

Torque Limiting Solutions

FOR EXTRUDER APPLICATIONS



BIBBY TURBOFLEX™

REXNORD™

COMPLETE TORQUE

Extruders are evolving fast – bigger systems, higher torque, greater demands. Our expanded torque protection portfolio is built for this moment.

The addition of new high-capacity Series 2 sizes strengthens a lineup already trusted worldwide: Series 2, XG1/XG2, and the F400 NRB configuration.

Together, they deliver the complete spectrum of torque protection – from compact machines to the largest high-output extrusion systems.

This is torque protection engineered to scale. This is confidence designed in.

Full protection. Every machine. Every application.



BUILT FOR THE FUTURE

We work every day to deliver torque limiters that keep production moving – safely, reliably, and efficiently.

Our unified extruder-focused lineup gives OEMs exactly what the market demands:

- **Higher torque capacity** for next-generation machines
- **Expanded Series 2 sizes** for large extruder classes
- **Proven XG1/XG2 and F400 NRB solutions** for broad compatibility
- **Reliable, repeatable performance** in high-load environments
- **Application-ready integration** for global OEM design teams

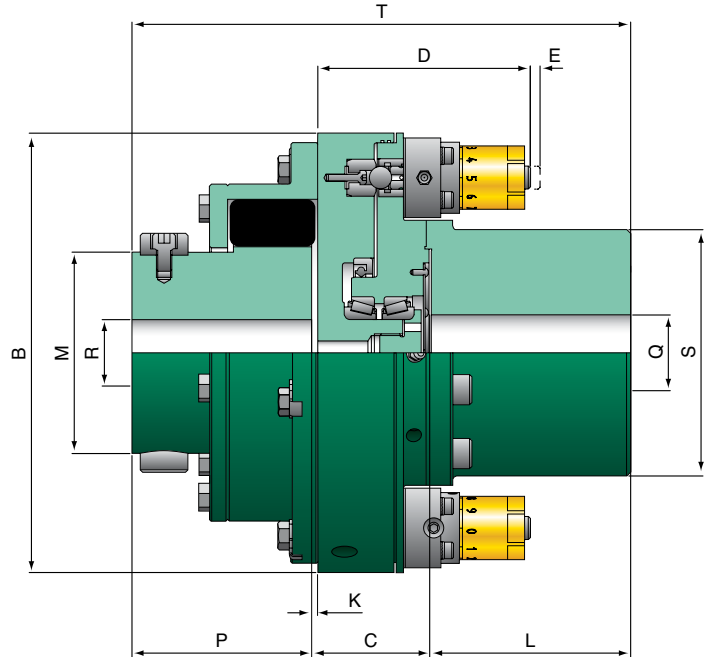
As extrusion systems grow in power, we're enabling builders to meet rising expectations with confidence – today and for the machines still to come.

Your torque protection partner for the next era of extrusion.

Bibby Turboflex™ Torque Limiter – UEP Series

FOR EXTRUDER APPLICATIONS

Bibby Turboflex has through extensive experience developed the ultimate extruder protection device affording reliable protection for twin screw extruders. Over 30 years experience in arduous applications, particularly in the steel industry, has led to the development of the Bibby modular torque limiter which has become the industry standard for twin screw extruder machines and mixers.



Specifications & Dimensions

Model Number	JSE5-0234A	JSE1-0237A	JSE1-0238A	JSE1-0238B	JSE1-0239B	JSE1-0300C	JSE2-0350B	JSE2-0400D	JSE3-0450B	JSE3-0500C
Maximum Preset Torque (Nm)	1480	3046	3577	6688	8786	14280	33480	86000	170350	283900
Minimum Preset Torque (Nm)	148	493	579	1122	1420	2310	8350	21470	42330	70500
Maximum Speed (rpm)	3000	2800	2800	2500	2500	2200	1990	1450	1400	1400
Coupling Size	0.2RB	0.37RB	0.73RB	0.73RB	1.15RB	2.15RB	4.5	5.5	7.0	8.0
Module Size	SE5	SE10	SE10	SE10	SE10	SE10	SE20	SE20	SE30	SE30
Quantity of Modules	2	2	2	4	4	6	4	8	4	6
Dimensions (mm)										
Outside Diameter - B	232	278	317	320	378	467	545	630	760	850
Distance Between Hub Faces - C	62.3	83.5	83.5	96.7	96.7	110.7	123.35	169.85	310.8	310.8
D	112	134	133	138	138	136	179.6	198	300.1	300.1
E	3	4	4	4	4	4	8	8	20	20
Overall Length - T	264	325	350	363	407	441	542.702	661.902	941.352	950.75
Rigid Hub										
Boss Diameter - S	130	165	165	190	234	234	270	350	400	440
Hub Length - L	106	121	121	121	140	140	270	330	405	405
Maximum Bore - Q	90	115	115	135	165	165	180	220	270	320
Minimum Bore	32	40	40	50	55	55	60	75	90	110
Flex Coupling										
Gap - K	3.2	3.2	3.2	3.2	3.2	4.8	6.35	6.35	12.7	12.7
Boss Diameter - M	106.4	128.6	152.4	152.4	179.4	219	243.586	308.102	358.902	422.402
Hub Length - P	95	120	145	145	170	190	149.352	162.052	225.552	234.95
Maximum Bore - R	70	85	95	95	115	140	170	210	250	280
Minimum Bore	35	40	55	55	55	70	60	70	85	95
Mass (kg)	39	70	90	106	163	231	113.4	190.5	353.8	453.6

