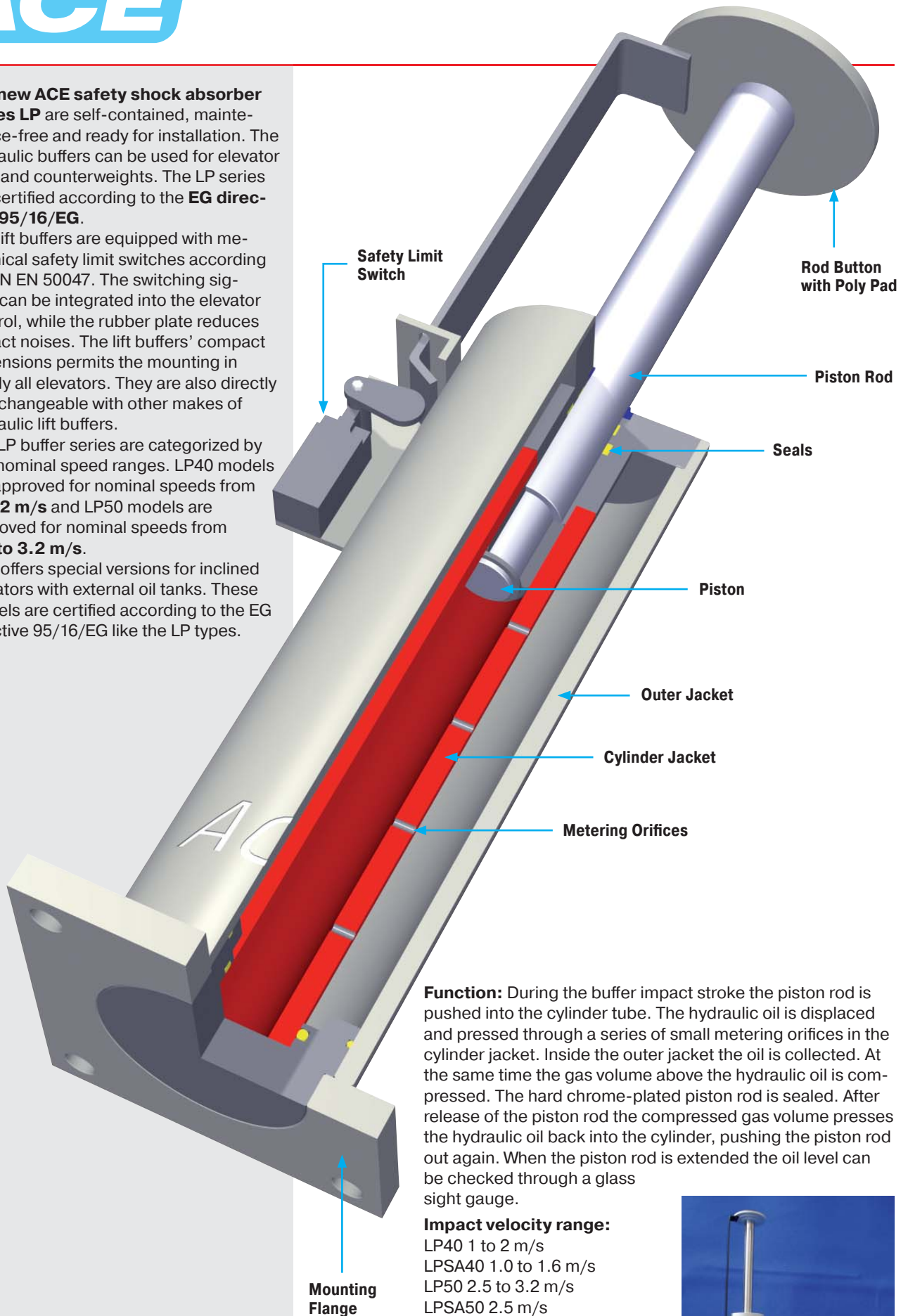


The new ACE safety shock absorber series LP are self-contained, maintenance-free and ready for installation. The hydraulic buffers can be used for elevator cars and counterweights. The LP series are certified according to the EG directive 95/16/EG.

