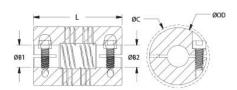




FCR20-13MM-3/8"-A

Ruland FCR20-13MM-3/8"-A, 13mm x 3/8" Six Beam Coupling, Aluminum, Clamp Style, 1.250" (31.8mm) OD, 1.750" (44.5mm) Length





Description

Ruland FCR20-13MM-3/8"-A is a clamp style six beam coupling with 13mm x 0.3750" bores, 1.250" (31.8mm) OD, and 1.750" (44.5mm) 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. FCR20-13MM-3/8"-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. FCR20-13MM-3/8"-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. FCR20-13MM-3/8"-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

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Product Specifications				
Bore (B1)	13 mm	Small Bore (B2)	0.3750 in	
B1 Max Shaft Penetration	0.842 in (21.4 mm)	B2 Max Shaft Penetration	0.842 in (21.4 mm)	
Outer Diameter (OD)	1.250 in (31.8 mm)	Bore Tolerance	+0.001 in / -0.000 in (+0.025 mm /	
			-0.000 mm)	
Length (L)	1.750 in (44.5 mm)	Clearance Diameter (C) MAX	1.459 in (37.06 mm)	
Recommended Shaft Tolerance	+0.0000 / -0.0005 " (+0.000 / -0.013	Cap Screw	M5	
	mm)			
Screw Material	Alloy Steel with Nypatch®	Hex Wrench Size	4.0 mm	
Screw Finish	Black Oxide	Seating Torque	9.5 Nm	
Number of Screws	2 ea	Dynamic Torque Reversing	11.2 lb-in (1.27 Nm)	
Angular Misalignment	3°	Dynamic Torque Non-Reversing	22.5 lb-in (2.54 Nm)	
Parallel Misalignment	0.015 in (0.38 mm)	Static Torque	45.0 lb-in (5.08 Nm)	
Axial Motion	0.010 in (0.25 mm)	Torsional Stiffness	0.080 Deg/lb-in (0.71 Deg/Nm)	
Moment of Inertia	0.0401 lb-in ² , 11.885 x10 ⁻⁶ kg-m ²	Maximum Speed	6,000 RPM	
Full Bearing Support Required?	Yes	Nypatch® Anti-Vibration	Yes	
		Hardware?		
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	Temperature	-40°F to 225°F (-40°C to 107°C)	
	Aluminum Bar			
Finish Specification	Bright, No Plating	Manufacturer	Ruland Manufacturing	
Country of Origin	USA	Weight (lbs)	0.167700	
UPC	634529192313	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 based on the physical limitations/failure point of the machined beams.			
		hubs are capable of holding up to th		
		vhen the smallest standard bores are		
	undersized, slippage on the shaft is	possible below the rated torque of the	he machined beams. Keyways are	

available to provide additional torque capacity in the shaft/hub connection when required. Please consult

technical support for more assistance.

Prop 65

▲ WARNING 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

- 1. Align the bores of the FCR20-13MM-3/8"-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. (*Angular Misialignment*: 3°, *Parallel Misalignment*: 0.015 in (0.38 mm), *Axial Motion*: 0.010 in (0.25 mm))
- 2. 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.
- 3. Before tightening the screws on the second hub, rotate the coupling by hand to allow it to reach its free length.
- 4. 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.
- 5. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 0.842 in (21.4 mm).