

## GS-8-V4A to GS-40-VA

With food grade oil according to FDA approval

### Valve Technology, Stainless Steel

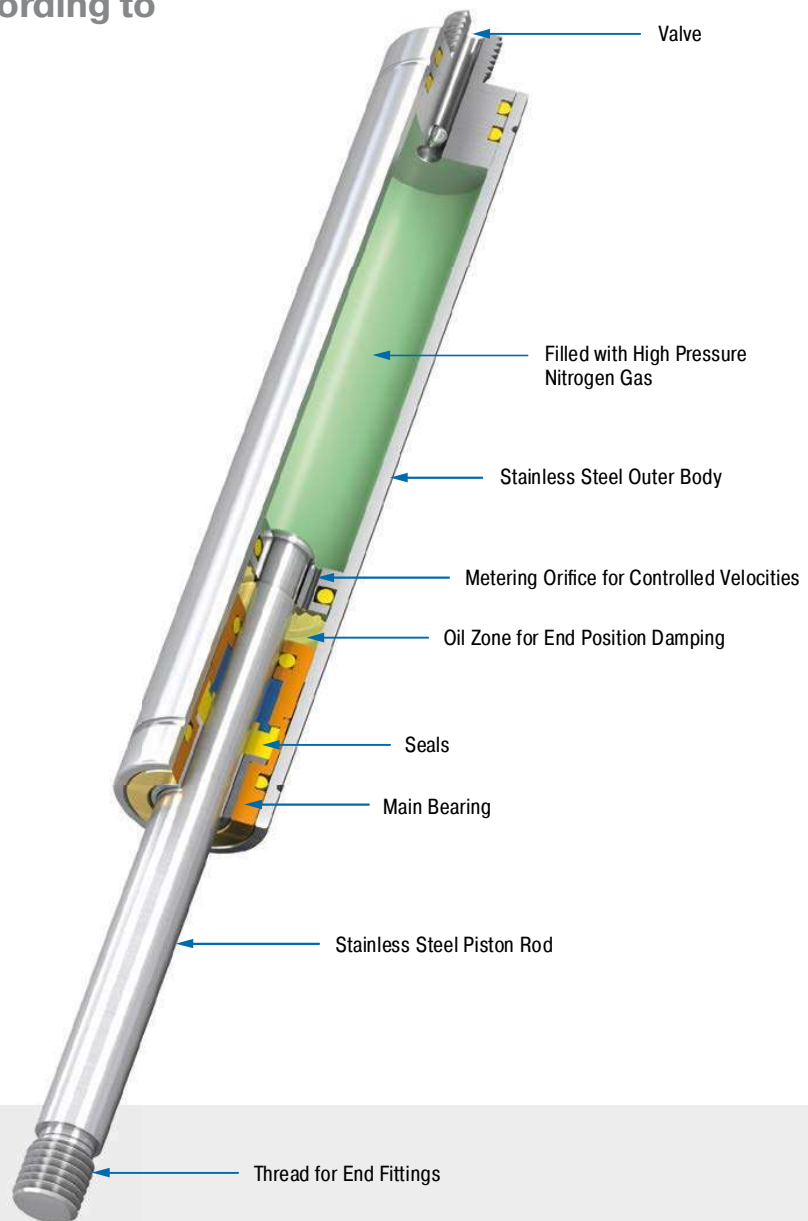
Force range 10 N to 5,000 N

Stroke 20 mm to 700 mm

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

**Extension force:** 10 N to 5,000 N

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

**Progression:** approx. 13 % to 59 % (depending on size and stroke)

**Lifetime:** Approx. 10.000 m

**Operating temperature range:** -20 °C to +80 °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, control boxes, furniture industry, shipbuilding, food industry, pharmaceutical industry, folding elements

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

**End fittings:** They are interchangeable and if necessary 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.

**End Fitting**

**Standard Dimensions**

**End Fitting**

**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	Extension force max. N
GS-8-20-V4A	20	72	100
GS-8-30-V4A	30	92	100
GS-8-40-V4A	40	112	100
GS-8-50-V4A	50	132	100
GS-8-60-V4A	60	152	100
GS-8-80-V4A	80	192	100

