

SC²25 to SC²190

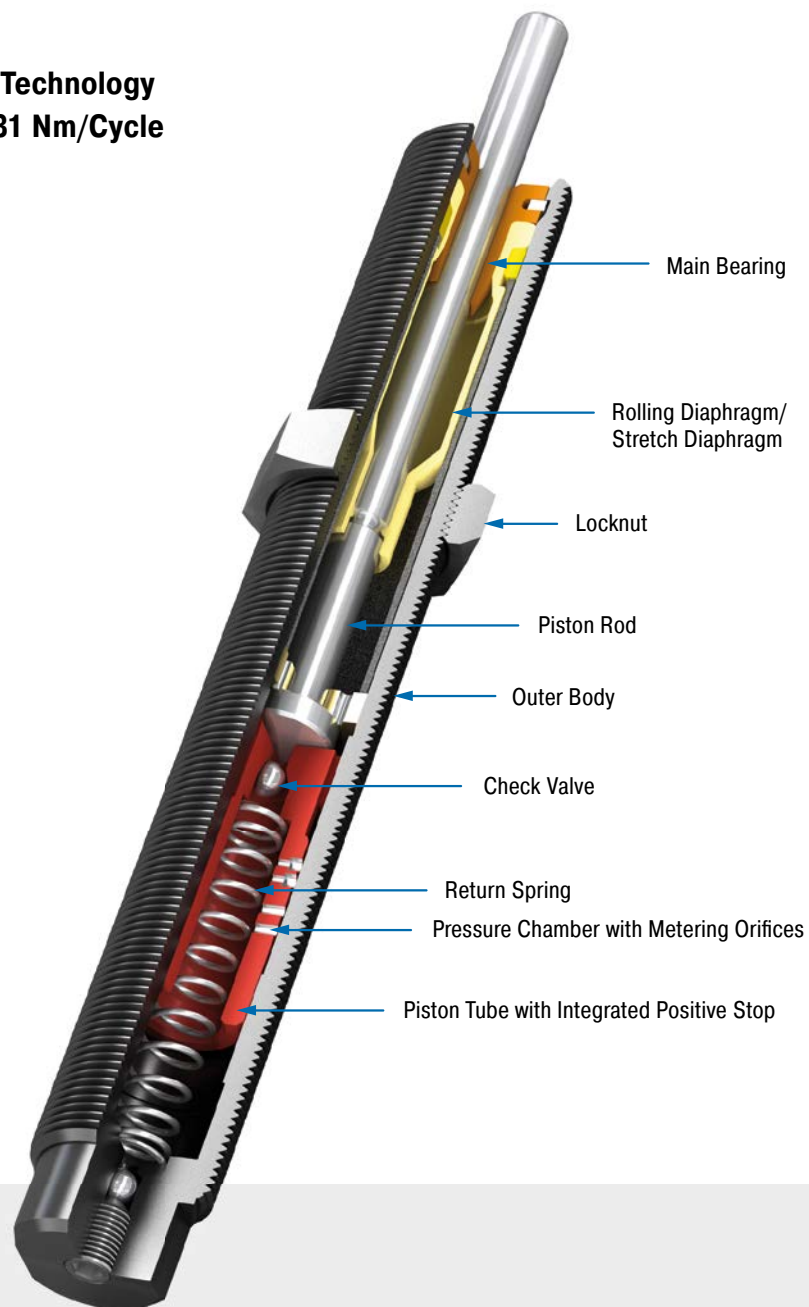
Piston tube design for maximum energy absorption

Self-Compensating, Piston Tube Technology Energy capacity 10 Nm/Cycle to 31 Nm/Cycle Stroke 8 mm to 12 mm

Soft damping, but enormous capacity: The range of 'soft contact' absorbers SC²25 to 190 extends from thread size M10 to M14 and covers effective weight ranges of 1 kg to 1,550 kg. All models are characterised by high energy absorption and they also unite the piston tube technology with the diaphragm seal perfected by ACE. This enables direct installation as end position damping in pneumatic cylinders at 5 to 7 bar or applications where deceleration needs to take place close to the pivot point.

They are maintenance-free, have an integrated positive stop and are mountable in any position. The option of a side load adapter allows impact angles of up to 25°.

