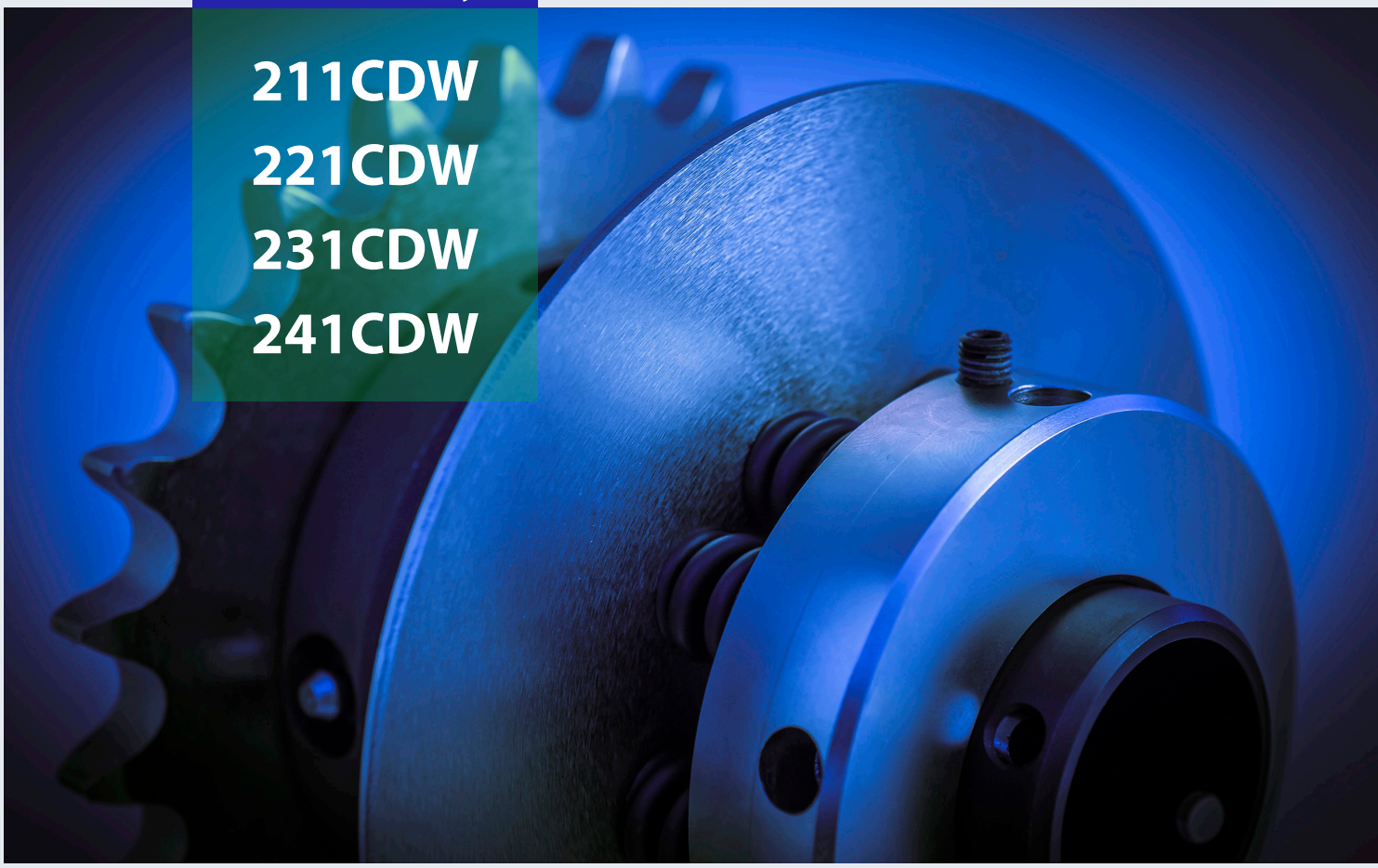
TORQUE LIMITERS

Ball Detent Style

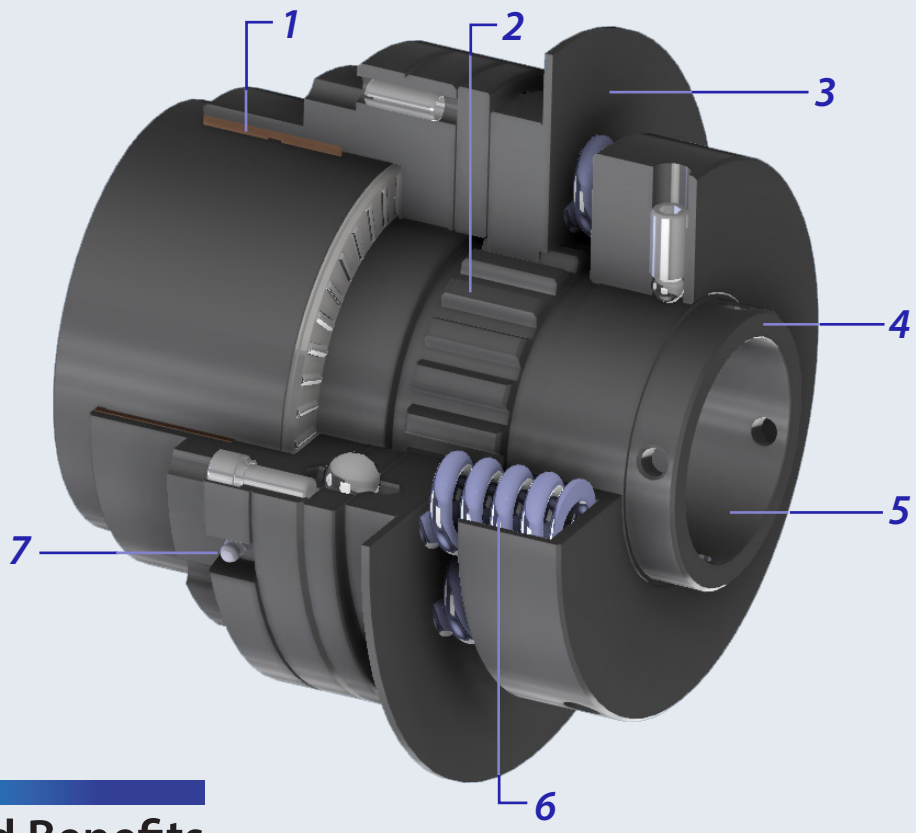
211CDW
221CDW
231CDW
241CDW



THE ULTIMATE PROTECTION

CARLSON-DIMOND & WRIGHT, INC.

CDWdrives Torque Limiters - Downtime Protection



Features and Benefits

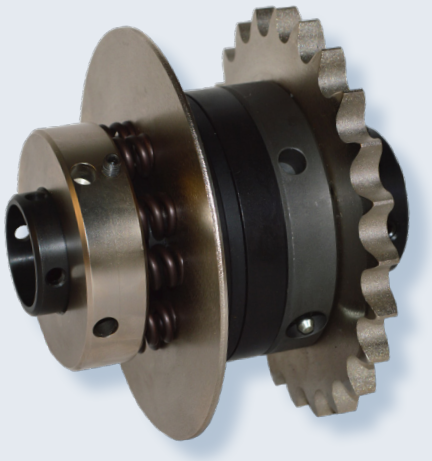
1. **Precision Bronze-Bushed Adapter:** Bronze-bushed adapter with pre-tapped bolt circle holes enables direct mounting of sprockets or timing pulleys. Popular sprocket sizes are available pre-bored and drilled to match CDWdrives torque limiters, including multi-strand and hardened tooth options. No additional machining is required, ensuring fast and efficient assembly.
2. **Integrated Over-Adjustment Protection:** All models incorporate a built-in over-adjustment safety feature. The torque adjusting nut bottoms out before lock-up can occur, eliminating the need for calibration spacers and preventing over-compression of springs.
3. **Heavy-Duty Limit Switch Plate:** A thick, reinforced limit switch plate minimizes the risk of bending, enhancing durability and maintaining reliable disengagement indication.
4. **Hub Extension with Barring Holes:** Integrated hub extension with barring holes allows the hub to be securely held in place during torque adjustment, simplifying setup and improving safety.
5. **Thru-Bore Hub Configuration:** Available thru-bore design supports long shaft mounting or installation between bearings. Standard on Models 211CDW and 221CDW; optional on Models 231CDW and 241CDW.
6. **Full Torque Range with Adjustable Spring System:** Each unit is supplied with a complete set of coil springs to cover the full minimum-to-maximum torque range as shipped. The threaded adjusting nut allows torque changes without spring replacement—simply remove springs as required for lower torque settings.
7. **Single-Point Lubrication:** One external grease fitting provides convenient lubrication of the internal thrust bearing and bronze adapter bushing, reducing maintenance time and ensuring long service life.

