Ruland DCS36-20-18-A, 1 1/4" x 1 1/8" Single Disc Coupling, Aluminum, Clamp Style, 2.250" OD, 2.313" Length

4.0500

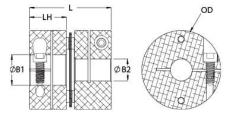
Description

Ruland DCS36-20-18-A is a clamp single disc coupling with 1.2500" x 1.1250" bores, 2.250" OD, and 2.313" 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. DCS36-20-18-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 DCS36-20-18-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. DCS36-20-18-A is manufactured in our Marlborough, MA factory under strict controls using proprietary processes.

Product Specifications

Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff 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 applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippad	Bore (B1)	1.2500 in	Small Bore (B2)	1.1250 in	
Length (L)2.313 inHub Width (LH)1.050 inRecommended Shaft Tolerance+0.0000 in / -0.0005 inForged Clamp ScrewM6Screw MaterialAlloy SteelHex Wrench Size5.0 mmScrew FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment1.0°Dynamic Torque Non-Reversing225 lb-inParallel Misalignment0.00 inStatic Torque450 lb-inAxial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW/BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-1351 Aluminum Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationUSA URISC StatesMaufacturerRuland ManufacturingCountry of OriginUSA USAWeight (Ibs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are tor guidance only. The user must determine suitability for a particular applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are	B1 Max Shaft Penetration	1.050 in	B2 Max Shaft Penetration	1.085 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 1.0° Dynamic Torque Non-Reversing 225 lb-in Parallel Misalignment 0.00 in Static Torque 450 lb-in Axial Motion 0.015 in Torsional Stiffness 1000 lb-in/Deg Moment of Inertia 0.4848 lb-in ² Maximum Speed 10,000 RPM Full Bearing Support Required? Yes Torque Wrench TW/BT-4C-3/8-140 Recommended Hex Key Metric Hex Keys Material Specification Hubs: 2024-T351 Aluminum Disc Springs: Type 302 Sta Steel Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-80 Black Anodize Manufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.608500 UPC 634529153475 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1	Outer Diameter (OD)	2.250 in	Bore Tolerance	+0.001 in / -0.000 in	
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 1.0° Dynamic Torque Non-Reversing 225 lb-in Parallel Misalignment 0.00 in Static Torque 450 lb-in Axial Motion 0.015 in Torsional Stiffness 1000 lb-in/Deg Moment of Inertia 0.4848 lb-in ² 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 Aluminur. Disc Springs: Type 302 Stresteite Temperature -40°F to 200°F (-40°C to 93°C) Finish Specification Sulfuric Anodized MIL-A-8t II, Class 2 and ASTIM B580 Black Anodize Maufacturer Ruland Manufacturing Country of Origin USA Weight (lbs) 0.608500 UPC 634529153475 Tariff Code 8483.60.8000 UNSPC 31163008 Note 1 Stainle	Length (L)	2.313 in	Hub Width (LH)	1.050 in	
Screw FinishBlack OxideSeating Torque16 NmNumber of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment1.0°Dynamic Torque Non-Reversing225 lb-inParallel Misalignment0.00 inStatic Torque450 lb-inAxial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 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 Aluminur Disc Springs: Type 302 StsTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-80 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Note 1Stainless steel hubs are available upon request.Note 3Performance ratings are for guidance only. The user must determine suitability for a particular applicNote 3Performance ratings are for guidance only. The user must determine suitability for a particular applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. casee, especially when the smallest standard bores are used or where shafts are undersized, slippa	Recommended Shaft Tolerance	+0.0000 in / -0.0005 in	Forged Clamp Screw	M6	
Number of Screws2 eaDynamic Torque Reversing112.5 lb-inAngular Misalignment1.0°Dynamic Torque Non-Reversing225 lb-inParallel Misalignment0.00 inStatic Torque450 lb-inAxial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hax KeysMaterial SpecificationHubs: 2024-1351 Aluminum Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Yen apaticular applic normal/typical conditions the hubs are capable of holding up to the rated torque 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 capable of holding up to the rated torque of the disc springs cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Screw Material	Alloy Steel	Hex Wrench Size	5.0 mm	
Angular Misalignment1.0°Dynamic Torque Non-Reversing 225 lb-inParallel Misalignment0.00 inStatic Torque450 lb-inAxial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 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 Aluminum Disc Springs: Type 302 Sts SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Torque of the disc springs rorque ratings are for guidance only. The user must determine suitability for a particular applic normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Screw Finish	Black Oxide	Seating Torque	16 Nm	