**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  $F_1$  30 N \_\_\_\_\_  
 Material (1.4404/1.4571, AISI 316L/316Ti, V4A) \_\_\_\_\_

**Mounting accessories see from page 208.**

**Adjuster Knob DE-GAS-3.5**  
See page 175.

**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

**Technical Data**

**Extension force:** 10 N to 100 N (compressed up to 131 N)

**Progression:** Approx. 28 % to 31 %

**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.

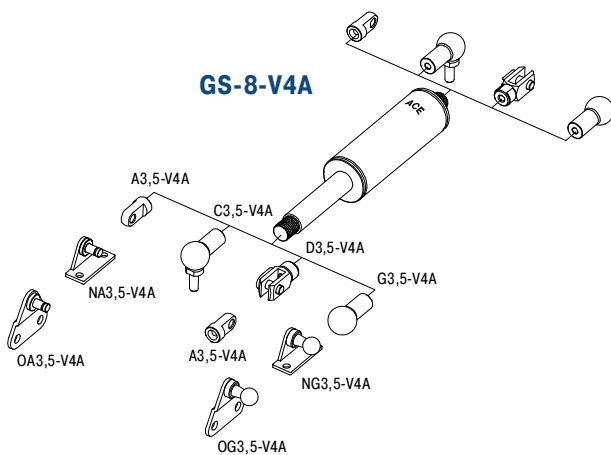
**End position damping length:** approx. 5 mm (depending on the stroke)

**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 if necessary must be positively secured by the customer to prevent unscrewing.

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



Issue 07.2017 – Specifications subject to change

Valve Technology, Stainless Steel, Extension force 10 N to 100 N (compressed up to 116 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

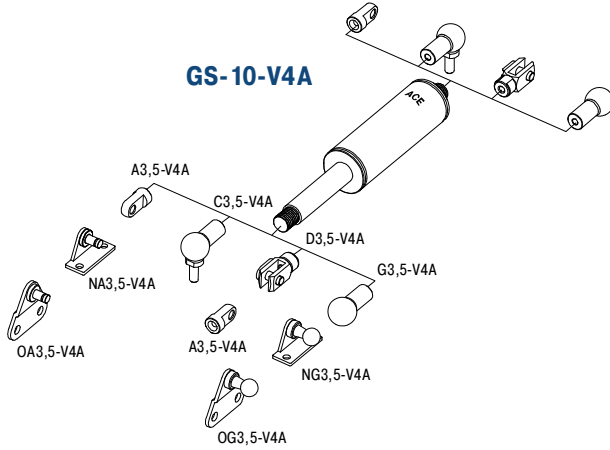
**Adjuster Knob DE-GAS-3.5** See page 175.

Performance and Dimensions			
TYPES	Stroke mm	L extended mm	Extension force max. N
GS-10-20-V4A	20	72	100
GS-10-30-V4A	30	92	100
GS-10-40-V4A	40	112	100
GS-10-50-V4A	50	132	100
GS-10-60-V4A	60	152	100
GS-10-80-V4A	80	192	100

**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  $F_1$  30 N \_\_\_\_\_  
 Material (1.4404/1.4571, AISI 316L/316Ti, V4A) \_\_\_\_\_

Mounting accessories see from page 208.



Technical Data

- Extension force:** 10 N to 100 N (compressed up to 116 N)
- Progression:** Approx. 13 % to 16 %
- 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 if necessary must be positively secured by the customer to prevent unscrewing.
- Safety instructions:** Gas pressure springs should not be installed under pre-tension.

