

Torque Limiter 320 Series





Torque Limiter 320 Series

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 320 Series has been designed to meet the need for a compact and reliable safety clutch. The optimized design provides a robust, backlash-free clutch that will protect equipment from the damaging effects caused by overloading a drive train. The 320 Series is offered in two re-engagement styles. The SR Reset features a timed automatic re-engagement as a standard. An un-timed reset version is also available. The MR Reset is a manual re-engagement and accommodates higher-speed applications, and is capable of running continuously in the disengaged condition.

Disengagement on Overload

In the normal drive condition, torque is transmitted through drive balls ‘A’ that are located in holes in flange ‘B’ and detents in drive plate ‘C’. The drive balls are held in the detents under pressure from springs ‘D’. When the driven machine either jams or an overload occurs which is greater than the torque setting, the balls roll out of their seats.

Re-engagement

Re-engagement occurs in one of two ways depending upon which series is selected.

Figure 1



Letters above correspond to paragraphs on the left and below.

Re-engagement — SR Reset

Re-engagement is automatic once the overload is removed. 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 one revolution in either direction. Immediate shutdown is required to prevent wear of the detents.

Re-engagement — MR Reset

Upon overload, the drive balls roll out of their seats and push the pressure plate ‘E’ and control balls ‘G’ into a position such that the drive balls are held away from the drive plate seats preventing re-engagement. The MR Reset remains disengaged and can run freely on a bearing ‘J’. A proximity sensor or limit switch can be used to detect this movement, sending a signal to a warning device or control system to shut down the motor. Re-engagement of the torque limiter is easy. Simply insert a screwdriver (or similar tool) between the pressure plate and the spring plate, and twist slightly. The unit will snap back into engagement, at any position.

320 Series Applications

Conveyor Drives
Vacuum Pumps
Coal Feeder Conveyor
Packaging Equipment
Tool and Die



Features and Benefits:

- Accurate torque limitation prevents costly downtime caused by overloads
- Compact design reduces weight and inertia on the equipment
- Bi-directional operation
- The standard design can accommodate larger torque ranges than many other models currently available
- Offered in a larger number of styles ensuring the right solution is available for all applications
- Backlash-free operation
- Offered in automatic and manual re-engagement
- One revolution synchronous re-engagement offered
- Manual reset after tripping can be easily reset, at any position
- High-speed applications supported with free-running disengagement featured in the MR Reset
- Springs can be inspected and changed without removing the clutch from the drive train
- Coil springs allow one standard design to accommodate the full torque range as opposed to regressive disc springs that can only accommodate a narrow torque band
- Bore options with conventional bore and key or cone clamp sleeve for keyless connection

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.

$$\text{Torque (lb-in)} = \text{hp} \times 63025 / \text{rpm}$$

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 running speed
- (b) Check hub bore capacity
- (c) Check the torque limiter dimensions such as the overall length and outside diameter

(3) Select and specify the appropriate drive medium or coupling.

All 320 Series units may be supplied from the factory at a pre-set torque and with the required drive medium assembled to the unit.

Ordering the 320 Series Torque Limiter

When ordering, please provide the following designation:
Model and Size / Type / Reset / S1 or S3 bore / S2 bore
Standard bore tolerance = H8 + normal fit key

Example: 320-2 / 8 / SR / S2175 / S3-163

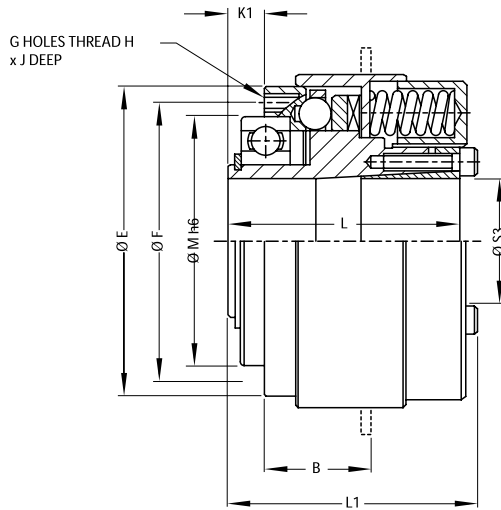
Refers to a 320 Series, Size 2, Type 8 torque limiter designed for Single Position Reset

S2 Bore = 1.75 in S3 Bore = 1.63 in

Also specify setting torque and/or pulley or sprocket if required.

320 Series SR Standard Hub

Type 1 - Figure 2



Type 2 - Figure 3

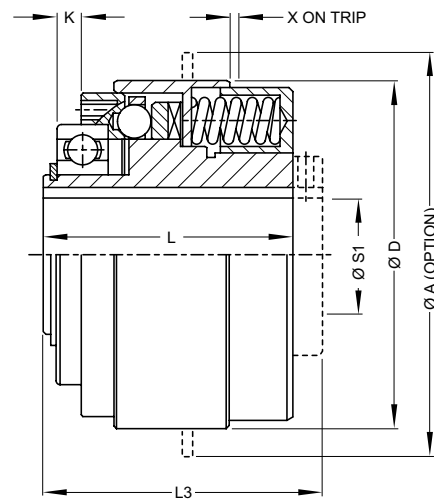


Table 1

Size	Torque ①		Max. Speed rpm	Weight ② lb	Mass Moment of Inertia MR ² ②	
	Min. lb-in	Max. lb-in			Hub Side lb-in ²	Flange Side lb-in ²
01	27	443	300	2.2	1.367	0.342
0	44	885	300	4.2	3.075	1.709
1	89	1,770	300	6.4	6.492	3.417
2	177	3,540	300	9.8	15.035	6.834
3	310	6,196	300	16.3	32.120	13.668
4	664	13,276	300	28.5	87.817	37.245

① See page 17, Table 21, for spring and torque ranges with specific springs.

