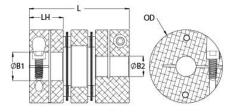




## MDCDE33-12-8-A

Ruland MDCDE33-12-8-A, 12mm x 8mm Double Disc Coupling, Aluminum, Clamp Style, Electrically Isolating, 33.3mm OD, 45.0mm Length





## Description

Ruland MDCDE33-12-8-A is an electrically isolating clamp double disc coupling with 12mm x 8mm bores, 33.3mm OD, and 45.0mm length. It is zero-backlash and has a balanced design for reduced vibration at high speeds. The double disc design is comprised of two anodized aluminum hubs, two sets of thin stainless steel disc springs, and an acetal center spacer allowing each disc to bend individually and accommodate all types of misalignment. The acetal center spacer isolates the two hubs preventing the incidental transfer of current from the motor to the driven component or vice versa. MDCDE33-12-8-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 MDCDE33-12-8-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. MDCDE33-12-8-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications**

Length (L)       45.0 mm       Hub Width (LH)       15.00 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       2.0°       Dynamic Torque Non-Reversing       5.65 Nm         Parallel Misalignment       0.20 mm       Static Torque       11.3 Nm         Axial Motion       0.40 mm       Torsional Stiffness       28.6 Nm/Deg         Moment of Inertia       1.170 x 10 <sup>5</sup> kg-m <sup>2</sup> 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 Bar Type 302 Stainless S Spacer: Acetal         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       II, Class 2 and ASTM Black Anodize         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.167	r roddor opcomoations			
Outer Diameter (OD)       33.3 mm       Bore Tolerance       +0.03 mm / -0.00 mm         Length (L)       45.0 mm       Hub Width (LH)       15.00 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       2.0°       Dynamic Torque Non-Reversing       5.65 Nm         Parallel Misalignment       0.20 mm       Static Torque       11.3 Nm         Axial Motion       0.40 mm       Torsional Stiffness       28.6 Nm/Deg         Moment of Inertia       1.170 x 10 <sup>5</sup> kg-m <sup>2</sup> Maximum Speed       10,000 RPM         Full Bearing Support Required?       Yes       Torque Wrench       TW:BT:1R-1/4-18.3         Recommended Hex Key       Metric Hex Keys       Material Specification       Hub: so24-T381 Bar         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodize         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (Ibs)       0.167700       UPC	Bore (B1)	12 mm	Small Bore (B2)	8 mm
Length (L)45.0 mmHub Width (LH)15.00 mmRecommended Shaft Tolerance+0.000 mm / -0.013 mmForged Clamp ScrewM3Screw MaterialAlloy SteelHex Wrench Size2.5 mmScrew FinishBlack OxideSeating Torque2.1 NmNumber of Screws2 eaDynamic Torque Reversing2.83 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing5.65 NmParallel Misalignment0.20 mmStatic Torque11.3 NmAxial Motion0.40 mmTorsional Stiffness28.6 Nm/DegMoment of Inertia1.170 x 10 <sup>5</sup> kg-m <sup>2</sup> Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-IR-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.167700UPC634529089484Tariff 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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc spi 	B1 Max Shaft Penetration	21.4 mm	B2 Max Shaft Penetration	21.4 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       2.0°       Dynamic Torque Reversing       5.65 Nm         Parallel Misalignment       0.20 mm       Static Torque       11.3 Nm         Axial Motion       0.40 mm       Torsional Stiffness       28.6 Nm/Deg         Moment of Inertia       1.170 x 10 <sup>-5</sup> kg-m <sup>2</sup> 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 Bar Type 302 Stainless S Space: Acetal         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL II, Class 2 and ASTM Black Anodize         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.167700       UPC       634529089484         Tariff Code	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       2.0°       Dynamic Torque Non-Reversing       5.65 Nm         Parallel Misalignment       0.20 mm       Static Torque       11.3 Nm         Axial Motion       0.40 mm       Torsional Stiffness       28.6 Nm/Deg         Moment of Inertia       1.170 x 10 <sup>-5</sup> kg-m <sup>2</sup> 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 Bar Type 302 Stainless S         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL II, Class 2 and ASTM Black Anodize         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.167700       UPC       634529089484         Tariff Code       8483.60.8000       UNSPC       31453008         Note 1       Stainless steel hubs are available upon	Length (L)	45.0 mm	Hub Width (LH)	15.00 mm
Screw Finish       Black Oxide       Seating Torque       2.1 Nm         Number of Screws       2 ea       Dynamic Torque Reversing       2.83 Nm         Angular Misalignment       2.0°       Dynamic Torque Non-Reversing       5.65 Nm         Parallel Misalignment       0.20 mm       Static Torque       11.3 Nm         Axial Motion       0.40 mm       Torsional Stiffness       28.6 Nm/Deg         Moment of Inertia       1.170 x 10 <sup>-5</sup> kg-m <sup>2</sup> 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 Bar         Type 302 Stainless S       Spacer: Acetal       Type 302 Stainless S       Spacer: Acetal         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL II, Class 2 and ASTM Black Anodize         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.167700       UPC       634529089484         Tariff Code       8483.60.8000       UNSPC       31163008         Note 1       Stainless steel hubs are available upo	Recommended Shaft Tolerance	+0.000 mm / -0.013 mm	Forged Clamp Screw	M3
Number of Screws2 eaDynamic Torque Reversing2.83 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing5.65 NmParallel Misalignment0.20 mmStatic Torque11.3 NmAxial Motion0.40 mmTorsional Stiffness28.6 Nm/DegMoment of Inertia1.170 x 10 <sup>5</sup> 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 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particularNote 3Performance ratings are for guidance only. The user must determine suitability for a particularNote the disc sprin cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are	Screw Material	Alloy Steel	Hex Wrench Size	2.5 mm
Angular Misalignment2.0°Dynamic Torque Non-Reversing5.65 NmParallel Misalignment0.20 mmStatic Torque11.3 NmAxial Motion0.40 mmTorsional Stiffness28.6 Nm/DegMoment of Inertia1.170 x 10° 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 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.167700UPC634529089484Tariff 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 Torque ratings for the couplings are based on the physical limitations/failure point of the disc sp normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sp normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sp normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sp normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sp normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sp norma	Screw Finish	Black Oxide	Seating Torque	2.1 Nm
