

## HB- 12 to HB- 70

### Linear motion control

#### Adjustable

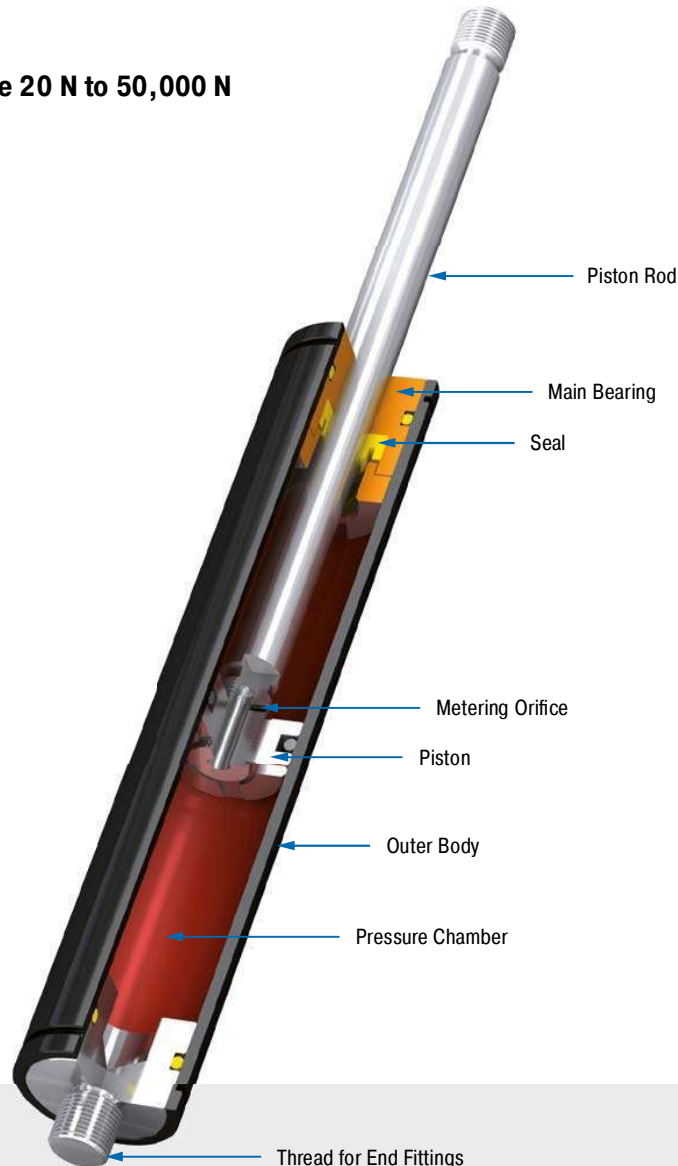
**Compression and extension force 20 N to 50,000 N**

**Stroke 10 mm to 800 mm**

High quality and long service life: The HB model of hydraulic damper can also be used as single or double acting brake. Its coated body in a slim gas spring design and the piston rods with wear-resistant surface coating are features of high quality and long service life.

The maintenance free, ready-to-install and closed systems provide a constant feed rate and are adjustable, and the control segment on the piston makes adjustment at the end position child's play. Thanks to many add-on components the assembly is easy to mount, so that the damper can be universally deployed for damping back and forth swinging masses, such as in power or free conveyors.

On automotive or industrial applications, mechanical engineering, medical technology or the electronics and furniture industry, these machine elements are found in a number of different areas.



#### Technical Data

**Compression and extension force:** 20 N to 50,000 N

**Outer body diameter:** Ø 12 mm to Ø 70 mm

**Piston rod diameter:** Ø 4 mm to Ø 30 mm

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

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Available as a special option without free travel achieved by separator piston and nitrogen accumulator.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

