Based on the innovative design concepts of the MAGNUM range, **ACE introduces the SCS-33 to SCS-64 series of safety shock absorbers**. Designed to provide machine protection in an emergency runaway situation the SCS-33 to SCS-64 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 safety 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 new SCS-33 to 64 range provides true linear deceleration protecting vital equipment at an affordable cost. Optional rod sensor available for indicating the complete retraction of the piston rod.

62
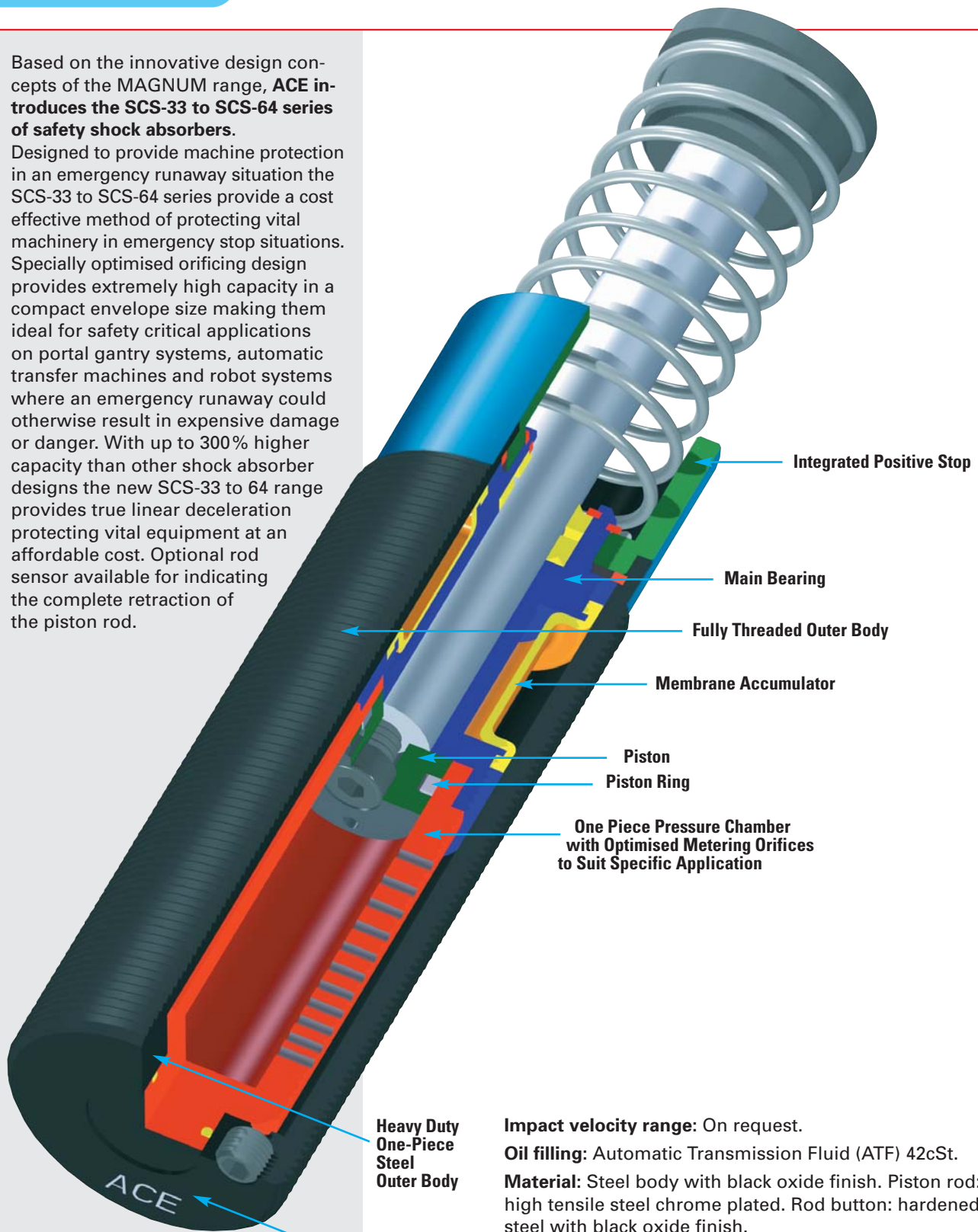
Integrated Positive Stop

Main Bearing

Fully Threaded Outer Body

Membrane Accumulator

Piston

Piston Ring

One Piece Pressure Chamber with Optimised Metering Orifices to Suit Specific Application

Heavy Duty One-Piece Steel Outer Body

Unique Identification Code Number

Impact velocity range: On request.

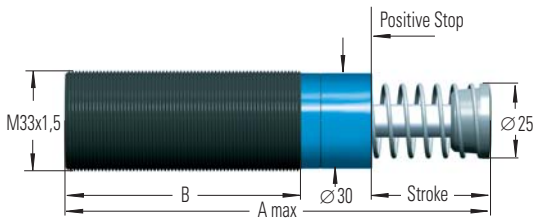**Oil filling:** Automatic Transmission Fluid (ATF) 42cSt.

