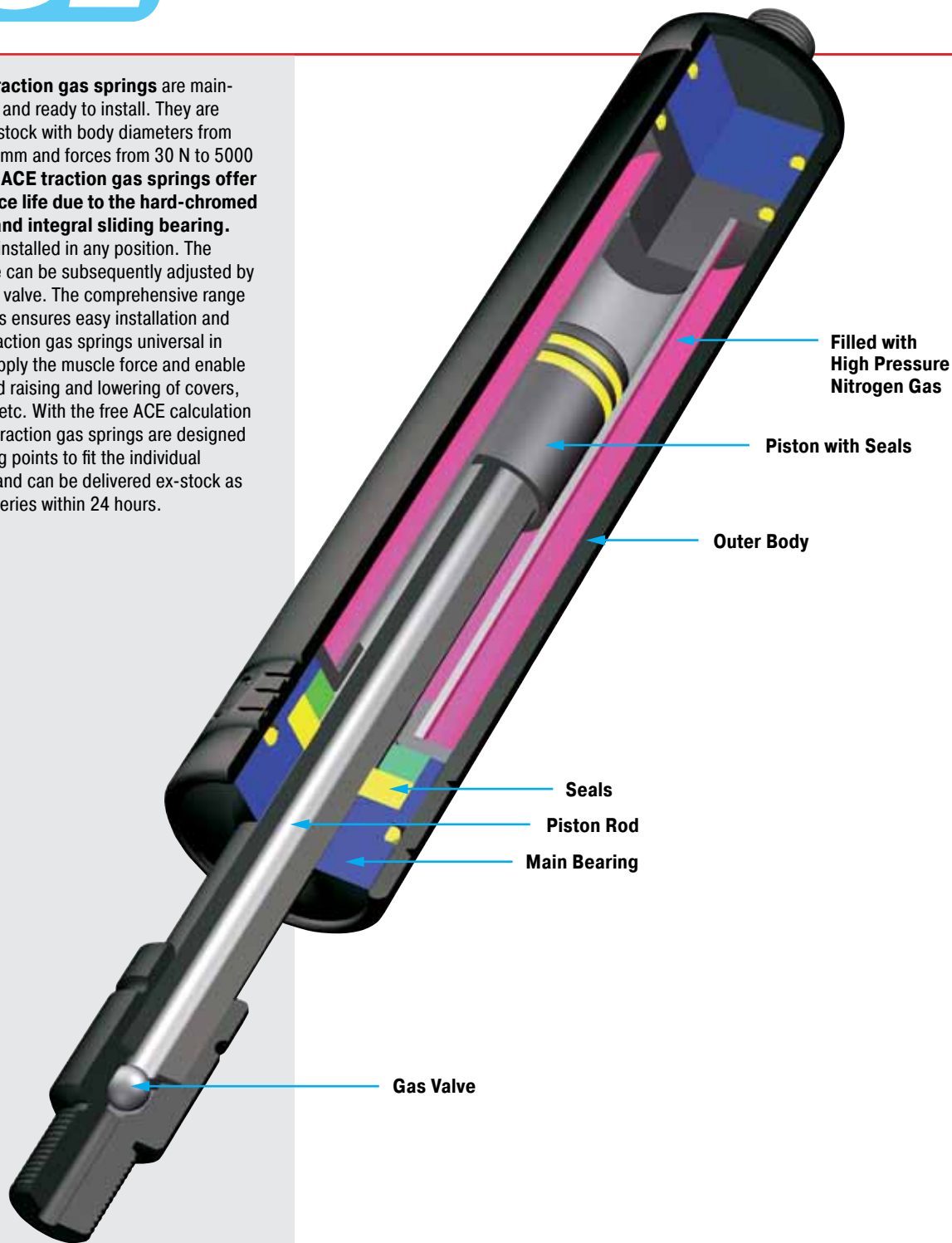


Industrial traction gas springs are maintenance-free and ready to install. They are available ex-stock with body diameters from 15 mm to 40 mm and forces from 30 N to 5000 N with valve. **ACE traction gas springs offer a long service life due to the hard-chromed piston rod and integral sliding bearing.** They can be installed in any position. The traction force can be subsequently adjusted by means of the valve. The comprehensive range of fitting parts ensures easy installation and makes the traction gas springs universal in use. They supply the muscle force and enable the controlled raising and lowering of covers, hoods, flaps etc. With the free ACE calculation service, the traction gas springs are designed with mounting points to fit the individual application, and can be delivered ex-stock as express deliveries within 24 hours.