**Positive stop:** External positive stops 1 mm to 6 mm before the end of stroke provided by the customer.

**Damping medium:** Hydraulic oil

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

**Mounting:** In any position

**Application field:** Conveyor systems, Transport systems, Furniture industry, Locking systems, Sports equipment

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

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

**On request:** Special oils and other special options. Alternative accessories available on request.

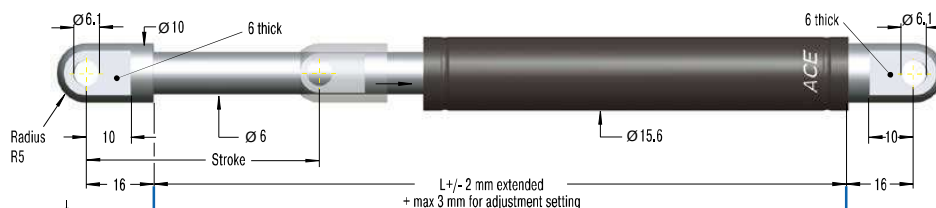


## End Fitting

## Standard Dimensions

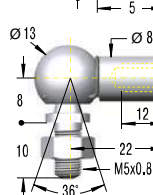
## End Fitting

A5


**Eye A5**  
 max. force 800 N

B5

C5

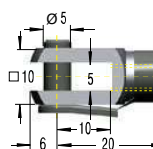


## Performance and Dimensions

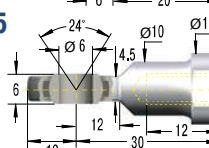
TYPES	Stroke mm	L extended mm	<sup>1</sup> Compression force max. N
HB-15-25	25	93	800
HB-15-50	50	143	800
HB-15-75	75	193	800
HB-15-100	100	243	350
HB-15-150	150	343	300

<sup>1</sup> Max. extension force for all stroke lengths 800 N.

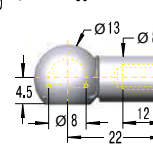
D5



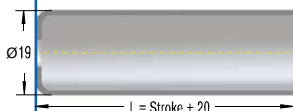
E5



G5



Rod Shroud W5-15



Stud Thread B5

**Angle Ball Joint C5**  
 max. force 500 N

**Clevis Fork D5**  
 max. force 800 N

**Swivel Eye E5**  
 max. force 800 N

**Ball Socket G5**  
 max. force 500 N

## Ordering Example

Type (Hydraulic Damper) \_\_\_\_\_  
 Body Ø (15.6 mm) \_\_\_\_\_  
 Stroke (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting C5 \_\_\_\_\_  
 Body End Fitting C5 \_\_\_\_\_  
 Damping Direction (M = out stroke only) \_\_\_\_\_

HB-15-150-CC-M

## Model Type Prefix

P: Damping in both directions  
 N: Damping on in stroke only  
 M: Damping on out stroke only  
 X: Special model suffix

Mounting accessories see from  
 page 200.

## Technical Data

**Compression and extension force:** 20 N to 800 N

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Extension force 40 N; dimension L = 2.45 x stroke + 49 mm. Part number: add suffix -T.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

Clockwise rotation = increase of the damping

Anti-clockwise rotation = decrease of the damping

Damping force adjustable before installation. Adjustment can add a max. of 6 mm to the L dimension.

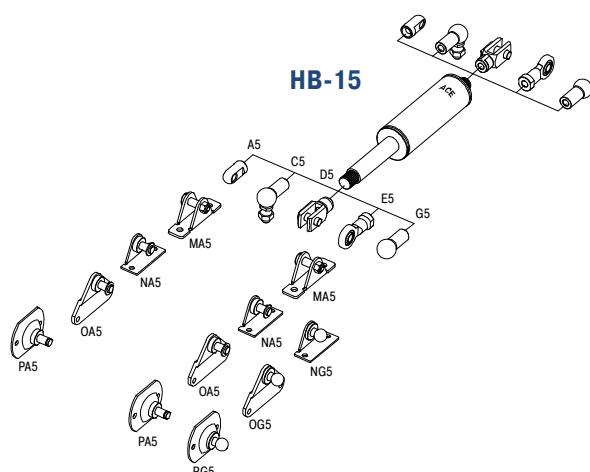
**Positive stop:** External positive stops 1 mm to 1.5 mm before the end of stroke provided by the customer.

