

# **Autogard Torque Limiter 200 Series**

**METRIC** 



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**For more than 80 years,** Autogard® products have led the industry in overload protection with high-quality products, design innovation and production. Autogard products are manufactured to meet ISO 9001 using the latest machine tools and high-quality materials.

Acting like a mechanical "circuit breaker" to protect the weakest member of the drive train, the most effective location for Autogard Torque Limiters is as close as possible to the component being protected. The 200 Series is a state-of-the-art mechanical device that will disengage at a preset torque value. The trip torque is set above the normal startup and operating torque, but below a torque setting that would normally damage the driving and/or driven equipment. In the event of a jam, the 200 Series eliminates the threat of damage by disconnecting the inertia in the drive train.

In the normal drive condition, torque is transmitted through the drive balls 'A' which are seated in detents in the drive plate 'B' and the slide plate 'C', These are all held together under pressure from spring 'D'.

### **Disengagement on Overload**

When the driven machine either jams or an overload occurs that is greater than the torque setting, the balls roll out of their seats and force apart the drive plate 'B' and the slide plate 'C'. The balls are retained by the cage plate 'E' and roll freely on the flat surface of the drive plate 'B' and slide plate 'C'.

### Re-engagement

Re-engagement occurs in one of three ways depending upon which reset type is selected.

### Type AC — Automatic Random Reset

The ball detents in the drive plate 'B' and the slide plate 'C', as well as the retaining holes in cage plate 'E' are equally spaced on the same pitch circle diameter so that the balls will roll into the next detents after tripping in either direction. Immediate shutdown is required to prevent wear of the detents.

### Type ACT — Automatic Single Position Reset

The ball detents are positioned in a scattered pattern so that the balls must return to their original position before they can reset. Re-engagement will occur within two revolutions in either direction. Immediate shutdown is required to prevent wear of the detents.

Figure 1

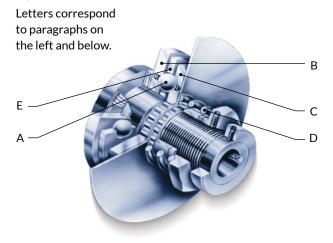
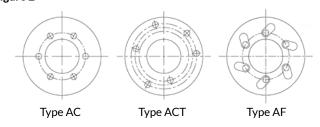


Figure 2



### Type AF — Free Wheeling Disengagement

As with Type AC, the detents in drive plate 'B' and slide plate 'C' are equally spaced. The retaining holes in the engagement plate 'E' are elongated so that, as the balls roll from the detents, they can follow a cam profile onto a different running track away from the detents. Type AF can run at higher speeds as the balls will not ratchet in the detents. Resetting is achieved by manually locking the plates and reversing the drive.



#### **Features and Benefits:**

- Proven design with thousands of units successfully in operation
- Accurate torque limitation prevents costly downtime
- Cost-effective design
- Standard designs can accommodate large torque ranges
- Instantaneous disengagement protects equipment from damaging inertias
- Bi-directional protection
- Easy to adjust to desired allowable torque
- Three reset types offered:
  - Type AC Automatic Random Reset
  - Type ACT Automatic Single Position Reset
  - Type AF Freewheeling, Manual Reset for high speeds
- Wide range of mounting configurations ensures the right solution for any problem:
  - Timing, HTD and V-Belt drives
  - Chain and sprocket drives
  - Gear drives
  - Flexible or rigid couplings
  - Flywheel or large gear mounting

#### Selection:

Data required for torque limiter selection:

- Application details for service factors
- Kilowatt (kW) or horsepower (hp) and rpm of the driver
- Shaft details of the driving and driven equipment
- (1) Calculate the nominal torque.

### Torque (Nm) = $Kw \times 9550 / rpm$

Consideration should then be given to start torque or other special circumstances depending on the position chosen in the drive system. Choose a set torque with a suitable margin over nominal. Select the torque limiter which has a higher torque rating.

- (2) Check limiting conditions:
  - (a) Check hub bore capacity
  - (b) Check the torque limiter dimensions such as the overall length and outside diameter
- (3) Select and specify the appropriate drive medium or coupling.

All 200 Series units may be supplied from the factory at a preset torque and with the required drive medium assembled to the unit.



