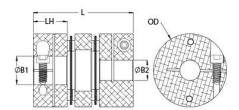




## MDCD19-4-4-A

Ruland MDCD19-4-4-A, 4mm x 4mm Double Disc Coupling, Aluminum, Clamp Style, 19.1mm OD, 30.2mm Length





## **Description**

Ruland MDCD19-4-4-A is a clamp double disc coupling with 4mm x 4mm bores, 19.1mm OD, and 30.2mm 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 a center spacer allowing each disc to bend individually and accommodate all types of misalignment. MDCD19-4-4-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 MDCD19-4-4-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. MDCD19-4-4-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

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Bore (B1)	4 mm	Small Bore (B2)	4 mm					
B1 Min Shaft Penetration	6.9 mm	B2 Min Shaft Penetration	6.9 mm					
B1 Max Shaft Penetration	14.6 mm	B2 Max Shaft Penetration	14.6 mm					
Outer Diameter (OD)	19.1 mm	Bore Tolerance	+0.03 mm / -0.00 mm					
Length (L)	30.2 mm	Hub Width (LH)	10.62 mm					
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	Forged Clamp Screw	M2.5					
Screw Material	Alloy Steel	Hex Wrench Size	2.0 mm					
Screw Finish	Black Oxide	Seating Torque	1.21 Nm					
Number of Screws	2 ea	Dynamic Torque Reversing	0.70 Nm					
Angular Misalignment	2.0°	Dynamic Torque Non-Reversing	1.40 Nm					
Parallel Misalignment	0.10 mm	Static Torque	2.8 Nm					
Axial Motion	0.20 mm	Torsional Stiffness	5.8 Nm/Deg					
Moment of Inertia	9.649 x 10 <sup>-7</sup> kg-m <sup>2</sup>	Maximum Speed	10,000 RPM					
Full Bearing Support Required?	Yes	Zero-Backlash?	Yes					
Balanced Design	Yes	Torque Wrench	TW:BT-1R-1/4-10.7					
Recommended Hex Key	Metric Hex Keys	Material Specification	Hubs and Center Spacer: 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)	0.044500	UPC	634529083864					
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 cases, especially when the smalles	e based on the physical limitations/fai are capable of holding up to the rated at standard bores are used or where s rque of the disc springs. Keyways are	d torque of the disc springs. In some shafts are undersized, slippage on the					

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

## **Installation Instructions**

- Align the bores of the MDCD19-4-4-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. (*Angular Misialignment*: 2.0°, *Parallel Misalignment*: 0.10 mm, *Axial Motion*: 0.20 mm)
- 2. 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.
- 3. Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.
- 4. 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 14.6 mm.