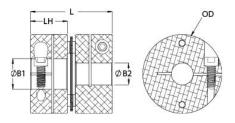


## MDCS33-10-9-A

Ruland MDCS33-10-9-A, 10mm x 9mm Single Disc Coupling, Aluminum, Clamp Style, 33.3mm OD, 33.3mm Length





## Description

Ruland MDCS33-10-9-A is a clamp single disc coupling with 10mm x 9mm bores, 33.3mm OD, and 33.3mm 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. MDCS33-10-9-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 MDCS33-10-9-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. MDCS33-10-9-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications**

10 mm	Small Bore (B2)	9 mm
16.1 mm	B2 Max Shaft Penetration	16.1 mm
33.3 mm	Bore Tolerance	+0.03 mm / -0.00 mm
33.3 mm	Hub Width (LH)	15.0 mm
+0.000 mm / -0.013 mm	Forged Clamp Screw	M3
Alloy Steel	Hex Wrench Size	2.5 mm
Black Oxide	Seating Torque	2.1 Nm
2 ea	Dynamic Torque Reversing	2.83 Nm
1.0°	Dynamic Torque Non-Reversing	5.65 Nm
0.00 mm	Static Torque	11.3 Nm
0.20 mm	Torsional Stiffness	35.4 Nm/Deg
9.742 x 10 <sup>-6</sup> kg-m <sup>2</sup>	Maximum Speed	10,000 RPM
Yes	Zero-Backlash?	Yes
Yes	Torque Wrench	<u>TW:BT-1R-1/4-18.3</u>
<u>Metric Hex Keys</u>	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
0.143900	UPC	634529150924
8483.60.8000	UNSPC	31163008
Stainless steel hubs are available upon request.		
Torque ratings are at maximum misalignment.		
Performance ratings are for guidance only. The user must determine suitability for a particular application.		
normal/typical conditions the hubs cases, especially when the smalles shaft is possible below the rated to	are capable of holding up to the rated st standard bores are used or where s rque 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
	16.1 mm 33.3 mm 33.3 mm 33.3 mm 40.000 mm / -0.013 mm Alloy Steel Black Oxide 2 ea 1.0° 0.00 mm 0.20 mm 9.742 x 10 <sup>-6</sup> kg-m <sup>2</sup> Yes Yes Metric Hex Keys -40°F to 200°F (-40°C to 93°C) Ruland Manufacturing 0.143900 8483.60.8000 Stainless steel hubs are available to Torque ratings are at maximum mis Performance ratings are for guidant Torque ratings for the couplings are normal/typical conditions the hubs cases, especially when the smalless shaft is possible below the rated to torque capacity in the shaft/hub conditions the hubs	16.1 mmB2 Max Shaft Penetration33.3 mmBore Tolerance33.3 mmHub Width (LH)+0.000 mm / -0.013 mmForged Clamp ScrewAlloy SteelHex Wrench SizeBlack OxideSeating Torque2 eaDynamic Torque Reversing1.0°Dynamic Torque Non-Reversing0.00 mmStatic Torque0.20 mmTorsional Stiffness9.742 x 10°6 kg-m²Maximum SpeedYesZero-Backlash?YesTorque WrenchMetric Hex KeysMaterial Specification-40°F to 200°F (-40°C to 93°C)Finish SpecificationRuland ManufacturingCountry of Origin0.143900UPC8483.60.8000UNSPCStainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Performance ratings are for guidance only. The user must determine suTorque ratings for the couplings are based on the physical limitations/fanormal/typical conditions the hubs are capable of holding up to the ratedraye ratings for the couplings are based on the physical limitations/fanormal/typical conditions the hubs are capable of holding up to the ratedraye ratings for the smallest standard bores are used or where shaft is possible below the rated torque of the disc springs. Keyways are

**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 MDCS33-10-9-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:* 0.20 mm)
- 2. Fully tighten the M3 screw on the first hub to the recommended seating torque of 2.1 Nm using a 2.5 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 16.1 mm.