**Material:** Outer body: coated steel; Piston rod: steel with wear-resistant coating; End fittings: zinc plated steel

**Mounting:** in any position

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

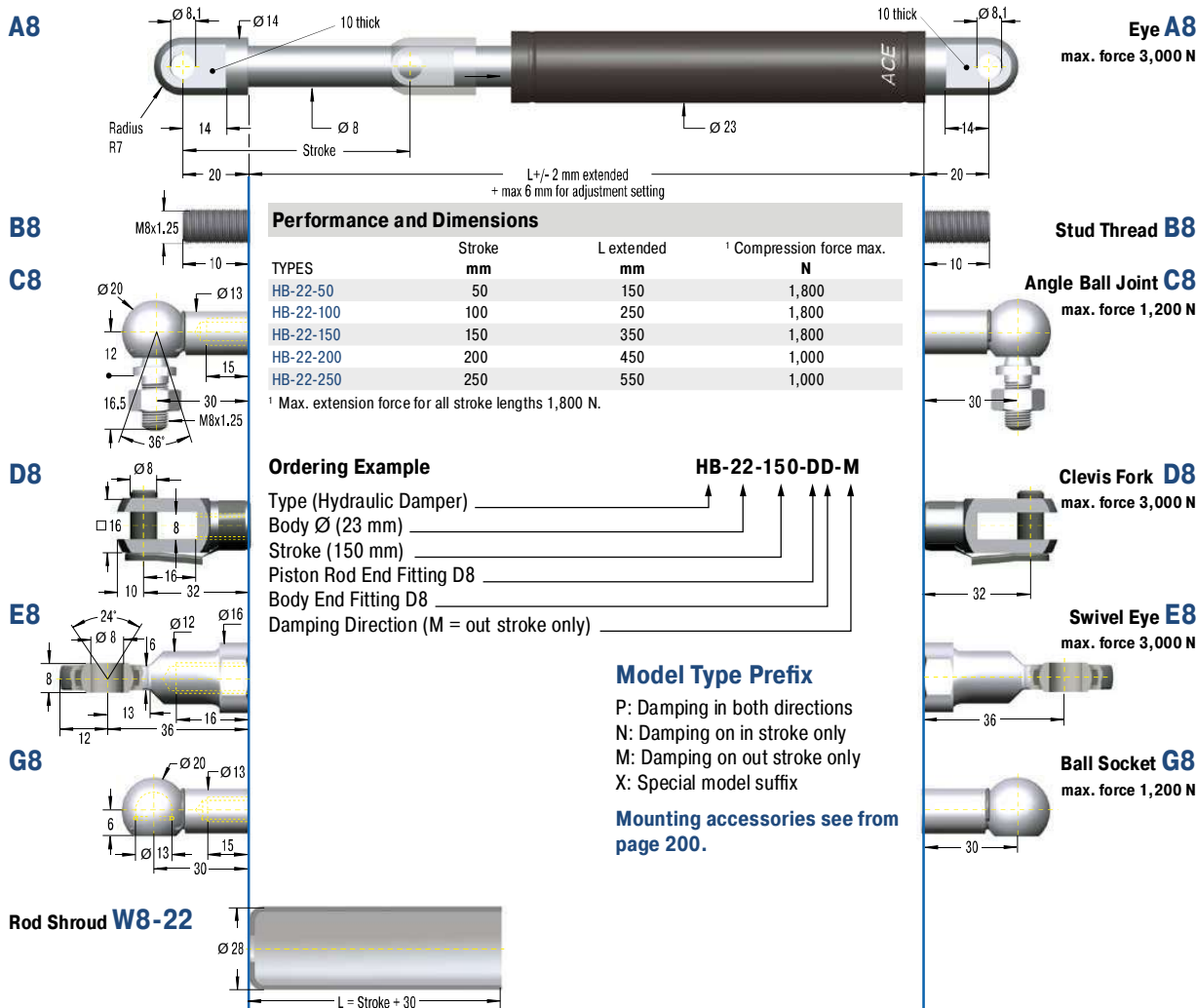
**End fittings:** They are interchangeable and if necessary must be positively secured by the customer to prevent unscrewing.



End Fitting

Standard Dimensions

End Fitting



Technical Data

**Compression and extension force:** 30 N to 1,800 N

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Extension force 50 N; dimension L = 2.38 x stroke + 55 mm. Part number: add suffix -T.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

Clockwise rotation = increase of the damping

Anti-clockwise rotation = decrease of the damping

Damping force adjustable before installation. Adjustment can add a max. of 6 mm to the L dimension.