Issue 07.2017 – Specifications subject to change

**End Fitting**

**Standard Dimensions**

**End Fitting**

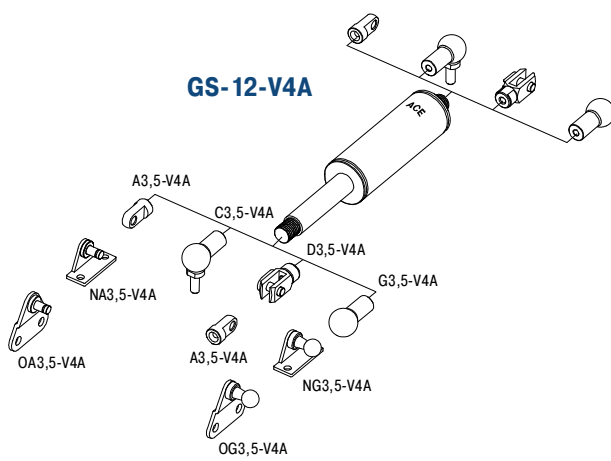
**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	Extension force max. N
GS-12-20-V4A	20	72	180
GS-12-30-V4A	30	92	180
GS-12-40-V4A	40	112	180
GS-12-50-V4A	50	132	180
GS-12-60-V4A	60	152	180
GS-12-80-V4A	80	192	150
GS-12-100-V4A	100	232	150
GS-12-120-V4A	120	272	120
GS-12-150-V4A	150	332	100

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

**Mounting accessories see from page 208.**

**Adjuster Knob DE-GAS-3.5**  
See page 175.



**Technical Data**

- Extension force:** 15 N to 180 N (compressed up to 225 N)
- Progression:** Approx. 20 % to 25 %
- 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 if necessary must be positively secured by the customer to prevent unscrewing.
- Safety instructions:** Gas pressure springs should not be installed under pre-tension.

Issue 07.2017 – Specifications subject to change

Valve Technology, Stainless Steel, Extension force 40 N to 400 N (compressed up to 612 N)

End Fitting

Standard Dimensions

End Fitting

**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	Extension force max. N
GS-15-20-VA	20	74	400
GS-15-40-VA	40	114	400
GS-15-50-VA	50	134	400
GS-15-60-VA	60	154	400
GS-15-80-VA	80	194	400
GS-15-100-VA	100	234	400
GS-15-120-VA	120	274	400
GS-15-150-VA	150	334	400

**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 F<sub>1</sub> 150 N \_\_\_\_\_  
 Material (1.4301/1.4305, AISI 304/303, VA) \_\_\_\_\_

**End Fitting Options:**  
 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 DE-GAS-5 See page 175.

**Rod Shroud W5-15-VA** Ø 19, L = Stroke + 20

Mounting accessories see from page 208.

Technical Data

Extension force: 40 N to 400 N (compressed up to 612 N)

Progression: Approx. 30 % to 53 %

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.

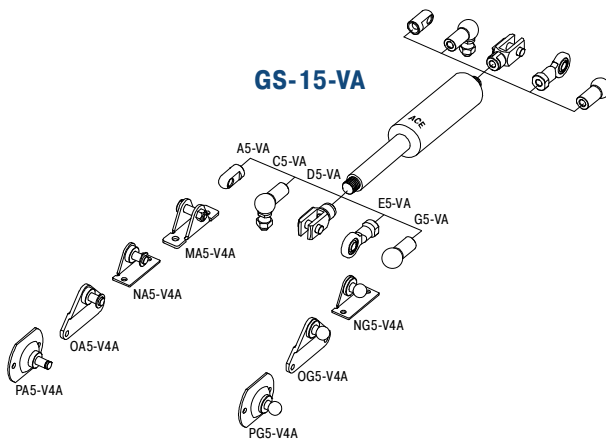
End position damping length: approx. 20 mm (depending on the stroke)

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 if necessary must be positively secured by the customer to prevent unscrewing.

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



Issue 07.2017 – Specifications subject to change

**End Fitting**

**Standard Dimensions**

**End Fitting**

**B8** Stud Thread **B8**

**A8-VA** Eye **A8-VA**  
max. force 1,560 N

**C8-VA** Angle Ball Joint **C8-VA**  
max. force 1,140 N

**D8-VA** Clevis Fork **D8-VA**  
max. force 1,560 N

**E8-VA** Swivel Eye **E8-VA**  
max. force 1,560 N

**G8-VA** Ball Socket **G8-VA**  
max. force 1,140 N

**Adjuster Knob DE-GAS-8**  
See page 175.

**Rod Shroud W8-19-VA**  
L = Stroke + 30

**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	Extension force max. N
GS-19-50-VA	50	164	700
GS-19-100-VA	100	264	700
GS-19-150-VA	150	364	700
GS-19-200-VA	200	464	700
GS-19-250-VA	250	564	600
GS-19-300-VA	300	664	450

