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# CATALOGUE

## GAS SPRINGS



Manna OM

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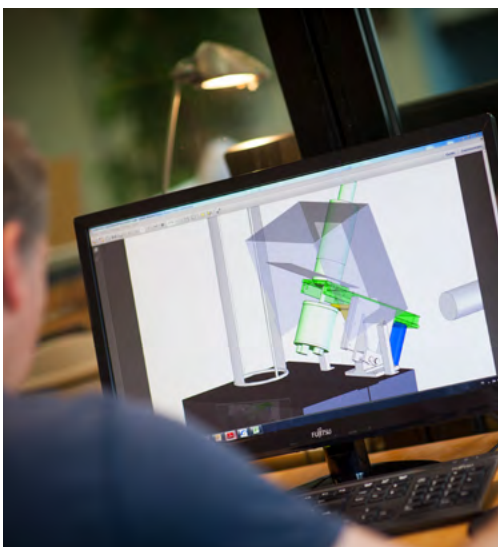
In addition to the standard end fittings, we also offer special forks and ball joints made of steel or stainless steel in various dimensions, which are used for the special type of gas spring assembly required by the customer.

# CHARAKTERISTIC

## of gas springs

The gas spring is a multipurpose product of a simple cylindrical shape with different varieties of attachment working as a gas spring with a damping effect on the basis of compressed gas (nitrogen) and oil filling. It helps, or facilitates the opening and closing, extraction or insertion and locking in the limit position on the appropriate, adjusted moving parts of different devices. Gas springs are used in the handling of bodies such as: lifting, lowering, alternating lifting and lowering, creating the forces opposing the movement of bodies in a single movement between two exactly identified end points at a controlled speed. The use of gas springs is numerous and versatile. The options for use are versatile in the engineering industry, food industry, construction industry, the furniture industry, agriculture, maintenance, and also in the private sector for various adjustments and repairs.

Gas springs are an assortment that occurs in virtually every industry sector, and also in homes. The advantage of using a gas spring consists of its long lifetime, trouble-free and maintenance-free operation and high reliability even under extreme climatic temperature changes. Gas springs are manufactured with a piston diameter of 6 mm, 8 mm, 10 mm, 14 mm or 20 mm, depending on the pressure, which the given spring should provide, i.e. the spring of smaller piston diameter can be pressurized at a lower pressure value than a spring with a bigger piston diameter. Spring with different piston diameters are also divided by different lengths and different strokes. For specific customer requirements, it is possible to manufacture a spring of non-standard size or non-standard material after consultation with the manufacturer.



CONTACT

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## DIMENSIONAL AND PRESSURE CHARACTERISTICS

All dimensions are in millimetres (mm), the pressure and power values given in Newtons (N). Information about temperatures are given in Celsius (°C)

## CONDITIONS OF USE

Number of strokes per minute: max. 5.  
In case of a greater number of strokes, contact us by phone or email. Period of maintaining original characteristics: average of 30,000 cycles. Loss of technical parameters after this maximum load threshold: max 15%.  
Operating temperature: -30°C to + 80°C.  
the relative temperature: 20°C, deviation of the extraction strength in relation to the temperature: 1% per 3°C.

## WARRANTY

- one-year warranty from the date of filling the gas spring. Example: 01/2007 = first calendar week of 2008,
- in order for the warranty to be recognized, for example after a colour surface treatment, the label with the date of filling must be readable.

## TOLERANCE WHEN PRESSURISING GAS SPRINGS

For each pressurisation of the gas spring, the following tolerance is permissible, depending on the amount of its pressure:

- when pressurising from 50 - 250N = tolerance 20N
- when pressurising from 250 - 750N = tolerance 30N
- when pressurising from 750 + N = tolerance 40N

## ASSEMBLY CONDITIONS

Gas springs are mounted generally downwards with the piston while keeping a minimum gradient of 15°. Horizontal assembly and assembly with the piston upwards must be consulted in advance. Gas springs must not be exposed to lateral pressure. In the case of gas springs with welded eyes it is necessary to leave an allowance of 0.3 to 0.5 mm on the axle in terms of its diameter and an allowance of 0.5 to 1 mm on both sides of the eye. The ordering of gas springs filled with maximum allowable table pressure should be avoided. When varnishing it is necessary to fully protect the gas spring's piston. Never use solvents to clean the piston.

## EXAMPLE OF EXERTION FORCE F1 AT THE VALUE OF 500 N

pri 35°C--+5%=525N  
pri -16°C--12%=440N

## DISPOSAL OF GAS SPRINGS

Gas springs are pressurized by a pressure of 20 to 250 bar. But before their disposal they must remain free of pressure.

For your own safety, we would like to ask that you follow these steps::

- Lightly secure the gas spring in a vise,
- saw off the tube of the gas springs at a distance of 30-35 mm from its edge.

## WARNINGS FOR THE INSTALLATION OF GAS SPRINGS

Protect the piston from the effects of various shocks and splashing during arc welding, from sparks created during grinding, and from the spraying of paint during surface treatment. Never clamp the piston in a vise or pliers without using safety clamps made of lead, aluminium, or copper.

## STORAGE CONDITIONS BEFORE USING THE GAS SPRING

In the case of a storage period up to 3 months the gas springs may be stored in a horizontal position and in a closed room at room temperature. In the case of a longer storage period and in countries with a warm climate, gas springs must be stored in an upright position, with the piston downward.

## WHILE DOING SO, YOU MUST OBSERVE THE FOLLOWING RECOMMENDATIONS

- use safety goggles while working
- use a handsaw
- throw a working cloth over the saw blade
- stop sawing when you hear the sound characteristic for pressure balancing
- release of gas from the gas springs is finished when you are able to move the piston freely with your hand

## TYPES OF GAS SPRINGS IN OUR RANGE

- Compression gas springs
- Traction gas springs
- Gas springs made of stainless steel
- Locking gas springs
- Brackets for mounting gas springs
- Wide range of threaded end fittings

## RELIABLE AND FAST DELIVERY

We deliver products to our customers on time and in the highest quality.

# COMPRESSION GAS SPRINGS

WITH WELDED EYES

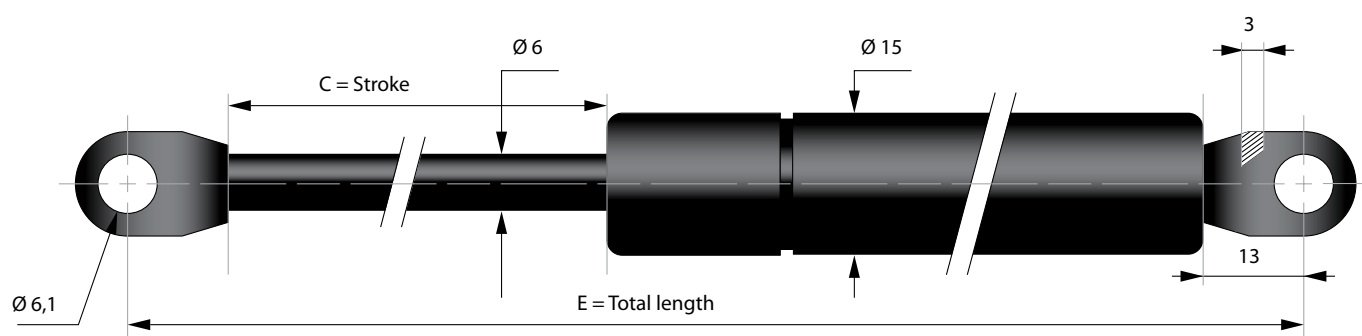


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 6 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

The gas springs are finished with welded eyes with a 6.1mm diameter and 3mm eye thickness. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 6 mm, with a welded eyes, stroke of C=100mm and with a force of F1=200N – the spring will have the following order number ST100 200 D6.

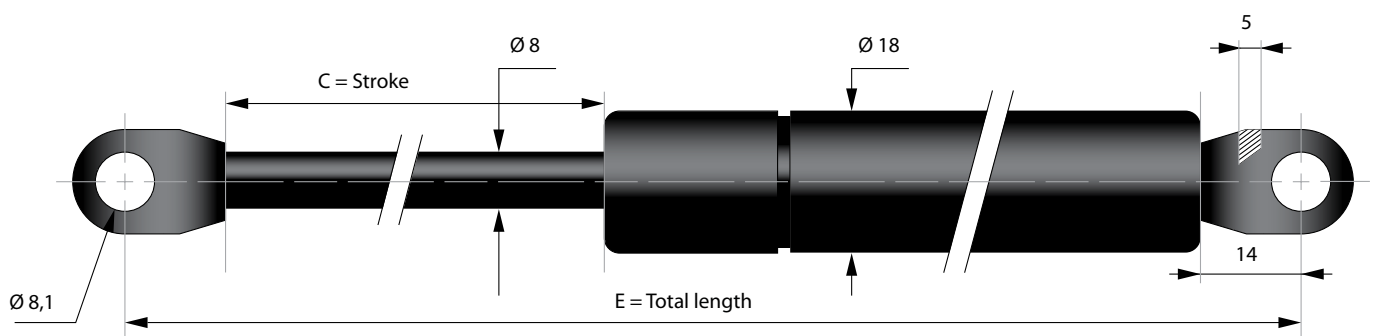
| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference        |
|-----------------|-----------------|----------------|------------------|
| 20              | 94              | 30 - 250       | ST 020+F1+D6     |
| 20              | 106             | 30 - 350       | ST 020+F1+D6E106 |
| 40              | 145             | 30 - 400       | ST 040+F1+D6     |
| 60              | 185             | 30 - 400       | ST 060+F1+D6     |
| 80              | 225             | 30 - 400       | ST 080+F1+D6     |
| 100             | 265             | 30 - 400       | ST 100+F1+D6     |
| 120             | 305             | 30 - 400       | ST 120+F1+D6     |
| 150             | 365             | 30 - 400       | ST 150+F1+D6     |

# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 8 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

