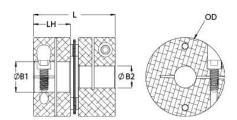




DCS10-4-4-A

Ruland DCS10-4-4-A, 1/4" x 1/4" Single Disc Coupling, Aluminum, Clamp Style, 0.590" OD, 0.719" Length





Description

Ruland DCS10-4-4-A is a clamp single disc coupling with 0.2500" x 0.2500" 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. DCS10-4-4-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 DCS10-4-4-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. DCS10-4-4-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Dro	duct	Sno	cific	atio	ne
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Product Specifications					
Bore (B1)	0.2500 in	Small Bore (B2)	0.2500 in		
B1 Max Shaft Penetration	0.354 in	B2 Max Shaft Penetration	0.354 in		
Outer Diameter (OD)	0.590 in	Bore Tolerance	+0.001 in / -0.000 in		
Length (L)	0.719 in	Hub Width (LH)	0.328 in		
Recommended Shaft Tolerance	+0.0000 in / -0.0005 in	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		
Angular Misalignment	0.5°	Dynamic Torque Non-Reversing	7.5 lb-in		
Parallel Misalignment	0.00 in	Static Torque	15 lb-in		
Axial Motion	0.002 in	Torsional Stiffness	50 lb-in/Deg		
Moment of Inertia	0.0007 lb-in ²	Maximum Speed	10,000 RPM		
Full Bearing Support Required?	Yes	Zero-Backlash?	Yes		
Balanced Design	Yes	Torque Wrench	TW:BT-1R-1/4-5.3		
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)	0.014600	UPC	634529082102		
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	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.				

Prop 65

MARNING 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 www.P65Warnings.ca.gov.

Installation Instructions

- 1. Align the bores of the DCS10-4-4-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.