**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 \_\_\_\_\_  
 Material (1.4301/1.4305, AISI 304/303, VA) \_\_\_\_\_

**Mounting accessories see from page 208.**

**Technical Data**

**Extension force:** 50 N to 700 N (compressed up to 924 N)

**Progression:** Approx. 28 % to 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.

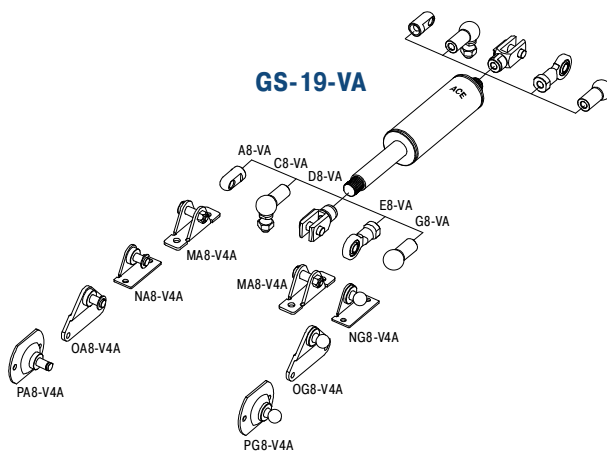
**End position damping length:** approx. 20 mm (depending on the stroke)

**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 if necessary must be positively secured by the customer to prevent unscrewing.

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



Issue 07.2017 – Specifications subject to change



Valve Technology, Stainless Steel, Extension force 100 N to 1,200 N (compressed up to 1,596 N)

End Fitting

Standard Dimensions

End Fitting

**B8** Stud Thread B8

**A8-VA** Eye A8-VA max. force 1,560 N

**C8-VA** Angle Ball Joint C8-VA max. force 1,140 N

**D8-VA** Clevis Fork D8-VA max. force 1,560 N

**E8-VA** Swivel Eye E8-VA max. force 1,560 N

**G8-VA** Ball Socket G8-VA max. force 1,140 N

**W8-22-VA** Rod Shroud

**Adjuster Knob DE-GAS-8** See page 175.

Performance and Dimensions			
TYPES	Stroke mm	L extended mm	Extension force max. N
GS-22-50-VA	50	164	1,200
GS-22-100-VA	100	264	1,200
GS-22-150-VA	150	364	1,200
GS-22-200-VA	200	464	1,200
GS-22-250-VA	250	564	1,200
GS-22-300-VA	300	664	1,100
GS-22-350-VA	350	764	850
GS-22-400-VA	400	864	650
GS-22-450-VA	450	964	550
GS-22-500-VA	500	1,064	450
GS-22-550-VA	550	1,164	400
GS-22-600-VA	600	1,264	350
GS-22-650-VA	650	1,364	300
GS-22-700-VA	700	1,464	250