Parallel Misalignment0.20 mmStatic Torque11.3 NmAxial Motion0.40 mmTorsional Stiffness28.6 Nm/DegMoment of Inertia1.170 x 10 <sup>-5</sup> 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 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.167700UPC634529089484Tariff 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 particularNote 4Forque ratings for the couplings are based on the physical limitations/failure point of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are us	Number of Screws	2 ea	Dynamic Torque Reversing	2.83 Nm
Axial Motion0.40 mmTorsional Stiffness28.6 Nm/DegMoment of Inertia1.170 x 10 <sup>-5</sup> 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 BarType 302 Stainless S Spacer: AcetalSpacer: AcetalSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff 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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are u	Angular Misalignment	2.0°	Dynamic Torque Non-Reversing	5.65 Nm
Moment of Inertia       1.170 x 10 <sup>5</sup> kg-m <sup>2</sup> 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 Bar Type 302 Stainless S Spacer: Acetal         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL II, Class 2 and ASTM Black Anodize         Maunfacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.167700       UPC       634529089484         Tariff Code       8483.60.8000       UNSPC       31163008         Note 1       Stainless steel hubs are available upon request.       Note 3         Note 3       Performance ratings are to raging are based on the physical limitations/failure point of the disc spin ormal/typical conditions the hubs are capable of holding up to the rated torque of the disc spin ormal/typical conditions the hubs are capable of holding up to the rated torque of the disc spin cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used	Parallel Misalignment	0.20 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 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff 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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are unde	Axial Motion	0.40 mm	Torsional Stiffness	28.6 Nm/Deg
Balanced DesignYesTorque WrenchTW:BT-1R-1/4-18.3Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff 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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or wher	Moment of Inertia	1.170 x 10 <sup>-5</sup> kg-m <sup>2</sup>	Maximum Speed	10,000 RPM
Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Note 1Stainless steel hubs are available upon request.31163008Note 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular normal/typical conditions the hubs are capable of holding up to the rated torque of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shaf	Full Bearing Support Required?	Yes	Zero-Backlash?	Yes
Type 302 Stainless S Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular normal/typical conditions the hubs are capable of holding up to the rated torque of the disc spri cases, especially when the smallest standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are	Balanced Design	Yes	Torque Wrench	<u>TW:BT-1R-1/4-18.3</u>
II, Class 2 and ASTM Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.167700UPC634529089484Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 2Torque ratings are for guidance only. The user must determine suitability for a particularNote 3Performance ratings are for guidance only. The user must determine suitability for a particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc sprinormal/typical conditions the hubs are capable of holding up to the rated torque of the disc sprinormal/typical conditions the hubs are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where shafts are undersized, standard bores are used or where sh	Recommended Hex Key	Metric Hex Keys	Material Specification	Hubs: 2024-T351 Bar, Disc Springs Type 302 Stainless Steel, Center Spacer: Acetal
Weight (lbs)0.167700UPC634529089484Tariff 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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc sprintNote 4Conductions the hubs are capable of holding up to the rated torque of the disc sprint	Temperature	-10°F to 150°F (-23°C to 65°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 particularNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc sprintNote 4cases, especially when the smallest standard bores are used or where shafts are undersized, sprint	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         Note 4       Torque ratings for the couplings are based on the physical limitations/failure point of the disc sprint normal/typical conditions the hubs are capable of holding up to the rated torque of the disc sprint cases, especially when the smallest standard bores are used or where shafts are undersized, sprint cases	Weight (Ibs)	0.167700	UPC	634529089484
Note 2       Torque ratings are at maximum misalignment.         Note 3       Performance ratings are for guidance only. The user must determine suitability for a particular         Note 4       Torque ratings for the couplings are based on the physical limitations/failure point of the disc spring normal/typical conditions the hubs are capable of holding up to the rated torque of the disc spring cases, especially when the smallest standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized, spring to the standard bores are used or where shafts are undersized to the standard bores are used or where shafts are undersized to the standard bores are used to the standare bore standard bores are used to the standare bore standard bore	Tariff Code	8483.60.8000	UNSPC	31163008
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shaft is possible below the rated torque of the disc springs. Keyways are available to provide a	Note 4	normal/typical conditions the hubs cases, especially when the smaller	are capable of holding up to the rated st standard bores are used or where s	torque of the disc springs. In some shafts are undersized, slippage on th

	torque capacity in the shaft/hub connection when required. Please consult technical support for more assistance.		
Prop 65	<b>WARNING</b> 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			
	<ol> <li>Align the bores of the MDCDE33-12-8-A double disc coupling on the shafts that are to be joined and determine if the misalignment parameters are within the limits of the coupling. (<i>Angular Misialignment:</i> 2.0°, <i>Parallel Misalignment:</i> 0.20 mm, <i>Axial Motion:</i> 0.40 mm)</li> <li>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.</li> <li>Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.</li> <li>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.</li> <li>The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 21.4 mm.</li> </ol>		