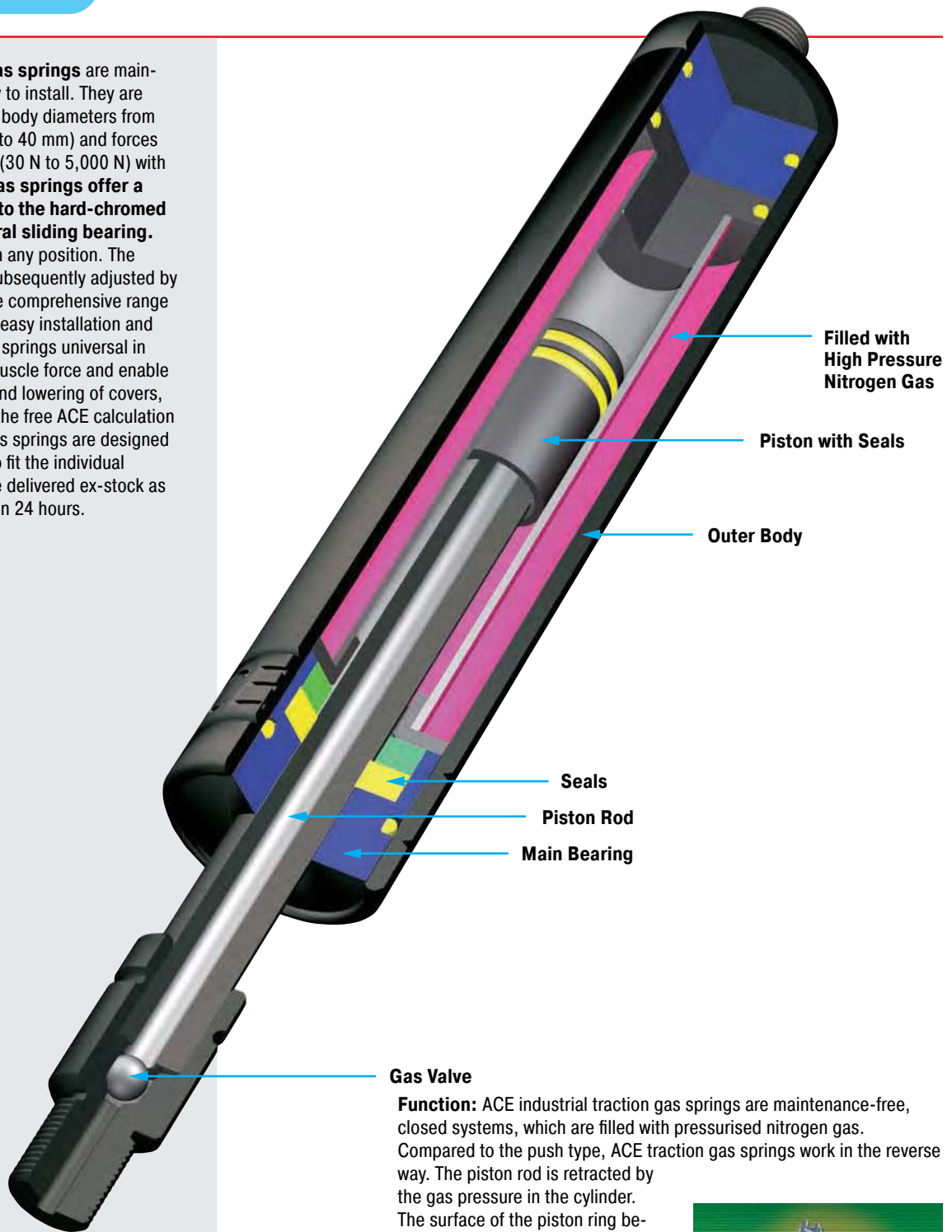


**Industrial traction gas springs** are maintenance-free and ready to install. They are available ex-stock with body diameters from 0.59" to 1.57" (15 mm to 40 mm) and forces from 7 lbs to 1,124 lbs (30 N to 5,000 N) with valve. **ACE traction gas springs offer a long service life due to the hard-chromed 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.