### Ordering the 200 Series Torque Limiter

When ordering, please provide the following designation: Model and Size / Type / S1 bore / S2 bore

Standard bore tolerance = H8 + normal fit key

Example: 205-5 / AC / S1-60mm / S2-90mm

Refers to Model 205, Size 5, Automatic Random Reset

S1 Bore = 60mm S2 Bore = 90mm

Also specify setting torque is required.

The specifications contained within this brochure are correct at the time of going to print. Rexnord is continually reviewing and updating the specifications on its entire Autogard product offering and therefore reserve the right to change any detail.



### Model 221, for use with sprockets, pulleys or gears. Supplied complete with bearing and suitable mounting holes.

Figure 3

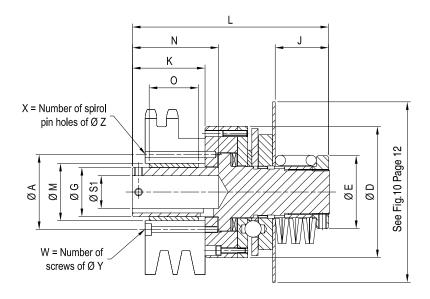


Table1

	Torq	ue ①		Speed ②		Mass 4	Mass Moment of	
Size	Type AC or AF Nm	Type ACT Nm	Type AC rpm	Type ACT rpm	Type AF rpm	Mass ⊕ Kg	Inertia MR <sup>2</sup> <sup>(4)</sup> Kgm <sup>2</sup>	
1	1-44	3-69	200	500	2,000	1.5	0.0005	
2	6-226	9-384	200	500	2,000	4.5	0.0049	
3	6-678	9-854	200	500	2,000	9.9	0.0150	
4	90-1,130	113-1,774	200	500	2,000	21.6	0.0600	
5	141-2,540	158-2,937	200	500	2,000	50.0	0.2100	
<b>5S</b> ③	938-7,627	1,130-8,474	200	500	_	106.0	0.7300	

① See page 13, Table 19 for spring selection and torque range with specific springs.

Table 2

Size	Max. Bore \$1 ① mm	D mm	E mm	Min. G ② mm	Max. G ② mm	J mm	K mm	L mm	Min. M ② mm	Max. M ② mm	N ③ mm
1	12.7	60	33	22.225	22.253	42	50	140	25.400	25.430	51
2	25.4	102	57	38.100	38.136	42	56	153	44.450	44.475	67
3	38.1	127	80	50.800	50.838	76	78	216	57.175	57.201	89
4	50.8	159	108	71.476	71.501	96	117	287	77.788	77.818	127
5	76.2	216	153	101.727	101.752	121	148	368	114.300	114.336	165
<b>5S</b>	102	267	178	152.400	152.464	121	166	426	171.450	171.491	178

① Bores are furnished for clearance fit unless otherwise specified by customer. Please consult Rexnord.

② Higher speeds may be allowed under certain conditions. Please consult Rexnord.

 $<sup>\</sup>ensuremath{\mathfrak{D}}$  5S is available in Type AC and ACT resets only.

Weights and moments of inertia apply to maximum S1 bores and exclude sprockets, etc.

② The drive medium may be mounted onto the adapter with screws and dowels and must be bored to dimension "M".
The supplied bearing may then be press fitted into the drive medium. Finally, the bearing should then be bored to dimension "G" as shown.

<sup>®</sup> Dimension N is depth of blind bore S1 as normally furnished, unless otherwise specified. For through-shaft applications or for weight reduction, through-bore can be furnished for an extra charge. The bore beyond depth N will be to a dimension larger than the finish bore of length N.

Table 3

		Smal	lest Sprocket (No. of T	Geeth)		Smallest Sheave	
Size	3/8" pitch	1/2" pitch	5/8" pitch	3/4" pitch	1" pitch	Diameter ① mm	
1	19	15	12	_	_	44	
2	26	21	17	15	12	67	
3	31	24	20	17	13	80	
4	_	31	25	21	17	109	
5	_	41	33	28	22	149	
<b>5</b> S	_	60	48	41	31	230	

① The diameter quoted is to the bottom of a V-sheave groove or to the inside diameter of the flange of a timing belt pulley. For sprockets, the above information applies only to a single strand chain. For multiple strand chain.