Parallel Misalignment0.00 inStatic Torque450 lb-inAxial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 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 Aluminur Disc Springs: Type 302 Str SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are at maximum misalignment.Note 3Note 4Performance ratings are for guidance only. The user must determine suitability for a particular applic normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Number of Screws	2 ea	Dynamic Torque Reversing	112.5 lb-in	
Axial Motion0.015 inTorsional Stiffness1000 lb-in/DegMoment of Inertia0.4848 lb-in²Maximum Speed10,000 RPMFull Bearing Support Required?YesZero-Backlash?YesBalanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hax KeysMaterial SpecificationHubs: 2024-T351 Aluminur Disc Springs: Type 302 Str SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 3Performance ratings are at maximum misalignment.Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Angular Misalignment	1.0°	Dynamic Torque Non-Reversing	225 lb-in	
Moment of Inertia0.4848 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 Aluminur Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Note 1Stainless steel hubs are available upon request.Note 3Note 3Performance ratings are at maximum misalignment.Torque ratings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Parallel Misalignment	0.00 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 Aluminur Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff 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 applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Axial Motion	0.015 in	Torsional Stiffness	1000 lb-in/Deg	
Balanced DesignYesTorque WrenchTW:BT-4C-3/8-140Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminur Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff Code8483.60.8000UNSPC31163008Note 1Stainless steel hubs are available upon request.Note 2Note 2Torque ratings are at maximum misalignment.Note 3Note 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Moment of Inertia	0.4848 lb-in ²	Maximum Speed	10,000 RPM	
Recommended Hex KeyMetric Hex KeysMaterial SpecificationHubs: 2024-T351 Aluminu Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.608500UPC634529153475Tariff 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 applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Full Bearing Support Required?	Yes	Zero-Backlash?	Yes	
Disc Springs: Type 302 Sta SteelTemperature-40°F to 200°F (-40°C to 93°C)Finish SpecificationSulfuric Anodized MIL-A-86 II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (Ibs)0.608500UPC634529153475Tariff 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 applicNote 4Torque ratings for the couplings are based on the physical limitations/failure point of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Balanced Design	Yes	Torque Wrench	<u>TW:BT-4C-3/8-140</u>	
II, Class 2 and ASTM B580 Black AnodizeManufacturerRuland ManufacturingCountry of OriginUSAWeight (lbs)0.608500UPC634529153475Tariff 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 particular applicNote 3Performance ratings are for guidance only. The user must determine suitability for a particular applicNote 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Recommended Hex Key	Metric Hex Keys	Material Specification	Hubs: 2024-T351 Aluminum Bar, Disc Springs: Type 302 Stainless Steel	
Weight (lbs)0.608500UPC634529153475Tariff 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 applicNote 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	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 applicNote 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	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 applie 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippad	Weight (Ibs)	0.608500	UPC	634529153475	
Note 2 Torque ratings are at maximum misalignment. Note 3 Performance ratings are for guidance only. The user must determine suitability for a particular applied 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Tariff Code	8483.60.8000	UNSPC	31163008	
Note 3 Performance ratings are for guidance only. The user must determine suitability for a particular applie 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. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	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 cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Note 2				
normal/typical conditions the hubs are capable of holding up to the rated torque of the disc springs. cases, especially when the smallest standard bores are used or where shafts are undersized, slippa	Note 3	Performance ratings are for guidance only. The user must determine suitability for a particular application.			
	Note 4	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			







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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 DCS36-20-18-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 in, *Axial Motion:* 0.015 in)
- 2. 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.
- 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 1.050 in for bore 1 and 1.085 in for bore 2.