Industrial Gas Springs – Push Type
Lifting and lowering for smart people

Anyone who wants to lift or lower loads with control and without excessive strength relies on the industrial gas push type springs from ACE. These maintenance-free, ready-to-install machine elements, which are available from stock, support sheer muscle power and reliably open and hold.

Available with body diameters of 8 to 70 mm and forces from 10 to 13,000 N, ACE gas push type springs are characterised by a huge variety and maximum service life. The first is achieved thanks to the number of available connections and fittings for simple attachment and the latter with high quality design and materials. Whether they are made of steel or stainless steel, these components make any work easier and also make a particularly good impression visually in every branch.

- Ready-to-install and universally applicable
- Modular end fittings and mounting brackets
- Calculation program for individual design
- No own construction costs
- Maintenance-free
- Available with valve ex stock
Function of a Gas Spring – Push Type

ACE gas springs are individually filled to a predetermined pressure to suit a customer’s requirement (extension Force $F_1$). The cross-sectional area of the piston rod and filling pressure determines the extension force.

During the compression of the piston rod, nitrogen flows through an orifice in the piston from the full bore side of the piston to the annulus. The nitrogen is compressed by the volume of the piston rod. As the piston rod is compressed the pressure increases, so increasing the reaction force (progression). The force depends on the proportional relationship between the piston rod and the inner tube diameter, which is approximately linear.

Calculation Principles

Force-Stroke Characteristics of Gas Spring (Push Type)

![Force-Stroke Characteristics of Gas Spring (Push Type)](image)

$F_1$ = nominal force at 20 °C (this is the pressure figure normally used when specifying the gas spring)
$F_2$ = force in the complete compressed position
When compressing the piston rod, there is an additional friction force caused by the contact pressure of the seals (this only occurs during the compression stroke):
$F_3$ = force at the beginning of the compression stroke
$F_4$ = force at the end of the compression stroke

**Gas Springs (Push Type)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Progression approx. %</th>
<th>Friction $F_3$ approx. in N</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-8</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>GS-10</td>
<td>20</td>
<td>10</td>
</tr>
<tr>
<td>GS-12</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>GS-15</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>GS-19</td>
<td>26 - 39</td>
<td>30</td>
</tr>
<tr>
<td>GS-22</td>
<td>30 - 49</td>
<td>30</td>
</tr>
<tr>
<td>GS-28</td>
<td>58 - 67</td>
<td>40</td>
</tr>
<tr>
<td>GS-40</td>
<td>37 - 49</td>
<td>50</td>
</tr>
<tr>
<td>GS-70</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>

1 Depending on the filling force
2 Depending on the stroke

**Progression:** (the slope of the force line in the diagram above) is due to the reduction of the internal gas volume as the piston rod moves from its initial position to its fully stroked position. The approx. progression values given above for standard springs can be altered on request.

**Effect of temperature:** The nominal $F_1$ figure is given at 20 °C. An increase of 10 °C will increase force by 3.4 %.

**Filling tolerances:** 20 N to +40 N or 5 % to 7 %. Depending on size and extension force the tolerances can differ.

Industrial Gas Springs – Push Type

- **GS-8 to GS-70**
  Valve Technology
  Individual stroke length and extension forces
  Hoods, Shutters, Machine housing, Conveyor systems
  Page 130

- **GS-8-V4A to GS-40-VA**
  Valve Technology, Stainless Steel
  With food grade oil according to FDA approval
  Hoods, Shutters, Machine housing, Conveyor systems
  Page 140

- **GST-40 Tandem**
  Valve Technology
  Optimised dual force for heavy flaps and wide angle applications
  Hoods, Shutters, Machine housing, Conveyor systems
  Page 150
GS-8 to GS-70
Industrial Gas Springs – Push Type
Individual stroke length and extension forces

Universal and tailor made: ACE industrial gas push type springs of the NEWTONLINE family offer perfect support of muscle power with forces from 10 to 13,000 N with body diameter of 8 to 70 mm. With their high quality features the NEWTONLINE gas springs form the industry standard. These durable and sealed systems are ready for installation, maintenance-free and filled with pressurised nitrogen gas.

They are supplied filled according to individual customer pressure requirements and maybe adjusted later by use of the inbuilt valve. The free of charge ACE calculation service designs the gas springs with mounting points specifically for the particular application.

A variety of additional components makes assembly even easier and allows universal application of the gas springs.

ACE industrial gas push type springs are used in industrial applications, mechanical engineering and medical technology as well as in the electronics, automobile and furniture industries.

