

spirax sarco

CA46S

TI-P148-07
ST Issue 7

Austenitic Stainless Steel Air and Gas Trap DN40 and DN50

Description

The CA46S is an austenitic stainless 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 3/4" 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.

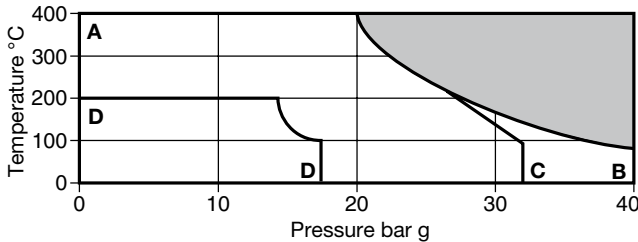
Sizes and pipe connections

DN40 and DN50

Standard flanges are:

EN 1092 PN40 with DIN face-to-face dimensions and ASME (ANSI) 150, ASME (ANSI) 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 (ANSI) flanges with NPT balance line.

Pressure / temperature limits



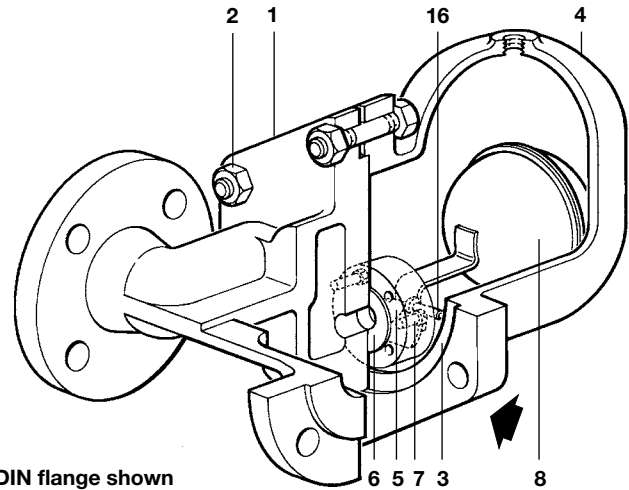
The product **must not** be used in this region.

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

Body design conditions	PN40
PMA Maximum allowable pressure	40 bar g
TMA Maximum allowable temperature	400°C
Minimum allowable temperature	-10°C
PMO Maximum operating pressure	40 bar g
TMO Maximum operating temperature	400°C
Minimum operating temperature for satisfactory operation is 0°C	

ΔPMX Maximum differential pressure	Trap	Specific gravity				
		1.0	0.9	0.8	0.7	0.6
The maximum differential pressure depends on the specific gravity of the liquid being drained.	CA46S-4.5	4.5	4.5	4.5	3.4	2.0
	CA46S-10	10.0	9.5	6.8	5.5	3.4
	CA46S-14	14.0	14.0	11.0	8.0	5.0
	CA46S-21	21.0	19.0	15.0	10.0	6.5
	CA46S-32	32.0	30.0	23.0	16.5	10.0
	PN40	60 bar g				
Designed for a maximum cold hydraulic test pressure of:	ASME (ANSI) 300	60 bar g				
	ASME (ANSI) 150	30 bar g				
	JIS/KS 20K	49 bar g				

Caution: The trap in its complete operational form must not be subjected to a pressure of greater than 48 bar otherwise damage to the internal mechanism may result.



DIN flange shown

Materials

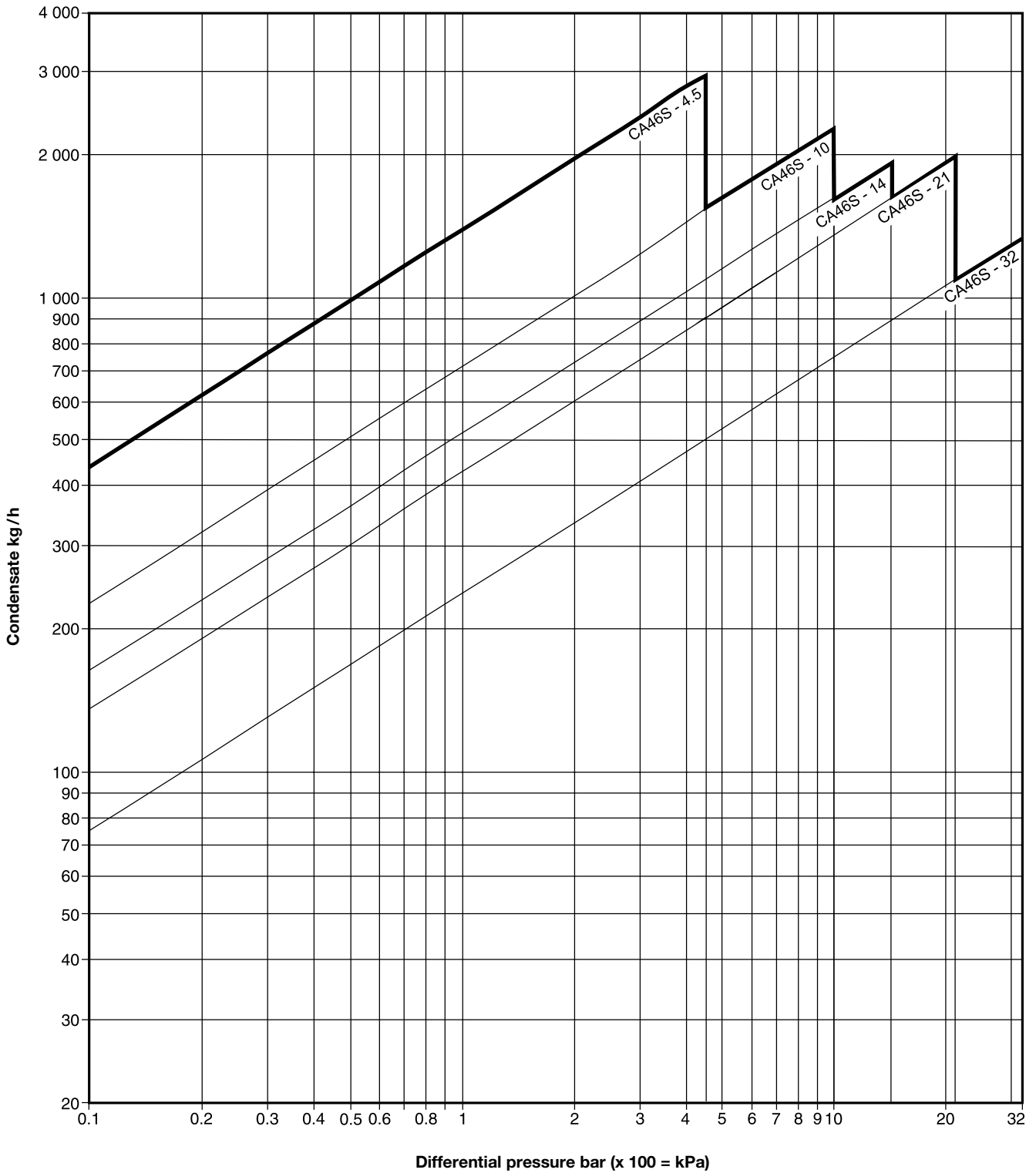
No.	Part	Material
1	Body	Austenitic stainless steel (316) 1.4408/CF8M
2	Cover studs	Austenitic stainless steel A2.70
	Cover nuts	Austenitic stainless steel A2.70
3	Cover gasket	Austenitic stainless steel BS 1449 304 S16
4	Cover	Austenitic stainless steel (316) 1.4408/CF8M
5	Valve seat	Stainless steel 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
18	Mounting plate	Stainless steel 316L
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.

