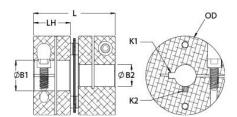




## MDCSK57-20-14-A

Ruland MDCSK57-20-14-A, 20mm x 14mm Single Disc Coupling, Aluminum, Clamp Style With Keyway, 57.2mm OD, 58.8mm Length





## **Description**

Ruland MDCSK57-20-14-A is a clamp single disc coupling with 20mm x 14mm bores, 57.2mm OD, 58.8mm length, and 6mm x 5mm keyways. 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. MDCSK57-20-14-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 MDCSK57-20-14-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. MDCSK57-20-14-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

**Product Specifications** 

Bore (B1)	20 mm	Small Bore (B2)	14 mm
Keyway (K1)	6 mm	Keyway (K2)	5 mm
B1 Max Shaft Penetration	27.6 mm	B2 Max Shaft Penetration	27.6 mm
Outer Diameter (OD)	57.2 mm	Bore Tolerance	+0.03 mm / -0.00 mm
Length (L)	58.8 mm	Hub Width (LH)	26.7 mm
Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	Forged Clamp Screw	M6
Screw Material	Alloy Steel	Hex Wrench Size	5.0 mm
Screw Finish	Black Oxide	Seating Torque	16 Nm
Number of Screws	2 ea	Dynamic Torque Reversing	12.73 Nm
Angular Misalignment	1.0°	Dynamic Torque Non-Reversing	25.45 Nm
Parallel Misalignment	0.00 mm	Static Torque	50.9 Nm
Axial Motion	0.38 mm	Torsional Stiffness	113.0 Nm/Deg
Moment of Inertia	1.522 x 10 <sup>-4</sup> kg-m <sup>2</sup>	Maximum Speed	10,000 RPM
Zero-Backlash?	Yes	Balanced Design	Yes
Torque Wrench	TW:BT-4C-3/8-140	Recommended Hex Key	Metric Hex Keys
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-	Yes	Material Specification	Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel
	Yes -40°F to 200°F (-40°C to 93°C)	Material Specification  Finish Specification	Disc Springs: Type 302 Stainless
Full Bearing Support Required? Temperature		·	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B
Full Bearing Support Required? Temperature Manufacturer	-40°F to 200°F (-40°C to 93°C)	Finish Specification	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize
Full Bearing Support Required?  Temperature  Manufacturer  Weight (lbs)	-40°F to 200°F (-40°C to 93°C) Ruland Manufacturing	Finish Specification  Country of Origin	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize USA
Full Bearing Support Required?  Temperature  Manufacturer  Weight (lbs)  Tariff Code	-40°F to 200°F (-40°C to 93°C)  Ruland Manufacturing  0.753900	Finish Specification  Country of Origin  UPC  UNSPC	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize USA 634529205983
Full Bearing Support Required?  Temperature  Manufacturer  Weight (lbs)  Tariff Code  Note 1	-40°F to 200°F (-40°C to 93°C)  Ruland Manufacturing  0.753900  8483.60.8000	Finish Specification  Country of Origin  UPC  UNSPC  upon request.	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize USA 634529205983
Full Bearing Support Required?	-40°F to 200°F (-40°C to 93°C)  Ruland Manufacturing 0.753900 8483.60.8000 Stainless steel hubs are available Torque ratings are at maximum m	Finish Specification  Country of Origin  UPC  UNSPC  upon request.	Disc Springs: Type 302 Stainless Steel Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize USA 634529205983 31163008

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 MDCSK57-20-14-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*: 1.0°, *Parallel Misalignment*: 0.00 mm, *Axial Motion*: 0.38 mm)
- 2. Fully tighten the M6 screw on the first hub to the recommended seating torque of 16 Nm using a 5.0 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 27.6 mm.