**Ordering Example** GS-22-150-AE-800-VA

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

Body Ø (23 mm) \_\_\_\_\_

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

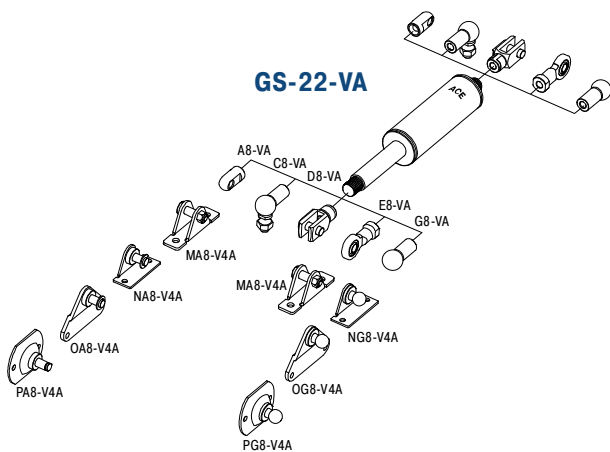
Piston Rod End Fitting A8-VA \_\_\_\_\_

Body End Fitting E8-VA \_\_\_\_\_

Nominal Force F<sub>1</sub> 800 N \_\_\_\_\_

Material (1.4301/1.4305, AISI 304/303, VA) \_\_\_\_\_

**Mounting accessories see from page 208.**



Technical Data

- Extension force:** 100 N to 1,200 N (compressed up to 1,596 N)
- Progression:** Approx. 29 % to 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 if necessary must be positively secured by the customer to prevent unscrewing.
- Safety instructions:** Gas pressure springs should not be installed under pre-tension.

Issue 07.2017 – Specifications subject to change

Valve Technology, Stainless Steel, Extension force 150 N to 2,500 N (compressed up to 3,975 N)

**End Fitting**

**Standard Dimensions**

**End Fitting**

**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	Extension force max. N
GS-28-100-VA	100	262	2,500
GS-28-150-VA	150	362	2,500
GS-28-200-VA	200	462	2,500
GS-28-250-VA	250	562	2,500
GS-28-300-VA	300	662	2,500
GS-28-350-VA	350	762	2,500
GS-28-400-VA	400	862	2,400
GS-28-450-VA	450	962	1,950
GS-28-500-VA	500	1,062	1,600
GS-28-550-VA	550	1,162	1,350
GS-28-600-VA	600	1,262	1,150
GS-28-650-VA	650	1,362	1,000

**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 \_\_\_\_\_  
 Material (1.4301/1.4305, AISI 304/303, VA) \_\_\_\_\_

**Mounting accessories see from page 208.**

**Adjuster Knob DE-GAS-10**  
See page 175.

**End Fitting Options:**  
 Stud Thread **B10**  
 Eye **A10-VA** max. force 3,800 N  
 Angle Ball Joint **C10-VA** max. force 1,750 N  
 Clevis Fork **D10-VA** max. force 3,800 N  
 Swivel Eye **E10-VA** max. force 3,800 N

**Rod Shroud W10-28-VA**  
L = Stroke + 40

**Technical Data**

**Extension force:** 150 N to 2,500 N (compressed up to 3,975 N)

**Progression:** Approx. 53 % to 59 %

**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.

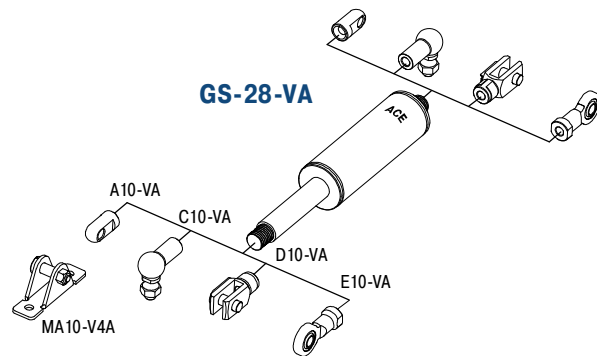
**End position damping length:** approx. 20 mm (depending on the stroke)

**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 if necessary must be positively secured by the customer to prevent unscrewing.

