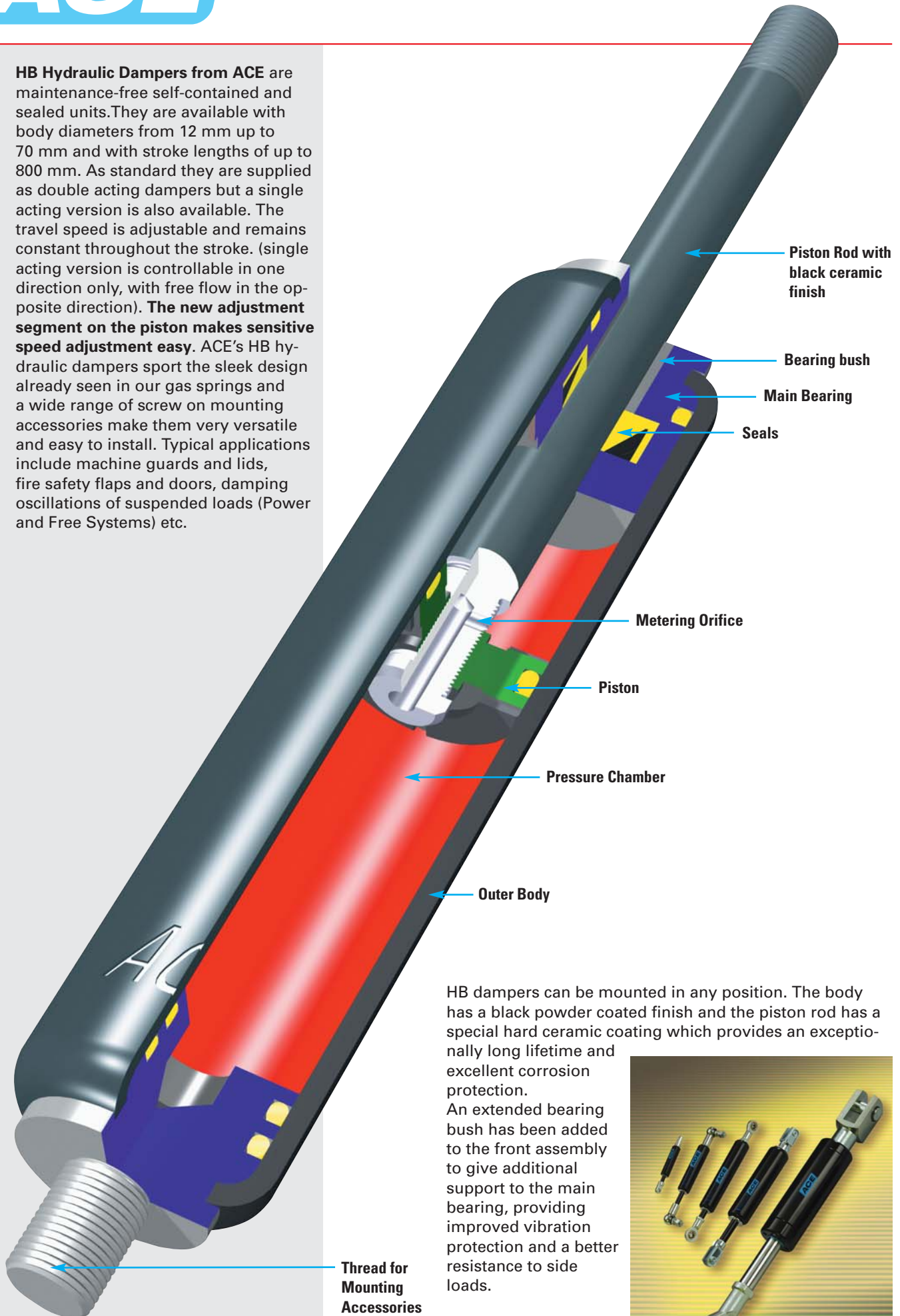


HB Hydraulic Dampers from ACE are maintenance-free self-contained and sealed units. They are available with body diameters from 12 mm up to 70 mm and with stroke lengths of up to 800 mm. As standard they are supplied as double acting dampers but a single acting version is also available. The travel speed is adjustable and remains constant throughout the stroke. (single acting version is controllable in one direction only, with free flow in the opposite direction). **The new adjustment segment on the piston makes sensitive speed adjustment easy.** ACE's HB hydraulic dampers sport the sleek design already seen in our gas springs and a wide range of screw on mounting accessories make them very versatile and easy to install. Typical applications include machine guards and lids, fire safety flaps and doors, damping oscillations of suspended loads (Power and Free Systems) etc.



