

**Hydraulic Dampers of ACE** are maintenance-free, self contained sealed units, ready for use, for the precise control of damping in both directions of travel. The travel speed can be adjusted independently in each direction of travel at any time even during the stroke. The dampers are ideal for controlling swinging movements or as a variable resistance control on sports devices, exercise equipment and physiotherapy machines. Thanks to the new, high precision metering elements this damper ensures a constant feed rate independently controlled in each direction and the adjustment can be performed after mounting. The coated body and the steel-hardened and hard-chrome-plated piston rod stand for high quality and long lifetimes. The wide variety of mounting accessories make the **HBD** easy to install in many different types of applications.



# NEW



**Positive Stop:** Provide a mechanical stop of 1 to 1.5 mm before the end of stroke in each direction.

**Material:** Piston rod: hard-chrome-plated steel. Body: black-coated steel.

**Note:** If unit has not moved for some time the seals may dry, causing an increased breakaway force on the initial cycle.

**Mounting:** In any position. End fittings must be positively secured to prevent unscrewing.

**Operating temperature range:** 0 °C to 65 °C

**Maximum speed:** 0.5 m/s

**On request:** Special lengths, stroke, alternative seals, end fittings and special oil.



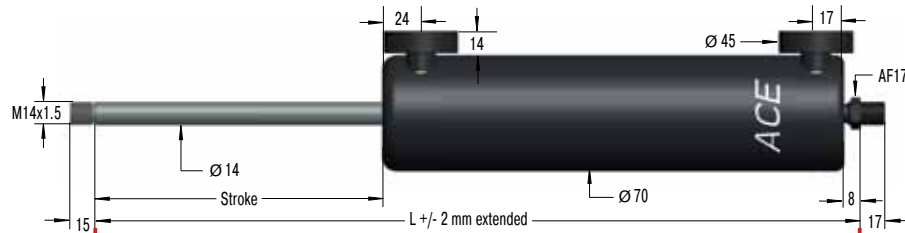
**NEW**

End Fitting

Standard Dimensions

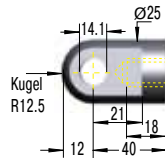
End Fitting

**B14**



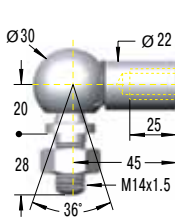
Stud Thread **B14**

**A14**



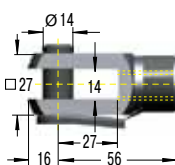
**Eye A14**  
max. force 10 000 N

**C14**



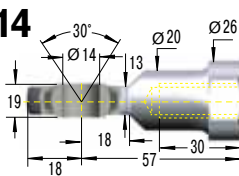
**Angle Ball Joint C14**  
max. force 3200 N

**D14**



**Clevis Fork D14**  
max. force 10 000 N

**E14**



**Swivel Eye E14**  
max. force 10 000 N

**Dimensions**

Type	Stroke mm	L extended	1 Max. Compression Force N
HBD-70-100	100	314	10 000
HBD-70-150	150	414	10 000
HBD-70-200	200	514	10 000
HBD-70-300	300	714	10 000
HBD-70-400	400	914	8 000
HBD-70-500	500	1 114	6 000

1 Max. extension force for all stroke lengths 10 000 N.

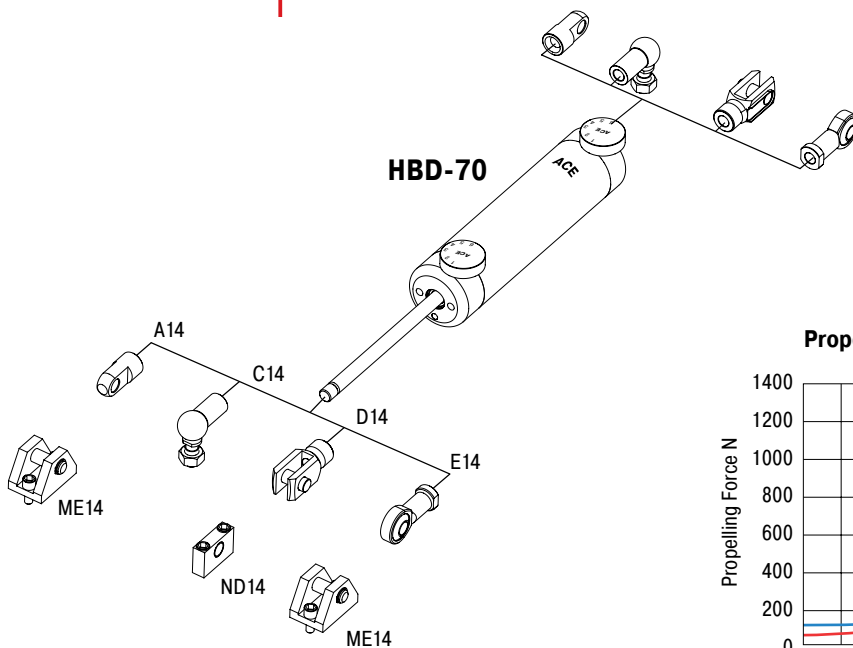
**Ordering Example**

**HBD-70-300-EE**  
 Type (Hydraulic Damper) \_\_\_\_\_  
 Body Ø (70 mm) \_\_\_\_\_  
 Stroke (300 mm) \_\_\_\_\_  
 Piston Rod End Fitting E14 \_\_\_\_\_  
 Body End Fitting E14 \_\_\_\_\_

**Damping Option Separately Adjustable**

- Damping on out stroke only
- Damping on in stroke only
- Damping in both directions

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.



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**Propelling Force at 12.5 mm/s**

