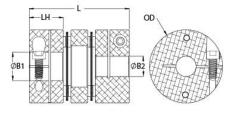




MDCDE57-30-14-A

Ruland MDCDE57-30-14-A, 30mm x 14mm Double Disc Coupling, Aluminum, Clamp Style, Electrically Isolating, 57.2mm OD, 78.2mm Length





Description

Ruland MDCDE57-30-14-A is an electrically isolating clamp double disc coupling with 30mm x 14mm bores, 57.2mm OD, and 78.2mm 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. MDCDE57-30-14-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 MDCDE57-30-14-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. MDCDE57-30-14-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

| Length (L)78.2 mmHub Width (LH)26.7 mmRecommended Shaft Tolerance+0.000 mm / -0.013 mmForged Clamp ScrewM6Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing12.73 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Type 302 Stainles Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Note 1Stainless steel hubs are available upon request.31163008Note 2Torque ratings are at maximum misalignment.Net a particularNote 3Performance ratings are for guidance only. The user must determine suitability for a particular | r roddor opconnoationis | | | |
|--|--------------------------------|--|---|---|
| Outer Diameter (OD) 57.2 mm Bore Tolerance +0.03 mm / -0.00 Length (L) 78.2 mm Hub Width (LH) 26.7 mm Recommended Shaft Tolerance +0.000 mm / -0.013 mm Forged Clamp Screw M6 Screw Material Alloy Steel Hex Wrench Size 5.0 mm Screw Finish Black Oxide Seating Torque Reversing 12.73 Nm Angular Misalignment 2.0° Dynamic Torque Reversing 25.45 Nm Parallel Misalignment 0.30 mm Static Torque 50.9 Nm Axial Motion 0.76 mm Torsional Stiffness 86.9 Nm/Deg Moment of Inertia 1.756 x 10 ⁻⁴ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TV/BT-4C-3/8-14 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Type 302 Stainless Spacer: Acetal Slack Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.812000 UPC 634529115312 Tariff Code 8433.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon request. Note 2 | Bore (B1) | 30 mm | Small Bore (B2) | 14 mm |
| Length (L)78.2 mmHub Width (LH)26.7 mmRecommended Shaft Tolerance+0.000 mm / -0.013 mmForged Clamp ScrewM6Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing12.73 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTV:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Vise 4Note 4Performance ratings are for guidance only. The user must determine suitability for a particuNote 4Torque ratings for the couplings are capable of holding up to the rated torque of the disc | B1 Max Shaft Penetration | 26.7 mm | B2 Max Shaft Penetration | 37.0 mm |
| Recommended Shaft Tolerance+0.000 mm / -0.013 mmForged Clamp ScrewM6Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing12.73 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque Non-Reversing50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10'4 kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351Type 302 StainlesSpacer: AcetalSpacer: AcetalItemative-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particu Note 4Performance ratings are for guidance only. The user must determine suitability for a particu Note 4 biosed on the physical limitations/failure point of the disc normal/typical conditions the hubs are capable of holding up to the rated torque of t | Outer Diameter (OD) | 57.2 mm | Bore Tolerance | +0.03 mm / -0.00 mm |
| Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing12.73 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Type 302 Stainles Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 1Note 2Torque ratings are at maximum misalignment.Note aNote 3Performance ratings are for guidance only. The user must determine suitability for a particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Length (L) | 78.2 mm | Hub Width (LH) | 26.7 mm |
| Screw FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing12.73 NmAngular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m ² Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351Type 302 Stainles Spacer: AcetalSuffire AcetalSuffire Anodized II, Class 2 and AS Black AnodizedManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 3Note 3Performance ratings are for guidance only. The user must determine suitability for a particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Recommended Shaft Tolerance | +0.000 mm / -0.013 mm | Forged Clamp Screw | M6 |
| Number of Screws 2 ea Dynamic Torque Reversing 12.73 Nm Angular Misalignment 2.0° Dynamic Torque Non-Reversing 25.45 Nm Parallel Misalignment 0.30 mm Static Torque 50.9 Nm Axial Motion 0.76 mm Torsional Stiffness 86.9 Nm/Deg Moment of Inertia 1.756 x 10 ⁻⁴ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-4C-3/8-14 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Type 302 Stainless Spacer: Acetal Sulfuric Anodized II, Class 2 and AS Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (Ibs) 0.812000 UPC 634529115312 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 particu Note 4 Note 3 Performance ratings for the couplings are based on the physical limitations/failure point of the dis normal/typic | Screw Material | Alloy Steel | Hex Wrench Size | 5.0 mm |
| Angular Misalignment2.0°Dynamic Torque Non-Reversing25.45 NmParallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351Type 302 Stainles Spacer: AcetalSpacer: AcetalSpacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Note 1Stainless steel hubs are available upon request.Vof 2Torque ratings are at maximum misalignment.Note 3Performance ratings are for guidance only. The user must determine suitability for a particuNote 4Note 4Torque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Screw Finish | Black Oxide | Seating Torque | 16 Nm |
| Parallel Misalignment0.30 mmStatic Torque50.9 NmAxial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m ² Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Type 302 Stainles Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particuNote 3Performance ratings are for guidance only. The user must determine suitability for a particuTorque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Number of Screws | 2 ea | Dynamic Torque Reversing | 12.73 Nm |
