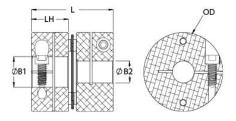




## DCS10-3-3-A

Ruland DCS10-3-3-A, 3/16" x 3/16" Single Disc Coupling, Aluminum, Clamp Style, 0.590" OD, 0.719" Length





## Description

Ruland DCS10-3-3-A is a clamp single disc coupling with 0.1875" x 0.1875" bores, 0.590" OD, and 0.719" 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. DCS10-3-3-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 DCS10-3-3-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. DCS10-3-3-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications**

| 0.1875 in  | Small Bore (B2)  | 0.1875 in   |
|--|--|---|
| 0.354 in   | B2 Max Shaft Penetration   | 0.354 in  |
| 0.590 in   | Bore Tolerance   | +0.001 in / -0.000 in   |
| 0.719 in   | Hub Width (LH)   | 0.328 in  |
| +0.0000 in / -0.0005 in  | Forged Clamp Screw   | M2  |
| Alloy Steel  | Hex Wrench Size  | 1.5 mm  |
| Black Oxide  | Seating Torque   | 0.6 Nm  |
| 2 ea   | Dynamic Torque Reversing   | 3.75 lb-in  |
| 0.5°   | Dynamic Torque Non-Reversing   | 7.5 lb-in   |
| 0.00 in  | Static Torque  | 15 lb-in  |
| 0.002 in   | Torsional Stiffness  | 50 lb-in/Deg  |
| 0.0008 lb-in <sup>2</sup>  | Maximum Speed  | 10,000 RPM  |
| Yes  | Zero-Backlash?   | Yes   |
| Yes  | Torque Wrench  | TW:BT-1R-1/4-5.3  |
| 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   |
| 0.015800   | UPC  | 634529082072  |
| 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  | are capable of holding up to the rated<br>at standard bores are used or where s  | d torque of the disc springs. In some shafts are undersized, slippage on the  |
|  | 0.354 in<br>0.590 in<br>0.719 in<br>+0.0000 in / -0.0005 in<br>Alloy Steel<br>Black Oxide<br>2 ea<br>0.5°<br>0.00 in<br>0.002 in<br>0.0008 lb-in <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<br>0.015800<br>8483.60.8000<br>Stainless steel hubs are available of<br>Torque ratings are at maximum million<br>Performance ratings are for guidant<br>Torque ratings for the couplings are<br>normal/typical conditions the hubs<br>cases, especially when the smalless | 0.354 inB2 Max Shaft Penetration0.590 inBore Tolerance0.719 inHub Width (LH)+0.0000 in / -0.0005 inForged Clamp ScrewAlloy SteelHex Wrench SizeBlack OxideSeating Torque2 eaDynamic Torque Reversing0.5°Dynamic Torque Non-Reversing0.00 inStatic Torque0.002 inTorsional Stiffness0.0008 lb-in²Maximum SpeedYesZero-Backlash?YesTorque WrenchMetric Hex KeysMaterial Specification-40°F to 200°F (-40°C to 93°C)Finish SpecificationRuland ManufacturingCountry of Origin0.015800UPC8483.60.8000UNSPCStainless steel hubs are available upon request.Torque ratings are at maximum misalignment. |

**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

- 1. Align the bores of the DCS10-3-3-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:* 0.5°, *Parallel Misalignment:* 0.00 in, *Axial Motion:* 0.002 in)
- 2. Fully tighten the M2 screw on the first hub to the recommended seating torque of 0.6 Nm using a 1.5 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 0.354 in.