

MC5 to MC75

Shock absorbers in miniature format

Self-Compensating

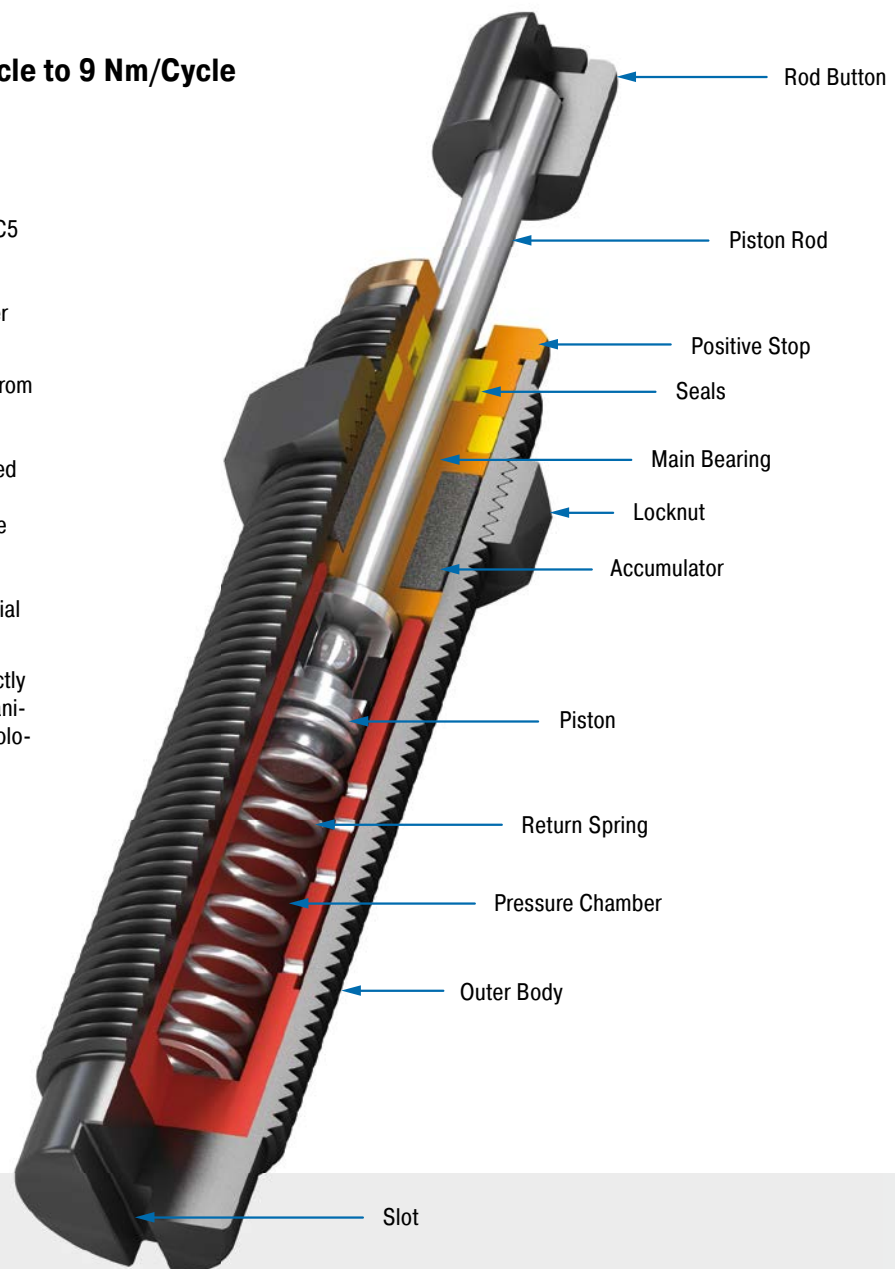
Energy capacity 0.68 Nm/Cycle to 9 Nm/Cycle

Stroke 4 mm to 10 mm

Ideal for compact, efficient designs: The MC5 to MC75 series impresses users with their reduced dimensions and their very short overall lengths and low resetting forces after braking.

The outer body of each damper, produced from one solid piece, are filled with temperature stable oil, offer a continuous thread incl. a supplied lock nut and also have an integrated positive stop. These hydraulic machine elements from ACE, are ready for immediate installation and are maintenance-free. A comprehensive range of energy absorption with a wide range of effective weight potential are further benefits in these miniature units.