FEATURES & BENEFITS

- Accurate release torque repeatability
- Simple fast manual re-engagement
- Low-cost maintenance
- The preferred protection for many extruder manufacturer

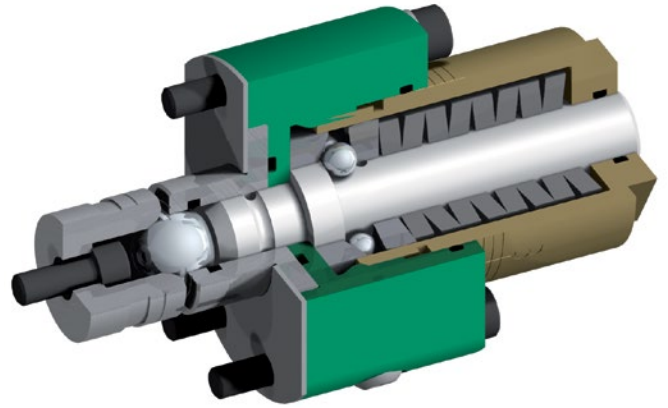
Very accurate release torque repeatability with minimal variation between static and dynamic release. Versatile installation allows for the torque limiter center section to be removed without the need to move the motor or gearbox.

Individual modules are preset to provide the required release torque. Any maintenance of the modules is a straightforward operation. A simple removal operation allows for module recalibration without having to replace the complete unit. By holding spare modules in stock already preset to the required release torque keeps downtime to an absolute minimum.

Manual reset of the torque limiter can only be carried out when the drive is at rest. Resetting is achieved by realigning the two halves of the unit and then lightly tapping each module fitted, with a soft mallet.

Lubrication of the unit is via easy access grease nipples. Proximity sensor targets are included to provide the means to switch off the drive after an overload occurs.

While each torque limiter assembly is normally factory preset, if required site adjustments can be carried out, a setting chart with instructions is provided for this purpose. Please note a security key is required and adjustment should only be carried out by an authorized person.



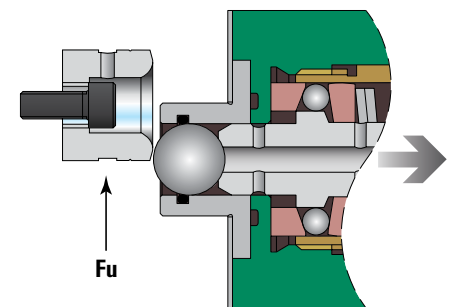
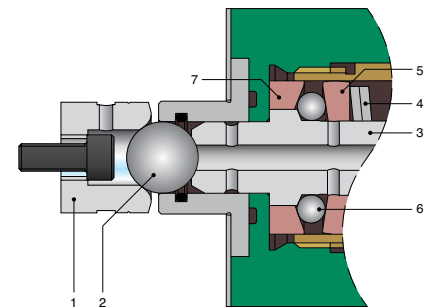
NORMAL OPERATION

The flange connection is driven by a large steel ball (2), located in the detent pocket (1), which is retained by a plunger (3). This in turn is retained axially by means of a system of angled races (5,7) biased by pressure from the Belleville springs (4), acting on a circle of balls (6).

DISENGAGEMENT

On overload, relative angular movement between the flanges imparts a tangential force (F_u) on the large steel ball, forcing it clear of the detent pocket back against the plunger. This in turn causes the plunger to be forced through the circle of balls overcoming the spring loading on the angle races. In this position, the balls are resting on the large diameter of the plunger, and once this condition is reached the flanges are completely free to rotate independently. A suitable switch can be incorporated in the assembly to switch off the drive motor or operate a warning device when the Torque Limiting assembly disengages.

