CA44S
Carbon Steel
Air and Gas Trap DN40 and DN50

Description

The CA44S is an carbon steel ball float air and gas trap. It has a metal valve cone and is available with horizontal flanged connections. The cover will be drilled and tapped ¾" BSP or NPT for the purpose of fitting a balance line. Body and cover castings are produced by a TÜV approved supplier in accordance with AD-Merkblatt WO/TRD100.

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.

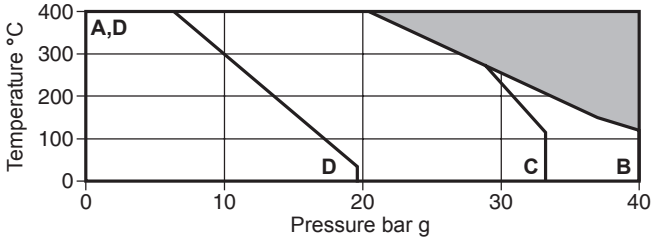
Certification

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

Sizes and pipe connections

DN40 and DN50
Standard flanges are:
EN 1092-1 PN40 with DIN face-to-face dimensions and
ASME 150, ASME 300 and JIS/KS 20K flanges with drilled and tapped bolt holes with DIN face-to-face dimensions.
PN and JIS/KS flanges will be provided with BSP balance line and ASME flanges with NPT balance line.

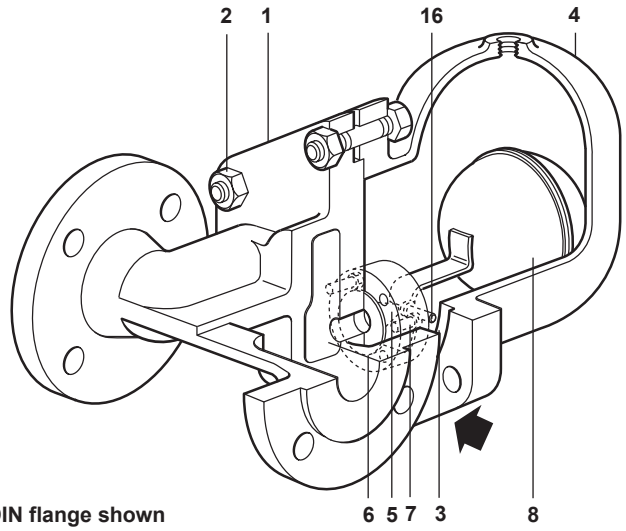
Pressure/temperature limits



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

A - B Flanged EN 1092-1 PN40 and ASME 300.
A - C Flanged JIS/KS 20K.
D - D Flanged ASME 150.

Body design conditions						PN40
PMA	Maximum allowable pressure					40 bar g @ 120°C
TMA	Maximum allowable temperature					400°C @ 20 bar g
Minimum allowable temperature						0°C
PMO	Maximum operating pressure					40 bar g @ 120°C
TMO	Maximum operating temperature					400°C @ 20 bar g
Minimum operating temperature						0°C
ΔPMX	Maximum differential pressure bar, depending on the specific gravity of the liquid being drained:					
	Specific gravity	**1.0**	**0.9**	**0.8**	**0.7**	**Min. 0.6**
	CA44S-4.5	4.5	4.5	4.5	3.4	2.0
	CA44S-10	10.0	9.5	6.8	5.5	3.4
	CA44S-14	14.0	14.0	11.0	8.0	5.0
	CA44S-21	21.0	19.0	15.0	10.0	6.5
	CA44S-32	32.0	30.0	23.0	16.5	10.0
ΔPMN	Minimum differential pressure					0.1 bar
Designed for a maximum cold hydraulic test pressure of:				PN40		60 bar g
				ASME 300		60 bar g
				ASME 150		30 bar g
				JIS/KS 20K		49 bar g



