SAFEMAX® TORQUE LIMITERS

DRIVE SOLUTIONS

# SAFEMAX® torque limiters “GLS/SG/N”

In industrial applications, the increase of automation in the manufacturing processes is becoming a strict requirement; performances are constantly improving and the increase of precision utilizing servo systems results in the increase of higher speeds.
Moreover, in order to improve the production capacity it is also important the increase of stiffness of the systems thus the increase of the resistance to global dynamic loads.
The torque overload generated by human error, mechanical malfunction or other causes is, however, unpredictable and if not intercepted can damage to the machine and, consequently, cause downtimes which can be long and, therefore, expensive.
SAFEMAX® torque limiters prevent these problems from happening through instant disengagement of the motor side from the driven side in case of torque overload, thus eliminating the risk of expensive downtimes. In addition, our torque limiters, being torsionally rigid and backlash free, allow a rapid and accurate resumption of machine operations once the cause of the overload has been eliminated.
**Note:** It is possible to have aligned keyways upon inquiry.

**Features**

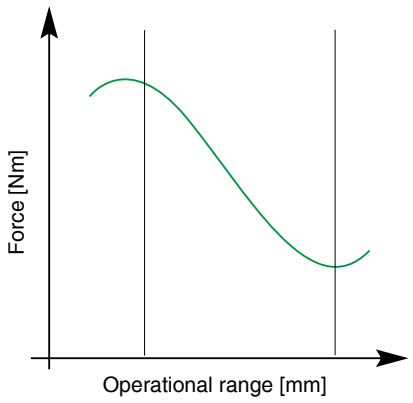
- Backlash-free torque transmission
- Low moment of inertia
- Compact design
- Maintenance-free
- Disengagement within 1-3 milliseconds
- Easy and safe adjustment of the torque
- Re-engagement to 360° or in phase

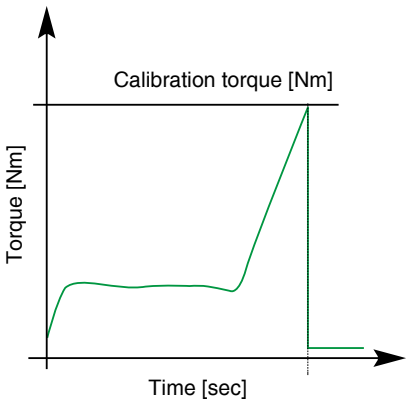
**Applications**

- Machine tools
- Packaging machines
- Printing machines
- Textile Machinery
- Industrial Robots
- Cartoning machines
- Woodworking machines
- Automatic equipment

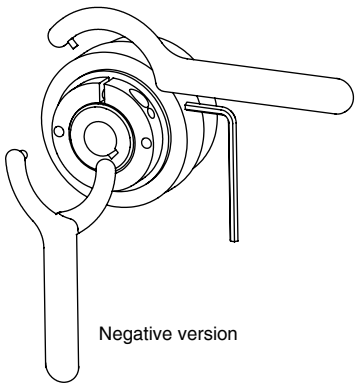
SIT torque limiters are available with regressive springs. When an overload occurs, there is an immediate disengagement of the torque limiter within a few milliseconds, saving the machine from possible damage. When the overload ends, the torque limiter re-engages after 360° or in optional preset phases.

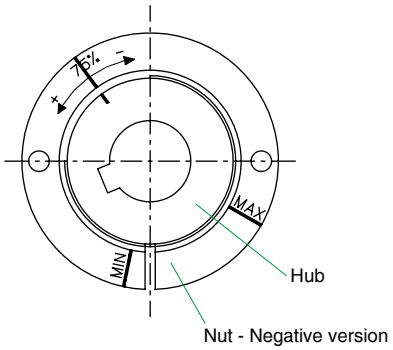
**Graph of spring characteristic curve**



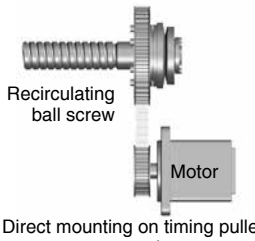
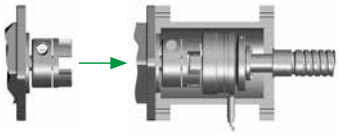
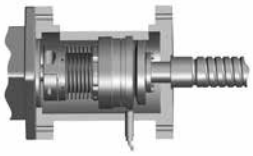
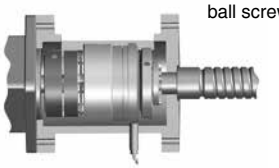




It is possible to govern the torque by the adjusting nut. Unless specifically requested, SIT limiters are designed to operate at 75% of the maximum transmissible torque. In order to allow different settings, there are reference markings on nut and hub. Moreover, there are the markings of the minimum and maximum torque of the limiter and an indication of the direction of rotation of the nut to increase and decrease the torque of disengagement. Turning the nut clockwise the disengagement torque decreases, turning anticlockwise it increases.