After first ensuring that the drive is isolated, resetting is a simple matter of first realigning the flanges and then tapping each module plunger back with a soft mallet to allow the circle of balls to return to their original position and the large steel ball to return to its location in the detent pocket.



UEP Torque Limiters are not classed as machines by the 98/37/EU Directive and 2006/42/EU Machinery Directive. All installations must conform to industry standards.

Rexnord™ Autogard™ Torque Limiter – XG Series

FOR EXTRUDER APPLICATIONS

Twin screw extruders and compounding machines require the very best torque overload protection. The Rexnord Autogard XG Series offers features with the specific aim of protecting extruders from damage caused by unexpected torque spikes.

FEATURES

- Instantaneous separation of damaging inertias over a pre-set torque level
- Free running after torque overload
- Manual reset without the need of special tooling or replacement parts
- Easy to adjust torque setting on-site, and possible to tamper-proof the setting
- Fast and easy to disconnect motor and gearbox by removing the Wrapflex™ element for machine maintenance
- Drop-out options available on every size
- Disengagement sensors available

XG SERIES: SIZES 1 & 2

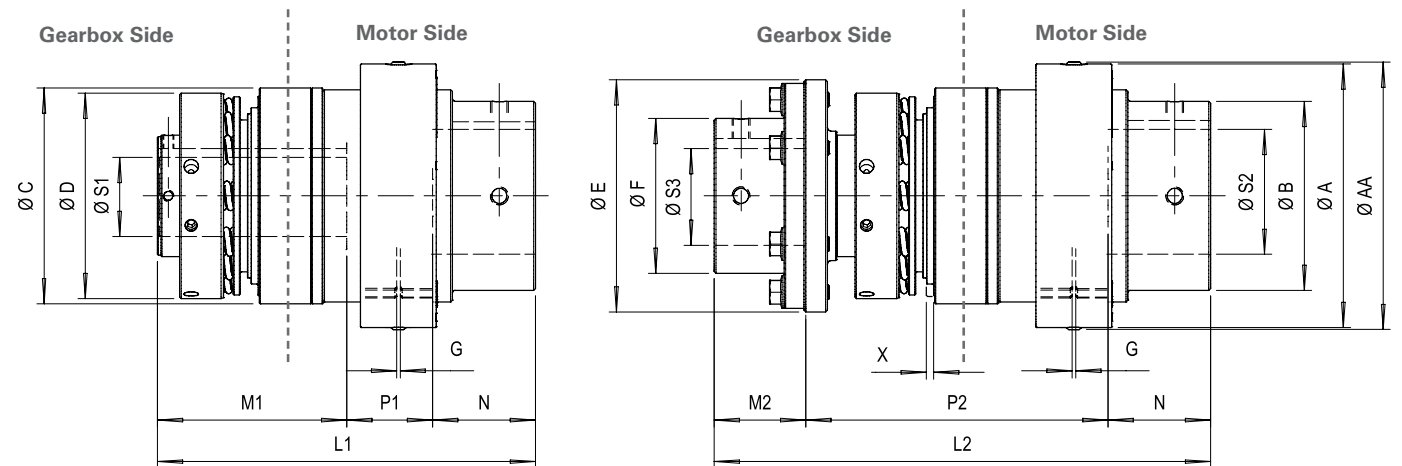
Type M

- Shortest possible overall length

Type R

- Allows for large motor shaft sizes
- Drop-out the torque limiting coupling without moving motor or gearbox

<p>Order format: Model & Size - Type / S1 bore / S2 bore / Spring qty / Torque setting</p> <p>Example: XG1-M / S1-1.375 / S2-2.625 / 8 / 2000</p>	<p>Order format: Model & Size - Type / S2 bore / S3 bore / Spring qty / Torque setting</p> <p>Example: XG1-R / S3-2.000 / S2-2.625 / 8 / 2000</p>
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Specifications

Size	Torque Range (lb-in)				S1 Bore Max ①	S2 Bore Max ①	S3 Bore Max ①	Max Speed rpm	Type M		Type R		Wrapflex Coupling Size	Max. Misalignment		
	2 Springs	4 Springs	8 Springs	12 Springs					Weight ②	Inertia ②	Weight ②	Inertia ②		Axial	Parallel	Angular
	in	in	in	in					lb	lb-in ²	lb	lb-in ²		± in	in	degrees
1	354 - 708	708 - 1420	1420 - 2920	2120 - 4430	1.75	2.875	2.375	4500	26.5	68.3	35.5	88.8	30R	0.01	0.08	1
2	1420 - 2830	2830 - 5660	5660 - 10600	8500 - 15900	2.5	4.125	3.375	3000	82.0	513	110	649	50R	0.02	0.08	1

Dimensions

Size	ø AA in	ø A in	ø B in	Type M					Type R					N in	G in	X - Stroke on Trip in
				øC in	øD in	L1 in	M1 in	P1 in	øE in	øF in	L2 in	M2 in	P2 in			
				1	6.02	5.77	4.13	4.72	4.49	8.26	4.13	1.88	5.08			
2	9.41	9.09	7.01	6.46	11	5.43	2.55	6.54	4.84	15.6	3.74	8.85	2.99	0.197	0.197	0.193 - 0.256

① Unless otherwise specified, bores will be manufactured with H7 tolerances.
 ② Weight and inertia values are for unbored torque limiters.

