

TI-P148-38
CMGT Issue 4

spirax

sarco

CAS14 and CAS14S

Austenitic Stainless Steel

Ball Float Air and Gas Traps


Description
The CAS14 and CAS14S are austenitic stainless steel ball float gas/air drain traps. They provide efficient condensate drainage from compressed air and other gas systems, allowing the process to operate to its optimum potential. The connections are in the vertical plane for flow downwards. Body and cover castings are produced by a TÜV approved supplier in accordance with AD-Merkblatt WO/TRD100.

Operating media
The CAS14 and CAS14S are designed for use on air or gases within PED group 2.

Note: The CAS14 and CAS14S are not suitable for use on PED group 1 liquids or gases.

Available types	
CAS14	fitted with a viton valve cone ½" and ¾"
CAS14S	fitted with a stainless steel valve cone ½", ¾" and 1"

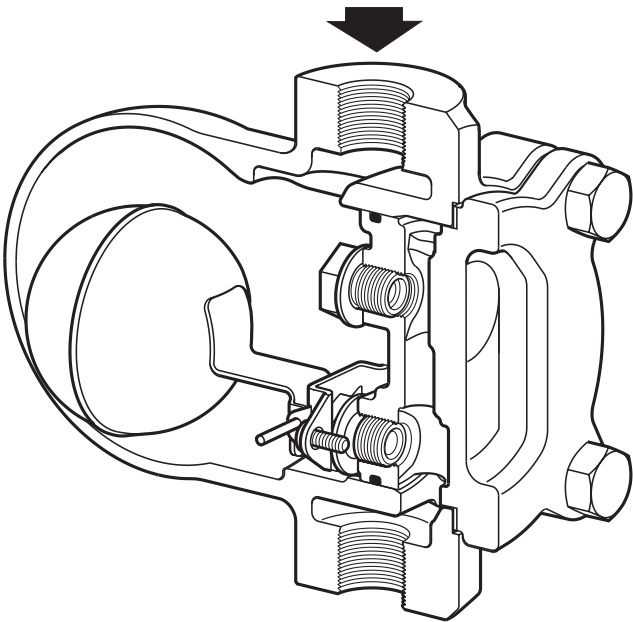
Optional extra
An integral screen.

Standards
These products fully comply with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations and carry the  mark when so required.

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

Sizes and pipe connections

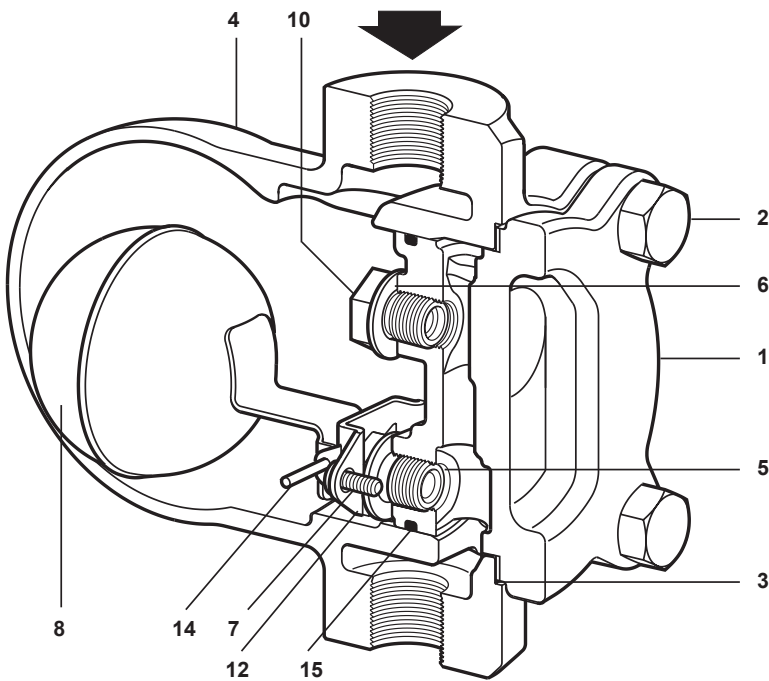
½", ¾" and 1"	Screwed BSP (BS 21 and DIN 2999) or NPT (ANSI B 1.20.1).
½", ¾" and 1"	Socket weld ends to ANSI B 16.11, BS 3799 Class 3000 and DIN 3239.



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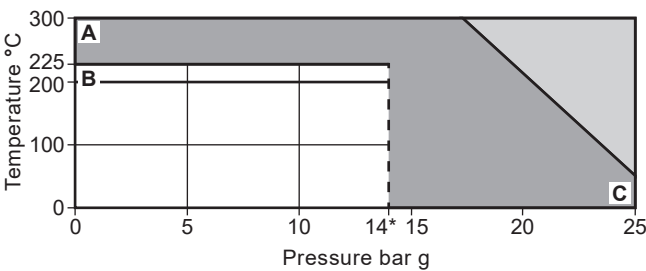
Compressed air products
Isolation valves, drain traps and ancillaries
Materials



No. Part		Material	
1	Body	Austenitic stainless steel (316)	EN 10213-4 (1.4408) ASTM A351 CF8M
2	Cover bolts	Stainless steel	BS EN 3506 A2-70
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	Austenitic stainless steel (316)	EN 10213-4 (1.4408) ASTM A351 CF8M
5	Main valve seat	Stainless steel	BS 970 431 S29
6	Main valve seat gasket	Stainless steel	
7	Main valve assembly screws	Stainless steel	
8	Ball float and lever	Stainless steel	BS 1449 304 S16
9 *	Valve cone	CAS14	Viton
		CAS14S	Stainless steel AISI 440B
10	Blanking plug	Stainless steel	
12	Pivot frame	Stainless steel	
14	Pivot pin	Stainless steel	
15	'O' ring	FDA approved viton to FDA regulation 177.2600	
16 *	Valve spring (1" only)	Stainless steel	

* **Note:** Items 9 and 16 are clearly identified on page 4.