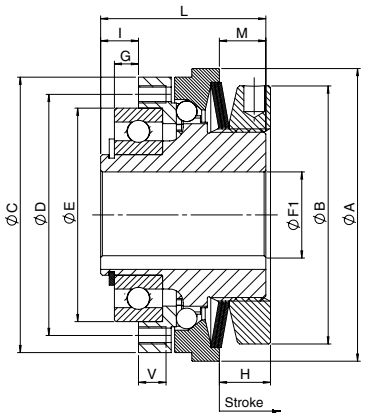


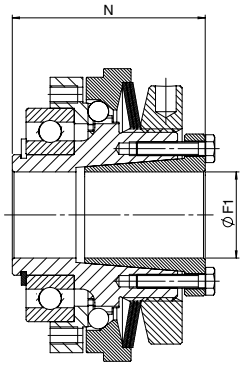
# Characteristics

| Design | Description | Characteristics | Assembly example |
|---|---|---|---|
| **SAFEMAX® - Torque limiters**<br>  | For direct mounting on timing pulley or power transmission component.<br><br>Available designs:<br>• With locking device shaft connection<br>• With bore and keyway shaft connection<br><br>On request also available in stainless steel. | Transmittable torque range: from 0,7 to 720 Nm<br><br>Sizes: from 12 to 50 |  <br>Direct mounting on timing pulley or sprocket |
| **SAFEMAX® - Torque limiters with TRASCO® ES coupling**<br>  | For connection of two shafts in combination with TRASCO® ES zero backlash coupling. Compensates for axial, radial and angular misalignment and absorb vibrations.<br><br>Available designs:<br>• Bore and keyway both sides<br>• Locking device + clamping hub<br>• Locking device + shrink disc<br><br>On request also available in stainless steel. | Transmittable torque range: from 0,7 to 720 Nm<br><br>Sizes: from 12 to 50 | Motor<br>Recirculating ball screw<br>  <br>Mounting with TRASCO® ES coupling with clamping hub |
| **SAFEMAX® - Torque limiters with SERVOPLUS® coupling**<br>  | For connection of two shafts in combination with SERVOPLUS® torsionally rigid bellows coupling. Compensates for axial, radial and angular misalignment.<br><br>Available designs:<br>• Bore and keyway + clamping hub<br>• Locking device + clamping hub<br><br>On request also available in stainless steel. | Transmittable torque range: from 0,7 to 200 Nm<br><br>Sizes: from 12 to 35 | Motor<br>Recirculating ball screw<br>  <br>Mounting with SERVOPLUS® GSP coupling with clamping hub |
| **SAFEMAX® - Torque limiters with SERVOMATE® coupling**<br>  | For connection of two shafts in combination with SERVOMATE® torsionally rigid coupling.<br><br>Available designs:<br>• Bore and keyway + clamping hub<br>• Locking device + clamping hub<br><br>On request also available in stainless steel. | Transmittable torque range: from 0,7 to 200 Nm<br><br>Sizes: from 15 to 25 | Motor<br>Recirculating ball screw<br>  <br>Mounting with SERVOMATE® GSM coupling with clamping hub |

# SAFEMAX® - Torque limiters "GLS/SG/N"




Bore and keyway execution




Locking device execution

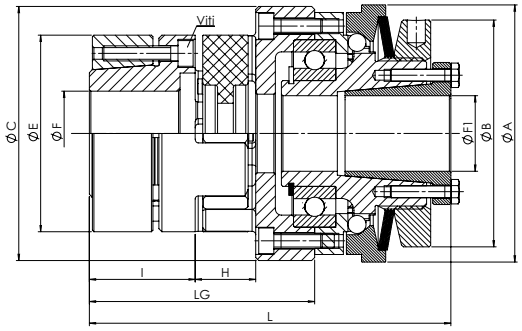
| Torque limiter size | Dimensions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | F1 max [mm] | A [mm] | B [mm] | C [mm] | D [mm] | E [mm] | G [mm] | I [mm] | L [mm] | M [mm] | N [mm] | V [mm] |
| **12** | 12 | 44 | 38 | 40 | 35 | 30 | 2 | 4,5 | 24 | 7 | 28,5 | 5 |
| **17** | 17 | 50 | 42 | 47 | 42 | 37 | 2 | 5 | 29 | 8,5 | 34,5 | 5 |
| **20** | 20 | 70 | 62 | 65 | 56 | 47 | 4 | 8 | 40 | 12 | 47 | 6 |
| **25** | 25 | 85 | 75 | 80 | 71 | 62 | 7 | 11 | 48 | 13,5 | 56 | 7 |
| **35** | 35* | 100 | 82 | 95 | 85 | 75 | 9 | 14 | 59 | 16 | 67 | 9 |
| **42** | 42 | 115 | 97 | 110 | 100 | 90 | 8 | 16 | 64 | 17 | 73 | 10 |
| **50** | 50 | 135 | 117 | 130 | 116 | 100 | 6,5 | 18 | 75 | 20,5 | 86 | 11 |

*F1 : maximum diameter for finished bore with reduced keyway according to UNI 7510. Bore tolerance H7.

