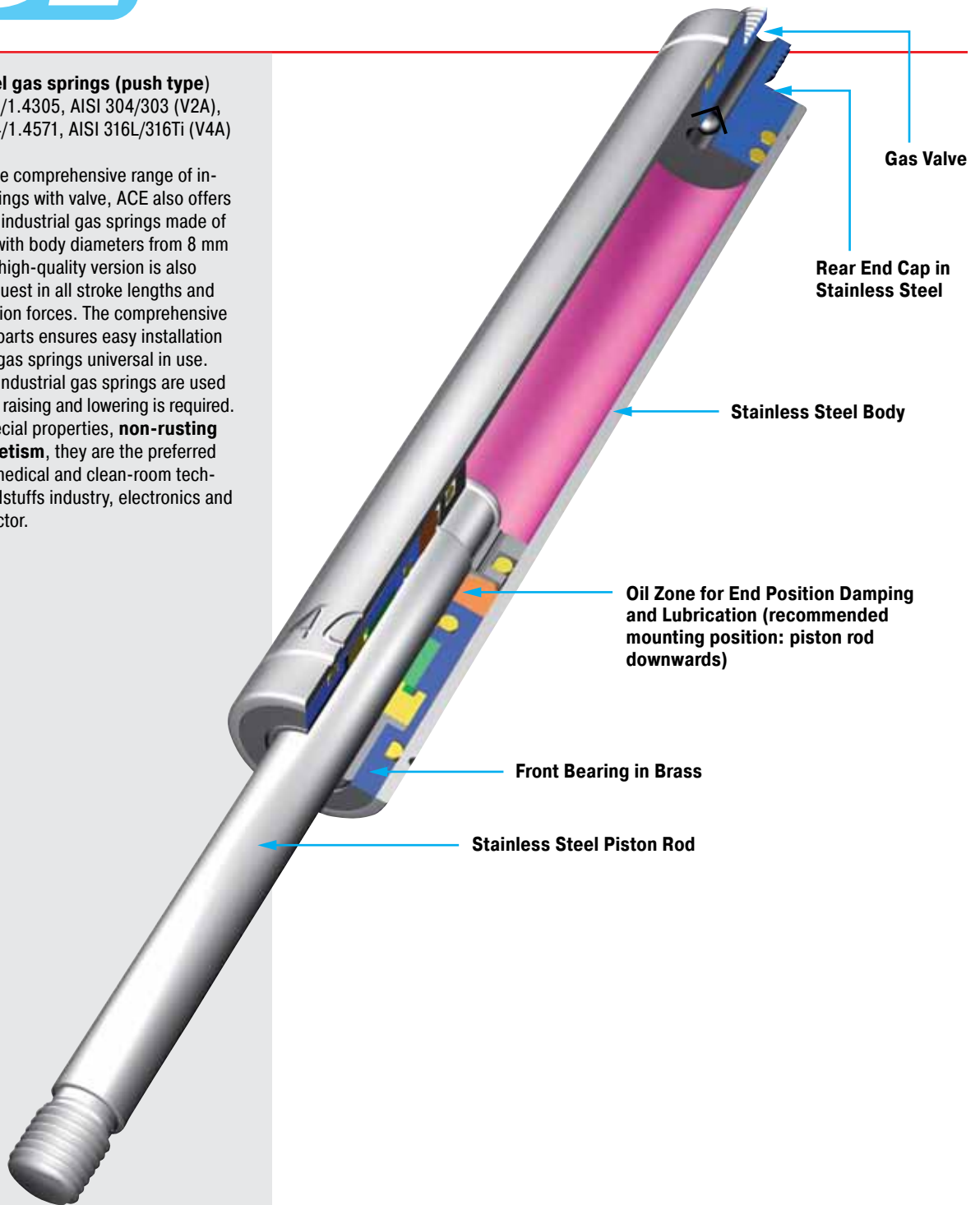


**Stainless steel gas springs (push type)**  
 Material 1.4301/1.4305, AISI 304/303 (V2A),  
 Material 1.4404/1.4571, AISI 316L/316Ti (V4A)

In addition to the comprehensive range of industrial gas springs with valve, ACE also offers a wide range of industrial gas springs made of stainless steel with body diameters from 8 mm to 70 mm. This high-quality version is also available on request in all stroke lengths and possible extension forces. The comprehensive range of fitting parts ensures easy installation and makes the gas springs universal in use. Stainless steel industrial gas springs are used everywhere that raising and lowering is required. Due to their special properties, **non-rusting and low magnetism**, they are the preferred equipment for medical and clean-room technology, the foodstuffs industry, electronics and shipbuilding sector.