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



Issue 07.2017 – Specifications subject to change

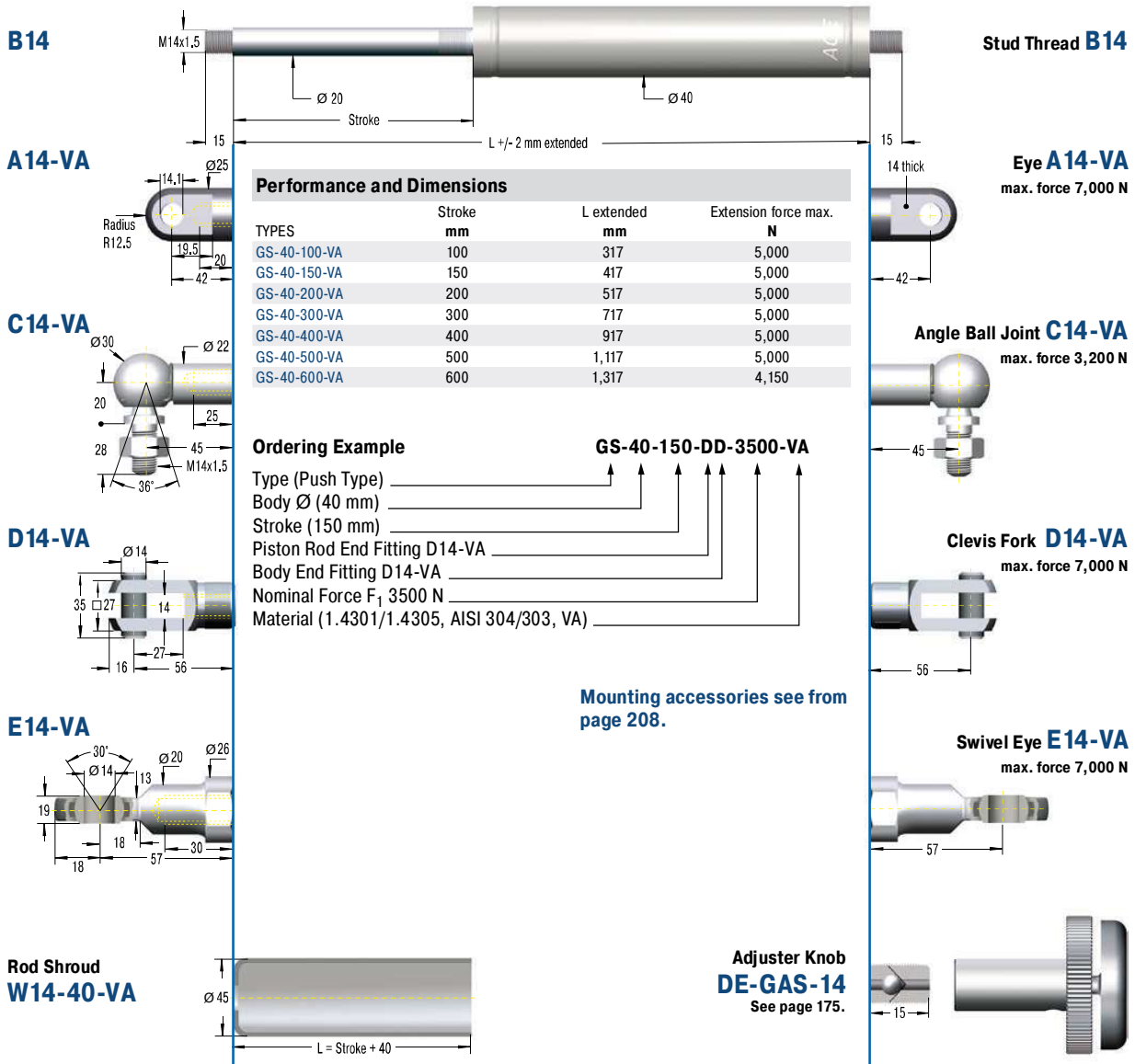


Valve Technology, Stainless Steel, Extension force 500 N to 5,000 N (compressed up to 7,100 N)

**End Fitting**

**Standard Dimensions**

**End Fitting**



**B14** Stud Thread **B14**

**A14-VA** Eye **A14-VA** max. force 7,000 N

**C14-VA** Angle Ball Joint **C14-VA** max. force 3,200 N

**D14-VA** Clevis Fork **D14-VA** max. force 7,000 N

**E14-VA** Swivel Eye **E14-VA** max. force 7,000 N

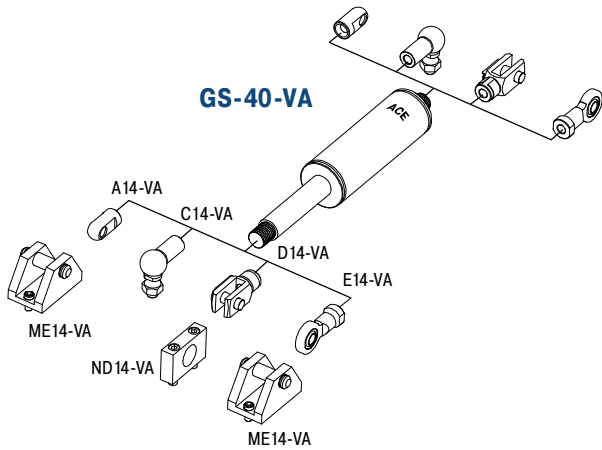
**Rod Shroud W14-40-VA** Adjuster Knob **DE-GAS-14** See page 175.

