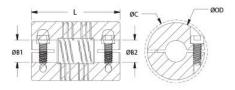




FCR24-1/2"-12MM-A

Ruland FCR24-1/2"-12MM-A, 1/2" x 12mm Six Beam Coupling, Aluminum, Clamp Style, 1.500" (38.1mm) OD, 2.250" (57.2mm) Length





Description

Ruland FCR24-1/2"-12MM-A is a clamp style six beam coupling with 0.5000" x 12mm bores, 1.500" (38.1mm) OD, and 2.250" (57.2mm) length. It is machined from a single piece of material and features two sets of three spiral cuts. This gives it higher torque capacity, lower windup, and larger body sizes than single or four beam couplings and allows for use in light duty power transmission applications such as coupling a servo motor to a lead screw. FCR24-1/2"-12MM-A is zero-backlash and has a balanced design for reduced vibration at high speeds of up to 6,000 RPM. Ruland supplies this spiral coupling with Nypatch® anti-vibration hardware that allows for even seating of the screw, repeated screw installations, prevents galling, and maintains high holding power. All hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. FCR24-1/2"-12MM-A is made from 7075 aluminum for lightweight and low inertia. It is machined from bar stock that is sourced exclusively from North American mills and RoHS3 and REACH compliant. FCR24-1/2"-12MM-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

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Bore (B1)	0.5000 in	Small Bore (B2)	12 mm
B1 Max Shaft Penetration	1.075 in (27.3 mm)	B2 Max Shaft Penetration	1.075 in (27.3 mm)
Outer Diameter (OD)	1.500 in (38.1 mm)	Bore Tolerance	+0.001 in / -0.000 in (+0.025 mm /
			-0.000 mm)
Length (L)	2.250 in (57.2 mm)	Clearance Diameter (C) MAX	1.642 in (41.71 mm)
Recommended Shaft Tolerance	+0.0000 / -0.0005 " (+0.000 / -0.013 mm)	Cap Screw	M5
Screw Material	Alloy Steel with <u>Nypatch®</u>	Hex Wrench Size	4.0 mm
Screw Finish	Black Oxide	Seating Torque	9.5 Nm
Number of Screws	2 ea	Dynamic Torque Reversing	27.5 lb-in (3.11 Nm)
Angular Misalignment	3°	Dynamic Torque Non-Reversing	55 lb-in (6.22 Nm)
Parallel Misalignment	0.030 in (0.76 mm)	Static Torque	110 lb-in (12.43 Nm)
Axial Motion	0.015 in (0.38 mm)	Torsional Stiffness	0.029 Deg/lb-in (0.26 Deg/Nm)
Moment of Inertia	0.1023 lb-in ² , 30.032 x10 ⁻⁶ kg-m ²	Maximum Speed	6,000 RPM
Full Bearing Support Required?	Yes	Nypatch® Anti-Vibration Hardware?	Yes
Zero-Backlash?	Yes	Balanced Design	Yes
Torque Wrench	TW:BT-4C-3/8-86	Recommended Hex Key	Metric Hex Keys
Material Specification	7075-T651 Extruded and Drawn Aluminum Bar	Temperature	-40°F to 225°F (-40°C to 107°C)
Finish Specification	Bright, No Plating	Manufacturer	Ruland Manufacturing
Country of Origin	USA	Weight (Ibs)	0.307500
UPC	634529133101	Tariff Code	8483.60.8000
UNSPC	31163003		
Note 1	Torque ratings are at maximum misalignment.		
Note 2	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
Note 3	Torque ratings for the couplings are Under normal/typical conditions the beams. In some cases, especially w		e rated torque of the machined

	technical support for more assistance.	
Prop 65	AWARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov .	
Installation Instructions		
	 Align the bores of the FCR24-1/2"-12MM-A six beam 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> 3°, <i>Parallel Misalignment:</i> 0.030 in (0.76 mm), <i>Axial Motion:</i> 0.015 in (0.38 mm)) Fully tighten the M5 screw on one hub to the recommended seating torque of 9.5 Nm using a 4.0 mm hex torque wrench. Before tightening the screws on the second hub, rotate the coupling by hand to allow it to reach its free length. Tighten the screws 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. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 1.075 in (27.3 mm). 	