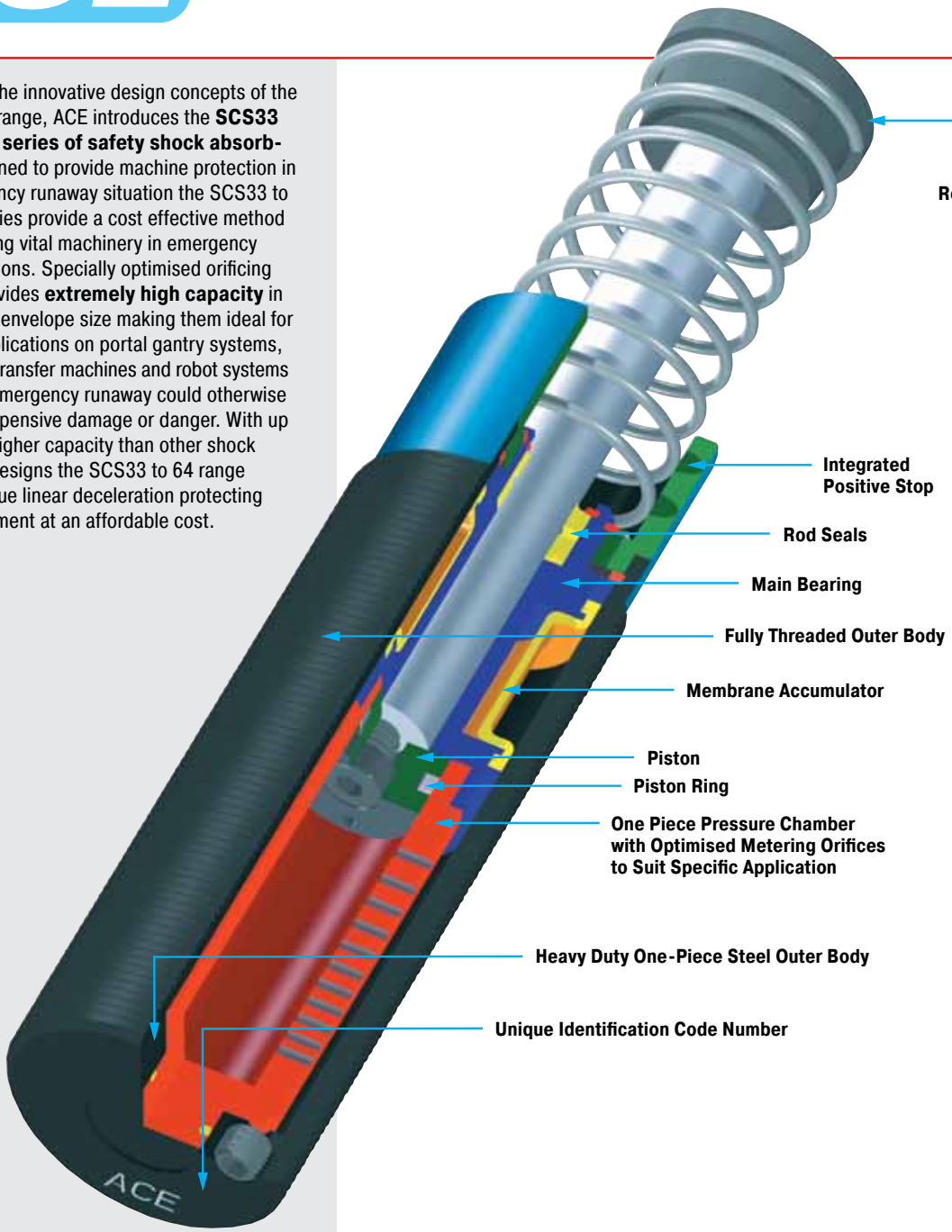
Safety Shock Absorbers SCS33 to SCS64

Based on the innovative design concepts of the MAGNUM range, ACE introduces the **SCS33 to SCS64 series of safety shock absorbers**. Designed to provide machine protection in an emergency runaway situation the SCS33 to SCS64 series provide a cost effective method of protecting vital machinery in emergency stop situations. Specially optimised orificing design provides **extremely high capacity** in a compact envelope size making them ideal for critical applications on portal gantry systems, automatic transfer machines and robot systems where an emergency runaway could otherwise result in expensive damage or danger. With up to 300 % higher capacity than other shock absorber designs the SCS33 to 64 range provides true linear deceleration protecting vital equipment at an affordable cost.



Impact cycles per hour: max. 1

Life expectancy: Self-compensating version: max. 1000 cycles. Optimised version: max. 5 cycles.