The gas springs are finished with welded eyes with a 8.1mm diameter and 5mm eye thickness. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 8 mm, with a welded eye, stroke of  $C=100$ mm and with a force of  $F1=500$ N – the spring will have the following order number ST100 500 D8.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference        |
|-----------------|-----------------|----------------|------------------|
| 40              | 155             | 50 - 750       | ST 040+F1+D8E155 |
| 60              | 205             | 50 - 750       | ST 060+F1+D8     |
| 72              | 225             | 50 - 750       | ST 072+F1+D8     |
| 80              | 235             | 50 - 750       | ST080+F1+D8E235  |
| 80              | 245             | 50 - 750       | ST 080+F1+D8     |
| 90              | 255             | 50 - 750       | ST 090+F1+D8     |
| 100             | 285             | 50 - 750       | ST 100+F1+D8     |
| 120             | 325             | 50 - 750       | ST 120+F1+D8     |
| 140             | 365             | 50 - 750       | ST 140+F1+D8     |
| 150             | 385             | 50 - 750       | ST 150+F1+D8     |
| 160             | 405             | 50 - 750       | ST 160+F1+D8     |
| 180             | 445             | 50 - 700       | ST 180+F1+D8     |
| 200             | 485             | 50 - 700       | ST 200+F1+D8     |
| 200             | 500             | 50 - 700       | ST 200+F1+D8E500 |
| 220             | 525             | 50 - 700       | ST 220+F1+D8     |
| 250             | 585             | 50 - 700       | ST 250+F1+D8     |
| 250             | 600             | 50 - 700       | ST 250+F1+D8E600 |

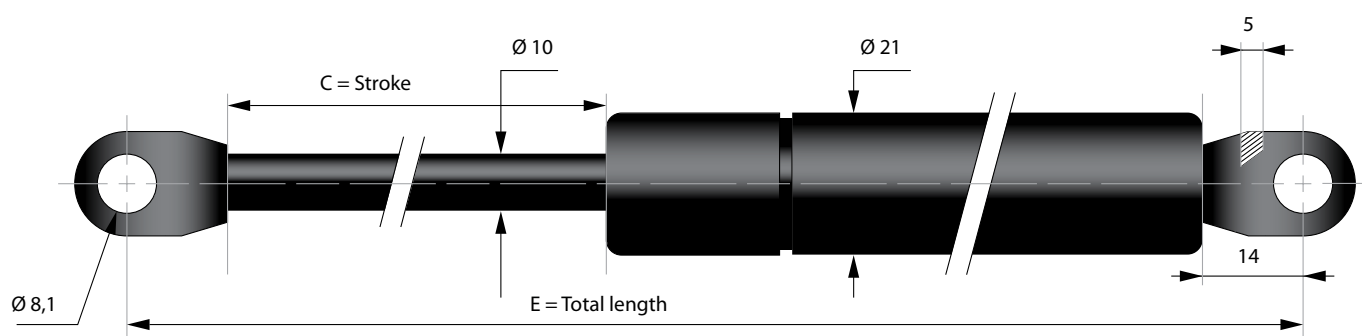


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 10 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

The gas springs are finished with welded eyes with a 8.1mm diameter and 5mm eye thickness. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 10 mm, with a welded eye, stroke of  $C=300$ mm and with a force of  $F1=800$ N – the spring will have the following order number ST300 800 D10.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference     |
|-----------------|-----------------|----------------|---------------|
| 100             | 285             | 100 - 1150     | ST 100+F1+D10 |
| 150             | 385             | 100 - 1150     | ST 150+F1+D10 |
| 200             | 485             | 100 - 1150     | ST 200+F1+D10 |
| 250             | 585             | 100 - 1050     | ST 250+F1+D10 |
| 300             | 685             | 100 - 1050     | ST 300+F1+D10 |
| 330             | 740             | 100 - 1050     | ST 330+F1+D10 |
| 350             | 785             | 100 - 1000     | ST 350+F1+D10 |
| 400             | 885             | 100 - 900      | ST 400+F1+D10 |

# COMPRESSION GAS SPRINGS

ENDED WITH M6 THREAD

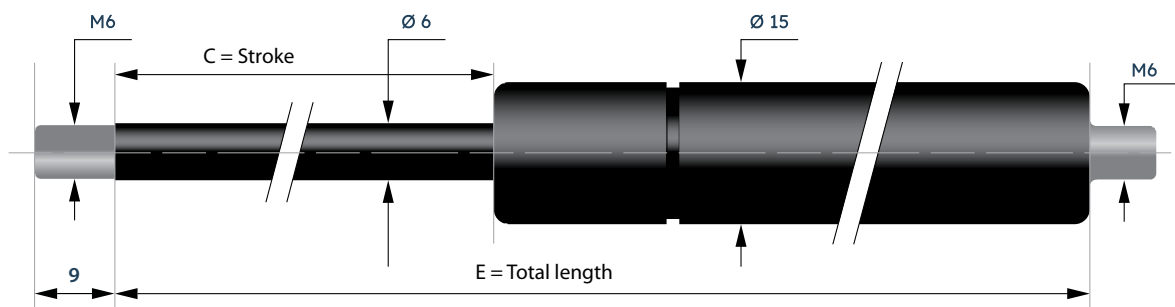


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 6 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M6 thread, for which there is a wide range of end fittings. End fittings for this type of spring can be found in many materials specified on pages 13, 14 and 15. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.

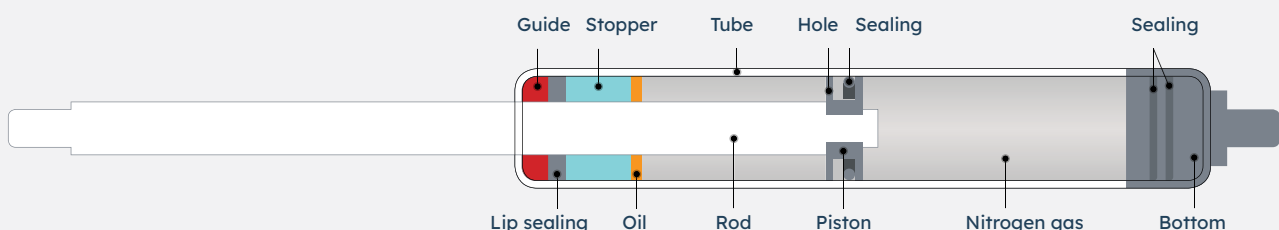


### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 6 mm, ended with a M6 thread, stroke of C=100mm and with a force of F1=200N - the spring will have the following order number ST100 200 V D6.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference        |
|-----------------|-----------------|----------------|------------------|
| 20              | 80              | 30 - 250       | ST 020+F1 V+D6   |
| 40              | 115             | 30 - 400       | ST 040+F1 V+D6   |
| 60              | 155             | 30 - 400       | ST 060+F1 V+D6   |
| 80              | 195             | 30 - 400       | ST 080+F1 V+D6   |
| 100             | 225             | 30 - 400       | ST 100+F1+D6E225 |
| 100             | 235             | 30 - 400       | ST 100+F1 V+D6   |
| 120             | 275             | 30 - 400       | ST 120+F1 V+D6   |
| 150             | 335             | 30 - 400       | ST 150+F1 V+D6   |

### FUNCTION DIAGRAM OF COMPRESSION GAS SPRING

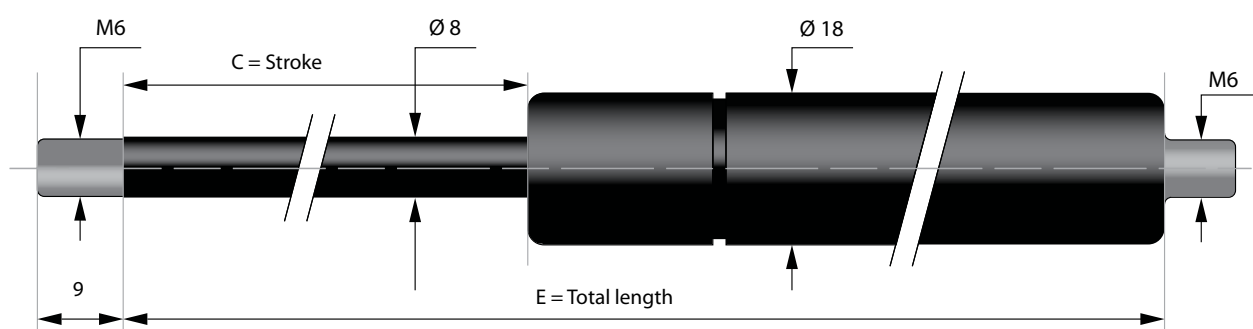


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 8 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M6 thread which is available with wide range of end fittings. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

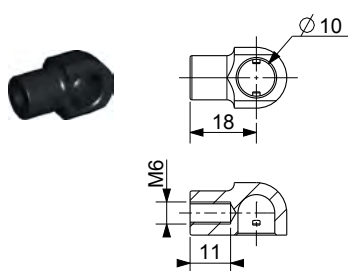
If you need a gas spring with a piston diameter of 8 mm, finished with a M6 thread, stroke of C=100mm and with a force of F1=500N - the spring will have the following order number ST100 500 V D8.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference          |
|-----------------|-----------------|----------------|--------------------|
| 40              | 125             | 50 - 750       | ST 040+F1 V+D8     |
| 60              | 165             | 50 - 750       | ST 060+F1 V+D8     |
| 70              | 183             | 50 - 750       | ST 070+F1 V+D8     |
| 80              | 205             | 50 - 750       | ST 080+F1 V+D8     |
| 89              | 268             | 50 - 750       | ST 089+F1 V+D8     |
| 90              | 225             | 50 - 750       | ST 090+F1 V+D8     |
| 100             | 245             | 50 - 750       | ST 100+F1 V+D8     |
| 120             | 285             | 50 - 750       | ST 120+F1 V+D8     |
| 140             | 325             | 50 - 750       | ST 140+F1 V+D8     |
| 150             | 345             | 50 - 750       | ST 150+F1 V+D8     |
| 160             | 365             | 50 - 750       | ST 160+F1 V+D8     |
| 180             | 405             | 50 - 700       | ST 180+F1 V+D8     |
| 200             | 445             | 50 - 700       | ST 200+F1 V+D8     |
| 220             | 485             | 50 - 700       | ST 220+F1 V+D8     |
| 250             | 545             | 50 - 700       | ST 250+F1 V+D8     |
| 250             | 600             | 50 - 700       | ST 250+F1 V+D8E600 |
| 300             | 645             | 50 - 500       | ST 300+F1 V+D8     |