Fine-Thread Setscrews & Mounting Holes: Models 211CDW and 221CDW utilize fine-thread setscrews and mounting holes to provide superior clamping force and maximum holding power under load.

Large-Diameter Hub Setscrews: Oversized hub setscrews enhance shaft retention and torque transmission reliability. Three setscrews on Models 211CDW and 221CDW/ Two setscrews on Models 231CDW and 241CDW.

Coupling-Style Assembly Option: Available for all four models, the coupling-style configuration enables installation between two shafts while accommodating angular, parallel, and axial misalignment—ideal for demanding drive system applications.

The CDWdrives Difference



- **Global Reliability:** Thousands of units in operation worldwide, delivering fail-safe protection and preventing downtime in the harshest environments.
- **Industry-Proven Versatility:** Trusted across automotive, manufacturing, packaging, and process sectors for critical component protection.
- **Next-day shipping:** We stock four popular standard sizes, ready to ship within one business day to keep your operations running smoothly.
- **Rapid Customization:** Expert technicians design and build application-specific configurations with industry-leading lead times.
- **Custom Solutions:** We offer expert technical consultation for larger sizes and complex, custom-engineered torque solutions.

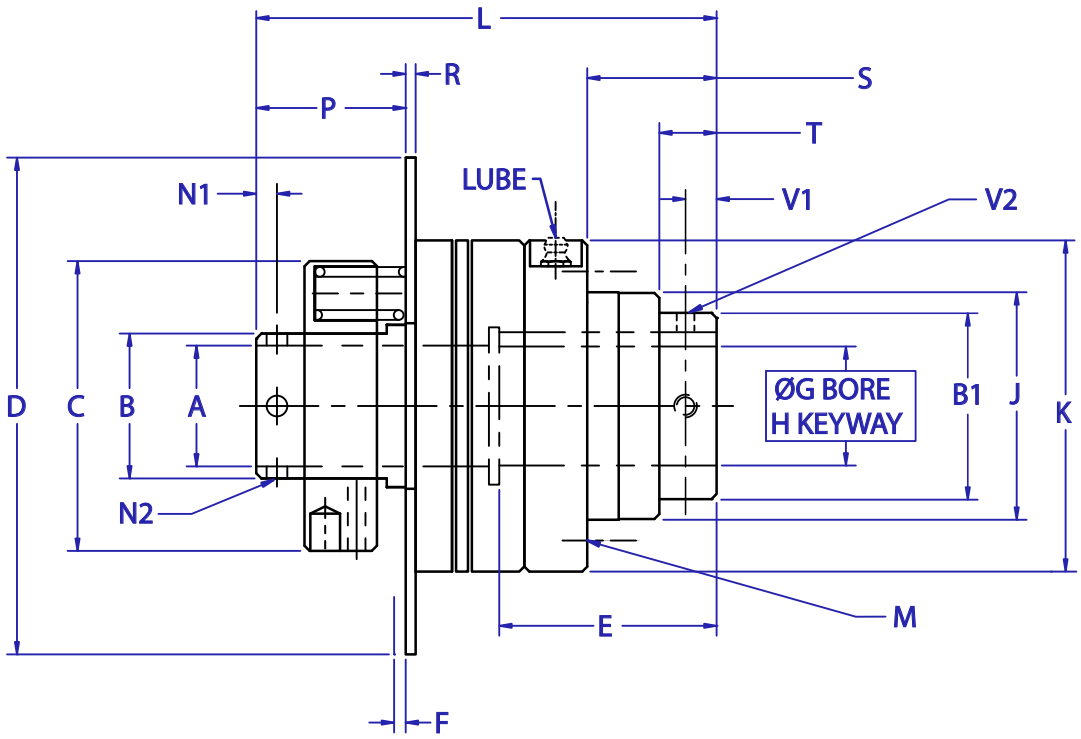
Technical Details	Model 211CDW	Model 221CDW	Model 231CDW	Model 241CDW
Torque capacity (in.-lb.)	3000	6000	12000	23000
Max speed (RPM)	200	200	500	500
Reset type	Automatic, random position multi-seat (Resets every 27 degrees of rotation)	Automatic, random position multi-seat (Resets every 24 degrees of rotation)	Automatic, single position (resets every 720 degrees of rotation)	Automatic, single position (resets every 720 degrees of rotation)
Reset direction	Forward & Reverse	Forward & Reverse	Forward & Reverse	Forward & Reverse
Qty coil springs	10	9	10 inner/outer	10 inner/outer
Stock bore	1-7/16" dia. bore, with KW, 3 SS	1-15/16" dia. bore, with KW, 3 SS	Blank (unbored)	Blank (unbored)
Max bore (thru shaft mounting, full depth keyway)	1-7/16" *	2"	2-1/4"	2-7/8"
Max bore (blind mounting, full depth keyway)	N/A	N/A	2-7/16"	3-1/8"
Max bore (blind mounting, shallow depth keyway)	N/A	N/A	2-1/2"	3-1/2"
Minimum Size RC Sprocket	40A30, 50A24, 60A21, 80A17, 100A14	50A30, 60A25, 80A20, 100A16	50A30, 60A26, 80A20, 100A17, 120A15	80A27, 100A23, 120A20, 140A17, 160A16
Coupling style available	Yes	Yes	Yes	Yes
Unit weight without bushing or sprocket (lb.)	9.5	18.0	38.0	83.0