HB dampers can be mounted in any position. The body has a black powder coated finish and the piston rod has a special hard ceramic coating which provides an exceptionally long lifetime and excellent corrosion protection. An extended bearing bush has been added to the front assembly to give additional support to the main bearing, providing improved vibration protection and a better resistance to side loads.



NEW

End Fitting

Standard Dimensions

End Fitting

A3.5

B3.5

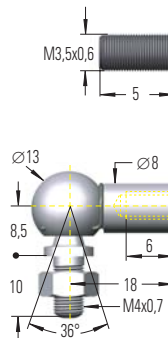
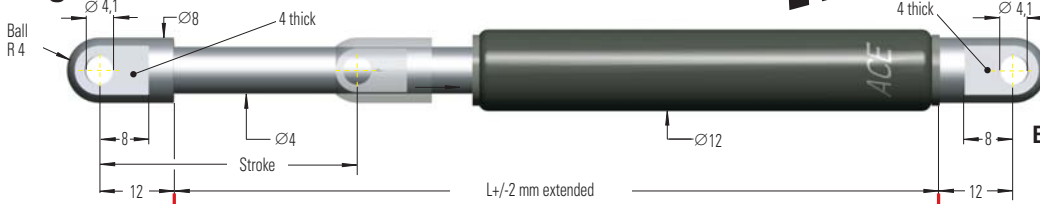
C3.5

D3.5

G3.5

W3.5-12

Rod Shroud



Dimensions

Type	Stroke mm	L Extended	max. Compression Force N
HB-12-10	10	55	180
HB-12-20	20	75	180
HB-12-30	30	95	180
HB-12-40	40	115	180
HB-12-50	50	135	180
HB-12-60	60	155	180
HB-12-70	70	175	180
HB-12-80	80	195	150

Ordering Example

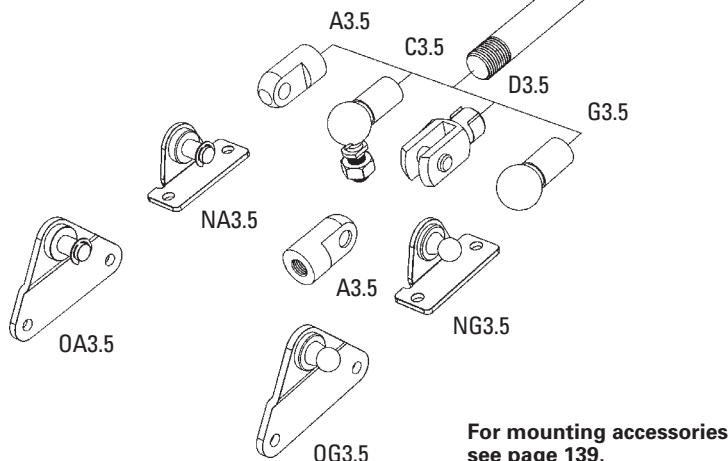
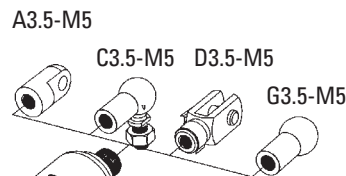
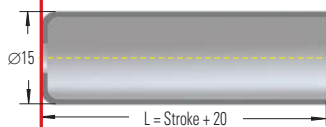
Type (Hydraulic Damper) _____
 Body ø (12 mm) _____
 Stroke (30 mm) _____
 Piston Rod End Fitting A3.5 _____
 Body End Fitting C3.5-M5 _____
 Damping Direction (M = out stroke only) _____

HB-12-30-AC-M

Damping options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 139.



For mounting accessories see page 139.

Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is handled, in the opposite way to the dampers HB-15 to HB-70, via the cylinder stud thread. The damping force can be precisely regulated by using a screwdriver (adjustment instruction see page 115).

Free travel: Construction of standard damper results in a free travel of approx. 21% of total stroke when changing travel direction.

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of each stroke direction.

Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

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

Operating fluid: Hydraulic oil.

Material: Body: black powder coated steel. Piston rod: stainless steel. End fittings: zinc plated steel.