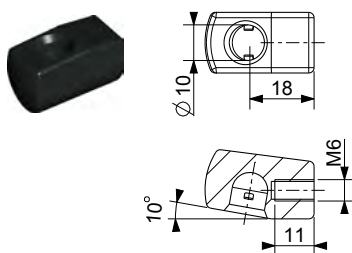
# END FITTINGS FOR GAS SPRINGS

## ENDED WITH M6

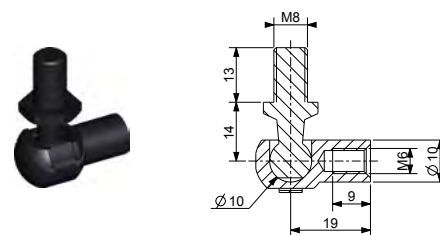
USED FOR GAS SPRINGS WITH PISTON DIAMETER OF 6 MM AND 8 MM



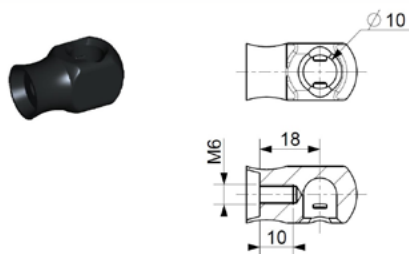
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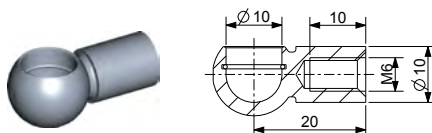
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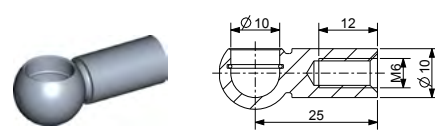
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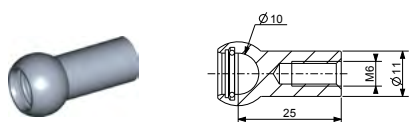
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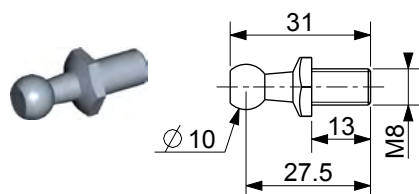
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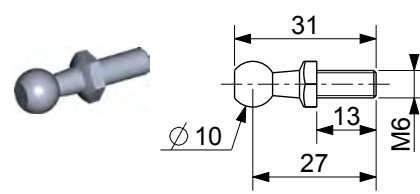
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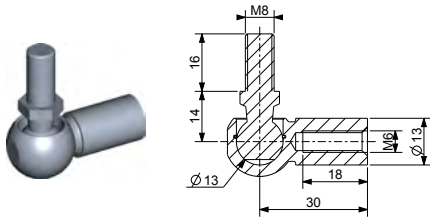
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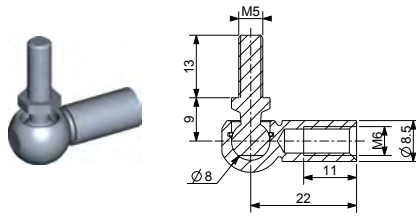
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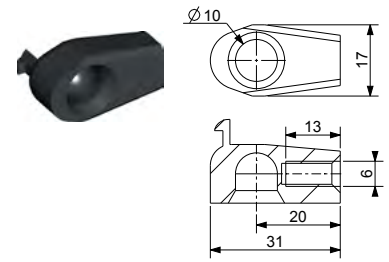
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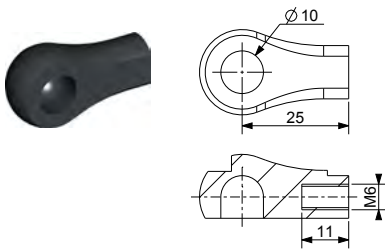
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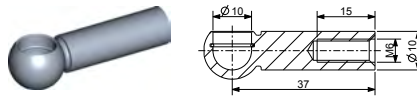
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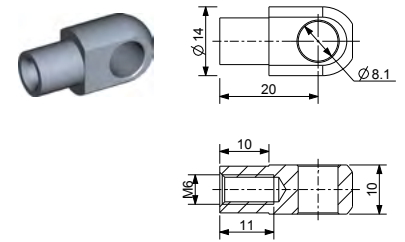
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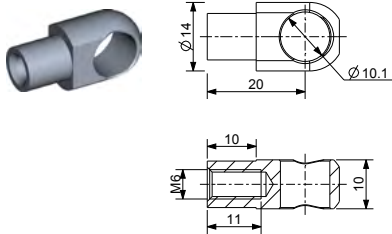
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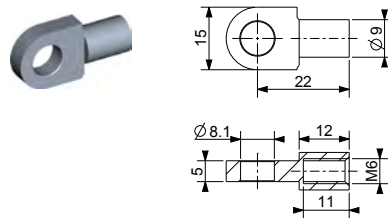
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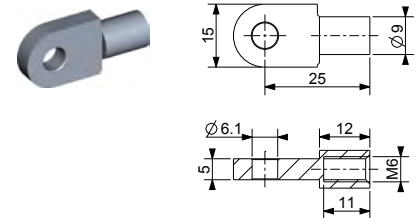
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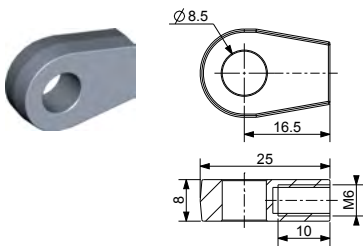
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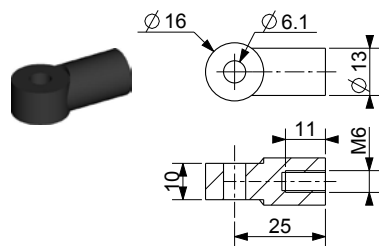
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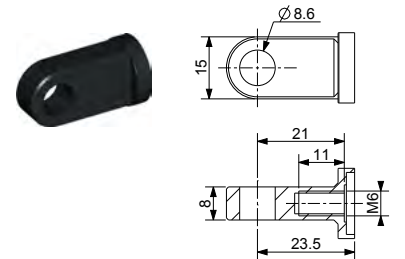
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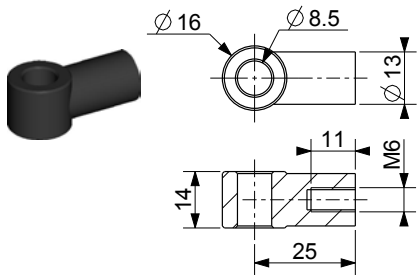
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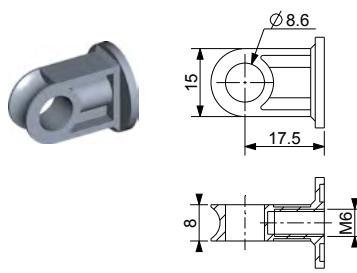
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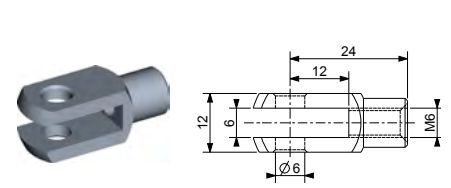
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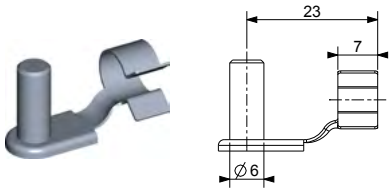
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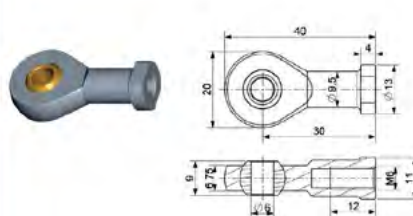
**REF 92263**  
aluminum



