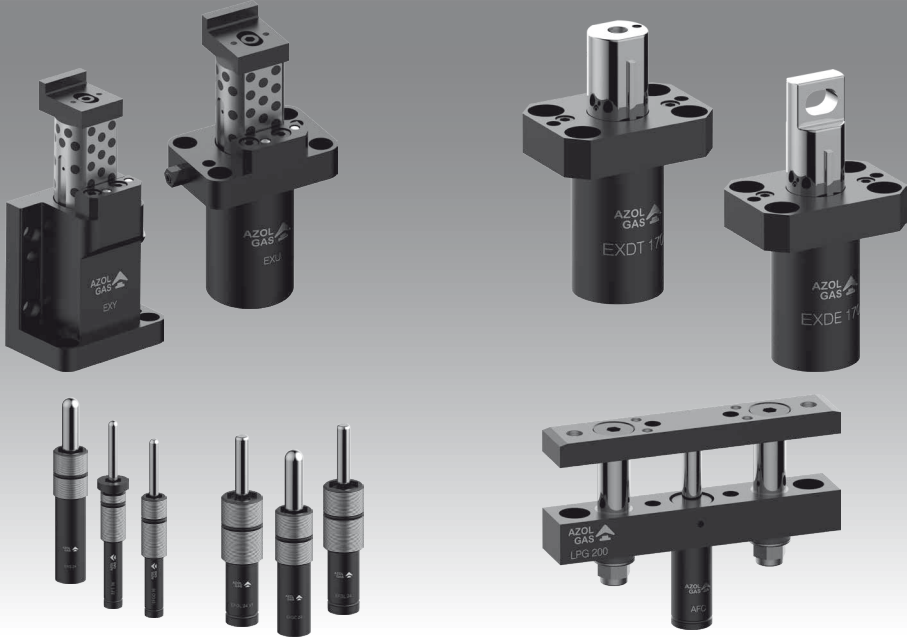




# LIFTERS & STRIPPERS

# AZOL GAS



## SERIES MB/MP - EF - EX - EXD/LPG

Looking for lifting or stripping parts solutions in forming applications?

AZOLGAS provides you stock lifing/flange stripping/part ejection solutions:

- Long service life
- Safety featured
- Cost effective
- Easy installation

## EF\_

Nitrogen Gas Strippers are intended to be used for part ejection replacing conventional coil springs.

AZOLGAS EF Gas Strippers are designed to meet longer service life, safety and easy installation.



## GAS STRIPPERS

## M\_

Spring Plungers are applied when requested small force part ejection.

Find the right solution to your needs by AZOLGAS wide range of Spring Plungers MB-MP.



## SPRING PLUNGERS

## EX\_

Flange Strippers are widely used for stripping parts on flanging dies operations.

Release the part from the tool in a smooth way.

Make sure the right choice to meet automotive standards by using AZOLGAS EX Flange Strippers.



## FLANGE STRIPPERS

## EXD\_

AZOLGAS EXD nitrogen Stock Lifters are Ideal to be used in progressive dies.

AZOLGAS LPG nitrogen Guided Stock Lifters are recommended to progressive dies for lifting and work holding applications.

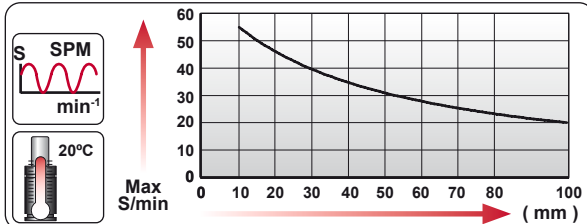
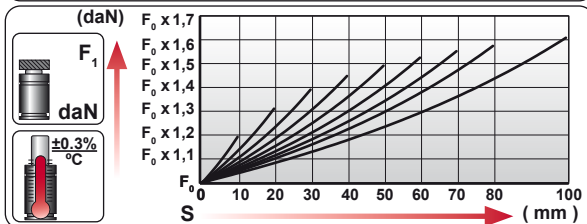
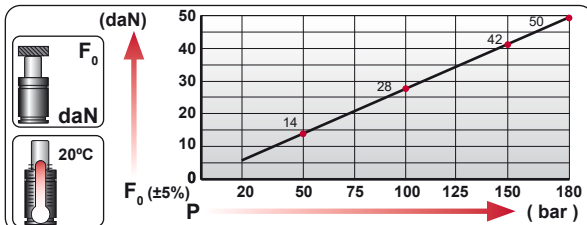
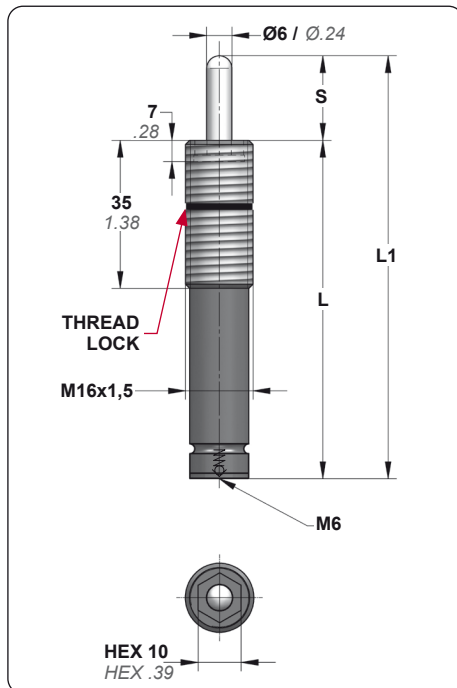


## STOCK LIFTERS

**EFG 16**

Gas Strippers

|                        |                  |
|------------------------|------------------|
| BMW B2 4036            | FORD W-DX35-6030 |
| MB B8 0820 100 000 002 | GM 90.25         |
| VW 39D 549             |                  |

**AZOL  
GAS****VDI  
SAFETY****STANDARDS**

| ORDER          | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|----------------|-----|------|-------------|-------|-----|------|------|------|
|                | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFG 16 ... 010 | 10  | 0.39 | 80          | 3.15  | 70  | 2.76 | 0.06 | 0.13 |
| EFG 16 ... 020 | 20  | 0.79 | 100         | 3.94  | 80  | 3.15 | 0.07 | 0.15 |
| EFG 16 ... 030 | 30  | 1.18 | 120         | 4.72  | 90  | 3.54 | 0.08 | 0.18 |
| EFG 16 ... 040 | 40  | 1.57 | 140         | 5.51  | 100 | 3.94 | 0.08 | 0.18 |
| EFG 16 ... 050 | 50  | 1.97 | 160         | 6.30  | 110 | 4.33 | 0.09 | 0.20 |
| EFG 16 ... 060 | 60  | 2.36 | 180         | 7.09  | 120 | 4.72 | 0.09 | 0.20 |
| EFG 16 ... 070 | 70  | 2.76 | 200         | 7.87  | 130 | 5.12 | 0.10 | 0.22 |
| EFG 16 ... 080 | 80  | 3.15 | 220         | 8.66  | 140 | 5.51 | 0.11 | 0.24 |
| EFG 16 ... 100 | 100 | 3.94 | 260         | 10.24 | 160 | 6.30 | 0.12 | 0.26 |

| ORDER         | COLOR  | P      |          |
|---------------|--------|--------|----------|
|               |        | bar    | psi      |
| EFG 16 6 050  | Green  | 20     | 290      |
| EFG 16 11 050 | Blue   | 40     | 580      |
| EFG 16 21 050 | Red    | 75     | 1090     |
| EFG 16 42 050 | Yellow | 150    | 2175     |
| EFG 16 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER         | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|---------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|               | daN                                                 | lb     | daN                                         | lb     |
| EFG 16 6 050  | 6                                                   | 13     | 9                                           | 20     |
| EFG 16 11 050 | 11                                                  | 25     | 16                                          | 36     |
| EFG 16 21 050 | 21                                                  | 47     | 31                                          | 70     |
| EFG 16 42 050 | 42                                                  | 94     | 62                                          | 139    |
| EFG 16 XX 050 | 6-50                                                | 13-112 | 8-105                                       | 18-236 |

**MOUNTING OPTIONS**

Top Mount

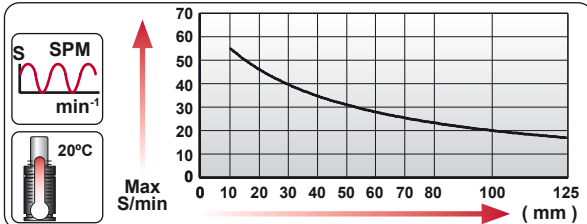
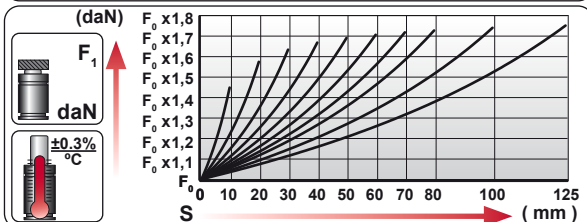
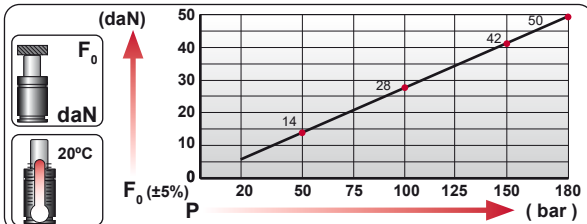
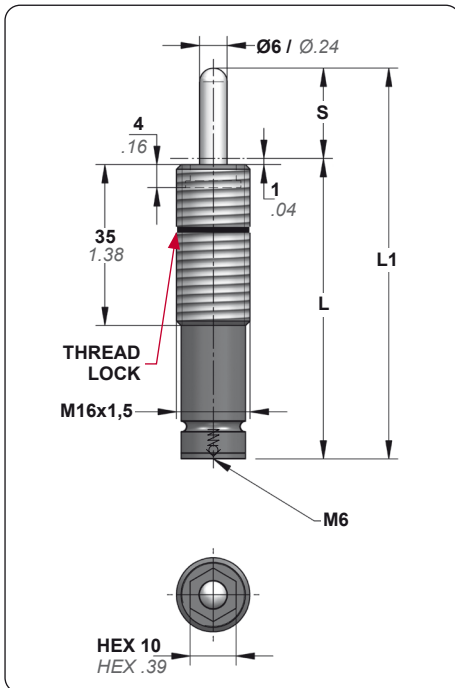
**E23-016**

605

**ASSEMBLY TOOL OPTION****LPT 10****TECHNICAL DATA**

|  |       |                |  |                                     |                                    |  |                  |           |
|--|-------|----------------|--|-------------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F            | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Sm    | < 90%          |  | Tmin Tmax<br>0°C 80°C<br>32°F 176°F |                                    |  | Connection       | X         |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature   | ±0,3% / °C                         |  | Cartridge Kit    | X         |

|  |  |                     |
|--|--|---------------------|
|  |  | RENAULT EM24.54.300 |
|  |  |                     |

VDI  
SAFETY

STANDARS



| ORDER           | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|-----------------|-----|------|-------------|-------|-----|------|------|------|
|                 | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFGC 16 ... 010 | 10  | 0.39 | 65          | 2.56  | 55  | 2.17 | 0.06 | 0.13 |
| EFGC 16 ... 020 | 20  | 0.79 | 85          | 3.35  | 65  | 2.56 | 0.06 | 0.13 |
| EFGC 16 ... 030 | 30  | 1.18 | 105         | 4.13  | 75  | 2.95 | 0.07 | 0.15 |
| EFGC 16 ... 040 | 40  | 1.57 | 125         | 4.92  | 85  | 3.35 | 0.08 | 0.18 |
| EFGC 16 ... 050 | 50  | 1.97 | 145         | 5.71  | 95  | 3.74 | 0.08 | 0.18 |
| EFGC 16 ... 060 | 60  | 2.36 | 165         | 6.50  | 105 | 4.13 | 0.09 | 0.20 |
| EFGC 16 ... 070 | 70  | 2.76 | 185         | 7.28  | 115 | 4.53 | 0.09 | 0.20 |
| EFGC 16 ... 080 | 80  | 3.15 | 205         | 8.07  | 125 | 4.92 | 0.10 | 0.22 |
| EFGC 16 ... 100 | 100 | 3.94 | 245         | 9.65  | 145 | 5.71 | 0.11 | 0.24 |
| EFGC 16 ... 125 | 125 | 4.92 | 295         | 11.61 | 170 | 6.69 | 0.13 | 0.29 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFGC 16 6 050  | Green  | 20     | 290      |
| EFGC 16 11 050 | Blue   | 40     | 580      |
| EFGC 16 21 050 | Red    | 75     | 1090     |
| EFGC 16 42 050 | Yellow | 150    | 2175     |
| EFGC 16 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER          | $F_0$<br>Initial Force<br>±5%<br>20°C 68°F |        | $F_1$<br>(ISOTHERMAL)<br>End Force |        |
|----------------|--------------------------------------------|--------|------------------------------------|--------|
|                | daN                                        | lb     | daN                                | lb     |
| EFGC 16 6 050  | 6                                          | 13     | 10                                 | 22     |
| EFGC 16 11 050 | 11                                         | 25     | 20                                 | 45     |
| EFGC 16 21 050 | 21                                         | 47     | 35                                 | 79     |
| EFGC 16 42 050 | 42                                         | 94     | 70                                 | 157    |
| EFGC 16 XX 050 | 6-50                                       | 13-112 | 10-85                              | 22-191 |

## MOUNTING OPTIONS



E23-016

605

## ASSEMBLY TOOL OPTION



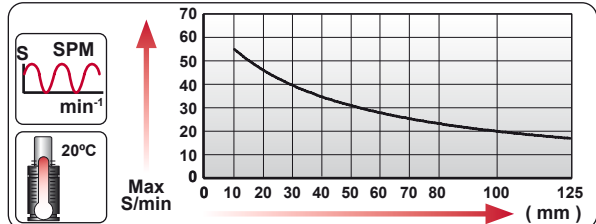
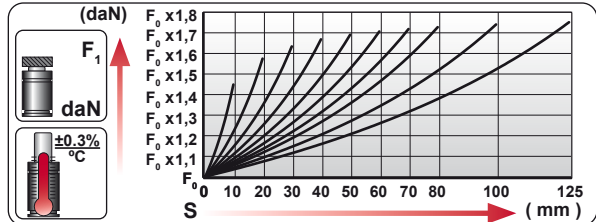
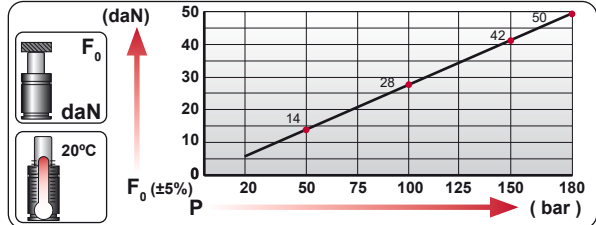
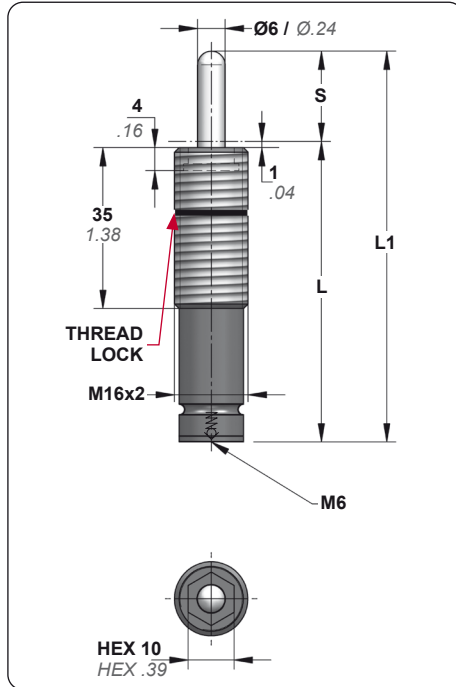
LPT 10

## TECHNICAL DATA

|  |       |                |  |                                     |                                    |  |                  |           |
|--|-------|----------------|--|-------------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F            | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Smax  | < 90%          |  | Tmin Tmax<br>0°C 80°C<br>32°F 176°F |                                    |  | Connection       | X         |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature   | ±0,3% / °C                         |  | Cartridge Kit    | X         |

**EFGD 16**

Gas Strippers

**AZOL  
GAS****VDI  
SAFETY****STANDARDS**

| ORDER           | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|-----------------|-----|------|-------------|-------|-----|------|------|------|
|                 | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFGD 16 ... 010 | 10  | 0.39 | 65          | 2.56  | 55  | 2.17 | 0.06 | 0.13 |
| EFGD 16 ... 020 | 20  | 0.79 | 85          | 3.35  | 65  | 2.56 | 0.07 | 0.15 |
| EFGD 16 ... 030 | 30  | 1.18 | 105         | 4.13  | 75  | 2.95 | 0.07 | 0.15 |
| EFGD 16 ... 040 | 40  | 1.57 | 125         | 4.92  | 85  | 3.35 | 0.08 | 0.18 |
| EFGD 16 ... 050 | 50  | 1.97 | 145         | 5.71  | 95  | 3.74 | 0.09 | 0.20 |
| EFGD 16 ... 060 | 60  | 2.36 | 165         | 6.50  | 105 | 4.13 | 0.09 | 0.20 |
| EFGD 16 ... 070 | 70  | 2.76 | 185         | 7.28  | 115 | 4.53 | 0.10 | 0.22 |
| EFGD 16 ... 080 | 80  | 3.15 | 205         | 8.07  | 125 | 4.92 | 0.10 | 0.22 |
| EFGD 16 ... 100 | 100 | 3.94 | 245         | 9.65  | 145 | 5.71 | 0.12 | 0.26 |
| EFGD 16 ... 125 | 125 | 4.92 | 295         | 11.61 | 170 | 6.69 | 0.13 | 0.29 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFGD 16 6 050  | Green  | 20     | 290      |
| EFGD 16 11 050 | Blue   | 40     | 580      |
| EFGD 16 21 050 | Red    | 75     | 1090     |
| EFGD 16 42 050 | Yellow | 150    | 2175     |
| EFGD 16 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER          | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|----------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|                | daN                                                 | lb     | daN                                         | lb     |
| EFGD 16 6 050  | 6                                                   | 13     | 10                                          | 22     |
| EFGD 16 11 050 | 11                                                  | 25     | 20                                          | 45     |
| EFGD 16 21 050 | 21                                                  | 47     | 35                                          | 79     |
| EFGD 16 42 050 | 42                                                  | 94     | 70                                          | 157    |
| EFGD 16 XX 050 | 6-50                                                | 13-112 | 10-85                                       | 22-191 |

**MOUNTING OPTIONS**

Top Mount

**E63-016**

605

**ASSEMBLY TOOL OPTION****LPT 10****TECHNICAL DATA**

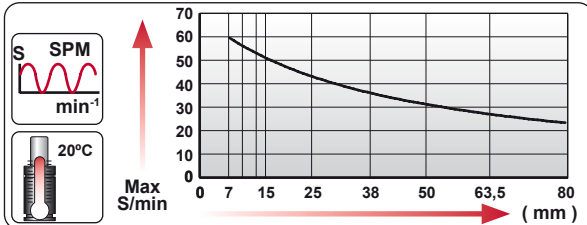
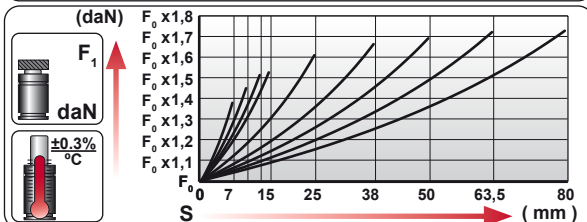
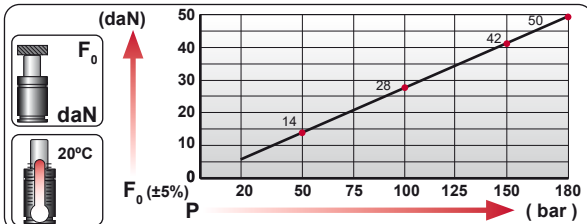
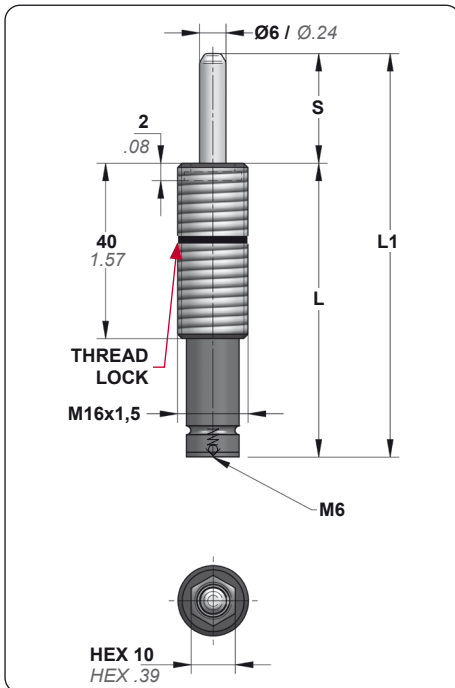
| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Charging<br>Adapter | 06 CG 2-Q |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|---------------------|-----------|
|       |                |                                   |                     |                   |                     |                     |           |
| Smax  | < 90%          | Tmin                              | Tmax                | 0 °C<br>32 °F     | 80 °C<br>176 °F     | Connection          | X         |
| Vmax  | 1,6 m/s        | Force variation<br>by temperature | ±0,3% / °C          |                   |                     | Cartridge<br>Kit    | X         |

AZOL  
GAS

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**EFGL 16**

Gas Strippers

VDI  
SAFETY

STANDARS



| ORDER           | S    |      | L1<br>±0.25 |      | L     |      |      |      |
|-----------------|------|------|-------------|------|-------|------|------|------|
|                 | mm   | inch | mm          | inch | mm    | inch | Kg.  | lb   |
| EFGL 16 ... 007 | 7    | 0.28 | 56          | 2.20 | 49    | 1.93 | 0.06 | 0.13 |
| EFGL 16 ... 010 | 10   | 0.39 | 62          | 2.44 | 52    | 2.05 | 0.06 | 0.13 |
| EFGL 16 ... 012 | 12.7 | 0.50 | 67.4        | 2.65 | 54.7  | 2.15 | 0.06 | 0.13 |
| EFGL 16 ... 015 | 15   | 0.59 | 72          | 2.83 | 57    | 2.24 | 0.06 | 0.13 |
| EFGL 16 ... 025 | 25   | 0.98 | 92          | 3.62 | 67    | 2.64 | 0.07 | 0.15 |
| EFGL 16 ... 038 | 38   | 1.50 | 118         | 4.65 | 80    | 3.15 | 0.08 | 0.18 |
| EFGL 16 ... 050 | 50   | 1.97 | 142         | 5.59 | 92    | 3.62 | 0.09 | 0.20 |
| EFGL 16 ... 063 | 63.5 | 2.50 | 172         | 6.77 | 108.5 | 4.27 | 0.09 | 0.20 |
| EFGL 16 ... 080 | 80   | 3.15 | 205         | 8.07 | 125   | 4.92 | 0.10 | 0.22 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFGL 16 13 050 | Green  | 45     | 650      |
| EFGL 16 25 050 | Blue   | 90     | 1305     |
| EFGL 16 38 050 | Red    | 135    | 1960     |
| EFGL 16 50 050 | Yellow | 180    | 2610     |
| EFGL 16 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER          | $F_0$<br>Initial Force<br>±5%<br>20°C 68°F |        | $F_1$<br>(ISOTHERMAL)<br>End Force |        |
|----------------|--------------------------------------------|--------|------------------------------------|--------|
|                | daN                                        | lb     | daN                                | lb     |
| EFGL 16 13 050 | 13                                         | 29     | 22                                 | 49     |
| EFGL 16 25 050 | 25                                         | 56     | 42                                 | 94     |
| EFGL 16 38 050 | 38                                         | 85     | 64                                 | 144    |
| EFGL 16 50 050 | 50                                         | 112    | 85                                 | 191    |
| EFGL 16 XX 050 | 6-50                                       | 13-112 | 10-85                              | 22-191 |