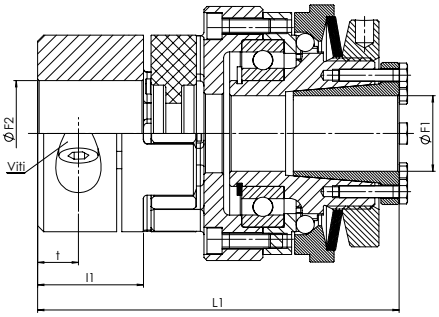
| | Size | | | 12 | 17 | 20 | 25 | 35 | 42 | 50 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Torque limiter** | Limit torques for overload | | [Nm] | 0,8 - 7 | 3 - 23 | 5 - 50 | 9 - 100 | 20 - 200 | 35 - 415 | 75 - 720 |
| | Maximum speed | | [rpm] | 4000 | 4000 | 4000 | 3000 | 2500 | 2000 | 1200 |
| | Thrust washer stroke on overload | | [mm] | 0,8 | 1,0 | 1,1 | 1,3 | 1,5 | 2,0 | 2,2 |
| **Moments of inertia** | Nut side | Bore and keyway | [x10$^{-6}$ · kgm$^2$] | 20 | 40 | 270 | 680 | 1510 | 2620 | 6330 |
| | | Locking device | [x10$^{-6}$ · kgm$^2$] | 20 | 40 | 280 | 710 | 1580 | 2820 | 6820 |
| | Pressure flange side | | [x10$^{-6}$ · kgm$^2$] | 9 | 15 | 80 | 290 | 680 | 1290 | 3150 |
| **Weight** | Bore and keyway | | [kg] | 0,200 | 0,400 | 0,900 | 1,500 | 2,800 | 3,700 | 6,700 |
| | Locking device | | [kg] | 0,200 | 0,400 | 0,900 | 1,600 | 3,000 | 4,100 | 7,300 |
| **Screws** | Nut side | N° and type | - | 6 x M3 | 6 x M3 | 8 x M4 | 8 x M5 | 8 x M6 | 8 x M6 | 8 x M8 |
| | | Torque | [Nm] | 1,5 | 1,5 | 3,0 | 5,0 | 7,5 | 7,5 | 14,0 |
| **Springs** | Torque transmissible according to the set of springs [Nm] | 1N | ) | 0,8 - 2,5 | 3 - 7,5 | 5 - 14 | 9 - 28 | 20 - 45 | 35 - 100 | 75 - 190 |
| | | 2N | )) | 2,4 - 4,5 | 5 - 15 | 12 - 28 | 18 - 60 | 42 - 95 | 75 - 200 | 140 - 345 |
| | | 3N | ))) | 3,5 - 7 | 8,5 - 23 | 24 - 50 | 40 - 100 | - | - | - |
| | | 4N | )))) | - | - | - | - | 85 - 200 | 195 - 415 | 245 - 720 |

**Note:**
G: installation tolerance + 0,1.
The weights refer to the torque limiter with pilot bore.
Inertias refer to the torque limiter with maximum bore.

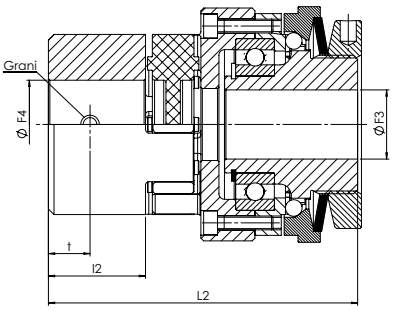
# SAFEMAX® - Torque limiters “GLS/SG/N” with TRASCO® ES