Function: ACE industrial traction gas springs are maintenance-free, closed systems, which are filled with pressurised nitrogen gas. Compared to the push type, ACE traction gas springs work in the reverse way. The piston rod is retracted by the gas pressure in the cylinder. The surface of the piston ring between the piston rod and the inner tube determines the force of the gas spring. Traction gas springs are always mounted with the stroke fully compressed.

Operating fluid: Nitrogen gas

Mounting: In any position

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

On request: Special force curves, special lengths, alternative seals and end fittings.



End Fitting

Standard Dimensions

End Fitting

Dimensions		
Type	Stroke mm	L retracted
GZ-15-20	20	87
GZ-15-40	40	107
GZ-15-50	50	117
GZ-15-60	60	127
GZ-15-80	80	147
GZ-15-100	100	167
GZ-15-120	120	187
GZ-15-150	150	217

Ordering Example
GZ-15-150-AC-150
 Type (Pull Type) _____
 Body Ø (15 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting A5 _____
 Body End Fitting C5 _____
 Traction Force F₁ 150 N _____

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 199.

Eye A3,5
max. force 370 N

Stud Thread B3,5

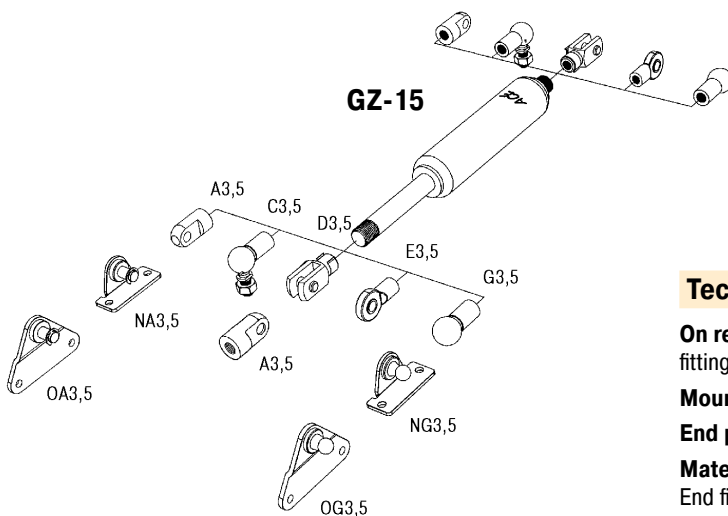
Angle Ball Joint C3,5
max. force 370 N

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 U3,5
See page 163.



For mounting accessories see page 199.

Technical Data

On request: Special force curves, special lengths, alternative end fittings, rod shroud.

Mounting: In any position. Install mechanical stop in extended position.

End position damping length: Without damping

Material: Piston rod: Hard chrome plated. Body: black coated. End fittings: Zinc plated steel.