**Operating fluid:** Nitrogen gas and oil

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A) or material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Mounting:** In any position

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

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

**On request:** Without damping, strong end position damping, special force curves, wiper, special lengths, alternative end fittings.



End Fitting

Standard Dimensions

End Fitting

**B3,5**

**A3,5-V4A**

**C3,5-V4A**

**D3,5-V4A**

**G3,5-V4A**

**Rod Shroud W3,5-8-V4A**

**Dimensions**

Type	Stroke mm	L extended
GS-8-20-V4A	20	72
GS-8-30-V4A	30	92
GS-8-40-V4A	40	112
GS-8-50-V4A	50	132
GS-8-60-V4A	60	152
GS-8-80-V4A	80	192

**Ordering Example**

GS-8-30-AC-30-V4A

Type (Push Type) \_\_\_\_\_

Body Ø (8 mm) \_\_\_\_\_

Stroke (30 mm) \_\_\_\_\_

Piston Rod End Fitting A3,5-V4A \_\_\_\_\_

Body End Fitting C3,5-V4A \_\_\_\_\_

Nominal Force F<sub>1</sub> 30 N \_\_\_\_\_

Indicated by K.-No. on delivery \_\_\_\_\_

**The end fittings are interchangeable.  
For mounting accessories see page 202.**

Stud Thread **B3,5**

**Eye A3,5-V4A**  
max. force 370 N

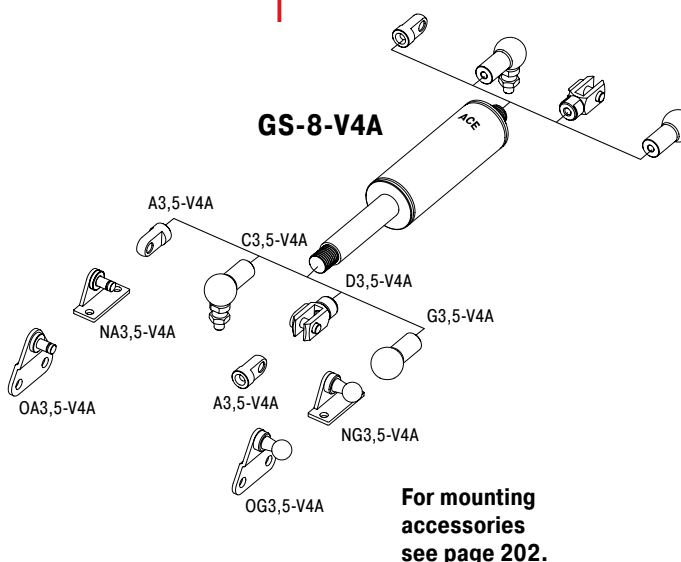
**Angle Ball Joint C3,5-V4A**  
max. force 370 N

**Clevis Fork D3,5-V4A**  
max. force 370 N

**Ball Socket G3,5-V4A**  
max. force 370 N

**Adjuster Knob U3,5**  
See page 163.

Issue 6.2011 Specifications subject to change



### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special end fittings.

**Available force range F<sub>1</sub> at 20 °C:** 25 N to 100 N

**Mounting:** In any position

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

**End position damping length:** approx. 5 mm

**Material:** Piston rod, body and end fittings: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Progression:** approx. 27%, F<sub>2</sub> max. 130 N