Technical Data

**Force range:** 10 N to 13,000 N

**Piston rod diameter:** Ø 3 mm to Ø 30 mm

**Progression:** Approx. 20 % to 67 % (depending on size and stroke)

**Lifetime:** Approx. 10,000 m

**Operating temperature range:** -20 °C to +80 °C

**Material:** Outer body: Coated steel; Piston rod: Steel or stainless steel with wear-resistant coating; End fittings: Zinc plated steel

**Operating fluid:** Nitrogen gas and oil

**Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.

**End position damping length:** Approx. 5 mm to 70 mm (depending on the stroke)

**Positive stop:** External positive stop at the end of stroke provided by the customer.

**Application field:** Hoods, Shutters, Machine housing, Conveyor systems

**Note:** Increased break-away force if unit has not moved for some time.

**End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.

**Safety instructions:** Gas springs (push type) should not be installed under pre-tension.

**On request:** Special oils and other special options. Alternative accessories. Different end position damping and extension speed.
Industrial Gas Springs – Push Type GS-8

Valve Technology, Force range 10 N to 100 N (compressed up to 130 N)

**Performance and Dimensions**

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-8-20</td>
<td>20</td>
<td>72</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-30</td>
<td>30</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-40</td>
<td>40</td>
<td>112</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-50</td>
<td>50</td>
<td>132</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-60</td>
<td>60</td>
<td>152</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-80</td>
<td>80</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

**Ordering Example**

Type (Push Type)

Body Ø (8 mm)

Stroke (30 mm)

Piston Rod End Fitting A3,5

Body End Fitting C3,5

Nominal Force $F_1 = 30$ N

**Mounting accessories see from page 194.**

**Technical Data**

- **Force range:** 10 N to 100 N (compressed up to 130 N)
- **Progression:** Approx. 28 %
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body: Coated steel; Piston rod: Stainless steel (1.4301/1.4305, AISI 304/303); End fittings: Zinc plated steel
- **Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 5 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Increased break-away force if unit has not moved for some time.
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-10

Valve Technology, Force range 10 N to 100 N (compressed up to 120 N)

End Fitting

<table>
<thead>
<tr>
<th>A3,5</th>
<th>B3,5</th>
<th>C3,5</th>
<th>D3,5</th>
<th>E3,5</th>
<th>G3,5</th>
<th>Rod Shroud W3,5-10</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø4</td>
<td>Ø4</td>
<td>Ø6</td>
<td>Ø4</td>
<td>Ø7,8</td>
<td>Ø13</td>
<td>Ø13</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>8</td>
<td>10</td>
<td>7,3</td>
<td>6</td>
<td>5</td>
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<tr>
<td>12</td>
<td></td>
<td>16</td>
<td>18</td>
<td>12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td></td>
<td>M3.5 x 0.6</td>
<td></td>
<td>5°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø3</td>
<td></td>
<td>5°</td>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ø10</td>
<td>4 thick</td>
<td>5°</td>
<td>10</td>
<td></td>
<td>5°</td>
<td></td>
</tr>
<tr>
<td>L=½-2 mm extended</td>
<td>4 thick</td>
<td>5°</td>
<td>10</td>
<td></td>
<td>5°</td>
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Standard Dimensions

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke mm</th>
<th>L extended mm</th>
<th>Force Range max. N</th>
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</thead>
<tbody>
<tr>
<td>GS-10-20</td>
<td>20</td>
<td>72</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-30</td>
<td>30</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-40</td>
<td>40</td>
<td>112</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-50</td>
<td>50</td>
<td>132</td>
<td>100</td>
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<tr>
<td>GS-10-60</td>
<td>60</td>
<td>152</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-80</td>
<td>80</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Example

Type (Push Type)
Body Ø (10 mm) Stroke (80 mm) Piston Rod End Fitting A3,5 Body End Fitting C3,5 Nominal Force F₁ 60 N

Mounting accessories see from page 194.

End Fitting

Eye A3,5 max. force 370 N
Stud Thread B3,5 max. force 370 N
Angle Ball Joint C3,5 max. force 370 N
Clevis Fork D3,5 max. force 370 N
Swivel Eye E3,5 max. force 370 N
Ball Socket G3,5 max. force 370 N
Adjuster Knob DE-GAS-3,5 See page 171.

Technical Data

Force range: 10 N to 100 N (compressed up to 120 N)
Progression: Approx. 28 %
Operating temperature range: -20 °C to +80 °C
Material: Outer body: Coated steel; Piston rod: Stainless steel (1.4301/1.4305, AISI 304/303); End fittings: Zinc plated steel
Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 5 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Increased break-away force if unit has not moved for some time.
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-12

Valve Technology, Force range 15 N to 180 N (compressed up to 225 N)

End Fitting

A3,5

B3,5

C3,5

D3,5

E3,5

G3,5

Rod Shroud W3,5-12

Standard Dimensions

4 thick

4 thick

4 thick

4 thick

Eye A3,5

max. force 370 N

Stud Thread B3,5

max. force 370 N

Angle Ball Joint C3,5

max. force 370 N

Clevis Fork D3,5

max. force 370 N

Swivel Eye E3,5

max. force 370 N

Ball Socket G3,5

max. force 370 N

Adjuster Knob DE-GAS-3,5

See page 171.