② Weights and inertia values are for unbored units.

Table 2

For use with sprockets, pulleys or gears. Type 1 contains keyless bore clamp bushing. Type 2 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar		Bore (S1) Keyed Hub ① ②	A	B	D	E	F	G	H	J	K	K1	L	L1	L3	M ③	X
	Min.	Max.																
	in	in	in	in	in	in	in	in	holes	mm	in	in	in	in	in	in	in	in
01	0.39	0.79	0.79	3.15	0.83	2.68	2.50	2.205	8	M4	0.24	0.20	0.31	1.85	1.97	2.05	1.8504	0.05
0	0.59	1.10	0.94	3.94	1.10	3.31	3.10	2.795	8	M5	0.31	0.28	0.43	2.36	2.56	2.68	2.4409	0.06
1	0.87	1.38	1.26	4.57	1.30	3.94	3.69	3.346	8	M6	0.39	0.28	0.47	2.80	3.03	3.15	2.9528	0.07
2	1.26	1.77	1.57	5.51	1.50	4.72	4.37	3.937	8	M6	0.50	0.31	0.47	3.31	3.54	3.74	3.5433	0.09
3	1.38	2.17	1.97	6.30	1.65	5.20	5.00	4.567	8	M8	0.50	0.31	0.63	3.74	3.98	4.13	3.9370	0.09
4	1.65	2.56	2.28	7.48	1.93	6.54	6.18	5.669	8	M10	0.71	0.31	0.63	4.33	4.65	4.80	4.5276	0.11

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

② Rectangular keys must be used for maximum bore diameters.

③ The drive medium must be bored to suit dimension M. Clutches may be ordered complete with drive medium (v-belt pulleys, timing pulleys, etc).

Table 3

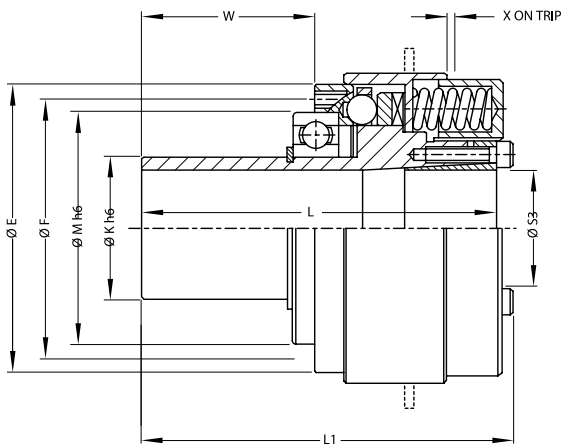
Size	Smallest Sprocket (No. of teeth)					Smallest Pulley Diameter [⊙]
	3/8 in pitch	1/2 in pitch	5/8 in pitch	3/4 in pitch	1 in pitch	in
01	25	19	16	14	11	2.36
0	30	23	19	17	13	2.99
1	35	27	22	19	15	3.58
2	41	31	26	22	17	4.17
3	-	35	29	25	19	4.88
4	-	-	35	30	23	6.06

⊙ The pulley diameter quoted is to the bottom of the V-pulley groove or the inside diameter for the flange of the timing pulley.



320 Series SR Long Projecting Hub

Type 3 - Figure 4



Type 4 - Figure 5

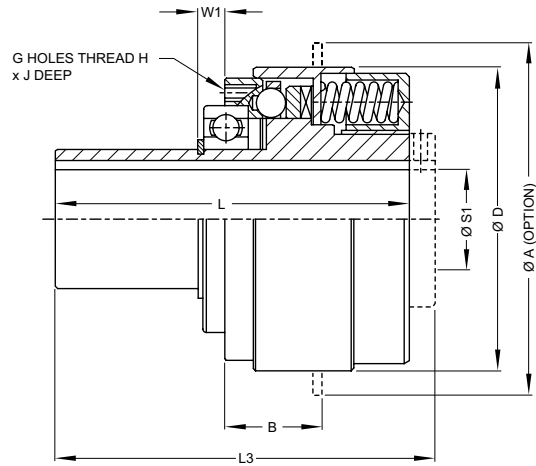


Table 4

Size	Torque ①		Max. Speed rpm	Weight ② lb	Mass Moment of Inertia MR ² ②	
	Min.	Max.			Hub Side lb-in ²	Flange Side lb-in ²
	lb-in	lb-in				
01	27	443	300	2.6	1.367	0.683
0	44	885	300	5.0	3.417	2.050
1	89	1,770	300	7.7	6.834	4.100
2	177	3,540	300	12.4	16.402	8.543
3	310	6,196	300	19.9	35.195	16.402
4	664	13,276	300	34.9	94.651	44.079

① See page 17, Table 21, for spring and torque ranges with specific springs.

② Weights and inertia values are for unbored units.