End Fitting

Standard Dimensions

End Fitting

**B3,5** Stud Thread **B3,5**

**A3,5-V4A** Eye **A3,5-V4A**  
max. force 370 N

**C3,5-V4A** Angle Ball Joint **C3,5-V4A**  
max. force 370 N

**D3,5-V4A** Clevis Fork **D3,5-V4A**  
max. force 370 N

**G3,5-V4A** Ball Socket **G3,5-V4A**  
max. force 370 N

**U3,5** Adjuster Knob **U3,5**  
See page 163.

**W3,5-10-V4A** Rod Shroud

**Dimensions**

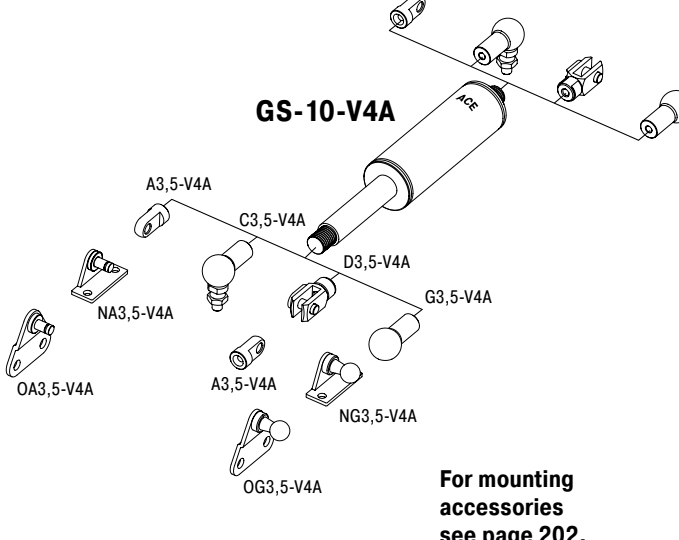
Type	Stroke mm	L extended
GS-10-20-V4A	20	72
GS-10-30-V4A	30	92
GS-10-40-V4A	40	112
GS-10-50-V4A	50	132
GS-10-60-V4A	60	152
GS-10-80-V4A	80	192

**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 F<sub>1</sub> 30 N \_\_\_\_\_  
 Indicated by K.-No. on delivery \_\_\_\_\_

**The end fittings are interchangeable.  
For mounting accessories see page 202.**



### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special end fittings.

**Available force range F<sub>1</sub> at 20 °C:** 30 N to 100 N

**Mounting:** In any position

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

**End position damping length:** approx. 5 mm

**Material:** Piston rod, body and end fittings: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Progression:** approx. 12%, F<sub>2</sub> max. 115 N

End Fitting

Standard Dimensions

End Fitting

**B3,5** Stud Thread **B3,5**

**A3,5-V4A** Eye **A3,5-V4A**  
max. force 370 N

**C3,5-V4A** Angle Ball Joint **C3,5-V4A**  
max. force 370 N

**D3,5-V4A** Clevis Fork **D3,5-V4A**  
max. force 370 N

**G3,5-V4A** Ball Socket **G3,5-V4A**  
max. force 370 N

**U3,5** Adjuster Knob **U3,5**  
See page 163.

**Rod Shroud W3,5-12-V4A**  
Ø 15.5  
L = Stroke + 10

Dimensions		
Type	Stroke mm	L extended
GS-12-20-V4A	20	72
GS-12-30-V4A	30	92
GS-12-40-V4A	40	112
GS-12-50-V4A	50	132
GS-12-60-V4A	60	152
GS-12-80-V4A	80	192
GS-12-100-V4A	100	232
GS-12-120-V4A	120	272
GS-12-150-V4A	150	332