## MOUNTING OPTIONS

**E23-016**

605

## ASSEMBLY TOOL OPTION

**LPT 10**

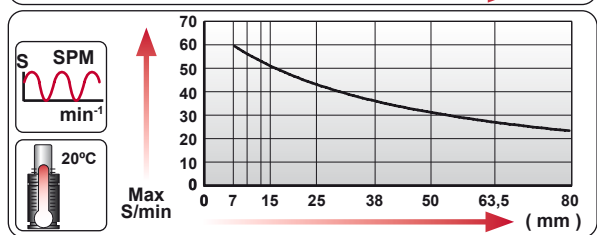
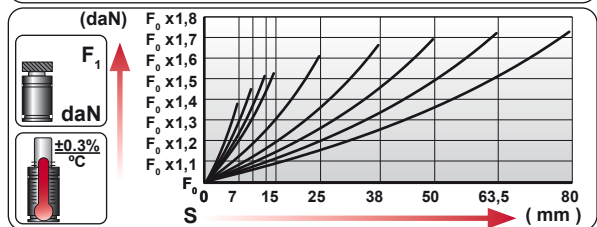
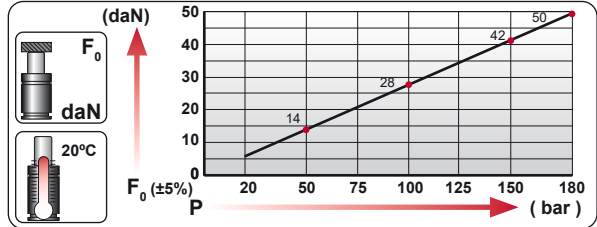
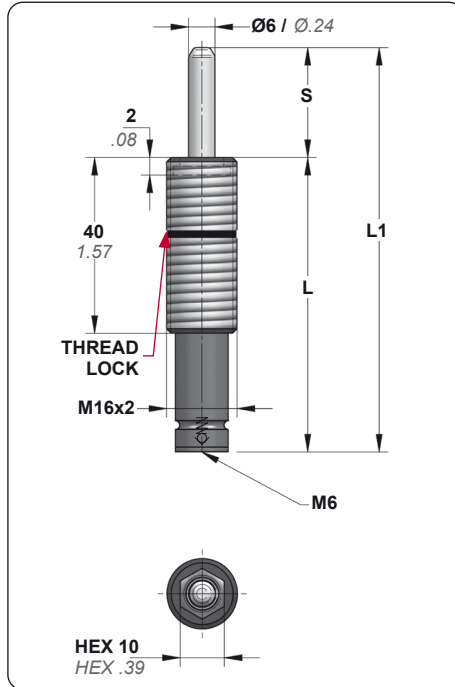
## TECHNICAL DATA

|  |       |         |  |                                   |                                    |  |                  |           |
|--|-------|---------|--|-----------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | $N_2$   |  | Pmin Pmax<br>20°C / 68°F          | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Smax  | < 90%   |  | Tmin Tmax                         | 0 °C 80 °C<br>32 °F 176 °F         |  | Connection       | X         |
|  | Vmax  | 1,6 m/s |  | Force variation<br>by temperature | ±0,3% / °C                         |  | Cartridge Kit    | X         |

**EFGQ 16**

Gas Strippers

|  |                  |  |
|--|------------------|--|
|  | FORD W-DX35-8031 |  |
|  |                  |  |

**AZOL  
GAS****VDI  
SAFETY****STANDARDS**

| ORDER           | S    |      | L1<br>±0.25 |      | L     |      |      |      |
|-----------------|------|------|-------------|------|-------|------|------|------|
|                 | mm   | inch | mm          | inch | mm    | inch | Kg.  | lb   |
| EFGQ 16 ... 007 | 7    | 0.28 | 56          | 2.20 | 49    | 1.93 | 0.06 | 0.13 |
| EFGQ 16 ... 010 | 10   | 0.39 | 62          | 2.44 | 52    | 2.05 | 0.06 | 0.13 |
| EFGQ 16 ... 012 | 12.7 | 0.50 | 67.4        | 2.65 | 54.7  | 2.15 | 0.06 | 0.13 |
| EFGQ 16 ... 015 | 15   | 0.59 | 72          | 2.83 | 57    | 2.24 | 0.06 | 0.13 |
| EFGQ 16 ... 025 | 25   | 0.98 | 92          | 3.62 | 67    | 2.64 | 0.07 | 0.15 |
| EFGQ 16 ... 038 | 38   | 1.50 | 118         | 4.65 | 80    | 3.15 | 0.08 | 0.18 |
| EFGQ 16 ... 050 | 50   | 1.97 | 142         | 5.59 | 92    | 3.62 | 0.08 | 0.18 |
| EFGQ 16 ... 063 | 63.5 | 2.50 | 172         | 6.77 | 108.5 | 4.27 | 0.09 | 0.20 |
| EFGQ 16 ... 080 | 80   | 3.15 | 205         | 8.07 | 125   | 4.92 | 0.10 | 0.22 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFGQ 16 13 050 | Green  | 45     | 650      |
| EFGQ 16 25 050 | Blue   | 90     | 1305     |
| EFGQ 16 38 050 | Red    | 135    | 1960     |
| EFGQ 16 50 050 | Yellow | 180    | 2610     |
| EFGQ 16 XX 050 | Black  | 20-180 | 290-2610 |

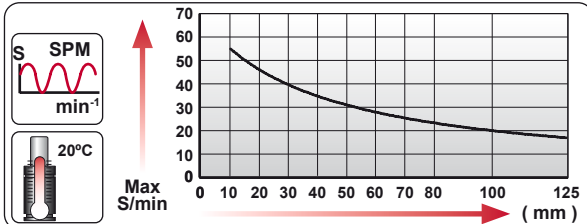
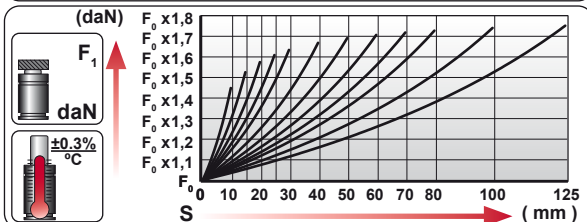
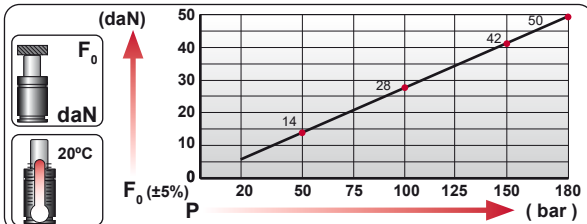
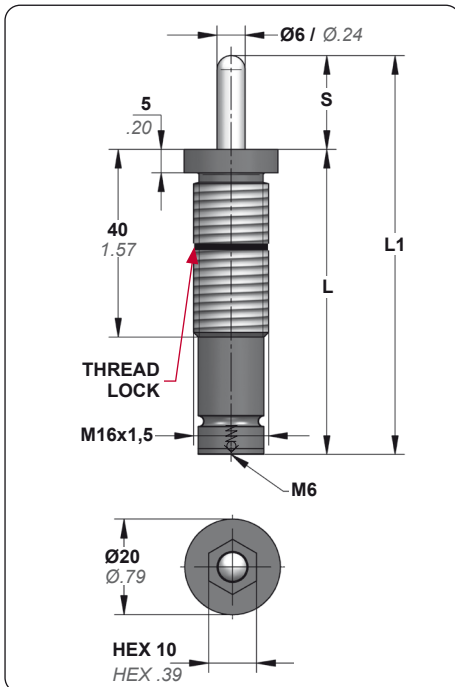
| ORDER          | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|----------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|                | daN                                                 | lb     | daN                                         | lb     |
| EFGQ 16 13 050 | 13                                                  | 29     | 22                                          | 49     |
| EFGQ 16 25 050 | 25                                                  | 56     | 42                                          | 94     |
| EFGQ 16 38 050 | 38                                                  | 85     | 64                                          | 144    |
| EFGQ 16 50 050 | 50                                                  | 112    | 85                                          | 191    |
| EFGQ 16 XX 050 | 6-50                                                | 13-112 | 10-85                                       | 22-191 |

**MOUNTING OPTIONS****E63-016** 605**ASSEMBLY TOOL OPTION****LPT 10****TECHNICAL DATA**

| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Charging<br>Adapter | 06 CG 2-Q |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|---------------------|-----------|
|       |                |                                   |                     |                   |                     |                     |           |
| Smax  | < 90%          | Tmin                              | Tmax                | 0 °C<br>32 °F     | 80 °C<br>176 °F     | Connection          | X         |
| Vmax  | 1,6 m/s        | Force variation<br>by temperature |                     | ±0,3% / °C        |                     | Cartridge<br>Kit    | X         |

AZOL  
GAS

|  |    |       |  |
|--|----|-------|--|
|  | GM | 90.80 |  |
|  |    |       |  |
|  |    |       |  |

**EFT 16**  
Gas StrippersVDI  
SAFETY

STANDARS



| ORDER          | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|----------------|-----|------|-------------|-------|-----|------|------|------|
|                | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFT 16 ... 010 | 10  | 0.39 | 65          | 2.56  | 55  | 2.17 | 0.06 | 0.13 |
| EFT 16 ... 015 | 15  | 0.59 | 75          | 2.95  | 60  | 2.36 | 0.07 | 0.15 |
| EFT 16 ... 020 | 20  | 0.79 | 85          | 3.35  | 65  | 2.56 | 0.07 | 0.15 |
| EFT 16 ... 025 | 25  | 0.98 | 95          | 3.74  | 70  | 2.76 | 0.07 | 0.15 |
| EFT 16 ... 030 | 30  | 1.18 | 105         | 4.13  | 75  | 2.95 | 0.08 | 0.18 |
| EFT 16 ... 040 | 40  | 1.57 | 125         | 4.92  | 85  | 3.35 | 0.08 | 0.18 |
| EFT 16 ... 050 | 50  | 1.97 | 145         | 5.71  | 95  | 3.74 | 0.09 | 0.20 |
| EFT 16 ... 060 | 60  | 2.36 | 165         | 6.50  | 105 | 4.13 | 0.10 | 0.22 |
| EFT 16 ... 070 | 70  | 2.76 | 185         | 7.28  | 115 | 4.53 | 0.10 | 0.22 |
| EFT 16 ... 080 | 80  | 3.15 | 205         | 8.07  | 125 | 4.92 | 0.11 | 0.24 |
| EFT 16 ... 100 | 100 | 3.94 | 245         | 9.65  | 145 | 5.71 | 0.12 | 0.26 |
| EFT 16 ... 125 | 125 | 4.92 | 295         | 11.61 | 170 | 6.69 | 0.14 | 0.31 |

| ORDER         | COLOR  | P      |          |
|---------------|--------|--------|----------|
|               |        | bar    | psi      |
| EFT 16 6 050  | Green  | 20     | 290      |
| EFT 16 11 050 | Blue   | 40     | 580      |
| EFT 16 21 050 | Red    | 75     | 1090     |
| EFT 16 42 050 | Yellow | 150    | 2175     |
| EFT 16 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER         | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|---------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|               | daN                                                 | lb     | daN                                         | lb     |
| EFT 16 6 050  | 6                                                   | 13     | 10                                          | 22     |
| EFT 16 11 050 | 11                                                  | 25     | 20                                          | 45     |
| EFT 16 21 050 | 21                                                  | 47     | 35                                          | 79     |
| EFT 16 42 050 | 42                                                  | 94     | 70                                          | 157    |
| EFT 16 XX 050 | 6-50                                                | 13-112 | 10-85                                       | 22-191 |

## ASSEMBLY TOOL OPTION



LPT 10

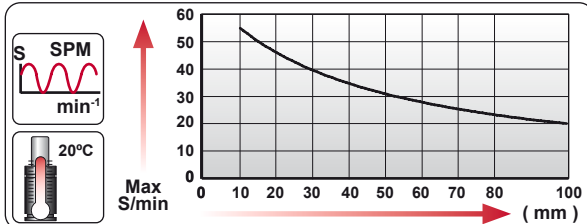
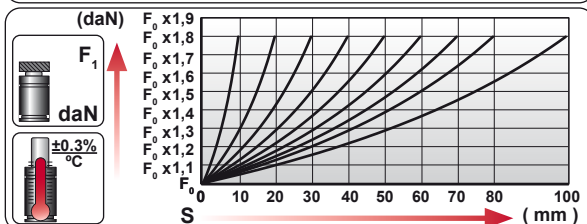
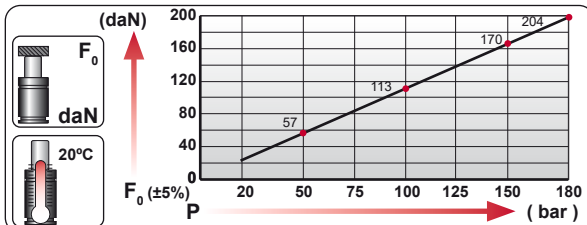
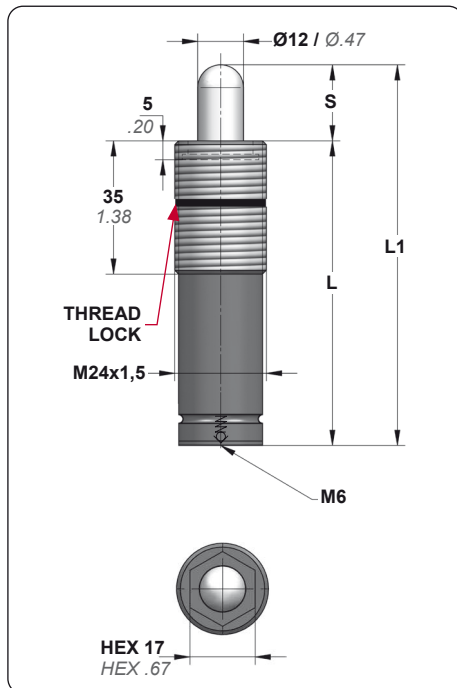
## TECHNICAL DATA

|  |       |                |  |                                     |                                    |  |                  |           |
|--|-------|----------------|--|-------------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F            | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Smax  | < 90%          |  | Tmin Tmax<br>0°C 80°C<br>32°F 176°F |                                    |  | Connection       | X         |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature   | ±0,3% / °C                         |  | Cartridge Kit    | X         |

**EFG 24**

Gas Strippers

|    |                     |             |       |
|----|---------------------|-------------|-------|
|    | FORD                | W-DX35-6030 |       |
| MB | B8 0820 100 000 002 | GM          | 90.25 |
| VW | 39D 549             |             |       |

**AZOL  
GAS****VDI  
SAFETY****STANDARDS**

| ORDER          | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|----------------|-----|------|-------------|-------|-----|------|------|------|
|                | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFG 24 ... 010 | 10  | 0.39 | 80          | 3.15  | 70  | 2.76 | 0.19 | 0.42 |
| EFG 24 ... 020 | 20  | 0.79 | 100         | 3.94  | 80  | 3.15 | 0.20 | 0.44 |
| EFG 24 ... 030 | 30  | 1.18 | 120         | 4.72  | 90  | 3.54 | 0.22 | 0.49 |
| EFG 24 ... 040 | 40  | 1.57 | 140         | 5.51  | 100 | 3.94 | 0.24 | 0.53 |
| EFG 24 ... 050 | 50  | 1.97 | 160         | 6.30  | 110 | 4.33 | 0.26 | 0.57 |
| EFG 24 ... 060 | 60  | 2.36 | 180         | 7.09  | 120 | 4.72 | 0.27 | 0.60 |
| EFG 24 ... 070 | 70  | 2.76 | 200         | 7.87  | 130 | 5.12 | 0.29 | 0.64 |
| EFG 24 ... 080 | 80  | 3.15 | 220         | 8.66  | 140 | 5.51 | 0.31 | 0.68 |
| EFG 24 ... 100 | 100 | 3.94 | 260         | 10.24 | 160 | 6.30 | 0.34 | 0.75 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFG 24 23 050  | Green  | 20     | 290      |
| EFG 24 45 050  | Blue   | 40     | 580      |
| EFG 24 85 050  | Red    | 75     | 1090     |
| EFG 24 170 050 | Yellow | 150    | 2175     |
| EFG 24 XXX 050 | Black  | 20-180 | 290-2610 |

| ORDER          | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|----------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|                | daN                                                 | lb     | daN                                         | lb     |
| EFG 24 23 050  | 23                                                  | 52     | 40                                          | 90     |
| EFG 24 45 050  | 45                                                  | 101    | 80                                          | 180    |
| EFG 24 85 050  | 85                                                  | 191    | 155                                         | 348    |
| EFG 24 170 050 | 170                                                 | 382    | 305                                         | 686    |
| EFG 24 XXX 050 | 23-200                                              | 52-450 | 40-355                                      | 90-798 |

**MOUNTING OPTIONS**

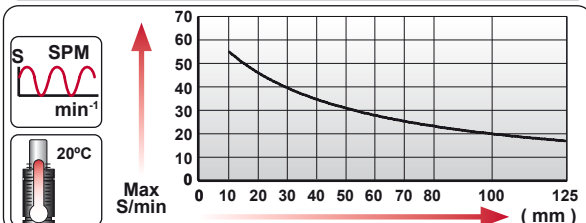
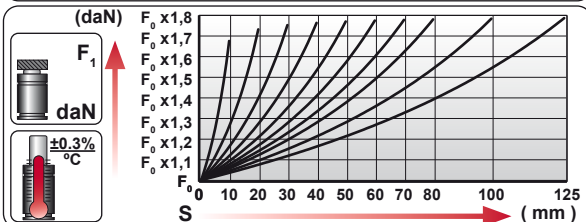
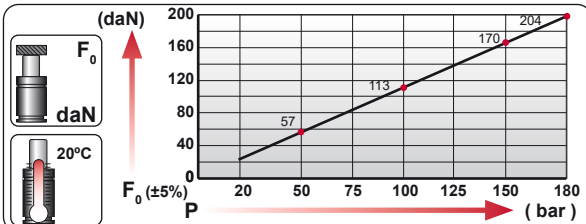
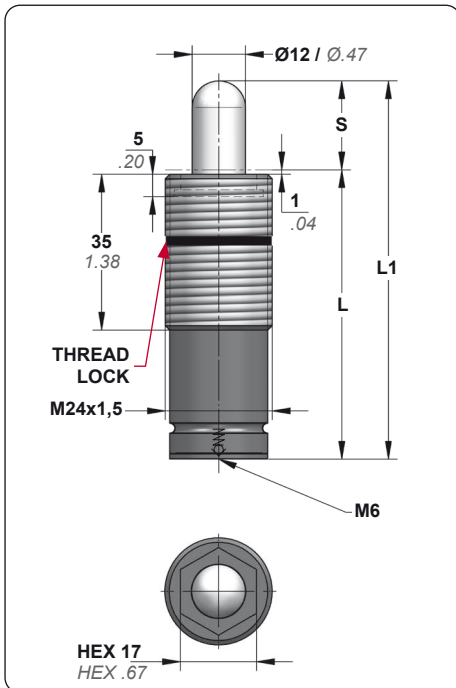
Top Mount

**E23-024**

605

**ASSEMBLY TOOL OPTION****LPT 17****TECHNICAL DATA**

|  |       |                |  |                                   |                                    |  |                                         |  |                  |           |
|--|-------|----------------|--|-----------------------------------|------------------------------------|--|-----------------------------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F          | 20 bar 180 bar<br>290 psi 2610 psi |  | Tmin Tmax<br>0 °C 80 °C<br>32 °F 176 °F |  | Charging Adapter | 06 CG 2-Q |
|  | Sm    | < 90%          |  | Force variation<br>by temperature | ±0,3% / °C                         |  | Connection                              |  | Cartridge Kit    | X         |
|  | Vmax  | 1,6 m/s        |  |                                   |                                    |  |                                         |  |                  | X         |

AZOL  
GAS**EFGC 24**  
Gas StrippersVDI  
SAFETY

STANDARS



| ORDER           | S   |      | L1<br>±0.25 |       | L   |      |      |      |
|-----------------|-----|------|-------------|-------|-----|------|------|------|
|                 | mm  | inch | mm          | inch  | mm  | inch | Kg.  | lb   |
| EFGC 24 ... 010 | 10  | 0.39 | 65          | 2.56  | 55  | 2.17 | 0.14 | 0.31 |
| EFGC 24 ... 020 | 20  | 0.79 | 85          | 3.35  | 65  | 2.56 | 0.16 | 0.35 |
| EFGC 24 ... 030 | 30  | 1.18 | 105         | 4.13  | 75  | 2.95 | 0.18 | 0.40 |
| EFGC 24 ... 040 | 40  | 1.57 | 125         | 4.92  | 85  | 3.35 | 0.19 | 0.42 |
| EFGC 24 ... 050 | 50  | 1.97 | 145         | 5.71  | 95  | 3.74 | 0.21 | 0.46 |
| EFGC 24 ... 060 | 60  | 2.36 | 165         | 6.50  | 105 | 4.13 | 0.23 | 0.51 |
| EFGC 24 ... 070 | 70  | 2.76 | 185         | 7.28  | 115 | 4.53 | 0.25 | 0.55 |
| EFGC 24 ... 080 | 80  | 3.15 | 205         | 8.07  | 125 | 4.92 | 0.26 | 0.57 |
| EFGC 24 ... 100 | 100 | 3.94 | 245         | 9.65  | 145 | 5.71 | 0.30 | 0.66 |
| EFGC 24 ... 125 | 125 | 4.92 | 295         | 11.61 | 170 | 6.69 | 0.34 | 0.75 |

| ORDER           | COLOR  | P      |          |
|-----------------|--------|--------|----------|
|                 |        | bar    | psi      |
| EFGC 24 23 050  | Green  | 20     | 290      |
| EFGC 24 45 050  | Blue   | 40     | 580      |
| EFGC 24 85 050  | Red    | 75     | 1090     |
| EFGC 24 170 050 | Yellow | 150    | 2175     |
| EFGC 24 XXX 050 | Black  | 20-180 | 290-2610 |

| ORDER           | $F_0$<br>Initial Force<br>±5%<br>20°C 68°F |        | $F_1$<br>(ISOTHERMAL)<br>End Force |        |
|-----------------|--------------------------------------------|--------|------------------------------------|--------|
|                 | daN                                        | lb     | daN                                | lb     |
| EFGC 24 23 050  | 23                                         | 52     | 40                                 | 90     |
| EFGC 24 45 050  | 45                                         | 101    | 80                                 | 180    |
| EFGC 24 85 050  | 85                                         | 191    | 150                                | 337    |
| EFGC 24 170 050 | 170                                        | 382    | 300                                | 674    |
| EFGC 24 XXX 050 | 23-200                                     | 52-450 | 40-355                             | 90-798 |