### Gas Valve

**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:**

-4 °F to 176 °F (-20 °C to 80 °C)

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





# Industrial Traction Gas Springs GZ-15 (Pull Type)

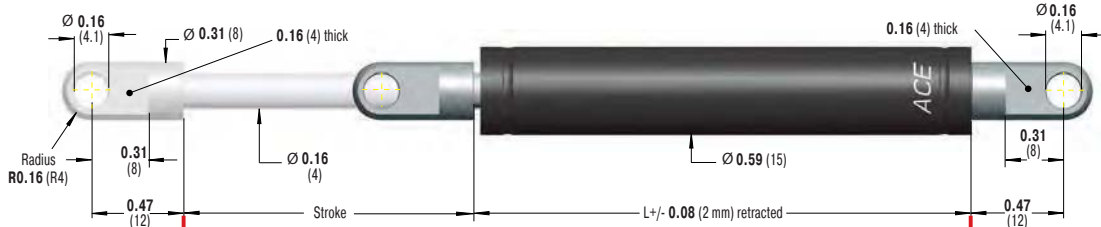
Traction (Pull) Forces 11 lbs to 67 lbs (50 N to 300 N)  
[when Piston Rod Extended up to 83 lbs (370 N)]

End Fitting

Standard Dimensions – inches and (mm)

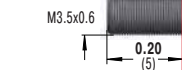
End Fitting

A3,5



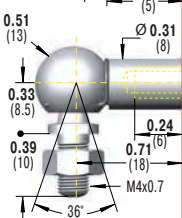
Eye A3,5  
max. force 83 lbs (370 N)

B3,5



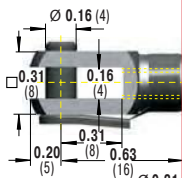
Stud Thread B3,5

C3,5



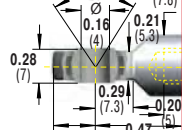
Angle Ball Joint C3,5  
max. force 83 lbs (370 N)

D3,5



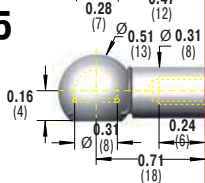
Clevis Fork D3,5  
max. force 83 lbs (370 N)

E3,5

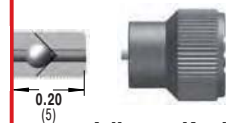


Swivel Eye E3,5  
max. force 83 lbs (370 N)

G3,5



Ball Socket G3,5  
max. force 83 lbs (370 N)



Adjuster Knob U3,5  
See page 58.

### Dimensions

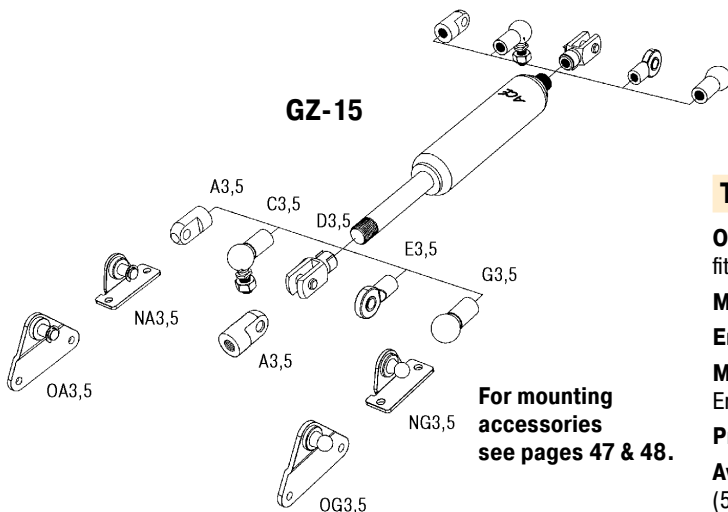
| Model     | Stroke<br>inches (mm) | L - retracted<br>inches (mm) |
|-----------|-----------------------|------------------------------|
| GZ-15-20  | 0.79 (20)             | 3.43 (87)                    |
| GZ-15-40  | 1.57 (40)             | 4.21 (107)                   |
| GZ-15-50  | 1.97 (50)             | 4.61 (117)                   |
| GZ-15-60  | 2.36 (60)             | 5.00 (127)                   |
| GZ-15-80  | 3.15 (80)             | 5.79 (147)                   |
| GZ-15-100 | 3.94 (100)            | 6.57 (167)                   |
| GZ-15-120 | 4.72 (120)            | 7.36 (187)                   |
| GZ-15-150 | 5.91 (150)            | 8.54 (217)                   |

