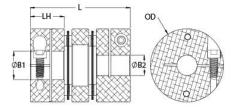




## DCDE12-4-4-A

Ruland DCDE12-4-4-A, 1/4" x 1/4" Double Disc Coupling, Aluminum, Clamp Style, Electrically Isolating, 0.750" OD, 1.189" Length





## Description

Ruland DCDE12-4-4-A is an electrically isolating clamp double disc coupling with 0.2500" x 0.2500" bores, 0.750" OD, and 1.189" length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The double disc design is comprised of two anodized aluminum hubs, two sets of thin stainless steel disc springs, and an acetal center spacer allowing each disc to bend individually and accommodate all types of misalignment. The acetal center spacer isolates the two hubs preventing the incidental transfer of current from the motor to the driven component or vice versa. DCDE12-4-4-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 DCDE12-4-4-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. DCDE12-4-4-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications** 0.2500 in Small Bore (B2) 0.2500 in Bore (B1) **B1 Max Shaft Penetration** 0.573 in **B2 Max Shaft Penetration** 0.573 in Outer Diameter (OD) 0.750 in Bore Tolerance +0.001 in / -0.000 in Hub Width (LH) Length (L) 1.189 in 0.418 in +0.0000 in / -0.0005 in **Recommended Shaft Tolerance** Forged Clamp Screw M2.5 Screw Material Alloy Steel **Hex Wrench Size** 2.0 mm **Screw Finish** Black Oxide Seating Torque 1.21 Nm 2 ea Number of Screws **Dynamic Torque Reversing** 6.25 lb-in **Angular Misalignment** 2.0° Dynamic Torque Non-Reversing 12.5 lb-in **Parallel Misalignment** 0.004 in 25 lb-in Static Torque **Axial Motion** 0.008 in **Torsional Stiffness** 51 lb-in/Deg Maximum Speed 0.0030 lb-in<sup>2</sup> 10.000 RPM Moment of Inertia **Full Bearing Support Required?** Yes Zero-Backlash? Yes **Torque Wrench Balanced Design** Yes TW:BT-1R-1/4-10.7 **Recommended Hex Key** Metric Hex Keys Material Specification Hubs: 2024-T351 Bar, Disc Springs: Type 302 Stainless Steel, Center Spacer: Acetal Temperature **Finish Specification** Sulfuric Anodized MIL-A-8625 Type -10°F to 150°F (-23°C to 65°C) II, Class 2 and ASTM B580 Type B **Black Anodize** Manufacturer Ruland Manufacturing **Country of Origin** USA 634529088081 Weight (lbs) 0.042200 UPC **Tariff Code** 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon request. Torque ratings are at maximum misalignment. Note 2 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

<b>D</b>	assistance.
Prop 65	<b>MWARNING</b> 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	
	<ol> <li>Align the bores of the DCDE12-4-4-A double 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 Misialignment:</i> 2.0°, <i>Parallel Misalignment:</i> 0.004 in, <i>Axial Motion:</i> 0.008 in)</li> <li>Fully tighten the M2.5 screw on the first hub to the recommended seating torque of 1.21 Nm using a 2.0 mm hex torque wrench.</li> <li>Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.</li> <li>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.</li> <li>The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 0.573 in.</li> </ol>