Locking device execution / GESA




Locking device execution / GESM

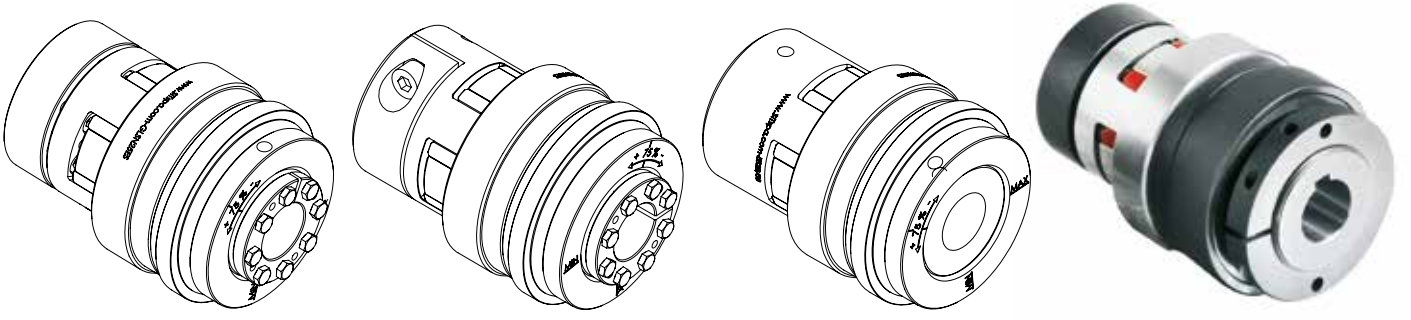



Bore and keyway execution / GESF

| Torque limiter size | TRASCO® ES size | Dimensions | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Fmax [mm] | F1 max [mm] | F2 max [mm] | F3 max [mm] | F4 max [mm] | A [mm] | B [mm] | C [mm] | E [mm] | H [mm] | I [mm] | I1 - I2 [mm] | Lg [mm] | L [mm] | L1 [mm] | L2 [mm] |
| **12** | 14 | 14 | 12 | 15 | 12 | 15 | 44 | 38 | 44 | 30 | 13 | 18,5 | 11 | 42 | 66 | 58,5 | 54 |
| **17** | 19/24 | 20 | 17 | 20 | 17 | 24 | 50 | 42 | 52 | 40 | 16 | 25 | 25 | 53 | 82,5 | 82,5 | 77 |
| **20** | 24/28 | 28 | 20 | 28 | 20 | 28 | 70 | 62 | 68 | 55 | 18 | 30 | 30 | 63 | 102 | 102 | 95 |
| **25** | 28/38 | 38 | 25 | 35 | 25 | 38 | 85 | 75 | 84 | 65 | 20 | 35 | 35 | 74,5 | 119,5 | 119,5 | 111,5 |
| **35** | 38/45 | 45 | 35* | 45 | 35* | 45 | 100 | 82 | 100 | 80 | 24 | 45 | 45 | 93 | 146 | 146 | 138 |
| **42** | 42 | 50 | 42 | 50 | 42 | 55 | 115 | 97 | 115 | 95 | 26 | 50 | 50 | 100 | 157 | 157 | 148 |
| **50** | 48 | 50 | 50 | 55 | 50 | 60 | 135 | 117 | 138 | 105 | 28 | 56 | 56 | 110,5 | 178,5 | 178,5 | 167,5 |

*= foro finito diametro massimo con cava ribassata secondo UNI 7510.
F, F1, F2, F3, F4: tolleranza foro H7.

| Torque limiter | Size | | 12 | 17 | 20 | 25 | 35 | 42 | 50 |
|---|---|---|---|---|---|---|---|---|---|
| | Limit torques for overload | [Nm] | 0,8 - 7,5 | 3 - 23 | 5 - 50 | 9 - 100 | 20 - 200 | 35 - 415 | 75 - 720 |
| | Maximum speed | [rpm] | 4000 | 4000 | 4000 | 3000 | 2500 | 2000 | 1200 |
| | Thrust washer stroke on overload | [mm] | 0,8 | 1 | 1,1 | 1,3 | 1,5 | 2 | 2,2 |



| | Size | | | 14 | 19/24 | 24/28 | 28/38 | 38/45 | 42 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|
| **TRASCO® ES coupling** | Nominal torque | 92 Sh A | [Nm] | 7,5 | 10 | 35 | 95 | 190 | 265 | 310 |
| | | 98 Sh A | | 12,5 | 17 | 60 | 160 | 325 | 450 | 525 |
| | | 64 Sh D | | 16 | 21 | 75 | 200 | 405 | 560 | 655 |
| | Maximum torque | 92 Sh A | | 15 | 20 | 70 | 190 | 380 | 530 | 620 |
| | | 98 Sh A | | 25 | 34 | 120 | 320 | 650 | 900 | 1050 |
| | | 64 Sh D | | 32 | 42 | 150 | 400 | 810 | 1120 | 1310 |
| | Maximum axial misalignment | 92 Sh A | [mm] | 1,0 | 1,2 | 1,4 | 1,5 | 1,8 | 2,0 | 2,1 |
| | | 98 Sh A | | 1,0 | 1,2 | 1,4 | 1,5 | 1,8 | 2,0 | 2,1 |
| | | 64 Sh D | | 1,0 | 1,2 | 1,4 | 1,5 | 1,8 | 2,0 | 2,1 |
| | Maximum radial misalignment | 92 Sh A | | 0,15 | 0,10 | 0,14 | 0,15 | 0,17 | 0,19 | 0,23 |
| | | 98 Sh A | | 0,09 | 0,06 | 0,10 | 0,11 | 0,12 | 0,14 | 0,16 |
| | | 64 Sh D | | 0,06 | 0,04 | 0,07 | 0,08 | 0,09 | 0,10 | 0,11 |
| | Maximum angular misalignment | 92 Sh A | [°] | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 |
| | | 98 Sh A | | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 | 0,9 |
| | | 64 Sh D | | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 | 0,8 |

