

Cross & Morse Torque Limiters



Cross & Morse Torque Limiters are low cost protection devices that limit torque in a drive system by slipping when a preset value is exceeded, in order to:-

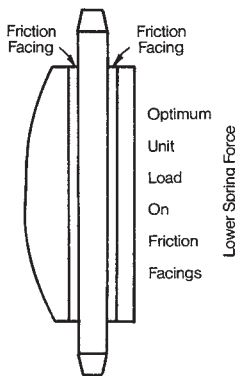
***Prevent machine and drive damage.
Eliminate costly machine downtime.***

The Torque Limiter is a protective device that limits torque transmitted in a drive system by slipping when a preset value is exceeded as a result of shock load, overload or machine jam. It automatically re-engages, when the overload is removed, no setting being required, Torque is transmitted by spring loaded friction faces, the value being preset by adjustment of the spring force by simple setting of the adjustment nuts and bolts. The Torque Limiter is suitable to use with sprockets, gears, pulleys or a flange plate as the centre member clamped between the friction facings. The Torque Limiter is not a new product with Cross & Morse. In 1949 Morse introduced the first spring loaded, friction type protective device which was developed to today's line of products consisting of 7 sizes, the models 200M to 700M being the most popular units. To further extend the capabilities of our products a new metric series of clutches, consisting of 6 sizes from M30 to M280 has been added, to cater for higher torque applications, and areas where space is limited. As originator of the Torque Limiter, Morse gained vast experience in the design and application of these units as trouble free and long lasting protective devices. Many thousand units have been fitted to conveyors, mechanical handling equipment and agricultural machines.



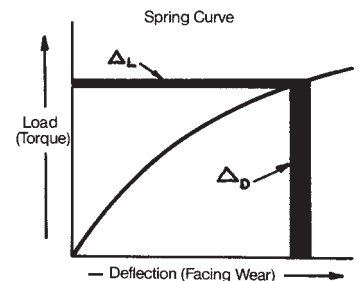
Morse Torque Limiters incorporate design features for long life and reliability.

Correct Spring Selection and Ratings



Torque Limiter capacities are directly proportional to the spring force applied to the friction surfaces and it is a simple matter to increase capacity by increasing spring force - but not without a sacrifice. The higher the unit load or pressure (psi) on the friction surfaces, the quicker the friction facings will deteriorate as they slip against the pressure plates and centre member. Morse ratings are realistic and are consistent with optimum spring loads and face pressures that permit longer slip time, maintain re-engagement at pre-set torque, and provide long-lasting protection.

The spring is designed so that its force varies little over a wide deflection range at the rated capacity of the torque limiter. This assures load re-engagement near the pre-set torque level as the friction facing wears. It is characteristic of a disc spring that it is more unstable and erratic in the lower end of its load vs. deflection curve; Morse therefore established minimum torque ratings consistent with spring characteristics.



Cross & Morse Torque Limiters offer you the following Benefits:

- ***Simple Design***
- ***Easy Adjustment***
- ***Wide Torque Range***
- ***Minimum Maintenance***
- ***Corrosion Resistant***
- ***Infinite Torque Adjustment Settings***
- ***Economical***
- ***Compact***
- ***Dependable***
- ***Durable***
- ***Low Cost***

Conclusion

The incorporation of an inexpensive Cross & Morse Torque Limiter improves machine design, safeguards production, and minimises the downtime so ensuring increased productivity and profits.

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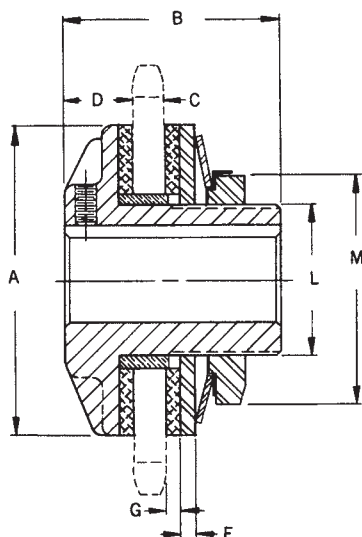
Email : sales@crossmorse.com