These miniature shock absorbers are perfectly suited to use in applications such as mechanical engineering, medical and electro-technology and robotics.



Technical Data

Energy capacity: 0.68 Nm/Cycle to 9 Nm/Cycle

Impact velocity range: 0.15 m/s to 4 m/s

Operating temperature range: -10 °C to +66 °C

Mounting: In any position

Positive stop: Integrated

Material: Outer body, Accessories: Steel corrosion-resistant coating; Piston rod: hardened stainless steel; Rod end button: Steel, MC25 and MC75: Elastomer Insert; Locknut: Steel, MC5 and MC9: Aluminium

Damping medium: Oil, temperature stable

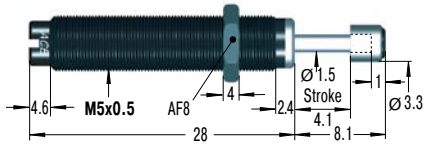
Application field: Miniature slides, Pneumatic cylinders, Handling modules, Copiers, Measuring tables, Machines and plants, Locking systems

Note: If precise end position datum is required consider use of the stop collar type AH.

Safety instructions: External materials in the surrounding area can attack the seal components and lead to a shorter service life. Please contact ACE for appropriate solution suggestions. Do not paint the shock absorbers due to heat emission.

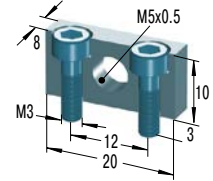
On request: Increased corrosion protection. Special finishes. Models without rod end button also available on request.

MC5EUM

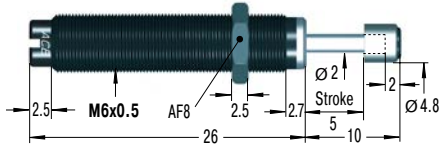


MB5SC2

Mounting Block

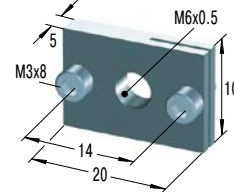


MC9EUM



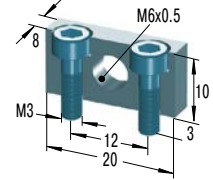
RF6

Rectangular Flange

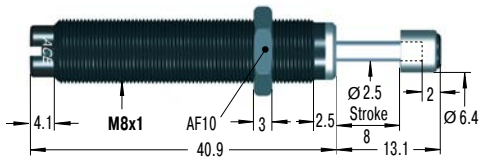


MB6SC2

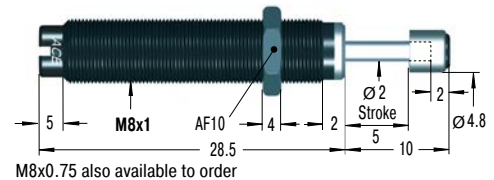
Mounting Block



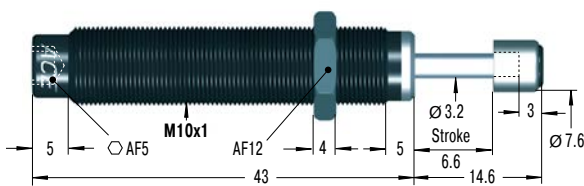
MC30EUM for use on new installations



MC10EUM still available in future

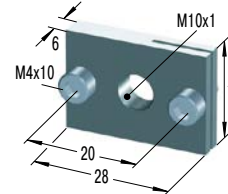


MC25EUM



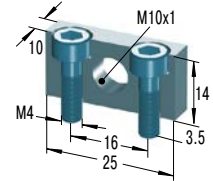
RF10

Rectangular Flange

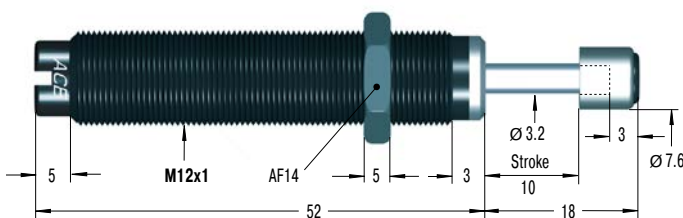


MB10SC2

Mounting Block

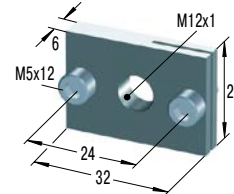


MC75EUM



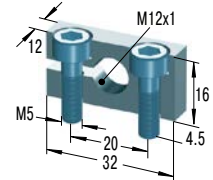
RF12

Rectangular Flange



MB12

Clamp Mount



Additional accessories, mounting, installation ... see from page 36.