| | | | | 14 | 19/24 | 24/28 | 28/38 | 38/45 | 42 | 48 |
|---|---|---|---|---|---|---|---|---|---|---|
| **Moments of inertia** | Pressure flange side | Bore and keyway | [x10$^{-6}$ · kgm$^2$] | 20 | 40 | 270 | 680 | 1510 | 2620 | 6330 |
| | | Locking device | | 20 | 40 | 280 | 710 | 1580 | 2820 | 6820 |
| | Hub side | GESF - Bore and keyway | | 23 | 61 | 228 | 763 | 1747 | 6303 | 13434 |
| | | GESM - Clamping hub | | 23 | 59 | 252 | 727 | 1812 | 7152 | 14808 |
| | | GESA - Shrink disc | | 27 | 71 | 312 | 878 | 2306 | 7207 | 14848 |

| | Combinations | | | Total weight | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | **Torque limiters** | **Coupling** | | | | | | | | |
| **Weight** | Bore and keyway | GESF | [kg] | 0,269 | 0,543 | 1,190 | 2,028 | 3,715 | 7,061 | 11,453 |
| | Clamping device | GESM | | 0,267 | 0,548 | 1,214 | 2,115 | 3,900 | 7,561 | 12,433 |
| | Clamping device | GESA | | 0,298 | 0,597 | 1,338 | 2,325 | 4,410 | 7,761 | 12,613 |

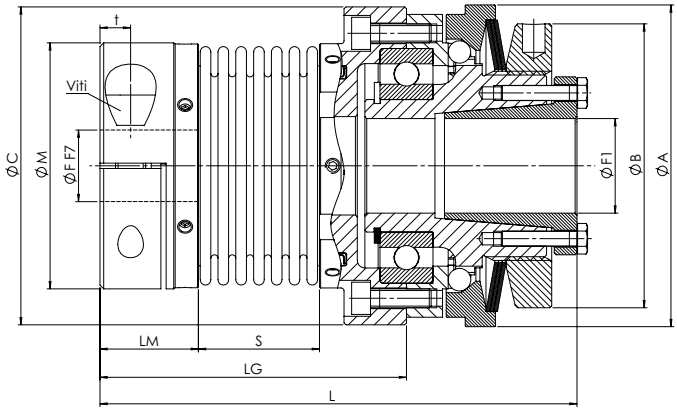
| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **Screws** | Clamping device torque limiter | N° and type | - | 6 x M3 | 6 x M3 | 8 x M4 | 8 x M5 | 8 x M6 | 8 x M6 |
| | | Tightening torque | [Nm] | 1,5 | 1,5 | 3,0 | 5,0 | 7,5 | 7,5 |
| | GESF - Set screw | Type | - | M4 | M5 | M5 | M6 | M8 | M8 |
| | | Tightening torque | [Nm] | 1,5 | 2,0 | 2,0 | 4,0 | 10,0 | 10,0 |
| | GESM - Clamping screw | Type | - | M3 | M6 | M6 | M8 | M8 | M10 |
| | | Tightening torque | [Nm] | 1,3 | 11,0 | 11,0 | 25,0 | 25,0 | 70,0 |
| | GESA - Shrink disc screws | N° and type (12.9) | - | 4 x M3 | 6 x M4 | 4 x M5 | 8 x M5 | 8 x M6 | 4 x M8 |
| | | Tightening torque | [Nm] | 1,3 | 2,9 | 6,0 | 6,0 | 10,0 | 35,0 |

**TRASCO® ES Coupling Shrink Disc Transmissible Torque**

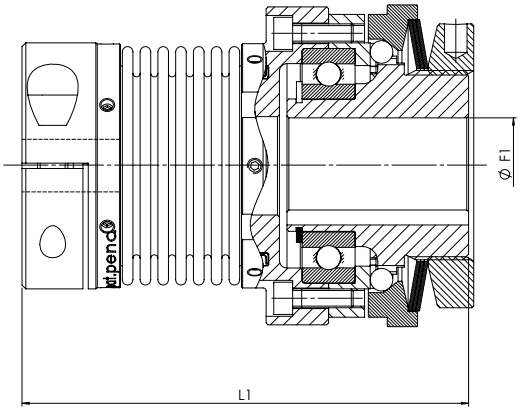
| Type | | Transmissible torque [Nm] related to shaft diameter [mm] | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Torque limiter | Coupling | **10** | **11** | **14** | **15** | **16** | **17** | **18** | **19** | **20** | **22** | **24** | **25** | **28** | **30** | **32** | **35** | **38** | **40** | **42** | **45** | **48** | **50** | **55** | **60** |
| **12** | **19/24** | 48 | 53 | 67 | 72 | 77 | 81 | 86 | 91 | 96 | | | | | | | | | | | | | | | |
| **17** | **24/28** | | | | 77 | 82 | 88 | 93 | 98 | 103 | 113 | 124 | 129 | 144 | | | | | | | | | | | |
| **20** | **28/38** | | | | | | | 186 | 196 | 206 | 227 | 247 | 258 | 289 | 309 | 330 | 361 | 392 | | | | | | | |
| **25** | **38/45** | | | | | | | | | 291 | 320 | 349 | 364 | 408 | 437 | 466 | 510 | 553 | 582 | 612 | 655 | 699 | | | |
| **35** | **42** | | | | | | | | | | | | | 345 | 584 | 623 | 681 | 740 | 779 | 818 | 876 | 934 | 973 | 1071 | |
| **50** | **48** | | | | | | | | | | | | | | | | 681 | 740 | 779 | 818 | 876 | 934 | 973 | 1071 | 1168 |

**Notes**:
The data are related to application with red AES spider 98 Sh A. The weights refer only to applications with coupling with pilot bore. Inertias refer to applications with couplings with maximum bore.