## MOUNTING OPTIONS

**E23-024**

605

## ASSEMBLY TOOL OPTION

**LPT 17**

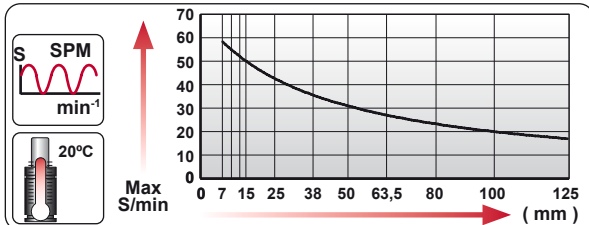
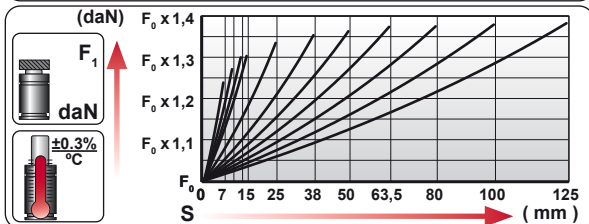
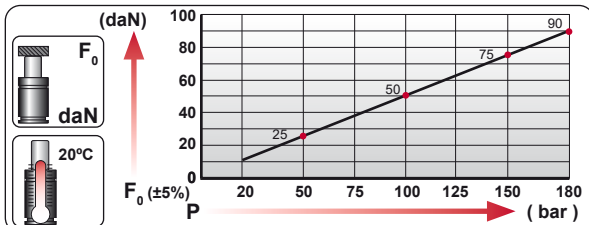
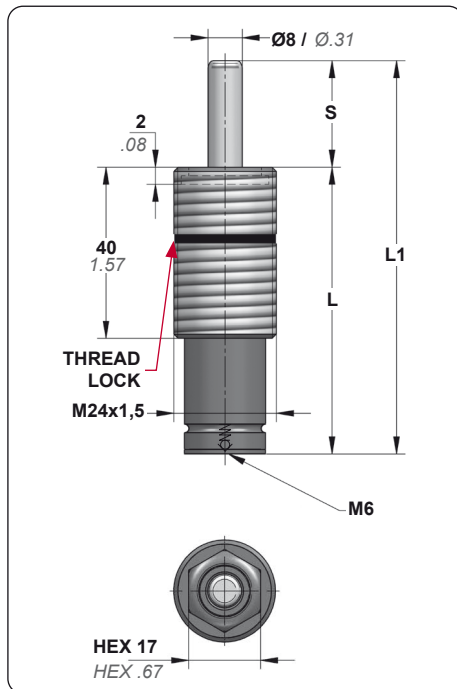
## TECHNICAL DATA

|  |       |         |  |                                     |                                    |  |                  |           |
|--|-------|---------|--|-------------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | $N_2$   |  | Pmin Pmax<br>20°C / 68°F            | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Smax  | < 90%   |  | Tmin Tmax<br>0°C 80°C<br>32°F 176°F |                                    |  | Connection       | X         |
|  | Vmax  | 1,6 m/s |  | Force variation<br>by temperature   | ±0,3% / °C                         |  | Cartridge Kit    | X         |

**EFGL 24**

Gas Strippers

|  |                  |  |
|--|------------------|--|
|  | FORD W-DX35-8018 |  |
|  |                  |  |

**AZOL  
GAS****VDI  
SAFETY****STANDARDS**

| ORDER           | S    |      | L1<br>±0.25 |       | L    |      |      |      |
|-----------------|------|------|-------------|-------|------|------|------|------|
|                 | mm   | inch | mm          | inch  | mm   | inch | Kg.  | lb   |
| EFGL 24 ... 007 | 7    | 0.28 | 56          | 2.20  | 49   | 1.93 | 0.12 | 0.26 |
| EFGL 24 ... 010 | 10   | 0.39 | 62          | 2.44  | 52   | 2.05 | 0.13 | 0.29 |
| EFGL 24 ... 012 | 12.7 | 0.50 | 67.4        | 2.65  | 54.7 | 2.15 | 0.13 | 0.29 |
| EFGL 24 ... 015 | 15   | 0.59 | 72          | 2.83  | 57   | 2.24 | 0.13 | 0.29 |
| EFGL 24 ... 025 | 25   | 0.98 | 92          | 3.62  | 67   | 2.64 | 0.15 | 0.33 |
| EFGL 24 ... 038 | 38   | 1.50 | 118         | 4.65  | 80   | 3.15 | 0.16 | 0.35 |
| EFGL 24 ... 050 | 50   | 1.97 | 142         | 5.59  | 92   | 3.62 | 0.18 | 0.40 |
| EFGL 24 ... 063 | 63.5 | 2.50 | 172         | 6.77  | 109  | 4.29 | 0.19 | 0.42 |
| EFGL 24 ... 080 | 80   | 3.15 | 205         | 8.07  | 125  | 4.92 | 0.21 | 0.46 |
| EFGL 24 ... 100 | 100  | 3.94 | 245         | 9.65  | 145  | 5.71 | 0.24 | 0.53 |
| EFGL 24 ... 125 | 125  | 4.92 | 295         | 11.61 | 170  | 6.69 | 0.27 | 0.60 |

| ORDER          | COLOR  | P      |          |
|----------------|--------|--------|----------|
|                |        | bar    | psi      |
| EFGL 24 30 050 | Green  | 60     | 870      |
| EFGL 24 50 050 | Blue   | 100    | 1450     |
| EFGL 24 70 050 | Red    | 140    | 2030     |
| EFGL 24 90 050 | Yellow | 180    | 2610     |
| EFGL 24 XX 050 | Black  | 20-180 | 290-2610 |

| ORDER          | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |        | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |        |
|----------------|-----------------------------------------------------|--------|---------------------------------------------|--------|
|                | daN                                                 | lb     | daN                                         | lb     |
| EFGL 24 30 050 | 30                                                  | 67     | 40                                          | 90     |
| EFGL 24 50 050 | 50                                                  | 112    | 70                                          | 157    |
| EFGL 24 70 050 | 70                                                  | 157    | 95                                          | 214    |
| EFGL 24 90 050 | 90                                                  | 202    | 120                                         | 270    |
| EFGL 24 XX 050 | 10-90                                               | 22-202 | 13-120                                      | 29-270 |

**MOUNTING OPTIONS****E23-024**

605

**ASSEMBLY TOOL OPTION****LPT 17****TECHNICAL DATA**

|  |       |                |  |                                         |                                    |  |                  |           |
|--|-------|----------------|--|-----------------------------------------|------------------------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F                | 20 bar 180 bar<br>290 psi 2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Sm    | < 90%          |  | Tmin Tmax<br>0 °C 80 °C<br>32 °F 176 °F |                                    |  | Connection       | <b>X</b>  |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature       | ±0,3% / °C                         |  | Cartridge Kit    | <b>X</b>  |

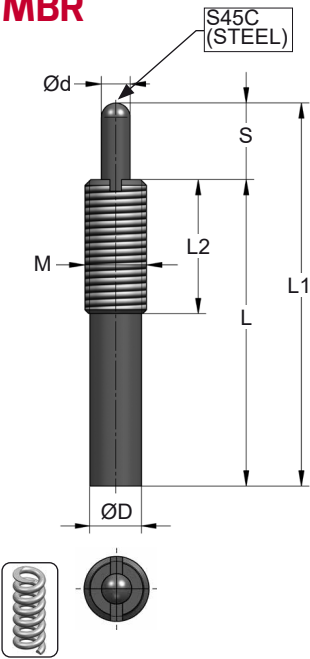


MBR

Spring Plungers



MBR



| ORDER      | M     | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | ØD<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|------------|-------|-----------|------------|-----------|------------|------------|------------|-----------------------|-----------------------|-------|
| MBR 16 020 | M16x2 | 20        | 100        | 80        | 35         | 13.4       | 7.5        | 35                    | 174                   | LP 16 |
| MBR 16 030 | M16x2 | 30        | 150        | 120       | 35         | 13.4       | 7.5        | 20                    | 80                    | LP 16 |
| MBR 16 040 | M16x2 | 40        | 190        | 150       | 35         | 13.4       | 7.5        | 55                    | 158                   | LP 16 |
| MBR 16 050 | M16x2 | 50        | 250        | 200       | 35         | 13.4       | 7.5        | 35                    | 105                   | LP 16 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

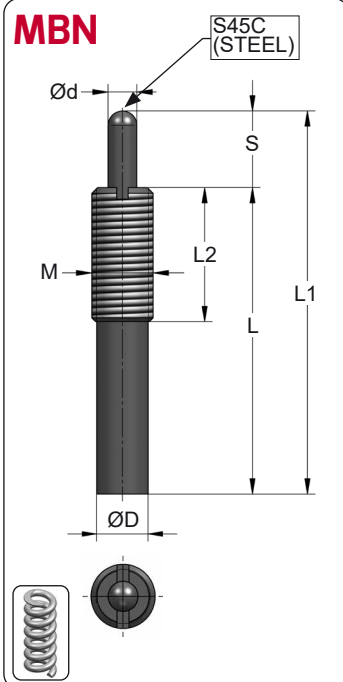
MBR

50

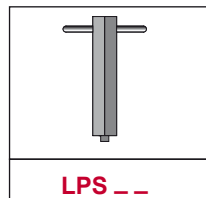
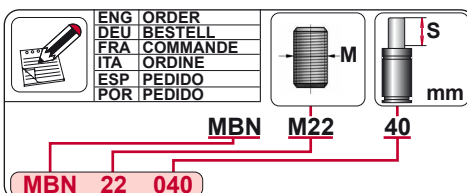
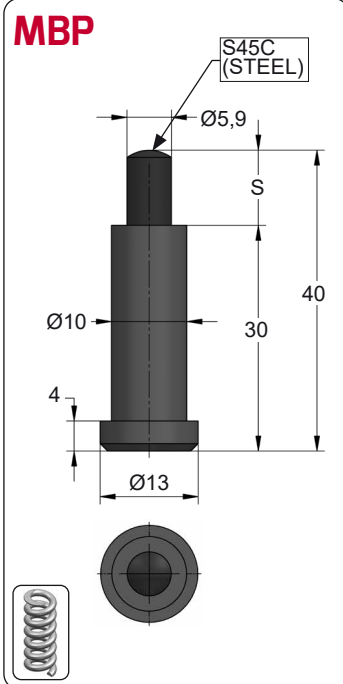
mm

MBR 16 050

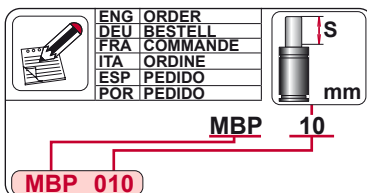
LP 16

**MBN**


| ORDER             | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | ØD<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key    |
|-------------------|-----|-----------|------------|-----------|------------|------------|------------|-----------------------|-----------------------|--------|
| <b>MBN 16 010</b> | M16 | 11        | 91         | 80        | 35         | 13.4       | 7.3        | 17                    | 75                    | LPS 16 |
| <b>MBN 16 020</b> | M16 | 21        | 141        | 120       | 35         | 13.4       | 7.3        | 21                    | 80                    | LPS 16 |
| <b>MBN 16 030</b> | M16 | 31        | 181        | 150       | 35         | 13.4       | 7.3        | 21                    | 90                    | LPS 16 |
| <b>MBN 16 040</b> | M16 | 41        | 241        | 200       | 35         | 13.4       | 7.3        | 16                    | 80                    | LPS 16 |
| <b>MBN 22 020</b> | M22 | 21        | 151        | 130       | 50         | 19         | 9          | 80                    | 215                   | LPS 22 |
| <b>MBN 22 030</b> | M22 | 31        | 199        | 168       | 50         | 19         | 9          | 70                    | 210                   | LPS 22 |
| <b>MBN 22 040</b> | M22 | 41        | 267        | 226       | 50         | 19         | 9          | 75                    | 210                   | LPS 22 |

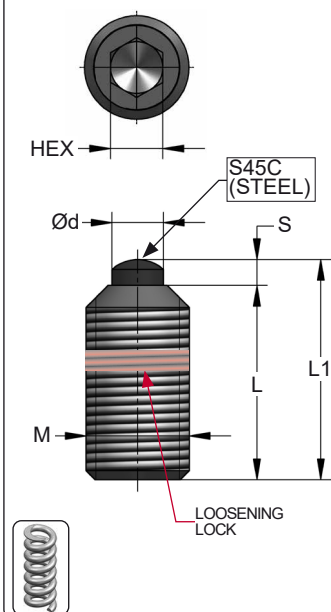

**MBP**


| ORDER          | S<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) |
|----------------|-----------|-----------------------|-----------------------|
| <b>MBP 010</b> | 10        | 42                    | 110                   |



**MBSD / MBSL**

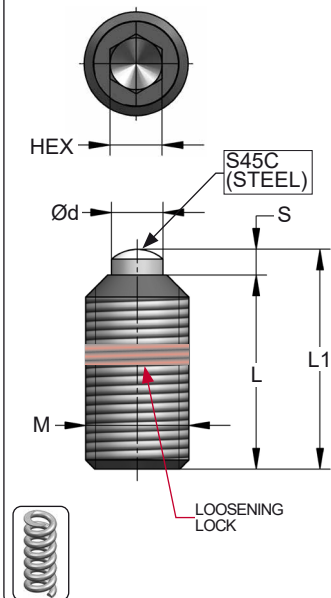
Spring Plungers

**AZOL  
GAS****MBSD**

| ORDER              | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | Ød<br>(mm) | HEX<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Allen<br>Key |
|--------------------|-----|-----------|------------|-----------|------------|-------------|-----------------------|-----------------------|--------------|
| <b>MBSD 5 001</b>  | M5  | 1.5       | 13.5       | 12        | 2.5        | 2.5         | 5                     | 15                    | 2.5          |
| <b>MBSD 6 001</b>  | M6  | 1.5       | 14.5       | 13        | 3          | 3           | 6                     | 20                    | 3            |
| <b>MBSD 8 002</b>  | M8  | 2         | 17         | 15        | 4          | 4           | 6                     | 20                    | 4            |
| <b>MBSD 10 002</b> | M10 | 2.5       | 18.5       | 16        | 5          | 5           | 10                    | 30                    | 5            |
| <b>MBSD 12 003</b> | M12 | 3.5       | 23.5       | 20        | 6          | 6           | 10                    | 30                    | 6            |
| <b>MBSD 16 004</b> | M16 | 4.5       | 26.5       | 22        | 8          | 8           | 20                    | 60                    | 8            |



ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

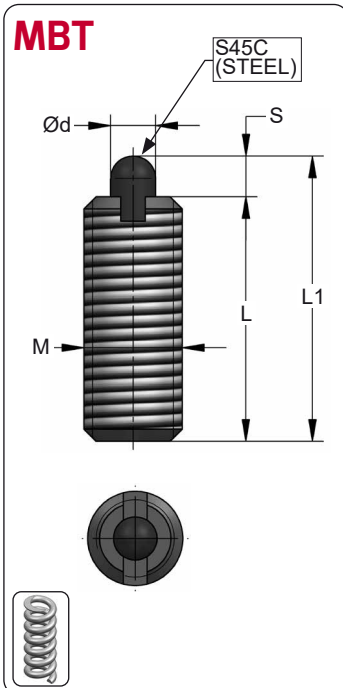
**MBSD M16****MBSD 16 004****ALLEN \_ \_****MBSL**

| ORDER              | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | Ød<br>(mm) | HEX<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Allen<br>Key |
|--------------------|-----|-----------|------------|-----------|------------|-------------|-----------------------|-----------------------|--------------|
| <b>MBSL 5 001</b>  | M5  | 1.5       | 13.5       | 12        | 2.5        | 2.5         | 2                     | 8                     | 2.5          |
| <b>MBSL 6 001</b>  | M6  | 1.5       | 14.5       | 13        | 3          | 3           | 3                     | 10                    | 3            |
| <b>MBSL 8 002</b>  | M8  | 2         | 17         | 15        | 4          | 4           | 3                     | 10                    | 4            |
| <b>MBSL 10 002</b> | M10 | 2.5       | 18.5       | 16        | 5          | 5           | 5                     | 15                    | 5            |
| <b>MBSL 12 003</b> | M12 | 3.5       | 23.5       | 20        | 6          | 6           | 5                     | 15                    | 6            |
| <b>MBSL 16 004</b> | M16 | 4.5       | 26.5       | 22        | 8          | 8           | 10                    | 30                    | 8            |



ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MBSL M16****MBSL 16 004****ALLEN \_ \_**

**MBT**

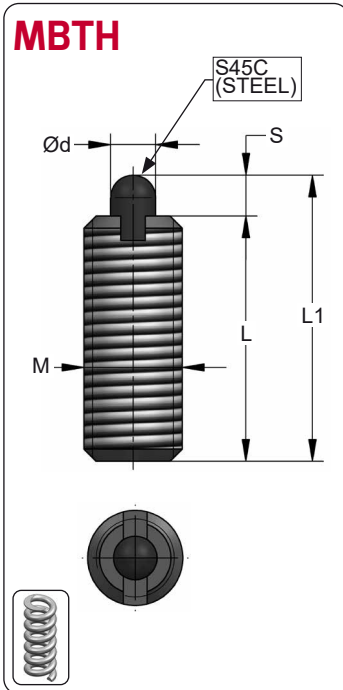
| ORDER             | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key    |
|-------------------|-----|-----------|------------|-----------|------------|-----------------------|-----------------------|--------|
| <b>MBT 3 001</b>  | M3  | 1         | 13         | 12        | 1          | 2                     | 4                     | LPD 3  |
| <b>MBT 4 001</b>  | M4  | 1.5       | 16.5       | 15        | 1.5        | 4.5                   | 16                    | LPD 4  |
| <b>MBT 5 002</b>  | M5  | 2.3       | 20.3       | 18        | 2.4        | 6                     | 19                    | LPD 5  |
| <b>MBT 6 002</b>  | M6  | 2.5       | 22.5       | 20        | 2.7        | 6                     | 19                    | LPD 6  |
| <b>MBT 8 003</b>  | M8  | 3         | 25         | 22        | 3.5        | 10                    | 39                    | LPD 8  |
| <b>MBT 10 003</b> | M10 | 3         | 25         | 22        | 4          | 10                    | 39                    | LPD 10 |
| <b>MBT 12 004</b> | M12 | 4         | 32         | 28        | 6          | 12                    | 53                    | LPD 12 |
| <b>MBT 16 005</b> | M16 | 5         | 37         | 32        | 7.5        | 45                    | 100                   | LPD 16 |
| <b>MBT 20 007</b> | M20 | 7         | 47         | 40        | 10         | 52                    | 125                   | LPD 20 |
| <b>MBT 24 010</b> | M24 | 10        | 62         | 52        | 12         | 70                    | 170                   | LPS 24 |

ENG ORDER  
 DEU BESTELL  
 FRA COMMANDE  
 ITA ORDINE  
 ESP PEDIDO  
 POR PEDIDO

**MBT** **M24** **10**

**MBT 24 010**

**LPD --** **LPS 24**

**MBTH**

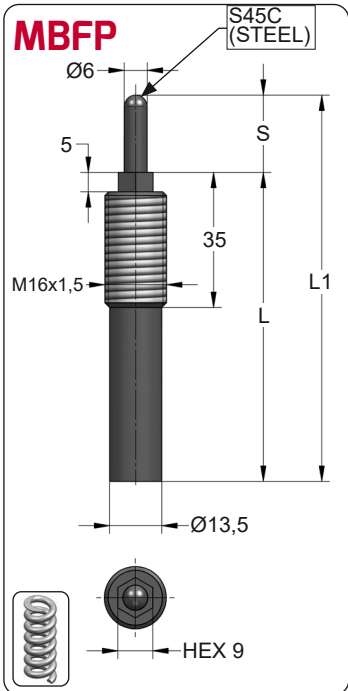
| ORDER              | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key    |
|--------------------|-----|-----------|------------|-----------|------------|-----------------------|-----------------------|--------|
| <b>MBTH 5 002</b>  | M5  | 2.3       | 20.3       | 18        | 2.4        | 11                    | 40                    | LPD 5  |
| <b>MBTH 6 002</b>  | M6  | 2.5       | 22.5       | 20        | 2.7        | 15                    | 43                    | LPD 6  |
| <b>MBTH 8 003</b>  | M8  | 3         | 25         | 22        | 3.5        | 20                    | 75                    | LPD 8  |
| <b>MBTH 10 003</b> | M10 | 3         | 25         | 22        | 4          | 20                    | 75                    | LPD 10 |
| <b>MBTH 12 004</b> | M12 | 4         | 32         | 28        | 6          | 45                    | 120                   | LPD 12 |
| <b>MBTH 16 005</b> | M16 | 5         | 37         | 32        | 7.5        | 64                    | 160                   | LPD 16 |
| <b>MBTH 20 007</b> | M20 | 7         | 47         | 40        | 10         | 75                    | 195                   | LPD 20 |
| <b>MBTH 24 010</b> | M24 | 10        | 62         | 52        | 12         | 75                    | 245                   | LPS 24 |

ENG ORDER  
 DEU BESTELL  
 FRA COMMANDE  
 ITA ORDINE  
 ESP PEDIDO  
 POR PEDIDO

**MBTH** **M24** **10**

**MBTH 24 010**

**LPD --** **LPS 24**



| ORDER       | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|-------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| MBFP 16 020 | 20        | 100        | 80        | 35                    | 89                    | LPV 8-9 |
| MBFP 16 030 | 30        | 120        | 90        | 2                     | 27                    | LPV 8-9 |
| MBFP 16 050 | 50        | 200        | 150       | 9                     | 34                    | LPV 8-9 |

Diagram showing the plunger being pushed down by a load, with a maximum angle of max. 15° indicated.

