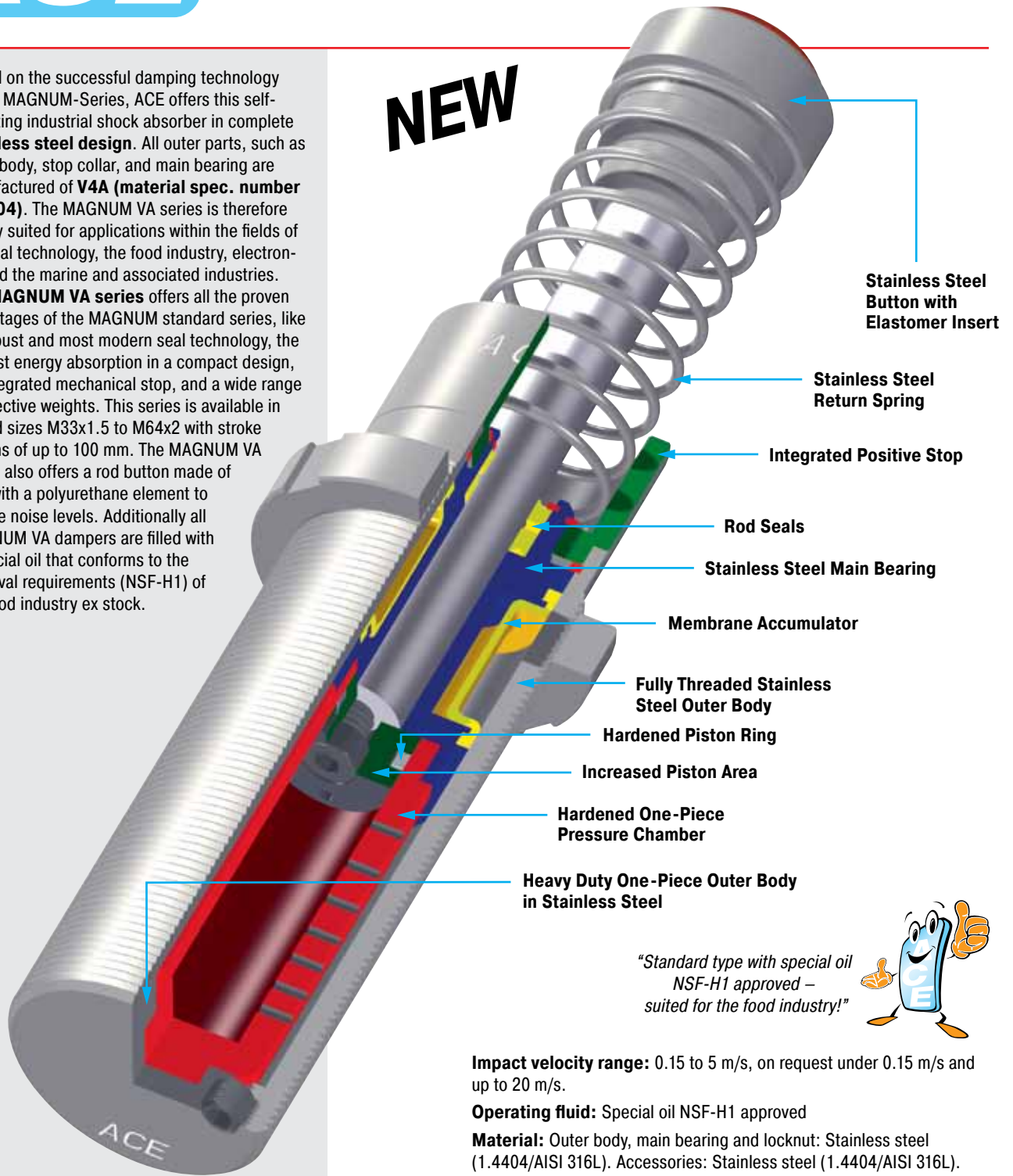


Based on the successful damping technology of our MAGNUM-Series, ACE offers this self-adjusting industrial shock absorber in complete **stainless steel design**. All outer parts, such as outer body, stop collar, and main bearing are manufactured of **V4A (material spec. number 1.4404)**. The MAGNUM VA series is therefore ideally suited for applications within the fields of medical technology, the food industry, electronics and the marine and associated industries. The **MAGNUM VA series** offers all the proven advantages of the MAGNUM standard series, like its robust and most modern seal technology, the highest energy absorption in a compact design, an integrated mechanical stop, and a wide range of effective weights. This series is available in thread sizes M33x1.5 to M64x2 with stroke lengths of up to 100 mm. The MAGNUM VA series also offers a rod button made of V4A with a polyurethane element to reduce noise levels. Additionally all MAGNUM VA dampers are filled with a special oil that conforms to the approval requirements (NSF-H1) of the food industry ex stock.