Table 4

		Stan	dard Mounting Hole P	atterns (Min. Diameter	rs) ②	
Size	Dowel	ls (X) ①	Screw	s (W) ①	A (PCD)	О
	No. of dowels	Dowel dia.	No. of Screws	Screw Size	mm	mm
1	3	4	3	M4	36	38
2	3	5	3	M5	58	38
3	3	6	3	M6	70	63
4	6	8	3	M8	95	75
5	6	10	3	M10	135	100
6	3	12	3	M12	205	135

① Bolt holes to be equally spaced on bolt circle diameter specified. Care must be taken not to drill into other mounting holes in adapter.

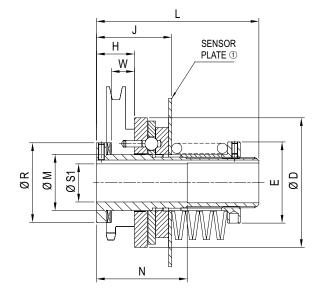
② Standard mounting holes furnished for a standard price adder. Special mounting holes quoted upon request. Please consult Rexnord.





### Model 202 supplied with a sprocket, pulley or gear as an integral part of the unit to give the shortest overall length.





① See page 12, Table 18 for dimensions and movement on disengagement.

Table 5

	Torq	ue ①		Speed ②		Waiabt @	Mass Moment ③
Size	Type AC or AF Nm	Type ACT Nm	Type AC rpm	Type ACT rpm	Type AF rpm	Weight ③ kg	of Inertia MR <sup>2</sup> Kgm <sup>2</sup>
1	1-44	3-69	200	500	2,000	1.0	0.0003
2	6-226	9-384	200	500	2,000	2.9	0.0030
3	6-678	9-854	200	500	2,000	6.4	0.0090
4	90-1,130	113-1,774	200	500	2,000	15.4	0.0460
5	141-2,540	158-2,937	200	500	2,000	33.4	0.1400
<b>5S</b> ④	938-7,627	1,130-8,474	200	500	_	67.0	0.4700

 $<sup>\</sup>textcircled{1}$  See page 13, Table 19 for spring selection and torque range with specific springs.

Table 6

Size	Max. Bore S1 ① ②	D	E	Н	J	L	М	N	W
Size	mm	mm	mm	mm	mm	mm	mm	mm	mm
1	12.7	60	33	7.9	42	102	22	37.00	19.00
2	25.4	102	57	9.6	42	111	40	60.00	25.40
3	38.1	127	80	9.6	73	149	55	78.00	25.40
4	50.8	159	108	9.6	94	197	76	95.00	44.40
5	76.2	216	153	12.7	121	267	110	145.00	63.50
<b>5S</b> ③ ④	102.0	267	178	19.1	121	279/337	140	180.00	44.4 / 101.6

### Table 7

Size		Smalle	st sprocket (No. o	f Teeth)		Smallest Pulley Diameter ①
Size	3/8" pitch	1/2" pitch	5/8" pitch	3/4" pitch	1" pitch	mm
1	16	13	11	_	_	42
2	24	19	16	14	11	67
3	30	23	19	17	13	86
4	_	27	22	19	15	115
5	_	40	32	28	22	169
5S	_	49	39	34	26	261

 $<sup>\</sup>textcircled{1} \textbf{ The pulley diameter quoted is to the bottom of the V-sheave groove or the inisde diameter for the flange of the timing pulley.}$ For multiple strand sprockets contact Rexnord Autogard.

② Higher speeds may be allowed under certain conditions. Consult Rexnord.

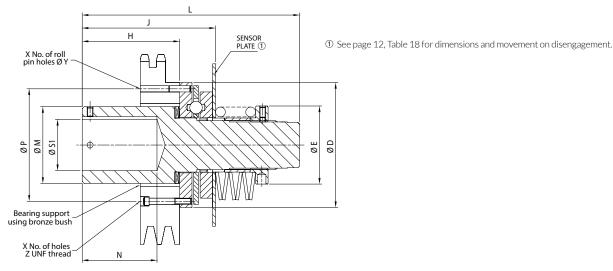
 $<sup>@ \</sup> Weights \ and \ moments \ of \ inertias \ apply \ to \ maximum \ S1 \ bores \ and \ exclude \ sprockets, \ etc.$ 

<sup>① Bores are furnished for clearance fit unless otherwise specified by customer.
② Rectangular keys must be used for maximum bore diameters.
③ Size 5S is supplied in two lengths.
④ Special hubs can be supplied with dimension W increased to accommodate larger size drive media.</sup> 



Model 209 accommodates applications requiring relatively large "blind" bore and light torque setting. Can be suppplied by factory with a bearing-supported sprocket, sheave, etc.