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

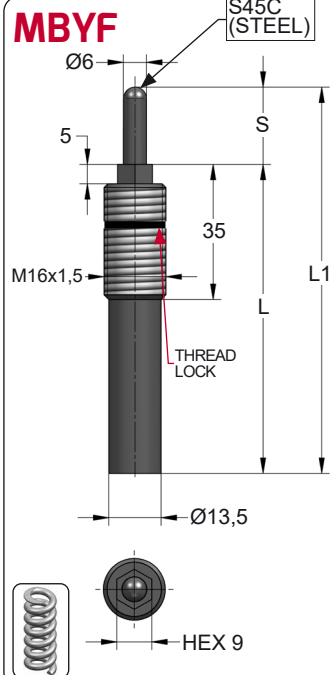
M

S  
mm

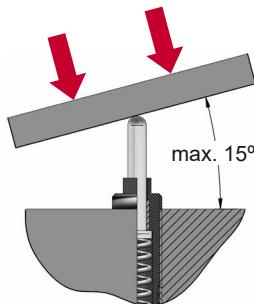
**MBFP M16 50**

**MBFP 16 050**

**LPV 8-9**



| ORDER              | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|--------------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| <b>MBYF 16 020</b> | 20        | 100        | 80        | 35                    | 89                    | LPV 8-9 |
| <b>MBYF 16 030</b> | 30        | 150        | 120       | 16                    | 73                    | LPV 8-9 |
| <b>MBYF 16 050</b> | 50        | 250        | 200       | 21                    | 76                    | LPV 8-9 |



ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

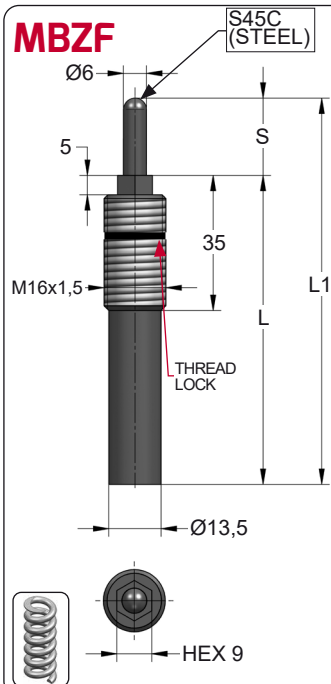


**MBYF M16 50**

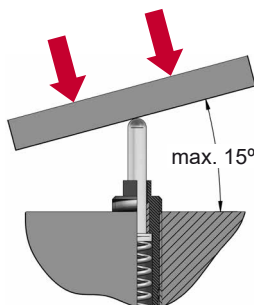
**MBYF 16 050**



**LPV 8-9**



| ORDER              | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|--------------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| <b>MBZF 16 020</b> | 20        | 100        | 80        | 4                     | 36                    | LPV 8-9 |
| <b>MBZF 16 030</b> | 30        | 110        | 80        | 3.5                   | 43                    | LPV 8-9 |
| <b>MBZF 16 050</b> | 50        | 200        | 150       | 11                    | 40                    | LPV 8-9 |



ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



**MBZF M16 50**

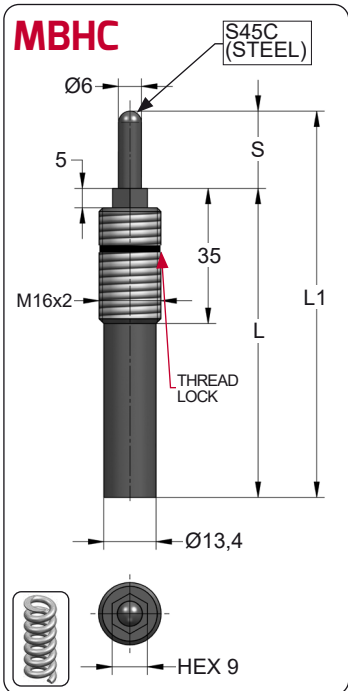
**MBZF 16 050**



**LPV 8-9**

MBHC / MBHF

Spring Plungers



| ORDER         | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|---------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| MBHC 16 010   | 10        | 70         | 60        | 4                     | 13.3                  | LPV 8-9 |
| MBHC 16 015   | 15        | 75         | 60        | 10                    | 40                    | LPV 8-9 |
| MBHC 16 020   | 20        | 100        | 80        | 7                     | 34.5                  | LPV 8-9 |
| MBHC 16 030   | 30        | 110        | 80        | 6.5                   | 45.5                  | LPV 8-9 |
| MBHC 16 030/1 | 30        | 150        | 120       | 18                    | 40                    | LPV 8-9 |
| MBHC 16 040   | 40        | 190        | 150       | 13.2                  | 37.2                  | LPV 8-9 |
| MBHC 16 050   | 50        | 200        | 150       | 13.2                  | 43.2                  | LPV 8-9 |
| MBHC 16 060   | 60        | 210        | 150       | 13.2                  | 49.2                  | LPV 8-9 |
| MBHC 16 070   | 70        | 270        | 200       | 9.7                   | 40.5                  | LPV 8-9 |
| MBHC 16 080   | 80        | 280        | 200       | 9.7                   | 44.8                  | LPV 8-9 |

ENG ORDER

DEU BESTELL

FRA COMMANDE

ITA ORDINE

ESP PEDIDO

POR PEDIDO

M

mm

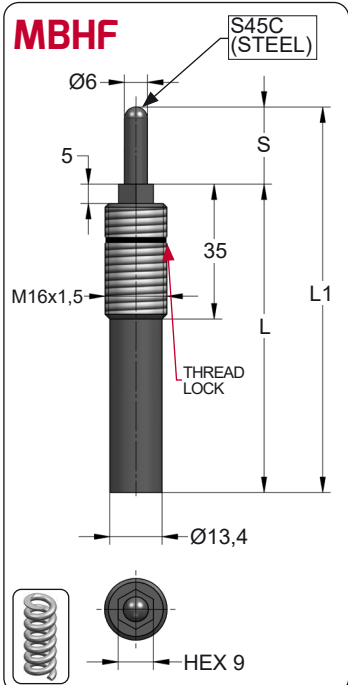
MBHC

M16

80

MBHC 16 080

LPV 8-9



| ORDER         | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|---------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| MBHF 16 010   | 10        | 70         | 60        | 4                     | 13.3                  | LPV 8-9 |
| MBHF 16 015   | 15        | 75         | 60        | 10                    | 40                    | LPV 8-9 |
| MBHF 16 020   | 20        | 100        | 80        | 7                     | 34.5                  | LPV 8-9 |
| MBHF 16 030   | 30        | 110        | 80        | 6.5                   | 45.5                  | LPV 8-9 |
| MBHF 16 030/1 | 30        | 150        | 120       | 18                    | 40                    | LPV 8-9 |
| MBHF 16 040   | 40        | 190        | 150       | 13.2                  | 37.2                  | LPV 8-9 |
| MBHF 16 050   | 50        | 200        | 150       | 13.2                  | 43.2                  | LPV 8-9 |
| MBHF 16 060   | 60        | 210        | 150       | 13.2                  | 49.2                  | LPV 8-9 |
| MBHF 16 070   | 70        | 270        | 200       | 9.7                   | 40.5                  | LPV 8-9 |
| MBHF 16 080   | 80        | 280        | 200       | 9.7                   | 44.8                  | LPV 8-9 |

ENG ORDER

DEU BESTELL

FRA COMMANDE

ITA ORDINE

ESP PEDIDO

POR PEDIDO

M

mm

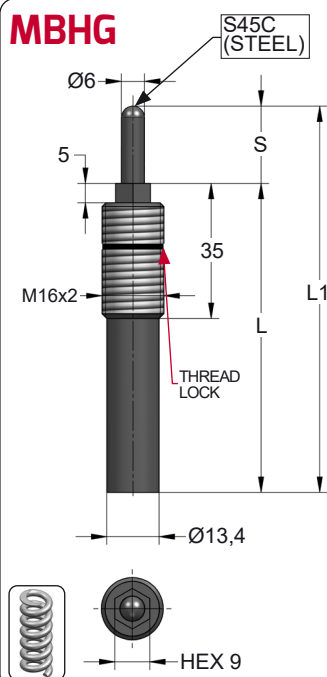
MBHF

M16

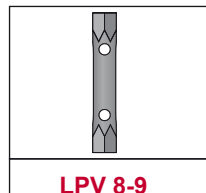
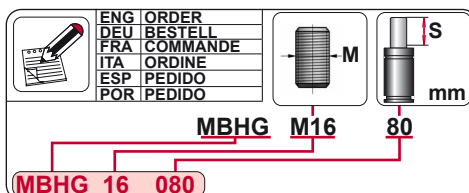
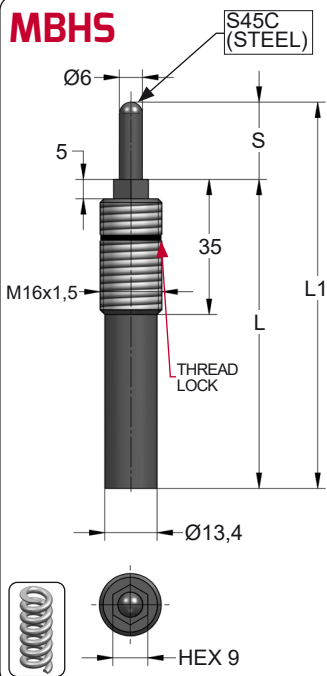
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MBHF 16 080

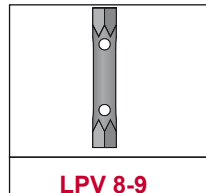
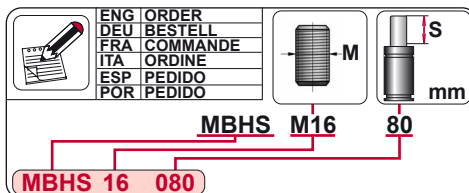
LPV 8-9

**MBHG**


| ORDER                | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|----------------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| <b>MBHG 16 010</b>   | 10        | 70         | 60        | 13                    | 45.5                  | LPV 8-9 |
| <b>MBHG 16 015</b>   | 15        | 75         | 60        | 15                    | 56                    | LPV 8-9 |
| <b>MBHG 16 020</b>   | 20        | 100        | 80        | 34.5                  | 172.5                 | LPV 8-9 |
| <b>MBHG 16 030</b>   | 30        | 150        | 120       | 20                    | 80                    | LPV 8-9 |
| <b>MBHG 16 030/1</b> | 30        | 180        | 150       | 56.1                  | 132.2                 | LPV 8-9 |
| <b>MBHG 16 040</b>   | 40        | 190        | 150       | 56.1                  | 158.1                 | LPV 8-9 |
| <b>MBHG 16 050</b>   | 50        | 250        | 200       | 19.3                  | 100                   | LPV 8-9 |
| <b>MBHG 16 060</b>   | 60        | 260        | 200       | 19.3                  | 116                   | LPV 8-9 |
| <b>MBHG 16 070</b>   | 70        | 270        | 200       | 19.3                  | 132                   | LPV 8-9 |
| <b>MBHG 16 080</b>   | 80        | 280        | 200       | 25                    | 100                   | LPV 8-9 |

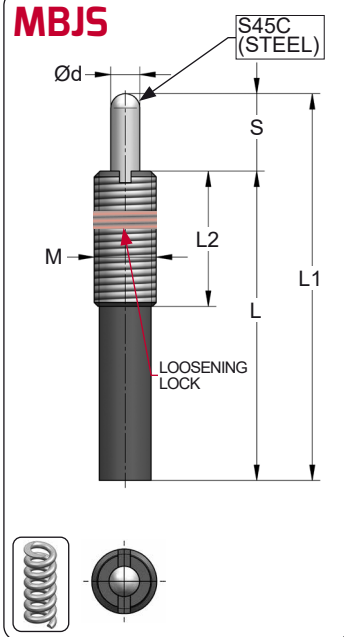

**MBHS**


| ORDER                | S<br>(mm) | L1<br>(mm) | L<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key     |
|----------------------|-----------|------------|-----------|-----------------------|-----------------------|---------|
| <b>MBHS 16 010</b>   | 10        | 70         | 60        | 13                    | 45.5                  | LPV 8-9 |
| <b>MBHS 16 015</b>   | 15        | 75         | 60        | 15                    | 56                    | LPV 8-9 |
| <b>MBHS 16 020</b>   | 20        | 100        | 80        | 34.5                  | 172.5                 | LPV 8-9 |
| <b>MBHS 16 030</b>   | 30        | 150        | 120       | 20                    | 80                    | LPV 8-9 |
| <b>MBHS 16 030/1</b> | 30        | 180        | 150       | 56.1                  | 132.2                 | LPV 8-9 |
| <b>MBHS 16 040</b>   | 40        | 190        | 150       | 56.1                  | 158.1                 | LPV 8-9 |
| <b>MBHS 16 050</b>   | 50        | 250        | 200       | 19.3                  | 100                   | LPV 8-9 |
| <b>MBHS 16 060</b>   | 60        | 260        | 200       | 19.3                  | 116                   | LPV 8-9 |
| <b>MBHS 16 070</b>   | 70        | 270        | 200       | 19.3                  | 132                   | LPV 8-9 |
| <b>MBHS 16 080</b>   | 80        | 280        | 200       | 25                    | 100                   | LPV 8-9 |



**MBJS / MBJX**

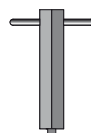
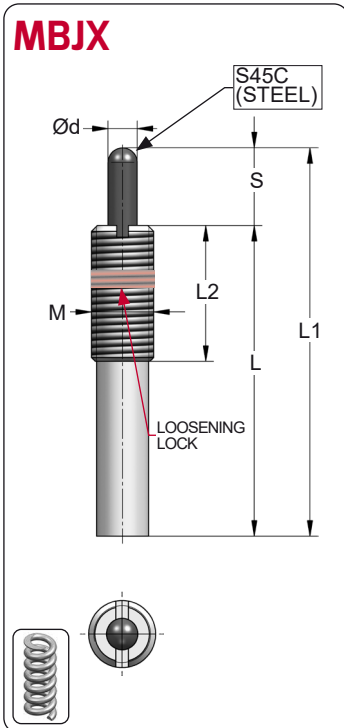
Spring Plungers

**AZOL  
GAS****MBJS**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBJS 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.05                  | 0.32                  | ---   |
| MBJS 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.09                  | 0.32                  | ---   |
| MBJS 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 0.23                  | 0.65                  | ---   |
| MBJS 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 0.24                  | 0.65                  | ---   |
| MBJS 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 0.74                  | 2.95                  | LPJ 1 |
| MBJS 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 0.72                  | 2.95                  | LPJ 1 |
| MBJS 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MBJS 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MBJS 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MBJS 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MBJS 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 1.9                   | 4.7                   | LPJ 2 |
| MBJS 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 1.7                   | 4.7                   | LPJ 2 |
| MBJS 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 1.5                   | 4.7                   | LPJ 3 |
| MBJS 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 1.3                   | 5.9                   | LPJ 3 |
| MBJS 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 1.6                   | 5.9                   | LPJ 3 |
| MBJS 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MBJS 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MBJS 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |



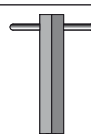
ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MBJS M16****MBJS 16 020****LPJ \_ \_****MBJX**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBJX 3 001  | M3  | 1.5       | 16.5       | 15        | 15         | 1.1        | 2                     | 5                     | ---   |
| MBJX 3 003  | M3  | 3         | 23         | 20        | 20         | 1.1        | 2                     | 5                     | ---   |
| MBJX 4 002  | M4  | 2         | 26         | 24        | 24         | 1.6        | 5                     | 13                    | ---   |
| MBJX 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 5                     | 13                    | ---   |
| MBJX 5 003  | M5  | 3         | 30         | 27        | 27         | 2          | 9                     | 25                    | LPJ 1 |
| MBJX 5 005  | M5  | 5         | 44         | 39        | 39         | 2          | 9                     | 25                    | LPJ 1 |
| MBJX 6 003  | M6  | 3         | 33         | 30        | 30         | 2.5        | 14                    | 39                    | LPJ 1 |
| MBJX 6 005  | M6  | 5         | 41         | 36        | 36         | 2.5        | 14                    | 39                    | LPJ 1 |
| MBJX 8 003  | M8  | 3         | 30         | 27        | 27         | 3.1        | 15                    | 41                    | LPJ 2 |
| MBJX 8 005  | M8  | 5         | 40         | 35        | 30         | 3.1        | 15                    | 41                    | LPJ 2 |
| MBJX 10 005 | M10 | 5         | 40         | 35        | 30         | 3.8        | 16                    | 63                    | LPJ 2 |
| MBJX 10 010 | M10 | 10        | 63         | 53        | 30         | 3.8        | 13                    | 63                    | LPJ 2 |
| MBJX 12 005 | M12 | 5         | 48         | 43        | 35         | 5.5        | 37                    | 98                    | LPJ 3 |
| MBJX 12 010 | M12 | 10        | 68         | 58        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MBJX 12 015 | M12 | 15        | 93         | 78        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MBJX 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 24                    | 147                   | LPJ 4 |
| MBJX 16 015 | M16 | 15        | 85         | 70        | 35         | 8          | 22                    | 147                   | LPJ 4 |
| MBJX 16 020 | M16 | 20        | 110        | 90        | 35         | 8          | 13                    | 147                   | LPJ 4 |
| MBJX 16 030 | M16 | 30        | 155        | 125       | 35         | 8          | 20                    | 147                   | LPJ 4 |
| MBJX 20 015 | M20 | 15        | 95         | 80        | 45         | 10         | 13                    | 250                   | LPJ 5 |
| MBJX 24 015 | M24 | 15        | 99         | 84        | 45         | 10         | 25                    | 314                   | LPJ 5 |

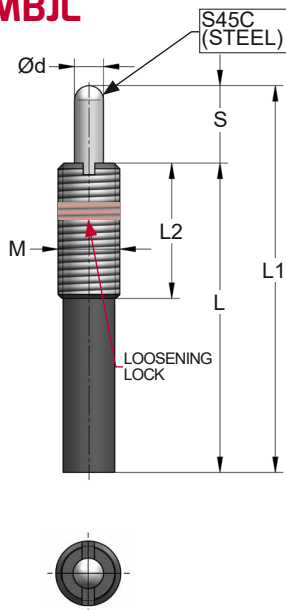


ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MBJX M24****MBJX 24 015****LPJ \_ \_**

**AZOL  
GAS****MBJL**

Spring Plungers

**MBJL**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBJL 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.5                   | 1                     | ---   |
| MBJL 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.3                   | 1                     | ---   |
| MBJL 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 1                     | 2                     | ---   |
| MBJL 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 0.6                   | 2                     | ---   |
| MBJL 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 2                     | 10                    | LPJ 1 |
| MBJL 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 2                     | 10                    | LPJ 1 |
| MBJL 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 6                     | 10                    | LPJ 1 |
| MBJL 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 2                     | 10                    | LPJ 1 |
| MBJL 6 010  | M6  | 10        | 49         | 39        | 30         | 2.5        | 1.4                   | 10                    | LPJ 1 |
| MBJL 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 6                     | 10                    | LPJ 2 |
| MBJL 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 3                     | 10                    | LPJ 2 |
| MBJL 8 010  | M8  | 10        | 53         | 43        | 30         | 3.1        | 3                     | 10                    | LPJ 2 |
| MBJL 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 6                     | 15                    | LPJ 2 |
| MBJL 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 3                     | 15                    | LPJ 2 |
| MBJL 10 015 | M10 | 15        | 73         | 58        | 30         | 3.8        | 3                     | 15                    | LPJ 2 |
| MBJL 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 6                     | 15                    | LPJ 3 |
| MBJL 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MBJL 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MBJL 12 020 | M12 | 20        | 98         | 78        | 35         | 5.5        | 3.5                   | 20                    | LPJ 3 |
| MBJL 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 6                     | 40                    | LPJ 4 |
| MBJL 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 4                     | 40                    | LPJ 4 |
| MBJL 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 5                     | 40                    | LPJ 4 |
| MBJL 16 030 | M16 | 30        | 155        | 125       | 35         | 8          | 3                     | 40                    | LPJ 4 |
| MBJL 16 040 | M16 | 40        | 165        | 125       | 35         | 8          | 5                     | 40                    | LPJ 4 |
| MBJL 16 050 | M16 | 50        | 205        | 155       | 35         | 8          | 20                    | 50                    | LPJ 4 |
| MBJL 16 060 | M16 | 60        | 219        | 159       | 35         | 8          | 3                     | 50                    | LPJ 4 |
| MBJL 16 070 | M16 | 70        | 255        | 185       | 35         | 8          | 3.5                   | 50                    | LPJ 4 |
| MBJL 16 080 | M16 | 80        | 265        | 185       | 35         | 8          | 20                    | 50                    | LPJ 4 |
| MBJL 20 015 | M20 | 15        | 75         | 60        | 45         | 10         | 13                    | 80                    | LPJ 5 |
| MBJL 20 020 | M20 | 20        | 92         | 72        | 45         | 10         | 12                    | 80                    | LPJ 5 |
| MBJL 20 030 | M20 | 30        | 126        | 96        | 45         | 10         | 12                    | 80                    | LPJ 5 |
| MBJL 20 040 | M20 | 40        | 160        | 120       | 45         | 10         | 12                    | 80                    | LPJ 5 |
| MBJL 24 007 | M24 | 7         | 67         | 60        | 45         | 10         | 20                    | 98                    | LPJ 5 |
| MBJL 24 015 | M24 | 15        | 75         | 60        | 45         | 10         | 20                    | 98                    | LPJ 5 |
| MBJL 24 020 | M24 | 20        | 95         | 75        | 45         | 10         | 18                    | 98                    | LPJ 5 |
| MBJL 24 030 | M24 | 30        | 130        | 100       | 45         | 10         | 18                    | 98                    | LPJ 5 |
| MBJL 24 040 | M24 | 40        | 164        | 124       | 45         | 10         | 18                    | 98                    | LPJ 5 |
| MBJL 30 015 | M30 | 15        | 81         | 66        | 45         | 14         | 28                    | 118                   | LPJ 6 |
| MBJL 30 020 | M30 | 20        | 98         | 78        | 45         | 14         | 28                    | 118                   | LPJ 6 |
| MBJL 30 030 | M30 | 30        | 130        | 100       | 45         | 14         | 28                    | 118                   | LPJ 6 |
| MBJL 30 040 | M30 | 40        | 163        | 123       | 45         | 14         | 28                    | 118                   | LPJ 6 |

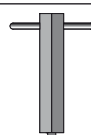


ENG ORDER  
DEU BESTELL  
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ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MBJL M30 40

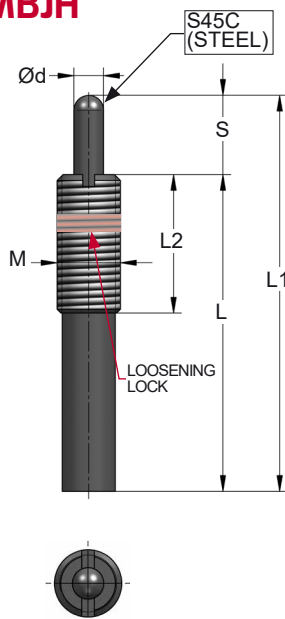
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LPJ \_ \_