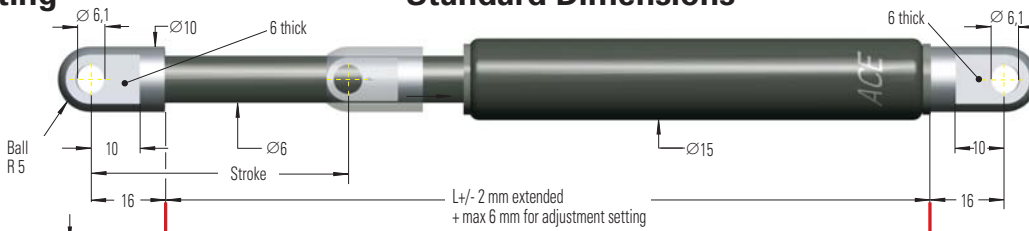
To special order: Special lengths, strokes, seals, alternative end fittings.

End Fitting

Standard Dimensions

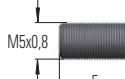
End Fitting

A5



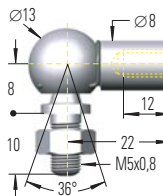
Eye A5

B5



Stud Thread B5

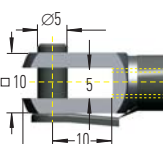
C5



Angle Ball Joint C5

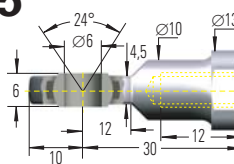
(Max. permitted force 500 N)

D5



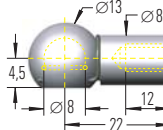
Clevis Fork D5

E5



Swivel Eye E5

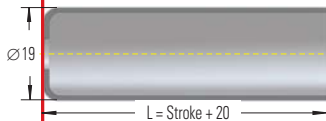
G5



Ball Socket G5

(Max. permitted force 500 N)

W5-15
Rod Shroud



Dimensions

Type	Stroke mm	L Extended	max. Compression Force N
HB-15-25	25	90	800
HB-15-50	50	140	800
HB-15-75	75	190	800
HB-15-100	100	240	350
HB-15-150	150	340	300

Ordering Example

HB-15-150-CC-M

Type (Hydraulic Damper) _____
 Body ϕ (15 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting C5 _____
 Body End Fitting C5 _____
 Damping Direction (M = out stroke only) _____

Damping options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite).
 For mounting accessories see page 139.

Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is achieved by pulling (or pushing) the piston rod to its fully extended (or compressed) position. Whilst still pulling the piston rod turn it clockwise to increase damping or anti-clockwise to decrease damping. If the resistance increases noticeably, stop adjusting to avoid damage. The adjustment can add a max. of 6 mm to the L dim. shown.

Free travel: Construction of standard damper results in a free travel of approx 20% of total stroke when changing travel direction.

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of each stroke direction.

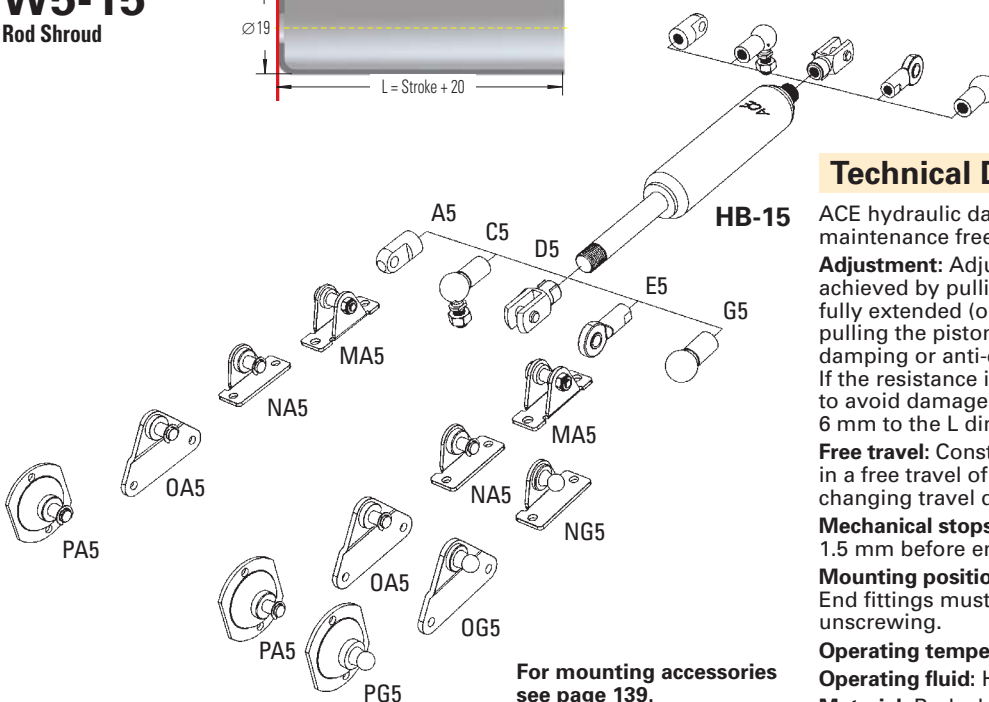
Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

