Bore Tolerance   46.1 mm Hub Width (LH)   +0.000 mm / -0.013 mm Forged Clamp Screw   Alloy Steel Hex Wrench Size   Black Oxide Seating Torque   2 ea Dynamic Torque Reversing   1.0° Dynamic Torque Non-Reversing   0.00 mm Static Torque   0.32 mm Torsional Stiffness   7.498 x 10°5 kg-m² Maximum Speed   Yes Zero-Backlash?   Yes Torque Wrench   Metric Hex Keys Material Specification   -40°F to 200°F (-40°C to 93°C) Finish Specification   Ruland Manufacturing Country of Origin   0.474100 UPC   8483.60.8000 UNSPC   Stainless steel hubs are available upon request.   Torque ratings are at maximum misalignment.   Performance ratings are for guidance only. The user must determine su   Torque ratings for the couplings are based on the physical limitations/fa   normal/typical conditions the hubs are capable of holding up to the rated cases, especially when the smallest standard bores are used or where eshaft is possible below the rated torque of the disc springs. Keyways are torque capacity in t









**WARNING** This product can expose you to chemicals including Ethylene Thiourea and Nickel (metallic), known to the State of California to cause cancer, and Ethylene Thiourea known to the State of California to cause birth defects or other reproductive harm. For more information go to <u>www.P65Warnings.ca.gov</u>.

Installation Instructions

- Align the bores of the MDCS51-15-14-A single disc coupling on the shafts that are to be joined and determine if the misalignment parameters are within the limits of the coupling. (*Angular Misialignment:* 1.0°, *Parallel Misalignment:* 0.00 mm, *Axial Motion:* 0.32 mm)
- 2. Fully tighten the M5 screw on the first hub to the recommended seating torque of 9.5 Nm using a 4.0 mm hex torque wrench.
- 3. Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.
- Tighten the screw on the second hub to the recommended seating torque. Make sure the coupling remains axially relaxed and the misalignment angle remains centered along the length of the coupling.
- 5. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 22.2 mm.