The lift buffers are equipped with mechanical safety limit switches according to DIN EN 50047. The switching signals can be integrated into the elevator control, while the rubber plate reduces impact noises. The lift buffers' compact dimensions permits the mounting in nearly all elevators. They are also directly interchangeable with other makes of hydraulic lift buffers.

The LP buffer series are categorized by two nominal speed ranges. LP40 models are approved for nominal speeds from 1 to 2 m/s and LP50 models are approved for nominal speeds from 2.5 to 3.2 m/s.

ACE offers special versions for inclined elevators with external oil tanks. These models are certified according to the EG directive 95/16/EG like the LP types.



Function: During the buffer impact stroke the piston rod is pushed into the cylinder tube. The hydraulic oil is displaced and pressed through a series of small metering orifices in the cylinder jacket. Inside the outer jacket the oil is collected. At the same time the gas volume above the hydraulic oil is compressed. The hard chrome-plated piston rod is sealed. After release of the piston rod the compressed gas volume presses the hydraulic oil back into the cylinder, pushing the piston rod out again. When the piston rod is extended the oil level can be checked through a glass sight gauge.

Impact velocity range:

- LP40 1 to 2 m/s
- LPSA40 1.0 to 1.6 m/s
- LP50 2.5 to 3.2 m/s
- LPSA50 2.5 m/s

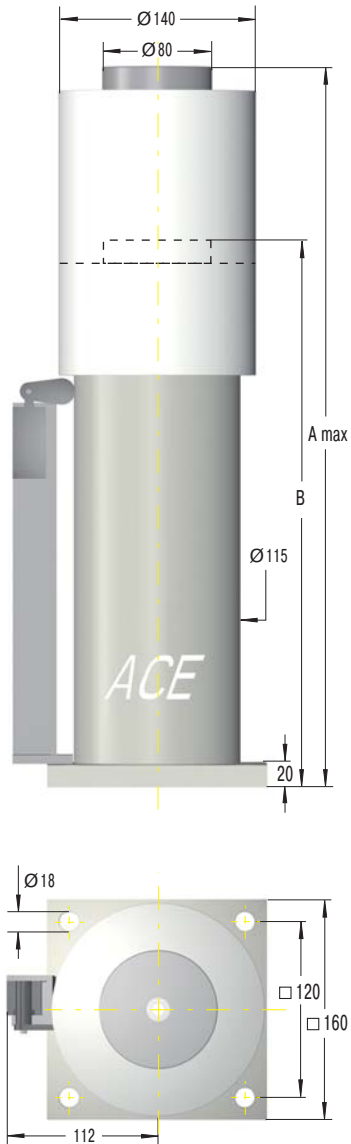
Material: Steel body, piston rod hard chrome-plated.

Mounting: Vertical position or inclined position

Operating temperature range: 5 °C up to 50 °C.

Lower temperatures on request.





Ordering Example

Lift Buffer _____ **LP40-175**
 Bore Size 40 mm _____
 Stroke 175 mm _____

For lifts requiring standards other than lift directive 95/16/EG, EN81-1/2 please send the following information to ACE for calculation:

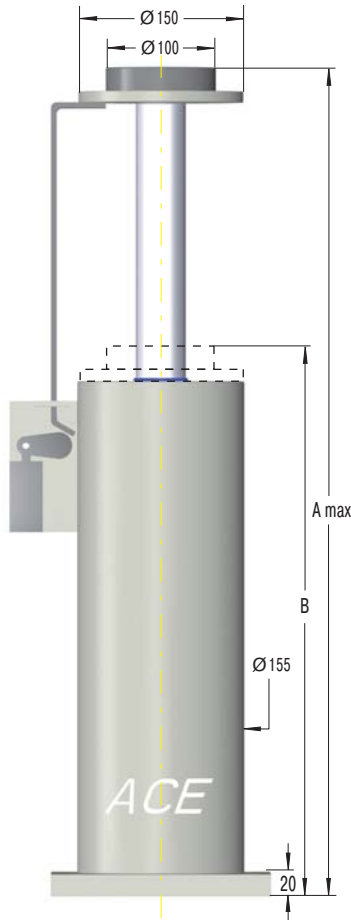
- If you require a different certification please specify
- Installation under the elevator car or under the counter weight
- Number of buffers per point of impact
- Number of elevators and total number of buffers
- Rated speed of the elevator
- Maximum and minimum mass at impact
- Desired stroke