Table 5

For use with sprockets, pulleys or gears. Type 3 contains a keyless bore clamp bushing. Type 4 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar		Bore (S1) Keyed Hub ① ②	A	B	D	E	F	G	H	J	K ③	L	L1	L3	M	W	W1	X
	Min.	Max.																	
	in	in	in																
01	0.39	0.79	0.79	3.15	0.83	2.68	2.50	2.205	8	M4	0.24	1.18	2.83	2.95	3.03	1.8504	1.30	0.26	0.05
0	0.59	1.10	0.94	3.94	1.10	3.31	3.10	2.795	8	M5	0.31	1.57	3.66	3.82	3.98	2.4409	1.69	0.33	0.06
1	0.87	1.38	1.26	4.57	1.30	3.94	3.69	3.346	8	M6	0.39	1.77	4.53	4.72	4.84	2.9528	2.17	0.35	0.07
2	1.26	1.77	1.57	5.51	1.50	4.72	4.37	3.937	8	M6	0.50	2.17	5.47	5.71	5.91	3.5433	2.64	0.42	0.09
3	1.38	2.17	1.97	6.30	1.65	5.20	5.00	4.567	8	M8	0.50	2.56	5.98	6.22	6.38	3.9370	2.87	0.41	0.09
4	1.65	2.56	2.28	7.48	1.93	6.54	6.18	5.669	8	M10	0.71	2.95	7.28	7.60	7.76	4.5276	3.58	0.41	0.11

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

② Rectangular keys must be used for maximum bore diameters.

③ The drive medium must be bored to suit dimension K and supported with suitable bearing. Clutches may be ordered complete with drive medium (v-belt pulleys, timing pulleys, etc).

Table 6

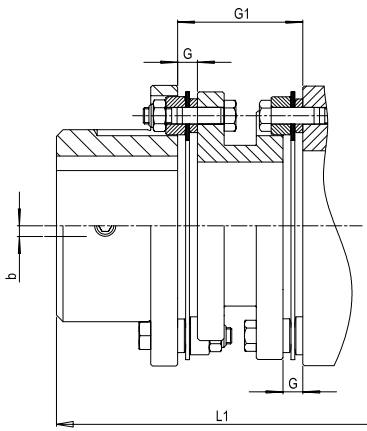
Size	Smallest Sprocket (No. of teeth)					Smallest Pulley Diameter [Ⓞ]
	3/8 in pitch	1/2 in pitch	5/8 in pitch	3/4 in pitch	1 in pitch	in
01	19	15	12	11	9	1.77
0	21	16	13	12	10	2.17
1	25	19	16	14	11	2.76
2	29	22	18	16	13	3.35
3	-	26	21	18	15	3.94
4	-	-	23	20	16	4.33

Ⓞ The pulley diameter quoted is to the bottom of the V-pulley groove or the inside diameter for the flange of the timing pulley.

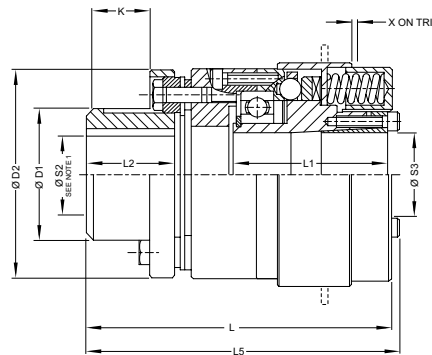


320 Series SR Torsionally Rigid

ES - Figure 6



Type 5, EB - Figure 7



Type 6, EB - Figure 8

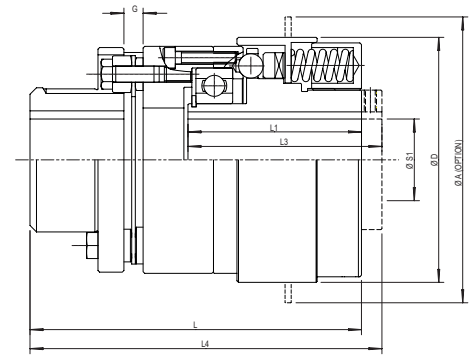


Table 7

Size	Torque ①		Max. Speed	Weight ②	Mass Moment of Inertia MR ²		Max. Coupling Misalignments						Combined ③
	Min.	Max.			Hub Side	Flange Side	EB	ES	EB	ES	EB	ES	
	lb-in	lb-in			lb-in ²	lb-in ²	Angular °	Angular °	Axial in	Axial in	Parallel in	Parallel in	
01/8	27	443	300	4.9	4.442	3.759	0.5	1	0.01	0.02	0.00	0.01	0.03
0/8	44	885	300	6.7	5.809	4.442	0.5	1	0.01	0.02	0.00	0.01	0.03
1/15	89	1,770	300	10.5	12.985	10.251	0.5	1	0.02	0.03	0.00	0.02	0.03
2/35	177	3,540	300	17.7	33.145	24.944	0.5	1	0.02	0.04	0.00	0.02	0.04
3/70	310	6,196	300	29.1	72.782	54.330	0.5	1	0.02	0.05	0.00	0.02	0.05
4/150	664	13,276	300	55.9	226.205	175.634	0.5	1	0.03	0.06	0.00	0.02	0.06

① See page 17, Table 21, for spring and torque ranges with specific springs.

② Weights and inertia values are for unbored units.

③ This is the maximum variation in G measured around the periphery. It corresponds to the maximum combined angular, axial and parallel misalignments.

Table 8

Includes the Autoflex EB torsionally rigid metal membrane coupling for angular and axial misalignment. The Autoflex ES double flex spacer coupling can also be supplied to accommodate angular, axial and parallel offset misalignment. Type 5 contains a keyless bore clamp bushing.

