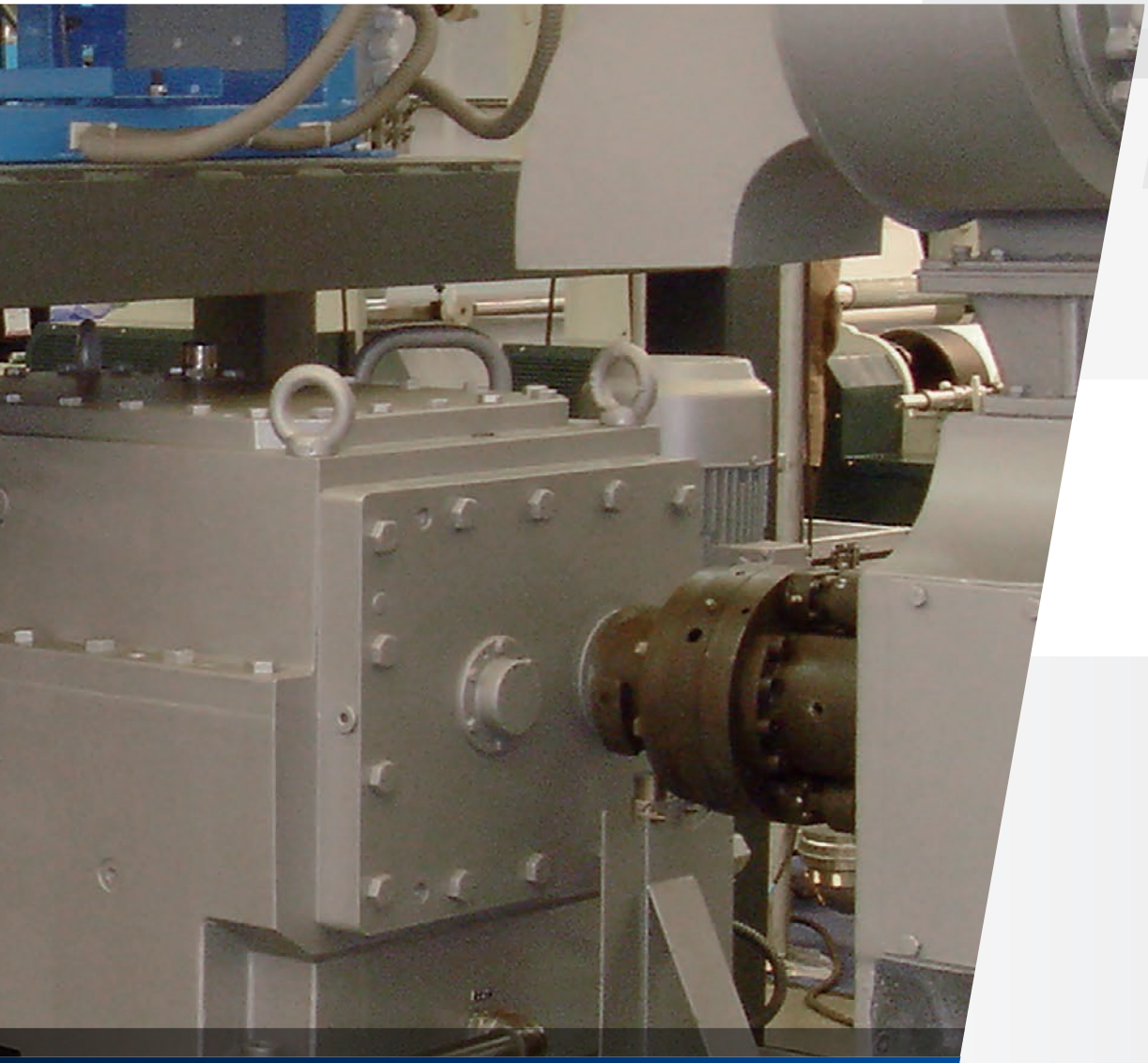
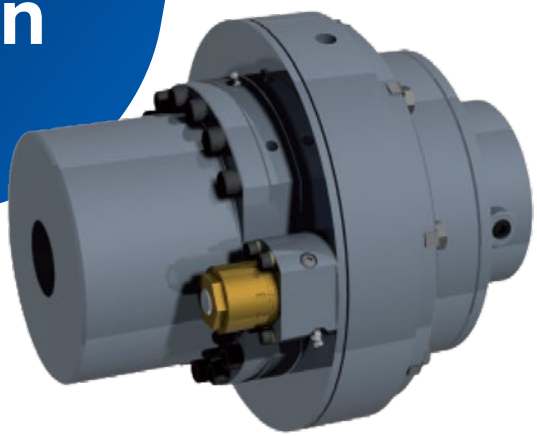
RegalRexnord™