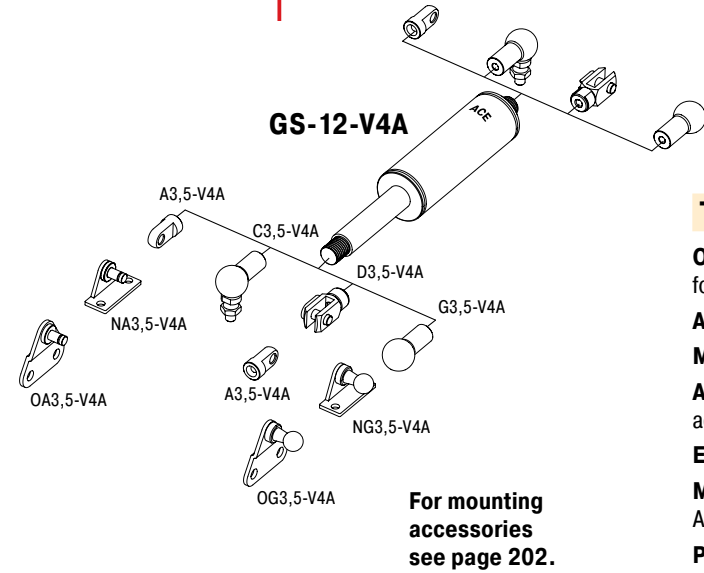
**Ordering Example**

**GS-12-100-AA-30-V4A**

Type (Push Type) \_\_\_\_\_  
 Body Ø (12 mm) \_\_\_\_\_  
 Stroke (100 mm) \_\_\_\_\_  
 Piston Rod End Fitting A3,5-V4A \_\_\_\_\_  
 Body End Fitting A3,5-V4A \_\_\_\_\_  
 Nominal Force F<sub>1</sub> 30 N \_\_\_\_\_  
 Indicated by K.-No. on delivery \_\_\_\_\_

**The end fittings are interchangeable.**  
**For mounting accessories see page 202.**

Issue 6.2011 Specifications subject to change



### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special end fittings.

**Available force range F<sub>1</sub> at 20 °C:** 25 N to 200 N

**Mounting:** In any position

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

**End position damping length:** approx. 10 mm

**Material:** Piston rod, body and end fittings: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Progression:** approx. 18%, F<sub>2</sub> max. 235 N

Extension Forces 40 N to 400 N  
(when Piston Rod Compressed up to 490 N)

### End Fitting

### Standard Dimensions

### End Fitting

**B5**

**A5-VA**

**C5-VA**

**D5-VA**

**E5-VA**

**G5-VA**

**Rod Shroud W5-15-VA**

**Dimensions**

Type	Stroke mm	L extended
GS-15-20-VA	20	74
GS-15-40-VA	40	114
GS-15-50-VA	50	134
GS-15-60-VA	60	154
GS-15-80-VA	80	194
GS-15-100-VA	100	234
GS-15-120-VA	120	274
GS-15-150-VA	150	334

**Ordering Example**

Type (Push Type) \_\_\_\_\_

Body Ø (15.6 mm) \_\_\_\_\_

Stroke (150 mm) \_\_\_\_\_

Piston Rod End Fitting A5-VA \_\_\_\_\_

Body End Fitting C5-VA \_\_\_\_\_

Nominal Force F<sub>1</sub> 150 N \_\_\_\_\_

Indicated by K.-No. on delivery \_\_\_\_\_

**GS-15-150-AC-150-VA**

**The end fittings are interchangeable.**  
**Strokes also available up to 300 mm.**  
**For mounting accessories see page 202.**

**Stud Thread B5**

**Eye A5-VA**  
max. force 490 N

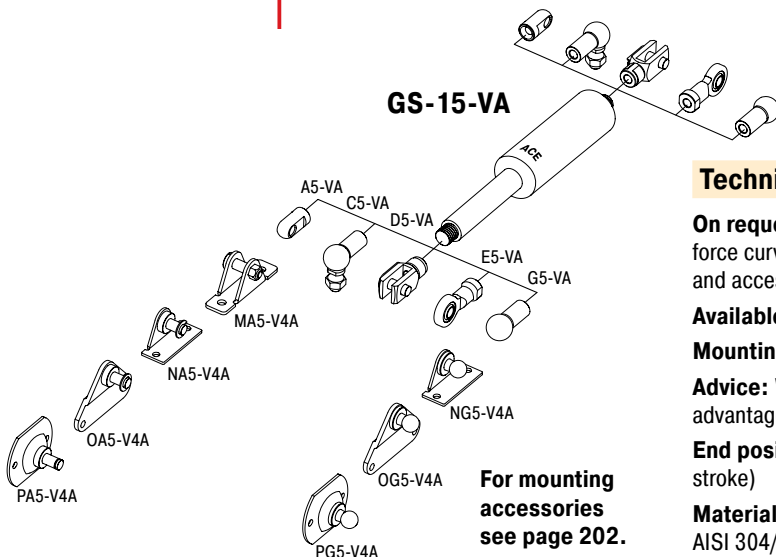
**Angle Ball Joint C5-VA**  
max. force 430 N

**Clevis Fork D5-VA**  
max. force 490 N

**Swivel Eye E5-VA**  
max. force 490 N

**Ball Socket G5-VA**  
max. force 430 N

**Adjuster Knob U5**  
See page 163.



### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special lengths, alternative end fittings, wiper. Gas springs and accessories: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Available force range F<sub>1</sub> at 20 °C:** 40 N to 400 N

**Mounting:** In any position

**Advice:** 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)

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A).