Dimensions and Capacity Chart

Type	Stroke mm	A max	B	Max. Energy Capacity				1 Max. Rated Speed v m/s	Max. Buffer Force N	2 Weight kg
				W ₃ Nm/Cycle	Min. Impact Mass m kg	Max. Impact Mass m kg	Max.			
LP40-80	80	305	225	4 340	450	3 000	1.0	750 000	14	
LP40-120	120	385	265	6 880	450	3 000	1.3	750 000	16	
LP40-175	175	495	320	10 200	450	3 000	1.6	750 000	19	
LP40-275	275	715	440	16 000	450	3 000	2.0	750 000	24	

¹ According to EN 81-1/2

² Complete with fill of oil



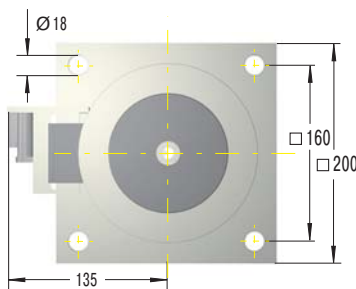
Ordering Example

Lift Buffer _____ **LP50-425**
 Bore Size 50 mm _____
 Stroke 425 mm _____

Optional piston rod shroud available on request.

For lifts requiring standards other than lift directive 95/16/EG, EN81-1/2 please send the following information to ACE for calculation:

- If you require a different certification please specify
- Installation under the elevator car or under the counter weight
- Number of buffers per point of impact
- Number of elevators and total number of buffers
- Rated speed of the elevator
- Maximum and minimum mass at impact
- Desired stroke



Dimensions and Capacity Chart

Type	Stroke mm	A max	B	Max. Energy Capacity			1 Max. Rated Speed v m/s	Max. Buffer Force N	2 Weight kg
				W ₃ Nm/Cycle	Min. Impact Mass m kg	Max. Impact Mass m kg			
LP50-425	425	1 065	640	37 400	500	4 500	2.5	115 000	47
LP50-695	695	1 665	970	61 100	600	4 500	3.2	115 000	68