Torque Limiting Overload Protection

UEP MODULAR TORQUE PROTECTION



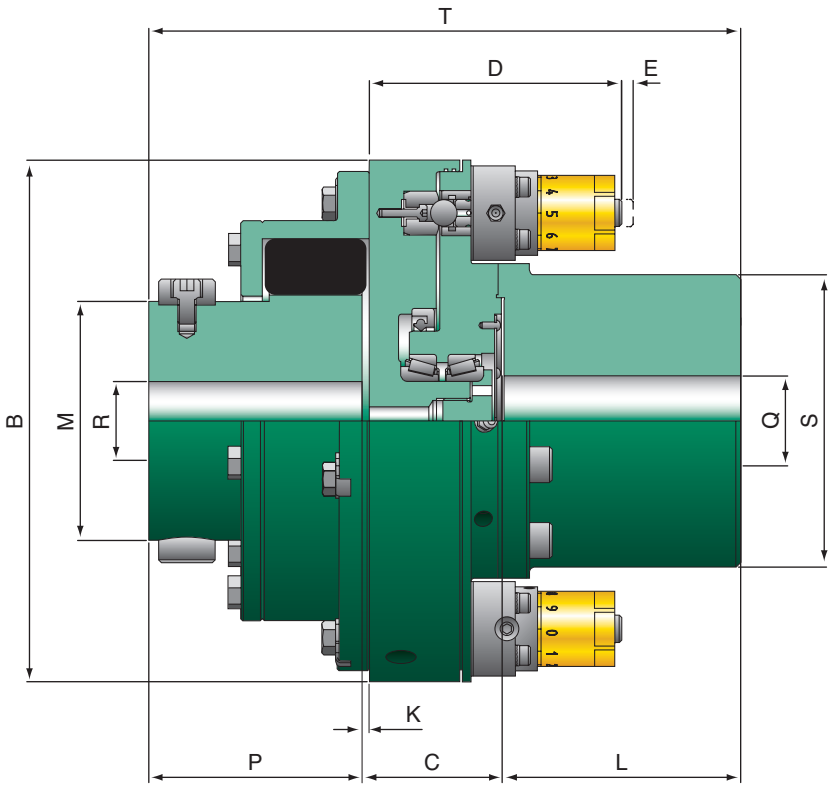
BIBBY TURBOFLEX™

UEP Modular Torque Protection Engineered for Twin Screw Extruders and Mixers

UEP MODULAR TORQUE LIMITERS

Bibby Turboflex has through extensive experience developed the Ultimate Extruder Protection device affording reliable protection for twin screw extruders.

Based on 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.



Specifications and 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

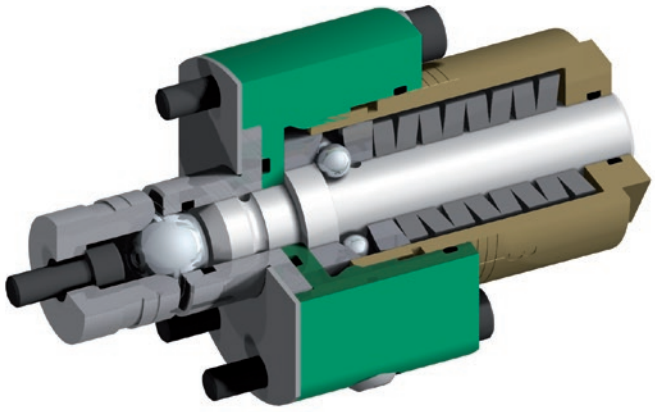
Very accurate release torque repeatability with minimal variation between static and dynamic release. Versatile installation allows for the torque limiter center section to be removed without the need to move the motor or gearbox.