Progression: approx. 23 %, F₂ max. 370 N

Available traction force range F₁ at 20 °C: 50 N to 300 N

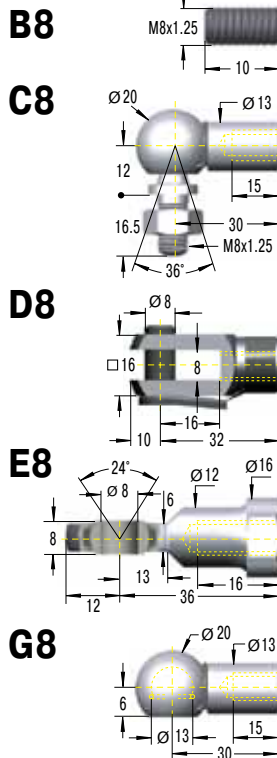
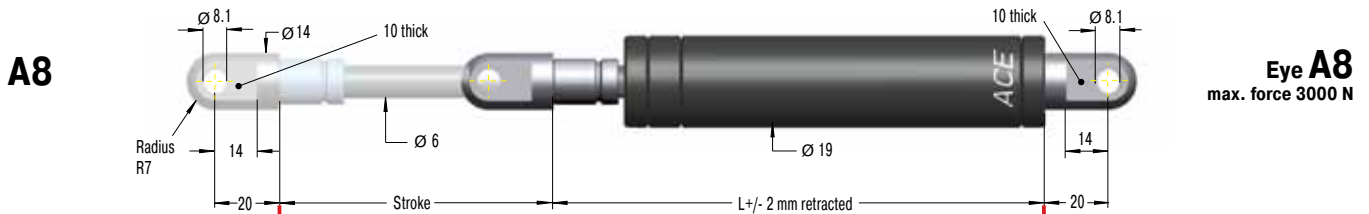
Note: Lifetime approx. 2000 m

Traction (Pull) Forces 30 N to 300 N
(when Piston Rod Extended up to 330 N)

End Fitting

Standard Dimensions

End Fitting

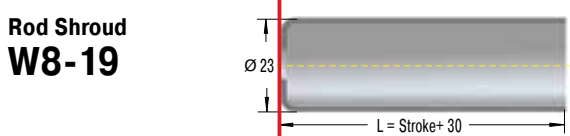


Dimensions		
Type	Stroke mm	L retracted
GZ-19-30	30	112
GZ-19-50	50	132
GZ-19-100	100	182
GZ-19-150	150	232
GZ-19-200	200	282
GZ-19-250	250	332

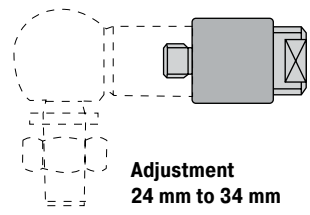
Ordering Example
 Type (Pull Type) _____
 Body Ø (19 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting A8 _____
 Body End Fitting C8 _____
 Traction Force F₁ 250 N _____

GZ-19-150-AC-250

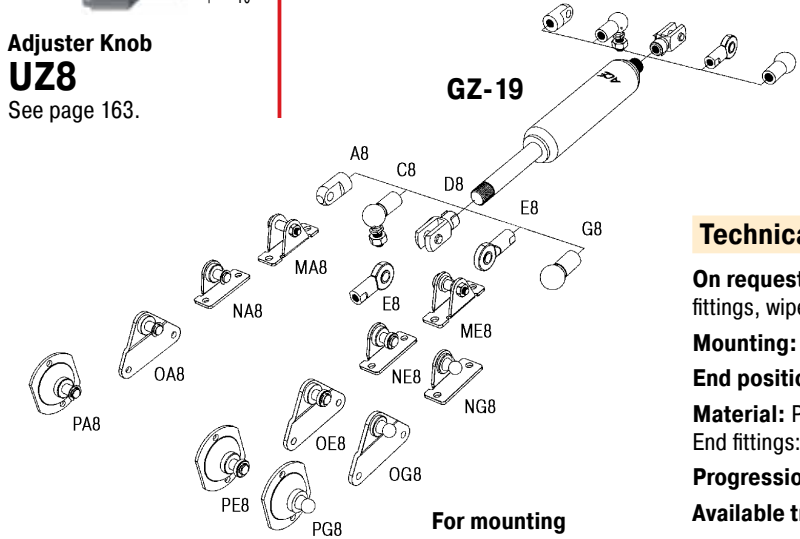
The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).
 For mounting accessories see page 200.



Adjuster Knob UZ8
 See page 163.



See page 207 for Length Adaptor.



For mounting accessories see page 200.