Figure 5



### Table 8

	Torq	ue ①		Speed ②		Weight ③	Mass Moment of	
Size	Type AC or AF	Type ACT	Type AC Type ACT		Type AF	Troigine @	Inertia MR <sup>2</sup> ③	
	Nm	Nm	rpm	rpm	rpm	Kg	Kgm²	
1	1-44	3-69	200	500	1800	1.0	0.0005	
2	6-226	9-384	200	500	1800	2.9	0.0049	
3	6-678	9-854	200	500	1800	7.0	0.0150	
4	90-1,130	113-1,774	200	500	1800	16.8	0.0600	
5	141-2,540	158-2,937	200	500	1800	42.2	0.2100	

① See page 13, Table 19 for spring selection and torque range with specific springs.

Table 9

Size	Max Bore S1 ①	D	E	Н	J	L	М	<b>N</b> ②	P
Size	mm	mm	mm	mm	mm	mm	mm	mm	mm
1	25.4	60.5	32.8	68.3	96.3	139.7	36.53/36.55	57.2	47.63
2	41.3	101.6	56.4	81.0	106.7	152.4	60.30 / 60.33	66.7	90.47
3	57.2	127.0	79.5	104.9	136.9	215.9	78.49 / 78.54	92.0	114.30
4	69.8	158.8	108.0	147.8	187.5	287.5	95.20 / 95.25	130.0	144.45
5	101.6	215.9	152.4	193.5	243.6	368.3	145.24 / 145.29	162.0	196.85

① Bores are furnished for clearance fit unless otherwised specified by customer.

 Table 10

 Mounting information for sprocket, sheave, etc.

Size	X # of holes	Y in	Z in	I.D. of Bearing if Bronze is Utilized mm
1	3	3/16	8/32 UNC	36.60 / 36.63
2	3	3/16	8/32 UNC	60.40 / 60.45
3	1	1/4	1/4 UNF	78.61/78.66
4	6	5/16	5/16 UNF	95.35 / 95.40
5	6	3/8	3/8 UNF	145.44 / 145.49

① Size 3 has 6 tapped holes 60° apart and 3 roll pin holes 120° apart spaced 30° between tapped holes.

② Higher speeds may be allowed under certain conditions. Consult Rexnord.

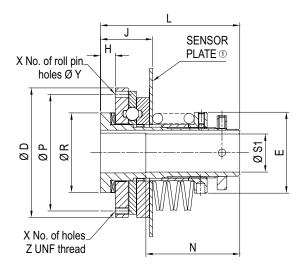
<sup>3</sup> Weights and moments of inertia apply to maximum S1 bores.

② Dimension N is depth of blind bore S1 as normally furnished, unless otherwise specified. For through-shaft applications or for weight reduction, a through bore can be furnished at extra charge if clearance permits.



Model 203 mounts to the face of a flywheel or large gear by means of a suitable adapter. The flywheel or gear must be mounted on its own bearings.

Figure 6



 $\textcircled{\scriptsize 1}$  See page 12, Table 18 for dimensions and movement on disengagement.

Table 11

	Torqu	ue ①		Spec	ed ②		Mass Moment of Inertia MR <sup>2</sup> ®	
Size	Type AC or AF	Type ACT	Type AC	Type ACT	Type AF	Mass ③		
	Nm	Nm	rpm	rpm	rpm rpm		Kgm²	
1	1-44	3-69	200	500	2000	1.0	0.0003	
2	6-226	9-384	200	500	2000	2.4	0.0030	
3	6-678	9-854	200	500	2000	5.4	0.0090	
4	90-1,130	113-1,774	200	500	2000	12.7	0.0450	
5	141-2,540	158-2,937	200	500	2000	27.9	0.1300	
<b>5S</b> ③	938-7,627	1,130-8,474	200	500	_	55.0	0.4600	

 $<sup>\</sup>textcircled{1}$  See page 13, Table 19 for spring selection and torque range with specific springs.