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke</th>
<th>L extended</th>
<th>Force Range max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-12-20</td>
<td>20</td>
<td>72</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-30</td>
<td>30</td>
<td>92</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-40</td>
<td>40</td>
<td>112</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-50</td>
<td>50</td>
<td>132</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-60</td>
<td>60</td>
<td>152</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-80</td>
<td>80</td>
<td>192</td>
<td>150</td>
</tr>
<tr>
<td>GS-12-100</td>
<td>100</td>
<td>252</td>
<td>150</td>
</tr>
<tr>
<td>GS-12-120</td>
<td>120</td>
<td>272</td>
<td>120</td>
</tr>
<tr>
<td>GS-12-150</td>
<td>150</td>
<td>332</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Example

GS-12-100-AA-30

Type (Push Type)
Body Ø (12 mm)
Stroke (100 mm)
Piston Rod End Fitting A3,5
Body End Fitting A3,5
Nominal Force F₁ 30 N

Mounting accessories see from page 194.

Technical Data

Force range: 15 N to 180 N (compressed up to 225 N)
Progression: Approx. 25 %
Operating temperature range: -20 °C to +80 °C
Material: Outer body: Coated steel; Piston rod: Stainless steel (1.4301/1.4305, AISI 304/303); End fittings: Zinc plated steel
Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 10 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Increased break-away force if unit has not moved for some time.
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-15

Valve Technology, Force range 40 N to 400 N (compressed up to 500 N)

End Fitting

Standard Dimensions

End Fitting

Eye A5
max. force 800 N

Stud Thread B5
max. force 500 N

Angle Ball Joint C5
max. force 500 N

Clevis Fork D5
max. force 800 N

Swivel Eye E5
max. force 800 N

Inline Ball Joint F5
max. force 500 N

Ball Socket G5
max. force 500 N

Adjuster Knob DE-GAS-5
See page 171.

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-15-20</td>
<td>20</td>
<td>67</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-40</td>
<td>40</td>
<td>107</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-50</td>
<td>50</td>
<td>127</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-60</td>
<td>60</td>
<td>147</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-80</td>
<td>80</td>
<td>187</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-100</td>
<td>100</td>
<td>227</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-120</td>
<td>120</td>
<td>267</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-150</td>
<td>150</td>
<td>327</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-200</td>
<td>200</td>
<td>427</td>
<td>400</td>
</tr>
</tbody>
</table>

Ordering Example

GS-15-150-AC-150

Type (Push Type)
Body Ø (15.6 mm)
Stroke (150 mm)
Piston Rod End Fitting A5
Body End Fitting C5
Nominal Force F₁ 150 N

Mounting accessories see from page 194.

Technical Data

Force range: 40 N to 400 N (compressed up to 500 N)
Progression: Approx. 27 %
Operating temperature range: -20 °C to +80 °C
Material: Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 10 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Increased break-away force if unit has not moved for some time.
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-19

Valve Technology, Force range 50 N to 700 N (compressed up to 970 N)

### Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke mm</th>
<th>L extended mm</th>
<th>Force Range max. N</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-19-50</td>
<td>50</td>
<td>164</td>
<td>700</td>
</tr>
<tr>
<td>GS-19-100</td>
<td>100</td>
<td>264</td>
<td>700</td>
</tr>
<tr>
<td>GS-19-150</td>
<td>150</td>
<td>364</td>
<td>700</td>
</tr>
<tr>
<td>GS-19-200</td>
<td>200</td>
<td>464</td>
<td>700</td>
</tr>
<tr>
<td>GS-19-250</td>
<td>250</td>
<td>564</td>
<td>700</td>
</tr>
<tr>
<td>GS-19-300</td>
<td>300</td>
<td>664</td>
<td>700</td>
</tr>
</tbody>
</table>

### Ordering Example

Type (Push Type)
- Body Ø (19 mm)
- Stroke (150 mm)
- Piston Rod End Fitting A8
- Body End Fitting C8

Nominal Force $F_1$: 600 N

### End Fitting

**Eye A8**
- max. force 3,000 N

**Stud Thread B8**
- max. force 1,200 N

**Angle Ball Joint C8**
- max. force 3,000 N

**Clevis Fork D8**
- max. force 3,000 N

**Swivel Eye E8**
- max. force 3,000 N

**Inline Ball Joint F8**
- max. force 1,200 N

**Ball Socket G8**
- max. force 1,200 N

### Adjuster Knob

DE-GAS-8
- See page 171.