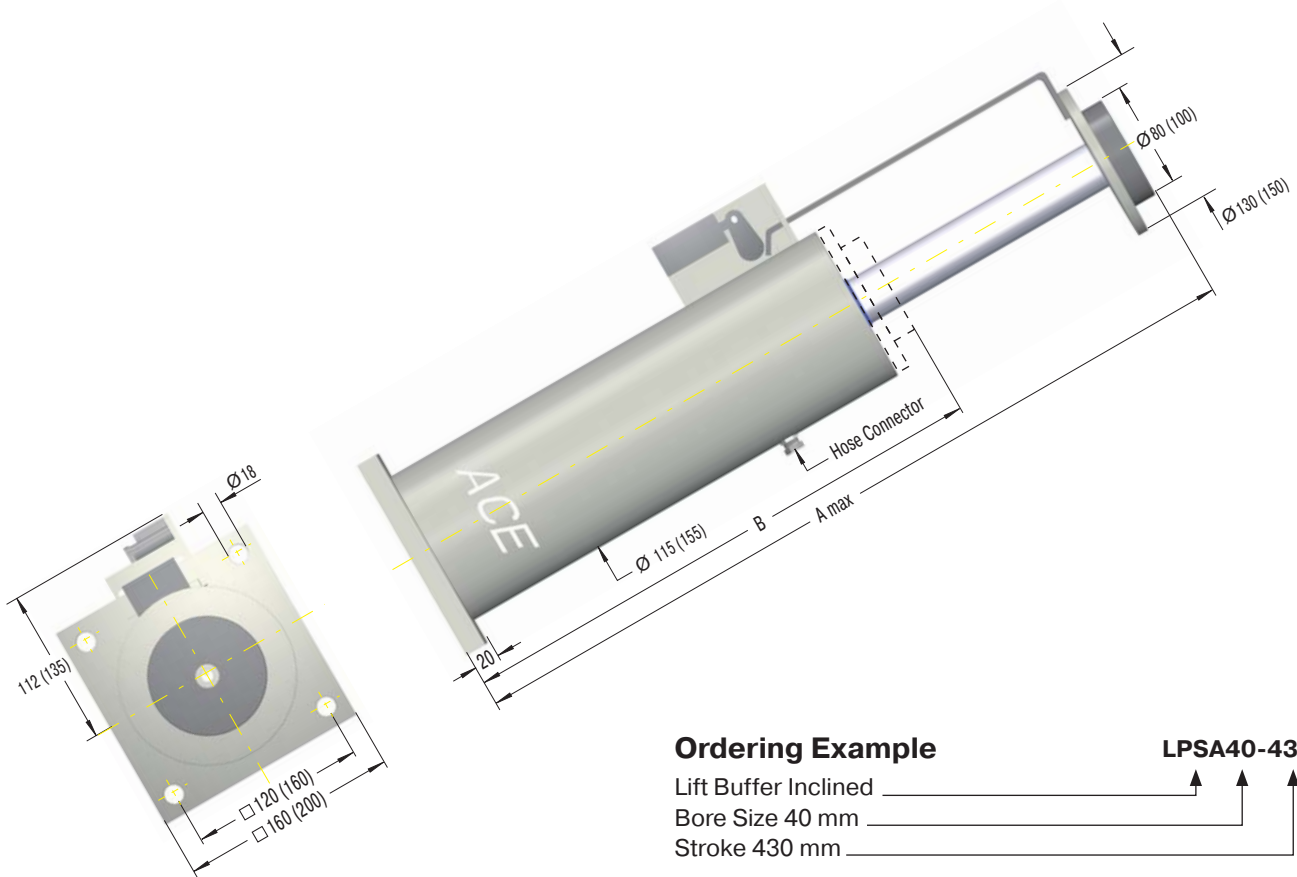
¹ According to EN 81-1/2

² Complete with fill of oil

For use when lift is fitted with a delay control switch:

LP50-425: max. rated speed = 3.5 m/s

LP50-695: max. rated speed = 5.5 m/s



Ordering Example

LPSA40-430

Lift Buffer Inclined _____
Bore Size 40 mm _____
Stroke 430 mm _____

For fittings, oil tanks and dimensions see next page.

For lifts requiring standards other than lift directive 95/16/EG, EN81-1/2 please send the following information to ACE for calculation:

- If you require a different certification please specify
- Installation under the elevator car, on top of the elevator car, or under the counter weight
- Number of buffers per point of impact
- Number of elevators and total number of buffers
- Rated speed of the elevator
- Maximum and minimum mass at impact
- Desired stroke

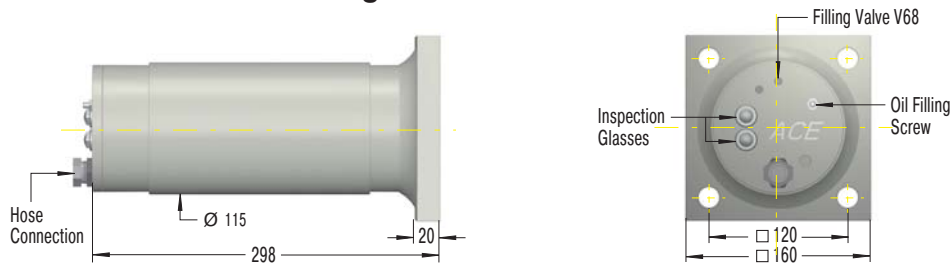
Dimensions and Capacity Chart

Type	Stroke mm	A max	B	Max. Energy Capacity			¹ Equivalent Mass kg			Max. Rated Speed v m/s	Max. Buffer Force kN	² Weight kg
				W ₃ Nm/Cycle	at 30°	at 45°	at 60°					
LPSA40-175	175	495	320	5 950	1 250 - 3 916	955 - 3 174	610 - 2 770	1.0	60	29		
LPSA40-430	430	1 065	635	14 560	1 401 - 3 830	1 067 - 3 114	809 - 2 724	1.6	60	42		
LPSA50-950	950	2 235	1 285	41 472	1 900 - 4 701	1 447 - 3 855	1 097 - 3 387	2.5	115	102		