Standard Torque Limiters

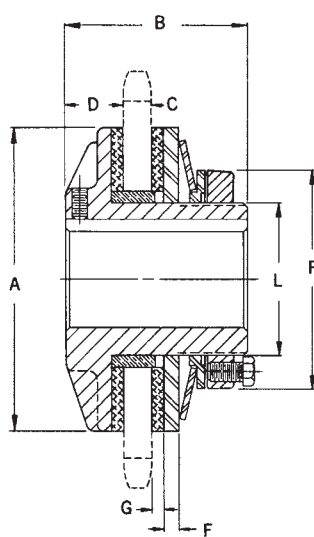


Original Morse Series Torque Limiters

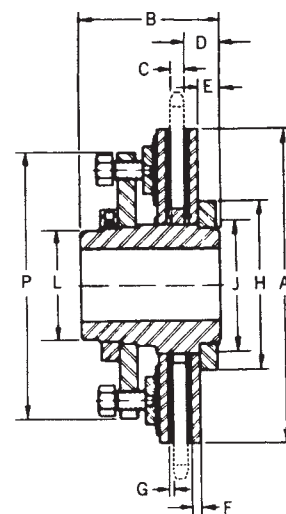
Developed from the original Torque Limiters produced in 1949, these well proven units are based on Imperial dimensions. Imitated by many over the years these units provide the ideal low cost solution to overload protection for torques between 3 & 1500 Nm. For Torque Limiter selection refer to page 6.



Models 200M, 250M & 350M



Models 500M & 700M



Models 13 & 20

Dimensions

| *Model | Torque min | Torque max | Stock min plain bore | Stock Finish bores | Max Bore with Std Keyway | †Standard Bush Lengths (Ref.) | Set Screw | A | B | C (max) | D | F | G | L | M A/F | P | Weight |
|----------------------|------------|------------|----------------------|--------------------|--|---------------------------------------|-----------|-----|-----|---------|----|------|-----|-------|-------|-----|--------|
| | Nm | Nm | mm | mm | mm | | | mm | mm | mm | mm | mm | mm | mm | mm | mm | |
| 200M1 | 3 | 13 | 9.5 | 19 | 22 | (275, 365, 480, 551) | M5 | 52 | 48 | 9 | 16 | 4.0 | 3.5 | 34.9 | 46 | | 0.4 |
| 200M2 | 6 | 25 | | 20 | 7.0, 9.5, 11.5, 13.4 | | | | | | | | | | | | |
| 250M1 | 7 | 34 | 9.5 | 15 | 22 | (275, 365, 480, 551) | M5 | 64 | 48 | 9 | 16 | 4.0 | 3.5 | 34.9 | 46 | | 0.5 |
| 250M2 | 12 | 67 | | 19 20 | 7.0, 9.5, 11.5, 13.4 | | | | | | | | | | | | |
| 350M1 | 20 | 100 | 18 | 20 | 25 | (365, 480, 551, 628, 829) | M6 | 89 | 62 | 16 | 19 | 4.0 | 3.5 | 42.9 | 60 | | 1.1 |
| 350M2 | 34 | 200 | | 24 25 | 9.5, 11.5, 13.4, 16.0, 20.3 | | | | | | | | | | | | |
| 500M1 | 48 | 283 | 22 | 25 28 | 41 | (480, 551, 628, 829) | M8 | 127 | 76 | 16 | 22 | 6.5 | 3.5 | 63.5 | - | 92 | 3.0 |
| 500M2 | 88 | 566 | | 30 35 38 40 | 11.5, 13.4, 16.0, 20.3 | | | | | | | | | | | | |
| 700M1 | 110 | 770 | 24 | 40 45 | 64 | (520, 580, 667, 868, 966, 1187, 1375) | M10 | 178 | 98 | 29 | 24 | 8.0 | 5.0 | 95.3 | - | 133 | 6.8 |
| 700M2 | 224 | 1540 | | 48 50 60 | 13.2, 14.7, 16.9, 22.3, 24.6, 30.2, 34.9 | | | | | | | | | | | | |
| 13-8 ⁽¹⁾ | 678 | 1966 | 38.1 | | 82 | (375, 500, 562) | - | 330 | 146 | 22 | 36 | 9.5 | 4.8 | 114.3 | - | 279 | 38.6 |
| 13-16 ⁽¹⁾ | 1356 | 3120 | | 9.5, 12.7, 14.3 | | | | | | | | | | | | | |
| 20-5 ⁽¹⁾ | 2135 | 4270 | 50.8 | | 124 | (500, 625) | - | 508 | 184 | 24 | 46 | 12.5 | 4.8 | 165.1 | - | 413 | 115.0 |
| 20-10 ⁽¹⁾ | 4270 | 8540 | | 12.7, 15.9 | | | | | | | | | | | | | |

*M1 Torque Limiters Fitted One Disc Spring.
M2 Torque Limiters Fitted Two Disc Springs.

†Torque Limiter supplied standard without Bush, which is supplied with Platewheel.
If Bush required, specify on order which length (size) required.

For procedure to select Torque Limiters refer to page 6.
For range of standard platewheels refer to page 7.