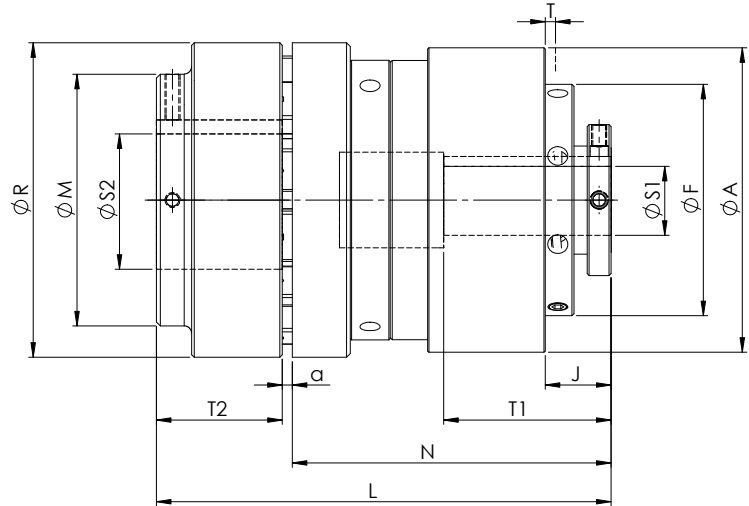
Rexnord™ Autogard™ Torque Limiter – F400 Series

FOR EXTRUDER APPLICATIONS

MODEL F406

Type N

F406N model includes a flexible coupling that is torsionally resilient and accommodates angular, parallel, and axial misalignment.



Specifications

Size	Torque ①				Max Speed ③ (rpm)	Weight ④		Mass Moment of Inertia MR ²			
	Min		Max ②					Hub Side		Flange Side	
	Nm	lb-in	Nm	lb-in		kg	lb	kg-m ²	lb-in ²	kg-m ²	lb-in ²
2	20	180	220	2000	3600	11	24.9	0.007	24	0.013	43
3	60	500	678	6000	3600	21	45.9	0.021	75	0.038	130
4	75	660	1130	10000	2000	34	75.2	0.037	120	0.1	350
5	225	2000	2540	22500	2000	74	162	0.17	570	0.32	1100
6	1100	9750	5650	50000	1800	120	258	0.28	960	0.82	2800
7 ⑤	1500	13300	11300	100000	1700	-	-	-	-	-	-
8 ⑤	3500	31000	24860	220000	1000	-	-	-	-	-	-

- ① For higher torque applications, consult Regal Rexnord.
- ② See spring selection table for torque range with specific springs.
- ③ Higher speeds may be allowed under certain conditions, consult Regal Rexnord.
- ④ Weights and moments of inertia apply to unbored hubs.
- ⑤ Consult Regal Rexnord for assistance on specifications for these sizes.

Dimensions

Size	Max Bore S1 ①		Max Bore S2 ①		A		F		J ②		L		M		N		R		T		T1		T2		a	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
2	34	1.3	60	2.36	121	4.76	92	3.62	26.2	1.03	180	7.07	100	3.94	127	5.0	125	4.92	2.85	0.112	66	2.6	50	1.97	3	0.12
3	50	1.85	70	2.76	156	6.14	135	5.31	27.1	1.07	202	7.96	108	4.25	138	5.43	160	6.3	3.48	0.137	114	4.51	60	2.36	4	0.16
4	64	2.36	85	3.35	176	6.93	150	5.91	28.2	1.11	233	9.15	140	5.51	149	5.86	200	7.87	3.48	0.137	121	4.77	80	3.15	4	0.16
5	85	3.1875	100	3.94	237	9.33	205	8.07	43.9	1.73	304	12	165	6.5	198.5	7.81	250	9.84	4.4	0.173	164	6.44	100	3.94	5.5	0.22
6	100	4	120 ③	4.72	260	10.2	235	9.25	23	0.906	357	14.1	200	7.87	226.5	8.91	315	12.4	5.33	0.21	218	8.58	125	4.92	5.5	0.22
7 ④	127	5	160	6.3	311	12.2	283	11.1	26	1.02	-	-	265	10.4	-	-	440	17.3	6.3	0.248	245	9.65	180	7.09	7.5	0.30
8 ④	152	6	200	7.87	385	15.2	362	14.3	36	1.42	-	-	320	12.6	-	-	560	22	8.1	0.319	300	11.8	220	8.66	9	0.35

- ① Bores are furnished for clearance fit unless otherwise specified by customer.
- ② For size 6 and above, clearance is required for adjustment, consult Regal Rexnord.
- ③ Smaller bores may be available under certain conditions, consult Regal Rexnord.
- ④ Consult Regal Rexnord for assistance on specifications for these sizes.

