



Cert. No. LRQ 0963008

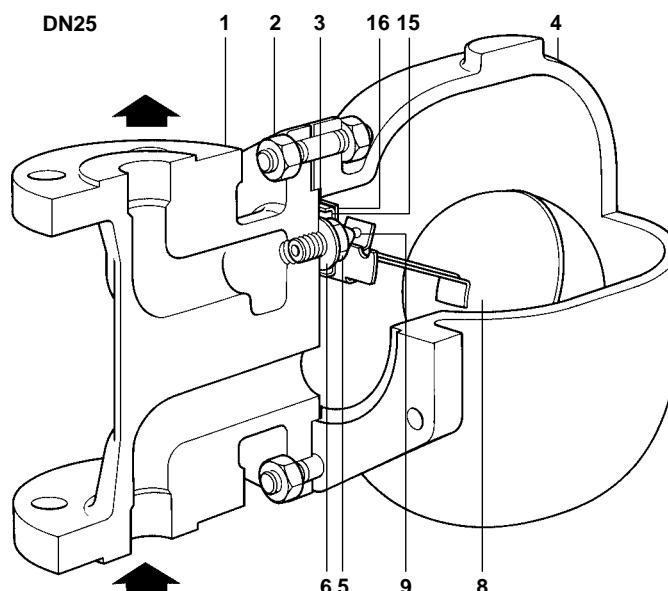
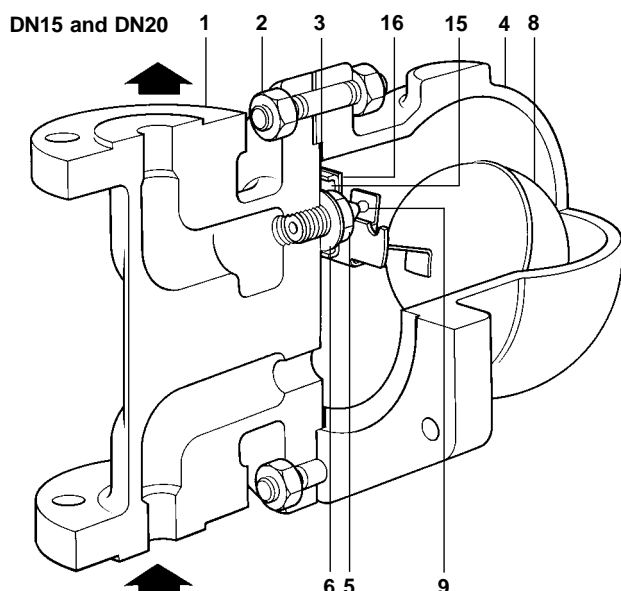
ISO 9001

spirax/sarco

TI-P149-08

ST Issue 5

AE44 and AE44S Automatic Air and Gas Vents for Liquid Systems



Description and available types

The AE44 and AE44S are float type automatic air and gas vents for liquid systems. The body and cover are of steel and the valve cone is available in synthetic rubber designated AE44 or in stainless steel designated AE44S. Body and cover castings are produced by a TUV approved foundry.

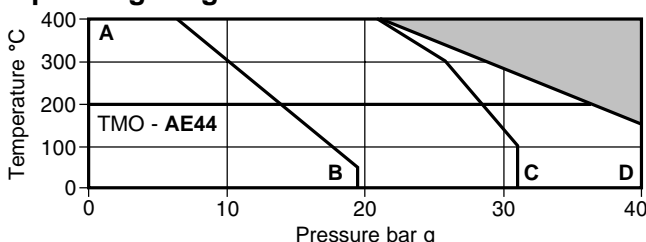
Sizes and pipe connections

AE44 DN15 and DN20, **AE44S** DN15, DN20 and DN25. Standard flanges are BS 4504 PN40 with DIN face-to-face dimensions. On request ANSI 150, ANSI 300 and JIS/KS 20 flanges with drilled and tapped bolt holes with DIN face-to-face dimensions can be provided. The 1/2" tapping for the balance pipe will normally be screwed NPT for ANSI and JIS/KS flanges and BSP for other flanges unless specified otherwise.

Limiting conditions

Body design conditions	PN40
PMA - Maximum allowable pressure	40 bar g
TMA - Maximum allowable temperature	400°C
TMO - Maximum operating temperature	AE44 200°C AE44S 400°C
Designed for a maximum cold hydraulic test pressure of:	ANSI 150 30 bar g JIS/KS 20 49 bar g PN40/ANSI 300 60 bar g

Operating range



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

A - B ANSI 150 **A - C** JIS/KS 20 **A - D** PN40, ANSI 300

ΔPMX - Maximum differential pressures

AE44	DN15	21 bar	AE44S-3.5	DN25	3.5 bar
AE44S-21	DN15	21 bar	AE44S-5.3	DN25	5.3 bar
AE44	DN20	21 bar	AE44S-7.8	DN25	7.8 bar
AE44S-21	DN20	21 bar	AE44S-16.7	DN25	16.7 bar

The automatic air and gas vent in its complete operational form must not be subjected to a pressure greater than 48 bar g otherwise damage to the mechanism may result.