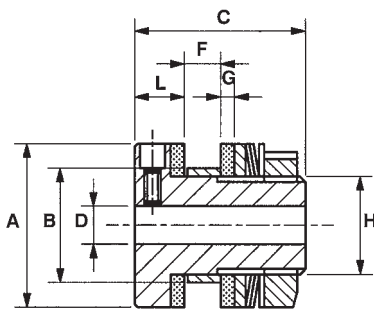
⁽¹⁾ Sizes 13 & 20 Torque Limiters for replacement purposes only.
Refer Metric sizes M200 - M280 for new applications.

Standard Torque Limiters

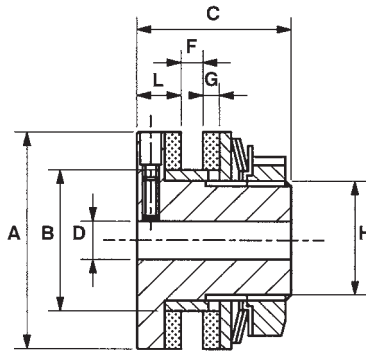


Metric Series Torque Limiters

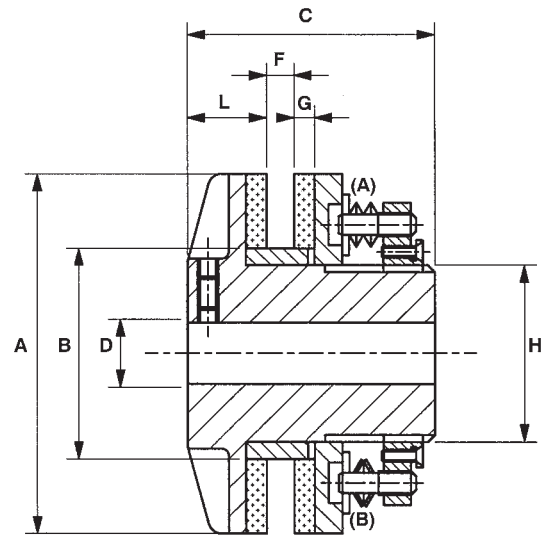
To extend the range of torque capability a new series of Torque Limiters is offered providing both smaller and larger sized units with a range of 1.5 to 10,000 Nm. These units are all to metric dimensions, and as with the original series are available with a roller chain coupling for shaft to shaft connection. For Torque Limiter selection refer to page 6.



Models M30



Models M40 & M45



Models M200/254/280

Dimensions

| Model | Torque min | Torque max | Stock bore | Max Bore with Std Keyway | A | Bk7 | C | Bush Length | F | | G | L | H | Approx. Weight |
|-------------|------------|------------|------------|--------------------------|-----|-----|-----|-------------|---------------------|--------------------|-----|------|-----|----------------|
| | Nm | Nm | | | | | | | mm | mm | | | | |
| M30-2 | 3* | 10* | 4.5 | 11 | 30 | 21 | 31 | 5.8 | 6.0 ⁽²⁾ | 7.2 | 2.5 | 9.0 | 18 | 0.10 |
| M40-1 | 4 | 15 | 7.0 | 14 | 40 | 26 | 28 | 7.0 | 3.5 | 5.0 ⁽¹⁾ | 2.8 | 8.0 | 22 | 0.16 |
| M40-2 | 7 | 28 | | | | | | | | | | | | |
| M40-3 | 10 | 40 | | | | | | | | | | | | |
| M45-1 | 7 | 30 | 7.0 | 20 | 45 | 35 | 33 | 8.8 | 4.5 | 5.8 ⁽¹⁾ | 3.0 | 8.5 | 32 | 0.19 |
| M45-2 | 13 | 55 | | | | | | | | | | | | |
| M45-3 | 17 | 70 | | | | | | | | | | | | |
| M200-24(A)† | 440 | 2200 | 35.0 | 80 | 200 | 120 | 105 | 28.0 | 20.0 ⁽²⁾ | 22.0 | 5.0 | 27.0 | 110 | 16.50 |
| M200-24(B)† | 800 | 4000 | | | | | | | | | | | | |
| M254-32(A)† | 760 | 3800 | 48.0 | 90 | 254 | 140 | 120 | 31.8 | 23.8 ⁽²⁾ | 26.0 | 5.0 | 33.0 | 125 | 21.00 |
| M254-32(B)† | 1350 | 6800 | | | | | | | | | | | | |
| M280-32(A)† | 1100 | 5500 | 48.0 | 120 | 280 | 170 | 120 | 31.8 | 23.8 ⁽²⁾ | 26.0 | 5.0 | 33.0 | 155 | 26.00 |
| M280-32(B)† | 2000 | 10000 | | | | | | | | | | | | |

*Torque values can be halved by facing springs towards one another.

†Torque values determined by positioning of springs, refer to drawings.

⁽¹⁾Torque Limiters with 1 & 2 springs can accommodate thicker platewheels, (up to 2mm max), but extra care must be exercised to ensure that bush supports both friction facings, and use second bush if required.