### Ordering Example

Model (Pull Type) \_\_\_\_\_  
 Body .59" Ø (15 mm) \_\_\_\_\_  
 Stroke 5.91" (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting A5 \_\_\_\_\_  
 Body End Fitting C5 \_\_\_\_\_  
 Adjustable (V) \_\_\_\_\_  
 Traction Force F<sub>1</sub> 34 lbs (150 N) \_\_\_\_\_

GZ-15-150-AC-V-150

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).



For mounting accessories see pages 47 & 48.

### 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 %, F<sub>2</sub> max. 83 lbs (370 N)
- Available traction force range F<sub>1</sub> at 68 °F (20 °C):** 11 lbs to 67 lbs (50 N to 300 N)
- Note:** Lifetime approx. 2,000 m

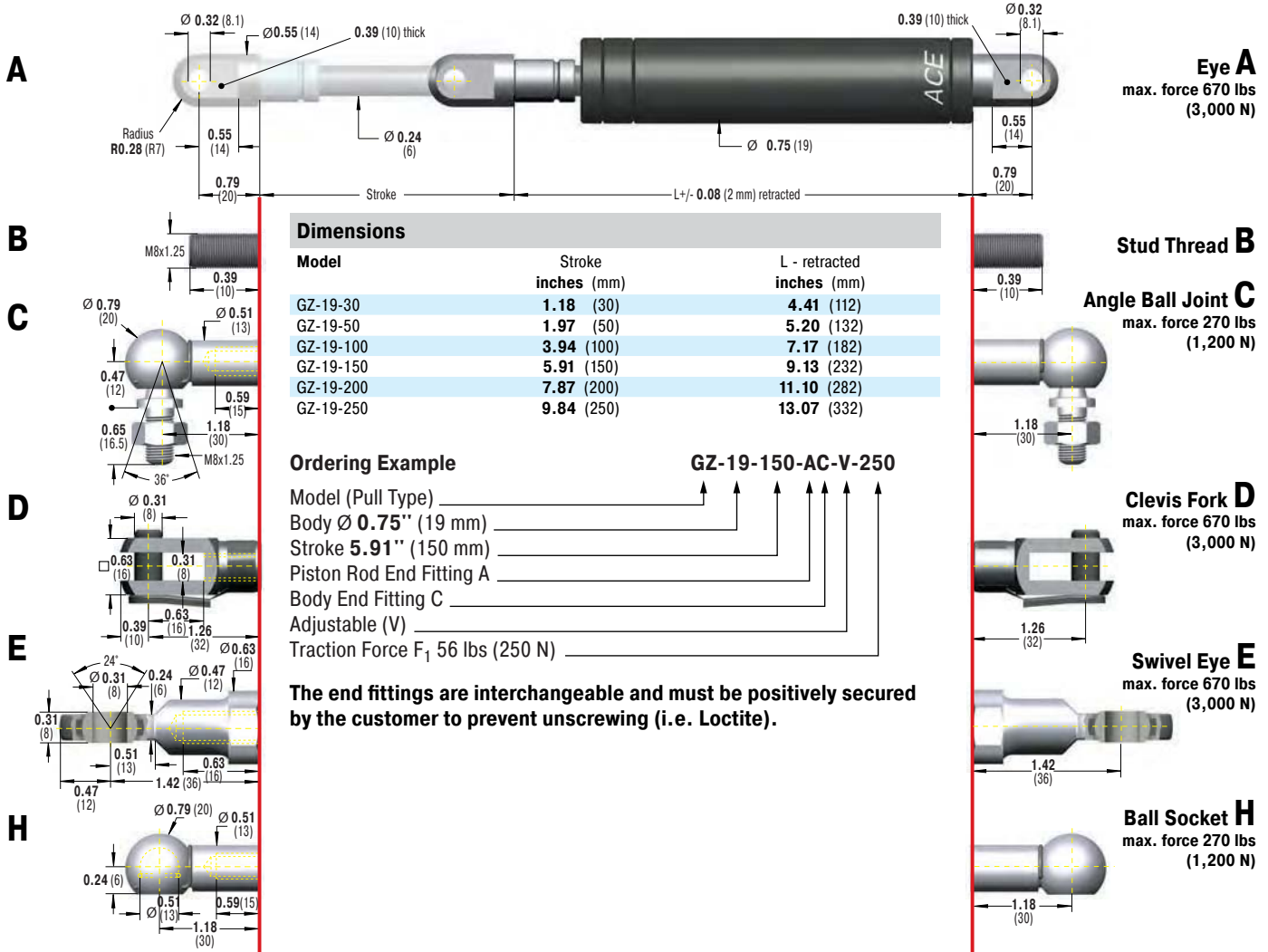


Traction (Pull) Forces 7 lbs to 67 lbs (30 N to 300 N)  
[when Piston Rod Extended up to 74 lbs (330 N)]

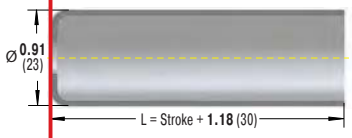
### End Fitting

### Standard Dimensions – inches and (mm)

### End Fitting

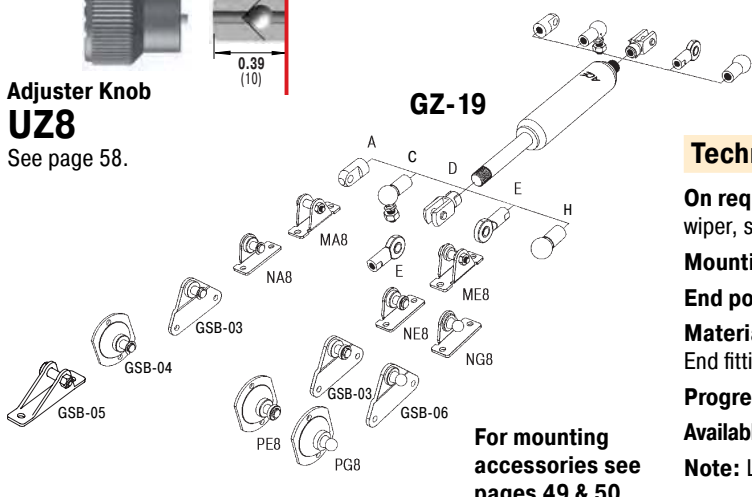


### Rod Shroud W8-19



### Adjuster Knob UZ8

See page 58.



### 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%, F<sub>2</sub> max. 74 lbs (330 N)
- Available traction force range F<sub>1</sub> at 68 °F (20 °C):** 7 lbs to 67 lbs (30 N to 300 N)
- Note:** Lifetime approx. 2,000 m

