ng, Aluminum,

Description

Ruland MDCS33-15-13-A is a clamp single disc coupling with 15mm x 13mm bores, 33.3mm OD, and 33.3mm length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The single disc design is comprised of two anodized aluminum hubs and two sets of thin stainless steel disc springs which can accommodate angular misalignment and axial motion, however does not allow for any parallel misalignment. MDCS33-15-13-A is lightweight and has low inertia making it well suited for applications with speeds up to 10,000 RPM. Hardware is metric and tests beyond DIN 912 12.9 standards for maximum torque capabilities. Ruland manufactures MDCS33-15-13-A to be torisionally rigid and an excellent fit for precise positioning stepper servo applications commonly found in semiconductor, solar, printing, machine tool, and test and measurement systems. It is machined from solid bar stock that is sourced exclusively from North American mills and ROHS3 and REACH compliant. MDCS33-15-13-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product	Specifications
Bore (B1)	

Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Note 3Note 4Performance ratings are for guidance only. The user must determine suitability for a particular applica normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	r roudet opcomoations					
Outer Diameter (OD) 33.3 mm Bore Tolerance +0.03 mm /-0.00 mm Length (L) 33.3 mm Hub Width (LH) 15.0 mm Recommended Shaft Tolerance +0.000 mm /-0.013 mm Forged Clamp Screw M3 Screw Material Alloy Steel Hex Wrench Size 2.5 mm Screw Material Alloy Steel Hex Wrench Size 2.5 mm Number of Screws 2 ea Dynamic Torque Reversing 2.83 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10° kg-m² Maximum Speed 10.000 RPM Full Bearing Support Required? Yes Torque Wrench TW/BT-1R-1/4-18.3 Recommended Hex Key Matric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Statis Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-862 II, Class 2 and ASTIM ES60 Maufacturer <t< th=""><th>Bore (B1)</th><th>15 mm</th><th>Small Bore (B2)</th><th>13 mm</th></t<>	Bore (B1)	15 mm	Small Bore (B2)	13 mm		
Length (L) 33.3 mm Hub Width (LH) 15.0 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M3 Screw Material Alloy Steel Hex Wrench Size 2.5 mm Screw Finish Black Oxide Seating Torque 2.1 Nm Number of Screws 2 ea Dynamic Torque Reversing 2.63 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10° kg-m² Maximum Speed 10.000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:ET-IR-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Sulfuric Anodized MIL-A-862 Il, Class 2 and ASTM B5800 UNSPC Sulfuric Anodized MIL-A-862 Il, Class 2 and ASTM B5800 Maufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.128900 UPC 6345291	B1 Max Shaft Penetration	16.1 mm	B2 Max Shaft Penetration	16.1 mm		
Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M3 Screw Material Alloy Steel Hex Wrench Size 2.5 mm Screw Finish Black Oxide Seating Torque 2.1 Nm Number of Screws 2 ea Dynamic Torque Reversing 2.83 Nm Angular Misalignment 1.0° Dynamic Torque Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10 ^{r6} kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Require? Yes Torque Wrench TWET-IR-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.128900 UPC 634529151099 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available	Outer Diameter (OD)	33.3 mm	Bore Tolerance	+0.03 mm / -0.00 mm		
Screw Material Alloy Steel Hex Wrench Size 2.5 mm Screw Finish Black Oxide Seating Torque 2.1 Nm Number of Screws 2 ea Dynamic Torque Reversing 2.83 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10 ⁻⁶ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.128900 UPC 634529151099 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless	Length (L)	33.3 mm	Hub Width (LH)	15.0 mm		
Screw Finish Black Oxide Seating Torque 2.1 Nm Number of Screws 2 ea Dynamic Torque Reversing 2.83 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10° kg-m² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-1R-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.128900 UPC 634529151099 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon reques	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	Forged Clamp Screw	M3		
Number of Screws 2 ea Dynamic Torque Reversing 2.83 Nm Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10 ⁻⁶ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-IR-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.128900 UPC 634529151099 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon request. Note 3 Performance ratings are for guidance only. The user must determine suitability for a	Screw Material	Alloy Steel	Hex Wrench Size	2.5 mm		
Angular Misalignment 1.0° Dynamic Torque Non-Reversing 5.65 Nm Parallel Misalignment 0.00 mm Static Torque 11.3 Nm Axial Motion 0.20 mm Torsional Stiffness 35.4 Nm/Deg Moment of Inertia 9.502 x 10° kg-m² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-IR-1/4-18.3 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Stais Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.128900 UPC 634529151099 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon request. Note 2 Note 2 Torque ratings are for guidance only. The user must determine suitability for a particular applice Note 4 Torque ratings are for guidance only. The user must determine suitability for a particular applice <tr< td=""><td>Screw Finish</td><td>Black Oxide</td><td>Seating Torque</td><td>2.1 Nm</td></tr<>	Screw Finish	Black Oxide	Seating Torque	2.1 Nm		