⁽²⁾Min. width can be reduced by reducing bush length.

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Torque Limiters Selection



Selection Procedure

- Determine if the Torque Limiter is to be mounted on input (driver) or output (driven) shaft. Mounting on input shaft is normally lowest cost, and spreads load on Limiter body in overload slip, but if frequent slip occurs longer wear life of friction facings is obtained with the Torque Limiter on the output shaft.
- Determine normal Drive Torque from input Power and Shaft Speed using formulae:-

$$\text{Torque Nm} = \frac{\text{H.P.} \times 7124}{\text{R.P.M.}} \quad \text{Torque Nm} = \frac{\text{kW} \times 9550}{\text{R.P.M.}}$$
- Decide on required Slip Torque, normally between 1.2 and 1.5 times Drive Torque dependant on frequency of machine stop-start cycles.
- Refer to pages 4 and 5, select size of Torque Limiter where Rated Torque slightly exceeds Slip Torque. Confirm Selected Torque Limiter will accept drive shaft diameter.
- Using capacity below, confirm selection of Torque Limiter. For machines under constant supervision or with motor overload sensors the 10 sec values should be used. For unmanned machines combination of torque and speed should always be within power ratings over 5 min to avoid deterioration of components parts due to temperature build-up. If necessary a larger Torque Limiter may have to be selected to provide sufficient heat dissipation.
- Check Sprocket Tables below, to ensure that required size will fit selected Torque Limiter.

Dimensions

| Torque Limiter Model | Maximum Operating RPM | | kW Ratings according to max slip time | | | | | |
|----------------------|-----------------------|------------------------|---------------------------------------|----------------------|-----------------------|------------------------|-------------------------|-------------------------|
| | At Minimum Torque | 50% Plus Torque Rating | Over 5 min | 5 min | 2 min | 1 min | 30 sec | 10 sec |
| 200M 250M | 1800 1450 | 800 430 | 0.06 0.08 | 0.11 0.16 | 0.20 0.30 | 0.38 0.56 | 0.55 0.80 | 0.90 1.30 |
| 350M 500M 700M | 1050 750 530 | 280 250 200 | 0.19 0.47 1.02 | 0.37 0.93 2.04 | 0.70 1.70 3.80 | 1.30 3.25 7.15 | 1.85 4.65 10.20 | 3.00 7.50 16.30 |
| M30 M40 M45 | 3000 2300 2000 | 310 210 140 | 0.01 0.02 0.03 | 0.02 0.04 0.05 | 0.04 0.08 0.10 | 0.07 0.14 0.18 | 0.10 0.20 0.25 | 0.16 0.32 0.40 |
| M200 M254 M280 | 475 375 340 | 100 90 80 | 1.29 2.40 2.95 | 2.50 4.80 5.85 | 4.80 8.90 10.80 | 9.00 16.80 20.50 | 12.90 24.00 29.25 | 20.60 38.50 47.00 |

Note: If your drive requirements do not permit selection of a Standard Torque Limiter by the above procedure contact Technical Department, Cross & Morse.