### Mounting accessories see from page 194.

### Technical Data

- **Force range:** 50 N to 700 N (compressed up to 970 N)
- **Progression:** Approx. 26 % to 39 %
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
- **Mounting:** In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 20 mm to 60 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Integrated grease chamber reduces friction and wear and optimises lubrication.
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-22

Valve Technology, Force range 80 N to 1,300 N (compressed up to 1,820 N)

End Fitting

A8

Standard Dimensions

End Fitting

Eye A8

max. force 3,000 N

Stud Thread B8

max. force 1,200 N

Angle Ball Joint C8

cle

max. force 3,000 N

Clevis Fork D8

max. force 3,000 N

Swivel Eye E8

max. force 3,000 N

Inline Ball Joint F8

max. force 1,200 N

Ball Socket G8

max. force 1,200 N

Ordering Example

Type (Push Type)
Body Ø (23 mm)
Stroke (150 mm)
Piston Rod End Fitting A8
Body End Fitting E8
Nominal Force F1, 800 N

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke</th>
<th>L extended</th>
<th>Force Range max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-22-50</td>
<td>50</td>
<td>164</td>
<td>1,300 N</td>
</tr>
<tr>
<td>GS-22-100</td>
<td>100</td>
<td>264</td>
<td>1,300 N</td>
</tr>
<tr>
<td>GS-22-150</td>
<td>150</td>
<td>364</td>
<td>1,300 N</td>
</tr>
<tr>
<td>GS-22-200</td>
<td>200</td>
<td>464</td>
<td>1,300 N</td>
</tr>
<tr>
<td>GS-22-250</td>
<td>250</td>
<td>564</td>
<td>1,300 N</td>
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<td>664</td>
<td>1,300 N</td>
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<td>764</td>
<td>1,300 N</td>
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<tr>
<td>GS-22-400</td>
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<td>1,364</td>
<td>1,300 N</td>
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<tr>
<td>GS-22-700</td>
<td>700</td>
<td>1,464</td>
<td>1,300 N</td>
</tr>
</tbody>
</table>

Mounting accessories see from page 194.

Adjuster Knob DE-GAS-8
See page 171.

Technical Data

Force range: 80 N to 1,300 N (compressed up to 1,820 N)
Progression: Approx. 30 % to 40 %
Operating temperature range: -20 °C to +80 °C
Material: Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
Mounting: In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 20 mm to 70 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Integrated grease chamber reduces friction and wear and optimises lubrication.
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas springs (push type) should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-28

Valve Technology, Force range 150 N to 2,500 N (compressed up to 4,175 N)

### Technical Data

- **Force range:** 150 N to 2,500 N (compressed up to 4,175 N)
- **Progression:** Approx. 58 % to 67 %
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
- **Mounting:** In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 30 mm to 70 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Integrated grease chamber reduces friction and wear and optimises lubrication.
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas springs (push type) should not be installed under pre-tension.

### Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPE</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
</tr>
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<tr>
<td>GS-28-100</td>
<td>100</td>
<td>262</td>
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<td>GS-28-150</td>
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<td>GS-28-200</td>
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<td>462</td>
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<td>GS-28-250</td>
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<tr>
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### Ordering Example

GS-28-150-EE-1200

- **Type (Push Type)**
- **Body Ø (28 mm)**
- **Stroke (150 mm)**
- **Piston Rod End Fitting E10**
- **Body End Fitting E10**
- **Nominal Force F₁ 1,200 N**

### End Fitting

- **Eye A10**
  - max. force 10,000 N
- **Stud Thread B10**
  - max. force 1,800 N
- **Angle Ball Joint C10**
  - max. force 10,000 N
- **Clevis Fork D10**
  - max. force 10,000 N
- **Swivel Eye E10**
  - max. force 10,000 N
- **Inline Ball Joint F10**
  - max. force 1,800 N
- **Adjuster Knob**
  - DE-GAS-10
  - max. force 1,800 N

Mounting accessories see from page 194.
Valve Technology, Force range 500 N to 5,000 N (compressed up to 7,450 N)

### End Fitting

#### Standard Dimensions

<table>
<thead>
<tr>
<th>Type</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
</tr>
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<tbody>
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### Performance and Dimensions

- **Force range:** 500 N to 5,000 N (compressed up to 7,450 N)
- **Progression:** Approx. 37% to 49%
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
- **Mounting:** In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 30 mm to 70 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Mounting accessories:** See page 194.

### Technical Data

- **Force range:** 500 N to 5,000 N (compressed up to 7,450 N)
- **Progression:** Approx. 37% to 49%
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body: Steel coated with UV paint; Piston rod: Steel with wear-resistant coating; End fittings: Zinc plated steel
- **Mounting:** In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 30 mm to 70 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Integrated grease chamber reduces friction and wear and optimises lubrication.
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas springs (push type) should not be installed under pre-tension.
Valve Technology, Force range 2,000 N to 13,000 N (compressed up to 16,250 N)

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
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</thead>
<tbody>
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<td>GS-70-100</td>
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<td>GS-70-300</td>
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<td>GS-70-800</td>
<td>800</td>
<td>1,720</td>
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Ordering Example
GS-70-200-EE-8000
Type (Push Type)
Body Ø (70 mm)
Stroke (200 mm)
Piston Rod End Fitting E24
Body End Fitting E24
Nominal Force $F_1$, 8000 N

Mounting accessories see from page 194.