* 1-1/2" dia. bore thru shaft mounting is available with shallow depth keyway

Min./Max. Torque Range (in. - lb.)				
No. of Springs	Model 211CDW	Model 221CDW	Model 231CDW	Model 241CDW
2 Springs	N/A	N/A	***	1700/3700
3 Springs	***	700/2000	400/2500	***
4 Springs	600/1200	***	600/3300	3300/7300
5 Springs	900/1300	***	700/4200	***
6 Springs	1000/1500	1400/4000	800/5000	4800/11000
8 Springs	1200/2400	***	1100/6600	6400/14700
9 Springs	***	2100/6000	***	***
10 Springs	1500/3000	N/A	1400/8200	8000/18300
10 Inner/Outer Springs	N/A	N/A	2000/12000	10200/23000

*** Spring configuration not recommended, consult *CDWdrives* for application assistance

Torque Limiter 211CDW and 221CDW



Dimensional Details Dimensions (inches)		Model	
		211CDW	221CDW
Clearance "thru" bore	A	1.46	2.06
Hub diameter (adj nut end)	B	1.75	2.50
Hub dia. (finish bore end)	B1	2.25	2.88
Adj nut diameter	C	3.50	5.00
Limit switch plate diameter	D	6.00	7.00
Finish bore depth	E	2.63	3.63
LS plate movement	F	0.14	0.17
Stock bore (+.001/-.000)	G	1-7/16"	1-15/16"
Keyway	H	3/8" X 3/16"	1/2" X 1/4"
Pilot diameter	J	2.749/2.747	3.499/3.497
Adapter diameter	K	4.00	5.00
Overall length	L	5.56	6.42
Bolt circle	M	(6) 1/4-28 tapped holes equally spaced on 3-1/4" dia. bolt circle	(6) 3/8-24 tapped holes equally spaced on 4-1/8" dia. bolt circle
Barring hole position	N1	0.25	0.28
Barring hole diameter	N2	(4) 0.25	(4) 0.30
LS plate position (engaged)	P	1.81	1.98
LS plate thickness	R	0.12	0.12
Adapter projection	S	1.56	1.63
Hub projection	T	0.69	0.75
Setscrew position	V1	0.37	0.37
Setscrew size	V2	(1) 3/8-24 over KW	(1) 3/8-24 over KW
		(2) 3/8-24 +/-90 deg from KW	(2) 1/2-20 +/-90 deg from KW