Thanks to their robust design and their durability, these miniature shock absorbers can be used for a wide range of applications. Designers mainly use them for pick and place systems, pneumatic rotary modules and in automation applications.



Technical Data

Energy capacity: 10 Nm/Cycle to 31 Nm/Cycle

Impact velocity range: 0.1 m/s to 5.7 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; Piston rod: hardened stainless steel; Rolling diaphragm: SC²190: EPDM; Stretch diaphragm: SC²25 and SC²75: Nitrile

Damping medium: Oil, temperature stable

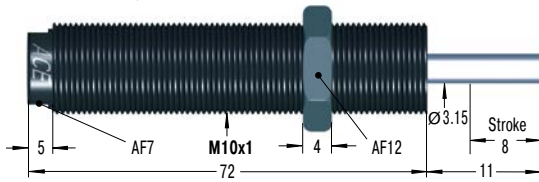
Application field: Linear slides, Pneumatic cylinders, Swivel units, Handling modules, Machines and plants, Finishing and processing centres, Measuring tables, Tool machines, Locking systems

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

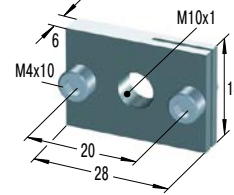
Safety instructions: External materials in the surrounding area can attack the rolling and stretch seals and lead to a shorter service life. Please contact ACE for appropriate solution suggestions.

On request: Increased corrosion protection. Special finishes.

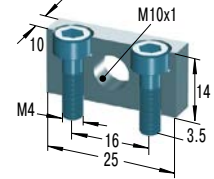
SC25EUM; 5 to 7



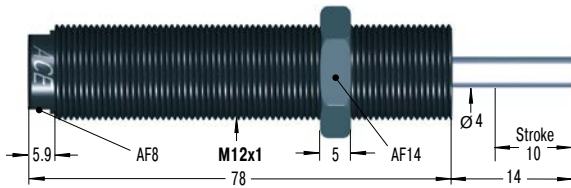
RF10
Rectangular Flange



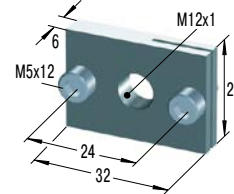
MB10SC2
Mounting Block



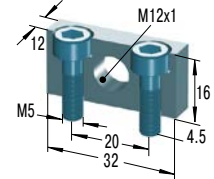
SC75EUM; 5 to 7



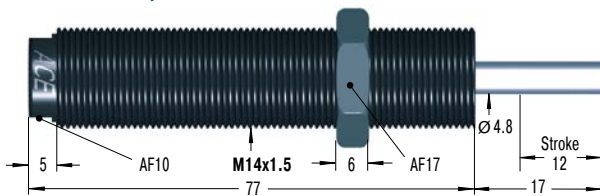
RF12
Rectangular Flange



MB12SC2
Mounting Block

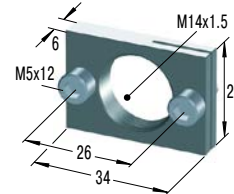


SC190EUM; 5 to 7

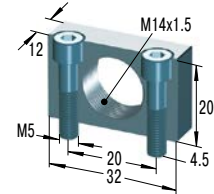


M14x1 also available to special order

RF14
Rectangular Flange



MB14SC2
Mounting Block



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	Side Load Angle max. °	Weight kg
	W ₃ Nm/cycle	W ₄ Nm/h	me min. kg	me max. kg	Hardness					
SC25EUM-5	10	16,000	1	5	-5	4.5	14	0.3	2	0.029
SC25EUM-6	10	16,000	4	44	-6	4.5	14	0.3	2	0.029
SC25EUM-7	10	16,000	42	500	-7	4.5	14	0.3	2	0.029
SC75EUM-5	16	30,000	1	8	-5	6.0	19	0.3	2	0.047
SC75EUM-6	16	30,000	7	78	-6	6.0	19	0.3	2	0.047
SC75EUM-7	16	30,000	75	800	-7	6.0	19	0.3	2	0.047
SC190EUM-5	31	50,000	2	16	-5	6.0	19	0.4	2	0.055
SC190EUM-6	31	50,000	13	140	-6	6.0	19	0.4	2	0.055
SC190EUM-7	31	50,000	136	1,550	-7	6.0	19	0.4	2	0.055