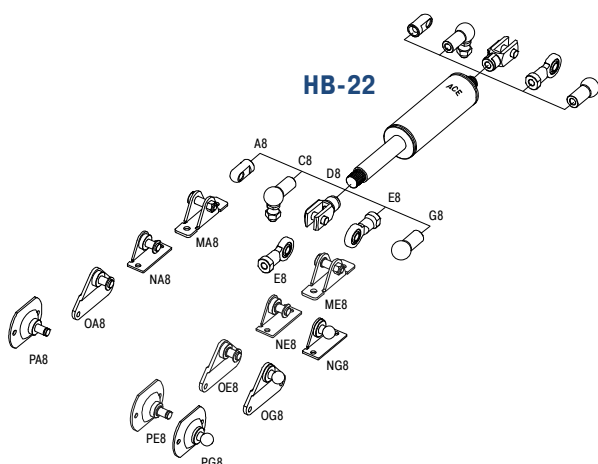
**Positive stop:** External positive stops 1 mm to 1.5 mm before the end of stroke provided by the customer.

**Material:** Outer body: coated steel; Piston rod: steel with wear-resistant coating; End fittings: zinc plated steel

**Mounting:** in any position

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

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



Adjustable, Compression and extension force 30 N to 3,000 N

## End Fitting

### Standard Dimensions

## End Fitting

**Performance and Dimensions**

TYPES	Stroke mm	L extended mm	<sup>1</sup> Compression force max. N
HB-28-100	100	260	3,000
HB-28-150	150	360	3,000
HB-28-200	200	460	3,000
HB-28-250	250	560	3,000
HB-28-300	300	660	2,500
HB-28-350	350	760	2,000
HB-28-400	400	860	1,500
HB-28-500	500	1,060	1,000

<sup>1</sup> Max. extension force for all stroke lengths 3,000 N.

**Ordering Example**

HB-28-150-DD-M

Type (Hydraulic Damper) \_\_\_\_\_  
 Body Ø (28 mm) \_\_\_\_\_  
 Stroke (150 mm) \_\_\_\_\_  
 Piston Rod End Fitting D8 \_\_\_\_\_  
 Body End Fitting D8 \_\_\_\_\_  
 Damping Direction (M = out stroke only) \_\_\_\_\_

**Model Type Prefix**

P: Damping in both directions  
 N: Damping on in stroke only  
 M: Damping on out stroke only  
 X: Special model suffix

**Mounting accessories see from page 200.**

## Technical Data

**Compression and extension force: 30 N to 3.000 N**

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Extension force 80 N; dimension L = 2.35 x stroke + 60 mm. Part number: add suffix -T.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

Clockwise rotation = increase of the damping  
Anti-clockwise rotation = decrease of the damping  
Damping force adjustable before installation. Adjustment can add a max. of 6 mm to the L dimension.

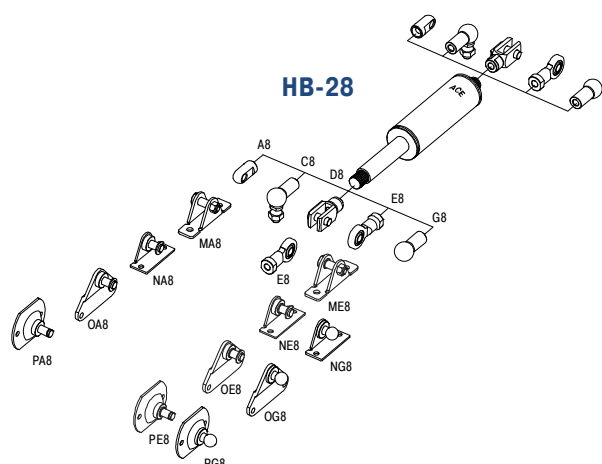
**Positive stop:** External positive stops 1 mm to 1.5 mm before the end of stroke provided by the customer.