Material: Steel body with black oxide finish. Piston rod: high tensile steel chrome plated. Rod button: hardened steel with black oxide finish. Return spring: zinc plated.

Mounting: In any position.

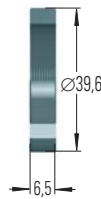**Temperature range:**
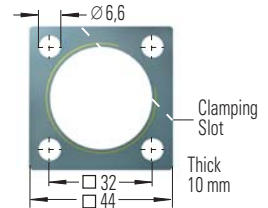-12°C to 70°C. Higher temperatures on request.

Issue 4. 2006 Specifications subject to change

Part Number SCS-33 . . .

Basic Unit

Positive Stop

M33x1,5

B   Ø30   Stroke

A max

Ø25

NM 33

Ø39,6

6,5

Locking Ring

QF 33

Ø6,6

Clamping Slot

☐ 32
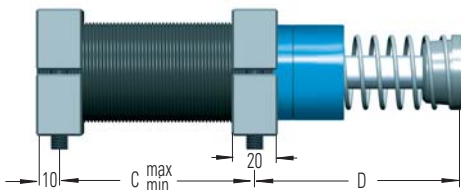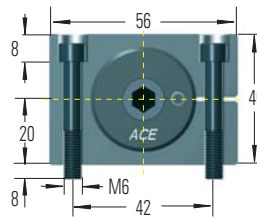☐ 44

Thick 10 mm

Square Flange

Install with 4 machine screws with
Tightening torque: 11 Nm
Clamping torque: > 90 Nm
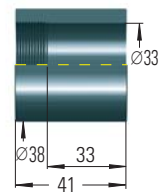
S 33

10   C max min   20   D

Side Foot Mounting Kit
S 33 = 2 Flanges + 4 Screws M6x40, DIN 912

56
8
20
8   M6
42
40

Tightening torque 11 Nm (Screws)
Clamping torque > 90 Nm

AH 33

Ø33
Ø38   33
41

Stop Collar
for propelling forces
higher than 55 kN

Ordering Example

SCS-33-50-S-UKxxxx

Safety Shock Absorber
Thread Size M33
Max. Stroke without Positive Stop 50 mm
Mounting Style: Foot
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Emergency Impact Speed	v	(m/s) max.
Normal Speed	vs	(m/s) max.
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.

Technical Data

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

Return spring force: 45 to 135 N.

Operating temperature range: -12°C to 70°C.

Impact cycles per hour: Emergency use only.

In creep speed: The shock absorber can be pushed
through its stroke.

In creep speed conditions the shock absorber provides
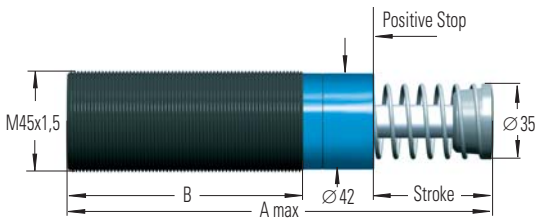minimal resistance and there is no braking effect.

Calculation: For further details of calculation and selection
please consult ACE.

**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
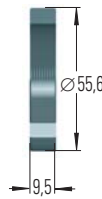number.**

Dimensions and Capacity Chart

Model Part Number	Stroke mm	A max.	B	C min.	C max.	D	Max. Energy Capacity per Cycle		Max. Side Load Angle °	Weight kg
							Standard W_3 max Nm	Optimised Version W_3 max Nm		
SCS-33-25	23	138	83	25	60	68	310	500	3	0.45
SCS-33-50	48.5	189	108	32	86	93	620	950	2	0.54

Safety Shock Absorber SCS-45

Part Number SCS-45 . . .

Basic Unit

Positive Stop

M45x1,5

B

A max

Ø42

Stroke

Ø35

NM 45

Ø55,6

9,5

Locking Ring

QF 45

Ø9

Clamping Slot

□42
□56

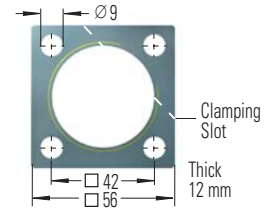Thick 12 mm

Square Flange

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

S 45

12,5

C max min

25

D
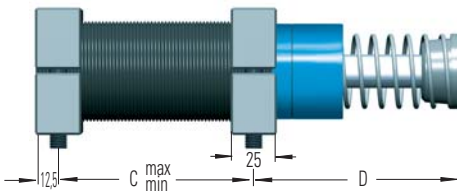
Side Foot Mounting Kit

S 45 = 2 Flanges + 4 Screws M8x50, DIN 912

80

16

28

10

56

M8

60
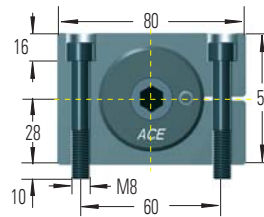
Tightening torque 27 Nm (Screws)
Clamping torque > 350 Nm