Performance and Dimensions			
TYPES	Stroke mm	L extended mm	Extension force max. N
GS-40-100-VA	100	317	5,000
GS-40-150-VA	150	417	5,000
GS-40-200-VA	200	517	5,000
GS-40-300-VA	300	717	5,000
GS-40-400-VA	400	917	5,000
GS-40-500-VA	500	1,117	5,000
GS-40-600-VA	600	1,317	4,150

**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 \_\_\_\_\_  
 Material (1.4301/1.4305, AISI 304/303, VA) \_\_\_\_\_

**Mounting accessories see from page 208.**



**Technical Data**

**Extension force:** 500 N to 5,000 N (compressed up to 7,100 N)  
**Progression:** Approx. 34 % to 42 %  
**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 if necessary must be positively secured by the customer to prevent unscrewing.  
**Safety instructions:** Gas pressure springs should not be installed under pre-tension.

Issue 07.2017 – Specifications subject to change

Stainless Steel Gas Springs (Push Type), V4A			
TYPES	Stroke mm	L extended mm	Dimensions see Page
GS-15-20-V4A	20	74	148
GS-15-40-V4A	40	114	148
GS-15-50-V4A	50	134	148
GS-15-60-V4A	60	154	148
GS-15-80-V4A	80	194	148
GS-15-100-V4A	100	234	148
GS-15-120-V4A	120	274	148
GS-15-150-V4A	150	334	148
GS-19-50-V4A	50	164	149
GS-19-100-V4A	100	264	149
GS-19-150-V4A	150	364	149
GS-19-200-V4A	200	464	149
GS-19-250-V4A	250	564	149
GS-19-300-V4A	300	664	149
GS-22-50-V4A	50	164	150
GS-22-100-V4A	100	264	150
GS-22-150-V4A	150	364	150
GS-22-200-V4A	200	464	150
GS-22-250-V4A	250	564	150
GS-22-300-V4A	300	664	150
GS-22-350-V4A	350	764	150
GS-22-400-V4A	400	864	150
GS-22-450-V4A	450	964	150
GS-22-500-V4A	500	1,064	150
GS-22-550-V4A	550	1,164	150
GS-22-600-V4A	600	1,264	150
GS-22-650-V4A	650	1,364	150
GS-22-700-V4A	700	1,464	150
GS-28-100-V4A	100	262	151
GS-28-150-V4A	150	362	151
GS-28-200-V4A	200	462	151
GS-28-250-V4A	250	562	151
GS-28-300-V4A	300	662	151
GS-28-350-V4A	350	762	151
GS-28-400-V4A	400	862	151
GS-28-450-V4A	450	962	151
GS-28-500-V4A	500	1,062	151
GS-28-550-V4A	550	1,162	151
GS-28-600-V4A	600	1,262	151
GS-28-650-V4A	650	1,362	151
GS-40-100-V4A	100	317	152
GS-40-150-V4A	150	417	152
GS-40-200-V4A	200	517	152
GS-40-300-V4A	300	717	152
GS-40-400-V4A	400	917	152
GS-40-500-V4A	500	1,117	152
GS-40-600-V4A	600	1,317	152

Stainless Steel Accessories, V4A	
TYPES	Dimensions see Page
A5-V4A	210
C5-V4A	210
D5-V4A	210
E5-V4A	210
G5-V4A	210
A8-V4A	211
C8-V4A	211
D8-V4A	211
E8-V4A	211
G8-V4A	212
A10-V4A	212
C10-V4A	212
D10-V4A	212
E10-V4A	212
A14-V4A	213
C14-V4A	213
D14-V4A	213
E14-V4A	213