**REF ST F6**  
metal



**REF ST ES 6**  
metal



**REF ST G16**  
metal



# COMPRESSION GAS SPRINGS

ENDED WITH M8 THREAD



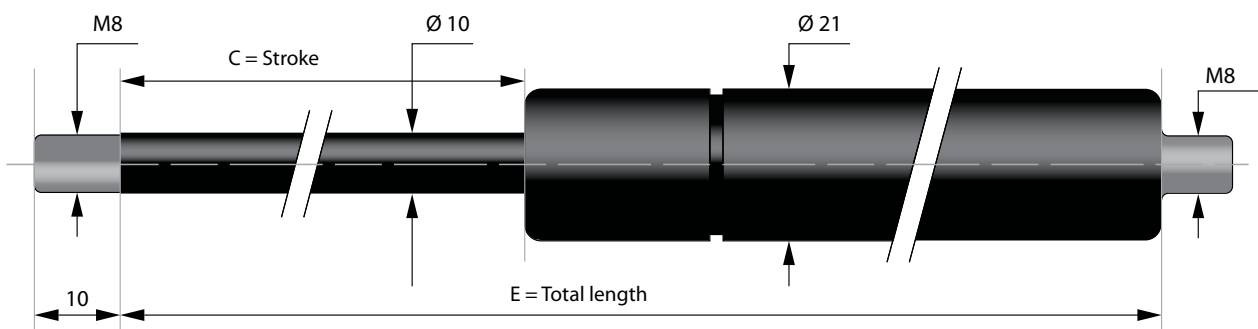


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 10 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M8 thread, for which there is a wide range of end fittings. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 10 mm, ended with a M8 thread, stroke of C=300mm and with a force of F1=800N - the spring will have the following order number ST300 800 V D10.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference           |
|-----------------|-----------------|----------------|---------------------|
| 60              | 180             | 100 - 1150     | ST 060+F1 V+D10     |
| 100             | 255             | 100 - 1150     | ST 100+F1 V+D10     |
| 115             | 275             | 100 - 1150     | ST115+F1 V+D10      |
| 150             | 355             | 100 - 1150     | ST 150+F1 V+D10     |
| 150             | 405             | 250 - 1150     | ST 150+F1 V+D10E405 |
| 200             | 455             | 100 - 1150     | ST 200+F1 V+D10     |
| 250             | 555             | 100 - 1050     | ST 250+F1 V+D10     |
| 250             | 610             | 100 - 1050     | ST 250+F1 V+D10E610 |
| 300             | 655             | 100 - 1050     | ST 300+F1 V+D10     |
| 300             | 711             | 100 - 1050     | ST 300+F1 V+D10E711 |
| 350             | 735             | 100 - 1000     | ST 350+F1 V+D10E735 |
| 350             | 755             | 100 - 1000     | ST 350+F1 V+D10     |
| 400             | 855             | 100 - 900      | ST 400+F1 V+D10     |
| 440             | 960             | 100 - 900      | ST 440+F1 V+D10E960 |
| 500             | 1055            | 100 - 700      | ST 500+F1 V+D10     |
| 550*            | 1155            | 100 - 700      | ST 550+F1 V+D10VA   |
| 600*            | 1255            | 100 - 700      | ST 600+F1 V+D10VA   |
| 650*            | 1355            | 100 - 700      | ST 650+F1 V+D10VA   |
| 700*            | 1455            | 100 - 700      | ST 700+F1 V+D10VA   |

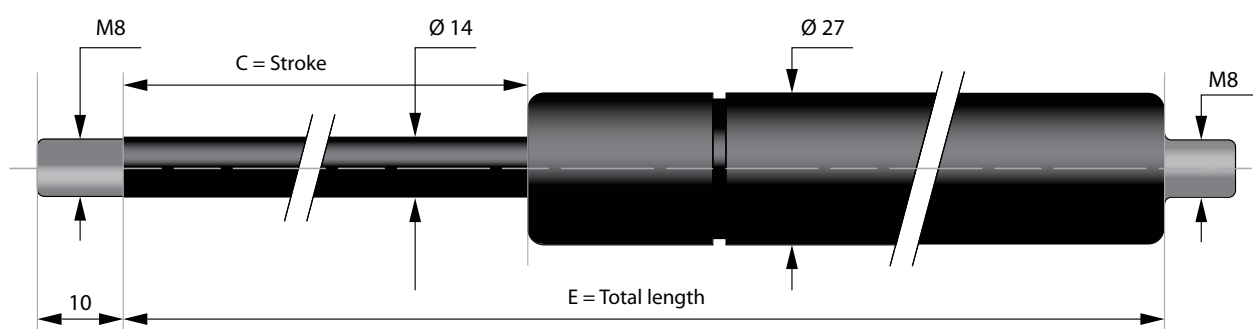
\*delivery date on request

# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 14 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M8 thread, for which there is a wide range of end fittings. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 14 mm, ended with a M8 thread, stroke of  $C=250$ mm and with a force of  $F1=1500$ N - the spring will have the following order number ST250 1500 V D14.

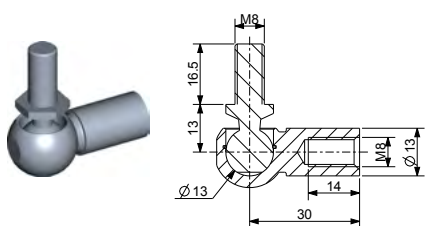
| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference         |
|-----------------|-----------------|----------------|-------------------|
| 60              | 180             | 100 - 2100     | ST 060+F1 V+D14   |
| 100             | 255             | 100 - 2100     | ST 100+F1 V+D14   |
| 150             | 355             | 200 - 2100     | ST 150+F1 V+D14   |
| 200             | 455             | 300 - 2100     | ST 200+F1 V+D14   |
| 250             | 555             | 300 - 2100     | ST 250+F1 V+D14   |
| 300             | 655             | 300 - 2100     | ST 300+F1 V+D14   |
| 350             | 755             | 300 - 2100     | ST 350+F1 V+D14   |
| 400             | 855             | 300 - 2100     | ST 400+F1 V+D14   |
| 450             | 955             | 300 - 2100     | ST 450+F1 V+D14   |
| 500             | 1055            | 300 - 2100     | ST 500+F1 V+D14   |
| 600*            | 1255            | 300 - 2100     | ST 600+F1 V+D14VA |
| 650*            | 1355            | 300 - 2100     | ST 650+F1 V+D14VA |
| 700*            | 1435            | 300 - 1800     | ST 700+F1 V+D14VA |
| 750*            | 1555            | 300 - 1800     | ST 750+F1 V+D14VA |
| 800*            | 1655            | 300 - 1500     | ST 800+F1 V+D14VA |
| 900*            | 1855            | 300 - 1500     | ST 900+F1 V+D14VA |

\*Ended with M10 threads. Delivery date will be specified upon request.