Technical Data

- On request:** Special force curves, special lengths, alternative end fittings, wiper, stainless steel.
- Mounting:** In any position. Install mechanical stop in extended position.
- End position damping length:** Without damping.
- Material:** Piston rod: Hard chrome plated. Body: black coated. End fittings: Zinc plated steel.
- Progression:** Approx. 10 %, F₂ max. 330 N
- Available traction force range F₁ at 20 °C:** 30 N to 300 N
- Note:** Lifetime approx. 2000 m

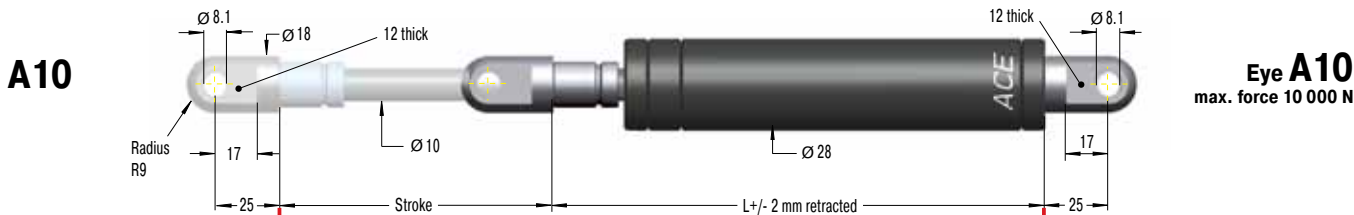
Issue 6.2011 Specifications subject to change

Traction (Pull) Forces 150 N to 1200 N
(when Piston Rod Extended up to 1440 N)

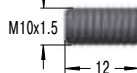
End Fitting

Standard Dimensions

End Fitting

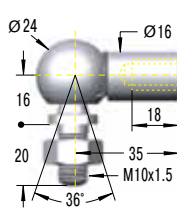


B10



Stud Thread B10

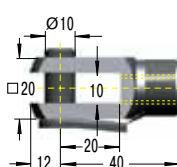
C10



Angle Ball Joint C10

max. force 1800 N

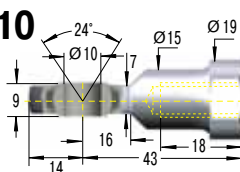
D10



Clevis Fork D10

max. force 10 000 N

E10



Swivel Eye E10

max. force 10 000 N

Dimensions

Type	Stroke mm	L retracted
GZ-28-30	30	130
GZ-28-50	50	150
GZ-28-100	100	200
GZ-28-150	150	250
GZ-28-200	200	300
GZ-28-250	250	350
GZ-28-300	300	400
GZ-28-350	350	450
GZ-28-400	400	500
GZ-28-450	450	550
GZ-28-500	500	600
GZ-28-550	550	650
GZ-28-600	600	700
GZ-28-650	650	750

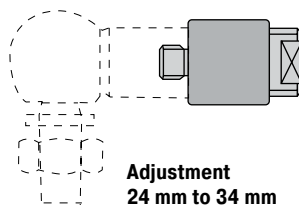
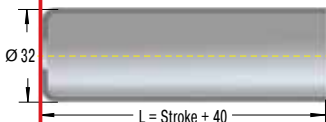
Ordering Example

GZ-28-150-EE-800

Type (Pull Type) _____
 Body Ø (28 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting E10 _____
 Body End Fitting E10 _____
 Traction Force F₁ 800 N _____

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).
 For mounting accessories see page 200.

Rod Shroud W10-28



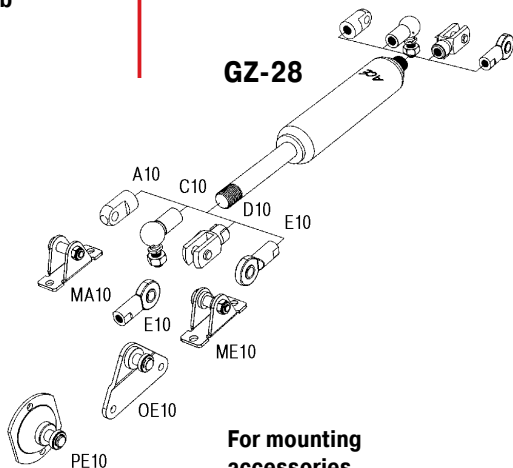
Adjustment
24 mm to 34 mm

See page 207 for Length Adaptor.