Performance

TYPES	Max. Energy Capacity		Effective Weight		Return Force min.	Return Force max.	Return Time s	Side Load Angle max. °	Weight kg
	W ₃ Nm/cycle	W ₄ Nm/h	me min. kg	me max. kg					
MC5EUM-1-B	0.68	2,040	0.5	4.4	1	5	0.2	2	0.003
MC5EUM-2-B	0.68	2,040	3.8	10.8	1	5	0.2	2	0.003
MC5EUM-3-B	0.68	2,040	9.7	18.7	1	5	0.2	2	0.003
MC9EUM-1-B	1	2,000	0.6	3.2	2	4	0.3	2	0.004
MC9EUM-2-B	1	2,000	0.8	4.1	2	4	0.3	2	0.004
MC10EUML-B	1.25	4,000	0.3	2.7	2	4	0.6	3	0.007
MC10EUMH-B	1.25	4,000	0.7	5	2	4	0.6	3	0.007
MC25EUML	2.8	22,600	0.7	2.2	3	6	0.3	2	0.020
MC25EUM	2.8	22,600	1.8	5.4	3	6	0.3	2	0.020
MC25EUMH	2.8	22,600	4.6	13.6	3	6	0.3	2	0.020
MC30EUM-1	3.5	5,600	0.4	1.9	2	6	0.3	2	0.010
MC30EUM-2	3.5	5,600	1.8	5.4	2	6	0.3	2	0.010
MC30EUM-3	3.5	5,600	5	15	2	6	0.3	2	0.010
MC75EUM-1	9	28,200	0.3	1.1	4	9	0.3	2	0.035
MC75EUM-2	9	28,200	0.9	4.8	4	9	0.3	2	0.035
MC75EUM-3	9	28,200	2.7	36.2	4	9	0.3	2	0.035
MC75EUM-4	9	28,200	25	72	4	9	0.3	2	0.035

¹ For applications with higher side load angles consider using the side load adaptor (BV) pages 38 to 45.

MC150 to MC600

Exceptionally high endurance and with the lowest resetting force

Self-Compensating, Rolling Diaphragm Technology

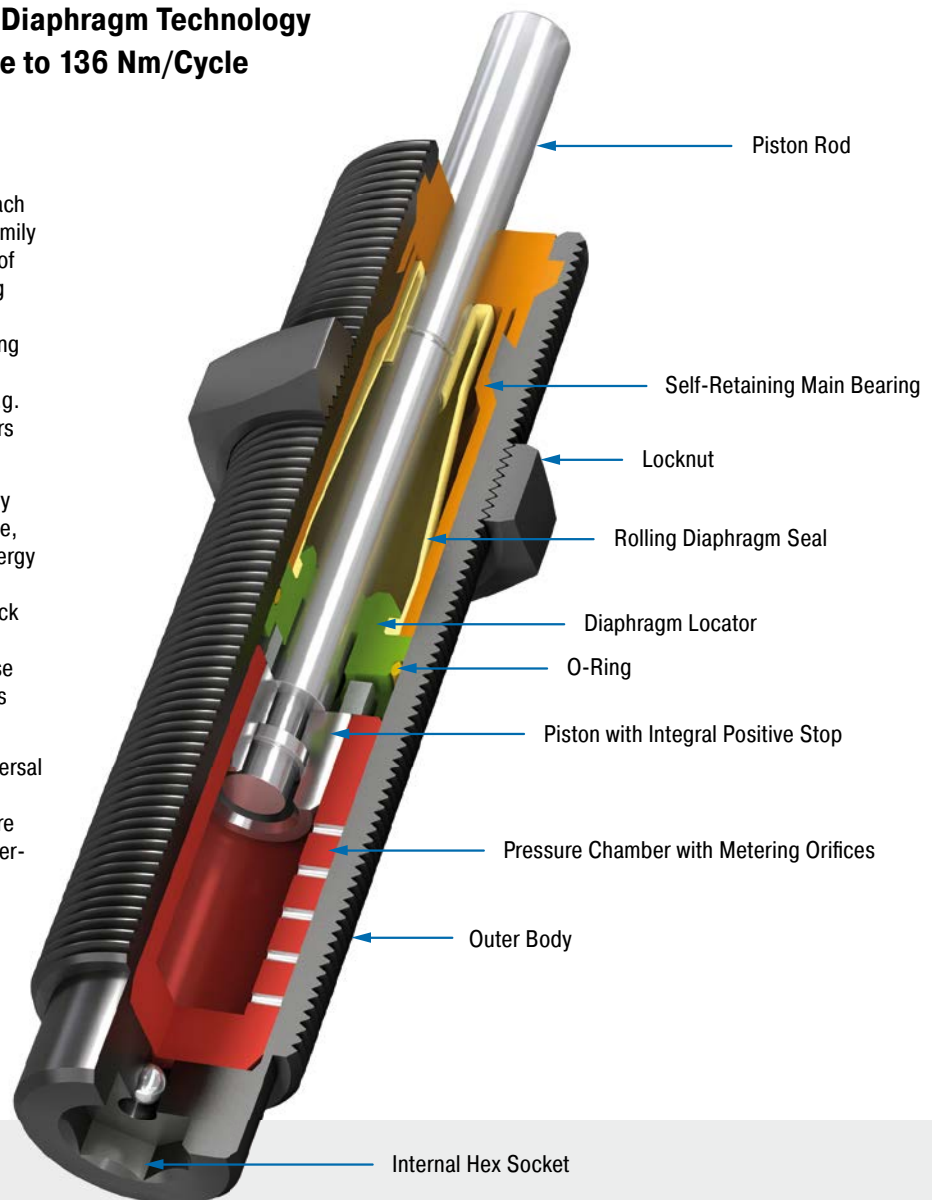
Energy capacity 20 Nm/Cycle to 136 Nm/Cycle

