



Cert. No. LRQ 0963008

ISO 9001

spirax/sarco

TI-P123-03

ST Issue 5

AV45 Air Vent for Steam Systems

Description

The AV45 is a forged alloy steel, medium pressure, temperature sensitive, maintainable air vent. The operating element comprises a stack of bimetal discs which control the flow of air and other incondensable gases at a preset temperature below steam saturation.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC and carries the CE mark when so required.

Certification

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

Sizes and pipe connections

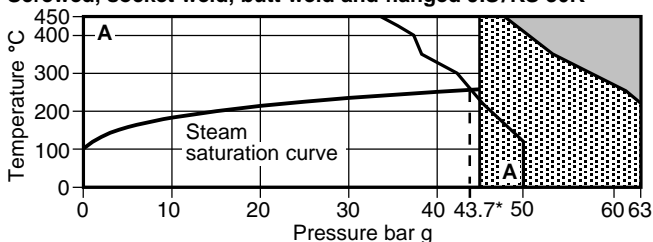
1/2", 3/4" and 1" screwed BSP or NPT,
1/2", 3/4", 1" and 1 1/2" butt weld to suit Schedule 80 pipe and socket weld to BS 3799 Class 3000.
DN15, 20, 25 and 40 standard flange to EN 1092-1 PN64, ANSI B 16.5 Class 300, Class 600 and JIS/KS 30K.

Limiting conditions (ISO 6552)

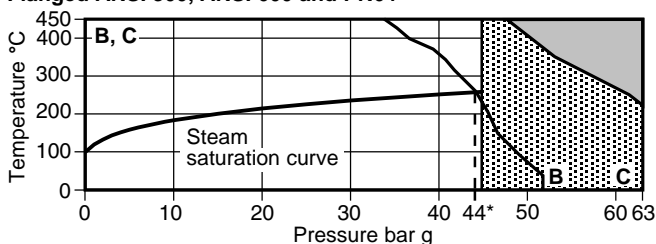
Body design conditions	PN63
PMA - Maximum allowable pressure	63 bar g
TMA - Maximum allowable temperature	450°C
PMO - Maximum operating pressure	45 bar g
TMO - Maximum operating temperature	450°C
Designed for a maximum cold hydraulic test pressure of:	
Flanged PN64, screwed, SW and BW	109 bar g
Flanged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

Operating range

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

*PMO Maximum operating pressure recommended for saturated steam.

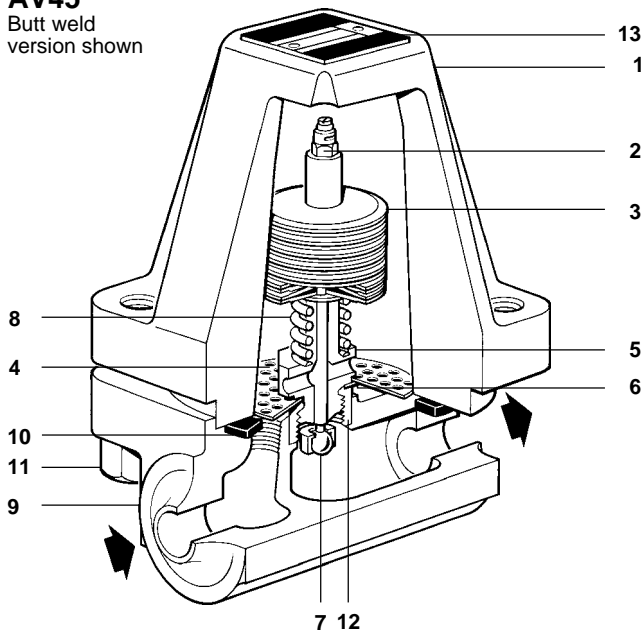
A - A Screwed, socket weld, butt weld and flanged JIS/KS 30K.

B - B Flanged ANSI 300.

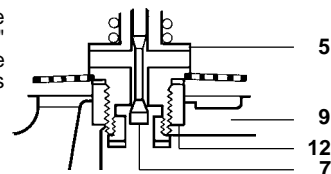
C - C Flanged ANSI 600 and PN64.

AV45

Butt weld
version shown



The main illustration shows the valve arrangement for the 3/4", 1" and 1 1/2" sizes. For 1/2" sizes the valve arrangement differs as shown on the right.



Materials

No.	Part	Material
1	Cover	Alloy steel DIN 17243 13CR Mo 44 (W/S1.7335)
2	Locking nut	Stainless steel BS 970 303 S21
3	Thermostatic element	Corrosive resistant bimetal and stainless steel 1/2" - Rau Type RR 3/4" - 1 1/2" 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 GS 22 Mo 4
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.

