



Cert. No. LRQ 0963008

ISO 9001

spirax/sarco

TI-P025-01

ST Issue 7

SM45 Bimetallic Steam Trap

Description

The SM45 is a medium pressure, temperature sensitive, maintainable steam trap. The operating element comprises a stack of bimetal discs which control the flow of condensate, air and other incondensable gases at a preset temperature below steam saturation. The body and cover are forged and is available with integral flanges.

Standards

The product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification

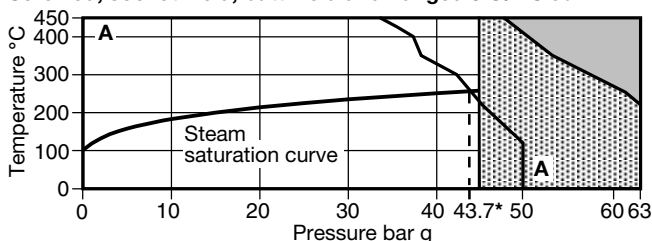
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

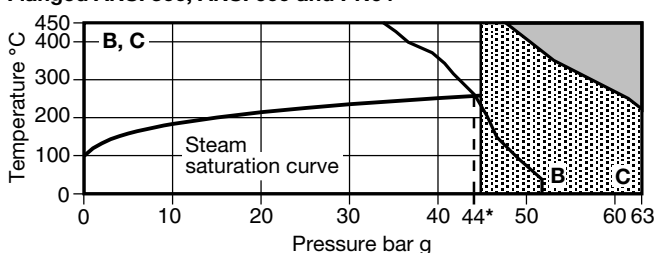
½", ¾" and 1" screwed BSP or NPT, butt weld to suit Schedule 80 pipe and socket weld to BS 3799 Class 3000.
DN15, DN20, DN25 and DN40 standard flange to DIN 2546 PN64, ANSI 300, ANSI 600 and JIS/KS 30K.

Pressure/temperature limits (ISO 6552)

Screwed, socket weld, butt weld and flanged JIS/KS 30K



Flanged ANSI 300, ANSI 600 and PN64



The product **must not** be used in this region.

The products should not be used in this region as damage to internals may occur.

* PMO Maximum operating pressure for saturated steam service.

A - A Screwed, socket weld, butt weld and flanged JIS/KS 30K.

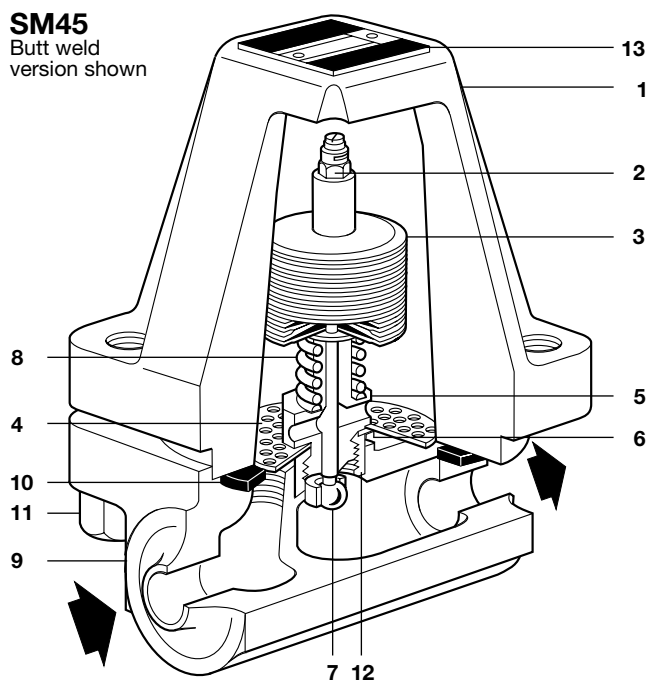
B - B Flanged ANSI 300.

C - C Flanged ANSI 600 and PN64.