Table 12

Size	Max. Bore \$1 ① ②	D	E	Н	J	L	N	Р	R	х	Υ	z
	mm	mm	mm	mm	mm	mm	mm	mm	mm	# of holes	in	in
1	12.7	60	33	11.5	39.1	91	50.80	47.625	37	3	3/16	8/32 UNC
2	25.4	102	57	14.4	40.3	95	66.55	90.475	60	3	3/16	8/32 UNC
3	38.1	127	80	14.4	47.9	137	88.90	114.300	78	63	1/4	1/4 UNF
4	50.8	159	108	13.2	55.4	165	127.00	144.450	95	6	5/16	5/16 UNF
5	76.2	216	153	27.9	78.5	216	165.10	196.850	145	6	3/8	3/8 UNF
<b>5</b> S	102	267	178	37.1	111.5	234.9	190.50	4	180	6	5/8	1/2 UNF

 $<sup>\</sup>textcircled{0} \ \mathsf{Bores} \ \mathsf{are} \ \mathsf{furnished} \ \mathsf{for} \ \mathsf{clearance} \ \mathsf{fit} \ \mathsf{unless} \ \mathsf{otherwised} \ \mathsf{specified} \ \mathsf{by} \ \mathsf{customer}. \ \mathsf{Rectangular} \ \mathsf{keys} \ \mathsf{must} \ \mathsf{be} \ \mathsf{used} \ \mathsf{on} \ \mathsf{larger} \ \mathsf{bore} \ \mathsf{diameters}.$ 

② Higher speeds may be allowed under certain conditions. Consult Rexnord.
 ③ Size 5S is available in Type AC and ACT resets only.

Weights and moments of inertia apply to maximum S1 bores.

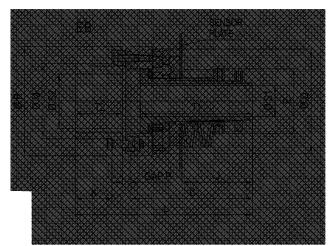
② Collars containing set screws to secure the S1 hub to the shaft can be supplied on request. Please consult Rexnord.
 ③ Size 3 has 6 tapped holes 60° apart and three roll pin holes 120° apart spaced 30° between tapped holes.
 ④ For AC type, P = 235 mm for 1/2" UNF threaded holes and P=209.55 mm for the 5/8" dowel holes; For ACT type, P = 251.46 mm.





### 205 Model includes Thomas XTSRS to accommodate angular misalignment.

Figure 7



① See page 12, Table 18 for dimensions and movement on disengagement.

Table 13

	Torq	ue ①		Speed ②			Mass Moment of Inertia MR <sup>2</sup>	Max. Coupling Misalignments	
Size	Type AC or AF	Type ACT	Type AC	Type ACT	Type AF	Weight Kg ③	3	Axial	Angular
	Nm	Nm	rpm	rpm	rpm		Kgm²	mm	degree
2/XTSRS	6-226	9-384	200	500	2000	5.1	0.0071	0.8	0.5
3/XTSRS	6-678	9-854	200	500	2000	9.3	0.0194	0.9	0.5
4/XTSRS	90-1,130	113-1,774	200	500	2000	16.5	0.0504	0.7	0.3
5/XTSRS	141-2,540	158-2,937	200	500	2000	46.2	0.2985	1.0	0.3

① See page 13, Table 19 for spring selection and torque range with specific springs. ② Higher speeds may be allowed under certain conditions. Please consult Rexnord.

Table 14

Size	Max. Bore S1 ① ②	Max. Bore S2 ①	С	D	E	J	К	L	М	Р	R	T1	T2
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
2/XTSR	25.4	50	103.7	101.6	56.4	50.7	43.5	163	71.8	9.34	108	95.3	50
3/XTSR	38.1	60	149	127	79.4	85.3	43	208.5	84.4	9.59	129	136.5	50
4/XTSR	50.8	65	184	159	108	107	71.3	275.4	92.1	10.36	140	165.1	81
5/XTSR	76.2	105	244.2	216	152.4	134.5	66.4	341	146.9	15.79	218	215.9	81

① Bores are furnished for clearance fit unless otherwised specified by customer. Rectangular keys must be used for maximum bore diameters.

