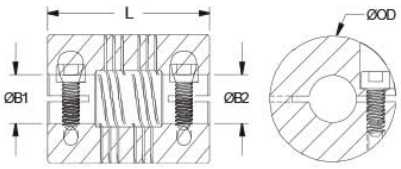
PCR18-1/2"-10MM-SS

Ruland PCR18-1/2"-10MM-SS, 1/2" x 10mm Four Beam Coupling, Stainless Steel, Clamp Style, 1.125" (28.6mm) OD, 1.500" (38.1mm) Length





Description

Ruland PCR18-1/2"-10MM-SS is a clamp style four beam coupling with 0.5000" x 10mm bores, 1.125" (28.6mm) OD, and 1.500" (38.1mm) length. It is machined from a single piece of material and feature two sets of two spiral cuts. This gives it higher torque capacity, lower windup, and larger body sizes than single beam couplings. PCR18-1/2"-10MM-SS is zero-backlash and has a balanced design for reduced vibration at high speeds of up to 6,000 RPM. This four beam spiral coupling is zero-backlash and has a balanced design for reduced vibration at high speeds of up to 6,000 RPM. All hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. PCR18-1/2"-10MM-SS is made from 303 stainless steel for increased torque capacity. It is machined from bar stock that is sourced exclusively from North American mills and RoHS3 and REACH compliant. PCR18-1/2"-10MM-SS is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1)	0.5000 in	**Small Bore (B2)**	10 mm
B1 Max Shaft Penetration	0.695 in (17.6 mm)	**B2 Max Shaft Penetration**	0.695 in (17.6 mm)
Outer Diameter (OD)	1.125 in (28.6 mm)	**Bore Tolerance**	+0.001 in / -0.000 in (+0.025 mm / -0.000 mm)
Length (L)	1.500 in (38.1 mm)	**Recommended Shaft Tolerance**	+0.0000 / -0.0005 " (+0.000 / -0.013 mm)
Cap 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	11.5 lb-in (1.30 Nm)	**Angular Misalignment**	3.0°
Dynamic Torque Non-Reversing	23 lb-in (2.60 Nm)	**Parallel Misalignment**	0.015 in (0.38 mm)
Static Torque	46 lb-in (5.20 Nm)	**Axial Motion**	0.010 in (0.25 mm)
Torsional Stiffness	0.111 Deg/lb-in (0.98 Deg/Nm)	**Moment of Inertia**	0.0603 lb-in^2, 17.643 x10^{-6} kg-m^2
Maximum Speed	6,000 RPM	**Full Bearing Support Required?**	Yes
Zero-Backlash?	Yes	**Balanced Design**	Yes
Torque Wrench	TW:BT-1R-1/4-41.0	**Recommended Hex Key**	Metric Hex Keys
Material Specification	Type 303 Austenitic, Non-Magnetic Bar	**Temperature**	-40°F to 350°F (-40°C to 176°C)
Finish Specification	Bright, No Plating	**Manufacturer**	Ruland Manufacturing
Country of Origin	USA	**Weight (lbs)**	0.285000
UPC	634529197486	**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. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machined beams. 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 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 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

1. Align the bores of the PCR18-1/2"-10MM-SS four 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 M4 screw on one hub to the recommended seating torque of 4.6 Nm using a 3.0 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 0.695 in (17.6 mm).