DIN flange shown

Materials

No.	Part	Material	
1	Body	Carbon steel	WCB 1.0619+N
2	Cover studs	Steel	DN 17240 21 Cr Mo V57
	Cover nuts	Steel	DN 17240 24 Cr Mo5
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	Carbon steel	WCB 1.0619+N
5	Valve seat	Stainless steel	BS 970 431 S29
6	Mounting plate gasket	Stainless steel	BS 1449 304 S11
7	Pivot frame assembly set screws	Stainless steel	BS 4183 18/8
8	Ball float and lever	Stainless steel	BS 1449 304 S16
* **9**	Valve cone	Stainless steel	
14	Support frame	Stainless steel	BS 1449 304 S16
15	Pivot frame	Stainless steel	BS 1449 304 S16
16	Pivot	Stainless steel	BS 970 431 S29/ ASTM A276 431
18	Mounting plate	Stainless steel	BS 970 431 S29
19	Mounting plate fasteners		
	DN40 bolts	Stainless steel	BS 970 302 S25
	DN50 studs and nuts	Stainless steel	BS 970 431 S29

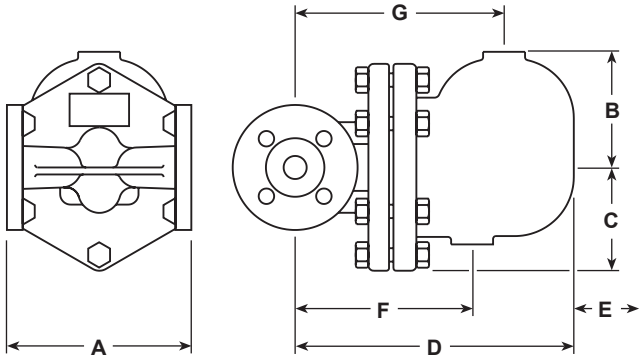
* The valve cone is permanently attached to the ball float and lever.
Note: Parts **9**, **14**, **15**, **18** and **19** are shown overleaf.

Dimensions / weights (approximate) in mm and kg

Size	PN40 A	ASME 150 A	ASME 300 A	JIS/KS 20K A	B	C	PN40 D	ASME 150/300 JIS/KS 20K D	E	PN40 F	ASME 150/300 JIS/KS 20K F	PN40 G	ASME 150/300 JIS/KS 20K G	Weight
DN40	230	321	327	322	130	116	326	248	200	200	154	242	164	33
DN50	230	313	320	311	141	123	332	251	200	225	158	248	167	43

Flange bolt hole tappings

Size	ASME 150	ASME 300	JIS/KS 20K
DN40	½" - 13 UNC - 2B	¾" - 10 UNC - 2B	M16 x 2 - 6H
DN50	⅝" - 11 UNC - 2B	⅝" - 11 UNC - 2B	M16 x 2 - 6H



Safety information, installation and maintenance

For full details, see the Installation and Maintenance Instructions (IM-P148-37) supplied with the product.

Installation note:

The trap must be fitted in the horizontal plane below what it is draining with the direction of flow as indicated on the body so that the float mechanism is free to rise and fall in a vertical plane.

One of the advantages of the float trap for draining air and gas systems is that no bleed is required for satisfactory operation. However, because the trap has no bleed a seperate balance line is needed to prevent it becoming air or gas locked.

It should be noted that the balance line is piped back to the upstream side.

A balance line is essential for the correct operation of this product.

It is recommended that a non-return valve is fitted when discharging condensate into return lines where backpressure is experienced. It is also recommended that a diffuser is fitted when discharging to atmosphere.

For convenience of maintenance it is recommended that a union is fitted in the balance line near to the trap cover and consideration should be given to fitting isolation valves upstream and downstream of the trap.

The CA44S must 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 DN50 CA44S-32 air and gas trap flanged to EN 1092-1 PN40 having a carbon steel body and cover.