# SAFEMAX® - Torque limiters “GLS/SG/N” with SERVOPLUS®




Locking device execution / GSP

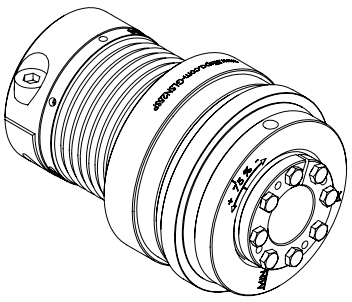


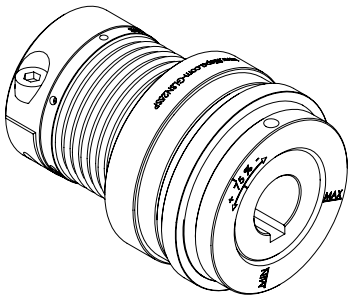

Bore and keyway execution / GSP

| Torque limiter size | SERVOPLUS® size | Dimensions | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Fmin [mm] | Fmax [mm] | F1max [mm] | A [mm] | B [mm] | C [mm] | M [mm] | Lm [mm] | S [mm] | Lg [mm] | L [mm] | L1 [mm] |
| **12** | 16 | 5 | 16 | 12 | 44 | 38 | 43 | 34 | 17 | 16,5 | 48 | 72 | 67,5 |
| **17** | 20 | 8 | 20 | 17 | 50 | 42 | 49 | 40 | 20,5 | 21 | 58 | 87,5 | 82 |
| **20** | 30 | 10 | 30 | 20 | 70 | 62 | 65 | 55 | 22,5 | 27 | 69 | 108 | 101 |
| **25** | 38 | 14 | 38 | 25 | 85 | 75 | 84 | 65 | 26 | 32 | 81 | 126 | 118 |
| **35** | 45 | 14 | 45 | 35* | 100 | 82 | 104 | 83 | 31 | 41 | 102 | 155 | 147 |

F: bore tolerance F7.
F1: bore tolerance H7.
*: maximum diameter for finished bore with reduced keyway according to UNI 7510.

| Torque limiter | Size | | 12 | 17 | 20 | 25 | 35 |
|---|---|---|---|---|---|---|---|
| | Limit torques for overload | [Nm] | 0,8 - 7 | 3 - 23 | 5 - 50 | 9 - 100 | 20 - 200 |
| | Maximum speed | [rpm] | 4000 | 4000 | 4000 | 3000 | 2500 |
| | Thrust washer stroke on overload | [mm] | 0,8 | 1,0 | 1,1 | 1,3 | 1,5 |





| | Size | | 16 | 20 | 30 | 38 | 45 |
|---|---|---|---|---|---|---|---|
| **SERVOPLUS® coupling** | Nominal torque | [Nm] | 5 | 15 | 35 | 65 | 150 |
| | Maximum torque | [Nm] | 10 | 30 | 70 | 130 | 300 |
| | Maximum axial misalignment | [mm] | -/+0,5 | -/+0,6 | -/+0,8 | -/+0,8 | -/+1,0 |
| | Maximum radial misalignment | [mm] | 0,20 | 0,20 | 0,25 | 0,25 | 0,30 |
| | Maximum angular misalignment | [°] | 1,5 | 1,5 | 2,0 | 2,0 | 2,0 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Moments of inertia** | Pressure flange side | Bore and keyway | [x10$^{-6}$ · kgm$^2$] | 20 | 40 | 270 | 680 | 1510 |
| | | Locking device | | 20 | 40 | 280 | 710 | 1580 |
| | Hub side | Clamping hub | | 28 | 55 | 248 | 726 | 2152 |

| | Combinations | | | Total weight | | | | |
|---|---|---|---|---|---|---|---|---|
| **Weight** | **Torque limiters** | **Coupling** | [kg] | | | | | |
| | Bore and keyway | Clamping hub | | 0,290 | 0,539 | 1,212 | 2,004 | 3,870 |
| | Locking device | Clamping hub | | 0,290 | 0,539 | 1,212 | 2,104 | 4,070 |