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

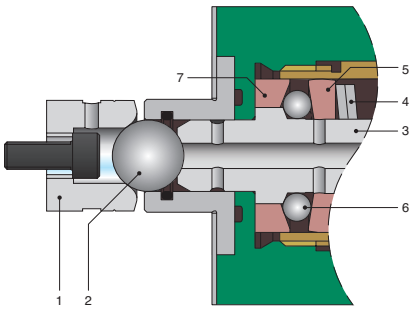
The flange connection is driven by a large steel ball (2), located in the detent pocket (1), which is retained by a plunger (3). This in turn is retained axially by means of a system of angled races (5,7) biased by pressure from the Belleville springs (4), acting on a circle of balls (6).

DISENGAGEMENT

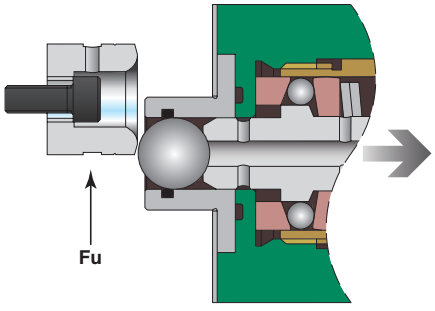
On overload, relative angular movement between the flanges imparts a tangential force (Fu) on the large steel ball, forcing it clear of the detent pocket back against the plunger. This in turn causes the plunger to be forced through the circle of balls overcoming the spring loading on the angle races. 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.

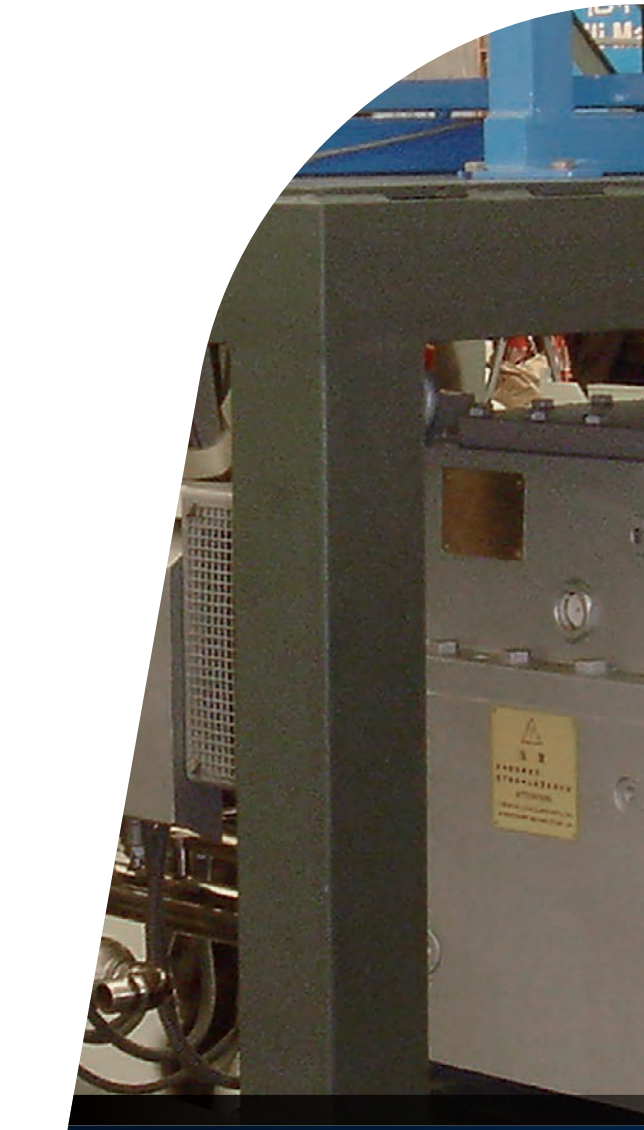
UEP Torque Limiters are not classed as machines by the 98/37/EU Directive and 2006/42/EU Machinery Directive. All installations must conform to industry standards.



Engaged



Disengaged



Front cover photo courtesy of Coperion GmbH*

BIBBY TURBOFLEX™

Regal Rexnord

bibbyturboflex.com

Customer Service: 800-626-2120

Technical Service: 800-626-2093

CustomerService.PTSolutions@regalrexnord.com

regalrexnord.com

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