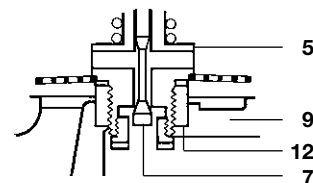
Body design conditions		PN63
PMA	Maximum allowable pressure	63 bar g @ 210°C
TMA	Maximum allowable temperature	450°C @ 45 bar g
Minimum allowable temperature		-10°C
* PMO	Maximum operating pressure	45 bar g @ 450°C
TMO	Maximum operating pressure	450°C @ 45 bar g
Minimum operating temperature		0°C
Designed for a maximum cold hydraulic test pressure of:	Flanged PN64, screwed, SW and BW	109 bar g
	Flanged ANSI 300	80 bar g
	Flanged ANSI 600	109 bar g
	Flanged JIS/KS 30K	79 bar g

SM45

Butt weld version shown



The main illustration shows the valve arrangement for the ¾" and 1" sizes. For ½" sizes the valve arrangement differs as shown on the right.



Materials

No.	Part	Material
1	Cover	Alloy steel DIN 17243 13Cr Mo44 (W/S 1.7335)
2	Locking nut	Stainless steel BS 970 303 S21
3	Thermostatic element	Corrosive resistant bimetal and stainless steel ½" - Rau Type RR ¾" - 1" Type 100
4	Strainer screen	Stainless steel ASTM A240 316L
5	Valve seat	Stainless steel BS 970 431 S29
6	Valve seat gasket	Stainless steel BS 1449 304 S12
7	Valve	Stainless steel BS 970 431 S29
8	Spring	Stainless steel BS 2056 302 S26
9	Body	Alloy steel DIN 17245 CS 22 Mo4
10	Cover gasket	Spirally wound stainless steel graphite filled gasket
	Cover stud	Alloy steel ASTM A193 Gr. B7
11	Cover nut	Carbon steel BS 4882 Gr. 2H
	Cover washer	Carbon steel BS 4320 Table 1 Form A
12	Seat insert	Stainless steel BS 970 321 S20
13	Name-plate	Stainless steel BS 1449 304 S16

Local regulations may restrict the use of this product to below the conditions quoted.

In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

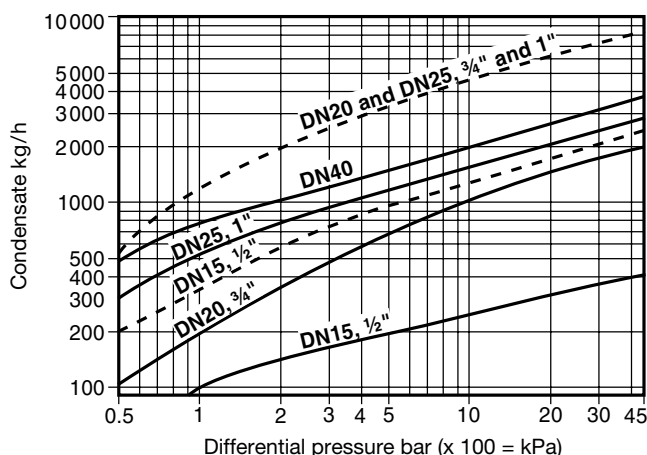
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K_V values

Size	DN15 - ½"	DN20 - ¾"	DN25 - 1"	DN40
K _V value	0.25	0.6	0.6	0.6

For conversion: C_V (UK) = $K_V \times 0.963$ C_V (US) = $K_V \times 1.156$

Capacities

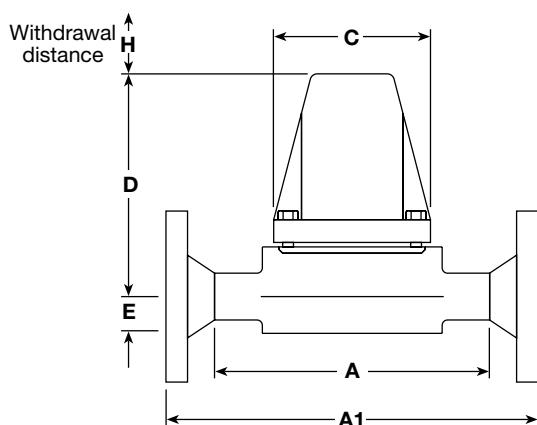


Hot water capacity ——— Cold water capacity - - - -

Dimensions/weights (approximate) in mm and kg

Screwed, butt weld and socket weld

Size	A	C	D	E	H	Weight
½"	130	102	138	24	108	5.4
¾"	130	102	138	24	108	5.4
1"	130	102	138	24	108	5.4



Flanged

Size	A	C	D	E	H	Weight
DN15	210	102	138	24	108	7.2
DN20	230	102	138	24	108	8.6
DN25	230	102	138	24	108	9.5
DN40	260	102	146	30	114	13.6

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P025-02) supplied with the product.