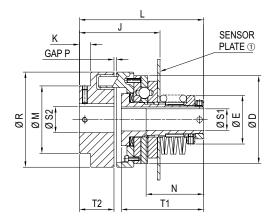
<sup>(\$\</sup>text{\$\text{\$}}\$ Weights and moments of inertia apply to maximum (\$1 and \$2) bores.

② Collars containing set screws to secure the S1 hub to the shaft can be supplied upon request. Consult Rexnord.



### Model 206N includes a traditional torsionally soft flexible coupling for parallel and angular misalignment.

### Figure 8



① See page 12, Table 18 for dimensions and movement on disengagement. NOTE: Temperature range of elastomer bushing is -30°C to 80°C (-22°F to 176°F).

Table 15

	Torqu	ie ①		Speed ②	Weight @	Mass Moment	
Size	Type AC or AF Type ACT		Type AC Type ACT		Type AF	Weight 4	of Inertia MR <sup>2</sup>
	Nm	Nm	rpm	rpm	rpm	Kg	Kgm²
1/80	1-44	3-69	200	500	2000	1.7	0.0007
2/110	6-226	9-384	200	500	2000	6.8	0.0050
3/140	6-678	9-854	200	500	2000	11.5	0.017
4/160	90-1,130	113-1,774	200	500	2000	22	0.07
5/250	141-2,540	158-2,937	200	500	2000	56	0.27
5S/315 ③	938-7,627	1,130-8,474	200	500	_	120.0	1.50

① See page 13, Table 19 for spring selection and torque range with specific springs.

Table 16

\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Bore S2			_		к				_	_		
Size	Max. Bore S1 mm ①	Min mm ①	Max mm ①	D mm	E mm	-   -		L mm	M mm	N mm	P mm	R mm	T1 mm	T2 mm
1/80	12.7	_	30	60	33	50	9.53	118.9	50	50.80	3	80	90.4	30
2/110	25.4	_	48	102	57	51	6	143.8	86	66.55	3	110	95.3	40
3/140	38.1	_	60	127	80	86	21	208	100	88.90	3	140	136.6	55
4/160	50.8	_	65	159	108	106	21	243.8	108	127.00	4	160	165.1	60
5/250	78	46	100	216	153	135	40	335.8	165	165.10	5.5	250	215.9	100
5S/350	102	90 ②	140	267	178	120	66.0	422.3	230	190.50	5.5	350	234.9	140

 $<sup>\</sup>textcircled{$0$ Bores are furnished for clearance fit unless otherwise specified by customer.}$ 

**Table 17** Minimum S2 Bore and maximum allowable misalignment.

		А	llowable Misalignme	Gap Between Hub and Adapter		
Size	S2 (min) mm	Axial mm	Angular Degrees	Parallel mm	Min. mm	Max. mm
1	10	4	0.09	0.13	2.0	4.0
2	14	4	0.09	0.18	2.0	4.0
3	18	4	0.10	0.23	2.0	4.0
4	22	6	0.10	0.28	2.0	6.0
5	48	8	0.10	0.43	3.0	8.0

② Higher speeds may be allowed under certain conditions. Please consult Rexnord.

<sup>3</sup> Size 5S is available in Type AC and ACT resets only.

Weights and moments of inertia apply to maximum (S1 and S2) bores.

② Smaller bores may be available under certain conditions. Please consult Rexnord..



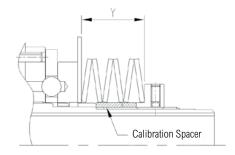
### **Engineering Information**

### **Torque Adjustment**

The 200 Series can be shipped from the factory with the torque setting specified at the time of order. Alternatively, the unit can be furnished unset allowing for adjustment at the time of installation. Calibration spacers (see Figure 9) are supplied either to prevent this nominal setting being exceeded or to prevent adjustment over the maximum capacity of the unit. Calibration spacers, which are fitted to prevent adjustment above the nominal setting, must be removed to allow the tightening of the adjustment nut to achieve a higher torque not greater than the maximum for the unit. The spacers also help position disc springs correctly where they are used.