Minimum Sprocket Teeth and Bush Lengths for BS and ANSI Roller Chains

| Chain Size | 3/8" 06B/35 | | 1/2" 08B/40 | | 5/8" 10B/50 | | 3/4" 12B/60 | | 1" 16B/80 | | 1 1/4" 20B/100 | | 1 1/2" 24B/120 | | 1 3/4" 28B/140 | | 2" 32B/160 | | |
|------------|------------------|---------------------|--------------------|---------------------|----------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|----------------|---------------------|---------------------|----|---------------------|
| Model No. | Bore Dia. mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | Sprocket Min. Teeth | Bush Length mm | | |
| 200M | 41.33 41.38 | 21 | (365) 9.5 | 17 | (480) 11.5 | 14 | (551) 13.4 | | | | | | | | | | | | |
| 250M | 41.33 41.38 | 25 | (365) 9.5 | 20 | (480) 11.5 | 16 | (551) 13.4 | | | | | | | | | | | | |
| 350M | 49.28 49.33 | 33 | (365) 9.5 | 26 | (480) 11.5 | 21 | (551) 13.4 | 18 | (628) 16.0 | 15 | (829) 20.3 | | | | | | | | |
| 500M | 73.10 73.15 | | | 35 | (480) 11.5 | 29 | (551) 13.4 | 25 | (628) 16.0 | 19 | (829) 20.3 | | | | | | | | |
| 700M | 104.88 104.93 | | | 48 | (520) 13.2 | 39 | (580) 14.7 | 33 | (667) 16.9 | 25 | (868) 22.2 | 21 | (966) 24.6 | 18 | (1187) 30.2 | 16 | (1187) 30.2 | 15 | (1375) 34.9 |
| 13- | 161.99 162.05 | | | | | | | | | 44 | (375) 9.5 | 36 | (500) 12.7 | 31 | (562) 14.3 | 27 | (562) 14.3 | 24 | (562) 14.3 |
| 20- | 222.33 222.40 | | | | | | | | | | | 54 | (500) 12.7 | 46 | (625) 15.9 | 40 | (625) 15.9 | 35 | (625) 15.9 |
| M30 | 21.10 21.05 | 14 | 4.5 ⁽³⁾ | 12 | 6.0 | | | | | | | | | | | | | | |
| M40 | 26.10 26.05 | 17 | 8.0 | 14 | 8.0 | | | | | | | | | | | | | | |
| M45 | 35.12 35.07 | 19 | 9.0 | 15 | 9.0 | | | | | | | | | | | | | | |
| M200 | 120.18 120.10 | | | | | 43 | 15.5 ⁽³⁾ | 36 | 17.0 ⁽³⁾ | 28 | 22.5 ⁽³⁾ | 23 | 25.0 ⁽³⁾ | 20 | 29.0 | 17 | 29.0 ⁽¹⁾ | 15 | 29.0 ⁽¹⁾ |
| M254 | 140.20 140.12 | | | | | | | 45 | 17.0 ⁽³⁾ | 35 | 22.5 ⁽³⁾ | 29 | 25.0 ⁽³⁾ | 24 | 31.8 | 21 | 31.8 ⁽²⁾ | 19 | 35.0 ⁽⁴⁾ |
| M280 | 170.20 170.12 | | | | | | | 50 | 17.0 ⁽³⁾ | 38 | 22.5 ⁽³⁾ | 31 | 25.0 ⁽³⁾ | 26 | 31.8 | 23 | 31.8 ⁽²⁾ | 21 | 35.0 ⁽⁴⁾ |

⁽¹⁾Platewheels require recess to fit Torque Limiter.

⁽²⁾Platewheels for BS series chains requires recess to fit Torque Limiter.

⁽³⁾Bushes require shortening to length indicated.

⁽⁴⁾Two bushes required to total length indicated.

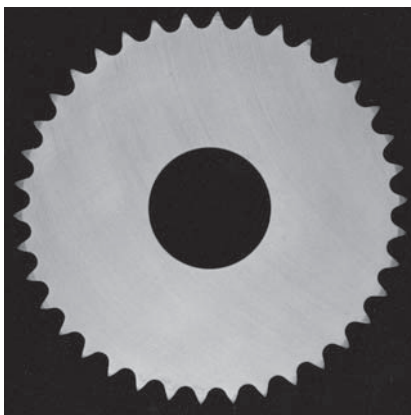
For standard stock platewheels refer to page 7.

Torque Limiters Platewheels



Stock Machined Platewheels for BS Roller Chain

Morse recommend and offer as stock items, specially machined platewheels for use with Torque Limiters. Both faces of Morse Torque Limiter Platewheels are machined to 1.6µm surface finish. Uniform surfaces and parallel faces ensure that Morse Torque Limiters will reliably maintain correct torque release and re-engagement. For the most economical drive design, select a platewheel from the increased range of standard stock platewheels.



For accurate torque setting and applications where slippage may be frequent, it is essential that a ground plate sprocket is used. Rated torque capacity can only be obtained with dry friction facings and a ground plate sprocket which has been run-in for 500 revolutions at 50% maximum torque rating for the single spring unit at a speed not exceeding 120 r.p.m.