Spare parts

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

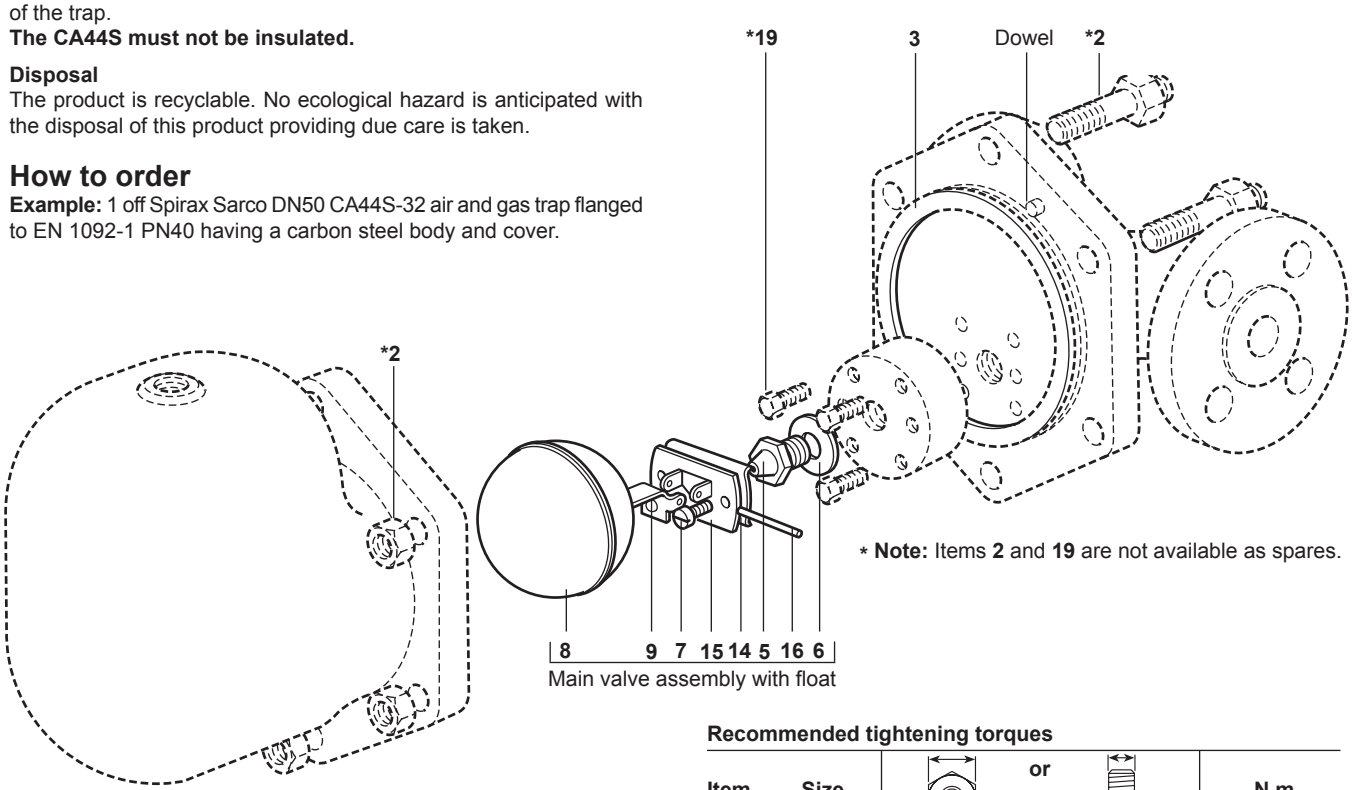
Available spares

Main valve assembly with float CA44S	**5, 6, 7, 8 + 9, 14, 15, 16**
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 trap.

Example: 1 - Main valve assembly with float for a Spirax Sarco DN50 CA44S-32 air and gas trap.



Main valve assembly with float

* **Note:** Items **2** and **19** are not available as spares.

Recommended tightening torques

Item	Size	or mm		N m
2	DN40	24 A/F	M16 x 85	60 - 66
	DN50	24 A/F	M16 x 85	80 - 88
5		17 A/F	M12 x 8	50 - 55
7		Cheesehead	M5 x 20	2.5 - 2.8
19	DN40	10 A/F	M6 x 20	10 - 12
	DN50	13 A/F	M8 x 20	20 - 24