Available Sleeve Bushings			
Model 211CDW		Model 221CDW	
5/8" Bore w/ Key	45C206-G	7/8" Bore w/ Key	45A346-A
3/4" Bore w/ Key	45C206-H	1" Bore w/ Key	45A346-B
20MM Bore w/ Key	45C206-A	1-1/8" Bore w/ Key	45A346-C
7/8" Bore w/ Key	45C206-B	1-3/16" Bore w/ Key	45A346-D
1" Bore w/ Step Key	45C206-C	1-1/4" Bore w/ Key	45A346-E
1-1/8" Bore w/ Step Key	45C206-D	1-3/8" Bore w/ Key	45A346-J
1-3/16" Bore w/ Step Key	45C206-E	1-7/16" Bore w/ Key	45A346-F
1-1/4" Bore w/ Step Key	45C206-F	1-1/2" Bore w/ Key	45A346-G
		1-3/4" Bore w/ Key	45A346-H

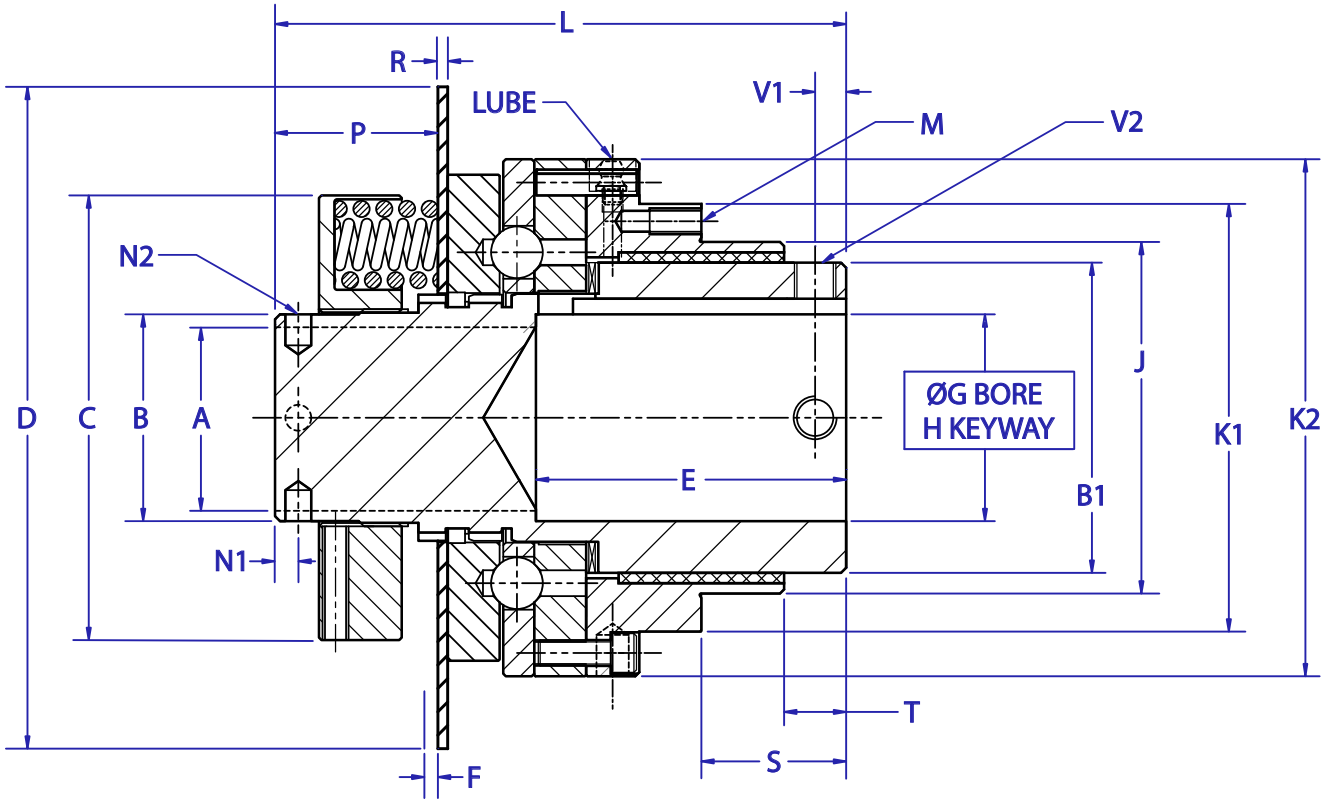
CDWdrives Sleeve Bushings

Sleeve Bushings are available for models 211CDW and 221CDW ***(See table above)***