Parallel Misalignment0.00 mmStatic Torque11.3 NmAxial Motion0.20 mmTorsional Stiffness35.4 Nm/DegMoment of Inertia9.502 x 10.6 kg·m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applica Note 4Note 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Number of Screws	2 ea	Dynamic Torque Reversing	2.83 Nm		
Axial Motion0.20 mmTorsional Stiffness35.4 Nm/DegMoment of Inertia9.502 x 10 ⁻⁶ kg-m ² Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-tR-t/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicaNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slipag shaft is possible below the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slipag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Angular Misalignment	1.0°	Dynamic Torque Non-Reversing	5.65 Nm		
Moment of Inertia9.502 x 10°6 kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 or Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are at maximum misalignment.Note 3Note 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. normal/typical conditions the hubs are available or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Resource of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Parallel Misalignment	0.00 mm	Static Torque	11.3 Nm		
Full Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-1R-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Axial Motion	0.20 mm	Torsional Stiffness	35.4 Nm/Deg		
Balanced DesignYesTorque WrenchTW:BT-1R-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applica normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. normal/typical conditions the hubs are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. requestion torque capacity in the shaft/hub connection when required. Please consult technical support for more	Moment of Inertia	9.502 x 10 ⁻⁶ kg-m ²	Maximum Speed	10,000 RPM		
Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminum Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Full Bearing Support Required?	Yes	Zero-Backlash?	Yes		
Disc Springs: Type 302 Stai SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-862 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Note 3Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicaNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Balanced Design	Yes	Torque Wrench	<u>TW:BT-1R-1/4-18.3</u>		
II, Class 2 and ASTM B580ManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applications for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Recommended Hex Key	<u>Metric Hex Keys</u>	Material Specification	Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel		
Weight (lbs)0.128900UPC634529151099Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicaNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs.normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Temperature	-40°F to 200°F (-40°C to 93°C)	Finish Specification	Sulfuric Anodized MIL-A-8625 Type II, Class 2 and ASTM B580 Type B Black Anodize		
Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicaNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs.normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Manufacturer	Ruland Manufacturing	Country of Origin	USA		
Note 1 Stainless steel hubs are available upon request. Note 2 Torque ratings are at maximum misalignment. Note 3 Performance ratings are for guidance only. The user must determine suitability for a particular applica Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Weight (Ibs)	0.128900	UPC	634529151099		
Note 2 Torque ratings are at maximum misalignment. Note 3 Performance ratings are for guidance only. The user must determine suitability for a particular applica Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Tariff Code	8483.60.8000	UNSPC	31163008		
Note 3 Performance ratings are for guidance only. The user must determine suitability for a particular applica Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Note 1	Stainless steel hubs are available upon request.				
Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In cases, especially when the smallest standard bores are used or where shafts are undersized, slippag shaft is possible below the rated torque of the disc springs. Keyways are available to provide addition torque capacity in the shaft/hub connection when required. Please consult technical support for more	Note 2	Torque ratings are at maximum mis	salignment.			
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assistance.	Note 4	Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. Under normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. 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 disc springs. Keyways are available to provide additional torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.				

Ruland MDCS33-15-13-A Clamp Style, 33.3mm OD	•		0	
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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 <u>www.P65Warnings.ca.gov</u>.

Installation Instructions

- Align the bores of the MDCS33-15-13-A single disc coupling on the shafts that are to be joined and determine if the misalignment parameters are within the limits of the coupling. (*Angular Misialignment:* 1.0°, *Parallel Misalignment:* 0.00 mm, *Axial Motion:* 0.20 mm)
- 2. Fully tighten the M3 screw on the first hub to the recommended seating torque of 2.1 Nm using a 2.5 mm hex torque wrench.
- 3. Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.
- Tighten the screw 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 16.1 mm.