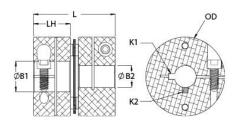




MDCSK41-15-12-A

Ruland MDCSK41-15-12-A, 15mm x 12mm Single Disc Coupling, Aluminum, Clamp Style With Keyway, 41.3mm OD, 39.7mm Length





Description

Ruland MDCSK41-15-12-A is a clamp single disc coupling with 15mm x 12mm bores, 41.3mm OD, 39.7mm length, and 5mm x 4mm 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. MDCSK41-15-12-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 MDCSK41-15-12-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. MDCSK41-15-12-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Keyway (K1) 5 mm Keyway (K2) 4 mm B1 Max Shaft Penetration 19.2 mm B2 Max Shaft Penetration 19.2 m Outer Diameter (OD) 41.3 mm Bore Tolerance +0.03 m Length (L) 39.7 mm Hub Width (LH) 18.05 m Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M4 Screw Material Alloy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Nn Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 Nn Parallel Misalignment 0.00 mm Static Torque 20.3 Nn Axial Motion 0.25 mm Torsional Stiffness 70.6 Nn Moment of Inertia 2.827 x 10.5 kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes <td< th=""><th>oduci Specifications</th><th></th><th></th><th></th></td<>	oduci Specifications			
B1 Max Shaft Penetration 19.2 mm B2 Max Shaft Penetration 19.2 mm Outer Diameter (OD) 41.3 mm Bore Tolerance +0.03 mm Length (L) 39.7 mm Hub Width (LH) 18.05 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M4 Screw Material Alloy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 Nm Parallel Misalignment 0.00 mm Static Torque 20.3 Nm Axial Motion 0.25 mm Torsional Stiffness 70.6 Nm Moment of Inertia 2.827 x 10.5 kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Sic Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification USA Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.262100 UPC 634525	re (B1) 15	5 mm	Small Bore (B2)	12 mm
Outer Diameter (OD) 41.3 mm Bore Tolerance +0.03 mm Hub Width (LH) 18.05 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M4 Screw Material Alloy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 Nm Parallel Misalignment 0.00 mm Static Torque Non-Reversing 10.15 Nm Torsional Stiffness 70.6 Nm Moment of Inertia 2.827 x 10°5 kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Specification Sulfurion II, Class Black Amanufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634525	yway (K1) 5 n	mm	Keyway (K2)	4 mm
Length (L) 39.7 mm Hub Width (LH) 18.05 r Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M4 Screw Material Alloy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Ni Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 N Parallel Misalignment 0.00 mm Static Torque 20.3 Ni Axial Motion 0.25 mm Torsional Stiffness 70.6 Ni Moment of Inertia 2.827 x 10°5 kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) UPC	Max Shaft Penetration 19	9.2 mm	B2 Max Shaft Penetration	19.2 mm
Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M4 Screw Material Alloy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Nn Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 Nn Parallel Misalignment 0.00 mm Static Torque 20.3 Nn Axial Motion 0.25 mm Torsional Stiffness 70.6 Nn Moment of Inertia 2.827 x 10 ⁻⁵ kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp. Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurion II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634528	ter Diameter (OD) 41.	1.3 mm	Bore Tolerance	+0.03 mm / -0.00 mm
Screw MaterialAlloy SteelHex Wrench Size3.0 mmScrew FinishBlack OxideSeating Torque4.6 NmNumber of Screws2 eaDynamic Torque Reversing5.08 NrAngular Misalignment1.0°Dynamic Torque Non-Reversing10.15 NrParallel Misalignment0.00 mmStatic Torque20.3 NrAxial Motion0.25 mmTorsional Stiffness70.6 NrMoment of Inertia2.827 x 10.5 kg-m²Maximum Speed10,000Zero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetricFull Bearing Support Required?YesMaterial SpecificationHubs: 2 Disc Sp. SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfurior II, Class Black AManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.262100UPC634528	ngth (L) 39.	9.7 mm	Hub Width (LH)	18.05 mm
Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 5.08 Nn Angular Misalignment 1.0° Dynamic Torque Non-Reversing 10.15 Nn Parallel Misalignment 0.00 mm Static Torque 20.3 Nn Axial Motion 0.25 mm Torsional Stiffness 70.6 Nn Moment of Inertia 2.827 x 10 ⁻⁵ kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp. Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurior II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634528	commended Shaft Tolerance +0	0.000 mm / -0.013 mm	Forged Clamp Screw	M4