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

Operating fluid: Hydraulic oil.

Material: Body: black powder coated steel. Piston rod: ceramic coated steel. End fittings: zinc plated steel.

Separator piston (-T): Available as a special option to remove free travel. Also provides extension force of max. 50 N. Dimension L = 2.45 x stroke + 47 mm.



For mounting accessories see page 139.

End Fitting

Standard Dimensions

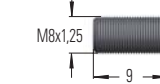
End Fitting

A8



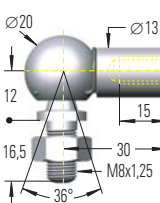
Eye A8

B8



Stud Thread B8

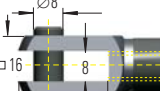
C8



Angle Ball Joint C8

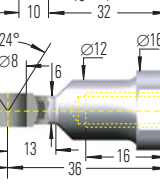
(Max. permitted force 1200 N)

D8



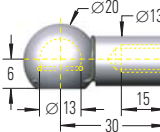
Clevis Fork D8

E8



Swivel Eye E8

G8



Ball Socket G8

(Max. permitted force 1200 N)

Dimensions

Type	Stroke mm	L Extended	max. Compression Force N
HB-22-50	50	150	1800
HB-22-100	100	250	1800
HB-22-150	150	350	1800
HB-22-200	200	450	1000
HB-22-250	250	550	1000

Ordering Example

Type (Hydraulic Damper) _____
 Body ϕ (22 mm) _____
 Stroke (150 mm) _____
 Piston Rod End Fitting D8 _____
 Body End Fitting D8 _____
 Damping Direction (M = out stroke only) _____

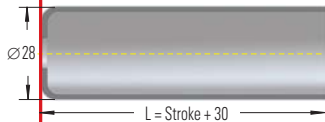
HB-22-150-DD-M

Damping Options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 140.

W8-22 Rod Shroud



Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is achieved by pulling (or pushing) the piston rod to its fully extended (or compressed) position. Whilst still pulling the piston rod turn it clockwise to increase damping and anti-clockwise to decrease damping. If the resistance increases noticeably, stop adjusting to avoid damage. The adjustment can add a max. of 6 mm to the L dim. shown.

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

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of each stroke direction.

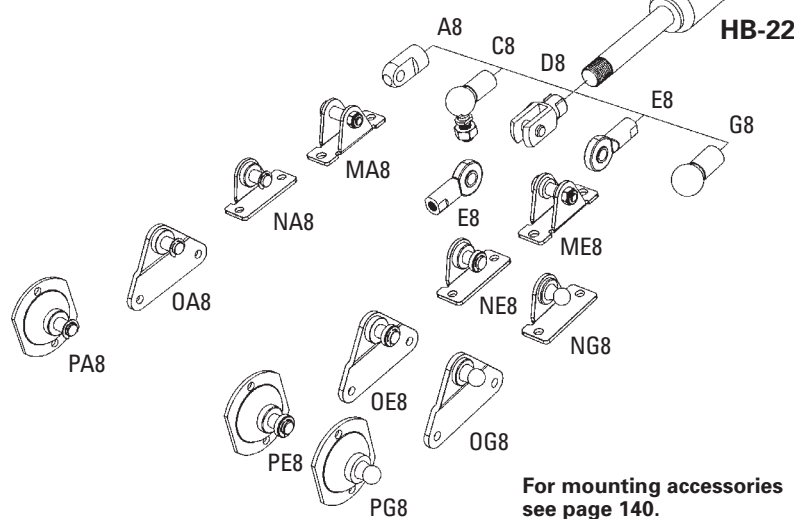
Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

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

Operating fluid: Hydraulic oil.