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

SC²300 to SC²650

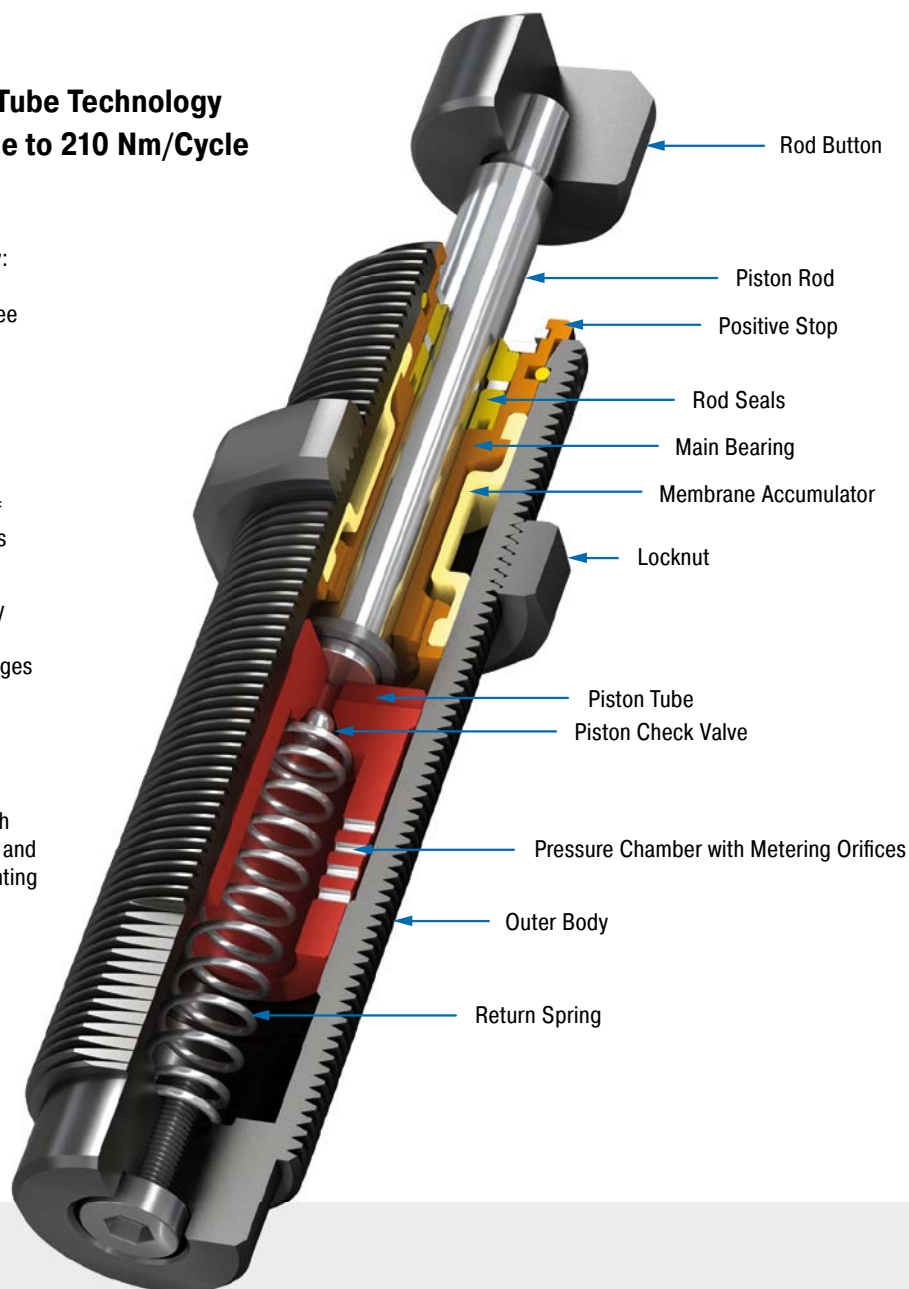
Piston tube design for maximum energy absorption

Self-Compensating, Piston Tube Technology Energy capacity 73 Nm/Cycle to 210 Nm/Cycle Stroke 15 mm to 23 mm

Added safety with accumulator technology: The larger 'soft contact' models from the SC²300 to 650 are available with up to three times the energy absorption compared to similar sizes of standard shock absorbers SC190 to 925, due to the ACE piston tube speciality. Furthermore, the membrane accumulator serves as a compensation element for the oil displaced in the shock absorber and replaces the standard use of absorber materials. This increases process safety even further.