Technical Data

- **Force range**: 2,000 N to 13,000 N (compressed up to 16,250 N)
- **Progression**: Approx. 25 %
- **Operating temperature range**: -20 °C to +80 °C
- **Material**: Outer body: Coated steel; Piston rod: Hard chrome plated steel; End fittings: Zinc plated steel
- **Mounting**: In any position. Hint: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length**: Approx. 10 mm to 20 mm (depending on the stroke)
- **Positive stop**: External positive stop at the end of stroke provided by the customer.
- **Note**: Increased break-away force if unit has not moved for some time.
- **End fittings**: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions**: Gas springs (push type) should not be installed under pre-tension.
GS-8-V4A to GS-40-VA
Industrial Gas Springs – Push Type
With food grade oil according to FDA approval

Protection against corrosion and superior optics for even more sophisticated requirements: Based on ACE’s industrial gas push type springs GS-8 to 40 made of steel, these models combine all advantages of stainless steel: they look great and are rust free. They are filled with food-grade oil as standard, which conforms to the requirements of FDA 21 CFR 178.3570.

These ACE gas push type springs do not only look good, they also are available in various stroke lengths and possible extension forces. A comprehensive range of accessories in stainless steel guarantees easy assembly and a broad range of uses.

ACE industrial gas pressure springs made of stainless steel are used in the automotive sector, in industrial applications, mechanical engineering and medical cleanroom technology as well as in the food, electronics and shipbuilding industries.

Technical Data

**Force range:** 10 N to 5,000 N

**Piston rod diameter:** Ø 3 mm to Ø 20 mm

**Progression:** Approx. 12 % to 40 % (depending on size and stroke)

**Lifetime:** Approx. 10,000 m

**Operating temperature range:** -20 °C to +60 °C

**Material:** Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303 and 1.4404/1.4571, AISI 316L/316Ti)

**Operating fluid:** Nitrogen gas and HLP oil according to DIN 51524, part 2

**Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.

**End position damping length:** Approx. 5 mm to 30 mm (depending on the stroke)

**Positive stop:** External positive stop at the end of stroke provided by the customer.

**Application field:** Hoods, Shutters, Machine housing, Conveyor systems

**Note:** Special oil according to FDA 21 CFR 178.3570 of the food industry

**End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.

**Safety instructions:** Gas pressure springs should not be installed under pre-tension.

**On request:** Special oils and other special options. Alternative accessories. Different end position damping and extension speed. Other gas springs material 1.4404/1.4571, AISI 316L/316Ti (V4A) available on request.
Industrial Gas Springs – Push Type GS-8-V4A

Valve Technology, Stainless Steel, Force range 10 N to 100 N (compressed up to 130 N)

End Fitting

Standard Dimensions

End Fitting

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke mm</th>
<th>L extended mm</th>
<th>Force Range max. N</th>
</tr>
</thead>
<tbody>
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<td>GS-8-20-V4A</td>
<td>20</td>
<td>72</td>
<td>100</td>
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<tr>
<td>GS-8-30-V4A</td>
<td>30</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-40-V4A</td>
<td>40</td>
<td>112</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-50-V4A</td>
<td>50</td>
<td>132</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-60-V4A</td>
<td>60</td>
<td>152</td>
<td>100</td>
</tr>
<tr>
<td>GS-8-80-V4A</td>
<td>80</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Example

Type (Push Type)

Body Ø (8 mm)

Piston Rod End Fitting A3,5-V4A

Body End Fitting C3,5-V4A

Nominal Force F, 30 N

Material (1.4404/1.4571, AISI 316L/316Ti, V4A)

Mounting accessories see from page 202.

Technical Data

- **Force range:** 10 N to 100 N (compressed up to 130 N)
- **Progression:** Approx. 27 %
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body, Piston rod, End fittings: Stainless steel (1.4404/1.4571, AISI 316L/316Ti)
- **Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 5 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Special oil according to FDA 21 CFR 178.3570 of the food industry
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas pressure springs should not be installed under pre-tension.

Issue 08.2016 – Specifications subject to change
Valve Technology, Stainless Steel, Force range 10 N to 100 N (compressed up to 115 N)

End Fitting

**B3,5**

**A3,5-V4A**

**C3,5-V4A**

**D3,5-V4A**

**G3,5-V4A**

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-10-20-V4A</td>
<td>20</td>
<td>72</td>
<td>100</td>
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<tr>
<td>GS-10-30-V4A</td>
<td>30</td>
<td>92</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-40-V4A</td>
<td>40</td>
<td>112</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-50-V4A</td>
<td>50</td>
<td>132</td>
<td>100</td>
</tr>
<tr>
<td>GS-10-60-V4A</td>
<td>60</td>
<td>152</td>
<td>100</td>
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<tr>
<td>GS-10-80-V4A</td>
<td>80</td>
<td>192</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Example

GS-10-30-AC-30-V4A

Type (Push Type) Body Ø (10 mm) Stroke (30 mm) Piston Rod End Fitting A3,5-V4A Body End Fitting C3,5-V4A Nominal Force F1 30 N Material (1.4404/1.4571, AISI 316L/316Ti, V4A)

Mounting accessories see from page 202.