Size	Bore (S3) Clamped Collar		Bore (S2) Keyed Hub ① ②	Bore (S1) Keyed Hub ① ②	A	D	D1	D2	G	G1 ③	K	L	L1	L2	L3	L4	L5	X
	Min.	Max.																
	in	in																
01/8	0.39	0.79	1.18	0.79	3.15	2.68	1.73	3.15	0.29	1.89	0.91	3.90	1.85	1.28	2.05	4.09	4.02	0.05
0/8	0.59	1.10	1.18	0.94	3.94	3.31	1.73	3.15	0.29	1.89	0.91	4.65	2.40	1.28	2.68	4.92	4.80	0.06
1/15	0.87	1.38	1.57	1.26	4.57	3.94	2.09	3.50	0.29	1.89	1.06	5.20	2.83	1.44	3.15	5.51	5.35	0.07
2/35	1.26	1.77	1.97	1.57	5.51	4.72	2.80	4.33	0.37	2.28	1.30	6.38	3.35	1.81	3.74	6.77	6.54	0.09
3/70	1.38	2.17	2.76	1.97	6.30	5.20	3.58	5.24	0.37	2.28	1.77	7.09	3.74	2.26	4.13	7.48	7.28	0.09
4/150	1.65	2.56	3.54	2.28	7.48	6.54	4.84	6.69	0.35	2.52	2.32	8.43	4.33	2.89	4.80	8.90	8.74	0.11

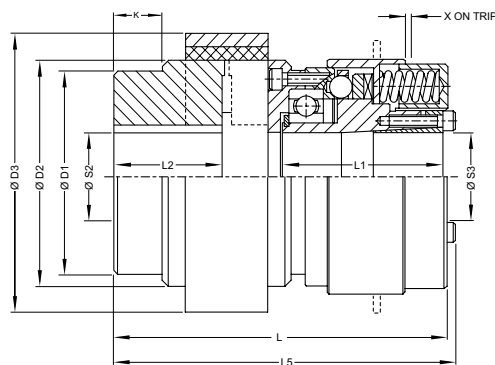
① Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.

② Rectangular keys must be used for maximum bore diameters.

③ G1 is for minimum DBSE, longer spacers are available.

320 Series SR Elastic Coupling

Type 7 - Figure 9



Type 8 - Figure 10

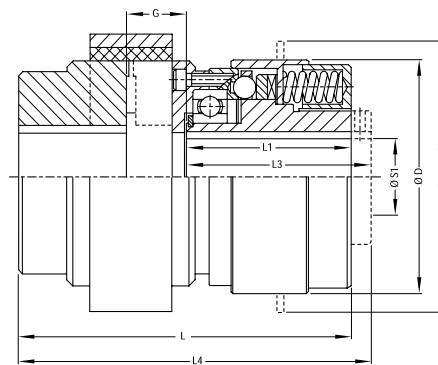


Table 9

Size	Torque [⊙]		Max. Speed rpm	Weight [⊙] lb	Mass Moment of Inertia MR ² [⊙]		Coupling Misalignment		
	Min.	Max.			Hub Side	Flange Side	Max. Axial	Max. Radial/ Parallel	Max. Angular
	lb-in	lb-in			lb-in ²	lb-in ²	in	in	degrees
01/A1	27	443	300	4.21	4.100	3.417	+0.02	0.012	2
0/A2	44	885	300	8.79	16.402	15.035	+0.02	0.020	2
1/A3	89	1,770	300	15.70	58.772	56.039	+0.03	0.020	2
2/A3	177	3,540	300	19.03	66.973	58.772	+0.03	0.020	2
3/A4	310	6,196	300	34.25	231.673	213.221	+0.03	0.028	1.3
4/A45	664	13,276	300	53.99	402.864	352.293	+0.04	0.028	1.3

⊙ See page 17, Table 21, for spring and torque ranges with specific springs.
 ⊙ Weights and inertia values are for unbored units.

Table 10

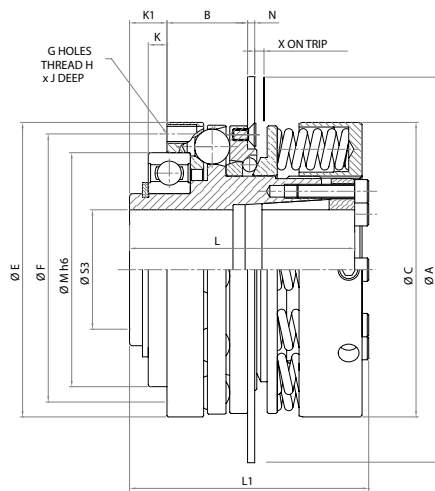
Model includes the Samiflex coupling which accommodates angular, axial and parallel offset misalignments. Type 7 contains a keyless bore clamp bushing.

Size	Bore (S3) Clamped Collar		Bore (S2) Coupling Hub [⊙] [⊙]		Bore (S1) Keyed Hub [⊙] [⊙]	A	D	D1	D2	D3	G	L	L1	L2	L3	L4	L5	X
	Min.	Max.	Min.	Max.	Max.													
	in	in	in	in	in													
01/A1	0.39	0.79	0.59	1.13	0.79	3.15	2.68	2.56	2.56	3.27	0.59	3.82	1.85	1.38	2.05	4.02	3.94	0.05
0/A2	0.59	1.10	0.71	1.37	0.94	3.94	3.31	3.15	3.39	4.37	0.83	5.00	2.40	1.81	2.68	5.28	5.24	0.06
1/A3	0.87	1.38	0.79	1.63	1.26	4.57	3.94	3.35	4.57	5.67	1.14	6.14	2.83	2.20	3.15	6.46	6.38	0.07
2/A3	1.26	1.77	0.79	1.63	1.57	5.51	4.72	3.35	4.57	5.67	1.22	6.73	3.35	2.20	3.74	7.13	6.93	0.09
3/A4	1.38	2.17	0.98	2.19	1.97	6.30	5.20	4.33	5.91	7.17	1.42	7.64	3.74	2.48	4.13	8.03	7.87	0.09
4/A45	1.65	2.56	1.02	2.56	2.28	7.48	6.54	4.92	6.69	7.95	1.34	8.43	4.33	2.76	4.80	8.90	8.74	0.11

⊙ Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.
 ⊙ Rectangular keys must be used for maximum bore diameters.