Adapting the torque limiter for alternate shaft sizes is easy

CDWdrives sleeve bushings stocked in a variety of sizes are designed such that they are trapped in the assembly and include the appropriate key

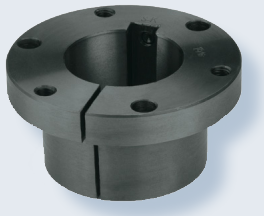
Torque Limiter 231CDW and 241CDW



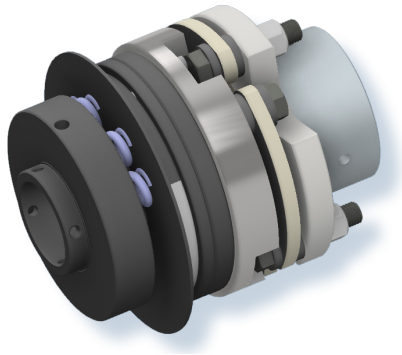
Dimensional Details Dimensions (inches)		Model	
		231CDW	241CDW
Clearance "thru" bore	A	Consult *CDWdrives*	Consult *CDWdrives*
Hub diameter (adj nut end)	B	2.50	3.75
Hub dia. (finish bore end)	B1	3.75	5.72
Adj nut diameter	C	5.38	7.50
Limit switch plate diameter	D	8.00	10.00
Finish bore depth	E	3.75	4.00
LS plate movement	F	0.21	0.25
Stock bore	G	Machined Per Order	Machined Per Order
Keyway	H	Machined Per Order	Machined Per Order
Pilot diameter	J	4.250/4.248	6.340/6.337
Adapter step diameter	K1	5.17	7.50
Adapter outer diameter	K2	6.25	8.50
Overall length	L	6.90	8.50
Bolt circle	M	(10) 5/16-18 tapped holes equally spaced on 4-3/4" dia. bolt circle	(12) 3/8-16 tapped holes equally spaced on 6-15/16" dia. bolt circle
Barring hole position	N1	0.28	0.34
Barring hole diameter	N2	(4) 0.31	(4) 0.38
LS plate position (engaged)	P	1.97	2.82
LS plate thickness	R	0.12	0.12
Adapter projection	S	1.75	2.13
Hub projection	T	0.75	0.68
Setscrew position	V1	0.38	0.38
Setscrew size	V2	Varies by bore size	Varies by bore size

CAD drawings for all models are available upon request at no additional charge

QD Bushing Style Hub



QD Bushing Style Hubs are available for models 231CDW and 241CDW (Consult *CDWdrives*)



Coupling style assemblies are available for all four models - *allows for angular, parallel and axial misalignment when there is a requirement for installation of the torque limiter between two shafts*

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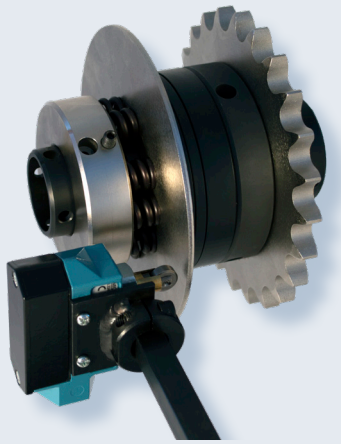
Additional *CDWdrives* Products

Limit Switch Kits

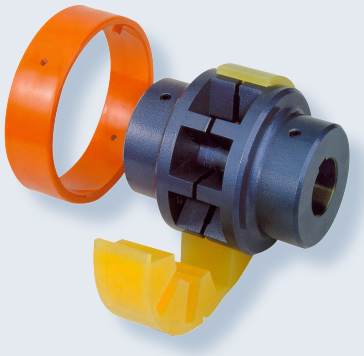
Other configurations and limit switch brands are available - consult *CDWdrives*



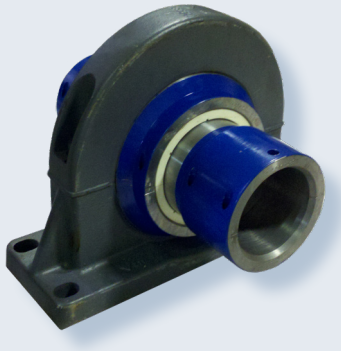
Microswitch Style

Allen Bradley Style

Couplings



Aquabearings



DRIVE SYSTEMS INTEGRATORS

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