| Axial Motion0.76 mmTorsional Stiffness86.9 Nm/DegMoment of Inertia1.756 x 10 ⁻⁴ kg-m²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351Type 302 StainlesSpacer: AcetalType 302 StainlesTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric AnodizedManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.812000UPC634529115312Tariff 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 particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Angular Misalignment | 2.0° | Dynamic Torque Non-Reversing | 25.45 Nm |
| Moment of Inertia 1.756 × 10 ⁻⁴ kg-m ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Zero-Backlash? Yes Balanced Design Yes Torque Wrench TW:BT-4C-3/8-14 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Type 302 Stainles Spacer: Acetal Spacer: Acetal Temperature -10°F to 150°F (-23°C to 65°C) Finish Specification Sulfuric Anodized II, Class 2 and AS Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.812000 UPC 634529115312 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainless steel hubs are available upon request. Torque ratings are at maximum misalignment. Note 3 Performance 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 normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Parallel Misalignment | 0.30 mm | Static Torque | 50.9 Nm |
| Full Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351Type 302 Stainless Spacer: AcetalTorpe 302 Stainless Spacer: AcetalSulfuric Anodized II, Class 2 and AS Black AnodizeTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particutNote 3Performance ratings are for guidance only. The user must determine suitability for a particut normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Axial Motion | 0.76 mm | Torsional Stiffness | 86.9 Nm/Deg |
| Balanced DesignYesTorque WrenchTW:BT-4C-3/8-14Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Type 302 Stainles Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.812000UPC634529115312Tariff 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 particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc | Moment of Inertia | 1.756 x 10 ⁻⁴ kg-m ² | Maximum Speed | 10,000 RPM |
| Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Type 302 Stainles Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Stainless steel hubs are at maximum misalignment.Note 2Torque ratings are at maximum misalignment.Verformance 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 | Full Bearing Support Required? | Yes | Zero-Backlash? | Yes |
| Type 302 Stainless Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 2Performance ratings are for guidance only. The user must determine suitability for a particuNote 3Performance ratings are for guidance only. The user must determine suitability for a particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc | Balanced Design | Yes | Torque Wrench | TW:BT-4C-3/8-140 |
| II, Class 2 and AS Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.812000UPC634529115312Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.31163008Note 2Torque ratings are at maximum misalignment.Verformance ratings are for guidance only. The user must determine suitability for a particular to the disc normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Recommended Hex Key | Metric Hex Keys | Material Specification | Hubs: 2024-T351 Bar, Disc Springs Type 302 Stainless Steel, Center Spacer: Acetal |
| Weight (lbs)0.812000UPC634529115312Tariff 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 particulNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc | 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 particuNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc | 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 to the physical limitations/failure point of the disconstruction on the physical limitations/failure point of the disconstruction on the physical limitation of the disconstruction of the disconstructine of the disconstructine of the disconstructine of the disconstru | Weight (Ibs) | 0.812000 | UPC | 634529115312 |
| Note 2 Torque ratings are at maximum misalignment. Note 3 Performance ratings are for guidance only. The user must determine suitability for a particul Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the disconstant in normal/typical conditions the hubs are capable of holding up to the rated torque of the disconstant in the discons | Tariff Code | 8483.60.8000 | UNSPC | 31163008 |
| Note 3 Performance ratings are for guidance only. The user must determine suitability for a particu Note 4 Torque ratings for the couplings are based on the physical limitations/failure point of the dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | 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 dis normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Note 2 | Torque ratings are at maximum misalignment. | | |
| normal/typical conditions the hubs are capable of holding up to the rated torque of the disc | Note 3 | Performance ratings are for guidance only. The user must determine suitability for a particular application. | | |
| shaft is possible below the rated torque of the disc springs. Keyways are available to provid | Note 4 | normal/typical conditions the hubs cases, especially when the smalle | are capable of holding up to the rated st standard bores are used or where s | d 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 | MARNING This product can expose you to chemicals including Ethylene Thiourea and Nickel (metallic) known to the State of California to cause cancer, and Ethylene Thiourea known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov . | | |
| Installation Instructions | | | |
| | Align the bores of the MDCDE57-30-14-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</i> <i>Misialignment:</i> 2.0°, <i>Parallel Misalignment.</i> 0.30 mm, <i>Axial Motion:</i> 0.76 mm) Fully tighten the M6 screw on the first hub to the recommended seating torque of 16 Nm using a 5.0 mm hex torque wrench. 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. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 26.7 mm for bore 1 and 37.0 mm for bore 2. | | |