**Progression:** Approx. 34%, F<sub>2</sub> max. 490 N

Extension Forces 50 N to 700 N  
(when Piston Rod Compressed up to 910 N)

### End Fitting

### Standard Dimensions

### End Fitting

**B8**  
Stud Thread B8

**A8-VA**  
Eye A8-VA  
max. force 1560 N

**C8-VA**  
Angle Ball Joint C8-VA  
max. force 1140 N

**D8-VA**  
Clevis Fork D8-VA  
max. force 1560 N

**E8-VA**  
Swivel Eye E8-VA  
max. force 1560 N

**G8-VA**  
Ball Socket G8-VA  
max. force 1140 N

**W8-19-VA**  
Rod Shroud

**Dimensions**

Type	Stroke mm	L extended
GS-19-50-VA	50	164
GS-19-100-VA	100	264
GS-19-150-VA	150	364
GS-19-200-VA	200	464
GS-19-250-VA	250	564
GS-19-300-VA	300	664

**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 F<sub>1</sub> 600 N \_\_\_\_\_

Indicated by K.-No. on delivery \_\_\_\_\_

**The end fittings are interchangeable.**  
**Strokes also available up to 500 mm.**  
**For mounting accessories see page 203.**

**Eye A8-VA**  
max. force 1560 N

**Angle Ball Joint C8-VA**  
max. force 1140 N

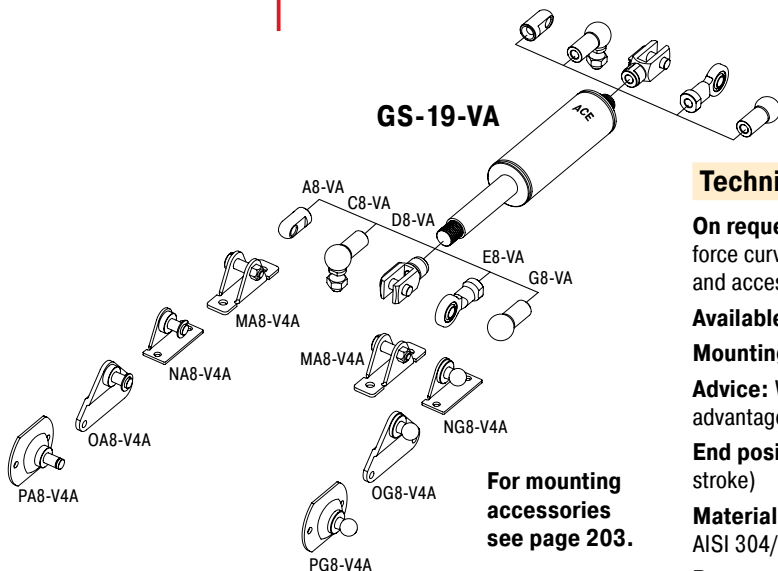
**Clevis Fork D8-VA**  
max. force 1560 N

**Swivel Eye E8-VA**  
max. force 1560 N

**Ball Socket G8-VA**  
max. force 1140 N

**Adjuster Knob U8**  
See page 163.

Issue 6.2011 Specifications subject to change



**For mounting accessories see page 203.**

### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special lengths, alternative end fittings, wiper. Gas springs and accessories: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Available force range F<sub>1</sub> at 20 °C:** 50 N to 700 N

**Mounting:** In any position

**Advice:** 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)

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A).

**Progression:** Approx. 33%, F<sub>2</sub> max. 910 N

Extension Forces 100 N to 1200 N  
(when Piston Rod Compressed up to 1560 N)

### End Fitting

### Standard Dimensions

### End Fitting

**B8**

**A8-VA**

**C8-VA**

**D8-VA**

**E8-VA**

**G8-VA**

**Rod Shroud W8-22-VA**

**Dimensions**

Type	Stroke mm	L extended
GS-22-50-VA	50	164
GS-22-100-VA	100	264
GS-22-150-VA	150	364
GS-22-200-VA	200	464
GS-22-250-VA	250	564
GS-22-300-VA	300	664
GS-22-350-VA	350	764
GS-22-400-VA	400	864
GS-22-450-VA	450	964
GS-22-500-VA	500	1 064
GS-22-550-VA	550	1 164
GS-22-600-VA	600	1 264
GS-22-650-VA	650	1 364
GS-22-700-VA	700	1 464