| Fits Torque Limiter Number | Catalogue Number | Chain Pitch inches | Number of Teeth | Outside Diameter mm | Bore Dia. over Bushing mm | Max. Width mm | Bush Size | Bush Length mm | Weight kg |
|----------------------------|------------------|--------------------|-----------------|---------------------|---------------------------|---------------|-----------|----------------|-----------|
| M30 | M30G06B1-16 | 0.375 | 16 | 52.3 | 21.1 | 5.33 | | 5.0 | 0.06 |
| | M30G06B1-19 | 0.375 | 19 | 61.3 | -0.05 | 5.33 | | 5.0 | 0.09 |
| M40 | M40G06B1-19 | 0.375 | 19 | 61.3 | 26.1 | 5.33 | | 7.0 | 0.09 |
| | M40G06B1-22 | 0.375 | 22 | 71.0 | -0.05 | 5.33 | | 7.0 | 0.12 |
| M45 | M45G06B1-22 | 0.375 | 22 | 71.0 | 35.12 | 5.33 | | 8.8 | 0.12 |
| | M45G08B1-19 | 0.500 | 19 | 82.3 | -0.05 | 7.24 | | 8.8 | 0.18 |
| 200M | 200G06B1-21 | 0.375 | 21 | 67.8 | 41.38 | 5.33 | 365 | 9.5 | 0.11 |
| | 200G06B1-23 | 0.375 | 23 | 73.5 | -0.05 | 5.33 | 365 | 9.5 | 0.13 |
| | 200G08B1-19 | 0.500 | 19 | 82.3 | | 7.24 | 480 | 11.5 | 0.18 |
| 250M | 250G06B1-25 | 0.375 | 25 | 80.0 | 41.38 -0.05 | 5.33 | 365 | 9.5 | 0.14 |
| | 250G06B1-38 | 0.375 | 38 | 119.4 | | 5.33 | 365 | 9.5 | 0.36 |
| | 250G08B1-20 | 0.500 | 20 | 85.8 | | 7.24 | 480 | 11.5 | 0.21 |
| | 250G08B1-21 | 0.500 | 21 | 90.4 | | 7.24 | 480 | 11.5 | 0.23 |
| | 250G08B1-22 | 0.500 | 22 | 94.5 | | 7.24 | 480 | 11.5 | 0.27 |
| | 250G08B1-23 | 0.500 | 23 | 98.5 | | 7.24 | 480 | 11.5 | 0.32 |
| | 250G08B1-25 | 0.500 | 25 | 106.4 | | 7.24 | 480 | 11.5 | 0.36 |
| | 250G08B1-30 | 0.500 | 30 | 127.5 | | 7.24 | 480 | 11.5 | 0.54 |
| | 250G08B1-38 | 0.500 | 38 | 159.0 | | 7.24 | 480 | 11.5 | 0.91 |
| | 250G08B1-57 | 0.500 | 57 | 236.1 | | 7.24 | 480 | 11.5 | 2.15 |
| | 250G10B1-19 | 0.625 | 19 | 104.1 | | 9.02 | 551 | 13.4 | 0.41 |
| | 250G10B1-21 | 0.625 | 21 | 114.1 | | 9.02 | 551 | 13.4 | 0.50 |
| | 250G10B1-23 | 0.625 | 23 | 124.2 | | 9.02 | 551 | 13.4 | 0.64 |
| | 250G10B1-25 | 0.625 | 25 | 134.4 | | 9.02 | 551 | 13.4 | 0.75 |
| 250G10B1-38 | 0.625 | 38 | 199.6 | 9.02 | 551 | 13.4 | 1.78 | | |
| 250G10B1-57 | 0.625 | 57 | 296.0 | 9.02 | 551 | 13.4 | 4.29 | | |
| 350M | 350G06B1-38 | 0.375 | 38 | 119.4 | 49.33 -0.05 | 5.33 | 365 | 9.5 | 0.38 |
| | 350G08B1-27 | 0.500 | 27 | 114.5 | | 7.24 | 480 | 11.5 | 0.40 |
| | 350G08B1-30 | 0.500 | 30 | 127.5 | | 7.24 | 480 | 11.5 | 0.53 |
| | 350G08B1-38 | 0.500 | 38 | 159.0 | | 7.24 | 480 | 11.5 | 0.91 |
| | 350G08B1-57 | 0.500 | 57 | 236.1 | | 7.24 | 480 | 11.5 | 2.14 |
| | 350G10B1-21 | 0.625 | 21 | 114.1 | | 9.02 | 551 | 13.4 | 0.47 |
| | 350G10B1-23 | 0.625 | 23 | 124.2 | | 9.02 | 551 | 13.4 | 0.62 |
| | 350G10B1-24 | 0.625 | 24 | 129.3 | | 9.02 | 551 | 13.4 | 0.68 |
| | 350G10B1-25 | 0.625 | 25 | 134.4 | | 9.02 | 551 | 13.4 | 0.73 |