**NEW**

Stainless Steel Button with Elastomer Insert

Stainless Steel Return Spring

Integrated Positive Stop

Rod Seals

Stainless Steel Main Bearing

Membrane Accumulator

Fully Threaded Stainless Steel Outer Body

Hardened Piston Ring

Increased Piston Area

Hardened One-Piece Pressure Chamber

Heavy Duty One-Piece Outer Body in Stainless Steel

"Standard type with special oil NSF-H1 approved – suited for the food industry!"



**Impact velocity range:** 0.15 to 5 m/s, on request under 0.15 m/s and up to 20 m/s.

**Operating fluid:** Special oil NSF-H1 approved

**Material:** Outer body, main bearing and locknut: Stainless steel (1.4404/AISI 316L). Accessories: Stainless steel (1.4404/AISI 316L). Piston rod: hardened and chrome plated high tensile steel. Button: Stainless steel (1.4404/AISI 316L) with elastomer insert. Return spring: Stainless steel.

**Capacity rating:** For emergency 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. For higher temperatures consult ACE.

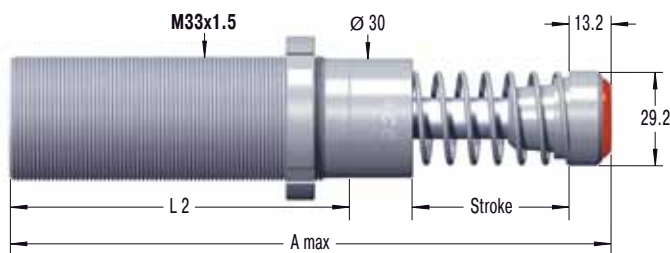
**On request:** special oils, viton seals and special accessories

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

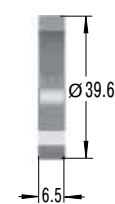


# NEW

### MC33xxEUM-V4A

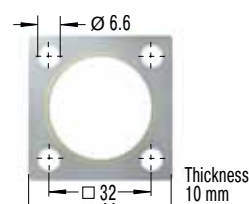


### NM33-V4A



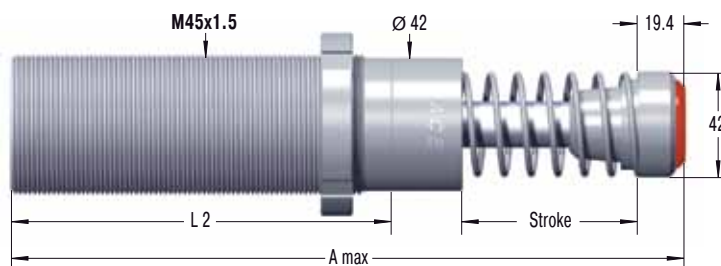
Locking Ring

### QF33-V4A

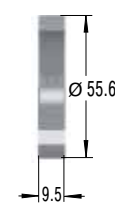


Square Flange

### MC45xxEUM-V4A

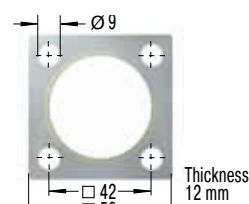


### NM45-V4A



Locking Ring

### QF45-V4A

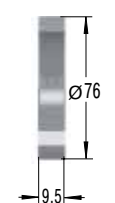


Square Flange

### MC64xxEUM-V4A

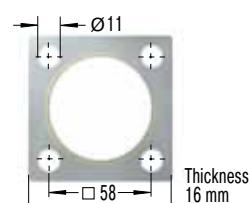


### NM64-V4A



Locking Ring

### QF64-V4A



Square Flange

### Dimensions

Type	Stroke mm	A max	L2
MC3325EUM-V4A	23	151.2	83
MC3350EUM-V4A	48.5	202.2	108
MC4525EUM-V4A	23	164.5	95
MC4550EUM-V4A	48.5	214.4	120
MC4575EUM-V4A	74	265.4	145
MC6450EUM-V4A	48.5	244.1	140
MC64100EUM-V4A	99.5	345.1	191

### Ordering Example

Self-Compensating **MC4550EUM-1-V4A**  
 Thread Size M45  
 Stroke 50 mm  
 EU Compliant  
 Metric Thread  
 Effective Weight Range Version  
 Stainless Steel 1.4404/AISI 316L