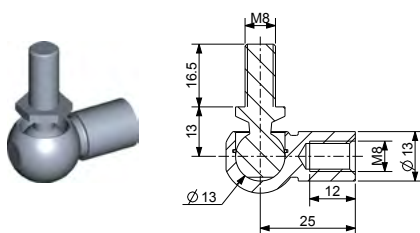
# END FITTINGS FOR GAS SPRINGS

## ENDED WITH M8

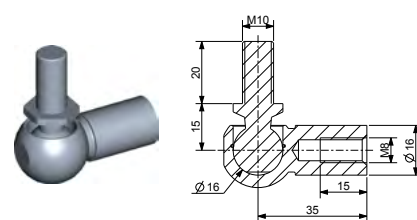
USED FOR GAS SPRINGS WITH PISTON DIAMETER OF 10 MM AND 14 MM



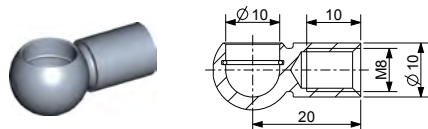
REF 92262  
metal



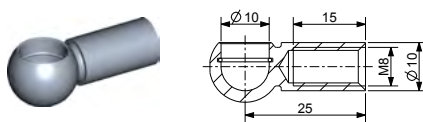
REF 92265  
metal



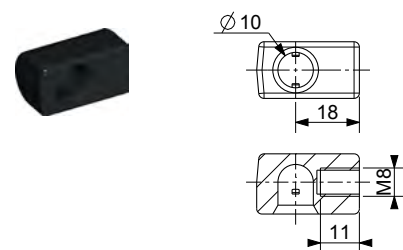
REF 92262-10-8  
metal



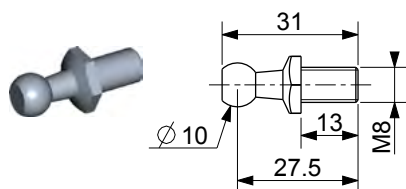
REF 92215  
metal



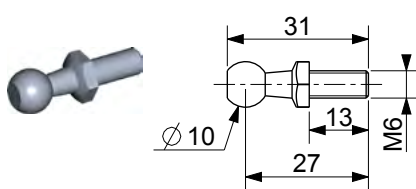
REF 92214  
metal



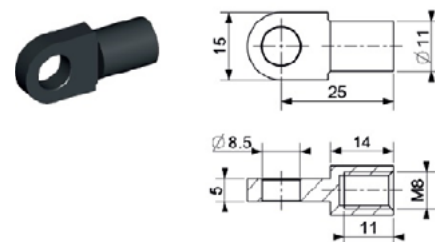
REF 72421-8  
plastic



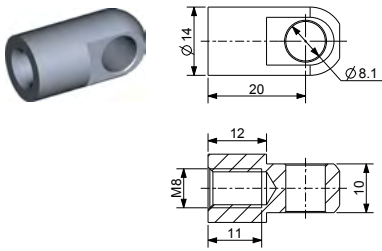
REF 92990  
metal



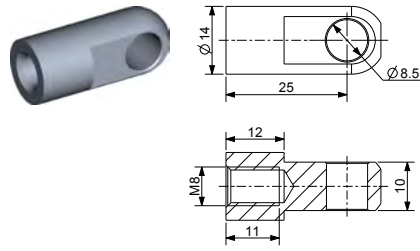
REF 92989  
metal



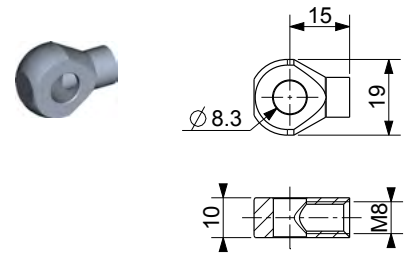
REF HG 92216  
metal



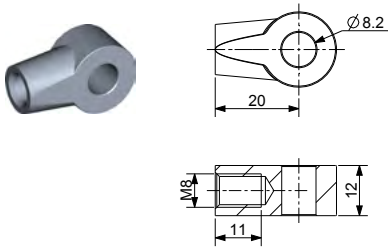
**REF HG CH**  
metal



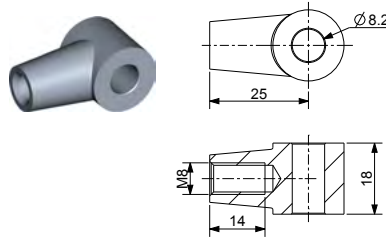
**REF 92264 AC**  
metal



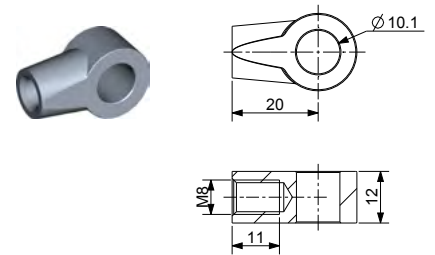
**REF ST M2**  
metal



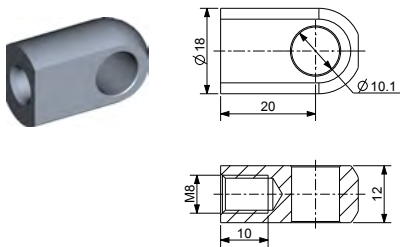
**REF 92261**  
zinc alloy



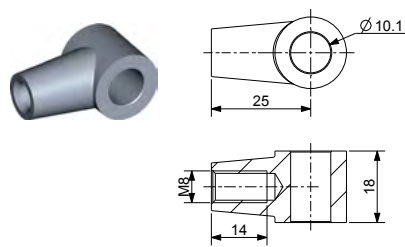
**REF 92260**  
zinc alloy



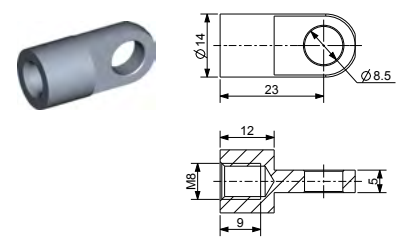
**REF 92267**  
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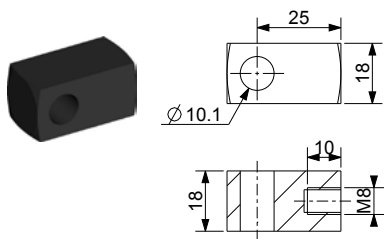
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metal



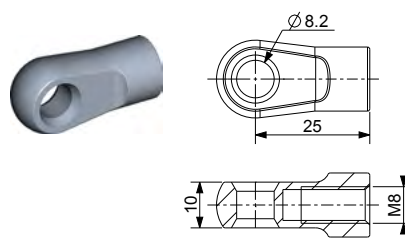
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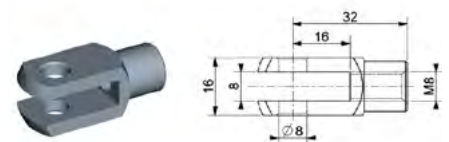
**REF HG 201**  
metal



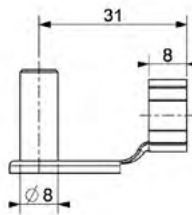
**REF ST 092266N**  
metal



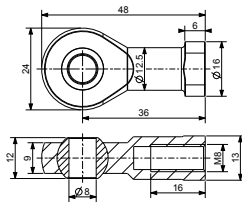
**REF 92264**  
zinc alloy



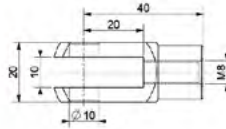
**REF ST F8**  
metal



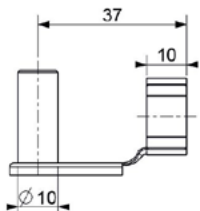
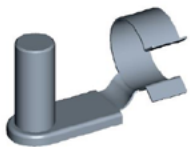
**REF ST ES8**  
zinc alloy



**REF ST G18**  
metal



**REF ST F10-8**  
metal

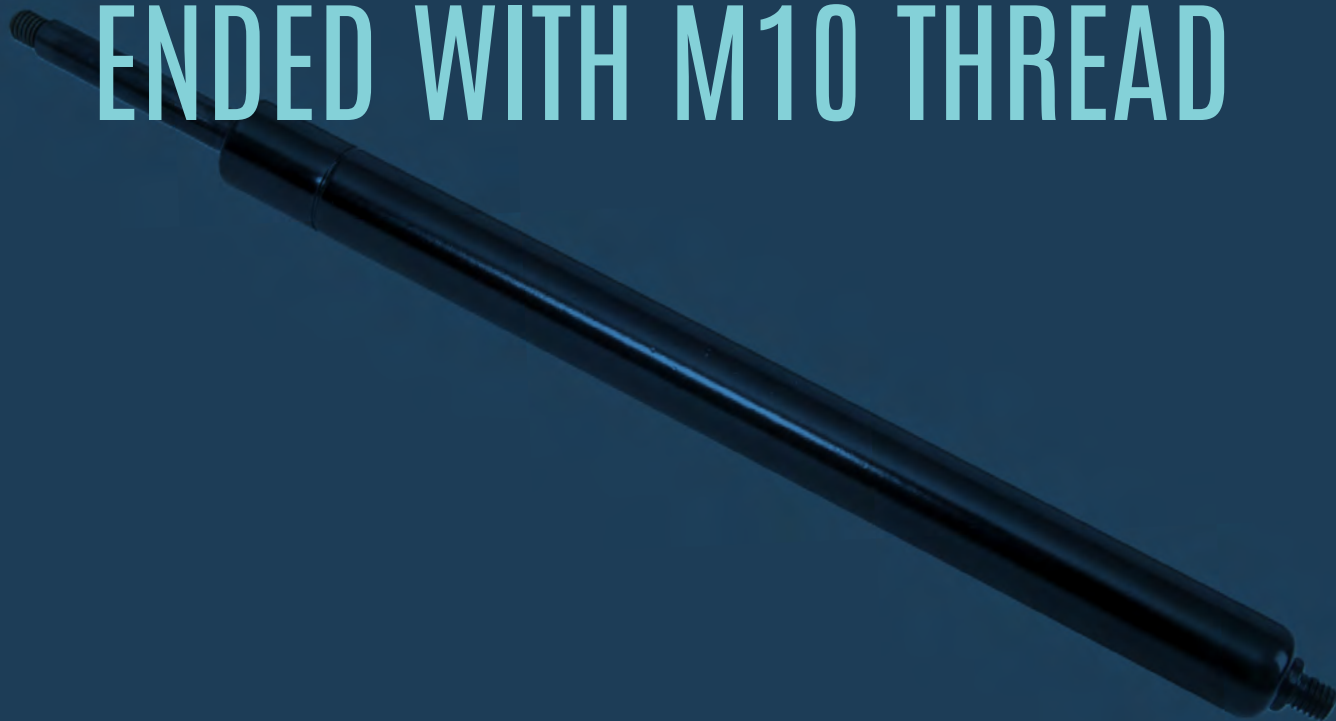


**REF ST ES10**  
zinc alloy



# COMPRESSION GAS SPRINGS

ENDED WITH M10 THREAD



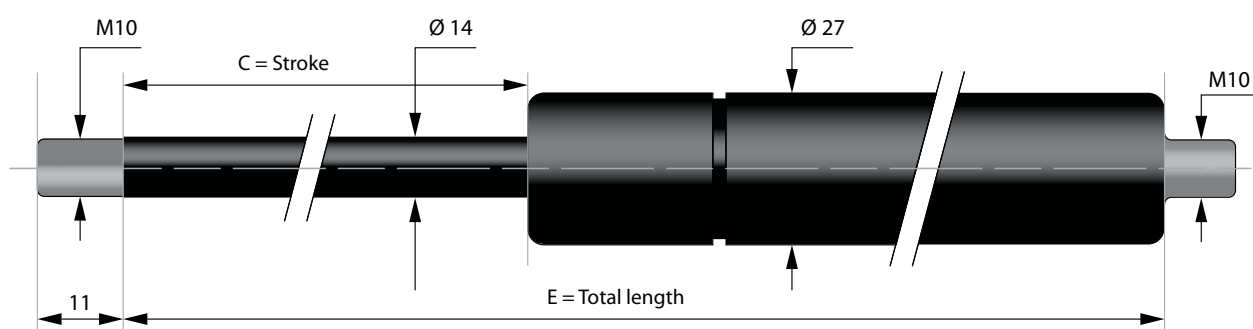
# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 14 mm

ENDED WITH M10 THREAD

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M10 thread, for which there is a wide range of end fittings. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

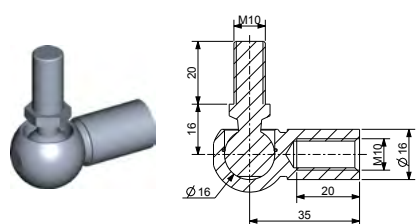
If you need a gas spring with a piston diameter of 14 mm, ended with a M10 thread, stroke of C=400mm and with a force of F1=1500N – the spring will have the following order number ST400 1500 V D14 M10.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference                    |
|-----------------|-----------------|----------------|------------------------------|
| 150             | 368             | 200 - 2400     | ST 150 + F1 V + D14 E368 M10 |
| 200             | 455             | 200 - 2400     | ST 200 + F1 V + D14 M10      |
| 250             | 555             | 200 - 2400     | ST 250 + F1 V + D14 M10      |
| 300             | 655             | 300 - 2400     | ST 300 + F1 V + D14 M10      |
| 350             | 755             | 300 - 2400     | ST 350 + F1 V + D14 M10      |
| 400             | 855             | 300 - 2400     | ST 400 + F1 V + D14 M10      |
| 450             | 955             | 300 - 2400     | ST 450 + F1 V + D14 M10      |
| 500             | 1055            | 300 - 2100     | ST 500 + F1 V + D14 M10      |
| 600             | 1255            | 300 - 2100     | ST 600 + F1 V + D14 VA       |
| 650             | 1355            | 300 - 2100     | ST 650 + F1 V + D14 VA       |
| 700             | 1455            | 300 - 1800     | ST 700 + F1 V + D14 VA       |
| 750             | 1555            | 300 - 1800     | ST 750 + F1 V + D14 VA       |
| 800             | 1655            | 300 - 1500     | ST 800 + F1 V + D14 VA       |
| 900             | 1855            | 300 - 1500     | ST 900 + F1 V + D14 VA       |