**Material:** Outer body: coated steel; Piston rod: steel with wear-resistant coating; End fittings: zinc plated steel

**Mounting:** in any position

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

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



End Fitting

Standard Dimensions

End Fitting

A14



Eye A14

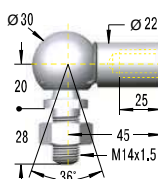
max. force 10,000 N

B14



Stud Thread B14

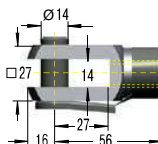
C14



Angle Ball Joint C14

max. force 3,200 N

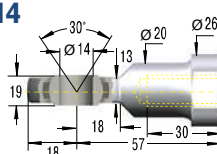
D14



Clevis Fork D14

max. force 10,000 N

E14



Swivel Eye E14

max. force 10,000 N

Performance and Dimensions

TYPES	Stroke mm	L extended mm	<sup>1</sup> Compression force max. N
HB-40-100	100	275	10,000
HB-40-150	150	375	10,000
HB-40-200	200	475	10,000
HB-40-300	300	675	10,000
HB-40-400	400	875	8,000
HB-40-500	500	1,075	6,000
HB-40-600	600	1,275	4,000
HB-40-700	700	1,475	3,000
HB-40-800	800	1,675	3,000

<sup>1</sup> Max. extension force for all stroke lengths 10,000 N.

Ordering Example

Type (Hydraulic Damper) \_\_\_\_\_  
 Body Ø (40 mm) \_\_\_\_\_  
 Stroke (300 mm) \_\_\_\_\_  
 Piston Rod End Fitting E14 \_\_\_\_\_  
 Body End Fitting E14 \_\_\_\_\_  
 Damping Direction (N = in stroke only) \_\_\_\_\_

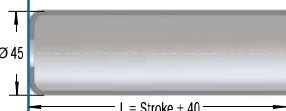
HB-40-300-EE-N

Model Type Prefix

P: Damping in both directions  
 N: Damping on in stroke only  
 M: Damping on out stroke only  
 X: Special model suffix

Mounting accessories see from page 200.

Rod Shroud W14-40



Technical Data

**Compression and extension force:** 30 N to 10,000 N

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Extension force 150 N; dimension L = 2.32 x stroke + 82 mm. Part number: add suffix -T.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

Clockwise rotation = increase of the damping

Anti-clockwise rotation = decrease of the damping

Damping force adjustable before installation. Adjustment can add a max. of 6 mm to the L dimension.

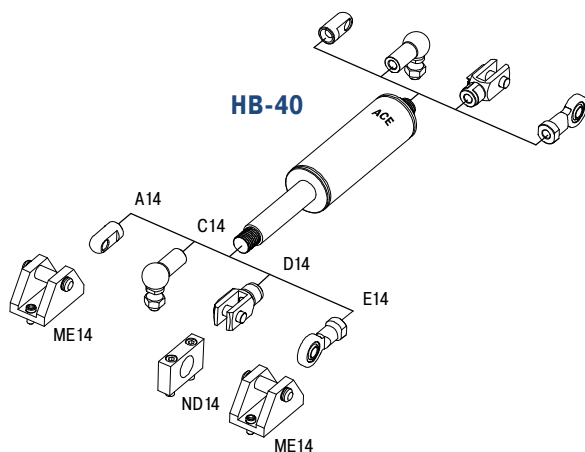
**Positive stop:** External positive stops 1 mm to 1.5 mm before the end of stroke provided by the customer.