Impact velocity range: On request

Operating fluid: Automatic Transmission Fluid (ATF)

Material: Shock absorber body: Nitride hardened steel. Accessories: Steel with black oxide finish. Piston rod: Steel hardened and chrome plated. Rod end button: Hardened steel with black oxide finish. Return Spring: Zinc plated or plastic-coated.

Energy capacity W_3: At max. side load angle do not exceed 80 % of rated max. energy capacity below.

Mounting: In any position

Operating temperature range: -12 °C to 70 °C. For higher and lower temperatures consult ACE.

In creep speed: The shock absorber can be pushed through its stroke. In creep speed conditions the shock absorber provides minimal resistance and there is no braking effect.

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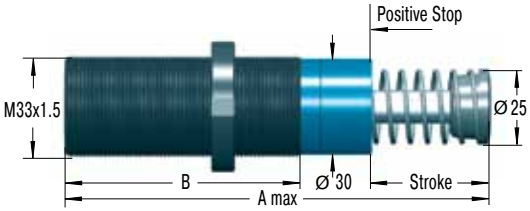
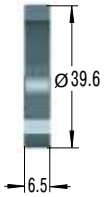


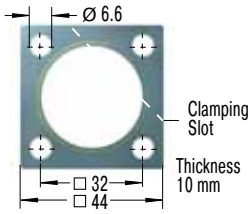
Standard Dimensions

NM33



Locking Ring

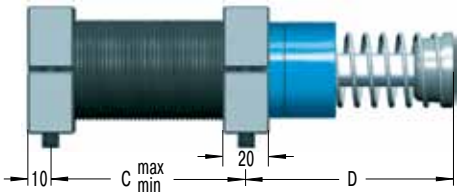
QF33

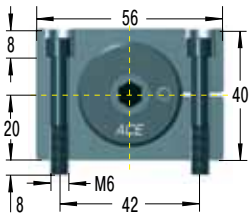


Square Flange

Install with 4 machine screws
Tightening torque: 11 Nm
Clamping torque: > 90 Nm

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 (screws)
Clamping torque: > 90 Nm

Ordering Example **SCS33-50EU-1xxxx**

Safety Shock Absorber
Thread Size M33
Max. Stroke without Positive Stop 50 mm
EU Compliant
Identification No. assigned by ACE

Please indicate identification no. in case of replacement order

Complete Details Required when Ordering

Moving load	m	(kg)
Impact velocity range	v	(m/s) max.
Creep speed	vs	(m/s)
Motor power	P	(kW)
Stall torque factor	ST	(normal 2.5)
Number of absorbers in parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

The calculation and selection of the correct ACE safety shock absorber for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

Type	Stroke mm	A max	B	C min	C max	D	Max. Energy Capacity: Self-Compensating W_3 Nm/Cycle	Max. Energy Capacity: Optimised Version W_3 Nm/Cycle	Min. Return Force N	Max. Return Force N	Max. Side Load Angle °	Weight kg
SCS33-25EU	23	138	83	25	60	68	310	500	45	90	3	0.45
SCS33-50EU	48.5	189	108	32	86	93	620	950	45	135	2	0.54

For other stroke lengths, special options (such as higher or lower impact velocity etc.), please consult ACE.

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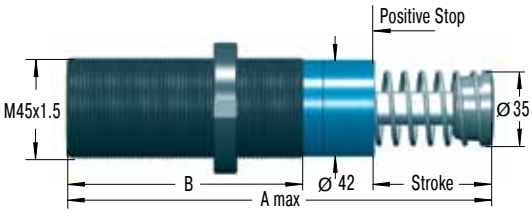
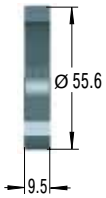


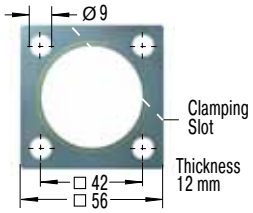
Standard Dimensions

NM45



Locking Ring

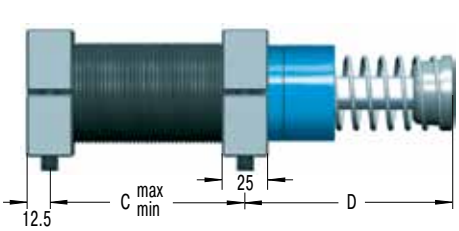
QF45

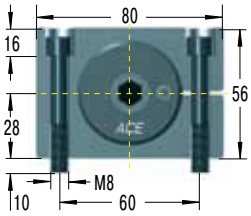


Square Flange

Install with 4 machine screws
Tightening torque: 27 Nm
Clamping torque: > 200 Nm

S45





Side Foot Mounting Kit

S45 = 2 flanges + 4 screws M8x50, 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: 27 Nm (screws)
Clamping torque: > 350 Nm