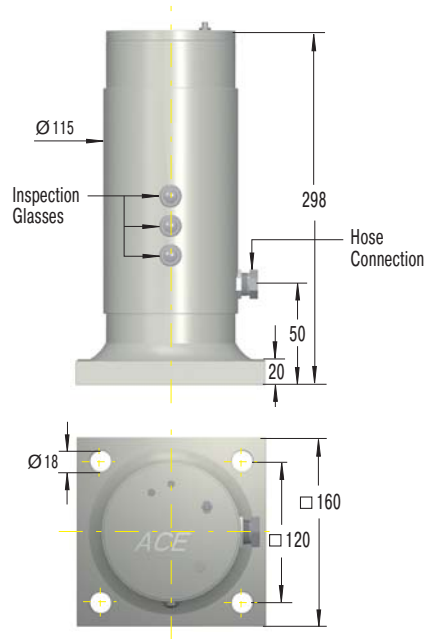
¹ Equivalent mass is a combination of kinetic energy at 115% and potential energy. For other angles contact ACE.

² With tank and oil filling

Tank LPSA40 Horizontal Mounting



Tank LPSA40 Vertical Mounting



Tank LPSA50 Model



Dimensions

Type	Hose Connector	Hose Diameter	Hose Part Number
LPSA40-175	Ermeto 15L	12	240015
LPSA40-430	Ermeto 18L	16	240016
LPSA50-950	Ermeto 28L	25	97576031

All LPSA models are shipped with connected and prefilled tank. Standard hose length between tank and buffer is 2 m.

Replacement Chart

Max. Rated Speed m/s (according CEN)	ACE Type LP (impact mass)	Replaces ALGI Type (impact mass)	Replaces OLEO Type (impact mass)	Replaces WEFORMA Type (impact mass)	Replaces THYSSEN Type (impact mass)
1.0	LP40-80 (450 - 3 000)	no buffer available	LBS 10	ADS-50-080-SR (450 - 2 800)	no buffer available
1.3	LP40-120 (450 - 3 000)	no buffer available	no buffer available	ADS-50-120-SR (450 - 2 800)	no buffer available
1.6	LP40-175 (450 - 3 000)	AP 175-850 (485 - 1 090) AP 175-1070 (610 - 1 370) AP 175-1350 (770 - 1 730) AP 175-1700 (970 - 2 180) AP 175-2140 (1 220 - 2 740)	SLB 16.2 (450 - 4 545) LB 16.003 (500 - 8 300)	ADS-50-175-SR (450 - 3 800)	O1 A (430 - 1 370) O1 B (620 - 2 000) O1 C (970 - 3 020)
2.0	LP40-275 (450 - 3 000)	AP 272-850 (485 - 1 090) AP 272-1070 (610 - 1 370) AP 272-1350 (770 - 1 730) AP 272-1700 (970 - 2 180) AP 272-2140 (1 220 - 2 740)	SLB 18.2 (450 - 4 545) LB 18.001 (500 - 8 330) SLB 20.02 (450 - 4 545) LB 20.001 (500 - 8 330)	ADS-50-275-SR (450 - 4 000) ADS-50-225-SR (450 - 3 800)	O2 A (430 - 1 370) O2 B (620 - 2 000) O2 C (970 - 3 020)
2.5	LP50-425 (500 - 4 500)	AP 423-850 (485 - 1 090) AP 423-1070 (610 - 1 370) AP 423-1350 (770 - 1 730) AP 423-1700 (970 - 2 180) AP 423-2140 (1 220 - 2 740)	SLB 25.2 (450 - 4 545) LB 23.001 (500 - 8 330) LB 25.001 (500 - 8 330)	ADS-50-425-SR (450 - 4 000) ADS-26-175-SR (300 - 1 500)	O3 A (430 - 1 370) O3 B (620 - 2 000) O3 C (970 - 3 020)
3.2	LP50-695 (650 - 4 500)	AP 690-1070 (610 - 1 370) AP 690-1350 (770 - 1 730) AP 690-1700 (970 - 2 180) AP 690-2140 (1 220 - 2 740)	LB 32.002 (700 - 8 330)	no buffer available	O4 A (620 - 1 480) O4 B (780 - 2 700) O4 C (1 360 - 4 130)