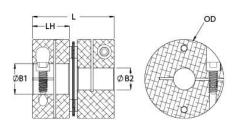




## DCS10-4-3-A

Ruland DCS10-4-3-A, 1/4" x 3/16" Single Disc Coupling, Aluminum, Clamp Style, 0.590" OD, 0.719" Length





## **Description**

Ruland DCS10-4-3-A is a clamp single disc coupling with 0.2500" 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. DCS10-4-3-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 DCS10-4-3-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. DCS10-4-3-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

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Bore (B1)	0.2500 in	Small Bore (B2)	0.1875 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	0.0008 lb-in <sup>2</sup>	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)	0.015100	UPC	634529082096				
Tariff Code	8483.60.8000	UNSPC	31163008				
Note 1	Stainless steel hubs are available						
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 cases, especially when the smaller shaft is possible below the rated to	ngs for the couplings are based on the physical limitations/failure point of the disc springs. Under cal conditions the hubs are capable of holding up to the rated torque of the disc springs. In some ecially when the smallest standard bores are used or where shafts are undersized, slippage on the sible below the rated torque of the disc springs. Keyways are available to provide additional acity in the shaft/hub connection when required. Please consult technical support for more					

## 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 <a href="https://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>.

## **Installation Instructions**

- 1. Align the bores of the DCS10-4-3-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.