| | 350G10B1-38 | 0.625 | 38 | 199.6 | | 9.02 | 551 | 13.4 | 1.73 |
| | 350G10B1-57 | 0.625 | 57 | 296.0 | | 9.02 | 551 | 13.4 | 4.27 |
| | 350G10B1-76 | 0.625 | 76 | 392.1 | | 9.02 | 551 | 13.4 | 7.72 |
| | 350G12B1-19 | 0.750 | 19 | 125.2 | | 10.97 | 628 | 16.0 | 0.73 |
| | 350G12B1-21 | 0.750 | 21 | 137.2 | | 10.97 | 628 | 16.0 | 0.91 |
| | 350G12B1-23 | 0.750 | 23 | 150.2 | | 10.97 | 628 | 16.0 | 1.15 |
| | 350G12B1-25 | 0.750 | 25 | 161.3 | | 10.97 | 628 | 16.0 | 1.38 |
| | 350G12B1-38 | 0.750 | 38 | 239.8 | | 10.97 | 628 | 16.0 | 3.04 |
| | 350G12B1-57 | 0.750 | 57 | 355.4 | | 10.97 | 628 | 16.0 | 7.58 |
| 350G12B1-76 | 0.750 | 76 | 469.9 | 10.97 | 628 | 16.0 | 13.65 | | |
| 500M | 500G08B1-38 | 0.500 | 38 | 159.0 | 73.15 -0.05 | 7.24 | 480 | 11.5 | 0.82 |
| | 500G08B1-57 | 0.500 | 57 | 236.1 | | 7.24 | 480 | 11.5 | 2.10 |
| | 500G08B1-76 | 0.500 | 76 | 312.4 | | 7.24 | 480 | 11.5 | 3.70 |
| | 500G10B1-38 | 0.625 | 38 | 199.6 | | 9.02 | 551 | 13.4 | 1.54 |
| | 500G10B1-57 | 0.625 | 57 | 296.0 | | 9.02 | 551 | 13.4 | 4.24 |
| | 500G10B1-76 | 0.625 | 76 | 392.1 | | 9.02 | 551 | 13.4 | 7.69 |
| | 500G12B1-25 | 0.750 | 25 | 161.3 | | 10.97 | 628 | 16.0 | 1.13 |
| | 500G12B1-28 | 0.750 | 28 | 179.6 | | 10.97 | 628 | 16.0 | 1.59 |
| | 500G12B1-38 | 0.750 | 38 | 239.8 | | 10.97 | 628 | 16.0 | 2.81 |
| | 500G12B1-57 | 0.750 | 57 | 355.4 | | 10.97 | 628 | 16.0 | 7.52 |
| | 500G12B1-76 | 0.750 | 76 | 469.9 | | 10.97 | 628 | 16.0 | 13.59 |
| | 500G16B1-19 | 1.000 | 19 | 166.6 | | 16.08 | 829 | 20.3 | 2.31 |
| | 500G16B1-21 | 1.000 | 21 | 184.9 | | 16.08 | 829 | 20.3 | 2.81 |
| | 500G16B1-23 | 1.000 | 23 | 200.7 | | 16.08 | 829 | 20.3 | 3.20 |
| 500G16B1-25 | 1.000 | 25 | 216.7 | 16.08 | 829 | 20.3 | 3.81 | | |
| 500G16B1-38 | 1.000 | 38 | 320.5 | 16.08 | 829 | 20.3 | 7.42 | | |
| 700M | 700G10B1-39 | 0.625 | 39 | 205.0 | 104.93 -0.05 | 9.02 | 580 | 14.7 | 1.54 |
| | 700G10B1-57 | 0.625 | 57 | 295.7 | | 9.02 | 580 | 14.7 | 3.85 |
| | 700G10B1-76 | 0.625 | 76 | 392.1 | | 9.02 | 580 | 14.7 | 7.65 |
| | 700G12B1-38 | 0.750 | 38 | 239.8 | | 10.97 | 667 | 16.9 | 2.72 |
| | 700G12B1-57 | 0.750 | 57 | 355.4 | | 10.97 | 667 | 16.9 | 7.47 |
| | 700G12B1-76 | 0.750 | 76 | 469.9 | | 10.97 | 667 | 16.9 | 13.55 |
| | 700G16B1-28 | 1.000 | 28 | 240.5 | | 16.08 | 868 | 22.2 | 3.72 |
| | 700G16B1-38 | 1.000 | 38 | 320.5 | | 16.08 | 868 | 22.2 | 7.39 |
| | 700G16B1-57 | 1.000 | 57 | 474.0 | | 16.08 | 868 | 22.2 | 17.90 |
| 700G20B1-21 | 1.250 | 21 | 230.9 | 18.57 | 966 | 24.6 | 3.76 | | |
| M200 | M200G16B1-30 | 1.000 | 30 | 254.0 | 120.18 -0.08 | 16.08 | | 28.0 | 4.20 |
| M254 | M254G24B1-24 | 1.500 | 24 | 306.8 | 140.2 -0.08 | 24.10 | | 31.8 | 9.30 |
| M280 | M280G24B1-30 | 1.500 | 30 | 379.5 | 170.2 -0.08 | 24.10 | | 31.8 | 14.50 |