Material: Body: powder coated steel. Piston rod: ceramic coated steel. End fittings: zinc plated steel.

Separator piston (-T): Available as a special option to remove free travel. Also provides extension force of max. 100 N. Dimension L = 2.38 x stroke + 55 mm.



For mounting accessories see page 140.

End Fitting

Standard Dimensions

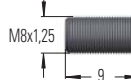
End Fitting

A8



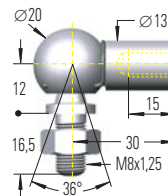
Eye A8

B8



Stud Thread B8

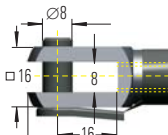
C8



Angle Ball Joint C8

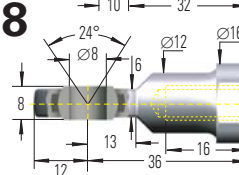
(Max. permitted force 1200 N)

D8



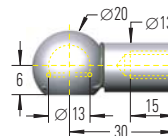
Clevis Fork D8

E8



Swivel Eye E8

G8

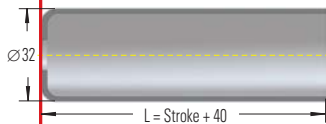


Ball Socket G8

(Max. permitted force 1200 N)

W8-28

Rod Shroud



Dimensions

Type	Stroke mm	L Extended	max. Compression Force 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

Ordering Example

Type (Hydraulic Damper) **HB-28-150-DD-M**
 Body ϕ (28 mm)
 Stroke (150 mm)
 Piston Rod End Fitting D8
 Body End Fitting D8
 Damping Direction (M = out stroke only)

Damping Options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 140.

Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is achieved by pulling (or pushing) the piston rod to its fully extended (or compressed) position. Whilst still pulling the piston rod turn it clockwise to increase damping and anti-clockwise to decrease damping. If the resistance increases noticeably, stop adjusting to avoid damage. The adjustment can add a max. of 6 mm to the L dim. shown.

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

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of each stroke direction.

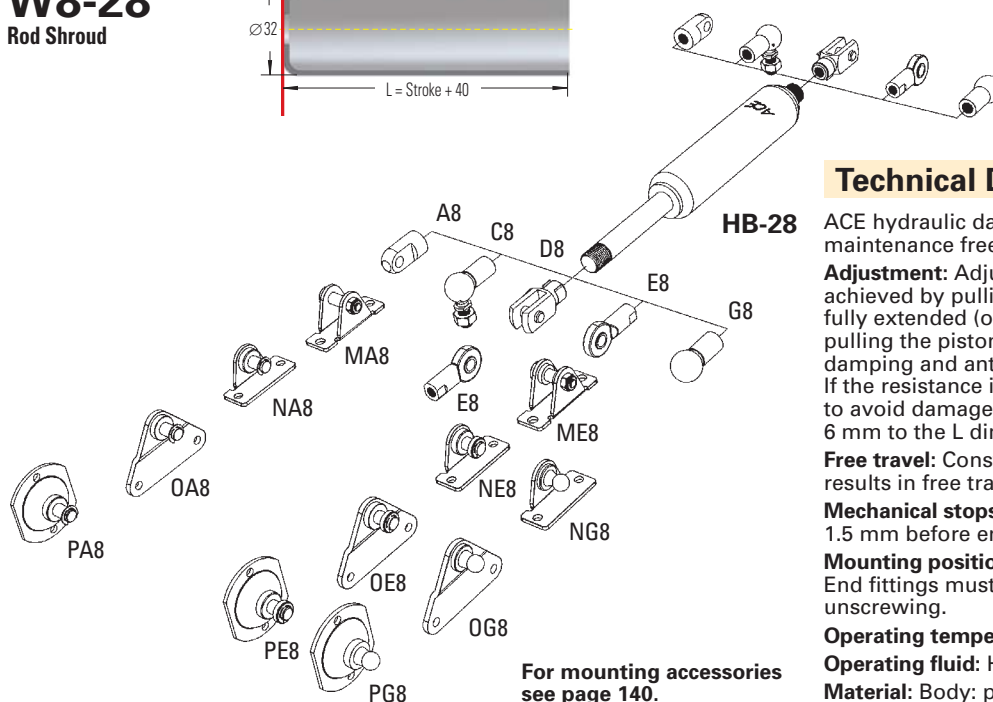
Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

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

Operating fluid: Hydraulic oil.