**MBJH**

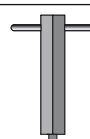
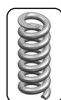
Spring Plungers

**AZOL  
GAS****MBJH**

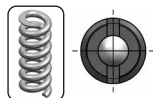
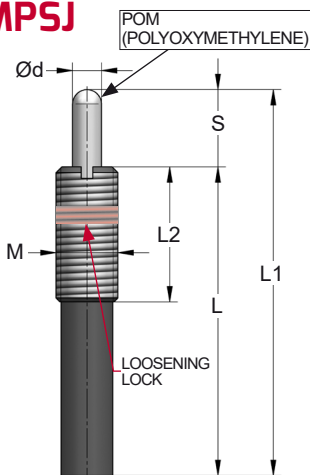
| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBJH 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.8                   | 3                     | ---   |
| MBJH 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.8                   | 3                     | ---   |
| MBJH 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 3                     | 9                     | ---   |
| MBJH 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 2                     | 9                     | ---   |
| MBJH 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 5                     | 20                    | LPJ 1 |
| MBJH 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 3                     | 20                    | LPJ 1 |
| MBJH 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 8                     | 30                    | LPJ 1 |
| MBJH 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 5                     | 30                    | LPJ 1 |
| MBJH 6 010  | M6  | 10        | 49         | 39        | 30         | 2.5        | 5                     | 28                    | LPJ 1 |
| MBJH 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 15                    | 30                    | LPJ 2 |
| MBJH 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 8                     | 30                    | LPJ 2 |
| MBJH 8 010  | M8  | 10        | 53         | 43        | 30         | 3.1        | 7                     | 30                    | LPJ 2 |
| MBJH 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 9                     | 50                    | LPJ 2 |
| MBJH 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 8                     | 50                    | LPJ 2 |
| MBJH 10 015 | M10 | 15        | 73         | 58        | 30         | 3.8        | 6                     | 50                    | LPJ 2 |
| MBJH 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 19                    | 50                    | LPJ 3 |
| MBJH 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 8                     | 50                    | LPJ 3 |
| MBJH 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 5                     | 50                    | LPJ 3 |
| MBJH 12 020 | M12 | 20        | 98         | 78        | 35         | 5.5        | 7                     | 50                    | LPJ 3 |
| MBJH 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MBJH 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MBJH 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 10                    | 80                    | LPJ 4 |
| MBJH 16 030 | M16 | 30        | 155        | 125       | 35         | 8          | 7                     | 80                    | LPJ 4 |
| MBJH 16 040 | M16 | 40        | 165        | 125       | 35         | 8          | 7                     | 80                    | LPJ 4 |
| MBJH 16 050 | M16 | 50        | 205        | 155       | 35         | 8          | 30                    | 80                    | LPJ 4 |
| MBJH 16 060 | M16 | 60        | 219        | 159       | 35         | 8          | 4                     | 80                    | LPJ 4 |
| MBJH 16 070 | M16 | 70        | 255        | 185       | 35         | 8          | 5,6                   | 80                    | LPJ 4 |
| MBJH 16 080 | M16 | 80        | 265        | 185       | 35         | 8          | 30                    | 95                    | LPJ 4 |
| MBJH 20 015 | M20 | 15        | 75         | 60        | 45         | 10         | 25                    | 150                   | LPJ 5 |
| MBJH 20 020 | M20 | 20        | 92         | 72        | 45         | 10         | 23                    | 150                   | LPJ 5 |
| MBJH 20 030 | M20 | 30        | 126        | 96        | 45         | 10         | 23                    | 150                   | LPJ 5 |
| MBJH 20 040 | M20 | 40        | 160        | 120       | 45         | 10         | 23                    | 150                   | LPJ 5 |
| MBJH 24 007 | M24 | 7         | 67         | 60        | 45         | 10         | 44                    | 196                   | LPJ 5 |
| MBJH 24 015 | M24 | 15        | 75         | 60        | 45         | 10         | 47                    | 216                   | LPJ 5 |
| MBJH 24 020 | M24 | 20        | 95         | 75        | 45         | 10         | 44                    | 216                   | LPJ 5 |
| MBJH 24 030 | M24 | 30        | 130        | 100       | 45         | 10         | 44                    | 216                   | LPJ 5 |
| MBJH 24 040 | M24 | 40        | 164        | 124       | 45         | 10         | 44                    | 216                   | LPJ 5 |
| MBJH 30 015 | M30 | 15        | 81         | 66        | 45         | 14         | 44                    | 275                   | LPJ 6 |
| MBJH 30 020 | M30 | 20        | 98         | 78        | 45         | 14         | 53                    | 275                   | LPJ 6 |
| MBJH 30 030 | M30 | 30        | 130        | 100       | 45         | 14         | 45                    | 275                   | LPJ 6 |
| MBJH 30 040 | M30 | 40        | 163        | 123       | 45         | 14         | 47                    | 275                   | LPJ 6 |



ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MBJH M30****40****MBJH 30 040****LPJ \_ \_**

## MPSJ



| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPSJ 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.05                  | 0.32                  | ---   |
| MPSJ 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.09                  | 0.32                  | ---   |
| MPSJ 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 0.23                  | 0.65                  | ---   |
| MPSJ 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 0.24                  | 0.65                  | ---   |
| MPSJ 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 0.74                  | 2.95                  | LPJ 1 |
| MPSJ 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 0.72                  | 2.95                  | LPJ 1 |
| MPSJ 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MPSJ 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MPSJ 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MPSJ 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MPSJ 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 1.9                   | 4.7                   | LPJ 2 |
| MPSJ 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 1.7                   | 4.7                   | LPJ 2 |
| MPSJ 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 1.5                   | 4.7                   | LPJ 3 |
| MPSJ 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 1.3                   | 5.9                   | LPJ 3 |
| MPSJ 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 1.6                   | 5.9                   | LPJ 3 |
| MPSJ 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MPSJ 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MPSJ 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |



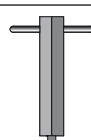
ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MPSJ M16

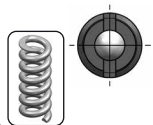
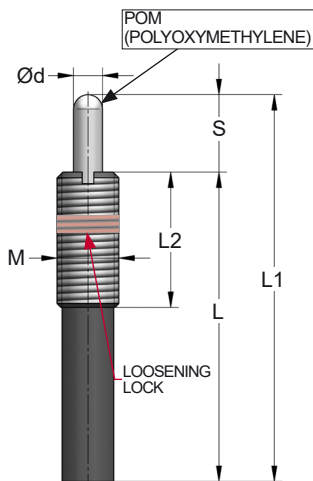
20

MPSJ 16 020



LPJ \_ \_

## MPLJ



| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPLJ 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.5                   | 1                     | ---   |
| MPLJ 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.3                   | 1                     | ---   |
| MPLJ 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 1                     | 2                     | ---   |
| MPLJ 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 0.6                   | 2                     | ---   |
| MPLJ 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 2                     | 10                    | LPJ 1 |
| MPLJ 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 2                     | 10                    | LPJ 1 |
| MPLJ 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 6                     | 10                    | LPJ 1 |
| MPLJ 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 2                     | 10                    | LPJ 1 |
| MPLJ 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 6                     | 10                    | LPJ 2 |
| MPLJ 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 3                     | 10                    | LPJ 2 |
| MPLJ 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 6                     | 15                    | LPJ 2 |
| MPLJ 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 3                     | 15                    | LPJ 2 |
| MPLJ 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 6                     | 15                    | LPJ 3 |
| MPLJ 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MPLJ 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MPLJ 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 6                     | 40                    | LPJ 4 |
| MPLJ 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 4                     | 40                    | LPJ 4 |
| MPLJ 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 5                     | 40                    | LPJ 4 |
| MPLJ 16 030 | M16 | 30        | 155        | 125       | 35         | 8          | 3                     | 40                    | LPJ 4 |
| MPLJ 20 015 | M20 | 15        | 75         | 60        | 45         | 10         | 13                    | 80                    | LPJ 5 |
| MPLJ 24 015 | M24 | 15        | 75         | 60        | 45         | 10         | 20                    | 98                    | LPJ 5 |



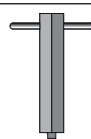
ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MPLJ M24

15

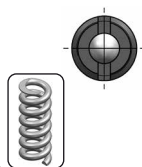
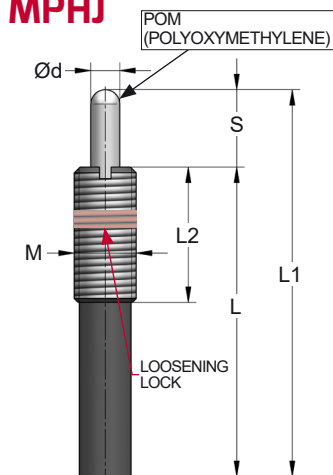
MPLJ 24 015



LPJ \_ \_

**MPHJ / MPXJ**

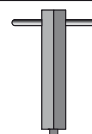
Spring Plungers

**AZOL  
GAS****MPHJ**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPHJ 3 001  | M3  | 1.5       | 11.5       | 10        | 10         | 1.1        | 0.8                   | 3                     | ---   |
| MPHJ 3 003  | M3  | 3         | 18         | 15        | 15         | 1.1        | 0.8                   | 3                     | ---   |
| MPHJ 4 002  | M4  | 2         | 17         | 15        | 15         | 1.6        | 3                     | 9                     | ---   |
| MPHJ 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 2                     | 9                     | ---   |
| MPHJ 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 5                     | 20                    | LPJ 1 |
| MPHJ 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 3                     | 20                    | LPJ 1 |
| MPHJ 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 8                     | 30                    | LPJ 1 |
| MPHJ 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 5                     | 30                    | LPJ 1 |
| MPHJ 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 15                    | 30                    | LPJ 2 |
| MPHJ 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 8                     | 30                    | LPJ 2 |
| MPHJ 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 9                     | 50                    | LPJ 2 |
| MPHJ 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 8                     | 50                    | LPJ 2 |
| MPHJ 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 19                    | 50                    | LPJ 3 |
| MPHJ 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 8                     | 50                    | LPJ 3 |
| MPHJ 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 5                     | 50                    | LPJ 3 |
| MPHJ 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MPHJ 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MPHJ 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 10                    | 80                    | LPJ 4 |
| MPHJ 16 030 | M16 | 30        | 155        | 125       | 35         | 8          | 7                     | 80                    | LPJ 4 |
| MPHJ 20 015 | M20 | 15        | 75         | 60        | 45         | 10         | 25                    | 150                   | LPJ 5 |
| MPHJ 24 015 | M24 | 15        | 75         | 60        | 45         | 10         | 47                    | 216                   | LPJ 5 |



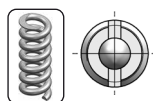
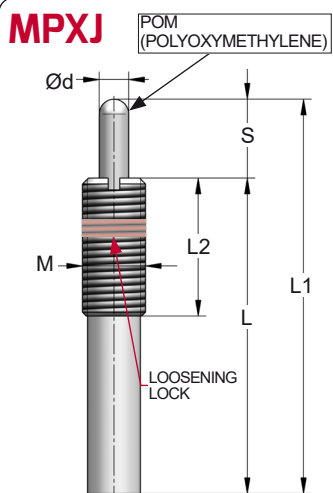
ENG ORDER  
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FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MPHJ M24 15

MPHJ 24 015

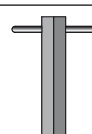
LPJ \_ \_

**MPXJ**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPXJ 3 001  | M3  | 1.5       | 16.5       | 15        | 15         | 1.1        | 2                     | 5                     | ---   |
| MPXJ 3 003  | M3  | 3         | 23         | 20        | 20         | 1.1        | 2                     | 5                     | ---   |
| MPXJ 4 002  | M4  | 2         | 26         | 24        | 24         | 1.6        | 5                     | 13                    | ---   |
| MPXJ 4 004  | M4  | 4         | 28         | 24        | 24         | 1.6        | 5                     | 13                    | ---   |
| MPXJ 5 003  | M5  | 3         | 30         | 24        | 27         | 2          | 9                     | 25                    | LPJ 1 |
| MPXJ 5 005  | M5  | 5         | 44         | 39        | 39         | 2          | 9                     | 25                    | LPJ 1 |
| MPXJ 6 003  | M6  | 3         | 33         | 30        | 30         | 2.5        | 14                    | 39                    | LPJ 1 |
| MPXJ 6 005  | M6  | 5         | 41         | 36        | 36         | 2.5        | 14                    | 39                    | LPJ 1 |
| MPXJ 8 003  | M8  | 3         | 30         | 27        | 27         | 3.1        | 15                    | 41                    | LPJ 2 |
| MPXJ 8 005  | M8  | 5         | 40         | 35        | 30         | 3.1        | 15                    | 41                    | LPJ 2 |
| MPXJ 10 005 | M10 | 5         | 40         | 35        | 30         | 3.8        | 16                    | 63                    | LPJ 2 |
| MPXJ 10 010 | M10 | 10        | 63         | 53        | 30         | 3.8        | 13                    | 63                    | LPJ 2 |
| MPXJ 12 005 | M12 | 5         | 48         | 43        | 35         | 5.5        | 37                    | 98                    | LPJ 3 |
| MPXJ 12 010 | M12 | 10        | 68         | 58        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MPXJ 12 015 | M12 | 15        | 93         | 78        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MPXJ 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 24                    | 147                   | LPJ 4 |
| MPXJ 16 015 | M16 | 15        | 85         | 70        | 35         | 8          | 22                    | 147                   | LPJ 4 |
| MPXJ 16 020 | M16 | 20        | 110        | 90        | 35         | 8          | 13                    | 147                   | LPJ 4 |



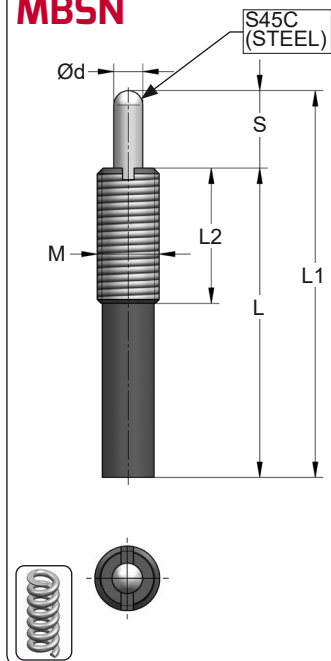
ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MPXJ M16 20

MPXJ 16 020

LPJ \_ \_

**MBSN**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBSN 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 0.74                  | 2.95                  | LPJ 1 |
| MBSN 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 0.72                  | 2.95                  | LPJ 1 |
| MBSN 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MBSN 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MBSN 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MBSN 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MBSN 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 1.9                   | 4.7                   | LPJ 2 |
| MBSN 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 1.7                   | 4.7                   | LPJ 2 |
| MBSN 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 1.5                   | 4.7                   | LPJ 3 |
| MBSN 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 1.3                   | 5.9                   | LPJ 3 |
| MBSN 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 1.6                   | 5.9                   | LPJ 3 |
| MBSN 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MBSN 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MBSN 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |

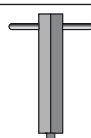


ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

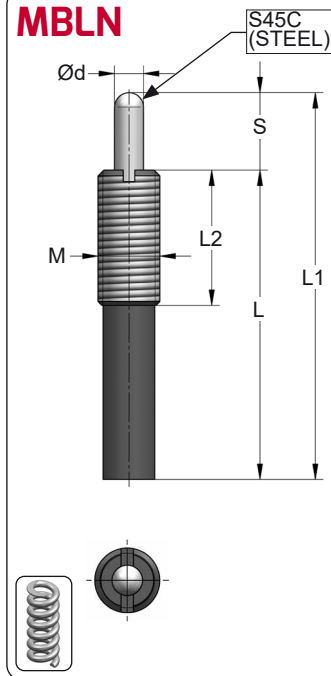


MBSN M16 20

MBSN 16 020



LPJ \_ \_

**MBLN**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBLN 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 2                     | 10                    | LPJ 1 |
| MBLN 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 2                     | 10                    | LPJ 1 |
| MBLN 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 6                     | 10                    | LPJ 1 |
| MBLN 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 2                     | 10                    | LPJ 1 |
| MBLN 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 6                     | 10                    | LPJ 2 |
| MBLN 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 3                     | 10                    | LPJ 2 |
| MBLN 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 6                     | 15                    | LPJ 2 |
| MBLN 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 3                     | 15                    | LPJ 2 |
| MBLN 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 6                     | 15                    | LPJ 3 |
| MBLN 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MBLN 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MBLN 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 6                     | 40                    | LPJ 4 |
| MBLN 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 4                     | 40                    | LPJ 4 |
| MBLN 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 5                     | 40                    | LPJ 4 |

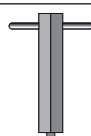


ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



MBLN M16 20

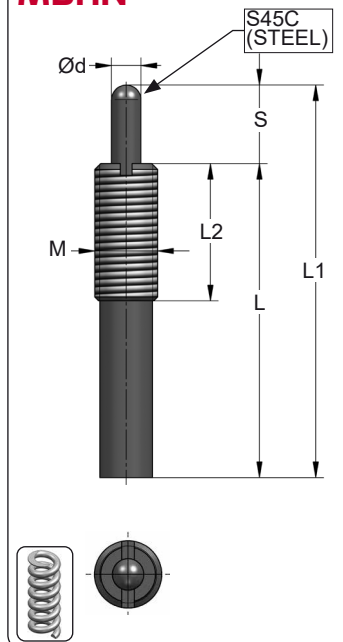
MBLN 16 020



LPJ \_ \_

**MBHN / MBXN**

Spring Plungers

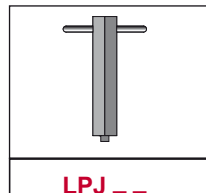
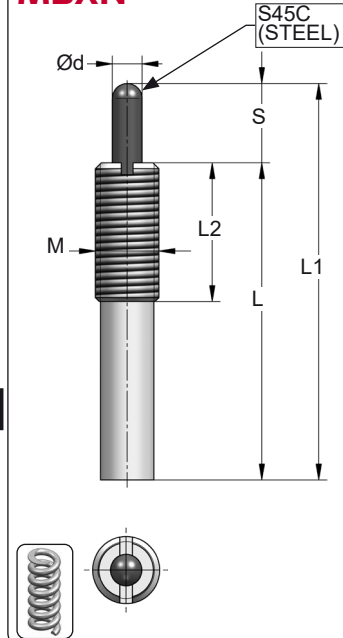
**AZOL  
GAS****MBHN**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBHN 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 5                     | 20                    | LPJ 1 |
| MBHN 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 3                     | 20                    | LPJ 1 |
| MBHN 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 8                     | 30                    | LPJ 1 |
| MBHN 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 5                     | 30                    | LPJ 1 |
| MBHN 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 15                    | 30                    | LPJ 2 |
| MBHN 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 8                     | 30                    | LPJ 2 |
| MBHN 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 9                     | 50                    | LPJ 2 |
| MBHN 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 8                     | 50                    | LPJ 2 |
| MBHN 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 19                    | 50                    | LPJ 3 |
| MBHN 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 8                     | 50                    | LPJ 3 |
| MBHN 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 5                     | 50                    | LPJ 3 |
| MBHN 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MBHN 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MBHN 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 10                    | 80                    | LPJ 4 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

MBHN M16 20

MBHN 16 020

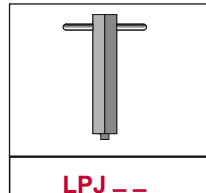
**MBXN**

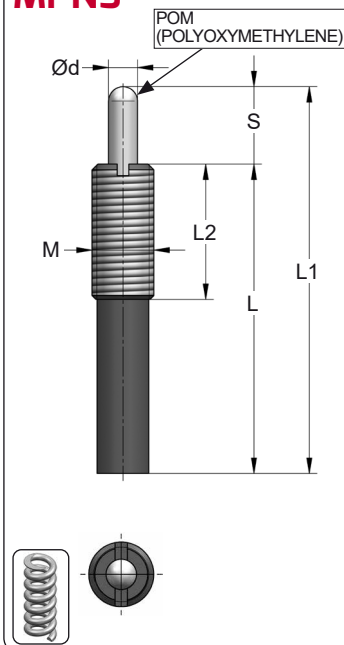
| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MBXN 5 003  | M5  | 3         | 30         | 27        | 27         | 2          | 9                     | 25                    | LPJ 1 |
| MBXN 5 005  | M5  | 5         | 44         | 39        | 39         | 2          | 9                     | 25                    | LPJ 1 |
| MBXN 6 003  | M6  | 3         | 33         | 30        | 30         | 2.5        | 14                    | 39                    | LPJ 1 |
| MBXN 6 005  | M6  | 5         | 41         | 36        | 36         | 2.5        | 14                    | 39                    | LPJ 1 |
| MBXN 8 003  | M8  | 3         | 30         | 27        | 27         | 3.1        | 15                    | 41                    | LPJ 2 |
| MBXN 8 005  | M8  | 5         | 40         | 35        | 30         | 3.1        | 15                    | 41                    | LPJ 2 |
| MBXN 10 005 | M10 | 5         | 40         | 35        | 30         | 3.8        | 16                    | 63                    | LPJ 2 |
| MBXN 10 010 | M10 | 10        | 63         | 53        | 30         | 3.8        | 13                    | 63                    | LPJ 2 |
| MBXN 12 005 | M12 | 5         | 48         | 43        | 35         | 5.5        | 37                    | 98                    | LPJ 3 |
| MBXN 12 010 | M12 | 10        | 68         | 58        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MBXN 12 015 | M12 | 15        | 93         | 78        | 35         | 5.5        | 15                    | 98                    | LPJ 3 |
| MBXN 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 24                    | 147                   | LPJ 4 |
| MBXN 16 015 | M16 | 15        | 85         | 70        | 35         | 8          | 22                    | 147                   | LPJ 4 |
| MBXN 16 020 | M16 | 20        | 110        | 90        | 35         | 8          | 13                    | 147                   | LPJ 4 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

MBXN M16 20

MBXN 16 020



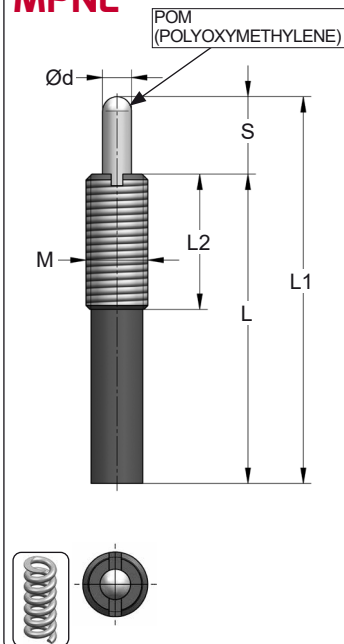
**MPNS**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPNS 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 0.74                  | 2.95                  | LPJ 1 |
| MPNS 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 0.72                  | 2.95                  | LPJ 1 |
| MPNS 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MPNS 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 0.85                  | 3.2                   | LPJ 1 |
| MPNS 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MPNS 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 0.9                   | 3.3                   | LPJ 2 |
| MPNS 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 1.9                   | 4.7                   | LPJ 2 |
| MPNS 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 1.7                   | 4.7                   | LPJ 2 |
| MPNS 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 1.5                   | 4.7                   | LPJ 3 |
| MPNS 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 1.3                   | 5.9                   | LPJ 3 |
| MPNS 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 1.6                   | 5.9                   | LPJ 3 |
| MPNS 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MPNS 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |
| MPNS 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 1.7                   | 12.8                  | LPJ 4 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MPNS 16 020**