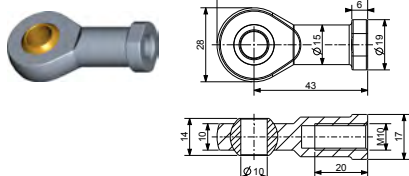
# END FITTINGS FOR GAS SPRINGS

## ENDED WITH M10

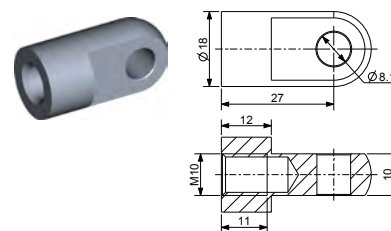
USED FOR GAS SPRINGS WITH PISTON DIAMETER OF 14 MM ENDED WITH M10 THREAD



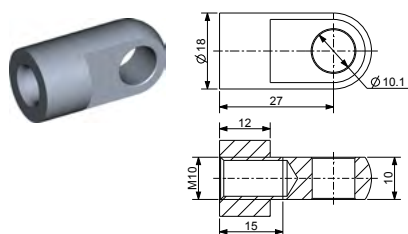
**REF ST 092262-10**  
metal



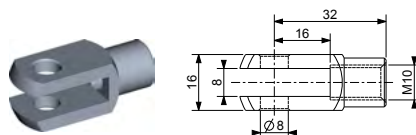
**REF ST Gi10**  
metal



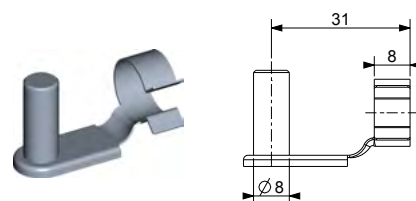
**REF HG CH10**  
metal



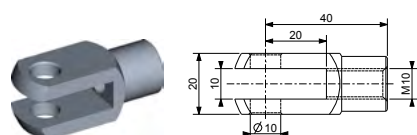
**REF HG CH10-10**  
metal



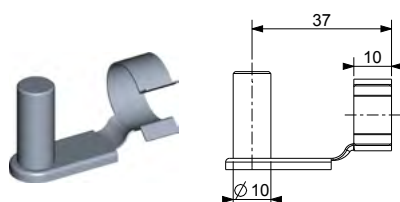
**REF ST F8M10**  
metal



**REF ST ES8**  
metal



**REF ST F10**  
metal



**REF ST ES10**  
metal





# COMPRESSION GAS SPRINGS

ENDED WITH M14 THREAD

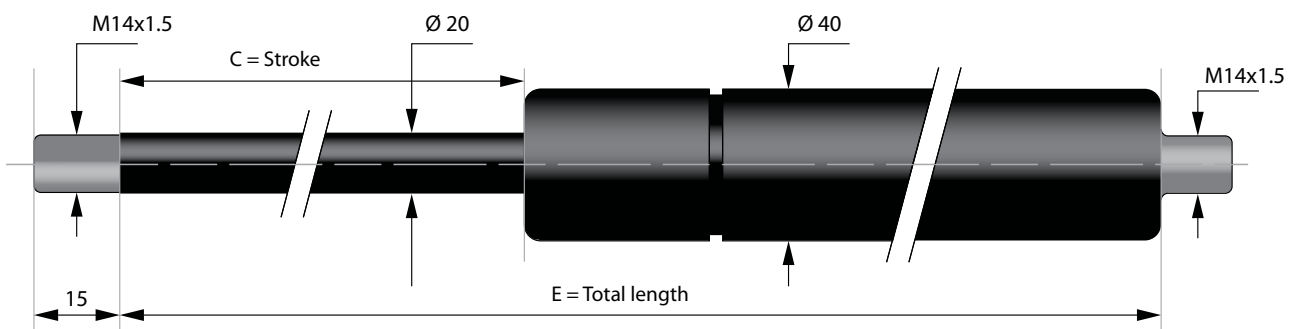


# COMPRESSION GAS SPRINGS

## WITH PISTON DIAMETER OF 20 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder. The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein.

Gas springs are ended with M14x1.5 thread, for which there is a wide range of end fittings. The piston rod is made of C35 steel, which is treated by nitriding (QPQ). The cylinder body is made of ST34 2-BK steel and painted with black epoxy paint.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

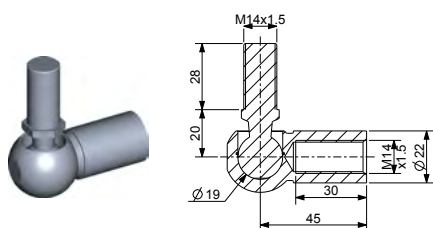
If you need a gas spring with a piston diameter of 20 mm, ended with a M14 thread, stroke of C=250mm and with a force of F1=3500N – the spring will have the following order number ST250 3500 V D20.

| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference           |
|-----------------|-----------------|----------------|---------------------|
| 100             | 316             | 300 - 5200     | ST 100 + F1 V + D20 |
| 150             | 416             | 300 - 5200     | ST 150 + F1 V + D20 |
| 200             | 516             | 300 - 5200     | ST 200 + F1 V + D20 |
| 250             | 616             | 300 - 5200     | ST 250 + F1 V + D20 |
| 300             | 716             | 300 - 5200     | ST 300 + F1 V + D20 |
| 350             | 816             | 300 - 5200     | ST 350 + F1 V + D20 |
| 400             | 916             | 300 - 5200     | ST 400 + F1 V + D20 |
| 500             | 1116            | 300 - 5200     | ST 500 + F1 V + D20 |
| 600             | 1316            | 300 - 5000     | ST 600 + F1 V + D20 |
| 700             | 1516            | 300 - 4000     | ST 700 + F1 V + D20 |
| 800             | 1716            | 300 - 4000     | ST 800 + F1 V + D20 |

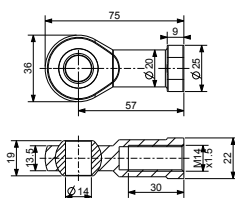
# END FITTINGS FOR GAS SPRINGS

## ENDED WITH M14

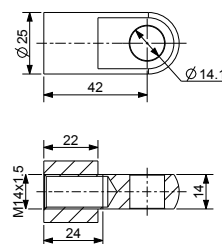
USED FOR GAS SPRINGS WITH PISTON DIAMETER OF 20 MM



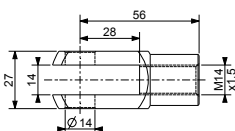
**REF ST 092262-14**  
metal



**REF ST Gi14**  
metal

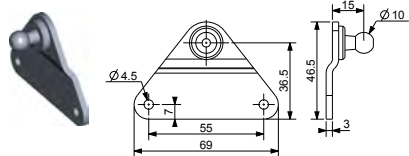


**REF HG CH14**  
metal

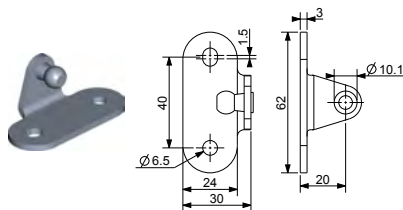


**REF ST F14**  
metal

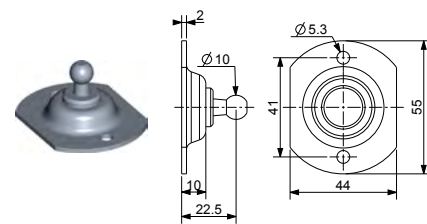
# BRACKETS FOR MOUNTING GAS SPRINGS



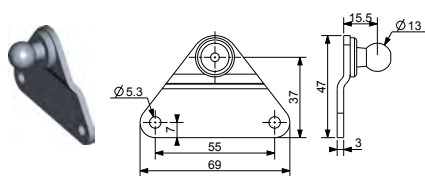
**REF ST 92298**  
metal



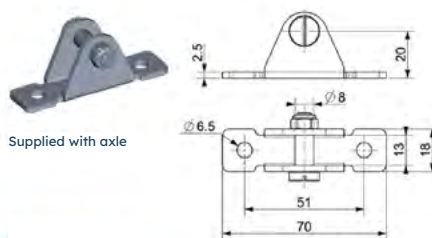
**REF ST 92992**  
metal



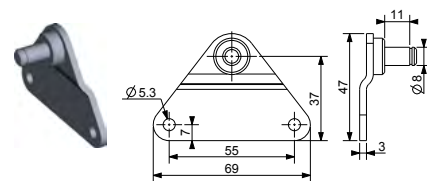
**REF HG 92293**  
metal



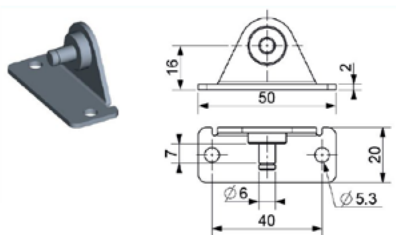
**REF HG BA 01 K13**  
stahl



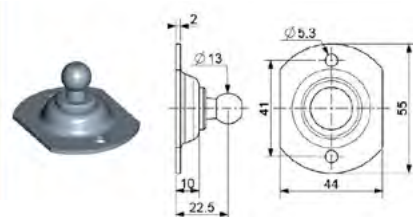
**REF HG 100/2**  
metal



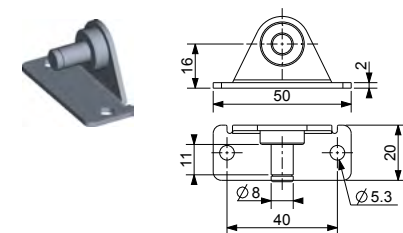
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metal



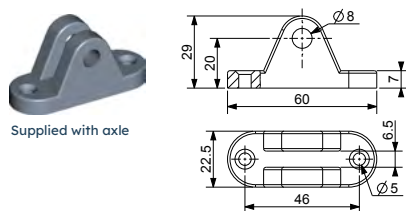
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metal