**Material:** Outer body: coated steel; Piston rod: steel with wear-resistant coating; End fittings: zinc plated steel

**Mounting:** in any position

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

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

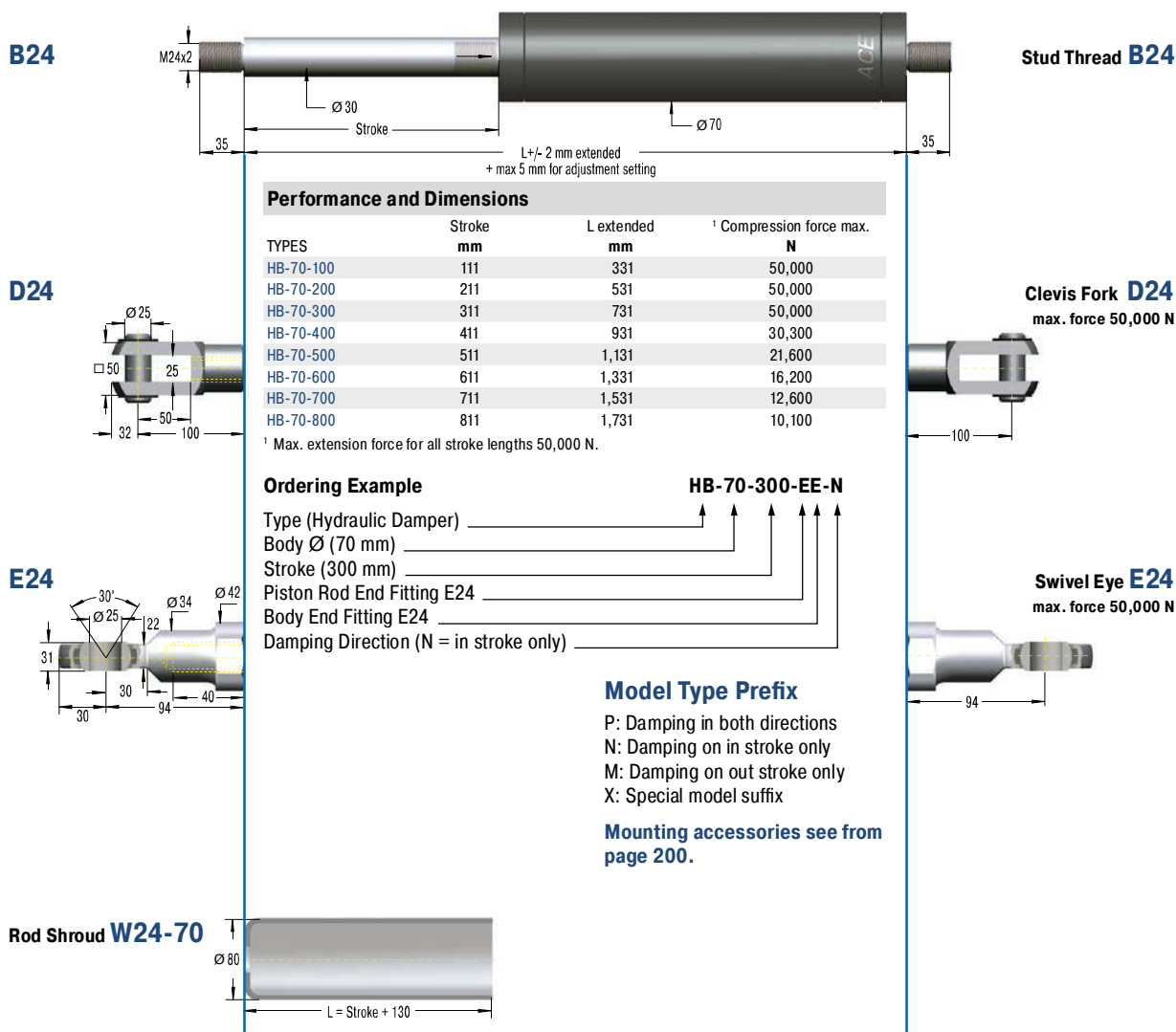




## End Fitting

## Standard Dimensions

## End Fitting



## Technical Data

**Compression and extension force:** 2,000 N to 50,000 N

**Free travel:** Construction of the damper results in a free travel of approx. 20 % of stroke.

**Separator piston:** Extension force min. 250 N; dimension L + 150 mm. Part number: add suffix -T.

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

**Adjustment:** Achieved by turning the piston rod in its fully extended or fully compressed position.

Clockwise rotation = increase of the damping

Anti-clockwise rotation = decrease of the damping

Damping force adjustable before installation. The adjustment can add a max. of 5 mm to the L dimension.

**Positive stop:** External positive stops 5 mm to 6 mm before the end of stroke provided by the customer.

**Material:** Outer body: coated steel; Piston rod: hard chrome plated steel; End fittings: zinc plated steel

**Mounting:** in any position

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

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