Stroke 12 mm bis 25 mm

Tried-and-tested and durable: Due to a hermetically sealed rolling diaphragm in each absorber, the MC150 to MC600 product family is suitable for an exceptional high lifetime of use with up to 25 million cycles. The rolling diaphragm technology perfected by ACE ensures complete separation of the damping fluid from the surrounding air. This makes direct installation in a pressure chamber e.g. as end stop damping in pneumatic cylinders up to approx. 7 bar possible.

The rolling diaphragm also benefits the very low return forces of these maintenance-free, ready-to-install absorbers. Progressive energy capacities, with a wide range of effective weight potential make these miniature shock absorbers, complete with an integrated positive stop a winner. Furthermore, the use of a side load adapter allows impact angles of up to 25°.

Miniature shock absorbers capable of universal mounting even inside a cylinder and also available in stainless steel options. They are often used in mechanical and plant engineering, and a multitude of other applications.



Technical Data

Energy capacity: 20 Nm/Cycle to 136 Nm/Cycle

Impact velocity range: 0.06 m/s to 6 m/s.
Other speeds on request.

Operating temperature range: 0 °C to 66 °C

Mounting: in any position

Positive stop: Integrated

Material: Outer body, Accessories: steel corrosion-resistant coating; Main bearing: plastic; Piston rod: hardened stainless steel (1.4125, AISI 440C); Rolling diaphragm: EPDM

Damping medium: oil, temperature stable

Application field: linear slides, pneumatic cylinders, swivel units, handling modules,

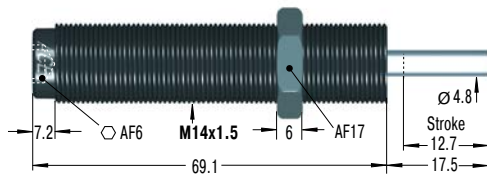
machines and plants, finishing and processing centres, measuring tables, tool machines, locking systems

Note: If precise end position datum is required consider use of the stop collar type AH.

Safety instructions: External materials in the surrounding area can attack the rolling seal and lead to a shorter service life. Please contact ACE for appropriate solution suggestions. Suitable for use in pressure chambers up to 7 bar.

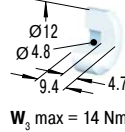
On request: Increased corrosion protection. Special threads or other special options.