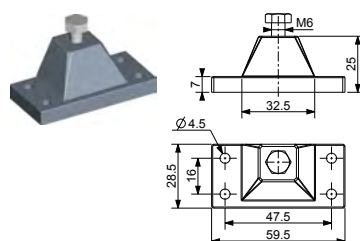
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metal



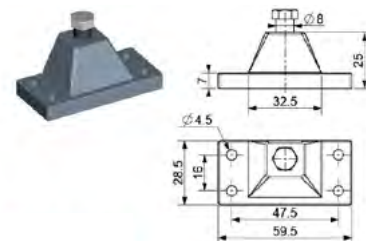
**REF HG BA30Z08**  
metal



**REF STP100 Ø6 / REF STP100D8 Ø8**  
aluminium



**REF ST P101**  
aluminium



**REF ST P101D8**  
aluminium

# TRACTION GAS SPRINGS

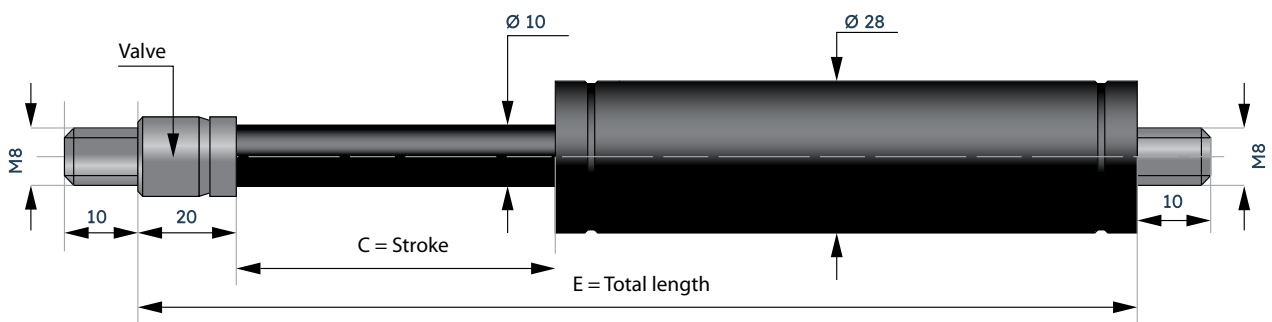
ENDED WITH M8



# TRACTION GAS SPRINGS

The traction gas springs have a special design, which causes the piston rod to be retracted in the spring body, which is also the default position of the piston rod in this type of spring. To pull the piston rod out of the spring body it is necessary to apply a force corresponding to the value of pressure of the traction gas spring.

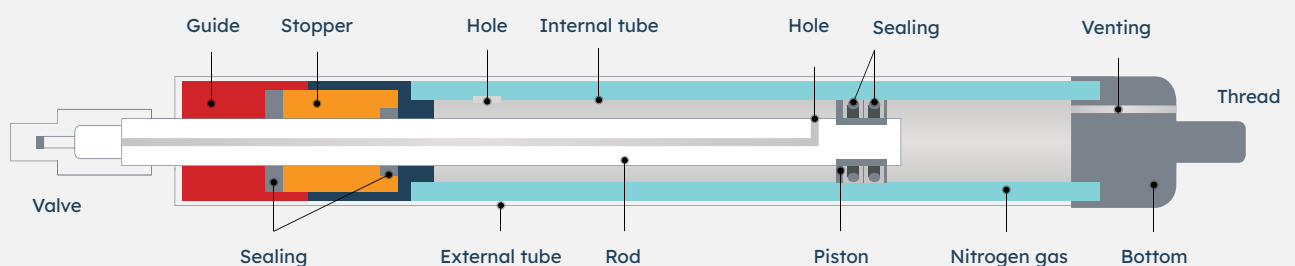
This type of spring is used to open or close hatches of different types, for lifting loads, in particular where it is not possible to use a compression gas spring.



We offer traction gas springs in seven different lengths, pressurized according to customer requirements ranging from 100N - 1200N. The piston rod is made of C35 steel and spring body made of ST34 2-BK steel.

| G - stroke (mm) | E - length (mm) | F1 - force (N) | Reference         |
|-----------------|-----------------|----------------|-------------------|
| 100             | 300             | 100 - 1200     | ST T28 100 + F1 V |
| 150             | 400             | 100 - 1200     | ST T28 150 + F1 V |
| 200             | 500             | 100 - 1200     | ST T28 200 + F1 V |
| 250             | 600             | 100 - 1200     | ST T28 250 + F1 V |
| 300             | 700             | 100 - 1200     | ST T28 300 + F1 V |
| 350             | 800             | 100 - 1200     | ST T28 350 + F1 V |
| 400             | 900             | 100 - 1200     | ST T28 400 + F1 V |

## FUNCTION DIAGRAM OF TRACTION GAS SPRING



# STAINLESS STEEL GAS SPRINGS

ENDED WITH M8 THREAD



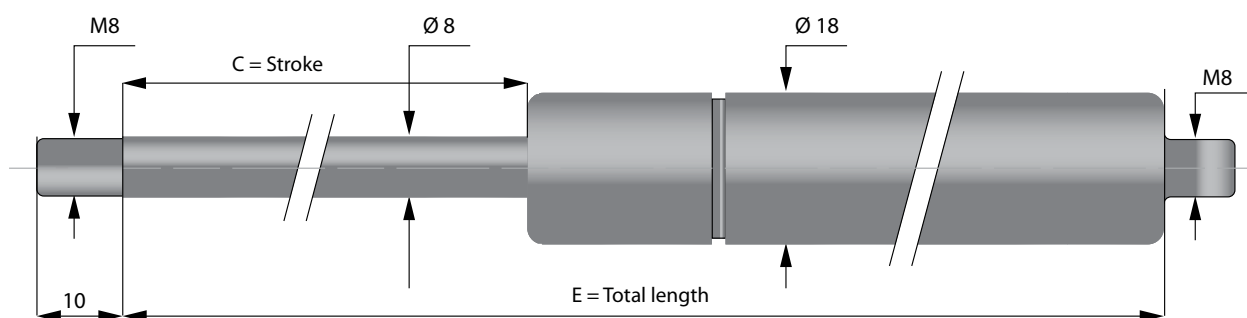


# STAINLESS STEEL GAS SPRINGS

## WITH PISTON DIAMETER OF 8 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder.

The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein. Compression gas springs of stainless steel-types are used in aggressive or otherwise specific environments. The piston rod is made of AISI 316L stainless steel. The spring body is made of AISI 316 stainless steel.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 8 mm, ended with a M8 thread, stroke of C=250mm and with a force of F1=500N - the spring will have the following order number ST250 500 V D8iN.

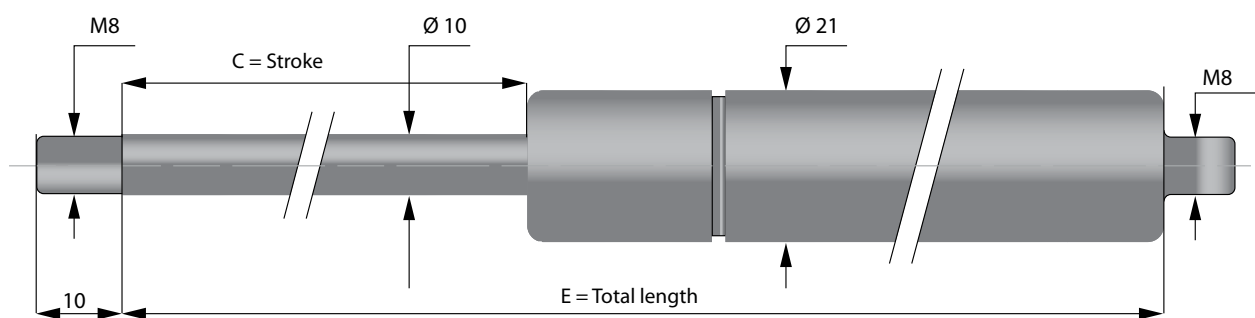
| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference            |
|-----------------|-----------------|----------------|----------------------|
| 60              | 165             | 50 - 650       | ST 060 + F1 V + D8iN |
| 80              | 205             | 50 - 650       | ST 080 + F1 V + D8iN |
| 100             | 245             | 50 - 650       | ST 100 + F1 V + D8iN |
| 120             | 285             | 50 - 650       | ST 120 + F1 V + D8iN |
| 140             | 325             | 50 - 650       | ST 140 + F1 V + D8iN |
| 160             | 365             | 50 - 650       | ST 160 + F1 V + D8iN |
| 180             | 405             | 50 - 650       | ST 180 + F1 V + D8iN |
| 200             | 445             | 50 - 650       | ST 200 + F1 V + D8iN |
| 250             | 545             | 50 - 650       | ST 250 + F1 V + D8iN |

# STAINLESS STEEL GAS SPRING

## WITH PISTON DIAMETER OF 10 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder.

The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein. Compression gas springs of stainless steel-types are used in aggressive or otherwise specific environments. The piston rod is made of AISI 316L stainless steel. The spring body is made of AISI 316 stainless steel.



### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 10 mm, ended with a M8 thread, stroke of C=300mm and with a force of F1=800N – the spring will have the following order number ST300 800 V D10iN.

