Clamp Style, 50.8mm OD, 46.1mm Length

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## Description

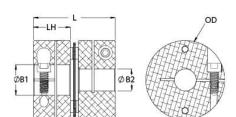
Ruland MDCS51-18-13-A is a clamp single disc coupling with 18mm x 13mm bores, 50.8mm OD, and 46.1mm length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The single disc design is comprised of two anodized aluminum hubs and two sets of thin stainless steel disc springs which can accommodate angular misalignment and axial motion, however does not allow for any parallel misalignment. MDCS51-18-13-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 MDCS51-18-13-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. MDCS51-18-13-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

|         | •                     |
|---------|-----------------------|
| Product | <b>Specifications</b> |

| 18 mm   | Small Bore (B2)  | 13 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)   | 20.55 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  |
| 7.475 x 10 <sup>-5</sup> kg-m <sup>2</sup>                              | Maximum Speed  | 10,000 RPM   |
| Yes   | Zero-Backlash?   | Yes  |
| Yes   | Torque Wrench  | <u>TW:BT-4C-3/8-86</u>   |
| Metric Hex Keys   | Material Specification   | Hubs: 2024-T351 Aluminum Bar,<br>Disc Springs: Type 302 Stainless<br>Steel   |
| -40°F to 200°F (-40°C to 93°C)  | Finish Specification   | Sulfuric Anodized MIL-A-8625 Type<br>II, Class 2 and ASTM B580 Type B<br>Black Anodize   |
| Ruland Manufacturing  | Country of Origin  | USA  |
| 0.467300  | UPC  | 634529152683   |
|   |  |  |
| 8483.60.8000  | UNSPC  | 31163008   |
| 8483.60.8000<br>Stainless steel hubs are available u                    |  | 31163008   |
|   | upon request.  | 31163008   |
| Stainless steel hubs are available of Torque ratings are at maximum mit | upon request.  |  |
|   | 50.8 mm<br>46.1 mm<br>+0.000 mm / -0.013 mm<br>Alloy Steel<br>Black Oxide<br>2 ea<br>1.0°<br>0.00 mm<br>0.32 mm<br>7.475 x 10 <sup>-5</sup> kg-m <sup>2</sup><br>Yes<br>Yes<br>Metric Hex Keys<br>-40°F to 200°F (-40°C to 93°C)<br>Ruland Manufacturing | 50.8 mmBore Tolerance46.1 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 Torque0.32 mmTorsional Stiffness7.475 x 10 <sup>-5</sup> kg-m²Maximum SpeedYesZero-Backlash?YesTorque WrenchMetric Hex KeysMaterial Specification-40°F to 200°F (-40°C to 93°C)Finish SpecificationRuland ManufacturingCountry of Origin |



Ruland MDCS51-18-13-A, 18mm x 13mm Single Disc Coupling, Aluminum,





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**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 MDCS51-18-13-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.