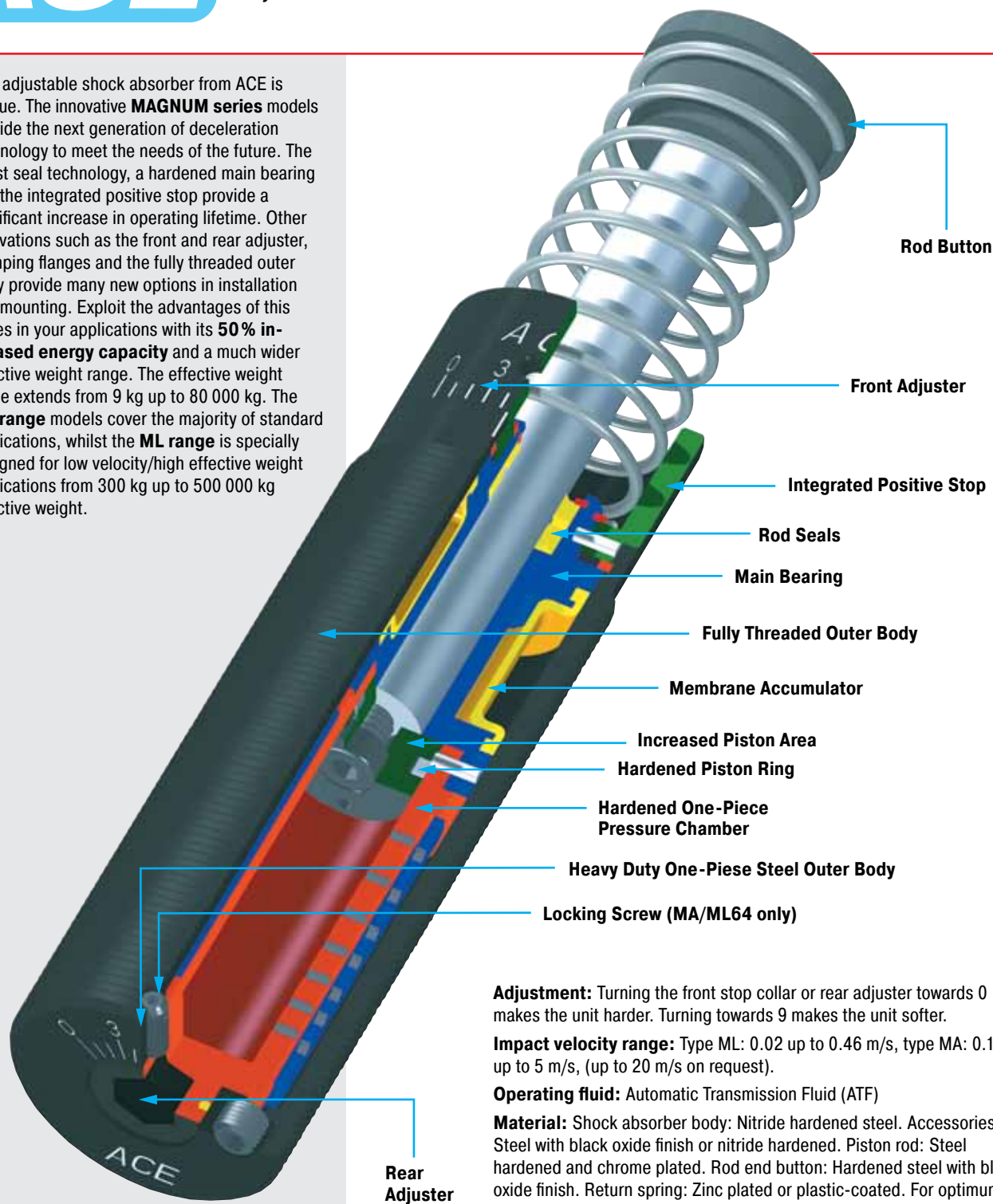


This adjustable shock absorber from ACE is unique. The innovative **MAGNUM series** models provide the next generation of deceleration technology to meet the needs of the future. The latest seal technology, a hardened main bearing and the integrated positive stop provide a significant increase in operating lifetime. Other innovations such as the front and rear adjuster, clamping flanges and the fully threaded outer body provide many new options in installation and mounting. Exploit the advantages of this series in your applications with its **50% increased energy capacity** and a much wider effective weight range. The effective weight range extends from 9 kg up to 80 000 kg. The **MA range** models cover the majority of standard applications, whilst the **ML range** is specially designed for low velocity/high effective weight applications from 300 kg up to 500 000 kg effective weight.



Adjustment: Turning the front stop collar or rear adjuster towards 0 makes the unit harder. Turning towards 9 makes the unit softer.

Impact velocity range: Type ML: 0.02 up to 0.46 m/s, type MA: 0.15 up to 5 m/s, (up to 20 m/s on request).

Operating fluid: Automatic Transmission Fluid (ATF)

Material: Shock absorber body: Nitride hardened steel. Accessories: Steel with black oxide finish or nitride hardened. Piston rod: Steel hardened and chrome plated. Rod end button: Hardened steel with black oxide finish. Return spring: Zinc plated or plastic-coated. For optimum heat dissipation do not paint shock absorber.