**LPJ \_\_**

**MPNL**

| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPNL 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 2                     | 10                    | LPJ 1 |
| MPNL 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 2                     | 10                    | LPJ 1 |
| MPNL 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 6                     | 10                    | LPJ 1 |
| MPNL 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 2                     | 10                    | LPJ 1 |
| MPNL 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 6                     | 10                    | LPJ 2 |
| MPNL 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 3                     | 10                    | LPJ 2 |
| MPNL 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 6                     | 15                    | LPJ 2 |
| MPNL 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 3                     | 15                    | LPJ 2 |
| MPNL 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 6                     | 15                    | LPJ 3 |
| MPNL 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MPNL 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 3                     | 20                    | LPJ 3 |
| MPNL 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 6                     | 40                    | LPJ 4 |
| MPNL 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 4                     | 40                    | LPJ 4 |
| MPNL 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 5                     | 40                    | LPJ 4 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

**MPNL 16 020**

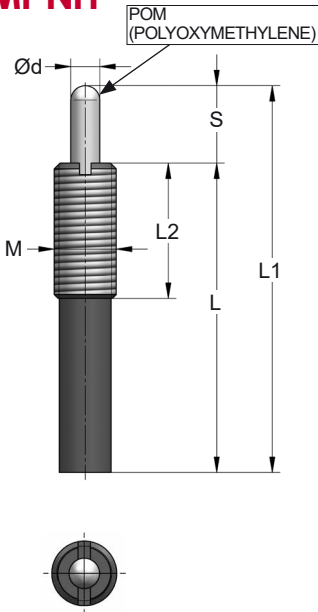
**LPJ \_\_**

MPNH

Spring Plungers



MPNH



| ORDER       | M   | S<br>(mm) | L1<br>(mm) | L<br>(mm) | L2<br>(mm) | Ød<br>(mm) | F <sub>0</sub><br>(N) | F <sub>1</sub><br>(N) | Key   |
|-------------|-----|-----------|------------|-----------|------------|------------|-----------------------|-----------------------|-------|
| MPNH 5 003  | M5  | 3         | 23         | 20        | 20         | 2          | 5                     | 20                    | LPJ 1 |
| MPNH 5 005  | M5  | 5         | 32         | 27        | 27         | 2          | 3                     | 20                    | LPJ 1 |
| MPNH 6 003  | M6  | 3         | 28         | 25        | 25         | 2.5        | 8                     | 30                    | LPJ 1 |
| MPNH 6 005  | M6  | 5         | 35         | 30        | 30         | 2.5        | 5                     | 30                    | LPJ 1 |
| MPNH 8 003  | M8  | 3         | 28         | 25        | 25         | 3.1        | 15                    | 30                    | LPJ 2 |
| MPNH 8 005  | M8  | 5         | 32         | 27        | 27         | 3.1        | 8                     | 30                    | LPJ 2 |
| MPNH 10 005 | M10 | 5         | 35         | 30        | 30         | 3.8        | 9                     | 50                    | LPJ 2 |
| MPNH 10 010 | M10 | 10        | 53         | 43        | 30         | 3.8        | 8                     | 50                    | LPJ 2 |
| MPNH 12 005 | M12 | 5         | 35         | 30        | 30         | 5.5        | 19                    | 50                    | LPJ 3 |
| MPNH 12 010 | M12 | 10        | 53         | 43        | 35         | 5.5        | 8                     | 50                    | LPJ 3 |
| MPNH 12 015 | M12 | 15        | 66         | 51        | 35         | 5.5        | 5                     | 50                    | LPJ 3 |
| MPNH 16 010 | M16 | 10        | 70         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MPNH 16 015 | M16 | 15        | 75         | 60        | 35         | 8          | 13                    | 80                    | LPJ 4 |
| MPNH 16 020 | M16 | 20        | 105        | 85        | 35         | 8          | 10                    | 80                    | LPJ 4 |

ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

M

S  
mm

MPNH M16 20

MPNH 16 020

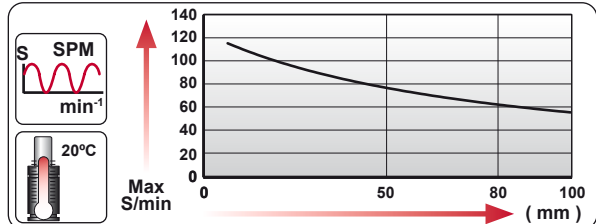
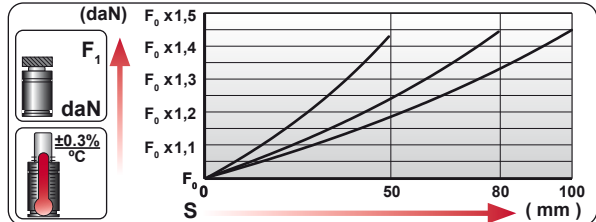
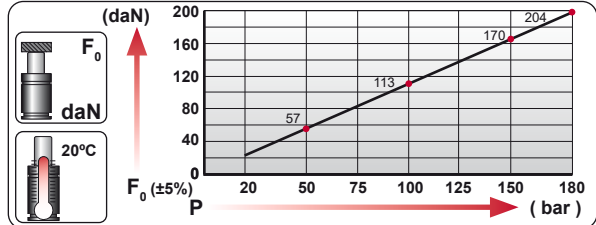
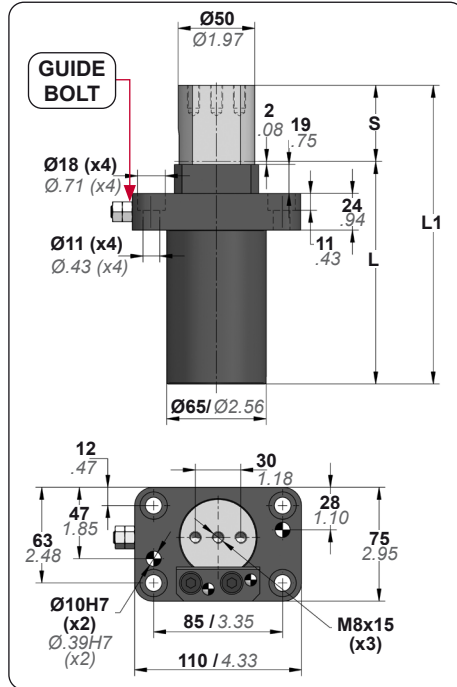
LPJ \_ \_





**EXU**

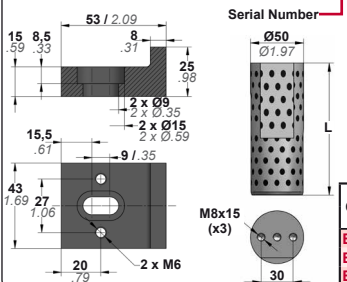
Flange Strippers

**AZOL  
GAS**

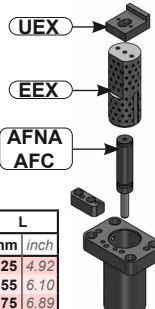
| ORDER       | S   |      | L1<br>±0.25 |       | L   |      | GAS SPRING     |      |       |
|-------------|-----|------|-------------|-------|-----|------|----------------|------|-------|
|             | mm  | inch | mm          | inch  | mm  | inch |                | Kg.  | lb    |
| EXU --- 050 | 50  | 1.97 | 196         | 7.72  | 146 | 5.75 | AFNA --- 050   | 4.15 | 9.15  |
| EXU --- 080 | 80  | 3.15 | 256         | 10.08 | 176 | 6.93 | AFC --- 080 V1 | 5.01 | 11.05 |
| EXU --- 100 | 100 | 3.94 | 296         | 11.65 | 196 | 7.72 | AFC --- 100 V1 | 5.41 | 11.93 |

**UEX****EEX----**

Serial Number



| ORDER   | S   |      | L   |      |
|---------|-----|------|-----|------|
|         | mm  | inch | mm  | inch |
| EEX-050 | 50  | 1.97 | 125 | 4.92 |
| EEX-080 | 80  | 3.15 | 155 | 6.10 |
| EEX-100 | 100 | 3.94 | 175 | 6.89 |



| ORDER       | COLOR  | P   |      |
|-------------|--------|-----|------|
|             |        | bar | psi  |
| EXU 50 050  | Green  | 45  | 650  |
| EXU 100 050 | Blue   | 90  | 1305 |
| EXU 150 050 | Red    | 135 | 1960 |
| EXU 200 050 | Yellow | 180 | 2610 |

| ORDER       | $F_0$<br>Initial Force<br>±5%<br>20°C 68°F |     | $F_1$<br>(ISOTHERMAL)<br>End Force |     |
|-------------|--------------------------------------------|-----|------------------------------------|-----|
|             | daN                                        | lb  | daN                                | lb  |
| EXU 50 050  | 50                                         | 112 | 70                                 | 157 |
| EXU 100 050 | 100                                        | 225 | 145                                | 326 |
| EXU 150 050 | 150                                        | 337 | 215                                | 483 |
| EXU 200 050 | 200                                        | 450 | 285                                | 641 |

**TECHNICAL DATA**

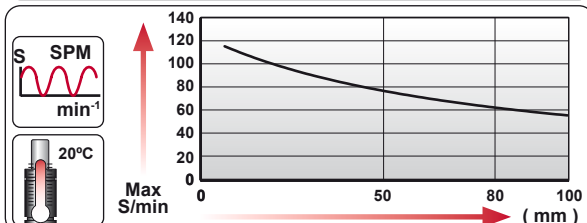
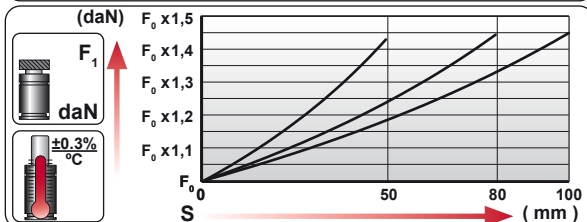
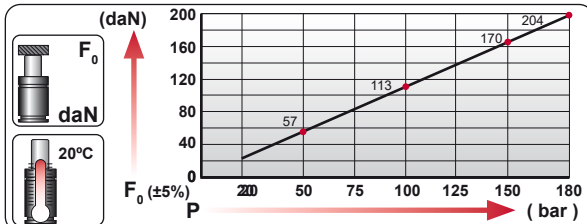
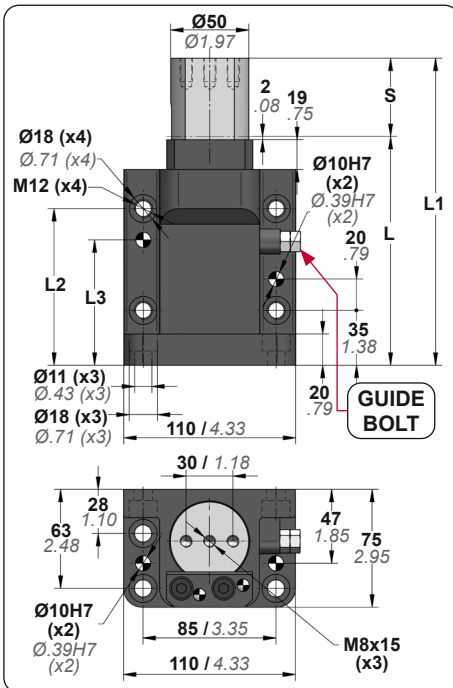
|  |       |                |  |                                   |                                    |  |            |                            |
|--|-------|----------------|--|-----------------------------------|------------------------------------|--|------------|----------------------------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F          | 20 bar 180 bar<br>290 psi 2610 psi |  | Gas Spring | AFNA --- 050<br>AFC --- V1 |
|  | Smax  | < 90%          |  | Tmin Tmax                         | 0 °C 80 °C<br>32 °F 176 °F         |  | Cap        | UEX                        |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature | ±0,3% / °C                         |  | Rod        | EEX---                     |

**AZOL**  
**GAS**

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

**EXY**

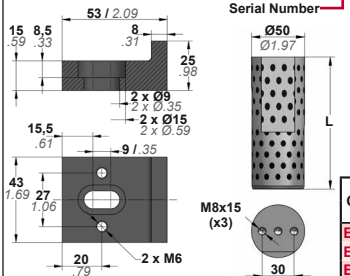
Flange Strippers



| ORDER       | S   |      | L1<br>±0.25 |       | L   |      | L2  |      | L3  |      | GAS SPRING     |  |      |       |
|-------------|-----|------|-------------|-------|-----|------|-----|------|-----|------|----------------|--|------|-------|
|             | mm  | inch | mm          | inch  | mm  | inch | mm  | inch | mm  | inch |                |  | Kg.  | lb    |
| EXY --- 050 | 50  | 1.97 | 196         | 7.72  | 146 | 5.75 | 100 | 3.94 | 80  | 3.15 | AFNA --- 050   |  | 5.47 | 12.06 |
| EXY --- 080 | 80  | 3.15 | 256         | 10.08 | 176 | 6.93 | 130 | 5.12 | 110 | 4.33 | AFC --- 080 V1 |  | 6.83 | 15.06 |
| EXY --- 100 | 100 | 3.94 | 296         | 11.65 | 196 | 7.72 | 150 | 5.91 | 130 | 5.12 | AFC --- 100 V1 |  | 7.56 | 16.67 |

**UEX****EEX**

Serial Number



| ORDER   | S   |      | L   |      |
|---------|-----|------|-----|------|
|         | mm  | inch | mm  | inch |
| EEX-050 | 50  | 1.97 | 125 | 4.92 |
| EEX-080 | 80  | 3.15 | 155 | 6.10 |
| EEX-100 | 100 | 3.94 | 175 | 6.89 |

UEX

EEX

AFNA  
AFC

| ORDER       | COLOR  | P   |      |
|-------------|--------|-----|------|
|             |        | bar | psi  |
| EXY 50 050  | Green  | 45  | 650  |
| EXY 100 050 | Blue   | 90  | 1305 |
| EXY 150 050 | Red    | 135 | 1960 |
| EXY 200 050 | Yellow | 180 | 2610 |

| ORDER       | $F_0$<br>Initial Force<br>±5%<br>20°C 68°F |     | $F_1$<br>(ISOTHERMAL)<br>End Force |     |
|-------------|--------------------------------------------|-----|------------------------------------|-----|
|             | daN                                        | lb  | daN                                | lb  |
| EXY 50 050  | 50                                         | 112 | 70                                 | 157 |
| EXY 100 050 | 100                                        | 225 | 145                                | 326 |
| EXY 150 050 | 150                                        | 337 | 215                                | 483 |
| EXY 200 050 | 200                                        | 450 | 285                                | 641 |

**TECHNICAL DATA**

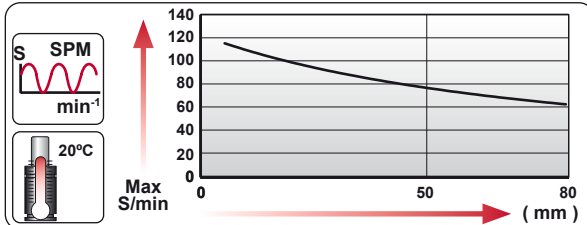
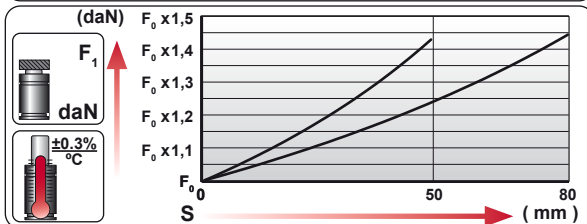
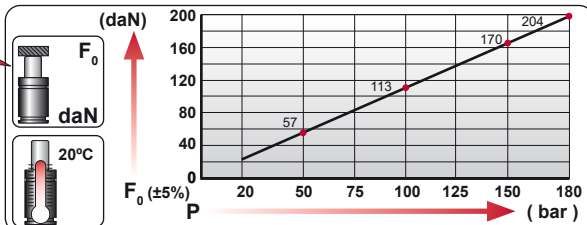
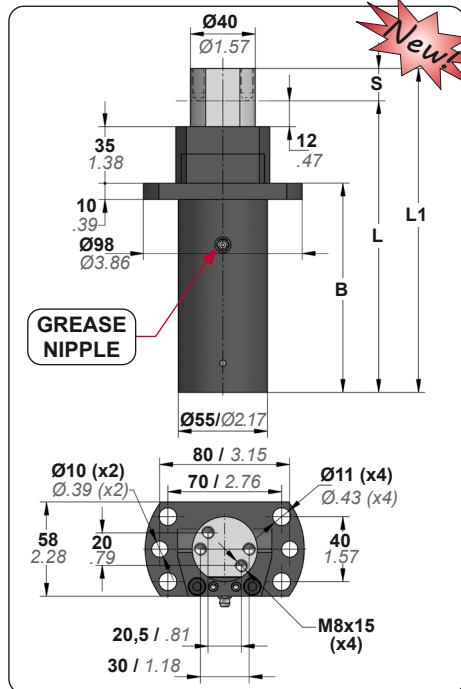
| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Gas<br>Spring | AFNA --- 050<br>AFC --- V1 |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|---------------|----------------------------|
|       |                |                                   |                     |                   |                     |               |                            |
| Smax  | < 90%          | Tmin                              | Tmax                | 20°C<br>32°F      | 80°C<br>176°F       | Cap           | UEX                        |
| Vmax  | 1,6 m/s        | Force variation<br>by temperature |                     | ±0,3% / °C        |                     | Rod           | EEX---                     |

**EXG V1**

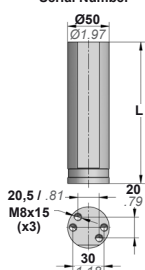
Flange Strippers

| AZOLGAS        | PSA           |
|----------------|---------------|
| EXG 150 050 V1 | N 000 473 321 |
| EXG 150 080 V1 | N 000 473 322 |

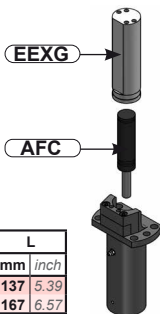
|  |                         |
|--|-------------------------|
|  | PSA E24.57.420.G (2015) |
|  |                         |

**AZOL  
GAS**

| ORDER          | S  |      | L1<br>±0.25 |       | L   |      | B   |      | GAS SPRING     | Kg. / lb |      |
|----------------|----|------|-------------|-------|-----|------|-----|------|----------------|----------|------|
|                | mm | inch | mm          | inch  | mm  | inch | mm  | inch |                |          |      |
| EXG --- 050 V1 | 50 | 1.97 | 200         | 7.87  | 150 | 5.91 | 103 | 4.06 | AFC --- 050 V1 | 2.53     | 5.58 |
| EXG --- 080 V1 | 80 | 3.15 | 260         | 10.24 | 180 | 7.09 | 133 | 5.24 | AFC --- 080 V1 | 3.09     | 6.81 |

**EEEXG** Serial Number

| ORDER    | S  |      | L   |      |
|----------|----|------|-----|------|
|          | mm | inch | mm  | inch |
| EEXG-050 | 50 | 1.97 | 137 | 5.39 |
| EEXG-080 | 80 | 3.15 | 167 | 6.57 |



| ORDER          | COLOR  | P   |      |
|----------------|--------|-----|------|
|                |        | bar | psi  |
| EXG 50 050 V1  | Green  | 45  | 650  |
| EXG 100 050 V1 | Blue   | 90  | 1305 |
| EXG 150 050 V1 | Red    | 135 | 1960 |
| EXG 200 050 V1 | Yellow | 180 | 2610 |

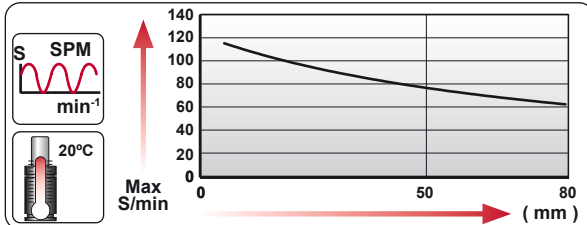
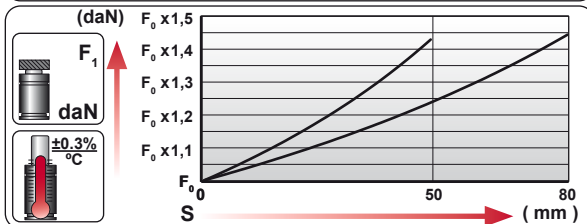
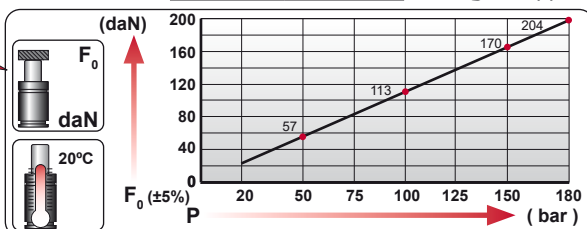
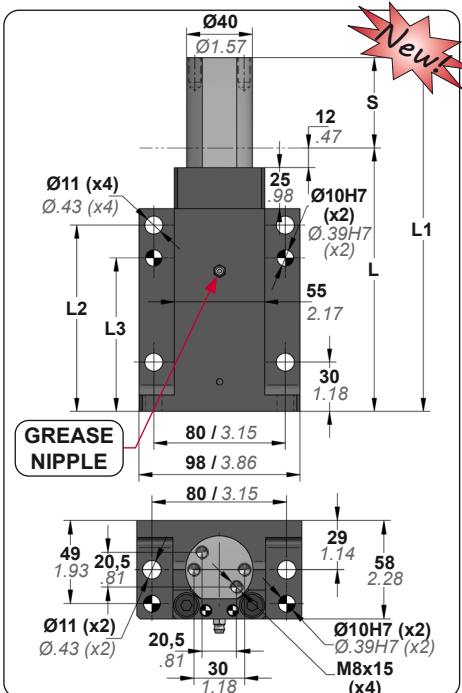
| ORDER          | F <sub>0</sub> Initial Force<br>±5%<br>20°C 68°F |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     |
|----------------|--------------------------------------------------|-----|------------------------------------------|-----|
|                | daN                                              | lb  | daN                                      | lb  |
| EXG 50 050 V1  | 50                                               | 112 | 75                                       | 169 |
| EXG 100 050 V1 | 100                                              | 225 | 155                                      | 348 |
| EXG 150 050 V1 | 150                                              | 337 | 230                                      | 517 |
| EXG 200 050 V1 | 200                                              | 450 | 305                                      | 686 |

