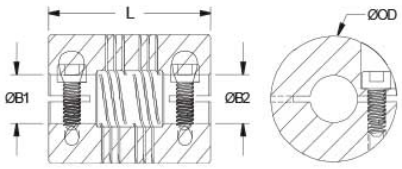
# PCR20-8-8-SS

Ruland PCR20-8-8-SS, 1/2" x 1/2" Four Beam Coupling, Stainless Steel, Clamp Style, 1.250" OD, 1.500" Length






## Description

Ruland PCR20-8-8-SS is a clamp style four beam coupling with 0.5000" x 0.5000" bores, 1.250" OD, and 1.500" 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. PCR20-8-8-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. PCR20-8-8-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. PCR20-8-8-SS 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)** | 0.5000 in |
| **B1 Max Shaft Penetration** | 0.695 in | **B2 Max Shaft Penetration** | 0.695 in |
| **Outer Diameter (OD)** | 1.250 in | **Bore Tolerance** | +0.001 in / -0.000 in |
| **Length (L)** | 1.500 in | **Recommended Shaft Tolerance** | +0.0000 in / -0.0005 in |
| **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** | 17.5 lb-in | **Angular Misalignment** | 3.0° |
| **Dynamic Torque Non-Reversing** | 35 lb-in | **Parallel Misalignment** | 0.015 in |
| **Static Torque** | 70 lb-in | **Axial Motion** | 0.010 in |
| **Torsional Stiffness** | 0.064 Deg/lb-in | **Moment of Inertia** | 0.0922 lb-in$^2$ |
| **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)** | 0.356400 |
| **UPC** | 634529051702 | **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. 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 PCR20-8-8-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, *Axial Motion*: 0.010 in)

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.