Capacity rating: For emergency use only applications it is sometimes possible to exceed the published max. capacity ratings. Please consult ACE for further details. If your application exceeds the tabulated W_4 figures (max. energy per hour Nm/hr) consider additional cooling. Ask ACE for further details.

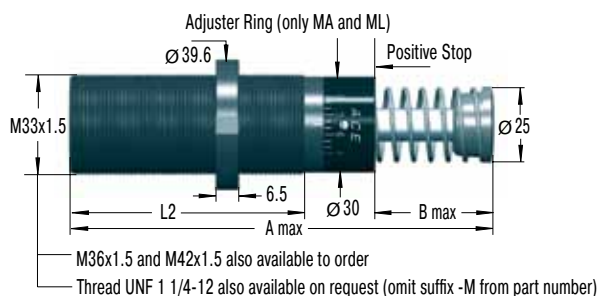
Mounting: In any position

Operating temperature range: -12 °C to 70 °C. Higher and lower temperatures see pages 50 to 51.

On request: Plated finishes. Wearthec finish (seawater resistant), special oils. Mounting inside air cylinders and other special options are available on request.

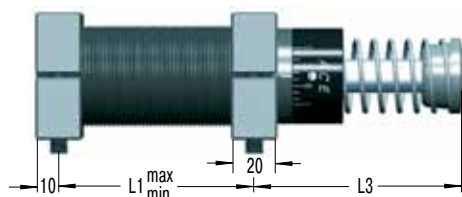
Noise reduction: 3 to 7 dB when using the impact buttons with urethane insert.





Adjuster
(only MA and ML)

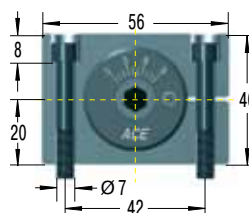
S33



Side Foot Mounting Kit

S33 = 2 flanges + 4 screws M6x40, DIN 912

Because of the thread pitch the fixing holes for the second foot mount should only be drilled and tapped after the first foot mount has been fixed in position.



Tightening torque: 11 Nm
 Clamping torque: > 90 Nm

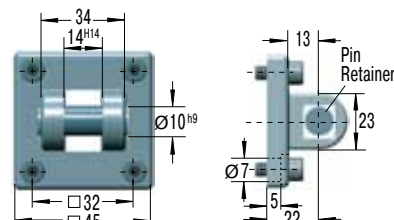
C33



Clevis Mounting Kit

C33 = 2 clevis eyes. Delivered assembled to shock absorber.
 Use positive stop at both ends of travel.

SF33



Clevis Flange

SF33 = flange + 4 screws M6x20, DIN 912

Tightening torque: 7.5 Nm

Clamping torque > 50 Nm

Secure with pin or use additional bar. Due to limited force capacity the respective ability should be reviewed by ACE.

Dimensions

Type	¹ Stroke mm	A max	B max	L1 min	L1 max	L2	L3	L5 max	L6 max
MC, MA, ML3325M	25	138	23	25	60	83	68	39	168
MC, MA, ML3350M	50	189	48.5	32	86	108	93	64	218

¹ Nominal stroke length (without integral stop collar fitted).

Capacity Chart MC33

	Max. Energy Capacity				1 Effective Weight me														
Type	2 W3 Nm/Cycle	W4 Self-Contained Nm/h	W4 with Air/Oil Tank Nm/h	W4 with Oil Recir- culation Nm/h	Soft					Hard					Min. Return Force N	Max. Return Force N	Rod Reset Time s	Max. Side Load Angle °	Weigh kg
					-0 min. max. kg	-1 min. max. kg	-2 min. max. kg	-3 min. max. kg	-4 min. max. kg	-0 min. max. kg	-1 min. max. kg	-2 min. max. kg	-3 min. max. kg	-4 min. max. kg					
Self-Compensating																			
MC3325M	155	75 000	124 000	169 000	3 - 11	9 - 40	30 - 120	100 - 420	350 - 1 420	45	90	0.03	4	0.45					
MC3350M	310	85 000	135 000	180 000	5 - 22	18 - 70	60 - 250	210 - 840	710 - 2 830	45	135	0.06	3	0.54					

Capacity Chart MA/ML33

Type Adjustable	Max. Energy Capacity				1 Effective Weight me				Min. Return Force N	Max. Return Force N	Rod Reset Time s	Max. Side Load Angle °	Weight kg
	2 W3 Nm/Cycle	W4 Self-Con- tained Nm/h	W4 with Air/Oil Tank Nm/h	W4 with Oil Recir- culation Nm/h	Soft								
					min.	max.	min.	max.					
MA3325M	170	75 000	124 000	169 000	9	- 1 700			45	90	0.03	4	0.45
ML3325M	170	75 000	124 000	169 000	300	- 50 000			45	90	0.03	4	0.45
MA3350M	340	85 000	135 000	180 000	13	- 2 500			45	135	0.06	3	0.54
ML3350M	340	85 000	135 000	180 000	500	- 80 000			45	135	0.06	3	0.66

¹ The effective weight range limits can be raised or lowered to special order.

² For emergency use only applications it is sometimes possible to exceed the above ratings. Please consult ACE for further details. Specifications relate to the effective stroke length (B max).