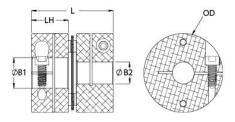




DCS10-5MM-3/16"-A

Ruland DCS10-5MM-3/16"-A, 5mm x 3/16" Single Disc Coupling, Aluminum, Clamp Style, 0.590" (15.0mm) OD, 0.719" (18.3mm) Length





Description

Ruland DCS10-5MM-3/16"-A is a clamp single disc coupling with 5mm x 0.1875" bores, 0.590" (15.0mm) OD, and 0.719" (18.3mm) 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. DCS10-5MM-3/16"-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 DCS10-5MM-3/16"-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. DCS10-5MM-3/16"-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

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|--------------------------------|--|--|--|
| Bore (B1) | 5 mm | Small Bore (B2) | 0.1875 in |
| B1 Max Shaft Penetration | 0.354 in (9.0 mm) | B2 Max Shaft Penetration | 0.354 in (9.0 mm) |
| Outer Diameter (OD) | 0.590 in (15.0 mm) | Bore Tolerance | +0.001 in / -0.000 in (+0.03 mm / |
| | | | -0.00 mm) |
| Length (L) | 0.719 in (18.3 mm) | Hub Width (LH) | 0.328 in (8.3 mm) |
| Recommended Shaft Tolerance | +0.0000 / -0.0005 " (+0.000 / -0.013 mm) | B Forged Clamp Screw | M2 |
| Screw Material | Alloy Steel | Hex Wrench Size | 1.5 mm |
| Screw Finish | Black Oxide | Seating Torque | 0.6 Nm |
| Number of Screws | 2 ea | Dynamic Torque Reversing | 3.75 lb-in (0.43 Nm) |
| Angular Misalignment | 0.5° | Dynamic Torque Non-Reversing | 7.5 lb-in (0.85 Nm) |
| Parallel Misalignment | 0.000 in (0.00 mm) | Static Torque | 15 lb-in (1.7 Nm) |
| Axial Motion | 0.002 in (0.05 mm) | Torsional Stiffness | 50 lb-in/Deg (5.6 Nm/Deg) |
| Moment of Inertia | 0.0008 lb-in ² (2.230 x 10 ⁻⁷ kg-m ²) | Maximum Speed | 10,000 RPM |
| Full Bearing Support Required? | Yes | Zero-Backlash? | Yes |
| Balanced Design | Yes | Torque Wrench | <u>TW:BT-1R-1/4-5.3</u> |
| Recommended Hex Key | Metric Hex Keys | Material Specification | Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel |
| Temperature | -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 |
| Manufacturer | Ruland Manufacturing | Country of Origin | USA |
| Weight (lbs) | 0.015700 | UPC | 634529150016 |
| 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 particular application. | | |
| Note 4 | normal/typical conditions the hubs a | are capable of holding up to the rated | ilure point of the disc springs. Under I torque of the disc springs. In some shafts are undersized, slippage on th |

| | 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. | |
|---------------------------|---|--|
| Prop 65 | 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 DCS10-5MM-3/16"-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. (<i>Angular</i> <i>Misialignment:</i> 0.5°, <i>Parallel Misalignment:</i> 0.00 in (0.00 mm), <i>Axial Motion:</i> 0.002 in (0.05 mm)) 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. 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. 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 (9.0 mm). | |