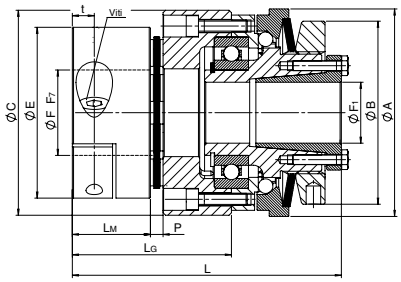
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Screws** | Clamping device torque limiter | No. and type | - | 6 x M3 | 6 x M3 | 8 x M4 | 8 x M5 | 8 x M6 |
| | | Tightening torque | [Nm] | 1,5 | 1,5 | 3,0 | 5,0 | 7,5 |
| | GSP - Bellows set screw | Type | - | 4 x M3 | 4 x M3 | 4 x M4 | 6 x M4 | 6 x M5 |
| | | Tightening torque | [Nm] | 0,8 | 0,8 | 2,0 | 2,0 | 3,8 |
| | Clamping screw | Type | - | M4 | M5 | M6 | M8 | M10 |
| | | Tightening torque | [Nm] | 2,9 | 6,0 | 10,0 | 25,0 | 49,0 |

**SERVOPLUS® coupling clamping hub transmissible torque**

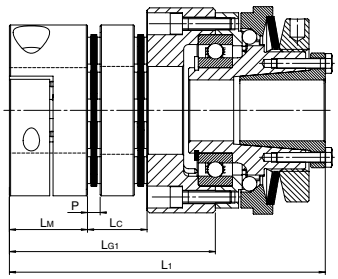
| Type | | Transmissible torque [Nm] related to shaft diameter [mm] | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Torque limiters | Coupling | **5** | **6** | **7** | **8** | **9** | **10** | **11** | **12** | **14** | **15** | **16** | **18** | **19** | **20** | **24** | **25** | **28** | **30** | **32** | **35** | **38** | **40** | **42** | **45** |
| **12** | **16** | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | | | | | | | | | | | | | |
| **17** | **20** | | | | 13 | 14 | 16 | 18 | 19 | 22 | 24 | 25 | 29 | 30 | 32 | | | | | | | | | | |
| **20** | **30** | | | | | | | 25 | 27 | 32 | 34 | 36 | 41 | 43 | 45 | 54 | 57 | 63 | 68 | | | | | | |
| **25** | **38** | | | | | | | | | | | | 75 | 79 | 83 | 100 | 104 | 116 | 124 | 133 | 145 | 158 | | | |
| **35** | **45** | | | | | | | | | | | | | | 132 | 158 | 165 | 183 | 198 | 211 | 231 | 248 | 263 | 277 | 295 |

**Notes:**
The data are related to applications with pilot bore coupling.
The weights refer only to application with couplings with pilot bore.

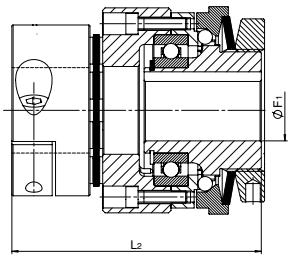
# SAFEMAX® - Torque limiters “GLS/SG/N” with SERVOMATE®



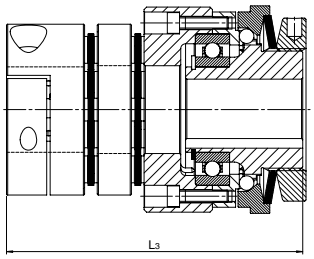

Locking device execution / GSM




Locking device execution / GSMC




Bore and keyway execution / GSM

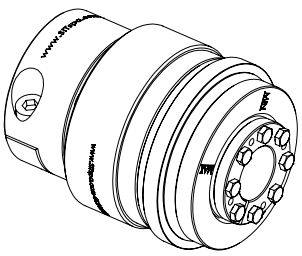


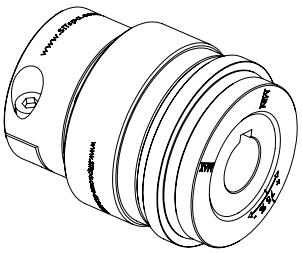

Bore and keyway execution / GSMC

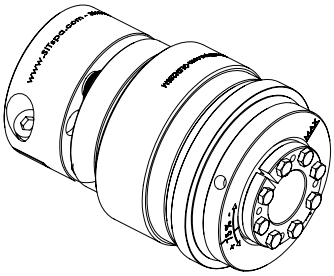
| Torque limiter size | SERVOMATE® size | Dimensions | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Fmax [mm] | F1max [mm] | A [mm] | B [mm] | C [mm] | E [mm] | Lm [mm] | P [mm] | Lc [mm] | Lg [mm] | Lg1 [mm] | L [mm] | L1 [mm] | L2 [mm] | L3 [mm] |
| **17** | 15 | 20 | 17 | 50 | 42 | 52 | 47 | 21 | 3 | 13 | 40 | 50 | 69,5 | 79,5 | 64 | 74 |
| **20** | 20 | 25 | 20 | 70 | 62 | 68 | 59 | 24 | 4 | 19 | 48 | 63 | 87 | 102 | 80 | 95 |
| **25** | 25 | 35 | 25 | 85 | 75 | 84 | 70 | 32 | 5 | 24 | 65 | 84 | 110 | 129 | 102 | 121 |