320 Series MR Standard Hub

Type 1 - Figure 11



Type 2 - Figure 12

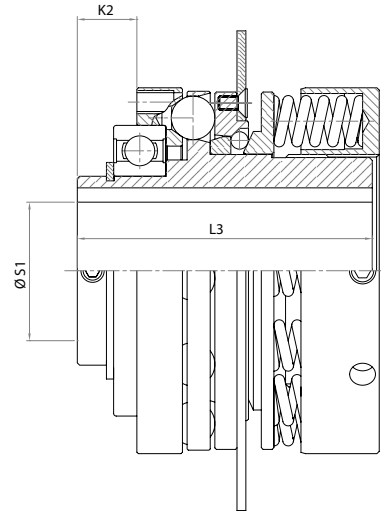


Table 11

Size	Torque ①		Max. Speed ②	Weight ③	Mass Moment of Inertia MR ² ③
	Min. lb-in	Max. lb-in			
01	53	531	8,000	2.20	1.709
0	89	1,151	7,000	4.19	3.417
1	177	1,947	6,000	6.39	10.251
2	354	4,425	5,000	9.91	20.502
3	708	7,081	4,000	16.30	44.421
4	1,416	15,931	3,000	28.63	136.680

① See page 17, Table 22, for spring and torque ranges with specific springs.
 ② Higher speeds may be allowed under certain conditions. Consult Rexnord.
 ③ Weights and inertia values are for unbored units.

Table 12

For use with sprockets, pulleys or gears. Type 1 contains a keyless bore clamp and bushing. Type 2 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar ①		Bore (S1) Keyed Hub ① ②	A	B	C	E	F	G	H	J	K	K1	K2	L	L1	L3	M ③	N	X
	Min.	Max.																		
	in	in	in	in	in	in	in	in	in	holes	mm	in	in	in	in	in	in	in	in	in
01	0.39	0.79	0.79	3.94	0.63	2.52	2.52	2.205	8	M4	0.22	0.20	0.31	0.59	1.85	1.97	2.13	1.8504	0.06	0.09-0.11
0	0.59	1.10	0.94	4.53	0.83	3.11	3.11	2.795	8	M5	0.29	0.28	0.43	0.75	2.40	2.60	2.72	2.4409	0.06	0.10-0.13
1	0.87	1.38	1.26	5.12	1.02	3.70	3.70	3.346	8	M6	0.39	0.28	0.47	0.75	2.80	3.03	3.07	2.9528	0.08	0.12-0.16
2	1.26	1.77	1.65	5.91	1.34	4.49	4.37	3.937	8	M6	0.39	0.35	0.47	0.91	3.46	3.70	3.86	3.5433	0.12	0.14-0.19
3	1.38	2.17	1.97	6.50	1.34	4.96	4.96	4.567	8	M8	0.51	0.31	0.63	1.02	3.78	4.02	4.17	3.9370	0.12	0.16-0.21
4	1.65	2.56	2.40	7.87	1.65	6.26	6.26	5.669	8	M10	0.71	0.31	0.63	1.02	4.41	4.72	4.84	4.5276	0.12	0.19-0.26

① Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.
 ② Rectangular keys must be used for maximum bore diameters.
 ③ The drive medium must be bored to suit dimension M. Clutches may be ordered complete with drive medium (v-belt pulleys, timing pulleys, etc).

Table 13

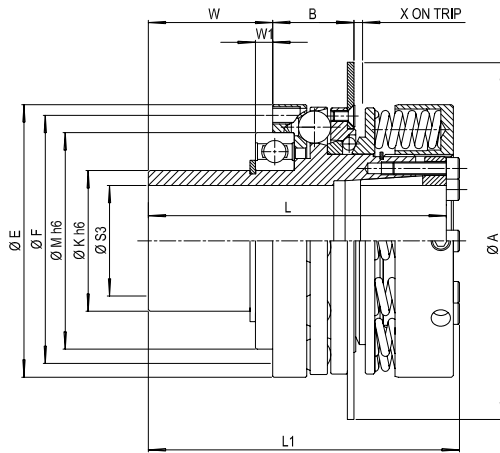
Size	Smallest Sprocket (No. of teeth)					Smallest Pulley Diameter [Ⓞ]
	3/8 in pitch	1/2 in pitch	5/8 in pitch	3/4 in pitch	1 in pitch	in
01	25	20	17	14	12	2.36
0	30	23	19	17	14	2.99
1	35	27	22	19	15	3.58
2	40	31	26	22	18	4.17
3	-	35	29	25	19	4.88
4	-	-	35	30	24	6.06

[Ⓞ] The pulley diameter quoted is to the bottom of the V-pulley groove or the inside diameter for the flange of the timing pulley.