MC150EUM

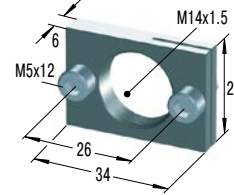


M14x1 also available to special order

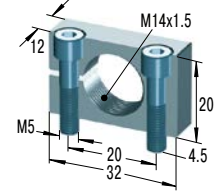
PP150 Nylon Button



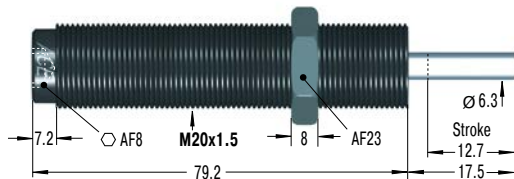
RF14 Rectangular Flange



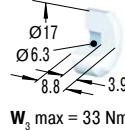
MB14 Clamp Mount



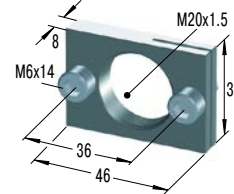
MC225EUM



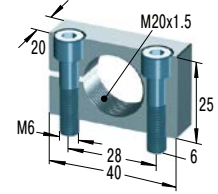
PP225 Nylon Button



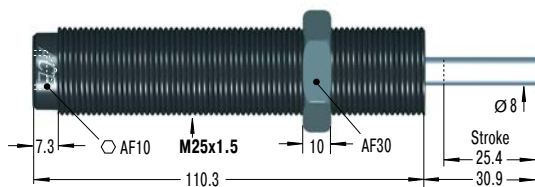
RF20 Rectangular Flange



MB20 Clamp Mount

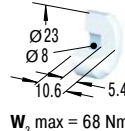


MC600EUM

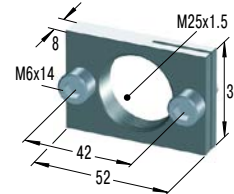


M27x3 also available to special order

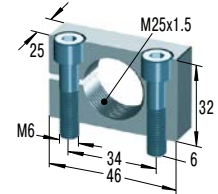
PP600 Nylon Button



RF25 Rectangular Flange



MB25 Clamp Mount



Additional accessories, mounting, installation ... see from page 36.

Performance

TYPES	Max. Energy Capacity		Effective Weight		Return Force min. N	Return Force max. N	Return Time s	¹ Side Load Angle max. °	Weight kg
	W ₃ Nm/cycle	W ₄ Nm/h	me min. kg	me max. kg					
MC150EUM	20	34,000	0.9	10	3	8	0.4	4	0.06
MC150EUMH	20	34,000	8.6	86	3	8	0.4	4	0.06
MC150EUMH2	20	34,000	70.0	200	3	8	0.4	4	0.06
MC150EUMH3	20	34,000	181.0	408	3	8	1.0	4	0.06
MC225EUM	41	45,000	2.3	25	4	9	0.3	4	0.13
MC225EUMH	41	45,000	23.0	230	4	9	0.3	4	0.13
MC225EUMH2	41	45,000	180.0	910	4	9	0.3	4	0.13
MC225EUMH3	41	45,000	816.0	1,814	4	9	0.3	4	0.13
MC600EUM	136	68,000	9.0	136	5	10	0.6	2	0.31
MC600EUMH	136	68,000	113.0	1,130	5	10	0.6	2	0.31
MC600EUMH2	136	68,000	400.0	2,300	5	10	0.6	2	0.31
MC600EUMH3	136	68,000	2,177.0	4,536	5	10	0.6	2	0.31

¹ For applications with higher side load angles consider using the side load adaptor (BV) pages 38 to 45.