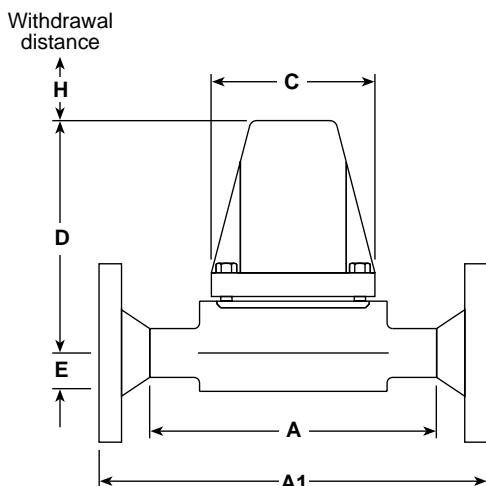
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Dimensions/weights (approximate) in mm and kg

Screw, butt weld and socket weld

Size	A	C	D	E	H	Weight
1/2"	130	102	138	24	108	5.4
3/4"	130	102	138	24	108	5.4
1"	130	102	138	24	108	5.4
* 1 1/2"	149	102	146	30	114	6.0

* Butt weld and socket weld only.



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

K_v values

Size	DN15 - 1/2"	DN20 - 3/4"	DN25 - 1"	DN40 - 1 1/2"
K _v value	0.25	0.6	0.6	0.6

For conversion: $C_v (UK) = K_v \times 0.963$ $C_v (US) = K_v \times 1.156$

Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P123-13) supplied with the product.

Installation note:

The AV45 is designed for installation with the element in a horizontal plane with the cover at the top. Positioned at the highest point of the main, or plant where air collects. For maximum air removal, the discharge should be as free as possible or piped to a safe location. When welding the trap into the line there is no need to remove the element providing the welding is done by the electric arc method. For ease and maintenance consideration should be given to fitting isolation valves upstream and downstream of the air vent. The air vent should not be insulated.

Disposal

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

How to order

Example: 1 off Spirax Sarco 1/2" AV45 air vent with 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 gaskets	2, 3, 6
Strainer screen (3 off)		4
Set of gaskets (packet of 3 of each)		6, 10

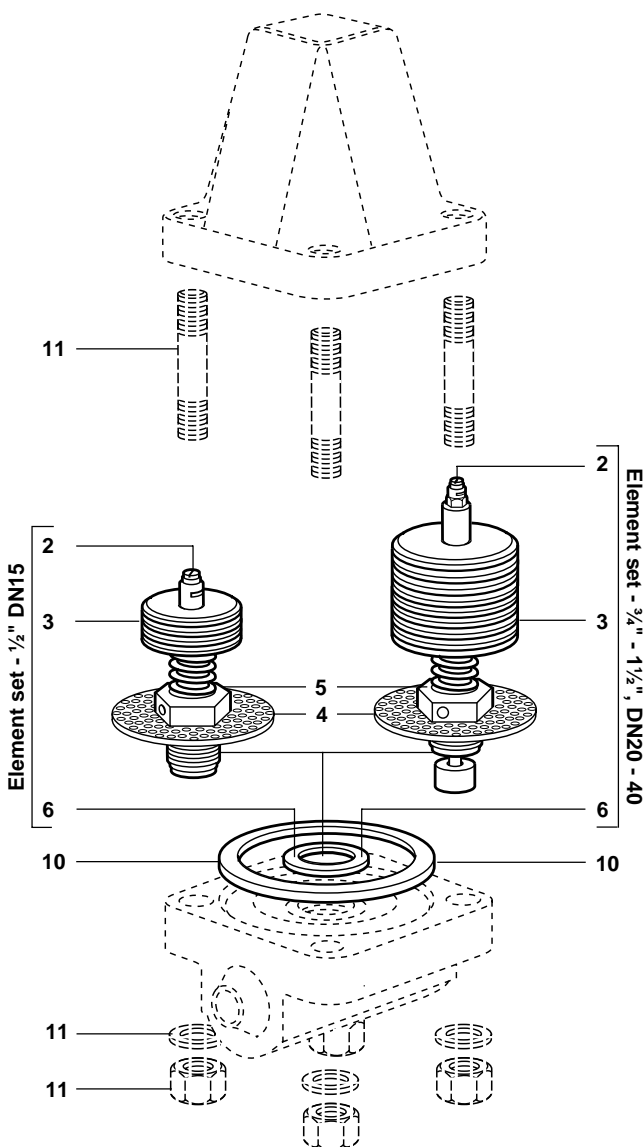
Important note

The earlier design of the AV45 incorporated 4 off long cover studs and 8 off washers and nuts for assembling the body and cover. The current design of AV45 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 air vent.

Example: 1 off Element set for a Spirax Sarco 1" AV45 air vent.



Recommended tightening torques

Item	Quantity	or mm	N m
5	1	27 A/F M20	120 - 132
11	4	19 A/F M12	110 - 120