Material: Body: powder coated steel. Piston rod: ceramic coated steel. End fittings: zinc plated steel.

Separator piston (-T): Available as a special option to remove free travel. Also provides extension force of max. 100 N. Dimension L = 2.35 x stroke + 60 mm.



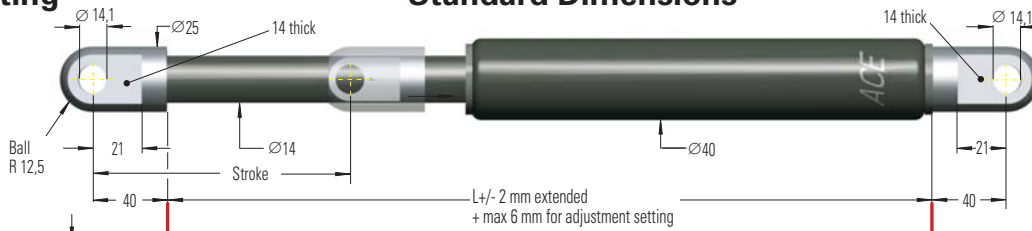
For mounting accessories see page 140.

End Fitting

Standard Dimensions

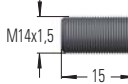
End Fitting

A14



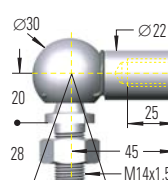
Eye A14

B14



Stud Thread B14

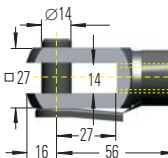
C14



Angle Ball Joint C14

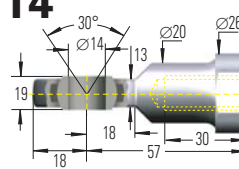
(Max. permitted force 3200 N)

D14



Clevis Fork D14

E14



Swivel Eye E14

Dimensions

Type	Stroke mm	L Extended	max. Compression Force 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

Ordering Example

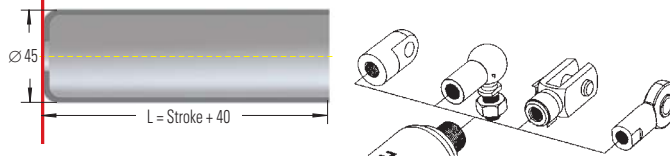
Type (Hydraulic Damper) _____
 Body ϕ (40 mm) _____
 Stroke (300 mm) _____
 Piston Rod End Fitting E14 _____
 Body End Fitting E14 _____
 Damping Direction (N = in stroke only) _____

Damping Options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 141.

W14-40 Rod Shroud



Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is achieved by pulling (or pushing) the piston rod to its fully extended (or compressed) position. Whilst still pulling the piston rod turn it clockwise to increase or anti-clockwise to decrease damping. If the resistance increases noticeably, stop adjusting to avoid damage. The adjustment can add a max. of 6 mm to the L dim. shown.

Free travel: Construction of standard damper results in a free travel of approx. 20% of stroke when changing directions.

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of stroke in each direction.

Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

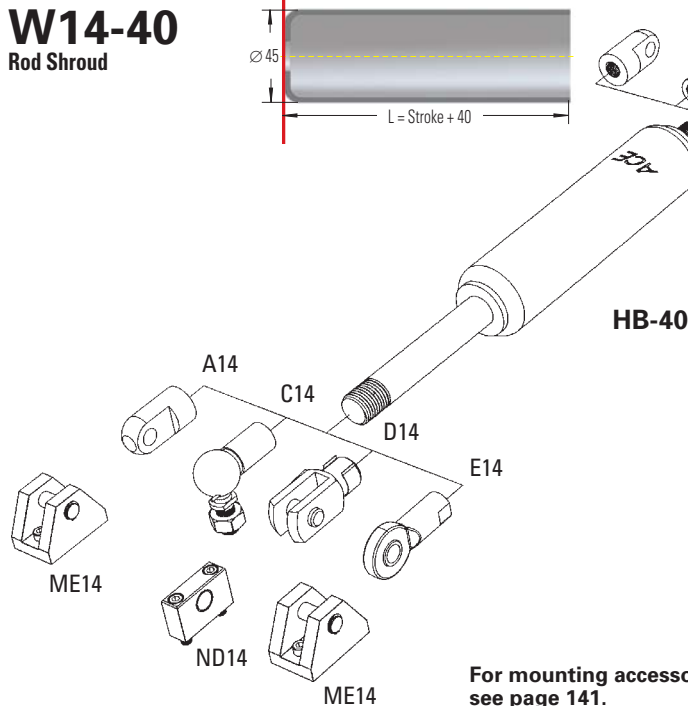
Operating temperature range: -20°C to +80°C (with special seals up to 120°C).