**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 F<sub>1</sub> 800 N \_\_\_\_\_

Indicated by K.-No. on delivery \_\_\_\_\_

**The end fittings are interchangeable.  
For mounting accessories see page 203.**

**Stud Thread B8**

**Eye A8-VA**  
max. force 1560 N

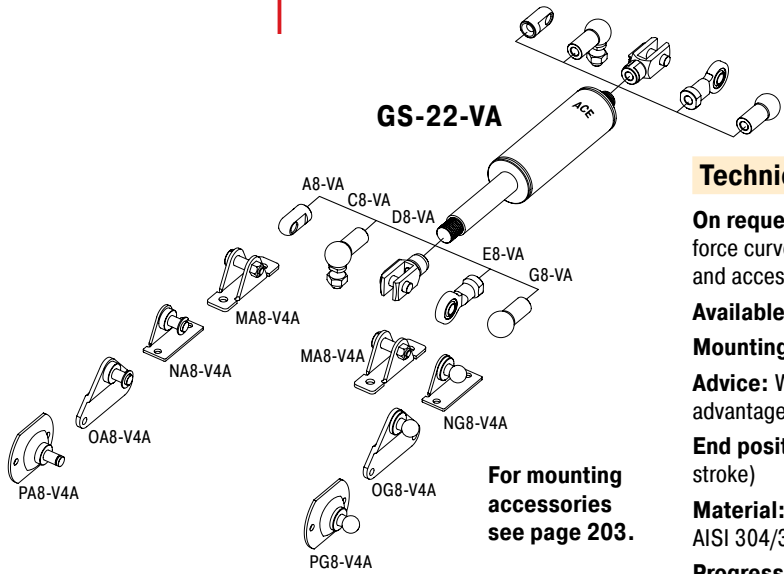
**Angle Ball Joint C8-VA**  
max. force 1140 N

**Clevis Fork D8-VA**  
max. force 1560 N

**Swivel Eye E8-VA**  
max. force 1560 N

**Ball Socket G8-VA**  
max. force 1140 N

**Adjuster Knob U8**  
See page 163.



### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special lengths, alternative end fittings, wiper. Gas springs and accessories: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Available force range F<sub>1</sub> at 20 °C:** 100 N to 1200 N

**Mounting:** In any position

**Advice:** 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)

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A).

**Progression:** Approx. 32%, F<sub>2</sub> max. 1560 N

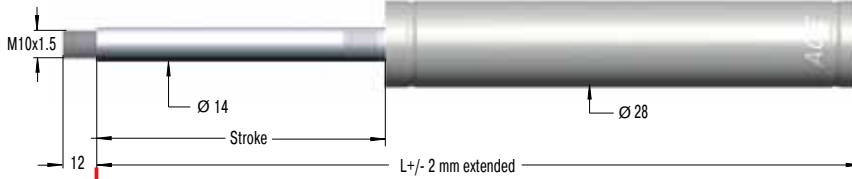
Extension Forces 150 N to 2500 N  
(when Piston Rod Compressed up to 3800 N)

### End Fitting

### Standard Dimensions

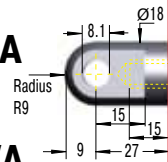
### End Fitting

#### B10



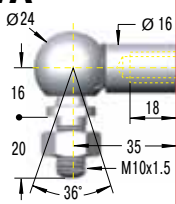
#### Stud Thread B10

#### A10-VA



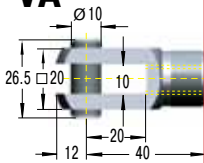
#### Eye A10-VA max. force 3800 N

#### C10-VA



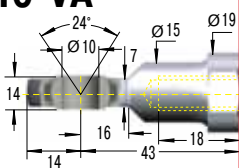
#### Angle Ball Joint C10-VA max. force 1750 N