320 Series MR Long Projecting Hub

Type 3 - Figure 13



Type 4 - Figure 14

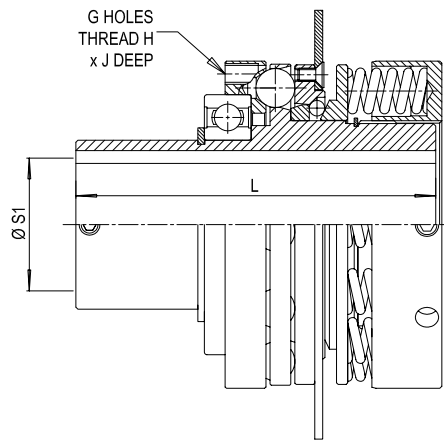


Table 14

Size	Torque ①		Max. Speed ②	Weight ③	Mass Moment of Inertia MR ² ③
	Min. lb-in	Max. lb-in			
01	53	531	8,000	2.6	2.050
0	89	1,151	7,000	5.1	6.834
1	177	1,947	6,000	7.7	10.251
2	354	4,425	5,000	12.3	34.170
3	708	7,081	4,000	20.0	68.340
4	1,416	15,931	3,000	35.2	136.680

- ① See page 17, Table 22, for spring and torque ranges with specific springs.
- ② Higher speeds may be allowed under certain conditions. Consult Rexnord.
- ③ Weights and inertia values are for unbored units.

Table 15

For use with sprockets, pulleys or gears. Type 3 contains a keyless bore clamp bushing. Type 4 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar		Bore (S1) Keyed Hub ① ②	A	B	C	E	F	G	H	J	K	L	L1	M ③	N	W	W1	X
	Min.	Max.																	
	in	in	in	in	in	in	in	in	in	holes	mm	in	in	in	in	in	in	in	in
01	0.39	0.79	0.79	3.94	0.63	2.52	2.52	2.20	8	M4	0.2	1.2	2.8	3.0	1.9	0.1	1.3	0.3	0.09-0.11
0	0.59	1.10	0.94	4.53	0.83	3.11	3.11	2.80	8	M5	0.3	1.4	3.7	3.9	2.4	0.1	1.7	0.3	0.10-0.13
1	0.87	1.38	1.26	5.12	1.02	3.70	3.70	3.35	8	M6	0.4	1.8	4.5	4.7	3.0	0.1	2.2	0.3	0.12-0.16
2	1.26	1.77	1.65	5.91	1.34	4.49	4.37	3.94	8	M6	0.4	2.2	5.7	5.9	3.5	0.1	2.7	0.4	0.14-0.19
3	1.38	2.17	1.97	6.50	1.34	4.96	4.96	4.57	8	M8	0.5	2.6	6.0	6.3	3.9	0.1	2.9	0.4	0.16-0.21
4	1.65	2.56	2.40	7.87	1.65	6.26	6.26	5.67	8	M10	0.7	3.0	7.4	7.7	4.5	0.1	3.6	0.4	0.19-0.26

- ① Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.
- ② Rectangular keys must be used for maximum bore diameters.
- ③ The drive medium must be bored to suit dimension M. Clutches may be ordered complete with drive medium (v-belt pulleys, timing pulleys, etc).

Table 16

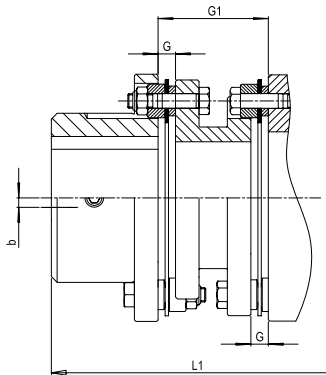
Size	Smallest Sprocket (No. of teeth)					Smallest Pulley Diameter [⊙] in
	3/8 in pitch	1/2 in pitch	5/8 in pitch	3/4 in pitch	1 in pitch	
01	19	15	12	11	9	1.77
0	21	16	13	12	10	2.17
1	25	19	16	14	11	2.76
2	29	22	18	16	13	3.35
3	-	26	21	18	15	3.94
4	-	-	23	20	16	4.33

⊙ The pulley diameter quoted is to the bottom of the V-pulley groove or the inside diameter for the flange of the timing pulley.

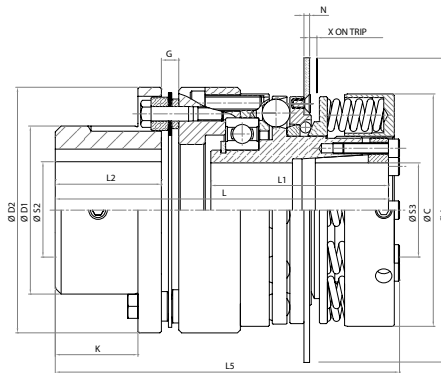


320 Series MR Torsionally Rigid

ES - Figure 15



Type 5, EB - Figure 16



Type 6, EB - Figure 17

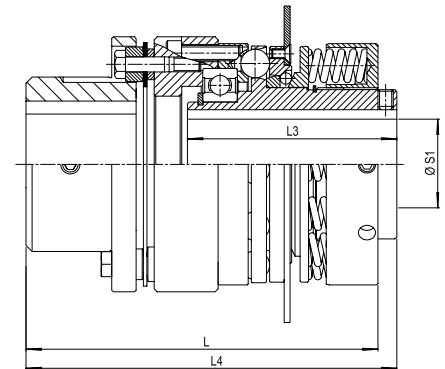


Table 17

Size	Torque ①		Max. Speed ②	Weight ③	Mass Moment of Inertia MR ² ④	Max. Coupling Misalignments						
	Min.	Max.				EB	ES	EB	ES	EB	ES	Combined ⑤
	lb-in	lb-in				Angular °	Angular °	Axial in	Axial in	Parallel in	Parallel in	
01/8	53	531	8,000	4.9	6.834	0.5	1	0.01	0.02	0.00	0.01	0.03
0/8	89	1,151	7,000	6.7	10.251	0.5	1	0.01	0.02	0.00	0.01	0.03
1/15	177	1,947	6,000	10.5	23.919	0.5	1	0.02	0.03	0.00	0.02	0.03
2/35	354	4,425	5,000	17.6	68.340	0.5	1	0.02	0.04	0.00	0.02	0.04
3/70	708	7,081	4,000	29.1	136.680	0.5	1	0.02	0.05	0.00	0.02	0.05
4/150	1,416	15,931	3,000	55.9	410.040	0.5	1	0.03	0.06	0.00	0.02	0.06

