

spirax sarco CA46 and CA46S **Austenitic Stainless Steel** Air and Gas Traps Flanged DN15 (1/2") to DN25 (1")

Description

The CA46 is an austenitic stainless steel ball float air and gas trap. It is available with a soft valve cone given designation CA46 or with a metal valve cone given designation CA46S both having horizontal flanged connections. The cover will be drilled and tapped 1/2" BSP or NPT for the purpose of fitting a balance line. Body and cover castings are produced by a TÜV approved foundry.

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 2014/68/EU and carries the

(F 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

CA46 - DN15 and DN20 (1/2" and 3/4") CA46S - DN15, DN20 and DN25 (1/2", 3/4" and 1")

Standard flanges are:

- EN 1092 PN40 with DIN face-to-face dimensions.
- ASME 150, ASME 300 and JIS/KS 20 flanges are provided with drilled and tapped bolt holes with DIN face-to-face dimensions.

Balance line - PN flanges will be provided with BSP balance line and ASME and JIS/KS 20 flanges with NPT balance line.



Pressure/temperature limits

CA46 - DN15 and DN20 (1/2" and 3/4") flanged



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

A - B Flanged EN 1092 PN40 and ASME 300.

A - C Flanged ASME 150 and JIS/KS 20K.

Body design conditions						PN40
PMA Maximum allowable pressure			40	40 bar g @ 80 °C 580 p		
TMA Maximum allowable temperature			200	°C @ 29 bar g	392	°F @ 420 psi g
Minimum allowable temperature				0 °C	;	32 °F
PMO Maximum operating pressure			40	bar g @ 80 °C	580	psi g @ 176 °F
TMO Maximum operating temperature			200	°C @ 29 bar g	392	°F @ 420 psi g
Minimum operating temperature				0 °C		32 °F
Note: For lower operating temperatures cons	ult Spirax Sa	rco				
△PMX Maximum differential pressure			s	pecific gravit	ty	
The maximum differential pressure	Тгар	1.0	0.9	0.8	0.7	0.6
depends on the specific gravity of the liquid being drained.	CA46-32	32.0	32.0	29.0	0 °C 580 Parg 392 ° 0 °C ravity 0.7 20.0 Parg	12.0
Product is safe for use under full vacuum con	ditions					
		PN40		60 bar g		870 psi g
	,	ASME 300		60 bar g		870 psi g
Designed for a maximum cold hydraulic test p	pressure of:	ASME 150		30 bar g		435 psi g
		JIS/KS 20K		49 bar g		710 psi g

Caution: The trap in its complete operational form must not be subjected to a pressure of greater than 48 bar (696 psi) otherwise damage to the internal mechanism may result.

Pressure/temperature limits

CA46S - DN15, DN20 and DN25 (1/2", 3/4" and 1") flanged



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

A - B Flanged EN 1092 PN40 and ASME 300.

A - C Flanged ASME 150 and JIS/KS 20K.

Body design conditions		PN40
PMA Maximum allowable pressure	40 bar g @ 80 °C	580 psi g @ 176 °F
TMA Maximum allowable temperature	400 °C @ 20 bar g	752 °F @ 290 psi g
Minimum allowable temperature	0 °C	32 °F
PMO Maximum operating pressure	40 bar g @ 80 °C	580 psi g @ 176 °F
TMO Maximum operating temperature	400 °C @ 20 bar g	752 °F @ 290 psi g
Minimum operating temperature	0°C	32 °F

Note: For lower operating temperatures consult Spirax Sarco

	Specific grav				ity	
	Trap	1.0	0.9	0.8	0.7	0.6
ΔPMX Maximum differential pressure	CA46S-4.5	4.5	4.5	4.5	3.4	2.0
The maximum differential pressure	CA46S-10	10.0	10.0 9.5	6.8	5.5	3.4
depends on the specific gravity of the liquid being drained.	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
Product is safe for use under full vacuum cor	ditions					
		PN40		60 bar g		870 psi g
5	r	ASME 300		60 bar g		870 psi g
Designed for a maximum cold hydraulic test	pressure of:	ASME 150		30 bar g		435 psi g
		JIS/KS 20K		49 bar g		710 psi g

Caution: The trap in its complete operational form must not be subjected to a pressure of greater than 48 bar (696 psi) otherwise damage to the internal mechanism may result.

Materials



No.	Part	Material	
1	Body	Austenitic stainless steel (316)	1.4408/CF8M
	Cover stud	Austenitic stainless steel	BS 6105 A2-70
2	2 Cover nut	Austenitic stainless steel	BS 6105 A2
3	Cover gasket (shown on page 4)	Reinforced exfoliated graphite	BS 1449 304 S16
4	Cover	Austenitic stainless steel	1.4408/CF8M

Materials continued on next page



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Materials (continued)



Internals that are common to all sizes

No.	Part		Material	
5	Valve seat		Stainless steel	BS 970 431 S29
6	Valve seat gasket		Stainless steel	BS 1449 304 S11
7	Pivot frame	assembly	Stainless steel set screws	BS 4183 18/8
8	Ball float an	d lever	Stainless steel	BS 1449 304 S16
		CA46	Synthetic rubber	Viton
9	Valve cone	CA46S (The valve cone in the CA46S is permanently attached to the ball float and lever)	Stainless steel	
14	Support frar	ne	Stainless steel	BS 1449 304 S16
15	Pivot frame		Stainless steel	BS 1449 304 S16
16	Pivot		Stainless steel	

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 (inches) and kg (pounds)

CA46S DN25 (1") DIN flange



CA46 and CA46S DN15 (1/2") and DN20 (3/4") DIN flange



Size	A	В	С	D	E	F	G	Weight
DN15	150	80	80	215 (8.5)	120	155 (6.1)	155 (6.1)	10.8
DN20	(5.9)	(3.1)	(3.1)	225 (8.9)	(4.7)	165 (6.5)	165 (6.5)	(24)
DN25	160 (6.3)	115 (4.5)	85 (3.3)	282 (11.1)	170 (6.7)	215 (8.5)	215 (8.5)	15.0 (33)

Flange bolt hole tappings

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

Safety information, installation and maintenance

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

Installation note

The trap should 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.

Make sure that the balance line is piped back to the upstream side.

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

For convenience of maintenance it is recommended that a union is fitted in the balance line near to the trap cover.

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 DN25 CA46S-32 air and gas trap flanged to EN 1092 PN40 with austenitic stainless steel body and cover.

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Spare parts

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

Available spare

Soft valve cone CA46	(packet of 3)	9	
	CA46	5, 6, 7, 8, 9, 14, 15, 16 5, 6, 7, 8 + 9, 14, 15, 16	
Main valve assembly with float	CA46S		
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 for a Spirax Sarco DN25 CA46S-32 air and gas trap.



Recommended tightening torques

ltem	or n	nm	N m	ft lbf
2	17	M10 x 60	29 - 33	21 - 24
5	17	M12 x 8	50 - 55	37 - 41
7	Cheesehead	M5 x 20	2.5 - 2.8	1.8 - 2.5