#### D10-VA



#### Clevis Fork D10-VA max. force 3800 N

#### E10-VA



#### Swivel Eye E10-VA max. force 3800 N

### Dimensions

Type	Stroke mm	L extended
GS-28-100-VA	100	262
GS-28-150-VA	150	362
GS-28-200-VA	200	462
GS-28-250-VA	250	562
GS-28-300-VA	300	662
GS-28-350-VA	350	762
GS-28-400-VA	400	862
GS-28-450-VA	450	962
GS-28-500-VA	500	1 062
GS-28-550-VA	550	1 162
GS-28-600-VA	600	1 262
GS-28-650-VA	650	1 362

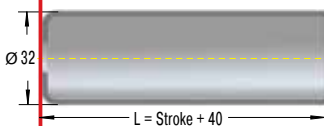
### Ordering Example

GS-28-150-EE-1200-VA

Type (Push Type) \_\_\_\_\_  
 Body Ø (28 mm) \_\_\_\_\_  
 Stroke (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting E10-VA \_\_\_\_\_  
 Body End Fitting E10-VA \_\_\_\_\_  
 Nominal Force F<sub>1</sub> 1200 N \_\_\_\_\_  
 Indicated by K.-No. on delivery \_\_\_\_\_

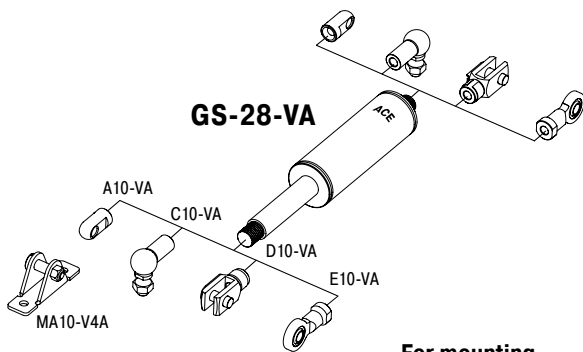
The end fittings are interchangeable.  
 Strokes also available up to 750 mm.  
 For mounting accessories see page 203.

### Rod Shroud W10-28-VA



#### Adjuster Knob U10-VA See page 163.

Issue 6.2011 Specifications subject to change



For mounting accessories see page 203.

### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special lengths, alternative end fittings, wiper. Gas springs and accessories: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Available force range F<sub>1</sub> at 20 °C:** 150 N to 2500 N

**Mounting:** In any position

**Advice:** 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)

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A).

**Progression:** Approx. 52%, F<sub>2</sub> max. 3800 N



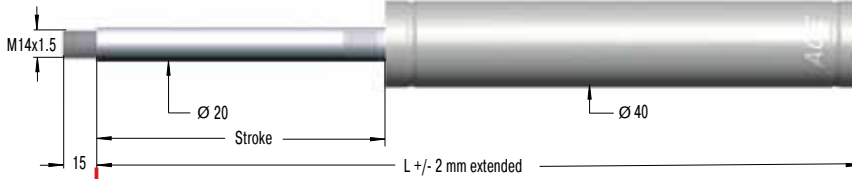
Extension Forces 500 N to 5000 N  
(when Piston Rod Compressed up to 7000 N)

### End Fitting

### Standard Dimensions

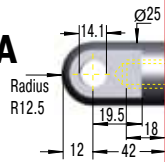
### End Fitting

#### B14



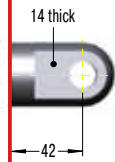
#### Stud Thread B14

#### A14-VA



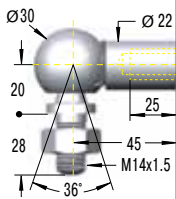
#### Dimensions

Type	Stroke mm	L extended
GS-40-100-VA	100	317
GS-40-150-VA	150	417
GS-40-200-VA	200	517
GS-40-300-VA	300	717
GS-40-400-VA	400	917
GS-40-500-VA	500	1 117
GS-40-600-VA	600	1 317



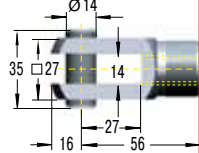
#### Eye A14-VA max. force 7000 N

#### C14-VA



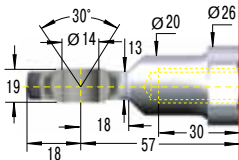
#### Angle Ball Joint C14-VA max. force 3200 N

#### D14-VA



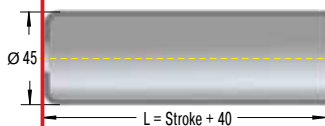
#### Clevis Fork D14-VA max. force 7000 N