**TECHNICAL DATA**

| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Gas Spring | AFC --- V1 |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|------------|------------|
|       |                |                                   |                     |                   |                     |            |            |
| Smax  | < 90%          | Tmin                              | Tmax                | 0 °C<br>32 °F     | 80 °C<br>176 °F     | Cap        | X          |
| Vmax  | 1,6 m/s        | Force variation<br>by temperature |                     | ±0,3% / °C        |                     | Rod        | EEEXG---   |

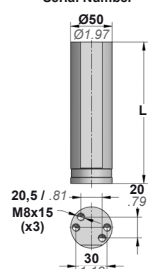
|  |     |              |
|--|-----|--------------|
|  | PSA | E24.57.420.G |
|  |     |              |
|  |     |              |

| AZOLGAS     | PSA<br>MABEC  |
|-------------|---------------|
| EXF 150 050 | N 000 442 336 |
| EXF 150 080 | N 000 444 548 |



| ORDER       | S  |      | L1<br>±0.25 |       | L   |      | L2  |      | L3  |      | GAS SPRING     |      | Kg.   | lb |
|-------------|----|------|-------------|-------|-----|------|-----|------|-----|------|----------------|------|-------|----|
|             | mm | inch | mm          | inch  | mm  | inch | mm  | inch | mm  | inch | AFC ... 050 V1 |      |       |    |
| EXF --- 050 | 50 | 1.97 | 200         | 7.87  | 150 | 5.91 | 103 | 4.06 | 83  | 3.27 | AFC ... 050 V1 | 4.38 | 9.66  |    |
| EXF --- 080 | 80 | 3.15 | 260         | 10.24 | 180 | 7.09 | 133 | 5.24 | 113 | 4.45 | AFC ... 080 V1 | 5.50 | 12.13 |    |

EEXG-Serial Number



| ORDER    | S  |      | L   |      |
|----------|----|------|-----|------|
|          | mm | inch | mm  | inch |
| EEXG-050 | 50 | 1.97 | 137 | 5.39 |
| EEXG-080 | 80 | 3.15 | 167 | 6.57 |

EEXG

AFC

| ORDER       | COLOR  | P   |      |
|-------------|--------|-----|------|
|             |        | bar | psi  |
| EXF 50 050  | Green  | 45  | 650  |
| EXF 100 050 | Blue   | 90  | 1305 |
| EXF 150 050 | Red    | 135 | 1960 |
| EXF 200 050 | Yellow | 180 | 2610 |

| ORDER       | F <sub>0</sub><br>Initial Force<br>±5%<br>20°C 68°F |     | F <sub>1</sub><br>(ISOTHERMAL)<br>End Force |     |
|-------------|-----------------------------------------------------|-----|---------------------------------------------|-----|
|             | daN                                                 | lb  | daN                                         | lb  |
| EXF 50 050  | 50                                                  | 112 | 75                                          | 169 |
| EXF 100 050 | 100                                                 | 225 | 155                                         | 348 |
| EXF 150 050 | 150                                                 | 337 | 230                                         | 517 |
| EXF 200 050 | 200                                                 | 450 | 305                                         | 686 |

## TECHNICAL DATA

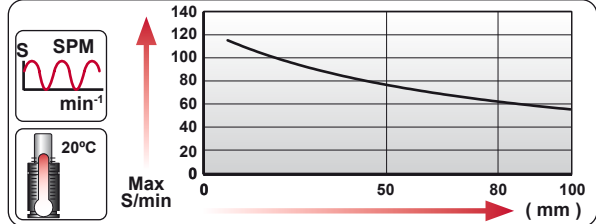
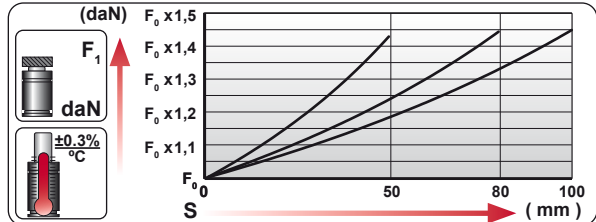
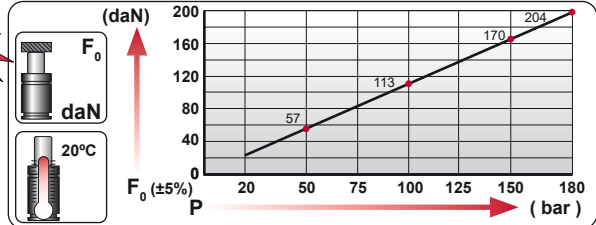
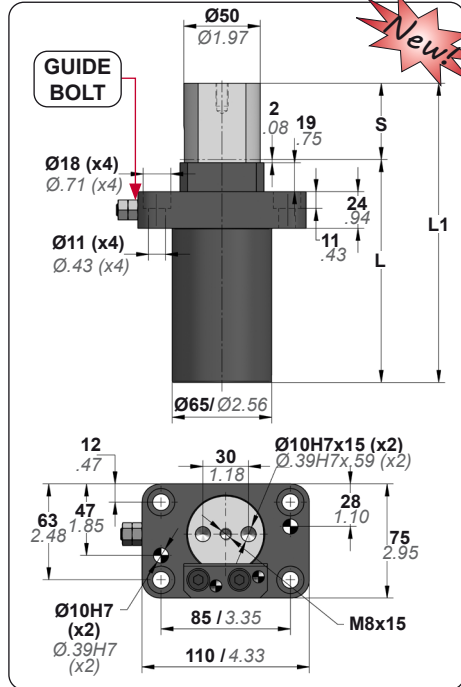
|  |       |                |  |                                   |                                    |  |            |            |
|--|-------|----------------|--|-----------------------------------|------------------------------------|--|------------|------------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F          | 20 bar 180 bar<br>290 psi 2610 psi |  | Gas Spring | AFC --- V1 |
|  | Smax  | < 90%          |  | Tmin Tmax                         | 0 °C 80 °C<br>32 °F 176 °F         |  | Cap        | X          |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature | ±0,3% / °C                         |  | Rod        | EEXG---    |

**EXB**

Flange Strippers

| AZOLGAS     | BMW       |
|-------------|-----------|
| EXB 100 050 | 2 174 771 |
| EXB 100 080 | 2 174 772 |
| EXB 100 100 | 2 175 937 |

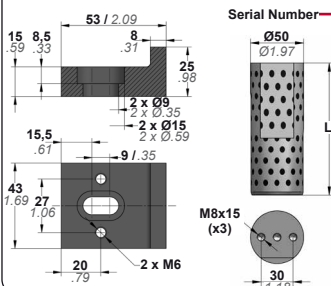
BMW B2 4003

**AZOL  
GAS**

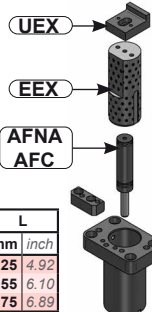
| ORDER       | S   |      | L1<br>±0.25 |       | L   |      | GAS SPRING     |  |      |       |
|-------------|-----|------|-------------|-------|-----|------|----------------|--|------|-------|
|             | mm  | inch | mm          | inch  | mm  | inch |                |  | Kg.  | lb    |
| EXB --- 050 | 50  | 1.97 | 196         | 7.72  | 146 | 5.75 | AFNA --- 050   |  | 4.15 | 9.15  |
| EXB --- 080 | 80  | 3.15 | 256         | 10.08 | 176 | 6.93 | AFC --- 080 V1 |  | 5.01 | 11.05 |
| EXB --- 100 | 100 | 3.94 | 296         | 11.65 | 196 | 7.72 | AFC --- 100 V1 |  | 5.41 | 11.93 |

**UEX****EEX----**

Serial Number



| ORDER   | S   |      | L   |      |
|---------|-----|------|-----|------|
|         | mm  | inch | mm  | inch |
| EEX-050 | 50  | 1.97 | 125 | 4.92 |
| EEX-080 | 80  | 3.15 | 155 | 6.10 |
| EEX-100 | 100 | 3.94 | 175 | 6.89 |



| ORDER       | COLOR  | P   |      |
|-------------|--------|-----|------|
|             |        | bar | psi  |
| EXB 50 050  | Green  | 45  | 650  |
| EXB 100 050 | Blue   | 90  | 1305 |
| EXB 150 050 | Red    | 135 | 1960 |
| EXB 200 050 | Yellow | 180 | 2610 |

| ORDER       | F <sub>0</sub> Initial Force<br>±5%<br>20°C 68°F |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     |
|-------------|--------------------------------------------------|-----|------------------------------------------|-----|
|             | daN                                              | lb  | daN                                      | lb  |
| EXB 50 050  | 50                                               | 112 | 70                                       | 157 |
| EXB 100 050 | 100                                              | 225 | 145                                      | 326 |
| EXB 150 050 | 150                                              | 337 | 215                                      | 483 |
| EXB 200 050 | 200                                              | 450 | 285                                      | 641 |

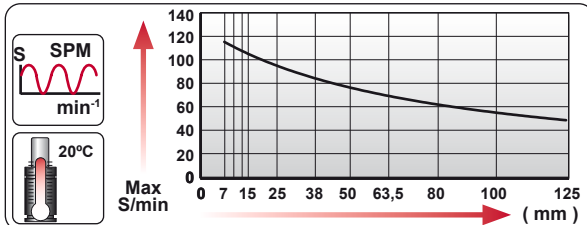
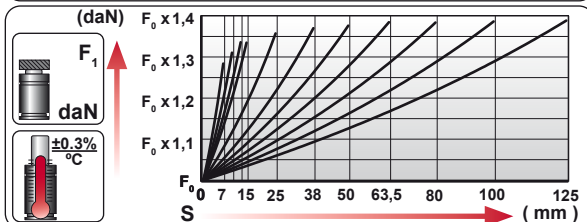
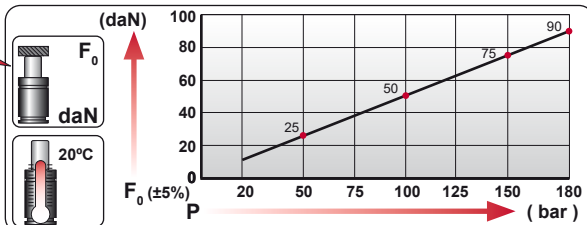
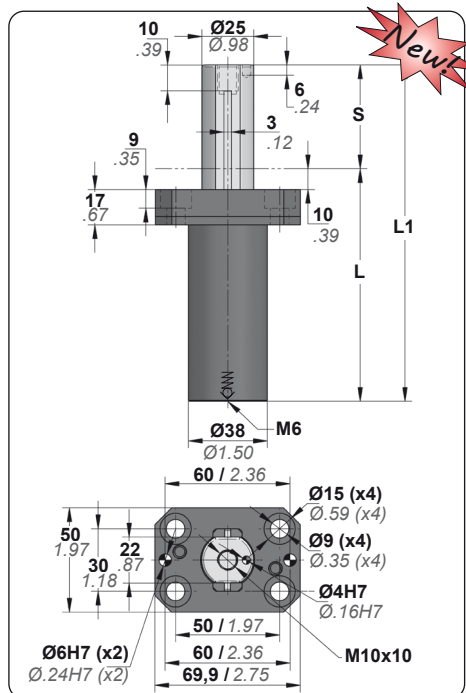
**TECHNICAL DATA**

|  |       |                |  |                                   |                                    |  |            |                            |
|--|-------|----------------|--|-----------------------------------|------------------------------------|--|------------|----------------------------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F          | 20 bar 180 bar<br>290 psi 2610 psi |  | Gas Spring | AFNA --- 050<br>AFC --- V1 |
|  | Smax  | < 90%          |  | Tmin Tmax                         | 0 °C 80 °C<br>32 °F 176 °F         |  | Cap        | UEX                        |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature | ±0,3% / °C                         |  | Rod        | EEX---                     |

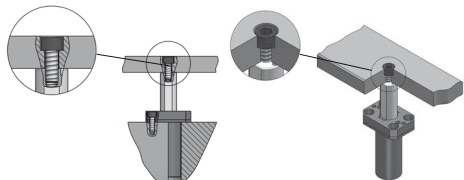


**EXDB 90 V3**

Stock Lifters

**AZOL  
GAS**

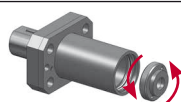
| ORDER          | S    |      | L1<br>±0.25 |       | L     |      | F <sub>0</sub><br>Initial Force                        |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     | GAS<br>SPRING |  |      |
|----------------|------|------|-------------|-------|-------|------|--------------------------------------------------------|-----|------------------------------------------|-----|---------------|-----------------------------------------------------------------------------------|------|
|                | mm   | inch | mm          | inch  | mm    | inch | daN                                                    | lb  | daN                                      | lb  |               | Kg.                                                                               | lb   |
| EXDB 90 025 V3 | 25   | 0.98 | 112         | 4.41  | 87    | 3.43 | 90<br>±5%<br>180 bar<br>2610 psi<br>at<br>20°C<br>68°F | 202 | 127                                      | 286 | AFJ 90 025 V2 | 0.63                                                                              | 1.39 |
| EXDB 90 038 V3 | 38   | 1.50 | 138         | 5.43  | 100   | 3.94 |                                                        |     | 128                                      | 288 | AFJ 90 038 V2 | 0.69                                                                              | 1.52 |
| EXDB 90 050 V3 | 50   | 1.97 | 162         | 6.38  | 112   | 4.41 |                                                        |     | 128                                      | 288 | AFJ 90 050 V2 | 0.75                                                                              | 1.65 |
| EXDB 90 063 V3 | 63.5 | 2.50 | 192         | 7.56  | 128.5 | 5.06 |                                                        |     | 129                                      | 289 | AFJ 90 063 V2 | 0.82                                                                              | 1.81 |
| EXDB 90 080 V3 | 80   | 3.15 | 225         | 8.86  | 145   | 5.71 |                                                        |     | 129                                      | 289 | AFJ 90 080 V2 | 0.92                                                                              | 2.03 |
| EXDB 90 100 V3 | 100  | 3.94 | 265         | 10.43 | 165   | 6.50 |                                                        |     | 129                                      | 290 | AFJ 90 100 V2 | 1.02                                                                              | 2.25 |
| EXDB 90 125 V3 | 125  | 4.92 | 315         | 12.40 | 190   | 7.48 |                                                        |     | 129                                      | 290 | AFJ 90 125 V2 | 1.15                                                                              | 2.54 |

**INSTALLATION GUIDELINES****DISASSEMBLY TOOLS**

ARI-19/60



PTR-3

**TECHNICAL DATA**

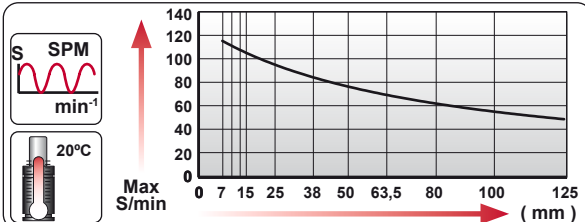
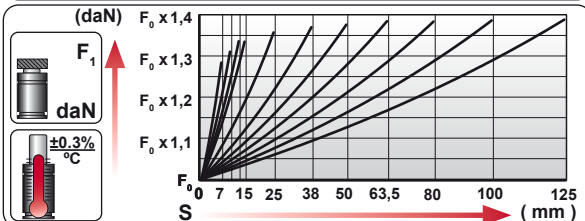
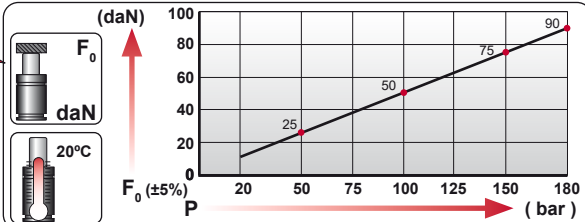
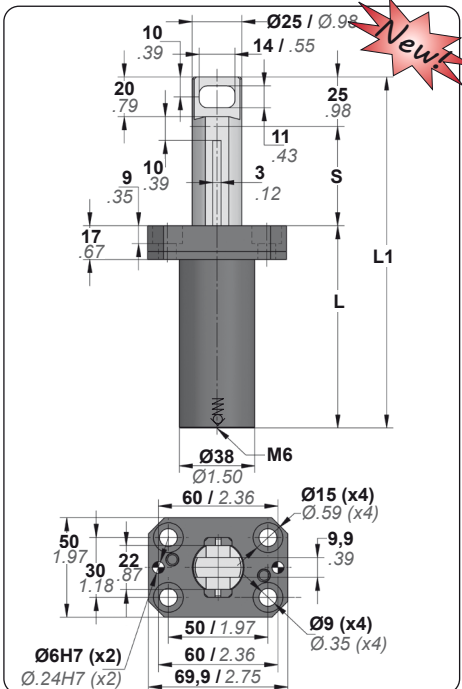
| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Gas<br>Spring    | AFJ 90 ____ V2 |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|------------------|----------------|
|       |                |                                   |                     |                   |                     |                  |                |
| Smax  | < 90%          | Tmin                              | Tmax                | 0 °C<br>32 °F     | 80 °C<br>176 °F     | Connection       | X              |
| Vmax  | 0,8 m/s        | Force variation<br>by temperature |                     | ±0,3% / °C        |                     | Cartridge<br>Kit | X              |

AZOL  
GAS

|  |  |  |  |
|--|--|--|--|
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

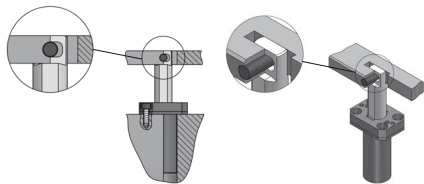
**EXDN 90 V3**

Stock Lifters



| ORDER          | S    |      | L1<br>±0.25 |       | L     |      | F <sub>0</sub><br>Initial Force                                        |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     | GAS<br>SPRING |  |      |
|----------------|------|------|-------------|-------|-------|------|------------------------------------------------------------------------|-----|------------------------------------------|-----|---------------|-----------------------------------------------------------------------------------|------|
|                | mm   | inch | mm          | inch  | mm    | inch | daN                                                                    | lb  | daN                                      | lb  |               | Kg.                                                                               | lb   |
| EXDN 90 025 V3 | 25   | 0.98 | 127         | 5.00  | 77    | 3.03 | 90<br><div>±5%<br/>180 bar<br/>2610 psi<br/>at<br/>20°C<br/>68°F</div> | 202 | 127                                      | 286 | AFJ 90 025 V2 | 0.64                                                                              | 1.41 |
| EXDN 90 038 V3 | 38   | 1.50 | 153         | 6.02  | 90    | 3.54 |                                                                        |     | 128                                      | 288 | AFJ 90 038 V2 | 0.70                                                                              | 1.54 |
| EXDN 90 050 V3 | 50   | 1.97 | 177         | 6.97  | 102   | 4.02 |                                                                        |     | 128                                      | 288 | AFJ 90 050 V2 | 0.76                                                                              | 1.68 |
| EXDN 90 063 V3 | 63.5 | 2.50 | 207         | 8.15  | 118.5 | 4.67 |                                                                        |     | 129                                      | 289 | AFJ 90 063 V2 | 0.84                                                                              | 1.85 |
| EXDN 90 080 V3 | 80   | 3.15 | 240         | 9.45  | 135   | 5.31 |                                                                        |     | 129                                      | 289 | AFJ 90 080 V2 | 0.93                                                                              | 2.05 |
| EXDN 90 100 V3 | 100  | 3.94 | 280         | 11.02 | 155   | 6.10 |                                                                        |     | 129                                      | 290 | AFJ 90 100 V2 | 1.03                                                                              | 2.27 |
| EXDN 90 125 V3 | 125  | 4.92 | 330         | 12.99 | 180   | 7.09 |                                                                        |     | 129                                      | 290 | AFJ 90 125 V2 | 1.16                                                                              | 2.56 |

## INSTALLATION GUIDELINES

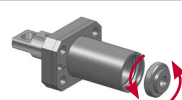


## DISASSEMBLY TOOLS

ARI-19/60



PTR-3



## TECHNICAL DATA

| Fluid | N <sub>2</sub> | Pmin<br>20°C / 68°F               | Pmax<br>20°C / 68°F | 20 bar<br>290 psi | 180 bar<br>2610 psi | Gas<br>Spring    | AFJ 90 --- V2 |
|-------|----------------|-----------------------------------|---------------------|-------------------|---------------------|------------------|---------------|
|       |                |                                   |                     |                   |                     |                  |               |
| Smax  | < 90%          | Tmin                              | Tmax                | 0 °C<br>32 °F     | 80 °C<br>176 °F     | Connection       | X             |
| Vmax  | 0,8 m/s        | Force variation<br>by temperature | ±0,3% / °C          |                   |                     | Cartridge<br>Kit | X             |

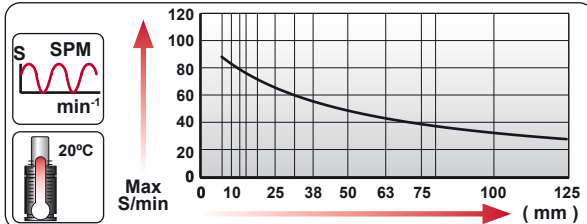
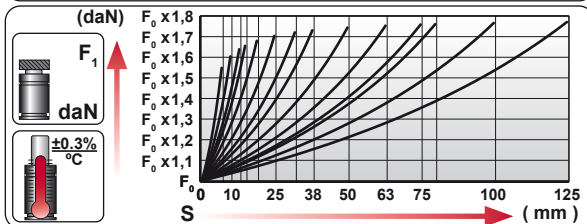
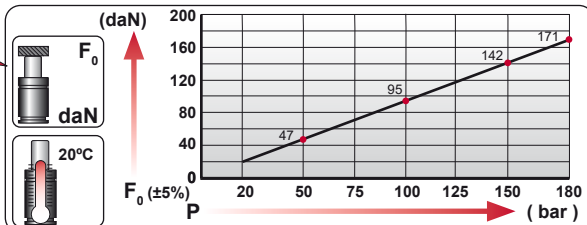
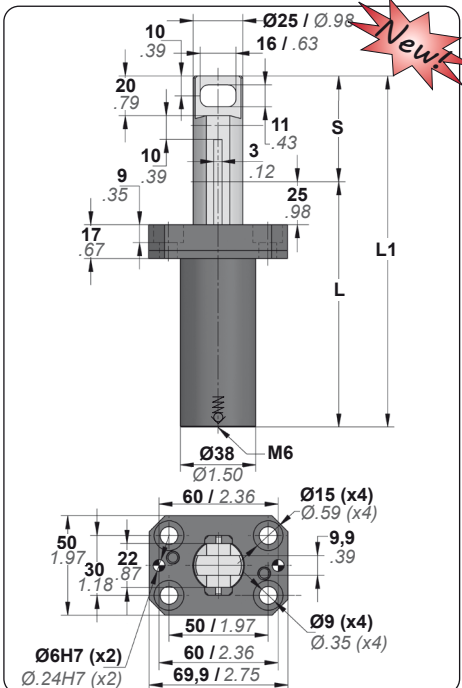