Number of Screws2 eaDynamic Torque Reversing5.08 NoAngular Misalignment1.0°Dynamic Torque Non-Reversing10.15 NoParallel Misalignment0.00 mmStatic Torque20.3 NoAxial Motion0.25 mmTorsional Stiffness70.6 NoMoment of Inertia2.827 x 10°5 kg-m²Maximum Speed10,000Zero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetricFull Bearing Support Required?YesMaterial SpecificationHubs: 2 Disc SpecificationTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfurion II, Class Black AManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.262100UPC634528	ew Material Alle	loy Steel	Hex Wrench Size	3.0 mm
Angular Misalignment1.0°Dynamic Torque Non-Reversing10.15 Non-ReversingParallel Misalignment0.00 mmStatic Torque20.3 Non-ReversingAxial Motion0.25 mmTorsional Stiffness70.6 Non-ReversingMoment of Inertia2.827 x 10.5 kg-m²Maximum Speed10,000Zero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetric Interior SteelFull Bearing Support Required?YesMaterial SpecificationHubs: 20 Disc Sp. SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfurior Interior Interi	ew Finish Bla	ack Oxide	Seating Torque	4.6 Nm
Parallel Misalignment0.00 mmStatic Torque20.3 NrAxial Motion0.25 mmTorsional Stiffness70.6 NrMoment of Inertia2.827 x 10 ⁻⁵ kg-m²Maximum Speed10,000Zero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetricFull Bearing Support Required?YesMaterial SpecificationHubs: 2 Disc Sp. SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfurion II, Class Black AmonufacturerManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.262100UPC634529	mber of Screws 2 e	ea	Dynamic Torque Reversing	5.08 Nm
Axial Motion 0.25 mm Torsional Stiffness 70.6 No Moment of Inertia 2.827 x 10 ⁻⁵ kg-m ² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurior II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634528	gular Misalignment 1.0	0°	Dynamic Torque Non-Reversing	10.15 Nm
Moment of Inertia 2.827 x 10 ⁻⁵ kg-m² Maximum Speed 10,000 Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurion II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634529	allel Misalignment 0.0	00 mm	Static Torque	20.3 Nm
Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp. Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurion II, Class Black A. Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634529	al Motion 0.2	25 mm	Torsional Stiffness	70.6 Nm/Deg
Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurio II, Clas Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC Recommended Hex Key Metric Hubs: 2 Disc Sp Steel Country of Origin USA	ment of Inertia 2.8	827 x 10 ⁻⁵ kg-m ²	Maximum Speed	10,000 RPM
Full Bearing Support Required? Yes Material Specification Hubs: 2 Disc Sp Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurion II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634529	o-Backlash? Ye	es	Balanced Design	Yes
Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfurion II, Class Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634529	que Wrench <u>TV</u>	N:BT-1R-1/4-41.0	Recommended Hex Key	Metric Hex Keys
II, Clas Black A Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.262100 UPC 634529	I Bearing Support Required? Ye	es	Material Specification	Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel
Weight (lbs) 0.262100 UPC 634529	nperature -40	0°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
3 ()	nufacturer Ru	uland Manufacturing	Country of Origin	USA
Tariff Code 8483 60 8000 LINSPC 311630	ight (lbs) 0.2	262100	UPC	634529202654
14III 0040 01000 01010 01010	iff Code 84	183.60.8000	UNSPC	31163008
Note 1 Stainless steel hubs are available upon request.	te 1 Sta	Stainless steel hubs are available upon request.		
Note 2 Torque ratings are at maximum misalignment.	te 2 To	Torque ratings are at maximum misalignment.		
Note 3 Performance ratings are for guidance only. The user must determine suitability for	te 3 Pe	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
	noi cas	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

- Align the bores of the MDCSK41-15-12-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*: 0.25 mm)
- 2. Fully tighten the M4 screw on the first hub to the recommended seating torque of 4.6 Nm using a 3.0 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 19.2 mm.