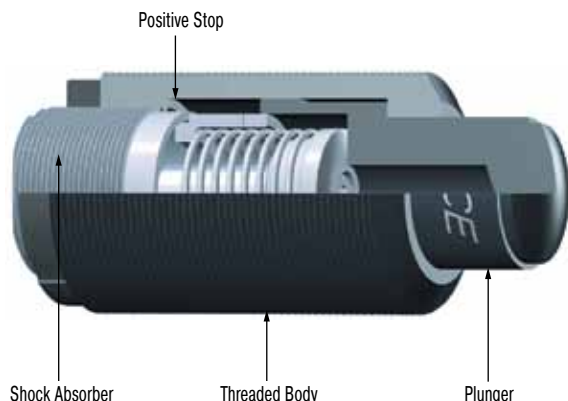
### Capacity Chart MC33/MC45/MC64

Type	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 W <sub>3</sub> Nm/Cycle	W <sub>4</sub> Nm/h	Soft			Hard						
			-0 min. max. kg	-1 min. max. kg	-2 min. max. kg	-3 min. max. kg	-4 min. max. kg					
MC3325EUM-V4A	155	75 000	3 - 11	9 - 40	30 - 120	100 - 420	350 - 1 420	45	90	0.03	4	0.45
MC3350EUM-V4A	310	85 000	5 - 22	18 - 70	60 - 250	240 - 840	710 - 2 830	45	135	0.06	3	0.54
MC4525EUM-V4A	340	107 000	7 - 27	20 - 90	80 - 310	260 - 1 050	890 - 3 540	70	100	0.03	4	1.13
MC4550EUM-V4A	680	112 000	13 - 54	45 - 180	150 - 620	520 - 2 090	1 800 - 7 100	70	145	0.08	3	1.36
MC4575EUM-V4A	1 020	146 000	20 - 80	70 - 270	230 - 930	790 - 3 140	2 650 - 10 600	50	180	0.11	2	1.59
MC6450EUM-V4A	1 700	146 000	35 - 140	140 - 540	460 - 1 850	1 600 - 6 300	5 300 - 21 200	90	155	0.12	4	2.9
MC64100EUM-V4A	3 400	192 000	70 - 280	270 - 1 100	930 - 3 700	3 150 - 12 600	10 600 - 42 500	105	270	0.34	3	3.7

<sup>1</sup> The effective weight range limits can be raised or lowered to special order.

<sup>2</sup> For emergency only applications it is sometimes possible to exceed the above ratings. Please consult ACE for further details.

### BV Side Load Adaptor



For side load impact angles from 3° to 25°

With side load impact angles of more than 3° the operation lifetime of the shock absorber reduces rapidly due to increased wear of rod bearings. The optional BV side load adaptor provides long lasting solution.

**BV3325** (M45x1.5) for MC, MA, ML3325EUM (M33x1.5)

**BV3350** (M45x1.5) for MC, MA, ML3350EUM (M33x1.5)

**BV4525** (M64x2) for MC, MA, ML4525EUM (M45x1.5)

**BV4550** (M64x2) for MC, MA, ML4550EUM (M45x1.5)

**BV6425** (M90x2) for ML6425EUM (M64x2)

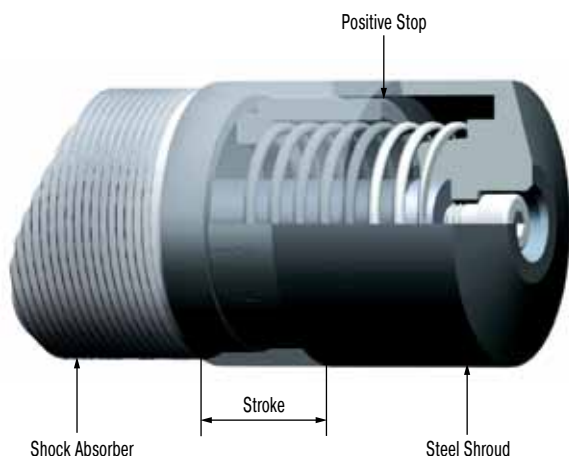
**BV6450** (M90x2) for MC, MA, ML6450EUM (M64x2)

**Material:** Threaded body and plunger: Hardened high tensile steel. Hardened 610 HV1.

**Mounting:** Directly mount the shock absorber/side mount assembly on the outside thread of the side load adaptor or by using the QF flange. You cannot use a foot mount.

Calculation example and installation hints see page 40.

### PB Steel Shroud



For thread sizes M33x1.5, M45x1.5 and M64x2 with 25 or 50 mm stroke

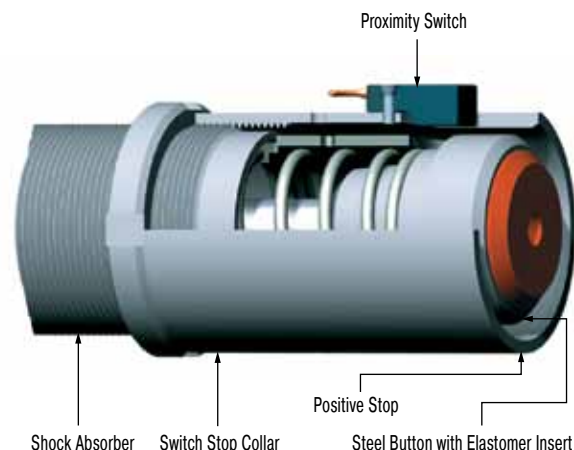
Grinding beads, sand, welding splatter, paints and adhesives etc. can adhere to the piston rod. They then damage the rod seals and the shock absorber quickly fails. In many cases the installation of the optional steel shroud can provide worthwhile protection and increase lifetime.