AH 45

Ø42

Ø57   27,5

39,5
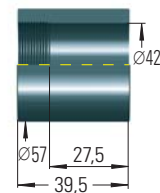
Stop Collar

for propelling forces
higher than 90 kN

Ordering Example   SCS-45-75-S-UKxxxx

Safety Shock Absorber
Thread Size M45
Max. Stroke without Positive Stop 75 mm
Mounting Style: Foot
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Emergency Impact Speed	v	(m/s) max.
Normal Speed	vs	(m/s) max.
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.

Technical Data

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

Return spring force: 50 to 180 N.

Operating temperature range: -12°C to 70°C.

Impact cycles per hour: Emergency use only.

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.

Calculation: For further details of calculation and selection please consult ACE.

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

Model Part Number	Stroke mm	A max.	B	C min.	C max.	D	Max. Energy Capacity per Cycle Standard W_3 max. Nm	Optimised Version W_3 max. Nm	Max. Side Load Angle °	Weight kg
SCS-45-25	23	145	95	32	66	66	680	1 200	3	1.13
SCS-45-50	48.5	195	120	40	92	91	1 360	2 350	2	1.36
SCS-45-75	74	246	145	50	118	116	2 040	3 500	1	1.59

Part Number SCS-64 . . .
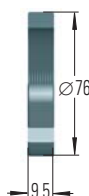
Basic Unit

M64x2 · Positive Stop · Ø48 · Ø60 · B · A max · Stroke
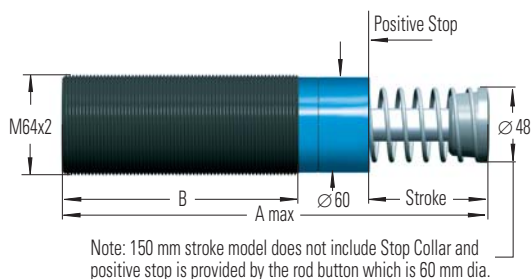
Note: 150 mm stroke model does not include Stop Collar and positive stop is provided by the rod button which is 60 mm dia.
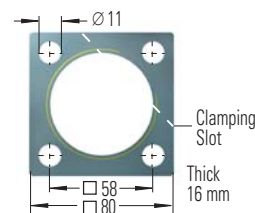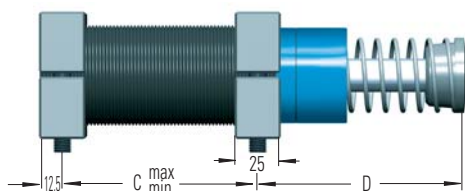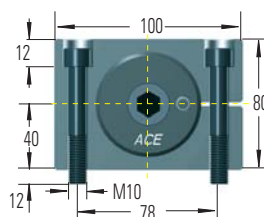
NM 64

Ø76 · 9,5

Locking Ring

QF 64

Ø11 · Clamping Slot · 58 · 80 · Thick 16 mm

Square Flange

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

S 64

12,5 · C max min · 25 · D

Side Foot Mounting Kit

S 645 = 2 Flanges + 4 Screws M10x80, DIN 912

100 · 12 · 40 · 80 · 12 · M10 · 78

Tightening torque 50 Nm (Screws)
Clamping torque > 350 Nm

AH 64

Ø61 · Ø76 · 37 · 50
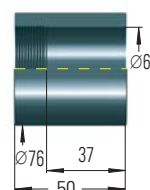
Stop Collar

for propelling forces
higher than 140 kN

Ordering Example   SCS-64-50-S-UKxxxx

Safety Shock Absorber
Thread Size M45
Max. Stroke without Positive Stop 75 mm
Mounting Style: Foot
Identification No. (assigned by ACE)

Complete Details Required when Ordering:

Moving Load	m	(kg)
Emergency Impact Speed	v	(m/s) max.
Normal Speed	vs	(m/s) max.
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.

Technical Data

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

Return spring force: 50 to 180 N.

Operating temperature range: -12°C to 70°C.

Impact cycles per hour: Emergency use only.

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.

Calculation: For further details of calculation and selection please consult ACE.

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

Model Part Number	Stroke mm	A max.	B	C min.	C max.	D	Max. Energy Capacity per Cycle		Max. Side Load Angle °	Weight kg
							Standard W_3 max. Nm	Optimised Version W_3 max. Nm		
SCS-64-50	48.5	225	140	50	112	100	3 400	6 000	3	2.90
SCS-64-100	99.5	326	191	64	162	152	6 800	12 000	2	3.70
SCS-64-150	150	450	241	80	212	226	10 200	18 000	1	5.10

65