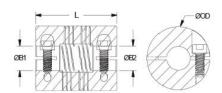




PCR18-11MM-1/4"-A

Ruland PCR18-11MM-1/4"-A, 11mm x 1/4" Four Beam Coupling, Aluminum, Clamp Style, 1.125" (28.6mm) OD, 1.500" (38.1mm) Length





Description

Ruland PCR18-11MM-1/4"-A is a clamp style four beam coupling with 11mm x 0.2500" 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. PCR18-11MM-1/4"-A 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. PCR18-11MM-1/4"-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. PCR18-11MM-1/4"-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Bore (B1) B1 Max Shaft Penetration O.695 in (17.6 mm) C125 in (28.6 mm) C126 in (28.6 mm) C126 in (28.6 mm) C126 in (28.6 mm) C126 in (28.6 mm) C127 in (28.6 mm) C128 in (28.6 mm) C128 in (28.6 mm) C128 in (28.6 mm) C129 in (28				
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 8.5 lb-in (0.96 Nm) Angular Misalignment 3° Static Torque 3.40 lb-in (3.84 Nm) Axial Motion 0.015 in (0.38 mm) Static Torque 3.40 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10° kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Torque Wrench TW.BT-18-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-1651 Extruded and Drawn Aluminum Bar -40°F to 225°F (-40°C to 107°C) Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs)	Bore (B1)	11 mm	Small Bore (B2)	0.2500 in
Length (L) 1.500 in (38.1 mm) Recommended Shaft Tolerance mml -0.0000 /-0.0005 " (+0.0000 /-0.0013 mml) Cap Screw M4 Screw Material All loy Steel Hex Wrench Size 3.0 mm Screw Finish Black Oxide Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 8.5 lb-in (0.96 Nm) Angular Misalignment 3" Dynamic Torque Non-Reversing 17 lb-in (1.92 Nm) Parallel Misalignment 0.015 in (0.38 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.0217 lb-in², 6.349 x10* kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench 1W.8T-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 2075-7651 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 (lbs) 0.107600	B1 Max Shaft Penetration	0.695 in (17.6 mm)	B2 Max Shaft Penetration	0.695 in (17.6 mm)
Cap Screw M4	Outer Diameter (OD)	1.125 in (28.6 mm)	Bore Tolerance	•
Hex Wrench Size 3.0 mm Screw Finish Number of Screws 2 ea Dynamic Torque Reversing 8.5 lb-in (0.96 Nm) Angular Misalignment 3° Dynamic Torque Non-Reversing 17 lb-in (1.92 Nm) Parallel Misalignment 0.015 in (0.38 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10 ° kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench 1W:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-7651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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. 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.	Length (L)	1.500 in (38.1 mm)	Recommended Shaft Tolerance	,
Seating Torque 4.6 Nm Number of Screws 2 ea Dynamic Torque Reversing 8.5 lb-in (0.96 Nm) Angular Misalignment 3° Dynamic Torque Non-Reversing 17 lb-in (1.92 Nm) Parallel Misalignment 0.015 in (0.38 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10⁻6 kg-m² 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 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 (lbs) 0.107600 UPC 634529196540 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 suitabil	Cap Screw	M4	Screw Material	Alloy Steel
Dynamic Torque Reversing 8.5 lb-in (0.96 Nm) Angular Misalignment 3° Dynamic Torque Non-Reversing 17 lb-in (1.92 Nm) Parallel Misalignment 0.015 in (0.38 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10⁻⁶ kg-m² 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 7075-T651 Extruded and Drawn Aluminum Bar Temperature -40⁻⁶ to 225⁻Წ (-40˚℃ to 107˚℃) Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 Tariff Code 8483.60.8000 UNSPC 31163003 Note 2 Performance 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 coupl	Hex Wrench Size	3.0 mm	Screw Finish	Black Oxide
Dynamic Torque Non-Reversing 17 lb-in (1.92 Nm) Parallel Misalignment 0.015 in (0.38 mm) Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10⁻⁶ kg-m² 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 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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.	Seating Torque	4.6 Nm	Number of Screws	2 ea
Static Torque 34.0 lb-in (3.84 Nm) Axial Motion 0.010 in (0.25 mm) Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10⁻⁶ kg-m² 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 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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. 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.	Dynamic Torque Reversing	8.5 lb-in (0.96 Nm)	Angular Misalignment	3°
Torsional Stiffness 0.221 Deg/lb-in (1.96 Deg/Nm) Moment of Inertia 0.0217 lb-in², 6.349 x10⁻⁶ kg-m² Maximum Speed 6,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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	Dynamic Torque Non-Reversing	17 lb-in (1.92 Nm)	Parallel Misalignment	0.015 in (0.38 mm)
Maximum Speed6,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetric Hex KeysMaterial Specification7075-T651 Extruded and Drawn Aluminum BarTemperature-40°F to 225°F (-40°C to 107°C)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.107600UPC634529196540Tariff Code8483.60.8000UNSPC31163003Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular application.Note 3Torque 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 65WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to	Static Torque	34.0 lb-in (3.84 Nm)	Axial Motion	0.010 in (0.25 mm)
Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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	Torsional Stiffness	0.221 Deg/lb-in (1.96 Deg/Nm)	Moment of Inertia	0.0217 lb-in ² , 6.349 x10 ⁻⁶ kg-m ²
Torque Wrench TW:BT-1R-1/4-41.0 Recommended Hex Key Metric Hex Keys Material Specification 7075-T651 Extruded and Drawn Aluminum Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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	Maximum Speed	6,000 RPM	Full Bearing Support Required?	Yes
Material Specification7075-T651 Extruded and Drawn Aluminum BarTemperature-40°F to 225°F (-40°C to 107°C)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.107600UPC634529196540Tariff Code8483.60.8000UNSPC31163003Variance at maximum misalignment.Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular application.Note 3Torque 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 65WARNING This product can expose you to the chemical Ethylene Thiourea, known to the State of California to	Zero-Backlash?	Yes	Balanced Design	Yes
Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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	Torque Wrench	TW:BT-1R-1/4-41.0	Recommended Hex Key	Metric Hex Keys
Country of Origin USA Weight (lbs) 0.107600 UPC 634529196540 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	Material Specification		Temperature	-40°F to 225°F (-40°C to 107°C)
UPC 634529196540 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	Finish Specification	Bright, No Plating	Manufacturer	Ruland Manufacturing
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	Prop 65		•	

Installation Instructions

1. Align the bores of the PCR18-11MM-1/4"-A four beam coupling on the shafts that are to be joined and

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- 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).