**Material:** Hardened high tensile steel.

**Mounting:** To mount the PB steel shroud it is necessary to remove the rod end button of the shock absorber.

**Note!** When installing don't forget to allow operating space for the shroud to move as the shock absorber is cycled.

### AS Switch Stop Collar

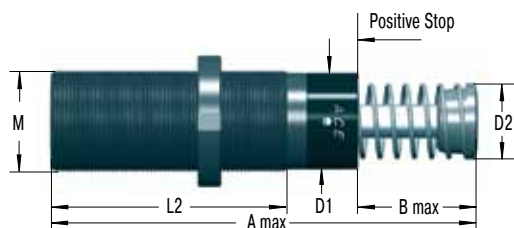


For thread sizes M33x1.5 and M45x1.5

The ACE stop light switch stop collar combination serves as a safety element to provide stroke position information for automatically sequenced machines. The compact construction allows its use in nearly any application. The standard rod button is detected by the proximity switch at the end of its stroke to provide switch actuation. The switch is normally open when the shock absorber is extended and only closes when it has completed its operating stroke. The AS switch stop collar combination is only delivered ready mounted onto the shock absorber c/w the switch.

**Material:** Hardened high tensile steel.

For circuit diagram of proximity switch see page 41.



### Dimensions and Capacity Chart

Type Part Number	1 Stroke mm	A max	B	D1	D2	L2	2 M	Max. Energy Capacity			Max. Side Load Angle °	Weight kg
								per Cycle W <sub>3</sub> max. Nm	per Hour			
									at 20 °C W <sub>4</sub> max. Nm	at 100 °C W <sub>4</sub> max. Nm		
MC3325EUM	25	138	23.0	30	25	83	M33x1.5	155	215 000	82 000	4	0.45
MC3350EUM	50	189	48.5	30	25	108	M33x1.5	310	244 000	93 000	3	0.54
MC4525EUM	25	145	23.0	42	35	95	M45x1.5	340	307 000	117 000	4	1.13
MC4550EUM	50	195	48.5	42	35	120	M45x1.5	680	321 000	122 000	3	1.36
MC6450EUM	50	225	48.5	60	48	140	M64x2	1 700	419 000	159 000	4	2.90
MC64100EUM	100	326	99.5	60	48	191	M64x2	3 400	550 000	200 000	3	3.70

<sup>1</sup> Nominal stroke length (without stop collar fitted).

<sup>2</sup> UNF threads available on request.

The calculation and selection of the most suitable shock absorber (effective weight range) for your application should be carried out or checked by ACE Controls. Adjustable models are also available on request.

### Ordering Example

Self-Compensating \_\_\_\_\_ ↑  
 Thread Size M33 \_\_\_\_\_ ↑  
 Stroke 50 mm \_\_\_\_\_ ↑  
 EU Compliant \_\_\_\_\_ ↑  
 Metric Thread (omitted when using thread UNF) \_\_\_\_\_ ↑  
 Effective Weight Range Code \_\_\_\_\_ ↑  
 Version for High Temperature Use \_\_\_\_\_ ↑

**MC3350EUM-2-HT**

### Details Required when Ordering

Load to be decelerated \_\_\_\_\_ m (kg)  
 Impact velocity \_\_\_\_\_ v (m/s)  
 Propelling force \_\_\_\_\_ F (N)  
 Operating cycles per hour \_\_\_\_\_ x (/hr)  
 Number of absorbers in parallel \_\_\_\_\_ n  
 Ambient temperature \_\_\_\_\_ °C

### Technical Data

**Impact velocity range:** 0.15 to 5 m/s, up to 20 m/s on request.

**Operating fluid:** Special temperature stable synthetic oil

**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.

**Mounting:** In any position

**Operating temperature range:** -20 °C to 150 °C

**Capacity rating:** For emergency applications it is sometimes possible to exceed above max. capacity ratings (please consult ACE for details). The above W<sub>4</sub> ratings (max. energy Nm per hour) can sometimes be increased by using an external air/oil tank (see page 54) and model version prefix **MCA** (please consult ACE for further details).

**On request:** Plated finishes for additional corrosion protection.