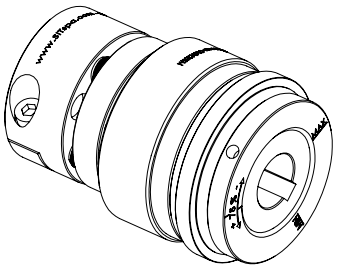
F: bore tolerance F7.
F1: bore tolerance H7.

| Torque limiter | Size | | 17 | 20 | 25 |
|---|---|---|---|---|---|
| | Limit torques for overload | [Nm] | 3 - 23 | 5 - 50 | 9 - 100 |
| | Maximum speed | [rpm] | 4000 | 4000 | 3000 |
| | Thrust washer stroke on overload | [mm] | 1,0 | 1,1 | 1,3 |









| | Size | | Standard | | | With spacer | | |
|---|---|---|---|---|---|---|---|---|
| | | | 15 | 20 | 25 | 15 | 20 | 25 |
| SERVOMATE® coupling | Nominal torque | [Nm] | 20 | 30 | 60 | 20 | 30 | 60 |
| | Maximum torque | [Nm] | 40 | 60 | 120 | 40 | 60 | 120 |
| | Maximum axial misalignment | [mm] | 0,5 | 0,6 | 0,8 | 1,0 | 1,2 | 1,6 |
| | Maximum radial misalignment | [mm] | - | - | - | 0,16 | 0,25 | 0,30 |
| | Maximum angular misalignment | [°] | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 | 1,0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Moments of inertia | Pressure flange side | Bore and keyway | [x10$^{-6}$ · kgm$^2$] | 40 | 270 | 680 | 40 | 270 | 680 |
| | | Locking device | | 40 | 280 | 710 | 40 | 280 | 710 |
| | Hub side | Clamping hub | | 70 | 272 | 838 | 82 | 318 | 950 |

| | Combinations | | | Total weight | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Torque limiters | Coupling | | | | | | | |
| Weight | Bore and keyway | Clamping hub | [kg] | 0,556 | 1,218 | 2,090 | 0,594 | 1,310 | 2,247 |
| | Locking device | Clamping hub | | 0,556 | 1,218 | 2,190 | 0,594 | 1,310 | 2,347 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Screws | Clamping device torque limiter | No. and type | - | 6 x M3 | 8 x M4 | 8 x M5 |
| | | Tightening torque | [Nm] | 1,5 | 3,0 | 5,0 |
| | Clamping screw | Type | - | M6 | M6 | M8 |
| | | Tightening torque | [Nm] | 10,0 | 10,0 | 25,0 |

| SERVOMATE® Coupling Clamping Hub Transmissible Torque | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Type | | Transmissible torque [Nm] related to shaft diameter [mm] | | | | | | | | | | | | | | |
| Torque limiters | Coupling | Ø10 | Ø11 | Ø12 | Ø14 | Ø15 | Ø16 | Ø19 | Ø20 | Ø22 | Ø24 | Ø25 | Ø28 | Ø30 | Ø32 | Ø35 |
| **17** | **15** | 20 | 22 | 24 | 28 | 30 | 32 | 38 | 40 | - | - | - | - | - | - | - |
| **20** | **20** | - | - | 24 | 28 | 30 | 32 | 38 | 40 | 44 | 48 | 50 | - | - | - | - |
| **25** | **25** | - | - | - | - | 55 | 59 | 70 | 73 | 81 | 88 | 92 | 103 | 110 | 117 | 128 |

**Notes:**
The data are related to applications with pilot bore coupling.
The weights refer only to application with couplings with pilot bore.

# Engineered data acquisition module for design

**General Information**

Company Name _____

Address _____

**Contact Information**

First Name _____ Last Name _____

Address _____

Job Title _____ Phone _____ Email _____

**Requested quantity** _____ **Annual expected quantity** _____

**Application** _____ **Application field** _____

**Type of machine** _____

Where the Torque limiter will be applied and whats to be protected _____

_____

**Rated torque (Nm)** _____ **Speed (rpm)** _____

**Work Environment**

- ☐ Clean
- ☐ Presence of dust
- ☐ Presence of oil
- ☐ Humidity% _____
- ☐ Other elements _____

_____

**Re-engagement position**

- ☐ Equidistant
- ☐ 360°
- ☐ Not important
- ☐ Other _____

_____

**Transmission type**

☐ Parallel ☐ Coaxial **Motor shaft diameter (mm)** _____

**Shaft connection type**

- ☐ Bore and keyway
- ☐ Clamping ring
- ☐ Other _____

**Type of component (gear, sprocket, parallel transmission)** _____

**Type of coupling (coaxial transmission)** _____

**Driven shaft diameter (mm)** _____

**Connection type driven shaft**

- ☐ Bore and keyway
- ☐ Clamping ring
- ☐ Other _____

**Notes** _____

_____

_____

_____

**Please attach application drawing**