The absorbers, which are perfect for rotary modules for example, are available in progressively stepped effective weight ranges with an integrated positive stop. They are maintenance-free and ready for direct installation. The side load adapter option allows impact angles of up to 25°.

These miniature shock absorbers offer high performance levels with a long service life and are particularly popular for handling, mounting very close to pivots and automation tasks.



Technical Data

Energy capacity: 73 Nm/Cycle to 210 Nm/Cycle

Impact velocity range: 0.09 m/s to 3.66 m/s. Other speeds on request.

Operating temperature range: 0 °C to 66 °C

Mounting: in any position

Positive stop: Integrated

Material: Outer body: steel corrosion-resistant coating; Piston rod: hardened stainless steel; Accessories: hardened steel and corrosion-resistant coating

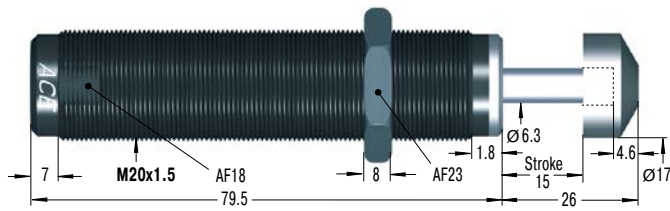
Damping medium: oil, temperature stable

Application field: turntables, swivel units, robot arms, linear slides, pneumatic cylinders, handling modules, machines and plants, finishing and processing centres, tool machines

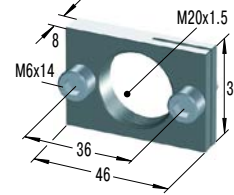
Note: If precise end position datum is required consider use of the stop collar type AH.

On request: Increased corrosion protection. Special finishes.

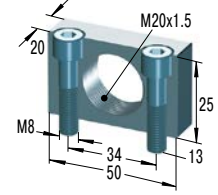
SC300EUM; 5 to 9



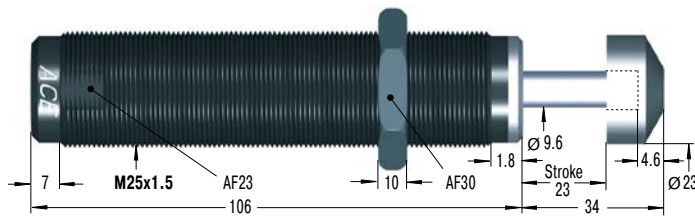
RF20 Rectangular Flange



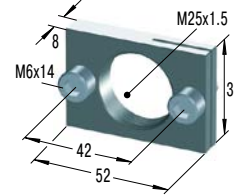
MB20SC2 Mounting Block



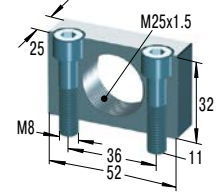
SC650EUM; 5 to 9



RF25 Rectangular Flange



MB25SC2 Mounting Block



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	Side Load Angle max. °	Weight kg
	W₃ Nm/cycle	W₄ Nm/h	me min. kg	me max. kg	Hardness					
SC300EUM-5	73	45,000	11	45	-5	8	18	0.2	5	0.150
SC300EUM-6	73	45,000	34	136	-6	8	18	0.2	5	0.150
SC300EUM-7	73	45,000	91	181	-7	8	18	0.2	5	0.150
SC300EUM-8	73	45,000	135	680	-8	8	18	0.2	5	0.150
SC300EUM-9	73	45,000	320	1,950	-9	8	18	0.2	5	0.150
SC650EUM-5	210	68,000	23	113	-5	11	33	0.3	5	0.310
SC650EUM-6	210	68,000	90	360	-6	11	33	0.3	5	0.310
SC650EUM-7	210	68,000	320	1,090	-7	11	33	0.3	5	0.310
SC650EUM-8	210	68,000	770	2,630	-8	11	33	0.3	5	0.310
SC650EUM-9	210	68,000	1,800	6,350	-9	11	33	0.3	5	0.310

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