Technical Data

**Force range:** 10 N to 100 N (compressed up to 115 N)

**Progression:** Approx. 12%

**Operating temperature range:** -20 °C to +80 °C

**Material:** Outer body, Piston rod, End fittings: Stainless steel (1.4404/1.4571, AISI 316L/316Ti)

**Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.

**End position damping length:** Approx. 5 mm (depending on the stroke)

**Positive stop:** External positive stop at the end of stroke provided by the customer.

**Note:** Special oil according to FDA 21 CFR 178.3570 of the food industry

**End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.

**Safety instructions:** Gas pressure springs should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-12-V4A

Valve Technology, Stainless Steel, Force range 15 N to 180 N (compressed up to 212 N)

End Fitting

Standard Dimensions

End Fitting

Performance and Dimensions

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke mm</th>
<th>L extended mm</th>
<th>Force Range max. N</th>
</tr>
</thead>
<tbody>
<tr>
<td>GS-12-20-V4A</td>
<td>20</td>
<td>72</td>
<td>180</td>
</tr>
<tr>
<td>GS-12-30-V4A</td>
<td>30</td>
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<td>180</td>
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<tr>
<td>GS-12-40-V4A</td>
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<td>GS-12-120-V4A</td>
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<td>GS-12-150-V4A</td>
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<td>332</td>
<td>100</td>
</tr>
</tbody>
</table>

Ordering Example

Type (Push Type) GS-12-100-AA-30-V4A

Body Ø (12 mm)

Stroke (100 mm)

Piston Rod End Fitting A3,5-V4A

Body End Fitting A3,5-V4A

Nominal Force Fₜ 30 N

Material (1.4404/1.4571, AISI 316L/316Ti, V4A)

Mounting accessories see from page 202.

Technical Data

Force range: 15 N to 180 N (compressed up to 212 N)

Progression: Approx. 18 %

Operating temperature range: -20 °C to +80 °C

Material: Outer body, Piston rod, End fittings: Stainless steel (1.4404/1.4571, AISI 316L/316Ti)

Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.

End position damping length: Approx. 10 mm (depending on the stroke)

Positive stop: External positive stop at the end of stroke provided by the customer.

Note: Special oil according to FDA 21 CFR 178.3570 of the food industry

End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.

Safety instructions: Gas pressure springs should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-15-VA

Valve Technology, Stainless Steel, Force range 40 N to 400 N (compressed up to 535 N)

**Performance and Dimensions**

<table>
<thead>
<tr>
<th>TYPES</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. (N)</th>
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</thead>
<tbody>
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<td>GS-15-20-VA</td>
<td>20</td>
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<td>GS-15-40-VA</td>
<td>40</td>
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<tr>
<td>GS-15-50-VA</td>
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<td>400</td>
</tr>
<tr>
<td>GS-15-60-VA</td>
<td>60</td>
<td>154</td>
<td>400</td>
</tr>
<tr>
<td>GS-15-80-VA</td>
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<td>194</td>
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<td>GS-15-100-VA</td>
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<tr>
<td>GS-15-120-VA</td>
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<td>GS-15-150-VA</td>
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<td>334</td>
<td>400</td>
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</table>

**Ordering Example**

GS-15-150-AC-150-VA

- Type (Push Type)
- Body Ø (15.6 mm)
- Stroke (150 mm)
- Piston Rod End Fitting A5-VA
- Body End Fitting C5-VA
- Nominal Force F₁, 150 N
- Material (1.4301/1.4305, AISI 304/303, VA)

**Mounting accessories see from page 202.**

**Technical Data**

- **Force range:** 40 N to 400 N (compressed up to 535 N)
- **Progression:** Approx. 34 %
- **Operating temperature range:** -20 °C to +80 °C
- **Material:** Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303)
- **Mounting:** We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- **End position damping length:** Approx. 20 mm (depending on the stroke)
- **Positive stop:** External positive stop at the end of stroke provided by the customer.
- **Note:** Special oil according to FDA 21 CFR 178.3570 of the food industry
- **End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- **Safety instructions:** Gas pressure springs should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-19-VA
Valve Technology, Stainless Steel, Force range 50 N to 700 N (compressed up to 930 N)

End Fitting

<table>
<thead>
<tr>
<th>Type</th>
<th>Stroke (mm)</th>
<th>L extended (mm)</th>
<th>Force Range max. N</th>
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<tbody>
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<td>GS-19-100-VA</td>
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<td>GS-19-150-VA</td>
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<td>700</td>
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<td>GS-19-200-VA</td>
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<tr>
<td>GS-19-250-VA</td>
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<tr>
<td>GS-19-300-VA</td>
<td>300</td>
<td>664</td>
<td>700</td>
</tr>
</tbody>
</table>

Ordering Example

GS-19-150-AC-600-VA
Type (Push Type)
Body Ø (19 mm)
Stroke (150 mm)
Piston Rod End Fitting A8-VA
Body End Fitting C8-VA
Nominal Force F₁, 600 N
Material (1.4301/1.4305, AISI 304/303, VA)

Mounting accessories see from page 202.