Adjuster Knob UZ10

See page 163.

GZ-28



For mounting accessories see page 200.

Technical Data

On request: Special force curves, special lengths, alternative end fittings, wiper, stainless steel.

Mounting: In any position. Install mechanical stop in extended position.

End position damping length: Without damping.

Material: Piston rod: Hard chrome plated. Body: black coated. End fittings: Zinc plated steel.

Progression: Approx. 20%, F₂ max. 1440 N

Available traction force range F₁ at 20 °C: 150 N to 1200 N

Note: Lifetime approx. 2000 m

Traction (Pull) Forces 400 N to 5000 N
(when Piston Rod Extended up to 7000 N)

NEW

End Fitting

Standard Dimensions

End Fitting

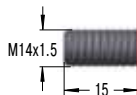
A14



Eye A14

max. force 10 000 N

B14

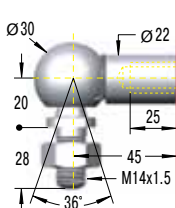


Dimensions

Type	Stroke mm	L retracted
GZ-40-100	100	250
GZ-40-150	150	325
GZ-40-200	200	400
GZ-40-250	250	475
GZ-40-300	300	550
GZ-40-400	400	700
GZ-40-500	500	850
GZ-40-600	600	1 000

Stud Thread B14

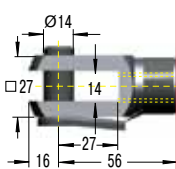
C14



Angle Ball Joint C14

max. force 3200 N

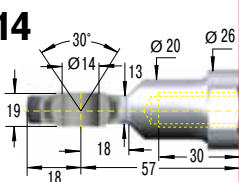
D14



Clevis Fork D14

max. force 10 000 N

E14



Swivel Eye E14

max. force 10 000 N

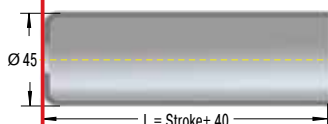
Ordering Example

GZ-40-150-EE-800

Type (Pull Type) _____
 Body Ø (40 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting E14 _____
 Body End Fitting E14 _____
 Traction Force F_1 800 N _____

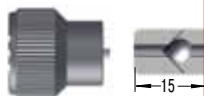
The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).
 For mounting accessories see page 201.

Rod Shroud W14-40

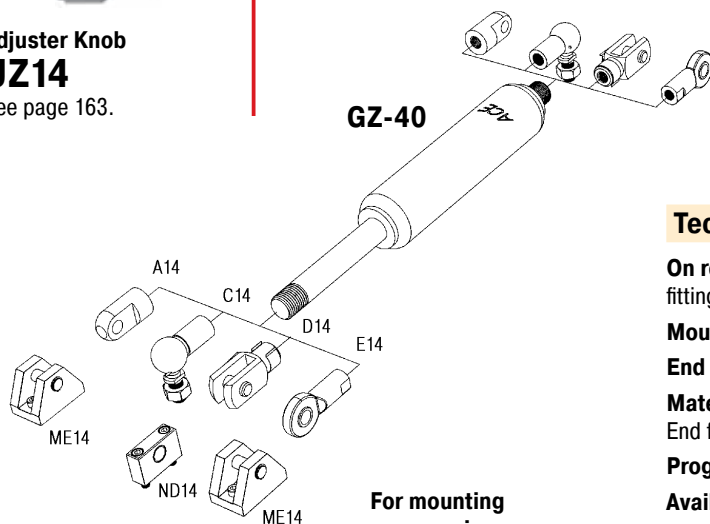


Adjuster Knob UZ14

See page 163.



GZ-40



For mounting accessories see page 201.

Technical Data

On request: Special force curves, special lengths, alternative end fittings, wiper, stainless steel.

Mounting: In any position. Install mechanical stop in extended position.

End position damping length: Without damping

Material: Piston rod: Hard chrome plated. Body: black coated. End fittings: Zinc plated steel.

Progression: approx. 40%, F_2 max. 7000 N

Available traction force range F_1 at 20 °C: 400 N to 5000 N

Note: Lifetime approx. 2000 m