#### E14-VA



#### Swivel Eye E14-VA max. force 7000 N

#### Rod Shroud W14-40-VA

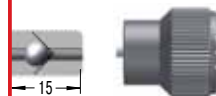
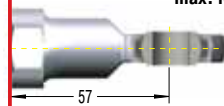
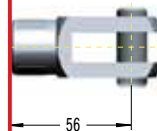
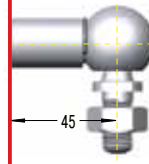


#### Ordering Example

**GS-40-150-DD-3500-VA**

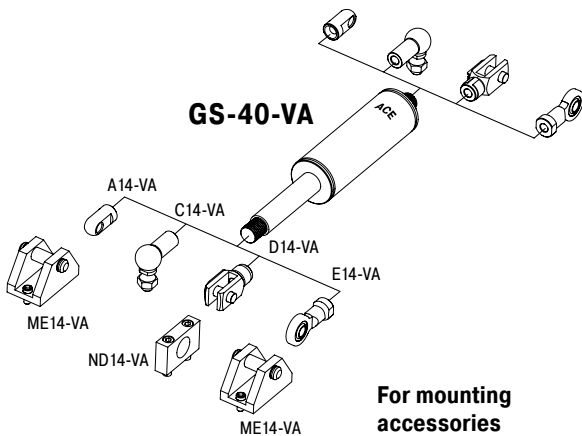
Type (Push Type) \_\_\_\_\_  
 Body Ø (40 mm) \_\_\_\_\_  
 Stroke (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting D14-VA \_\_\_\_\_  
 Body End Fitting D14-VA \_\_\_\_\_  
 Nominal Force F<sub>1</sub> 3500 N \_\_\_\_\_  
 Indicated by K.-No. on delivery \_\_\_\_\_

The end fittings are interchangeable.  
 Strokes also available up to 1000 mm.  
 For mounting accessories see page 204.



#### Adjuster Knob U14-VA See page 163.

### GS-40-VA



For mounting  
 accessories  
 see page 204.

### Technical Data

**On request:** Without damping, increased end position damping, special force curves, special lengths, alternative end fittings, wiper. Gas springs and accessories: Material 1.4404/1.4571, AISI 316L/316Ti (V4A).

**Available force range F<sub>1</sub> at 20 °C:** 500 N to 5000 N

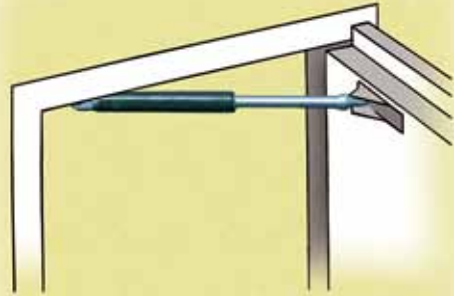
**Mounting:** In any position

**Advice:** 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)

**Material:** Piston rod, body and end fittings: Material 1.4301/1.4305, AISI 304/303 (V2A).

**Progression:** Approx. 40%, F<sub>2</sub> max. 7000 N



Doors open and close safely

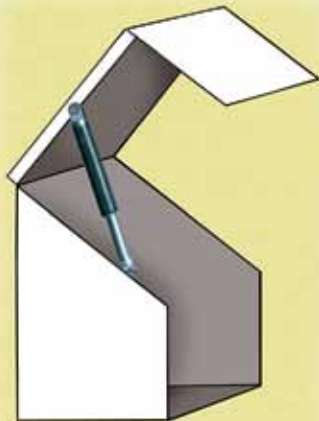
**ACE industrial gas springs** make opening and closing doors of rescue helicopters easier.

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.



Industrial gas springs: For safe entry and exit



Protection under the hood

**ACE industrial gas springs** prevent injuries during maintenance work on harvesting machines.

The blades of corn pickers are arranged under plastic hoods, which assure proper material flow within the machine. For maintenance purposes, the hoods, weighing about 7 kg, must be lifted up. To protect maintenance personnel from injury by falling hoods, they are kept in the open position by industrial gas springs of the type **GS-22-250-DD**.

Another advantage they offer is their stability under rough operating conditions due to their wear-resistant coating on the piston rod and the coated housing.



Enhanced protection: Industrial gas springs secure heavy hoods