Operating fluid: Hydraulic oil.

Material: Body: powder coated steel. Piston rod: ceramic coated steel. End fittings: zinc plated steel.

Separator piston (-T): Available as a special option to remove free travel. Also provides extension force of max. 200 N. Dimension L = 2.32 x stroke + 82 mm.

For mounting accessories see page 141.

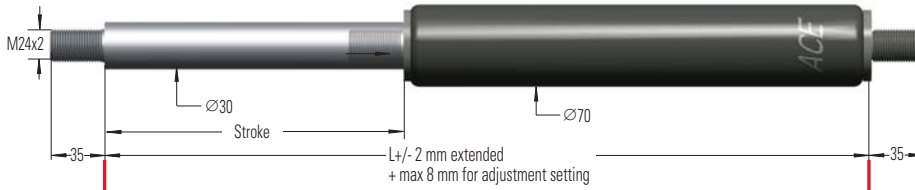


End Fitting

Standard Dimensions

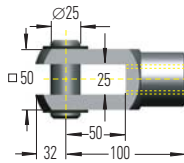
End Fitting

B24



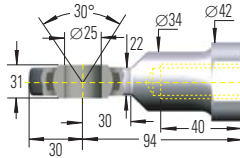
Stud Thread B24

D24



Clevis Fork D24

E24



Swivel Eye E24

Dimensions

Type	Stroke mm	L Extended	max. Compression Force N
HB-70-100	100	320	50 000
HB-70-200	200	520	50 000
HB-70-300	300	720	50 000
HB-70-400	400	920	30 300
HB-70-500	500	1 120	21 600
HB-70-600	600	1 320	16 200
HB-70-700	700	1 520	12 600
HB-70-800	800	1 720	10 100

Ordering Example

HB-70-300-EE-N

Type (Hydraulic Damper) _____
 Body ϕ (70 mm) _____
 Stroke (300 mm) _____
 Piston Rod End Fitting E24 _____
 Body End Fitting E24 _____
 Damping Direction (N = in stroke only) _____

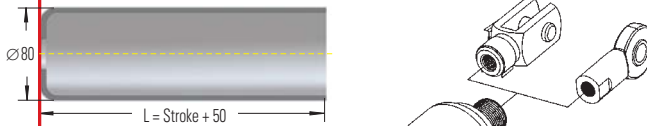
Damping Options

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

The end fittings are interchangeable and must be positively secured by the customer to prevent unscrewing (i.e. Loctite). For mounting accessories see page 141.

W24-70

Rod Shroud



Technical Data

ACE hydraulic dampers are self-contained and maintenance free.

Adjustment: Adjustment of the damping rate is achieved by pulling (or pushing) the piston rod to its fully extended (or compressed) position. Whilst still pulling the piston rod turn it clockwise to increase or anti-clockwise to decrease the damping. If the resistance increases noticeably, stop adjusting to avoid damage. The adjustment can add a max. of 8 mm to the L dim. shown.

Free travel: Construction of standard damper results in a free travel of approx. 20% of stroke when changing travel direction.

Mechanical stops: Provide mechanical stops 1 to 1.5 mm before end of stroke in each direction.

Mounting position: Can be mounted in any position. End fittings must be positively secured to prevent unscrewing.

Operating temperature range: -20°C to +80°C (with special seals up to 120°C).

Operating fluid: Hydraulic oil.

Material: Body: black powder coated steel or zinc plated steel. Piston rod: hard chrome plated. End fittings: zinc plated steel.

Separator piston (-T): Available as a special option to remove free travel. Also provides extension force of max. 250 N. Increases dimension L + 150 mm.

For mounting accessories see page 141.