Technical Data

- Force range: 50 N to 700 N (compressed up to 930 N)
- Progression: Approx. 33 %
- Operating temperature range: -20 °C to +80 °C
- Material: Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303)
- Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- End position damping length: Approx. 20 mm (depending on the stroke)
- Positive stop: External positive stop at the end of stroke provided by the customer.
- Note: Special oil according to FDA 21 CFR 178.3570 of the food industry
- End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- Safety instructions: Gas pressure springs should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-22-VA

Valve Technology, Stainless Steel, Force range 100 N to 1,200 N (compressed up to 1,585 N)

End Fitting

Standard Dimensions

End Fitting

Performance and Dimensions

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<tr>
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<th>Stroke mm</th>
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Ordering Example

GS-22-150-AE-800-VA

Type (Push Type)
Body Ø (23 mm)
Stroke (150 mm)
Piston Rod End Fitting A8-VA
Body End Fitting E8-VA
Nominal Force 800 N
Material (1.4301/1.4305, AISI 304/303, VA)

Mounting accessories see from page 202.

Adjuster Knob DE-GAS-8 See page 171.

Technical Data

Force range: 100 N to 1,200 N (compressed up to 1,585 N)
Progression: Approx. 32 %
Operating temperature range: -20 °C to +80 °C
Material: Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303)
Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 20 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Special oil according to FDA 21 CFR 178.3570 of the food industry
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas pressure springs should not be installed under pre-tension.
Valve Technology, Stainless Steel, Force range 150 N to 2,500 N (compressed up to 3,800 N)

Performance and Dimensions

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<th>TYPES</th>
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<th>Force Range max.</th>
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Ordering Example
Type (Push Type)
Body Ø (28 mm)
Stroke (150 mm)
Piston Rod End Fitting E10-VA
Body End Fitting E10-VA
Nominal Force F₁ 1200 N
Material (1.4301/1.4305, AISI 304/303, VA)

Mounting accessories see from page 202.

Technical Data

Force range: 150 N to 2,500 N (compressed up to 3,800 N)
Progression: Approx. 52%
Operating temperature range: -20 °C to +80 °C
Material: Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303)
Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
End position damping length: Approx. 20 mm (depending on the stroke)
Positive stop: External positive stop at the end of stroke provided by the customer.
Note: Special oil according to FDA 21 CFR 178.3570 of the food industry
End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Safety instructions: Gas pressure springs should not be installed under pre-tension.
Industrial Gas Springs – Push Type GS-40-VA

Valve Technology, Stainless Steel, Force range 500 N to 5,000 N (compressed up to 7,000 N)

End Fitting | Standard Dimensions | End Fitting
---|---|---
B14 | | Stud Thread B14
A14-VA | | Eye A14-VA
C14-VA | | Angle Ball Joint C14-VA
D14-VA | | Clevis Fork D14-VA
E14-VA | | Swivel Eye E14-VA
Rod Shroud | W14-40-VA | Adjuster Knob DE-GAS-14
GS-40-VA | | See page 171.

Performance and Dimensions

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<th>Force Range max. (N)</th>
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Ordering Example

GS-40-150-DD-3500-VA
- Type (Push Type)
- Body Ø (40 mm)
- Stroke (150 mm)
- Piston Rod End Fitting D14-VA
- Body End Fitting D14-VA
- Nominal Force F1 3500 N
- Material (1.4301/1.4305, AISI 304/303, VA)

Mounting accessories see from page 202.

Technical Data

- Force range: 500 N to 5,000 N (compressed up to 7,000 N)
- Progression: Approx. 40 %
- Operating temperature range: -20 °C to +80 °C
- Material: Outer body, Piston rod, End fittings: Stainless steel (1.4301/1.4305, AISI 304/303)
- Mounting: We recommend mounting with piston rod downwards to take advantage of the built-in end position damping.
- End position damping length: Approx. 30 mm (depending on the stroke)
- Positive stop: External positive stop at the end of stroke provided by the customer.
- Note: Special oil according to FDA 21 CFR 178.3570 of the food industry
- End fittings: They are interchangeable and must be positively secured by the customer to prevent unscrewing.
- Safety instructions: Gas pressure springs should not be installed under pre-tension.
### Performance

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### Further Stainless Steel Accessories, V4A

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**GST-40 Tandem**

**Industrial Gas Springs – Push Type**

**Optimised dual force for heavy flaps and wide angle applications**

Cover two differing force ranges: Tandem push type gas springs by ACE are maintenance-free and ready-to-install with two pressure tubes with different extension forces and progression curves. With this type of gas spring you cover the different force ranges between the start and end of an application. These force ranges are adjusted and compliment each other, designed individually for the relevant application by the free of charge ACE calculation service, then are specifically manufactured adjusted precisely to the required dynamics of the application.

