MDCS51-22-18-A

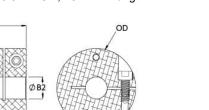
Ruland MDCS51-22-18-A, 22mm x 18mm Single Disc Coupling, Aluminum, Clamp Style, 50.8mm OD, 46.1mm Length

Description

Ruland MDCS51-22-18-A is a clamp single disc coupling with 22mm x 18mm 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. MDCS51-22-18-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 MDCS51-22-18-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. MDCS51-22-18-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product	Specifications
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Disc Springs: Type 302 SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL- II, Class 2 and ASTM E Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.437800UPC634529152874Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Note 3Note 3Performance ratings are for guidance only. The user must determine suitability for a particular ap normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sprin cases, especially when the smallest standard bores are used or where shafts are undersized, sli	5	oduct specifications					
Outer Diameter (OD) 50.8 mm Bore Tolerance +0.03 mm / -0.00 mm Length (L) 46.1 mm Hub Width (LH) 20.6 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M5 Screw Material Alloy Steel Hex Wrench Size 4.0 mm Screw Finish Black Oxide Seating Torque 9.5 Nm Number of Screws 2 ea Dynamic Torque Reversing 9.90 Nm Angular Misalignment 1.0° Dynamic Torque Reversing 9.80 Nm Parallel Misalignment 0.00 mm Statc Torque 39.6 Nm Axial Motion 0.32 mm Torsional Stiffness 98.0 Nm/Deg Moment of Inertia 7.366 x 10 ⁻⁵ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-4C-3/8-86 Recommended Hex Key Metric Hex Keys Material Specification Sulfuric Anodized MIL- II, Class 2 and ASTM E Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.437800 UPC 6	22 mm	re (B1)	22 mm	Small Bore (B2)	18 mm		
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normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sprin cases, especially when the smallest standard bores are used or where shafts are undersized, sli	Performa	te 3	Performance ratings are for guidance only. The user must determine suitability for a particular application.				
	normal/ty cases, es shaft is p torque ca	te 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.				









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 MDCS51-22-18-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.