Capacities

Note: The capacities provided here are calculated using water at ambient temperature.
 The discharge capacity is affected with a change in specific gravity, for further information contact Spirax Sarco.



Dimensions / weights (approximate) in mm and kg

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

Flange bolt hole tapings

Size	ASME (ANSI) 150	ASME (ANSI) 300	JIS/KS 20K
DN40	1/2" - 13 UNC - 2B	3/4" - 10 UNC - 2B	M16 x 2 - 6H
DN50	5/8" - 11 UNC - 2B	5/8" - 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 separate 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.

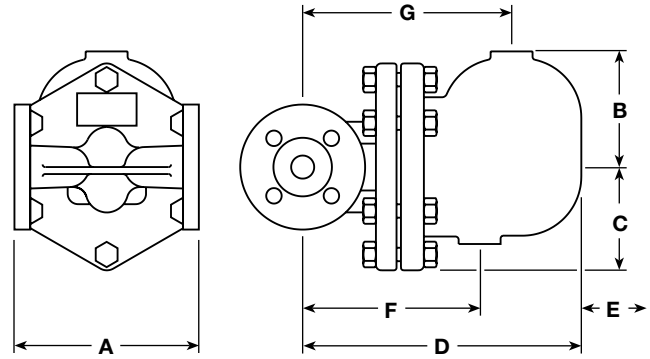
The CA46S must not be insulated.

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 CA46S-32 air and gas trap flanged to EN 1092 PN40 having an austenitic stainless steel body and cover.



Spare parts

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

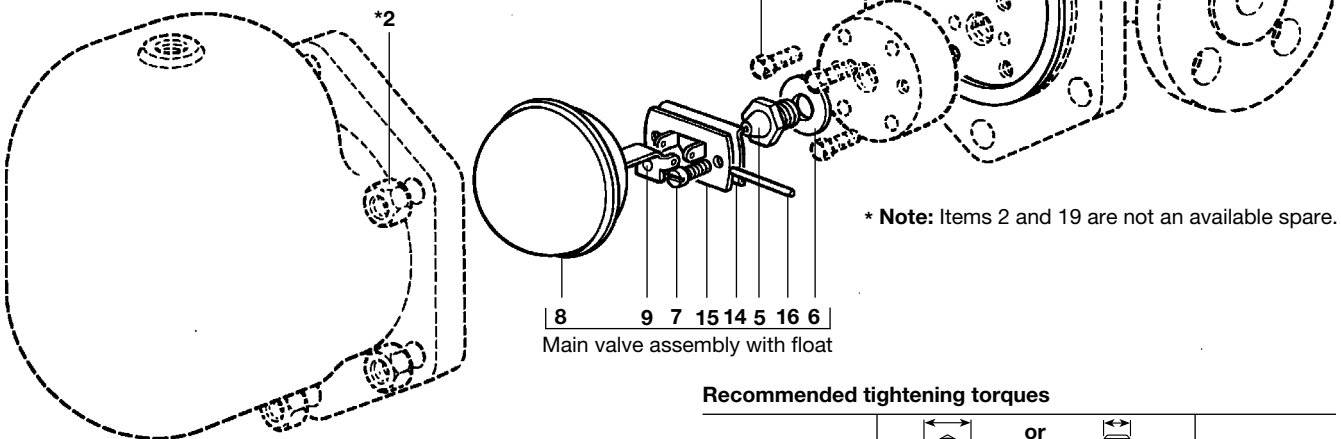
Available spares

Main valve assembly with float CA46S	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 CA46S-32 air and gas trap.



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