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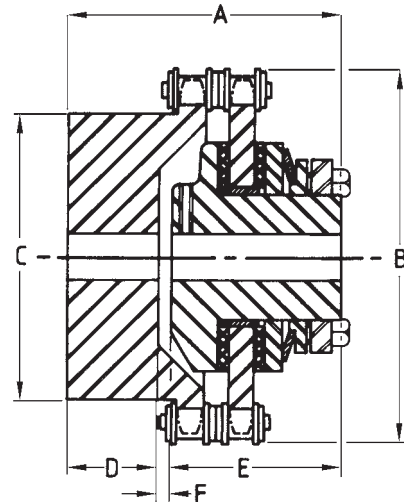
Torque Limiters are suitable for running in oil. As a general rule the torque capacity will be reduced to .25 of the stated torque when using SAE 30 oil. Torque Limiters to run in oil should have the friction facings soaked in oil before assembly.

Torque Limiter Couplings



Torque Limiter combined with Roller Chain Flexible Coupling

The Torque Limiter Coupling combines overload protection with ability to connect in-line shafts. The unit consists of a standard Torque Limiter and platewheel connected to a special coupling sprocket by duplex Roller Chain. Available in eleven standard sizes, they are easy assembly units providing protection and reliability. For selection refer to page 6.



Capacities and Dimensions

| Catalogue Number | Misalignment | | Torque Capacity Nm | | Minimum Plain Bore | | Maximum Bore | | Sprocket Size | Dimensions mm | | | | | | Weight* Kg |
|----------------------------|---------------|------------|--------------------|----------------|--------------------|-------------|--------------|-------------|---------------|---------------|-------|-------|------|-------|-----|------------|
| | Max. Pall. mm | Max. Angle | Min. | Max. | Limiter mm | Coupling mm | Limiter mm | Coupling mm | | A | B | C | D | E | F | |
| M30-2C | 0.20 | 30' | 3 | 10 | 4.5 | 11 | 11 | 22 | 06B-16 | 55.0 | 57.1 | 37.0 | 22.5 | 31.0 | 1.5 | 0.5 |
| M40-1C M40-2C M40-3C | 0.20 | 30' | 4 7 10 | 15 28 40 | 7 | 8 | 14 | 35 | 06B-22 | 55.0 | 75.2 | 55.0 | 25.0 | 28.0 | 2.0 | 0.8 |
| M45-1C M45-2C M45-3C | 0.20 | 30' | 7 13 17 | 30 55 70 | 7 | 8 | 20 | 40 | 06B-22 | 59.5 | 75.2 | 55.0 | 25.0 | 33.0 | 1.5 | 0.9 |
| 200M-1C 200M-2C | 0.25 | 30' | 3 6 | 13 25 | 11 | 14 | 22 | 42 | 08B-20 | 73.3 | 93.0 | 66.0 | 22.0 | 47.6 | 3.7 | 1.8 |
| 250M-1C 250M-2C | 0.25 | 30' | 7 12 | 34 67 | 11 | 11 | 22 | 50 | 08B-22 | 76.7 | 101.0 | 75.4 | 25.4 | 47.6 | 3.7 | 2.0 |
| 350M-1C 350M-2C | 0.31 | 30' | 20 34 | 100 200 | 18 | 18 | 25 | 70 | 10B-24 | 103.7 | 136.5 | 104.4 | 38.1 | 61.9 | 3.7 | 5.2 |
| 500M-1C 500M-2C | 0.38 | 30' | 48 88 | 283 566 | 22 | 22 | 41 | 95 | 12B-28 | 121.2 | 186.8 | 149.3 | 41.3 | 76.2 | 3.7 | 12.2 |
| 700M-1C 700M-2C | 0.51 | 30' | 110 224 | 770 1540 | 24 | 24 | 64 | 135 | 16B-28 | 168.1 | 247.5 | 199.4 | 66.7 | 98.4 | 3.0 | 31.3 |
| M200-24C | 0.51 | 30' | 440 800 | 2200 4000 | 35 | 35 | 80 | 100 | 16B-30 | 194.0 | 264.0 | 150.0 | 85.0 | 105.0 | 3.0 | 41.5 |
| M254-32C | 0.76 | 30' | 760 1350 | 3800 6800 | 48 | 51 | 90 | 150 | 24B-24 | 214.0 | 326.0 | 232.0 | 90.0 | 120.0 | 4.0 | 74.6 |
| M280-32C | 0.76 | 30' | 1100 2000 | 5500 10000 | 48 | 51 | 120 | 200 | 24B-30 | 214.0 | 398.0 | 302.0 | 90.0 | 120.0 | 4.0 | 98.2 |

*Weights are for Torque Limiter and Coupling unbored.

Good Reasons to fit a Morse Torque Limiter on your Equipment.

Design

Protection for expensive components within the drive system or structural framework, gives longer machine life with increased reliability in service, and reduction of expensive downtime.

Maintenance

Maintenance is reduced by the inherent protection offered by the torque limiter, which in itself is inexpensive, corrosion resistant, and extremely easy to maintain.

Product Improvement

Many existing machines can be fitted with a torque limiter, without modification to the design, by replacing a sprocket with a torque limiter fitted with a platewheel, or for in-line drives by replacing existing coupling with a torque limiter coupling.