The customer specific systems, for which there are many fitting parts, are specifically suitable for heavy loads with large opening angle and can also be delivered in stainless steel versions.

Tandem push type gas springs from ACE are used in industrial applications such as in mechanical engineering, in the automobile, electronics and furniture industries, but also in medical technology as well as for service hatches.

---

**Technical Data**

- **Force range:** 300 N to 5,000 N
- **Piston rod diameter:** Ø 20 mm
- **Progression:** According to calculation relating to your application.
- **Lifetime:** Approx. 10,000 m
- **Operating temperature range:** -20 °C to +60 °C
- **Material:** Outer body, End fittings: Zinc plated steel; Piston rod: Steel with wear-resistant coating
- **Operating fluid:** Nitrogen gas and oil
- **Mounting:** In any position. Please adopt the mounting points determined by ACE.

**End position damping length:** Application-specific end position damping and extension speed.

**Positive stop:** External positive stop at the end of stroke provided by the customer.

**Application field:** Hoods, Shutters, Machine housing, Conveyor systems

**Note:** These gas springs are tailored to the relevant application and are therefore not available ex stock.

**End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.

**On request:** Special oils and other special options. Alternative accessories. Material 1.4301/1.4305, AISI 304/303 (V2A) and 1.4404/1.4571, AISI 316L/316Ti (V4A).
Industrial Gas Springs – Push Type GST-40
Valve Technology, Force range 300 N to 5,000 N

**End Fitting**

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**Ordering Example**

Type (Tandem Gas Spring) GST-40-50-150-AD-900N-2500N
Body Ø (40 mm) Stroke A (50 mm) Stroke B (150 mm) Body A End Fitting, A14 Body B End Fitting, D14 Nominal Force Body A, 900 N Nominal Force Body B, 2500 N

**Mounting accessories see from page 194.**

**Technical Data**

**Progression:** According to calculation relating to your application.
**Operating temperature range:** -20 °C to +80 °C
**Material:** Outer body, End fittings: Zinc plated steel; Piston rod: Steel with wear-resistant coating
**Mounting:** In any position. Please adopt the mounting points determined by ACE.
**End position damping length:** Application-specific end position damping and extension speed.
**Positive stop:** External positive stop at the end of stroke provided by the customer.
**Note:** These gas springs are tailored to the relevant application and are therefore not available ex stock.
**End fittings:** They are interchangeable and must be positively secured by the customer to prevent unscrewing.
Application Examples

GS-12
Safe opening and closing

ACE industrial gas springs (push type) protect samples in an incubator, which is used for chemical and biochemical applications. The plexiglass hood, under which may be found valuable laboratory goods, is securely held open by two maintenance-free, ready-to-install ACE industrial gas springs (push type) of the type GS-12-60-AA-X. With an end-position damping of 5 mm and an extension force of 10 to 180 N, they help to handle the forces generated. The hood is always easily opened and remains in this position. It also remains securely shut when the incubator is in operation.

GS-19
Doors open and close safely

ACE industrial gas springs make opening and closing doors of rescue helicopters easier. The maintenance-free, sealed systems are installed in the access doors of helicopters of the type EC 135. There, they allow the crew to enter or exit the helicopter quickly, thus contributing to enhanced safety. The GS-19-300-CC gas springs provide a defined retraction speed and secure engagement of the door lock. The integrated end position damper allows gentle closing of the door and saves wear and tear on the valuable, lightweight material.
GS-22-VA

Made-to-measure stainless steel gas springs

A special hygiene and toilet chair, designed for children and young people with disabilities, must be firmly lockable in the sit and tilt positions. The practical aid thereby provided for relatives and carers can be attributed to two lockable ACE industrial gas springs (push type) which were especially developed and manufactured for this application and operate on the basis of the so-called tilt-in-space function. This allows the chair to be tilted forwards and backwards and provides significantly more convenience for users and patients. In order to meet all hygiene requirements, the gas springs are constructed in stainless steel.

With inclination angles of 15 degrees to the front and rear, the ACE stainless steel gas springs facilitate the work of nurses

Rifton Equipment, Rifton, New York 12471, USA

GST-40

Tandemly-operated large flaps securely under control

Underground distribution systems are visually advantageous. To facilitate their servicing, the heavy covers of the often large supply systems are brought back to the surface with the help of ACE industrial tandem gas springs (push type). This is quite easily achieved thanks to the use of two pressure pipes, the result of which is two different force ranges. This means fitters must not endure laborious bending and a downward passage into the system of channels. In addition to these advantages, the springs benefit from their long service life and their capacity to be used, as stainless steel variants, in even the most hygienically-sensitive areas.

ACE industrial tandem gas springs (push type) enable easy maintenance of supply boxes by making the heavy flaps easier to operate

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