In many cases, the exact torque requirements are difficult to calculate with any reasonable degree of accuracy; therefore, the recommended installation procedure is to start the drive with a low-torque setting, progressively tightening the adjustment nut until the 200 Series starts the mechanism without disengaging. Before attempting to turn the adjusting nut, ensure that the locking screw is loosened and is relocked after final adjustment.

Figure 9



### **Drive Shutdown on Disengagement**

It is necessary to shut down the drive quickly after disengagement upon overload. We recommend all applications use an automatic mechanism to switch off the drive motor. On the 200 Series, a flat limit switch plate for actuating a control to shut down the drive is furnished at no charge. The flat limit switch plate or sensor plate is used to actuate a remote shutdown control or equivalent shown in Figure 10 using dimensions in Table 18.

Figure 10

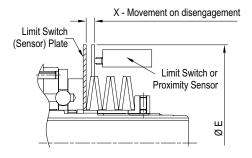


Table 18

Size		1	2	3	4	5	<b>5</b> S
Х	mm	2.4	4.4	4.4	5.3	6.3	8.1
E	mm	83	140	165	203	305	305

### **Protective Finish**

The standard protective finish applied to the 200 Series is manganese phosphate plus oil dip. This treatment provides a high level of protection with good corrosion resistance and is suitable for most environments. Other finishes can be applied for situations where exceptional environments necessitate high levels of protection — consult Rexnord.

### **Spring Selection**

The full range of torque for each size unit is achieved by a number of positions in which coil springs are located. For these sizes, select the proper spring assembly so that the desired tripping torque will fall approximately in the middle of the torque range for that spring. If the spring length in field adjustment approaches minimum 'Y' dimension, a spring with a higher torque range should be considered.

Calculate theoretical running torque at a chosen location using the following formula:  $\frac{\text{Torque (Nm)} = \frac{\text{Kw x 9550}}{\text{rpm}}}{\text{rpm}}$ 

Figure 11

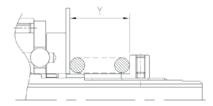


Figure 12

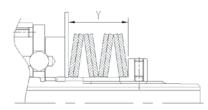


Figure 13

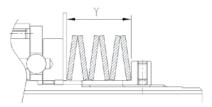


Figure 14

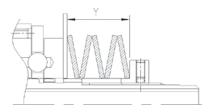


Table 19

Size	Туре	Spring Code	Color	Qty.	Stack As	AC/AF Torque Range Nm	ACT Torque Range Nm	Min. Allowable Spring Length Dimension Y mm
	Disc	1D/1/S	Natural	6	Figure 13	8 - 44	13 - 68	13
1	Coil	1C/1	White / Red	1	Figure 11	9 - 28	10 - 37	23
1	Coil	1C/2	White / Green	1	Figure 11	5 - 14	7-21	21
	Coil	1C/3	White / Yellow	1	Figure 11	1-6	3 - 11	18
	Disc	2D/1/S	Blue / Black	6	Figure 13	130 - 226	209 - 384	24
	Disc	2D/2/S	Blue	5	Figure 14	72 - 203	102 - 328	23
2	Coil	2C/1	Blue / Red	1	Figure 11	54 - 88	102 - 133	25
	Coil	2C/2	Blue / Green	1	Figure 11	21-61	40 - 90	21
	Coil	2C/3	Blue / Yellow	1	Figure 11	6-19	10 - 25	19
	Disc	3D/1/D	Brown / Black	8	Figure 12	136 - 678	157 - 854	30
	Disc	3D/1/S	Brown	6	Figure 13	72 - 407	95 - 542	24
3	Coil	3C/1	Brown / Red	1	Figure 11	37 - 282	57 - 406	37
	Coil	3C/2	Brown / Green	1	Figure 11	15 - 135	23 - 132	31
	Coil	3C/3	Brown / Yellow	1	Figure 11	6-56	9 - 80	25
	Disc	4D/1/S	Orange / Black	5	Figure 14	222 - 1130	269 - 1774	32
4	Disc	4D/2/S	Orange	6	Figure 13	145 - 847	171 - 1073	33
	Coil	4C/1	Orange / Red	1	Figure 11	90 - 316	113 - 395	49
	Disc	5D/1/S	Grey / Black	6	Figure 13	497 - 2540	543 - 2937	57
5	Disc	5D/2/S	Grey	6	Figure 13	226 - 2260	272 - 2655	43
	Coil	5C/1	Grey / Red	1	Figure 11	142 - 350	159 - 531	48
F.C.	Disc	5SD/1	Natural	5	Figure 14	938 - 5650	1130 - 6440	48
5S	Disc	Hi-Torq	Natural	5	Figure 14	1413 - 7627	1582 - 8474	53