Installation note:

The SM45 is designed for installation with the element in a horizontal plane with the cover at the top. When welding the trap into the line there is no need to remove the element providing that welding is done by the electric arc method.

Disposal

The product is recyclable. No ecological hazard is anticipated with disposal of this product providing care is taken.

How to order

Example: 1 off Spirax Sarco ½" SM45 bimetallic steam trap having screwed BSP connections.

Spare parts

The spare parts available are shown in solid outline. Parts drawn in broken line are not supplied as spares.

Available spares

Element set	Complete with valve, valve seat and valve seat gasket	2, 3, 6
Strainer screen	(3 off)	4
Set of gaskets	(packet of 3 of each)	6, 10

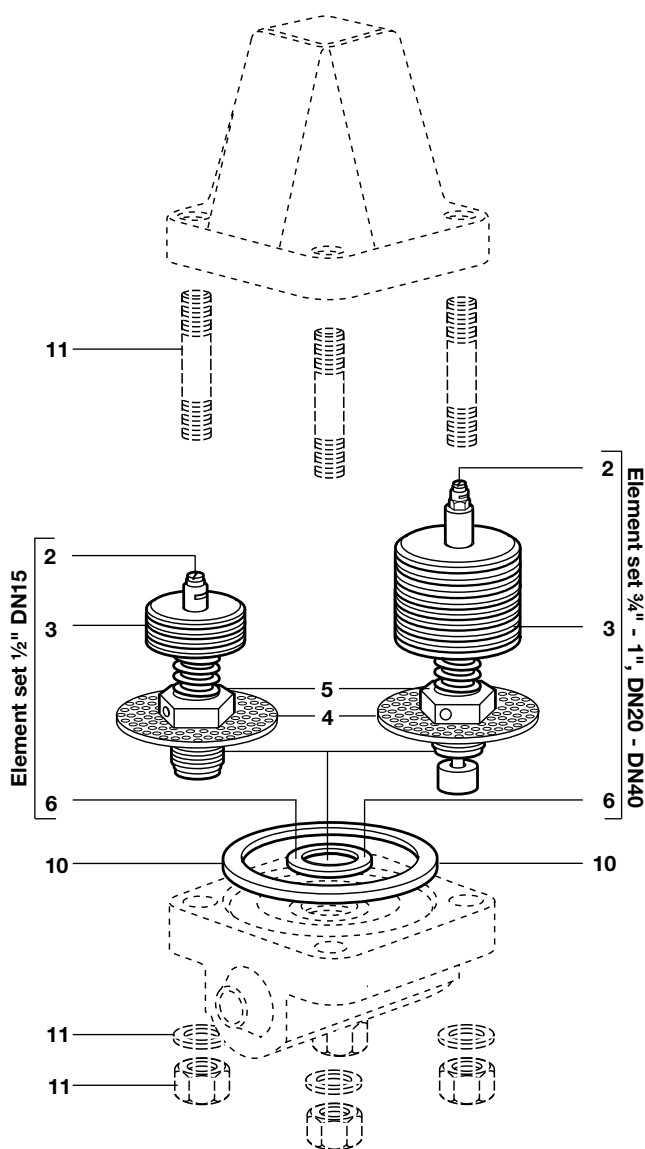
Important note

The earlier design of the SM45 incorporated 4 off long cover studs and 8 off washers for assembling the body and cover. The current design of the SM45 incorporates a threaded cover and 4 off shorter studs and 4 off washers and nuts.

How to order spares

Always order spares by using the description given in the column headed 'Available spares' and state the size and type of steam trap.

Example: 1 - Element set for a DN25 Spirax Sarco SM45 bimetallic steam trap.



Recommended tightening torques

Item	or mm	N m
5	27 A/F	120 - 132
11	19 A/F M12	110 - 120