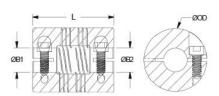




## PCMR25-9-9-SS

Ruland PCMR25-9-9-SS, 9mm x 9mm Four Beam Coupling, Stainless Steel, Clamp Style, 25.4mm OD, 31.8mm Length





## **Description**

Ruland PCMR25-9-9-SS is a clamp style four beam coupling with 9mm x 9mm bores, 25.4mm OD, and 31.8mm 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. PCMR25-9-9-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. PCMR25-9-9-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. PCMR25-9-9-SS is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

**Product Specifications** 

Length (L)  31.8 mm  Recommended Shaft Tolerance  40.000 mm / -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  1.16 Nm  Angular Misalignment  3°  Dynamic Torque Non-Reversing  2.32 Nm  Parallel Misalignment  3°  Static Torque  4.63 Nm  Axial Motion  0.25 mm  Torsional Stiffness  0.91 Deg/Nm  Moment of Inertia  9.275 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  Type 303 Austenitic, Non-Magnetic Bar  Finish Specification  Bright, No Plating  Manufacturer  Country of Origin  USA  Weight (lbs)  0.205700  UPC  634529049020  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 age Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the maching Under normal/typical conditions the hubs are capable of holding up to the rated torque of the maching beams. In some cases, especially when the smallest standard bores are used or where shafts and share and	opecinications			
Outer Diameter (OD)25.4 mmBore Tolerance+0.025 mm / -0.000 mmLength (L)31.8 mmRecommended Shaft Tolerance+0.000 mm / -0.013 mmCap ScrewM4Screw MaterialAlloy SteelHex Wrench Size3.0 mmScrew FinishBlack OxideSeating Torque4.6 NmNumber of Screws2 eaDynamic Torque Reversing1.16 NmAngular Misalignment3°Dynamic Torque Non-Reversing2.32 NmParallel Misalignment0.38 mmStatic Torque4.63 NmAxial Motion0.25 mmTorsional Stiffness0.91 Deg/NmMoment of Inertia9.275 x10-6 kg-m²Maximum Speed6,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetric Hex KeysMaterial SpecificationType 303 Austenitic, Non-Magnetic BarTemperature-40°F to 350°F (-40°C to 350°F)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.205700UPC634529049020Tariff Code8483.60.8000UNSPC31163003Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular approach of the machine of the	1) 91	9 mm	Small Bore (B2)	9 mm
Length (L)  31.8 mm  Recommended Shaft Tolerance +0.000 mm / -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  1.16 Nm  Angular Misalignment  3°  Dynamic Torque Non-Reversing  2.32 Nm  Parallel Misalignment  0.38 mm  Static Torque  4.63 Nm  Axial Motion  0.25 mm  Torsional Stiffness  0.91 Deg/Nm  Moment of Inertia  9.275 x10 <sup>-6</sup> 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  Type 303 Austenitic, Non-Magnetic  Bar  Finish Specification  Type 303 Austenitic, Non-Magnetic  Bar  Finish Specification  USA  Weight (Ibs)  0.205700  UPC  634529049020  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 are Note 3  Torque ratings are for guidance only. The user must determine suitability for a particular are Note 3  Torque ratings are for guidance only. The user must determine suitability for a particular are Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the	Shaft Penetration 14	14.7 mm	B2 Max Shaft Penetration	14.7 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 1.16 Nm Angular Misalignment 3° Dynamic Torque Non-Reversing 2.32 Nm Parallel Misalignment 0.38 mm Static Torque 4.63 Nm Axial Motion 0.25 mm Torsional Stiffness 0.91 Deg/Nm Moment of Inertia 9.275 x10 <sup>-6</sup> 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 Type 303 Austenitic, Non-Magnetic Bar Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.205700 UPC 634529049020 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 Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts at undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	ameter (OD) 25	25.4 mm	Bore Tolerance	+0.025 mm / -0.000 mm
Hex Wrench Size 3.0 mm Screw Finish Black Oxide  Seating Torque 4.6 Nm Number of Screws 2 ea  Dynamic Torque Reversing 1.16 Nm Angular Misalignment 3°  Dynamic Torque Non-Reversing 2.32 Nm Parallel Misalignment 0.38 mm  Static Torque 4.63 Nm Axial Motion 0.25 mm  Torsional Stiffness 0.91 Deg/Nm Moment of Inertia 9.275 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 Type 303 Austenitic, Non-Magnetic Bar  Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing  Country of Origin USA Weight (lbs) 0.205700  UPC 634529049020 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 ap  Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machine  Under normal/typical conditions the hubs are capable of holding up to the rated torque of the ma  beams. In some cases, especially when the smallest standard bores are used or where shafts a  undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	<b>L)</b> 31	31.8 mm	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm
Seating Torque 4.6 Nm Number of Screws 2 ea  Dynamic Torque Reversing 1.16 Nm Angular Misalignment 3°  Dynamic Torque Non-Reversing 2.32 Nm Parallel Misalignment 0.38 mm  Static Torque 4.63 Nm Axial Motion 0.25 mm  Torsional Stiffness 0.91 Deg/Nm Moment of Inertia 9.275 x10 <sup>-6</sup> 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 Type 303 Austenitic, Non-Magnetic Bar  Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing  Country of Origin USA Weight (lbs) 0.205700  UPC 634529049020 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 on the physical limitations/failure point of the machined beams. In some cases, especially when the smallest standard bores are used or where shafts a undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	ew M4	M4	Screw Material	Alloy Steel
Dynamic Torque Reversing  1.16 Nm  Angular Misalignment  3°  Dynamic Torque Non-Reversing  2.32 Nm  Parallel Misalignment  0.38 mm  Static Torque  4.63 Nm  Axial Motion  0.25 mm  Torsional Stiffness  0.91 Deg/Nm  Moment of Inertia  9.275 x10 <sup>-6</sup> kg-m <sup>2</sup> 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  Finish Specification  Bright, No Plating  Manufacturer  Ruland Manufacturing  Country of Origin  USA  Weight (lbs)  0.205700  UPC  634529049020  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 age of the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	nch Size 3.0	3.0 mm	Screw Finish	Black Oxide