CAUTION! DO NOT TIGHTEN THE ADJUSTING NUT SO THAT THE SPRINGS ARE COMPRESSED BEYOND THEIR MINIMUM OPERATING LENGTH, DIMENSION 'Y' (with the torque limiter engaged) or the springs will not allow sufficient movement of the slide plate to let the balls leave their seat during an overload. Damage to the machinery or to the 200 Series will result. It is important that Autogard products is used in the correct manner and that adjustment and setting in relation to a particular function follow recommended procedures.

# 200 Series Industries

- Printing and Packaging
- Paper Converting
- Food and Beverage
- Material Handling
- Automotive
   Manufacturing



# Maintenance and General Safety Information

### Maintenance

The frequency of maintenance will depend on the operating environment and number of trips, but once every 2,000 operating hours should be adequate in most applications. The amount of maintenance required is dependent upon the operating conditions and should be maintained at least as frequently as the adjacent drive components. In adverse conditions, consult Rexnord.

### **General Safety**

Autogard Torque Limiters are reliable units, built to high standards of workmanship. Similar to all mechanical devices, each application must be considered on its own merits with reference to safety (i.e. lifting equipment, explosive conditions, etc). As rotating components, adequate guarding must be provided, in accordance with local codes. The intended use of torque limiters is for the protection of industrial machinery and should not be regarded as human safety devices. Rexnord staff is always available to discuss particular applications.





## Other Autogard Products



**Autogard Torque Limiter 400 Series** 



**Autogard Torque Limiter 820 Series** 

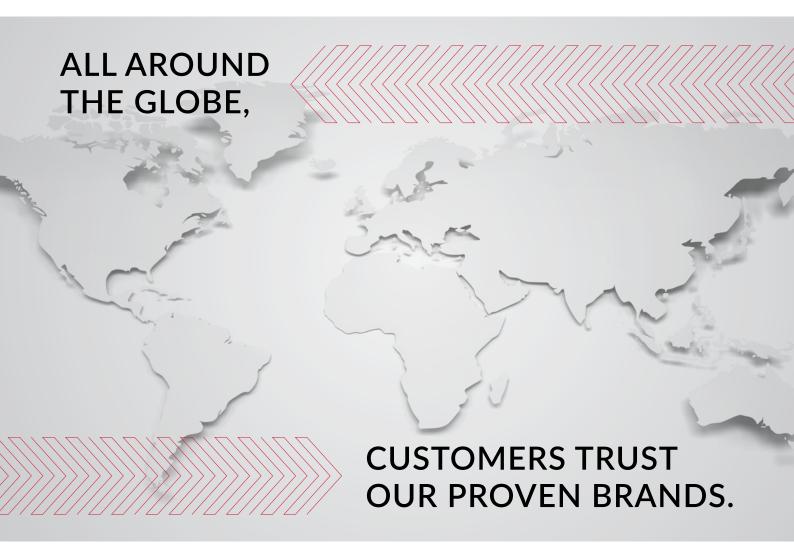


**Autogard Torque Limiter XG Series** 



To learn more about Autogard Torque Limiters go to rexnord.com/autogard





### WHY CHOOSE REXNORD?

When it comes to providing highly engineered products that improve productivity and efficiency for industrial applications worldwide, Rexnord is the most reliable in the industry. Commitment to customer satisfaction and superior value extend across every business function.

### **Delivering Lowest Total Cost of Ownership**

The highest quality products are designed to help prevent equipment downtime and increase productivity and dependable operation.

### Valuable Expertise

An extensive product offering is accompanied by global sales specialists, customer service and maintenance support teams, available anytime.

### **Solutions to Enhance Ease of Doing Business**

Commitment to operational excellence ensures the right products at the right place at the right time.