**For mounting accessories see pages 49 & 50.**



# Industrial Traction Gas Springs GZ-28 (Pull Type)

Traction (Pull) Forces 34 lbs to 270 lbs (150 N to 1,200 N)  
[when Piston Rod Extended up to 324 lbs (1,440 N)]

End Fitting

Standard Dimensions – inches and (mm)

End Fitting

**Dimensions**

| Model     | Stroke<br>inches (mm) | L - retracted<br>inches (mm) |
|-----------|-----------------------|------------------------------|
| GZ-28-30  | 1.18 (30)             | 5.12 (130)                   |
| GZ-28-50  | 1.97 (50)             | 5.91 (150)                   |
| GZ-28-100 | 3.94 (100)            | 7.87 (200)                   |
| GZ-28-150 | 5.91 (150)            | 9.84 (250)                   |
| GZ-28-200 | 7.87 (200)            | 11.81 (300)                  |
| GZ-28-250 | 9.84 (250)            | 13.78 (350)                  |
| GZ-28-300 | 11.81 (300)           | 15.75 (400)                  |
| GZ-28-350 | 13.78 (350)           | 17.72 (450)                  |
| GZ-28-400 | 15.75 (400)           | 19.69 (500)                  |
| GZ-28-450 | 17.72 (450)           | 21.65 (550)                  |
| GZ-28-500 | 19.69 (500)           | 23.62 (600)                  |
| GZ-28-550 | 21.65 (550)           | 25.59 (650)                  |
| GZ-28-600 | 23.62 (600)           | 27.56 (700)                  |
| GZ-28-650 | 25.59 (650)           | 29.53 (750)                  |