① See page 17, Table 22, for spring and torque ranges with specific springs.

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

③ Weights and inertia values are for unbored units.

④ This is the maximum variation in G measured around the periphery. It corresponds to the maximum combined angular, axial and parallel misalignments.

Table 18

Includes the Autoflex EB torsionally rigid metal membrane coupling for angular and axial misalignment. The Autoflex ES double flex spacer coupling can also be supplied to accommodate angular, axial and parallel offset misalignment. Type 5 contains a keyless bore clamp bushing. Type 6 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar		Bore (S2) Keyed Hub ① ②	Bore (S1) Keyed Hub ① ②	A	C	D1	D2	G	G1 ③	K	L	L1	L2	L3	L4	L5	N	X
	Min.	Max.																	
	in	in	in	in															
01/8	0.39	0.79	1.18	0.79	3.94	2.52	1.73	3.15	0.29	1.89	0.91	3.90	1.85	1.28	2.24	4.29	4.06	0.06	0.09-0.11
0/8	0.59	1.10	1.18	0.94	4.53	3.11	1.73	3.15	0.29	1.89	0.91	4.65	2.40	1.28	2.80	5.04	4.84	0.06	0.10-0.13
1/15	0.87	1.38	1.57	1.26	5.12	3.70	2.09	3.50	0.29	1.89	1.06	5.16	2.80	1.44	3.31	5.67	5.39	0.08	0.12-0.16
2/35	1.26	1.77	1.97	1.65	5.91	4.49	2.80	4.33	0.37	2.28	1.30	6.50	3.46	1.81	4.13	7.17	6.73	0.12	0.14-0.19
3/70	1.38	2.17	2.60	1.97	6.50	4.96	3.58	5.24	0.37	2.28	1.77	7.13	3.78	2.26	4.41	7.76	7.36	0.12	0.16-0.21
4/150	1.65	2.56	3.54	2.40	7.87	6.26	4.84	6.69	0.35	2.52	2.32	8.50	4.41	2.89	5.12	9.21	8.82	0.12	0.19-0.26

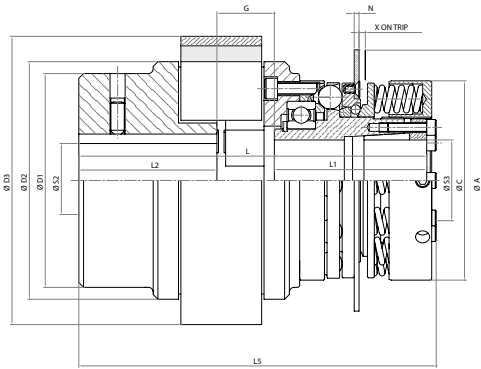
① Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.

② Rectangular keys must be used for maximum bore diameters.

③ G1 is for minimum DBSE, longer spacers are available.

320 Series MR Torsionally Soft Coupling

Type 7 - Figure 18



Type 8 - Figure 19

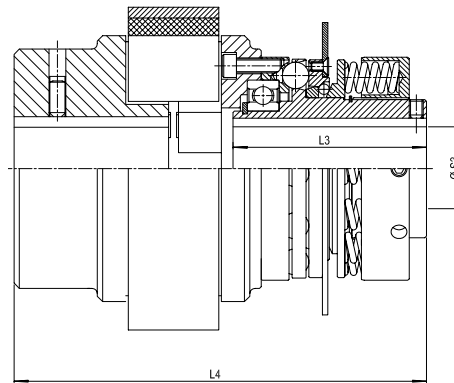


Table 19

Size	Torque ①		Max. Speed ②	Max. Speed ②	Weight ③	Mass Moment of Inertia MR ² ③	Coupling Misalignment		
	Min.	Max.	Unbalanced	Balanced			Max. Axial	Max. Radial/Parallel	Max. Angular
	lb-in	lb-in	rpm	rpm			in	in	degrees
01/A1	53	531	7,250	8,000	4.2	6.834	+0.02	0.012	2
0/A2	89	1,151	5,440	6,500	8.8	30.753	+0.02	0.020	2
1/A3	177	1,947	4,200	4,800	15.7	116.178	+0.03	0.020	2
2/A3	354	4,425	4,200	4,800	19.0	126.429	+0.03	0.020	2
3/A4	708	7,081	3,275	3,600	35.2	444.210	+0.03	0.028	1.3
4/A45	1,416	15,931	2,800	3,000	55.1	751.740	+0.04	0.028	1.3

① See page 17, Table 21, for spring and torque ranges with specific springs.
 ② Higher speeds may be allowed under certain conditions. Consult Rexnord.
 ③ Weights and inertia values are for unbored units.