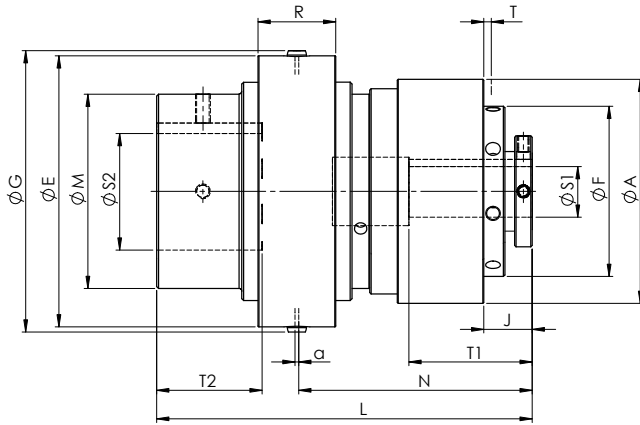
Rexnord™ Autogard™ Torque Limiter – F400 Series

FOR EXTRUDER APPLICATIONS

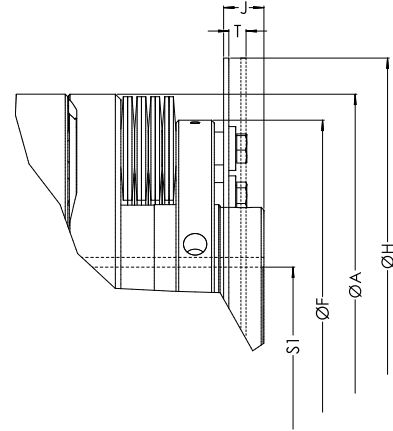
MODEL F406

Type W

F406W model includes Wrapflex™ torsionally soft coupling to accommodate angular and parallel offset misalignment.



For the "R" dimension information please see Wrapflex catalogue (491-110)



Torque adjustment mechanism for sizes 6 and 7

Specifications

Size	Torque				Max Speed ① (rpm)	Weight ②		Mass Moment of Inertia MR ² ②			
	Min		Max			kg	lb	Hub Side		Flange Side	
	Nm	lb-in	Nm	lb-in				kg-m ²	lb-in ²	kg-m ²	lb-in ²
2	20	180	220	2000	3600	12	26.7	0.0073	25	0.014	46
3	60	500	678	6000	3600	22	48.7	0.021	72	0.041	140
4	75	660	1130	10000	2000	39	84.9	0.037	130	0.13	440
5	225	2000	2540	22500	2000	79	173	0.16	560	0.38	1300
6	1100	9750	5650	50000	1800	130	278	0.28	960	0.83	2800
7	1500	13300	11300	100000	1700	210	456	0.74	2500	1.8	6300

① Higher speeds may be allowed under certain conditions. Please consult Regal Rexnord.

② Weights and moments of inertia apply to unbored hubs.

Dimensions

Size ①	Max Bore S1		Max Bore S2		A		E		F		G		H		J	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
2	34	1.3	65	2.875	121	4.76	147	5.79	92	3.62	153	6.02	–	–	26.2	1.03
3	50	1.85	85	3.375	156	6.14	182	7.17	135	5.31	190	7.48	–	–	27.1	1.07
4	64	2.36	105	4.125	176	6.93	231	9.09	150	5.91	239	9.41	–	–	28.2	1.11
5	85	3.1875	135	5.25	237	9.33	267	10.5	205	8.07	278	10.9	–	–	43.9	1.73
6	100	4	160	6.125	260	10.2	310	12.2	235	9.25	321	12.6	304.8	12.0	23	0.906
7	127	5	190	7.25	311	12.2	370	14.6	283	11.1	381	15	387.4	15.25	26	1.02

Size ①	L		M		N		R		T		T1		T2		a	
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
2	203	8.01	105	4.13	141.8	5.58	41.6	1.64	2.85	0.112	66	2.6	57	2.24	2	0.0787
3	231	9.11	130	5.12	154.3	6.07	54.6	2.15	3.48	0.137	114	4.51	66	2.6	5	0.197
4	260	10.3	178	7.01	165.8	6.53	69.5	2.74	3.48	0.137	121	4.77	76	2.99	5	0.197
5	339	13.3	210	8.25	223.7	8.81	67.2	2.65	4.4	0.173	164	6.44	100	3.94	5	0.197
6	394	15.5	251	9.88	–	–	75	2.95	5.33	0.21	218	8.58	120	4.72	5	0.197
7	457	18	270	10.6	–	–	85	3.35	6.3	0.248	245	9.65	140	5.51	6	0.236

① For size 6 and above, clearance is required for adjustment. Please consult Regal Rexnord.

