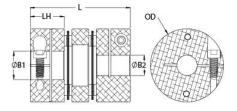




## DCDE36-20-18-A

Ruland DCDE36-20-18-A, 1-1/4" x 1-1/8" Double Disc Coupling, Aluminum, Clamp Style, Electrically Isolating, 2.250" OD, 3.080" Length





## Description

Ruland DCDE36-20-18-A is an electrically isolating clamp double disc coupling with 1.2500" x 1.1250" bores, 2.250" OD, and 3.080" 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. DCDE36-20-18-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 DCDE36-20-18-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. DCDE36-20-18-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

## **Product Specifications**

Type 302 Stainless Steel, Cet Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff 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 applicati normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In oras cases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Product Specifications			
Outer Diameter (OD)         2.250 in         Bore Tolerance         +0.001 in / -0.000 in           Length (L)         3.080 in         Hub Width (LH)         1.050 in           Recommended Shaft Tolerance         +0.0000 in / -0.0005 in         Forged Clamp Screw         M6           Screw Material         Alloy Steel         Hex Wrench Size         5.0 mm           Screw Finish         Black Oxide         Seating Torque         16 Nm           Number of Screws         2 ea         Dynamic Torque Reversing         112.5 lb-in           Angular Misalignment         2.0°         Dynamic Torque Reversing         225 lb-in           Parallel Misalignment         0.012 in         Static Torque         450 lb-in           Axial Motion         0.030 in         Torsional Stiffness         769 lb-in/Deg           Moment of Inertia         0.5805 lb-in <sup>2</sup> Maximum Speed         10,000 RPM           Full Bearing Support Required?         Yes         Zero-Backlash?         Yes           Balanced Design         Yes         Torque Wrench         TW:ET-4C-3/8-140           Recommended Hex Key         Metric Hex Keys         Material Specification         Sulfuric Anodized MIL-A-8622           Manufacturer         Ruland Manufacturing         Country of Origin         USA <tr< th=""><th>Bore (B1)</th><th>1.2500 in</th><th>Small Bore (B2)</th><th>1.1250 in</th></tr<>	Bore (B1)	1.2500 in	Small Bore (B2)	1.1250 in
Length (L)       3.080 in       Hub Width (LH)       1.050 in         Recommended Shaft Tolerance       +0.0000 in / -0.0005 in       Forged Clamp Screw       M6         Screw Material       Alloy Steel       Hex Wrench Size       5.0 mm         Screw Finish       Black Oxide       Seating Torque       16 Nm         Number of Screws       2 ea       Dynamic Torque Reversing       112.5 lb-in         Angular Misalignment       2.0°       Dynamic Torque Reversing       225 lb-in         Parallel Misalignment       0.012 in       Static Torque       450 lb-in         Axial Motion       0.030 in       Torsional Stiffness       769 lb-in/Deg         Moment of Inertia       0.5805 lb-in <sup>2</sup> Maximum Speed       10,000 RPM         Full Bearing Support Required?       Yes       Zero-Backlash?       Yes         Balanced Design       Yes       Torque Wrench       TW/BT-4C-3/8-140         Recommended Hex Key       Metric Hex Keys       Material Specification       Hubs: 2024-T351 Bar, Disc S         Type 302 Stainless Steel, Cer Spacer: Acetal       Trype 302 Stainless Steel, Cer Spacer: Acetal       Stainless Anodize         Maunfacturer       Ruland Manufacturing       Country of Origin       USA         Metight (lbs)       0.724100       UPC	B1 Max Shaft Penetration	1.050 in	B2 Max Shaft Penetration	1.458 in
Recommended Shaft Tolerance       +0.0000 in / -0.0005 in       Forged Clamp Screw       M6         Screw Material       Alloy Steel       Hex Wrench Size       5.0 mm         Screw Finish       Black Oxide       Seating Torque       16 Nm         Number of Screws       2 ea       Dynamic Torque Reversing       112.5 lb-in         Angular Misalignment       2.0°       Dynamic Torque Non-Reversing       225 lb-in         Parallel Misalignment       0.012 in       Static Torque       450 lb-in         Axial Motion       0.030 in       Torsional Stiffness       769 lb-in/Deg         Moment of Inertia       0.5805 lb-in <sup>2</sup> Maximum Speed       10,000 RPM         Full Bearing Support Required?       Yes       Zero-Backlash?       Yes         Balanced Design       Yes       Torque Wrench       TW:BT-4C-3/8-140         Recommended Hex Key       Metric Hex Keys       Material Specification       Hubs: 2024-T351 Bar, Disc S         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       UL Class 2 and ASTM B580 T         Meight (lbs)       0.724100       UPC       634529210123       Tariff Code         Matain Manufacturing       Country of Origin       USA       Veight (Usa)       31163008         Note 1	Outer Diameter (OD)	2.250 in	Bore Tolerance	+0.001 in / -0.000 in
Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment2.0°Dynamic Torque Non-Reversing225 lb-inParallel Misalignment0.012 inStatic Torque450 lb-inAxial Motion0.030 inTorsional Stiffness769 lb-in/DegMoment of Inertia0.5805 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Ce Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8626 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicat. In ordinary for the disc springs. In ordinary class, especially when the smallest standard bores are used or where shafts are undersized, slippage	Length (L)	3.080 in	Hub Width (LH)	1.050 in
Screw FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment2.0°Dynamic Torque Reversing225 lb-inParallel Misalignment0.012 inStatic Torque450 lb-inAxial Motion0.030 inTorsional Stiffness769 lb-in/DegMoment of Inertia0.5805 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW-BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, CeTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8622 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicatiNote 3Performance ratings are for guidance only. The user must determine suitability for a particular applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In a cases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Recommended Shaft Tolerance	+0.0000 in / -0.0005 in	Forged Clamp Screw	M6
Number of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment2.0°Dynamic Torque Non-Reversing225 lb-inParallel Misalignment0.012 inStatic Torque450 lb-inAxial Motion0.030 inTorsional Stiffness769 lb-in/DegMoment of Inertia0.5805 lb-in <sup>2</sup> Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8622 II, Class 2 and ASTM B580 To Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Vote 3Note 2Torque ratings are at maximum misalignment.Vise are undersized, springs. In s cases, especially when the smallest standard bores are used or where shafts are undersized, springs. In s cases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Screw Material	Alloy Steel	Hex Wrench Size	5.0 mm
Angular Misalignment       2.0°       Dynamic Torque Non-Reversing       225 lb-in         Parallel Misalignment       0.012 in       Static Torque       450 lb-in         Axial Motion       0.030 in       Torsional Stiffness       769 lb-in/Deg         Moment of Inertia       0.5805 lb-in <sup>2</sup> Maximum Speed       10,000 RPM         Full Bearing Support Required?       Yes       Zero-Backlash?       Yes         Balanced Design       Yes       Torque Wrench       TW:BT-4C-3/8-140         Recommended Hex Key       Metric Hex Keys       Material Specification       Hubs: 2024-T351 Bar, Disc S         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL-A-8622         Manufacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.724100       UPC       634529210123         Tariff Code       8483.60.8000       UNSPC       31163008         Note 1       Stainless steel hubs are available upon request.       Note 2         Note 3       Performance ratings are at maximum misalignment.       Note 3         Note 4       Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In orage cases, especially when the smallest standard bores are used or where shafts are undersized, slipage<	Screw Finish	Black Oxide	Seating Torque	16 Nm
Parallel Misalignment0.012 inStatic Torque450 lb-inAxial Motion0.030 inTorsional Stiffness769 lb-in/DegMoment of Inertia0.5805 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 1Note 2Torque ratings are at maximum misalignment.Note 3Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In oragaes, especially when the smallest standard bores are used or where shafts are undersized, slippage	Number of Screws	2 ea	Dynamic Torque Reversing	112.5 lb-in
Axial Motion0.030 inTorsional Stiffness769 lb-in/DegMoment of Inertia0.5805 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff 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 applicati 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, slippage	Angular Misalignment	2.0°	Dynamic Torque Non-Reversing	225 lb-in
Moment of Inertia       0.5805 lb-in <sup>2</sup> Maximum Speed       10,000 RPM         Full Bearing Support Required?       Yes       Zero-Backlash?       Yes         Balanced Design       Yes       Torque Wrench       TW:BT-4C-3/8-140         Recommended Hex Key       Metric Hex Keys       Material Specification       Hubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: Acetal         Temperature       -10°F to 150°F (-23°C to 65°C)       Finish Specification       Sulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 T Black Anodize         Mauifacturer       Ruland Manufacturing       Country of Origin       USA         Weight (lbs)       0.724100       UPC       634529210123         Note 1       Stainless steel hubs are available upon request.       Torque ratings are at maximum misalignment.         Note 2       Torque ratings or the couplings are based on the physical limitations/failure point of the disc springs. L normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. L 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, slippage	Parallel Misalignment	0.012 in	Static Torque	450 lb-in