Table 20

Model includes the Samiflex coupling which accommodates angular, axial and parallel offset misalignments. Type 7 contains a keyless bore clamp bushing. Type 8 accommodates a parallel bore and key.

Size	Bore (S3) Clamped Collar		Bore (S2) Coupling Hub ① ②		Bore (S1) Keyed Hub ① ②	A	C	D1	D2	D3	G	L	L1	L2	L3	L4	L5	N	X
	Min.	Max.	Min.	Max.	Max.														
	in	in	in	in	in														
01/A1	0.39	0.79	0.59	1.13	0.79	3.94	2.52	2.56	2.56	3.27	0.59	3.82	1.85	1.38	2.24	4.21	3.98	0.06	0.09-0.11
0/A2	0.59	1.10	0.71	1.37	0.94	4.53	3.11	3.15	3.39	4.37	0.83	5.00	2.40	1.77	2.80	5.39	5.20	0.06	0.10-0.13
1/A3	0.87	1.38	0.79	1.63	1.26	5.12	3.70	3.35	4.57	5.67	1.10	6.10	2.80	2.20	3.31	6.61	6.34	0.08	0.12-0.16
2/A3	1.26	1.77	0.79	1.63	1.65	5.91	4.49	3.35	4.57	5.67	1.18	6.85	3.46	2.20	4.13	7.52	7.09	0.12	0.14-0.19
3/A4	1.38	2.17	0.98	2.19	1.97	6.50	4.96	4.33	5.91	7.17	1.42	7.68	3.78	2.48	4.41	8.31	7.91	0.12	0.16-0.21
4/A45	1.65	2.56	1.02	2.56	2.40	7.87	6.26	4.92	6.69	7.95	1.34	8.50	4.41	2.76	5.12	9.21	8.82	0.12	0.19-0.26

① Bores are furnished for clearance fit unless otherwise specified by customer. Consult Rexnord.
 ② Rectangular keys must be used for maximum bore diameters.

Torque Setting

The full torque capabilities of the 320 Series will depend on the number of springs fitted. A full complement of springs gives the catalog maximum values. See Table 21 below.

Table 21: Spring Selection 320 Series — SR

Size No. of Springs	01		0		1		2		3		4	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in
2	27	106	44	150	89	266	177	620	310	885	664	2,213
4	44	221	89	310	177	531	354	1,239	620	1,991	1,328	4,425
8	89	443	177	620	354	1,062	708	2,301	1,239	3,983	2,655	8,851
12	-	-	266	885	531	1,770	1,062	3,540	1,770	6,196	3,983	13,276

Table 22: Spring Selection 320 Series — MR

Size No. of Springs	01		0		1		2		3		4	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in	lb-in
2	53	106	89	177	177	354	354	708	708	1,416	1,416	2,832
4	106	266	177	354	354	708	708	1,416	1,416	2,921	2,832	5,664
8	221	531	354	708	708	1,328	1,416	2,921	2,832	4,691	5,664	10,621
12	-	-	531	1,151	1,062	1,947	2,124	4,425	4,248	7,081	8,497	15,931

Drive Shutdown on Disengagement — 320 Series SR

The 320 Series SR torque limiter is designed to run at speeds up to 300 rpm, but the service life is determined by the number of rotations after disengagement. No wear occurs while the torque limiter is engaged. The life of the unit when running tripped depends on the torque setting, the running speed, and the time it takes to stop the drive after an overload occurs. Situations where a drive is allowed to coast to a stop or where the drive runs continuously with the torque limiter disengaging, are to be avoided. Longer life may also be achieved at lower torque settings.

Drive Shutdown on Disengagement — 320 Series MR

The 320 Series MR is designed to run continuously in the disengaged condition.

Protective Finish

The standard phosphate and oil finish provides a high level of corrosion resistance. Units can be supplied with a suitable alternative finish for special machinery requirements, or for adverse environmental conditions. Please consult Rexnord to discuss any special requirements.

Maintenance and General Safety Information

Maintenance

The 320 Series uses sealed-for-life deep groove ball bearings. Other working surfaces are lightly greased on assembly. Under reasonably clean conditions the unit will operate with a minimum of maintenance and re-lubrication. It is recommended that the torque setting is checked and reset as part of routine maintenance or after any sustained period of disengaged running. The frequency of maintenance is dependent on many operating factors, but in adverse conditions, please 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.



320 Series Industries

Lumber — Wood Products

Energy

Printing and Packaging

Paper Converting

Chemical

Pharmaceuticals



Other Autogard Products



Autogard Torque Limiter 200 Series



Autogard Torque Limiter 400 Series



Autogard Torque Limiter 600 Series



Autogard Torque Limiter 820 Series



Autogard Torque Limiter WT Series

To learn more about the Autogard Torque Limiter offering and how it can provide you with high-quality overload protection, go to www.rexnord.com, where you'll find:

- Product information
- Brochures
- Manuals

866-REXNORD/866-739-6673 (toll-free within the U.S.) or 414-643-2366 (Outside the U.S.)



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Solutions to Enhance Ease of Doing Business

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

REXNORD

Rexnord Company Overview

Rexnord is a growth-oriented, multi-platform industrial company with leading market shares and highly trusted brands that serve a diverse array of global end markets.

Process & Motion Control

The Rexnord Process & Motion Control platform designs, manufactures, markets and services specified, highly engineered mechanical components used within complex systems where our customers' reliability requirements and the cost of failure or downtime are extremely high.

Water Management

The Rexnord Water Management platform designs, procures, manufactures and markets products that provide and enhance water quality, safety, flow control and conservation.