AZOL  
GAS

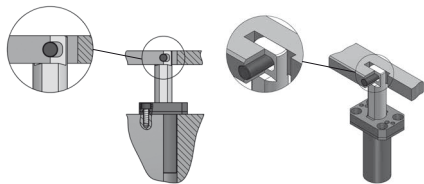
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**EXDE 170 V3**

Stock Lifters



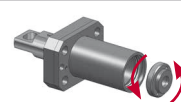
| ORDER           | S   |      | L1<br>±0.25 |       | L   |      | F <sub>0</sub><br>Initial Force                                  |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     | GAS<br>SPRING |  |      |
|-----------------|-----|------|-------------|-------|-----|------|------------------------------------------------------------------|-----|------------------------------------------|-----|---------------|------------------------------------------------------------------------------------|------|
|                 | mm  | inch | mm          | inch  | mm  | inch | daN                                                              | lb  | daN                                      | lb  |               | Kg.                                                                                | lb   |
| EXDE 170 025 V3 | 25  | 0.98 | 127         | 5.00  | 102 | 4.02 | 170                                                              | 382 | 293                                      | 658 | CW 170 025 V1 | 0.62                                                                               | 1.37 |
| EXDE 170 038 V3 | 38  | 1.50 | 153         | 6.02  | 115 | 4.53 |                                                                  |     | 301                                      | 676 | CW 170 038 V1 | 0.69                                                                               | 1.52 |
| EXDE 170 050 V3 | 50  | 1.97 | 177         | 6.97  | 127 | 5.00 |                                                                  |     | 304                                      | 685 | CW 170 050 V1 | 0.76                                                                               | 1.68 |
| EXDE 170 063 V3 | 63  | 2.48 | 203         | 7.99  | 140 | 5.51 |                                                                  |     | 307                                      | 691 | CW 170 063 V1 | 0.84                                                                               | 1.85 |
| EXDE 170 080 V3 | 80  | 3.15 | 240         | 9.45  | 160 | 6.30 |                                                                  |     | 307                                      | 689 | CW 170 080 V1 | 0.95                                                                               | 2.09 |
| EXDE 170 100 V3 | 100 | 3.94 | 280         | 11.02 | 180 | 7.09 |                                                                  |     | 309                                      | 695 | CW 170 100 V1 | 1.06                                                                               | 2.34 |
| EXDE 170 125 V3 | 125 | 4.92 | 330         | 12.99 | 205 | 8.07 | <div>±5%<br/>180 bar<br/>2610 psi<br/>at<br/>20°C<br/>68°F</div> |     | 311                                      | 699 | CW 170 125 V1 | 1.20                                                                               | 2.65 |

**INSTALLATION GUIDELINES****DISASSEMBLY TOOLS**

ARI-19/60



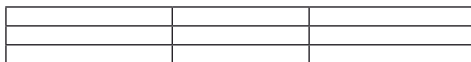
PTR-3

**TECHNICAL DATA**

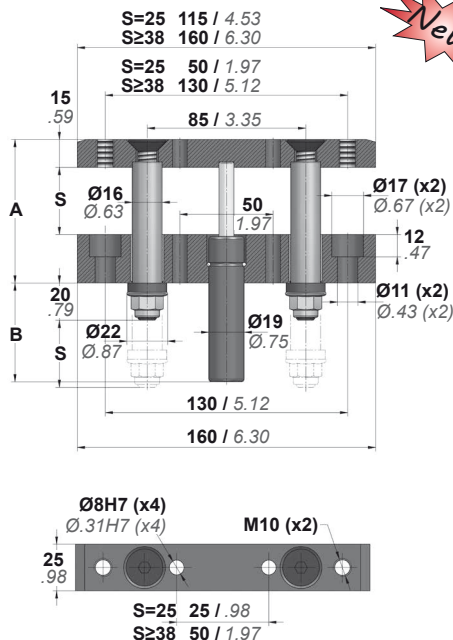
| Fluid          | $N_2$    | $P_{min}$ $P_{max}$<br>$20^\circ\text{C}$ / $68^\circ\text{F}$ | $T_{min}$ $T_{max}$<br>$0^\circ\text{C}$ / $80^\circ\text{F}$ | 20 bar<br>290 psi | 180 bar<br>2610 psi | Gas Spring    | CW 170 --- V1 |
|----------------|----------|----------------------------------------------------------------|---------------------------------------------------------------|-------------------|---------------------|---------------|---------------|
|                |          |                                                                |                                                               |                   |                     |               |               |
| 100% $S_{max}$ | $< 90\%$ |                                                                |                                                               |                   |                     | Connection    | X             |
| $V_{max}$      | 0,8 m/s  | Force variation by temperature                                 | $\pm 0,3\% / ^\circ\text{C}$                                  |                   |                     | Cartridge Kit | X             |

## LPG 90

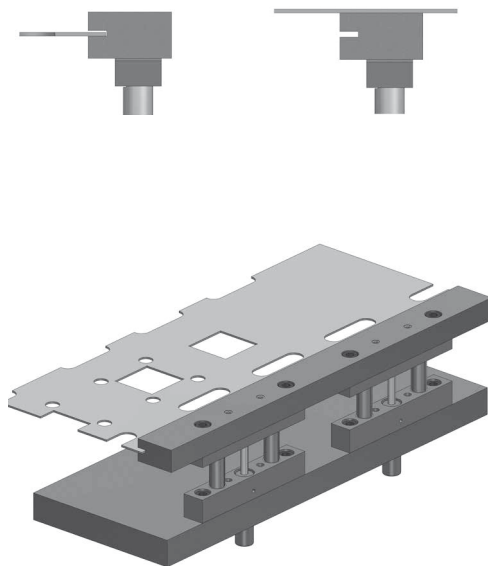
## Guided Lifters



**AZOL**   
**GAS**



## INSTALLATION GUIDELINES



| ORDER      | S    |      | A     |      | B    |      | F <sub>0</sub><br>Initial Force |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     | GAS SPRING    |  |      |
|------------|------|------|-------|------|------|------|---------------------------------|-----|------------------------------------------|-----|---------------|-----------------------------------------------------------------------------------|------|
|            | mm   | inch | mm    | inch | mm   | inch | daN                             | lb  | daN                                      | lb  |               | Kg.                                                                               | lb   |
| LPG 90 025 | 23   | 0.91 | 64    | 2.52 | 40   | 1.57 | 90                              | 202 | 127                                      | 286 | AFJ 90 025 V2 | 1.36                                                                              | 3.00 |
| LPG 90 038 | 36   | 1.42 | 77    | 3.03 | 53   | 2.09 |                                 |     | 128                                      | 288 | AFJ 90 038 V2 | 1.42                                                                              | 3.13 |
| LPG 90 050 | 48   | 1.89 | 89    | 3.50 | 65   | 2.56 |                                 |     | 128                                      | 288 | AFJ 90 050 V2 | 1.47                                                                              | 3.24 |
| LPG 90 063 | 61.5 | 2.42 | 102.5 | 4.04 | 81.5 | 3.21 |                                 |     | 129                                      | 289 | AFJ 90 063 V2 | 1.53                                                                              | 3.37 |
| LPG 90 080 | 78   | 3.07 | 119   | 4.69 | 98   | 3.86 |                                 |     | 129                                      | 289 | AFJ 90 080 V2 | 1.60                                                                              | 3.53 |
| LPG 90 100 | 98   | 3.86 | 139   | 5.47 | 118  | 4.65 |                                 |     | 129                                      | 290 | AFJ 90 100 V2 | 1.69                                                                              | 3.73 |
| LPG 90 125 | 123  | 4.84 | 164   | 6.46 | 143  | 5.63 |                                 |     | 129                                      | 290 | AFJ 90 125 V2 | 1.80                                                                              | 3.97 |
| LPG 90 150 | 148  | 5.83 | 189   | 7.44 | 168  | 6.61 |                                 |     | 129                                      | 290 | AFJ 90 150 V2 | 1.91                                                                              | 4.21 |

| Ram Velocity |      | Attachment Mass |    |
|--------------|------|-----------------|----|
| mm/s         | in/s | Kg.             | lb |
| 300          | 12   | 20              | 44 |
| 400          | 16   | 11              | 24 |
| 500          | 20   | 7.3             | 16 |
| 600          | 24   | 5.0             | 11 |
| 700          | 28   | 3.7             | 8  |
| 800          | 31   | 2.8             | 6  |

Determine the slider speed of the press from its technical specification and application conditions, and follow the instructions according to chart.

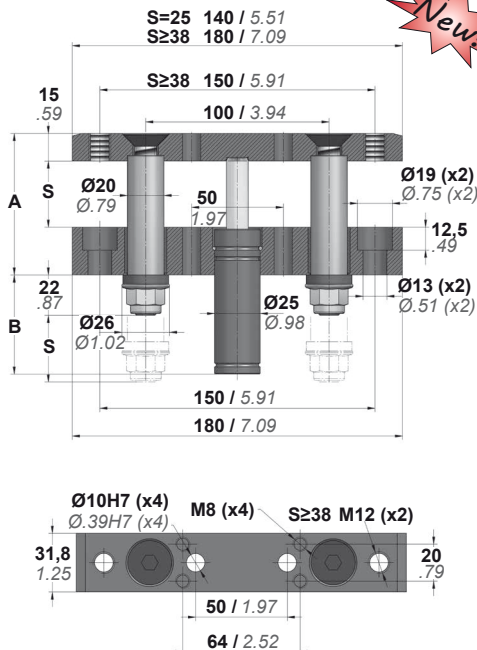
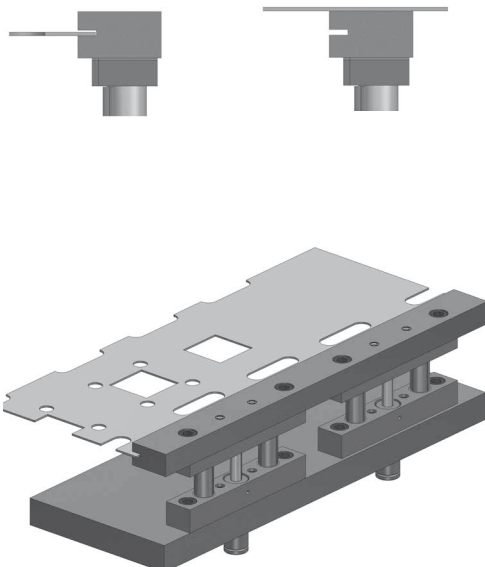
Make sure that the load doesn't exceed the recommended maximal value for the given speed.

## TECHNICAL DATA

|                                                                                   |              |                |                                                                                                                                                                         |                                       |                                           |                                                                                     |                         |           |
|-----------------------------------------------------------------------------------|--------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------|-------------------------------------------------------------------------------------|-------------------------|-----------|
|  | <b>Fluid</b> | N <sub>2</sub> |   | <b>Pmin Pmax</b><br>20°C / 68°F       | <b>20 bar 180 bar</b><br>290 psi 2610 psi |  | <b>Charging Adapter</b> | 06 CG 2-Q |
|  | <b>Smax</b>  | < 90%          |   | <b>Tmin Tmax</b>                      | <b>0 °C 80 °C</b><br>32 °F 176 °F         |  | <b>Connection</b>       | <b>X</b>  |
|  | <b>Vmax</b>  | 1,6 m/s        |                                                                                      | <b>Force variation by temperature</b> | ±0,3% / °C                                |  | <b>Cartridge Kit</b>    | <b>X</b>  |

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## INSTALLATION GUIDELINES



| ORDER       | S    |      | A     |      | B    |      | F <sub>0</sub><br>Initial Force |     | F <sub>1</sub> (ISOTHERMAL)<br>End Force |     | GAS<br>SPRING  |  |      |
|-------------|------|------|-------|------|------|------|---------------------------------|-----|------------------------------------------|-----|----------------|-----------------------------------------------------------------------------------|------|
|             | mm   | inch | mm    | inch | mm   | inch | daN                             | lb  | daN                                      | lb  |                | Kg.                                                                               | lb   |
| LPG 200 025 | 23   | 0.91 | 64    | 2.52 | 41   | 1.61 | 200                             | 450 | 289                                      | 650 | AFC 200 025 V1 | 2.01                                                                              | 4.43 |
| LPG 200 038 | 36   | 1.42 | 77    | 3.03 | 54   | 2.13 |                                 |     | 291                                      | 654 | AFC 200 038 V1 | 2.08                                                                              | 4.59 |
| LPG 200 050 | 48   | 1.89 | 89    | 3.50 | 66   | 2.60 |                                 |     | 292                                      | 656 | AFC 200 050 V1 | 2.16                                                                              | 4.76 |
| LPG 200 063 | 61.5 | 2.42 | 102.5 | 4.04 | 82.5 | 3.25 |                                 |     | 292                                      | 657 | AFC 200 063 V1 | 2.25                                                                              | 4.96 |
| LPG 200 080 | 78   | 3.07 | 119   | 4.69 | 99   | 3.90 |                                 |     | 293                                      | 658 | AFC 200 080 V1 | 2.34                                                                              | 5.16 |
| LPG 200 100 | 98   | 3.86 | 139   | 5.47 | 119  | 4.69 |                                 |     | 293                                      | 659 | AFC 200 100 V1 | 2.46                                                                              | 5.42 |
| LPG 200 125 | 123  | 4.84 | 164   | 6.46 | 144  | 5.67 |                                 |     | 293                                      | 659 | AFC 200 125 V1 | 2.61                                                                              | 5.75 |
| LPG 200 150 | 148  | 5.83 | 189   | 7.44 | 177  | 6.97 |                                 |     | 295                                      | 663 | AFC-M 200 150  | 2.90                                                                              | 6.39 |
| LPG 200 175 | 173  | 6.81 | 214   | 8.43 | 202  | 7.95 |                                 |     | 295                                      | 663 | AFC-M 200 175  | 3.07                                                                              | 6.77 |
| LPG 200 200 | 198  | 7.80 | 239   | 9.41 | 227  | 8.94 |                                 |     | 296                                      | 665 | AFC-M 200 200  | 3.24                                                                              | 7.14 |

| Ram Velocity |      | Attachment Mass |    |
|--------------|------|-----------------|----|
| mm/s         | in/s | Kg.             | lb |
| 300          | 12   | 31              | 68 |
| 400          | 16   | 17              | 37 |
| 500          | 20   | 11              | 24 |
| 600          | 24   | 7.7             | 17 |
| 700          | 28   | 5.6             | 12 |
| 800          | 31   | 4.3             | 9  |

Determine the slider speed of the press from its technical specification and application conditions, and follow the instructions according to chart.

Make sure that the load doesn't exceed the recommended maximal value for the given speed.

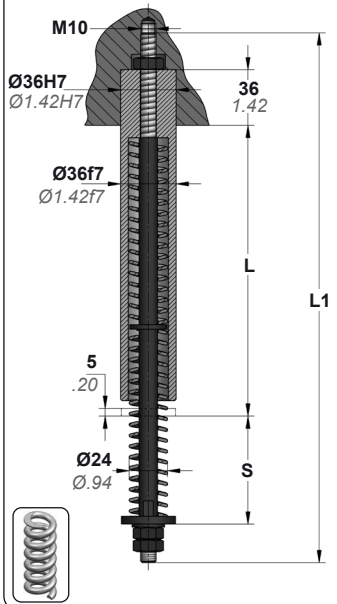
## TECHNICAL DATA

|  |       |                |  |                                   |                   |                     |  |                  |           |
|--|-------|----------------|--|-----------------------------------|-------------------|---------------------|--|------------------|-----------|
|  | Fluid | N <sub>2</sub> |  | Pmin Pmax<br>20°C / 68°F          | 20 bar<br>290 psi | 180 bar<br>2610 psi |  | Charging Adapter | 06 CG 2-Q |
|  | Smax  | < 90%          |  | Tmin Tmax                         | 0 °C<br>32 °F     | 80 °C<br>176 °F     |  | Connection       | X         |
|  | Vmax  | 1,6 m/s        |  | Force variation<br>by temperature | ±0,3% / °C        |                     |  | Cartridge Kit    | X         |

PME / PGE



PME



| ORDER   | S<br>(mm)<br>(inch) | L1<br>(mm)<br>(inch) | L<br>(mm)<br>(inch) | F <sub>0</sub><br>(daN)<br>(lb) | F <sub>1</sub><br>(daN)<br>(lb) |
|---------|---------------------|----------------------|---------------------|---------------------------------|---------------------------------|
| PME - 1 | 50<br>1.97          | 290<br>11.42         | 155<br>6.10         | 117.2<br>263                    | 650<br>1461                     |
| PME - 2 | 50<br>1.97          | 290<br>11.42         | 155<br>6.10         | 185<br>416                      | 1030<br>2316                    |
| PME - 3 | 65<br>2.56          | 343.5<br>13.52       | 193.5<br>7.62       | 94<br>211                       | 650<br>1461                     |
| PME - 4 | 65<br>2.56          | 343.5<br>13.52       | 193.5<br>7.62       | 149<br>335                      | 1030<br>2316                    |
| PME - 5 | 80<br>3.15          | 392.5<br>15.45       | 227.5<br>8.96       | 84.7<br>190                     | 650<br>1461                     |
| PME - 6 | 80<br>3.15          | 392.5<br>15.45       | 227.5<br>8.96       | 134<br>301                      | 1030<br>2316                    |



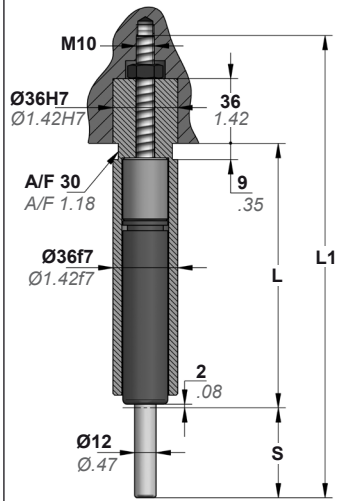


ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO



PME 1

PGE



| ORDER   | S<br>(mm)<br>(inch) | L1<br>(mm)<br>(inch) | L<br>(mm)<br>(inch) | F <sub>0</sub><br>(daN)<br>(lb) | F <sub>1</sub><br>(daN)<br>(lb) | Gas<br>Spring |
|---------|---------------------|----------------------|---------------------|---------------------------------|---------------------------------|---------------|
| PGE - 1 | 50<br>1.97          | 257<br>10.12         | 147<br>5.79         | 50<br>112                       | 65<br>146                       | AF 50 050     |
| PGE - 2 | 50<br>1.97          | 257<br>10.12         | 147<br>5.79         | 100<br>225                      | 125<br>281                      | AF 100 050    |
| PGE - 3 | 65<br>2.56          | 310.5<br>12.22       | 185.5<br>7.30       | 50<br>112                       | 65<br>146                       | AF 50 065     |
| PGE - 4 | 65<br>2.56          | 310.5<br>12.22       | 185.5<br>7.30       | 100<br>225                      | 125<br>281                      | AF 100 065    |
| PGE - 5 | 80<br>3.15          | 359.5<br>14.15       | 218.5<br>8.60       | 50<br>112                       | 65<br>146                       | AF 50 080     |
| PGE - 6 | 80<br>3.15          | 359.5<br>14.15       | 218.5<br>8.60       | 100<br>225                      | 125<br>281                      | AF 100 080    |



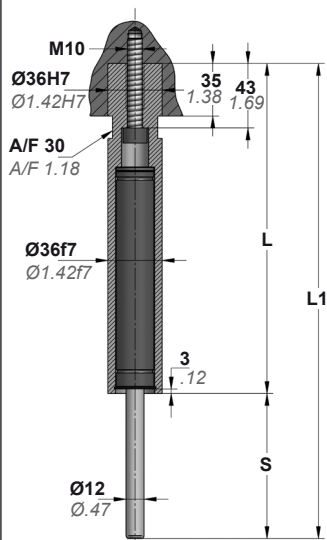


ENG ORDER  
DEU BESTELL  
FRA COMMANDE  
ITA ORDINE  
ESP PEDIDO  
POR PEDIDO

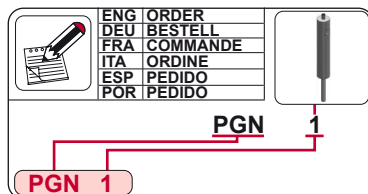


PGE 1

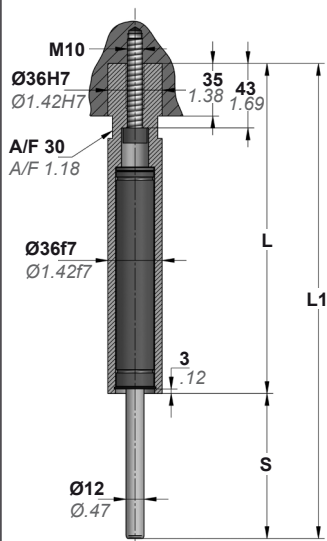
## PGN



| ORDER   | S<br>(mm)<br>(inch) | L1<br>(mm)<br>(inch) | L<br>(mm)<br>(inch) | F <sub>0</sub><br>(daN)<br>(lb) | F <sub>1</sub><br>(daN)<br>(lb) | Gas Spring     |
|---------|---------------------|----------------------|---------------------|---------------------------------|---------------------------------|----------------|
| PGN - 1 | 58<br>2.28          | 240<br>9.45          | 182<br>7.17         | 100<br>225                      | 155<br>348                      | AFC 100 063 V1 |
| PGN - 2 | 74<br>2.91          | 274<br>10.79         | 200<br>7.87         | 100<br>225                      | 155<br>348                      | AFC 100 080 V1 |
| PGN - 3 | 94<br>3.70          | 314<br>12.36         | 220<br>8.66         | 100<br>225                      | 155<br>348                      | AFC 100 100 V1 |



## PGH



| ORDER   | S<br>(mm)<br>(inch) | L1<br>(mm)<br>(inch) | L<br>(mm)<br>(inch) | F <sub>0</sub><br>(daN)<br>(lb) | F <sub>1</sub><br>(daN)<br>(lb) | Gas Spring     |
|---------|---------------------|----------------------|---------------------|---------------------------------|---------------------------------|----------------|
| PGH - 1 | 58<br>2.28          | 240<br>9.45          | 182<br>7.17         | 100<br>225                      | 155<br>348                      | AFC 100 063 V1 |
| PGH - 2 | 74<br>2.91          | 274<br>10.79         | 200<br>7.87         | 100<br>225                      | 155<br>348                      | AFC 100 080 V1 |
| PGH - 3 | 94<br>3.70          | 314<br>12.36         | 220<br>8.66         | 100<br>225                      | 155<br>348                      | AFC 100 100 V1 |