Materials

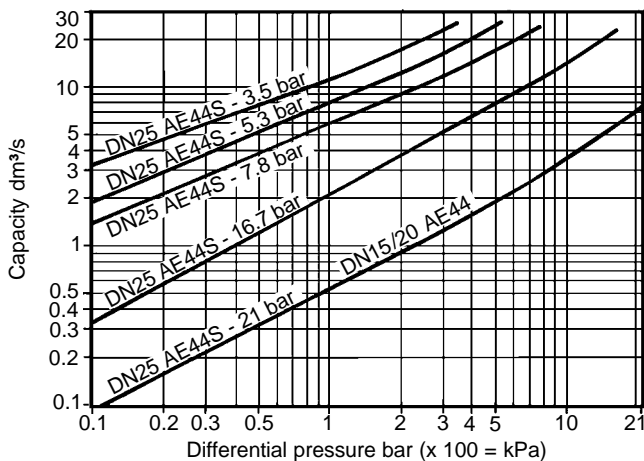
No. Part	Material
1 Body	Carbon steel DIN 17245 GSC 25N
2 Cover studs	Chrome moly steel DIN 17240 21Cr MoV57
3 Cover nuts	Chrome moly steel DIN 17340 24Cr Mo5
4 Cover	Carbon steel DIN 17245 GSC 25N
5 Valve seat	Stainless steel BS 970 431 S29
6 Valve seat gasket	Stainless steel BS 1449 304 S11
7 Pivot frame assy. set screws (not shown)	Stainless steel BS 4183 18/8
8 Ball float and lever	Stainless steel BS 1449 304 S16
9 Valve cone	AE44 Viton AE44S* Stainless steel AISI 440B
15 Support frame	Stainless steel BS 1449 304 S16
16 Pivot frame	Stainless steel BS 1449 304 S16
17 Pivot (not shown)	Stainless steel

* **Note:** The valve cone AE44S is permanently attached to the ball float and lever.

Certification

The product is available with certification EN 10204 2.2 for body and cap as standard and EN 10204 3.1.B if specified at time of ordering.

Capacities



Free air discharge capacity

If the temperature of the air differs from 15°C, the discharge capacity from the graph can be corrected by multiplying it by the following equation:

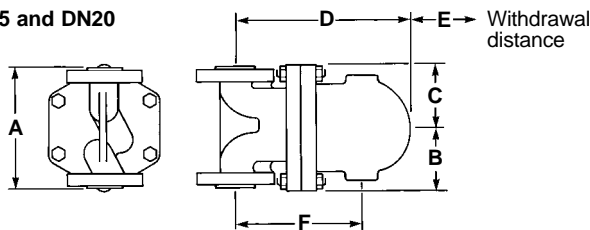
$$\frac{289}{273 + T} \quad (T \text{ is the actual temperature})$$

It may be assumed that the temperature of the air is the same as the temperature of the water.

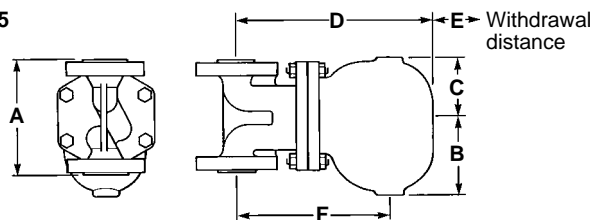
Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	E	F	Weight
DN15	150	80	80	215	120	155	10.8
DN20	150	80	80	225	120	165	10.8
DN25	160	115	85	282	170	215	15.0

DN15 and DN20



DN25



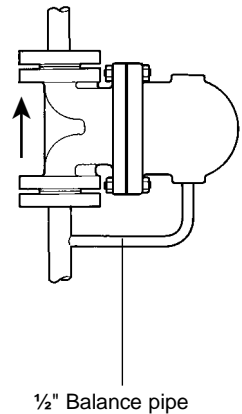
Flange bolt hole tappings

Size	ANSI 150	ANSI 300	JIS/KS 20
DN15	1/2" - 13 UNC - 2B	1/2" - 13 - UNC - 2B	M12
DN20	1/2" - 13 UNC - 2B	5/8" - 11 - UNC - 2B	M12
DN25	5/8" - 11 UNC - 2B	5/8" - 11 - UNC - 2B	M16

Installation

The automatic air and gas vent must be fitted into a vertical pipeline above the point being vented with the direction of flow upward as indicated on the body so that the float mechanism is free to rise and fall in a vertical plane. The arrow on name-plate must point downwards. The low point of the cover is provided with a 1/2" tapping for a balance pipe which is essential for satisfactory operation. The balance pipe must be connected between the inlet pipe and the tapping provided on the cover as shown in the sketch.

As with all automatic air vents, dribbling may occur if the valve becomes fouled with dirt. For this reason it is recommended that a drip pipe is fitted to the outlet discharging to a safe place.



Maintenance

Servicing

With suitable isolation, repairs can be carried out with the vent in line. Undo cover studs and nuts and lift off cover. When reassembling make sure that all joint faces are clean. Always use a new gasket. Tighten cover studs and nuts uniformly. Open up isolating valve.

* **Note** on reassembly make sure that the dowel is located into the body.

How to order

Example: 1 off Spirax Sarco DN20 AE44 automatic air and gas vent with steel body and Viton valve head flanged to BS 4504 PN40.

Spare parts

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

Available spares

Soft valve cone AE44	(packet of 3 of each)	9
Main valve assembly with float	AE44	5, 6, 7, 8, 9, 15, 16, 17
	AE44S	5, 6, 7, 8, 15, 16, 17
Complete set of gaskets	(packet of 3 sets)	3, 6

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 automatic air and gas vent.

Example: 1 - Main valve assembly for a Spirax Sarco DN20 AE44 automatic air vent.

Recommended tightening torques

Item	or mm		N m
2	17	M10 x 60	19 - 21
5	17	M12 x 8	50 - 55
7	Cheesehead	M5 x 20	2.5 - 2.8