**Ordering Example**  
**GZ-28-150-EE-V-800**  
 Type (Pull Type) \_\_\_\_\_  
 Body Ø 1.10" (28 mm) \_\_\_\_\_  
 Stroke 5.91" (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting E \_\_\_\_\_  
 Body End Fitting E \_\_\_\_\_  
 Adjustable (V) \_\_\_\_\_  
 Traction Force F<sub>1</sub> 180 lbs (800 N) \_\_\_\_\_

**The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).**

**Eye A**  
max. force 2,248 lbs (10,000 N)

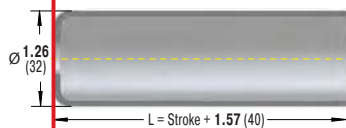
**Stud Thread B**

**Angle Ball Joint C**  
max. force 405 lbs (1,800 N)

**Clevis Fork D**  
max. force 2,248 lbs (10,000 N)

**Swivel Eye E**  
max. force 2,248 lbs (10,000 N)

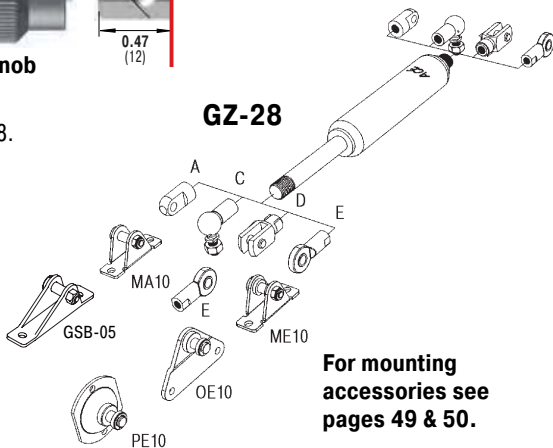
Rod Shroud  
**W10-28**



Adjuster Knob  
**UZ10**

See page 58.

**GZ-28**



**For mounting accessories see pages 49 & 50.**

## 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%, F<sub>2</sub> max. 324 lbs (1,440 N)

**Available traction force range F<sub>1</sub> at 68 °F (20 °C):** 34 lbs to 270 lbs (150 N to 1200 N)

**Note:** Lifetime approx. 2,000 m



GENTLE AUTOMATIC SOLUTION SDN BHD

No. 36 Jalan Industri USJ 1/13, Taman Perindustrian USJ 1, 47600 Subang Jaya, Selangor.