Dynamic Torque Non-Reversing 2.32 Nm Parallel Misalignment 0.38 mm  Static Torque 4.63 Nm Axial Motion 0.25 mm  Torsional Stiffness 0.91 Deg/Nm Moment of Inertia 9.275 x10 <sup>-6</sup> kg-m <sup>2</sup> 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  Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing  Country of Origin USA Weight (lbs) 0.205700  UPC 634529049020 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 are Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the machined 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 at undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	Torque 4.6	4.6 Nm	Number of Screws	2 ea
Static Torque 4.63 Nm Axial Motion 0.25 mm  Torsional Stiffness 0.91 Deg/Nm Moment of Inertia 9.275 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 Type 303 Austenitic, Non-Magnetic Bar  Finish Specification Bright, No Plating Manufacturer Ruland Manufacturing  Country of Origin USA Weight (lbs) 0.205700  UPC 634529049020 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 ag Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the mabeams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	Torque Reversing 1.1	1.16 Nm	Angular Misalignment	3°
Torsional Stiffness  0.91 Deg/Nm  Moment of Inertia  9.275 x10 <sup>-6</sup> kg-m <sup>2</sup> 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  Finish Specification  Bright, No Plating  Manufacturer  Ruland Manufacturing  Country of Origin  USA  Weight (lbs)  0.205700  UPC  634529049020  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 age.  Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	Torque Non-Reversing 2.3	2.32 Nm	Parallel Misalignment	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 SpecificationType 303 Austenitic, Non-Magnetic BarTemperature-40°F to 350°F (-40°C to 350°F (-40°C to 350°F)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.205700UPC634529049020Tariff Code8483.60.8000UNSPC31163003Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular approach on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	orque 4.6	4.63 Nm	Axial Motion	0.25 mm
Zero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-41.0Recommended Hex KeyMetric Hex KeysMaterial SpecificationType 303 Austenitic, Non-Magnetic BarTemperature-40°F to 350°F (-40°C to 350°F (-40°C to 350°F)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.205700UPC634529049020Tariff Code8483.60.8000UNSPC31163003Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular are longer to the couplings are based on the physical limitations/failure point of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	al Stiffness 0.9	0.91 Deg/Nm	Moment of Inertia	9.275 x10 <sup>-6</sup> kg-m <sup>2</sup>
Torque Wrench  TW:BT-1R-1/4-41.0  Recommended Hex Key  Metric Hex Keys  Type 303 Austenitic, Non-Magnetic Temperature Bar  Finish Specification  Bright, No Plating  Weight (Ibs)  0.205700  UPC  634529049020  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 approach to the machine of the m	m Speed 6,0	6,000 RPM	Full Bearing Support Required?	Yes
Material SpecificationType 303 Austenitic, Non-Magnetic BarTemperature-40°F to 350°F (-40°C to 350°F (-40°C to 350°F)Finish SpecificationBright, No PlatingManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.205700UPC634529049020Tariff Code8483.60.8000UNSPC31163003Note 1Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particular approach on the physical limitations/failure point of the machine of	cklash? Ye	Yes	Balanced Design	Yes
Finish Specification  Bright, No Plating  Manufacturer  Ruland Manufacturing  Country of Origin  USA  Weight (lbs)  0.205700  UPC  634529049020  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 approach of the machine suitability for a particular appr	Wrench <u>TV</u>	TW:BT-1R-1/4-41.0	Recommended Hex Key	Metric Hex Keys
Country of Origin  USA  Weight (lbs)  0.205700  UPC  634529049020  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 approach on the physical limitations/failure point of the machine under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	•		Temperature	-40°F to 350°F (-40°C to 176°C)
UPC 634529049020 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 approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach and the physical limitations of the machine suitability for a particular approach approach and the physical limitations of the machine suitability for a particular approach approach approach and the physical limitations of the machine suitability for a particular approach approach and the physical limitations of the machine suitability for a particular approach approach and the physical limitations of the machine suitability for a particular approach approach and the physical limitations of the machine suitability for a particular approach approach and the physical limitations of the machine suitability for a particular approach approach approach and the physical limitations of the machine suitability for a particular approach approa	pecification Br	Bright, No Plating	Manufacturer	Ruland Manufacturing
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 approach and the physical limitations/failure point of the machine under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	of Origin US	USA	Weight (lbs)	0.205700
Note 1 Torque ratings are at maximum misalignment.  Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular approach Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	63	634529049020	Tariff Code	8483.60.8000
Note 2 Performance ratings are for guidance only. The user must determine suitability for a particular approach Note 3 Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the machine beams. In some cases, especially when the smallest standard bores are used or where shafts an undersized, slippage on the shaft is possible below the rated torque of the machined beams. Ple	31	31163003		
Note 3  Torque ratings for the couplings are based on the physical limitations/failure point of the machine Under normal/typical conditions the hubs are capable of holding up to the rated torque of the ma 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. Ple	Tc	Torque ratings are at maximum misalignment.		
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	Ur be un	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 Nicke known to the State of California to cause cancer		▲ WARNING This product can expose you to chemicals including Ethylene Thiourea and Nickel (metallic), known to the State of California to cause cancer		

## Installation Instructions

1. Align the bores of the PCMR25-9-9-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: 0.38 mm, Axial Motion: 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 14.7 mm.