Rexnord™ Autogard™ Torque Limiter – F400 Series

FOR EXTRUDER APPLICATIONS

SPRING SELECTION

The full range of torque for each unit, sizes 2 to 5 is achieved by a number of positions in which coil springs are located. Calculate theoretical running torque at a chosen location using the following formula:

$$\text{Torque (Nm)} = \frac{\text{kW} \times 9550}{\text{rpm}}$$

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

For these sizes, select the proper spring assembly so that the desired tripping torque will be close to the max torque of the spring assembly.

Standard Torque Adjustment Springs

Size	Spring Assembly		Torque Rating	
	Quantity	Positions	in-lb	Nm
2	8	Outer	700-2000	80-226
	6	Outer	500-1500	60-170
	4	Outer	300-1000	40-115
	2	Outer	180-550	20-60
3	6	Inner & Outer	220-6000	250-678
	6	Outer	1400-4000	160-450
	4	Outer	1000-2700	110-300
	2	Outer	500-1300	60-150
4	8	Inner & Outer	4800-10000	550-1130
	8	Outer	3100-6700	350-750
	6	Outer	2300-5000	260-560
	4	Outer	1400-3300	160-375
	2	Outer	660-1700	75-190
5	8	Inner & Outer	10600-22500	1200-2540
	8	Outer	8000-17000	900-2000
	6	Outer	6000-13000	680-1500
	4	Outer	4000-8500	450-1000
	2	Outer	2000-4500	225-500
6	8	Spring Stacks	20000-50000	2250-5650
	6	Spring Stacks	15000-37500	1700-4250
	4	Spring Stacks	9750-25000	1100-2800
7	12	Spring Stacks	40000-100000	4500-11300
	8	Spring Stacks	26500-66000	3000-7500
	6	Spring Stacks	20000-50000	2250-5650
	4	Spring Stacks	13500-33000	1500-3800
8	12	Spring Stacks	9000-22000	10000-24860
	8	Spring Stacks	6000-146000	7000-16500
	6	Spring Stacks	45000-110000	5000-12430

Rexnord™ Autogard™ Torque Limiter – F400 Series

FOR EXTRUDER APPLICATIONS

TORQUE LIMITER ENGINEERING INFORMATION

Disengagement Sensors

The Autogard F400 Series is designed to run freely upon disengagement. However, it is still critical to shut down the drive immediately when disengagement occurs to avoid premature wear of the torque limiter. The recommended method of shutting down the drive is through the use of a customer supplied mechanical limit switch or proximity sensor shown in Figure 1 using the dimensions in Table 1. However, it is preferable to use the slide plate movement on disengagement to operate a limit switch, which switches off the main drive and/or sounds an alarm.

The limit switch may be operated by a limit switch operating plate fitted to the slide plate or by the cover. In some circumstances a limit switch may be operated directly by the slide plate.

Figure 1 and Table 1 give details of the limit switch plate and the movement on disengagement.

Table 1

Size		2	3	4	5	6	7	8
X	mm	2.85	3.48	3.48	4.4	5.33	6.3	8.1
X	in	0.112	0.137	0.137	0.173	0.21	0.248	0.319

Protective Finish

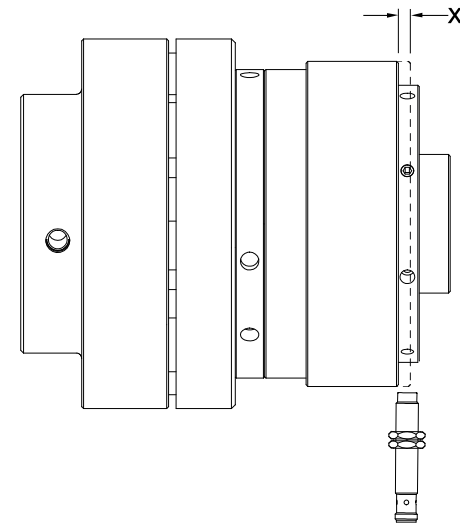
The standard protective finish applied to Autogard torque limiters is manganese phosphate plus oil dip. This treatment provides a high level of protection with good corrosion resistance and is suitable for most environments. Other finishes can be applied for situations where exceptional environments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