MC150-V4A to MC600-V4A

Exceptionally high endurance with stainless steel corrosion protection

Self-Compensating, Stainless Steel, Rolling Diaphragm Technology

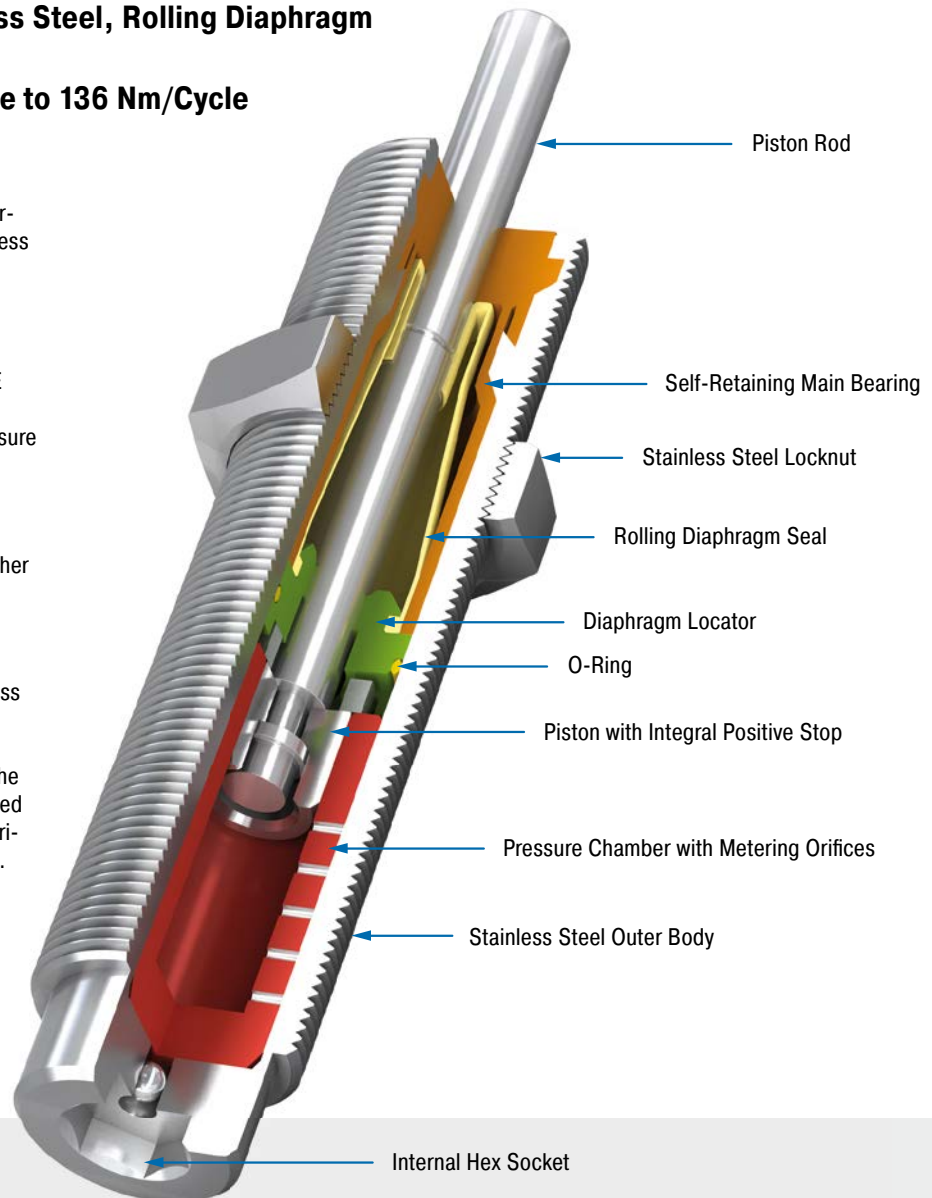
Energy capacity 20 Nm/Cycle to 136 Nm/Cycle

Stroke 12 mm to 25 mm

Brilliant in every respect: These high performance miniature shock absorbers in stainless steel are based on the MC150 to MC600 product family and its proven damping technology. This means that these special absorbers offer all of the benefits of the MC standard units such as the proven ACE rolling diaphragm technology for maximum service life and direct installation in a pressure chamber with up to approx. 7 bar.

Thanks to perfectly progressive maximum energy absorption and effective weight potential, their use is augmented even further by the outer body and a complete range of accessories made of stainless steel (material 1.4404).

Miniature shock absorbers made of stainless steel are mainly used in medical and electro-technology, but also in shipbuilding, packaging and chemicals industry and in the food processing. For the latter, they are filled with a special oil in order to fulfil the authorisation conditions (NSF-H1) for this market.



Technical Data

Energy capacity: 20 Nm/Cycle to 136 Nm/Cycle

Impact velocity range: 0.06 m/s to 6 m/s.
Other speeds on request.

Operating temperature range: 0 °C to 66 °C

Mounting: In any position

Positive stop: Integrated

Material: Outer body, Locknut, Accessories: Stainless steel (1.4404, AISI 316L); Main bearing: Plastic; Piston rod: Hardened stainless steel (1.4125, AISI 440C); Rolling diaphragm: EPDM

Damping medium: Oil, temperature stable

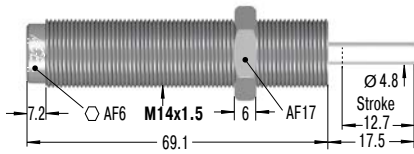
Application field: Clean room areas, Pharmaceutical industry, Medical technology, Food industry, Linear slides, Pneumatic cylinders, Handling modules, Machines and plants, Finishing and processing centres

Note: If precise end position datum is required consider use of the stop collar type AH.