Ordering Example **SCS45-50EU-1xxxx**

Safety Shock Absorber
Thread Size M45
Max. Stroke without Positive Stop 50 mm
EU Compliant
Identification No. assigned by ACE

Please indicate identification no. in case of replacement order

Complete Details Required when Ordering

Moving load	m	(kg)
Impact velocity range	v	(m/s) max.
Creep speed	vs	(m/s)
Motor power	P	(kW)
Stall torque factor	ST	(normal 2.5)
Number of absorbers in parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

The calculation and selection of the correct ACE safety shock absorber for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

Type	Stroke mm	A max	B	C min	C max	D	Max. Energy Capacity: Self-Compensating W_3 Nm/Cycle	Max. Energy Capacity: Optimised Version W_3 Nm/Cycle	Min. Return Force N	Max. Return Force N	Max. Side Load Angle °	Weight kg
SCS45-25EU	23	145	95	32	66	66	680	1 200	70	100	3	1.13
SCS45-50EU	48.5	195	120	40	92	91	1 360	2 350	70	145	2	1.36
SCS45-75EU	74	246	145	50	118	116	2 040	3 500	50	180	1	1.59

For other stroke lengths, special options (such as higher or lower impact velocity etc.), please consult ACE.

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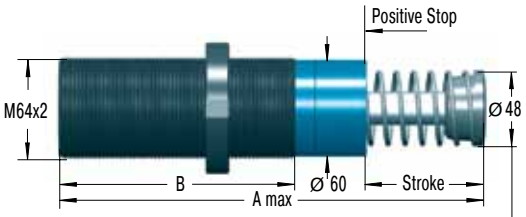
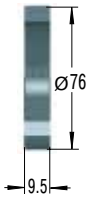


Note: 150 mm stroke model does not include stop collar and positive stop is provided by the rod button (Ø 60 mm)

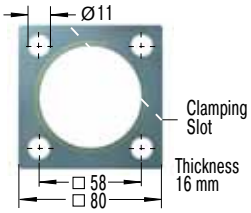
Standard Dimensions

NM64



Locking Ring

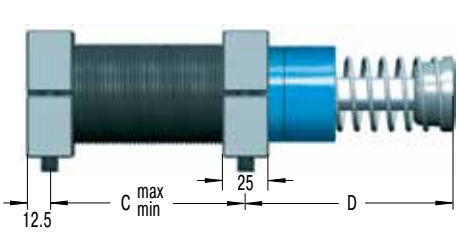
QF64

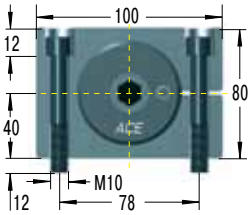


Square Flange

Install with 4 machine screws
Tightening torque: 50 Nm
Clamping torque: > 210 Nm

S64





Side Foot Mounting Kit

S64 = 2 flanges + 4 screws M10x80, 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: 50 Nm (screws)
Clamping torque: > 350 Nm

Ordering Example **SCS64-50EU-1xxxx**

Safety Shock Absorber
Thread Size M64
Max. Stroke without Positive Stop 50 mm
EU Compliant
Identification No. assigned by ACE

Please indicate identification no. in case of replacement order

Complete Details Required when Ordering

Moving load	m	(kg)
Impact velocity range	v	(m/s) max.
Creep speed	vs	(m/s)
Motor power	P	(kW)
Stall torque factor	ST	(normal 2.5)
Number of absorbers in parallel	n	

or technical data according to formulae and calculations on page 13 to 15.

The calculation and selection of the correct ACE safety shock absorber for your application should be referred to ACE for approval and assignment of unique identification number.

Dimensions and Capacity Chart

Type	Stroke mm	A max	B	C min	C max	D	Max. Energy Capacity: Self-Compensating W_3 Nm/Cycle	Max. Energy Capacity: Optimised Version W_3 Nm/Cycle	Min. Return Force N	Max. Return Force N	Max. Side Load Angle °	Weight kg
SCS64-50EU	48.5	225	140	50	112	100	3 400	6 000	90	155	3	3.18
SCS64-100EU	99.5	326	191	64	162	152	6 800	12 000	105	270	2	4.2
SCS64-150EU	150	450	241	80	212	226	10 200	18 000	75	365	1	5.65

For other stroke lengths, special options (such as higher or lower impact velocity etc.), please consult ACE.

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