Full Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8622 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Note 1Stainless steel hubs are available upon request.31163008Note 2Torque ratings are at maximum misalignment.VerNote 3Performance ratings are for guidance only. The user must determine suitability for a particular applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. U 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, slippage	Axial Motion	0.030 in	Torsional Stiffness	769 lb-in/Deg
Balanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 Type 	Moment of Inertia	0.5805 lb-in <sup>2</sup>	Maximum Speed	10,000 RPM
Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Bar, Disc S Type 302 Stainless Steel, Cer Spacer: AcetalTemperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8625 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff 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 applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In ormal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In ormal/typical conditions the hubs are used or where shafts are undersized, slippage	Full Bearing Support Required?	Yes	Zero-Backlash?	Yes
Temperature-10°F to 150°F (-23°C to 65°C)Finish SpecificationSulfuric Anodized MIL-A-8626 II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.724100UPC634529210123Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Vertice and the stainless 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 applicationNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Balanced Design	Yes	Torque Wrench	<u>TW:BT-4C-3/8-140</u>
II, Class 2 and ASTM B580 T Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.724100UPC634529210123Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Torque ratings are at maximum misalignment.Note 2Torque ratings are at maximum misalignment.Torque ratings are for guidance only. The user must determine suitability for a particular applicatiNote 3Performance ratings are for guidance only. The user must determine suitability for a particular applicatiNote 4Note 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Recommended Hex Key	<u>Metric Hex Keys</u>	Material Specification	Hubs: 2024-T351 Bar, Disc Springs: Type 302 Stainless Steel, Center Spacer: Acetal
Weight (lbs)0.724100UPC634529210123Tariff 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 applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. Unormal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	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 particular applicatiNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In ormal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	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 applicati         Note 4       Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. In some analytypical conditions the hubs are capable of holding up to the rated torque of the disc springs. In some analytypical conditions the smallest standard bores are used or where shafts are undersized, slippage	Weight (Ibs)	0.724100	UPC	634529210123
Note 2       Torque ratings are at maximum misalignment.         Note 3       Performance ratings are for guidance only. The user must determine suitability for a particular applicati         Note 4       Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. It normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Tariff Code	8483.60.8000	UNSPC	31163008
Note 3         Performance ratings are for guidance only. The user must determine suitability for a particular application of the disc springs. It is normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. It is cases, especially when the smallest standard bores are used or where shafts are undersized, slippage	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. Unormal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. In scases, especially when the smallest standard bores are used or where shafts are undersized, slippage	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 springs. In s cases, especially when the smallest standard bores are used or where shafts are undersized, slippage	Note 3	Performance ratings are for guidance only. The user must determine suitability for a particular application.		
torque capacity in the shaft/hub connection when required. Please consult technical support for more	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		

B 45				
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 DCDE36-20-18-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> 0.012 in, <i>Axial Motion:</i> 0.030 in)</li> <li>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.</li> <li>Before tightening the screw on the second hub, rotate the coupling by hand to allow it to reach its free length.</li> </ol>			
	<ol> <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> </ol>			
	5. The shafts may extend into the relieved portion of the bore as long as it does not exceed the shaft penetration length of 1.050 in for bore 1 and 1.458 in for bore 2.			