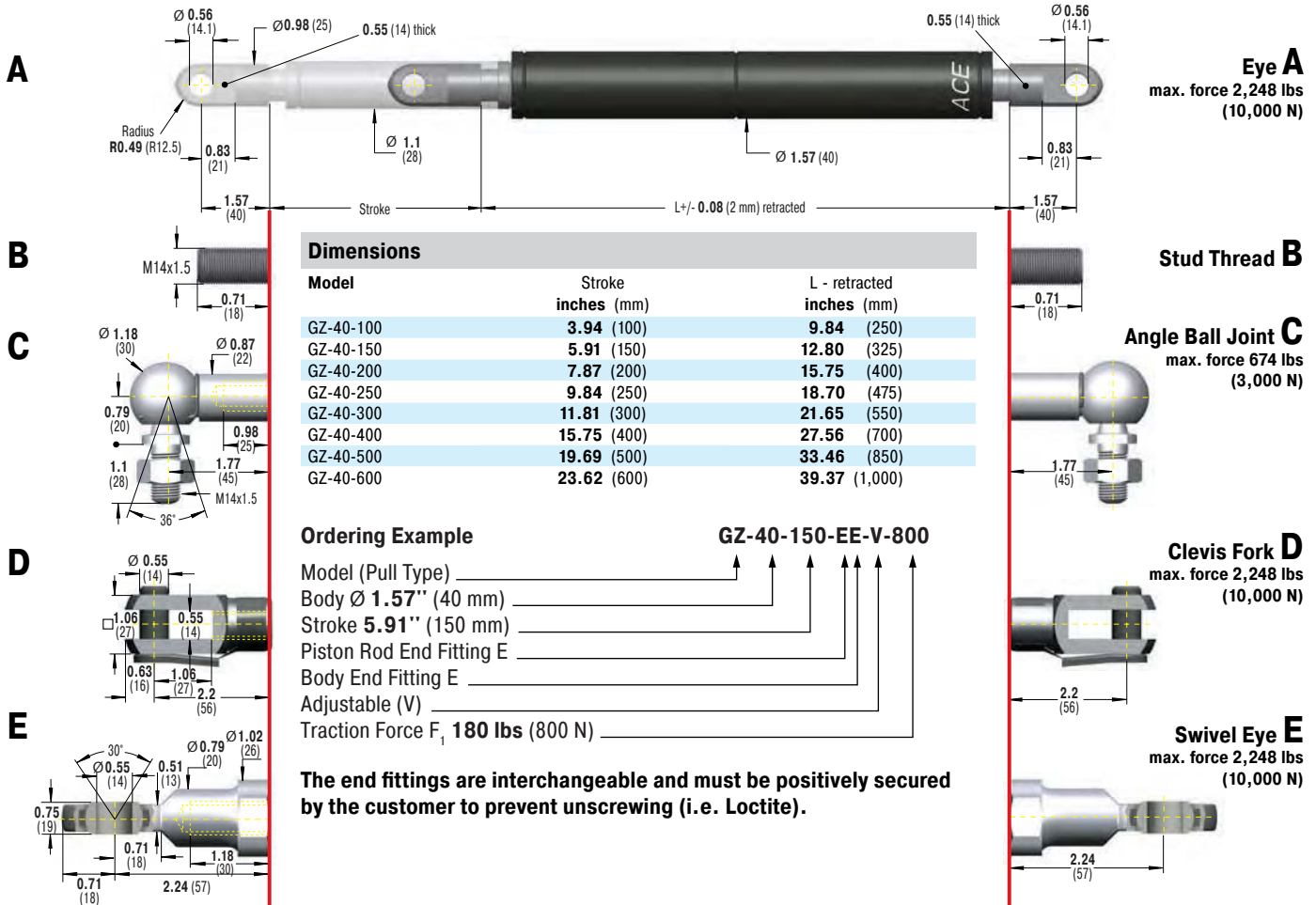
TEL: 603-8023 7743 / 8743 FAX: 603-8023 9743 email: sales@gentle.com.my

Traction (Pull) Forces 90 lbs to 1,124 lbs (400 N to 5,000 N)  
[when Piston Rod Extended up to 1,574 lbs (7,000 N)]

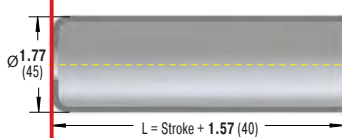
### End Fitting

### Standard Dimensions – inches and (mm)

### End Fitting



### Rod Shroud W14-40

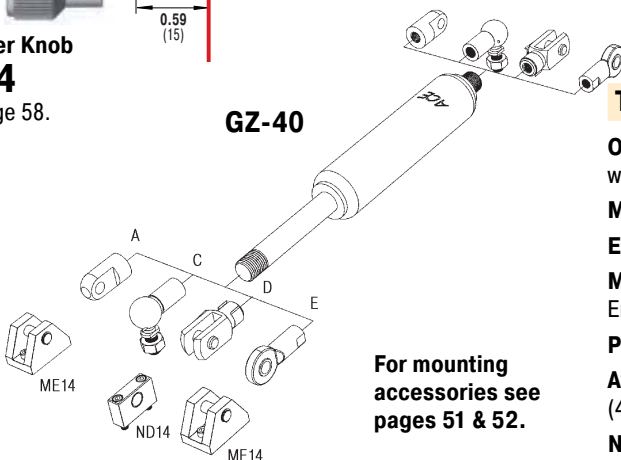


### Adjuster Knob UZ14

See page 58.



### GZ-40



For mounting accessories see pages 51 & 52.

### 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<sub>2</sub> max. 1,574 (7,000 N)

**Available traction force range F<sub>1</sub> at 68 °F (20 °C):** 90 lbs to 1,124 lbs (400 N to 5,000 N)

**Note:** Lifetime approx. 2,000 m