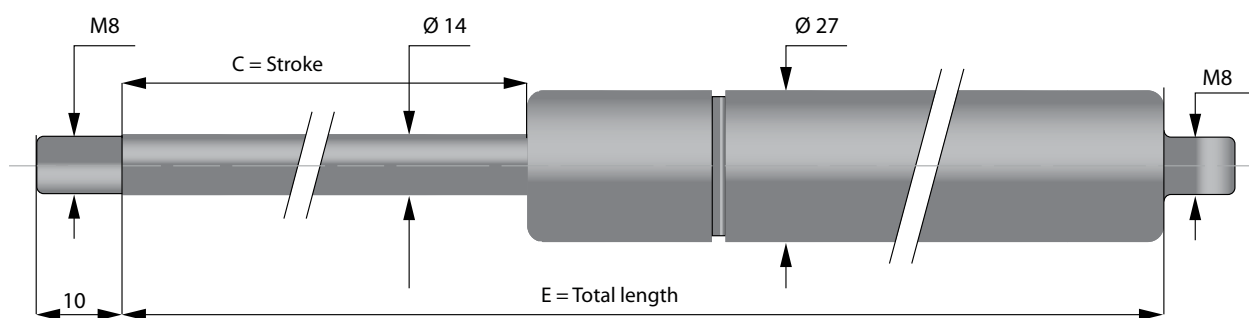
| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference             |
|-----------------|-----------------|----------------|-----------------------|
| 100             | 255             | 100 - 1000     | ST 100 + F1 V + D10iN |
| 150             | 355             | 100 - 1000     | ST 150 + F1 V + D10iN |
| 200             | 455             | 100 - 1000     | ST 200 + F1 V + D10iN |
| 250             | 555             | 100 - 1000     | ST 250 + F1 V + D10iN |
| 300             | 655             | 100 - 1000     | ST 300 + F1 V + D10iN |
| 350             | 755             | 100 - 900      | ST 350 + F1 V + D10iN |
| 400             | 855             | 100 - 800      | ST 400 + F1 V + D10iN |
| 500             | 1055            | 100 - 800      | ST 500 + F1 V + D10iN |

# STAINLESS STEEL GAS SPRINGS

## WITH PISTON DIAMETER OF 14 mm

Compression gas springs are a multipurpose product of a simple cylindrical shape with different mounting variants producing an extending power under pressurized nitrogen. The compression of the piston rod into the cylinder compresses nitrogen, resulting in the formation of force, which extends the piston from the cylinder.

The amount of force depends on the cross section of the piston rod, the cylinder volume and the amount of nitrogen therein. Compression gas springs of stainless steel-types are used in aggressive or otherwise specific environments. The piston rod is made of AISI 316L stainless steel. The spring body is made of AISI 316 stainless steel.



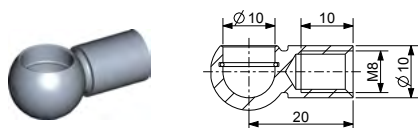
### INSTRUCTIONS FOR ORDERING THE CORRECT TYPE OF GAS SPRINGS:

If you need a gas spring with a piston diameter of 14 mm, ended with a M8 thread, stroke of C=400mm and with a force of F1=1500N – the spring will have the following order number ST400 1500 V D14iN.

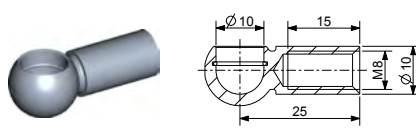
| C - stroke (mm) | E - length (mm) | F1 - force (N) | Reference             |
|-----------------|-----------------|----------------|-----------------------|
| 150             | 355             | 200 - 2100     | ST 150 + F1 V + D14iN |
| 200             | 455             | 200 - 2100     | ST 200 + F1 V + D14iN |
| 250             | 555             | 200 - 2100     | ST 250 + F1 V + D14iN |
| 300             | 655             | 200 - 2100     | ST 300 + F1 V + D14iN |
| 350             | 755             | 200 - 2100     | ST 350 + F1 V + D14iN |
| 400             | 855             | 200 - 2100     | ST 400 + F1 V + D14iN |
| 500             | 1055            | 200 - 2100     | ST 500 + F1 V + D14iN |

# END FITTINGS AND BRACKETS

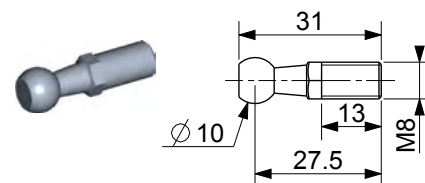
## FOR STAINLESS STEEL GAS SPRINGS



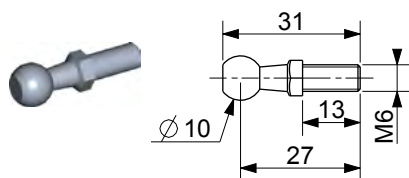
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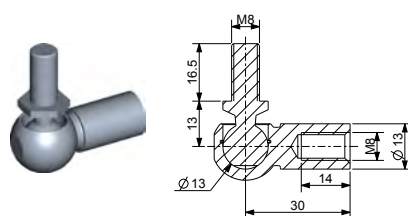
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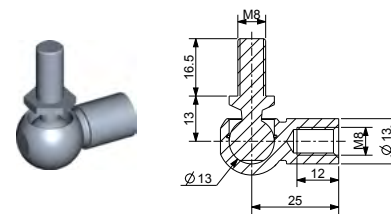
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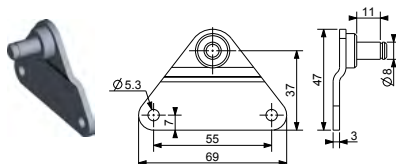
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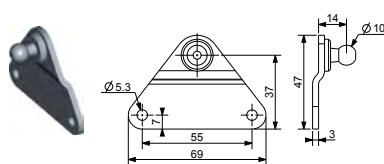
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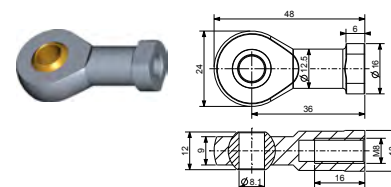
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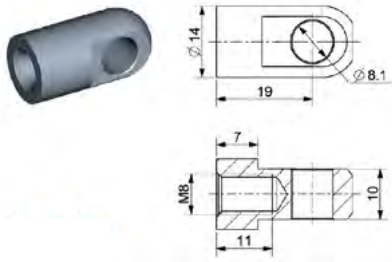
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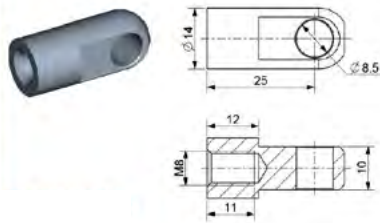
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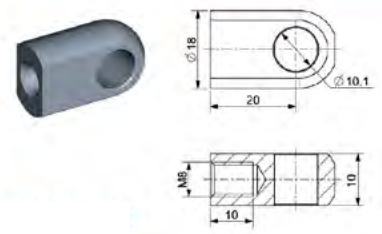
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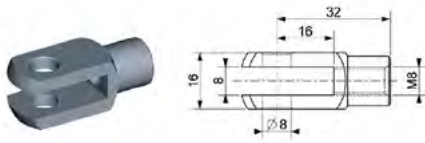
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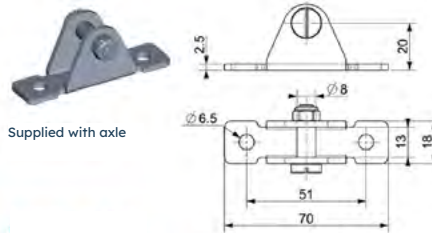
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inox



**REF ST 92267i**  
inox



**REF ST F8iN**  
inox



**REF HG 100/2i**  
inox



# OTHER ACCESSORIES OF GAS SPRINGS

## PROTECTION TUBE

The protection tube protects the piston rod of the gas spring against mechanical or chemical damage. It is mainly used in polluted environments or in environments where there is an increased risk of mechanical damage.

It is made of ST34 steel, which is painted with epoxy paint. This component can be used only in gas springs ended with a thread.

## WIPER RING

ST RAC wiper ring protects the internal seal of the gas spring against surrounding contaminants that may reduce its life. ST RAC consists of a scraper (aluminium + nitrile NBR 90SH) and a cap made of PVC. This component is not compatible with safety or protective tubes and can be used only with gas spring ended with a thread.

## BLOCKING TUBE

The blocking tube allows the locking of the gas spring in the extreme (open) position. Releasing the lock is attained by the slight lifting of the load. This component is made of STN 34 steel, which is painted in black epoxy paint. Blocking tubes can only be used with a gas spring ended with a thread.



## ACCESSORIES FOR PRESSURE RELEASE

The release tool is used to reduce the pressure of the gas spring. Short strokes of the release tool relieve the internal pressure until the desired gas spring pressure is reached. It can only be used on BM gas springs equipped with a release valve.

| Reference | Thread valve |
|-----------|--------------|
| ST OUT6   | M6           |
| ST OUT8   | M8           |
| ST OUT10  | M10          |
| ST OUT14  | M14          |



## LOCKING TUBES CAN BE USED ON STANDARD SPRING ENDED WITH A THREAD.

The blocking tube is used to lock the hatch in the open position. The blocking tube secures one of the two gas springs in the application, thus ensuring the safe locking of the hatch in the open position.

It can be unlocked by gently lifting the hatch and pressing the locking tube at the marked point.

**THE BLOCKING TUBE WILL SHORTEN YOUR STROKE BY 20 MM.**

| Blocking tube for standard gas springs | Blocking tube reference |
|--|-------------------------|
| ST 160+F1 V+D8                         | ST TUB08160             |
| ST 250+F1 V+D8                         | ST TUB08250             |
| ST 200+F1 V+D10                        | ST TUB10200             |
| ST 250+F1 V+D10                        | ST TUB10250             |
| ST 300+F1 V+D10                        | ST TUB10300             |
| ST 350+F1 V+D10                        | ST TUB10350             |
| ST 400+F1 V+D10                        | ST TUB10400             |
| ST 500+F1 V+D10                        | ST TUB10500             |
| ST 200+F1 V+D14                        | ST TUB14200             |
| ST 250+F1 V+D14                        | ST TUB14250             |
| ST 300+F1 V+D14                        | ST TUB14300             |
| ST 350+F1 V+D14                        | ST TUB14350             |
| ST 400+F1 V+D14                        | ST TUB14400             |
| ST 450+F1 V+D14                        | ST TUB14450             |
| ST 500+F1 V+D14                        | ST TUB14500             |



Kontakt

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