General Safety

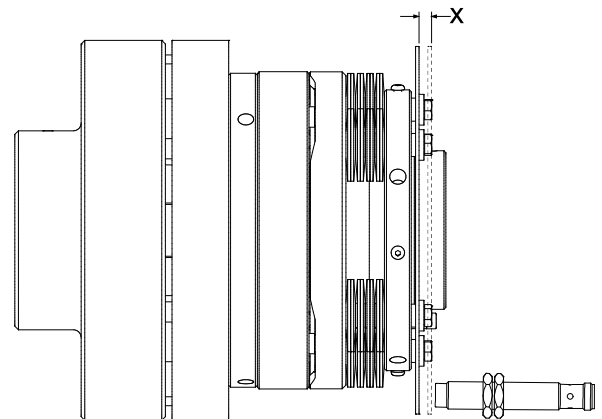
Autogard torque limiters are reliable units, built to high standards of workmanship. Similar to all mechanical devices, each application must be considered on its own merits with reference to safety (i.e., lifting equipment, explosive conditions, etc). As rotating components, adequate guarding must be 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. Regal Rexnord™ staff are always available to discuss particular applications.

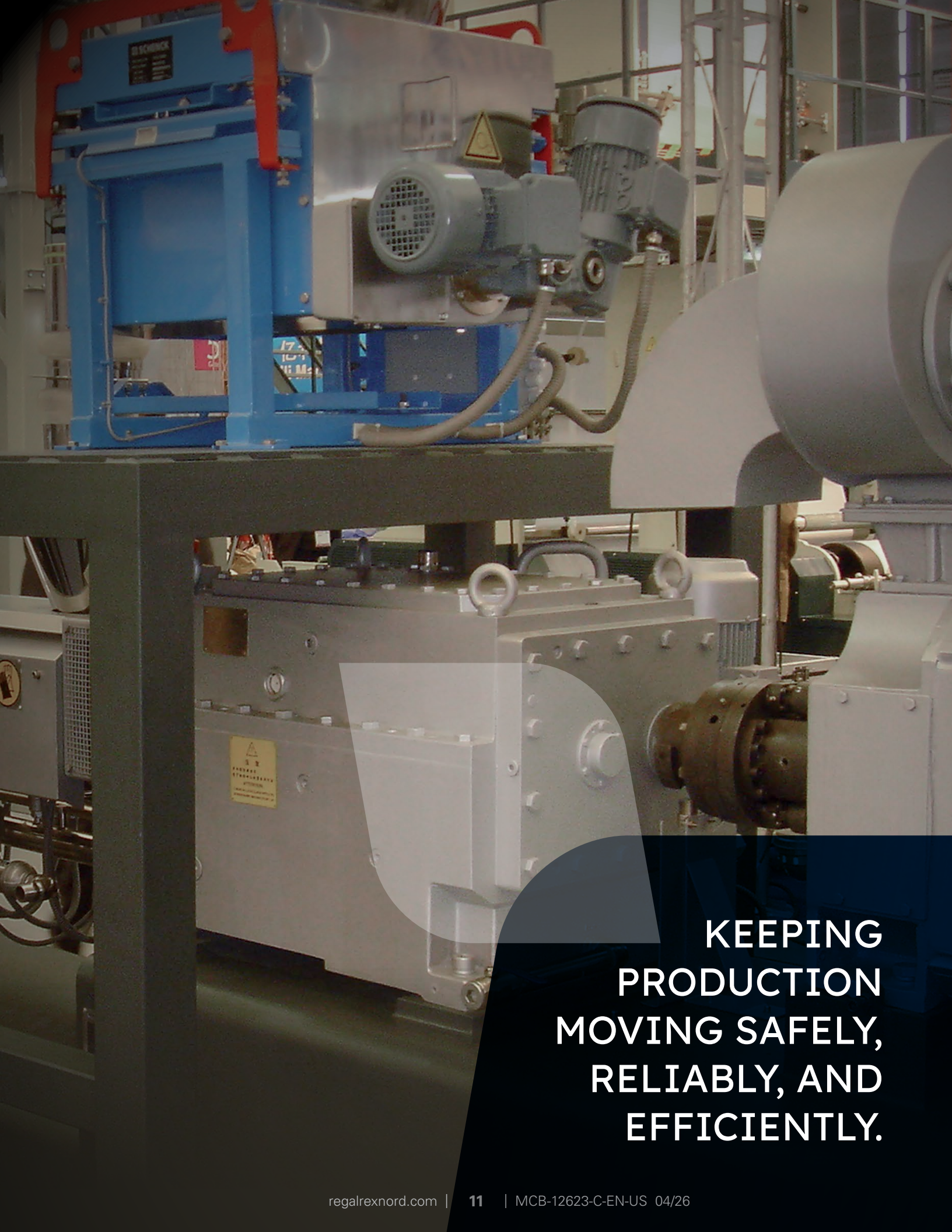
Figure 1

Sizes 2-5

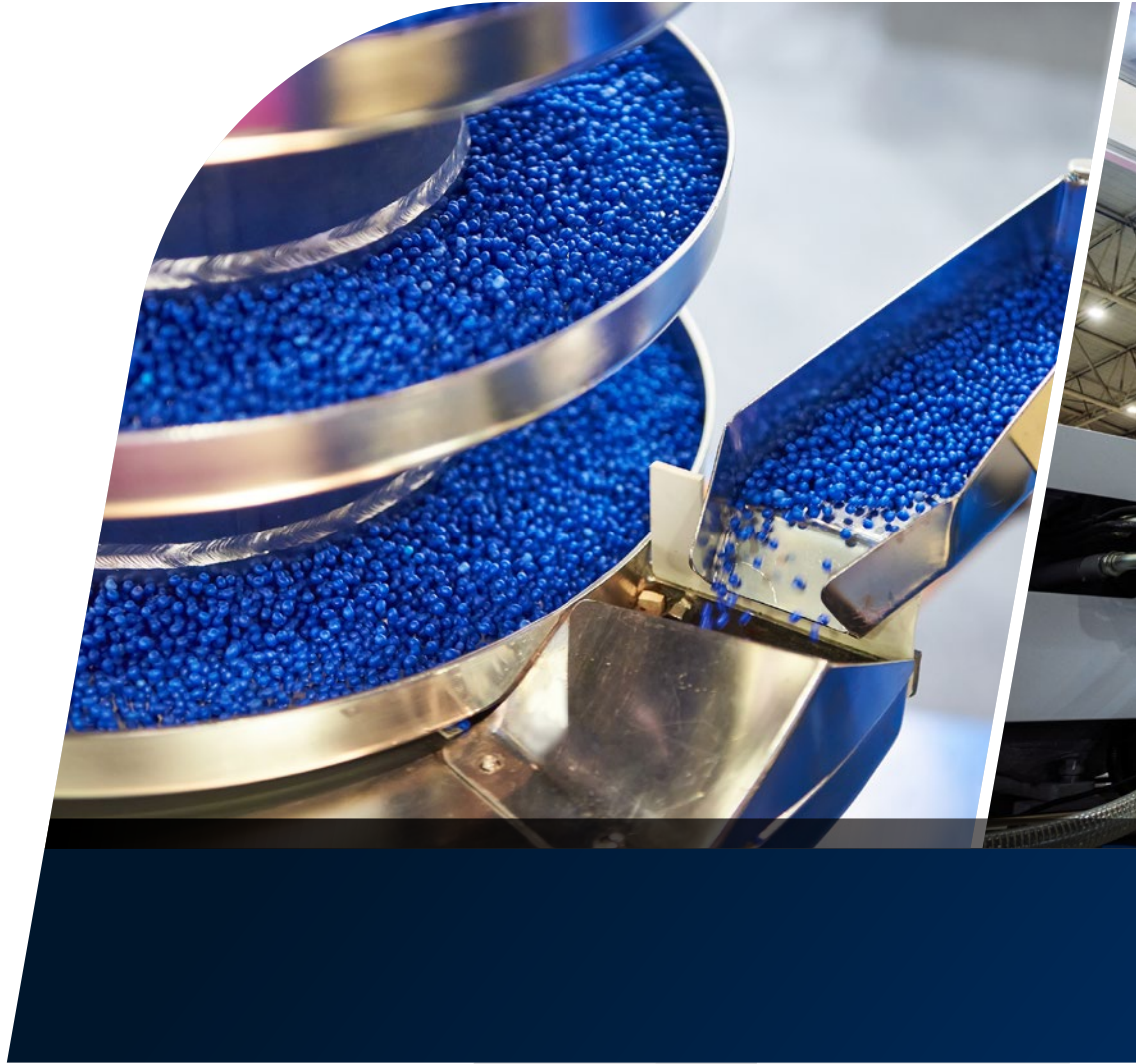


Sizes 6-8





**KEEPING
PRODUCTION
MOVING SAFELY,
RELIABLY, AND
EFFICIENTLY.**



BIBBY TURBOFLEX™

REXNORD™

Regal Rexnord

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