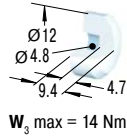
Safety instructions: External materials in the surrounding area can attack the rolling seal and lead to a shorter service life. Please contact ACE for appropriate solution suggestions. Suitable for use in pressure chambers up to 7 bar.

On request: Special oil with food approval. Special threads or other special options available on request.

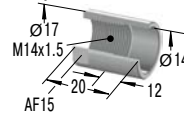
MC150EUM-V4A



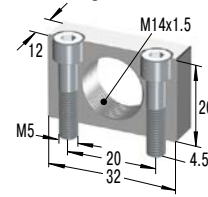
PP150 Nylon Button



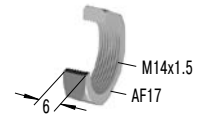
AH14-V4A Stop Collar



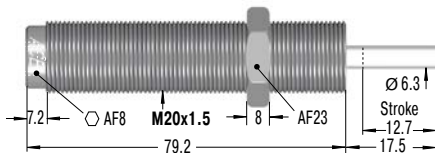
MB14SC2-V4A Mounting Block



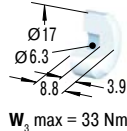
KM14-V4A Locknut



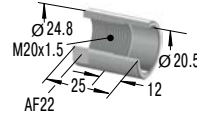
MC225EUM-V4A



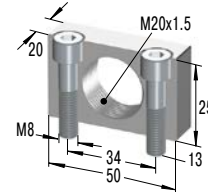
PP225 Nylon Button



AH20-V4A Stop Collar



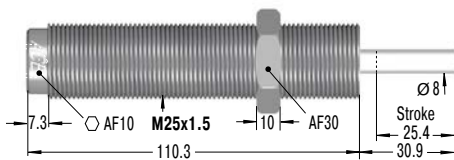
MB20SC2-V4A Mounting Block



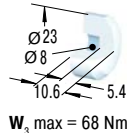
KM20-V4A Locknut



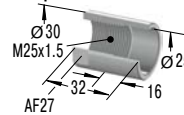
MC600EUM-V4A



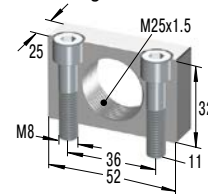
PP600 Nylon Button



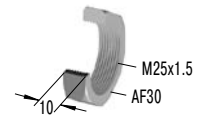
AH25-V4A Stop Collar



MB25SC2-V4A Mounting Block



KM25-V4A Locknut



Additional accessories, mounting, installation ... see from page 36.

Performance

TYPES	Max. Energy Capacity		Effective Weight		Return Force min. N	Return Force max. N	Return Time s	¹ Side Load Angle		Weight kg
	W ₃ Nm/cycle	W ₄ Nm/h	me min. kg	me max. kg				max. °	min.	
MC150EUM-V4A	20	34,000	0.9	10	3	5	0.4	4	0.06	
MC150EUMH-V4A	20	34,000	8.6	86	3	5	0.4	4	0.06	
MC150EUMH2-V4A	20	34,000	70.0	200	3	5	0.4	4	0.06	
MC150EUMH3-V4A	20	34,000	181.0	408	3	5	1.0	4	0.06	
MC225EUM-V4A	41	45,000	2.3	25	4	6	0.3	4	0.13	
MC225EUMH-V4A	41	45,000	23.0	230	4	6	0.3	4	0.13	
MC225EUMH2-V4A	41	45,000	180.0	910	4	6	0.3	4	0.13	
MC225EUMH3-V4A	41	45,000	816.0	1,814	4	6	0.3	4	0.13	
MC600EUM-V4A	136	68,000	9.0	136	5	9	0.6	2	0.31	
MC600EUMH-V4A	136	68,000	113.0	1,130	5	9	0.6	2	0.31	
MC600EUMH2-V4A	136	68,000	400.0	2,300	5	9	0.6	2	0.31	
MC600EUMH3-V4A	136	68,000	2,177.0	4,536	5	9	0.6	2	0.31	

¹ For applications with higher side load angles please contact ACE.