MDCS51-14-13-A

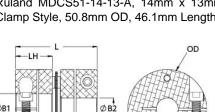
Ruland MDCS51-14-13-A, 14mm x 13mm Single Disc Coupling, Aluminum, Clamp Style, 50.8mm OD, 46.1mm Length

Description

Ruland MDCS51-14-13-A is a clamp single disc coupling with 14mm x 13mm 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. MDCS51-14-13-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 MDCS51-14-13-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. MDCS51-14-13-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product	Specifications

Disc Springs: T Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodiz	00 mm
Outer Diameter (OD)50.8 mmBore Tolerance+0.03 mm / -0.01Length (L)46.1 mmHub Width (LH)20.6 mmRecommended Shaft Tolerance+0.000 mm / -0.013 mmForged Clamp ScrewM5Screw MaterialAlloy SteelHex Wrench Size4.0 mmScrew FinishBlack OxideSeating Torque9.5 NmNumber of Screws2 eaDynamic Torque Reversing9.90 NmAngular Misalignment1.0°Dynamic Torque Non-Reversing19.80 NmParallel Misalignment0.00 mmStatic Torque39.6 NmAxial Motion0.32 mmTorsional Stiffness98.0 Nm/DegMoment of Inertia7.510 x 10°5 kg-m²Maximum Speed10.000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchHubs: 2024-T3 Disc Springs: T SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodize Material SpecificationManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.476300UPC634529152584Tariff Code8483.60.8000UNSPC31163008	00 mm
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II, Class 2 and Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.476300UPC634529152584Tariff Code8483.60.8000UNSPC31163008	51 Aluminum Bar, Type 302 Stainless
Weight (lbs) 0.476300 UPC 634529152584 Tariff Code 8483.60.8000 UNSPC 31163008	ed MIL-A-8625 Type ASTM B580 Type B
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 part	ticular application.
Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the normal/typical conditions the hubs are capable of holding up to the rated torque of the di cases, especially when the smallest standard bores are used or where shafts are unders shaft is possible below the rated torque of the disc springs. Keyways are available to protorque capacity in the shaft/hub connection when required. Please consult technical sup assistance.	isc springs. In some









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 MDCS51-14-13-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.