Pressure/temperature limits (ISO 6552)



- The product **must not** be used in this region.
- The Viton soft seat versions should not be used in this region.

A - C CAS14S

B - C CAS14

*PMO	Maximum operating pressure	14 bar g
Body design conditions		PN25
PMA	Maximum allowable pressure	25 bar g
TMA	Maximum allowable temperature	300 °C
Minimum allowable temperature		-20 °C
PMO	Maximum operating pressure for saturated steam service	14 bar g
TMO	Maximum operating temperature	CAS14 200 °C
		CAS14S 225 °C

Δ PMX Maximum differential pressure	
Minimum operating temperature	0 °C
The maximum differential pressure depends on the specific gravity of the liquid being drained.	

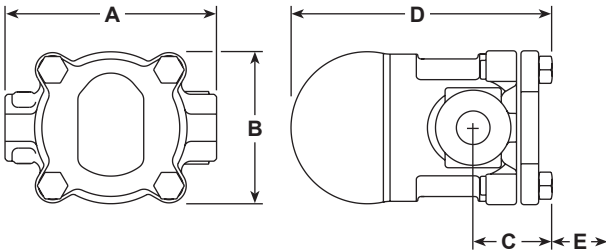
Trap	Specific Gravity				
	1.0	0.9	0.8	0.7	0.6
Maximum differential pressure bar					
CAS14	14.0	14.0	14.0	9.0	5.0
CAS14S	14.0	14.0	14.0	9.0	5.0

Minimum specific gravity of liquid	0.6
Designed for a maximum cold hydraulic test pressure of:	37.5 bar g

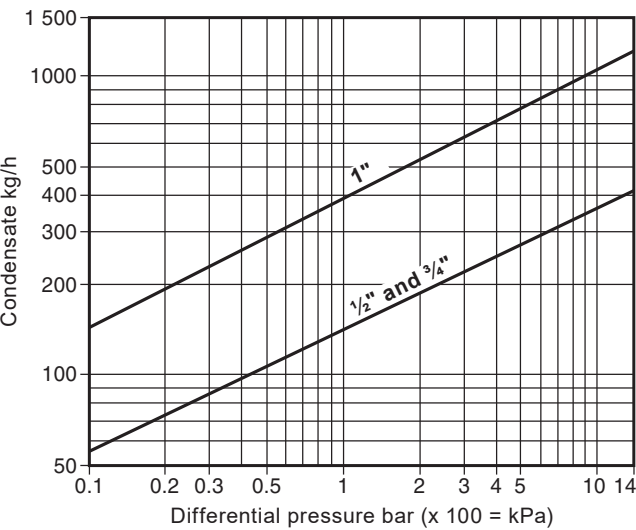
Compressed air products
Isolation valves, drain traps and ancillaries

Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	E Withdrawal distance	Weight
½"	135	97	48	162	135	3.73
¾"	135	97	48	162	135	3.73
1"	139	113	51	179	145	4.23



Capacities



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P106-02-EN-ISS1) supplied with the product.

How to order

Example: 1 off Spirax Sarco ½" CAS14 austenitic stainless steel ball float air and gas trap having screwed BSP connections.

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CA46S

Austenitic Stainless Steel

Air and Gas Trap DN40 and DN50

TI-P148-07

CMGT Issue 11

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

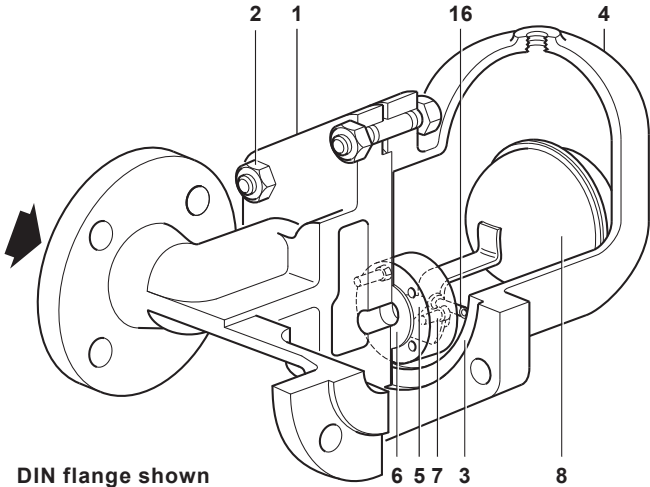
This product fully complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations and carries the  mark when so required.

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 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.



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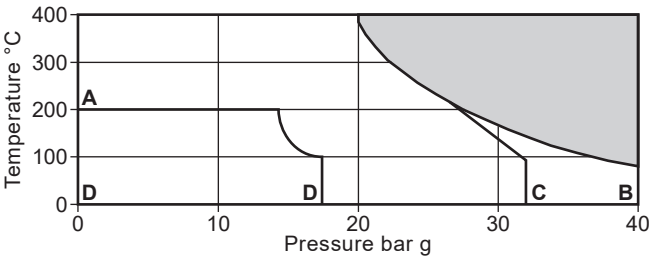
Materials

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 (The valve cone is permanently attached to the ball float and lever)	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 A2-70
		DN50 studs and nuts	Stainless steel A2-70

Note: Parts 9, 14, 15, 18 and 19 are shown overleaf.

Compressed air products
Isolation valves, drain traps and ancillaries

Pressure/temperature limits



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

A - B Flanged EN 1092 PN40 and ASME 300.

A - C Flanged JIS/KS 20K.

A - D Flanged ASME 150.

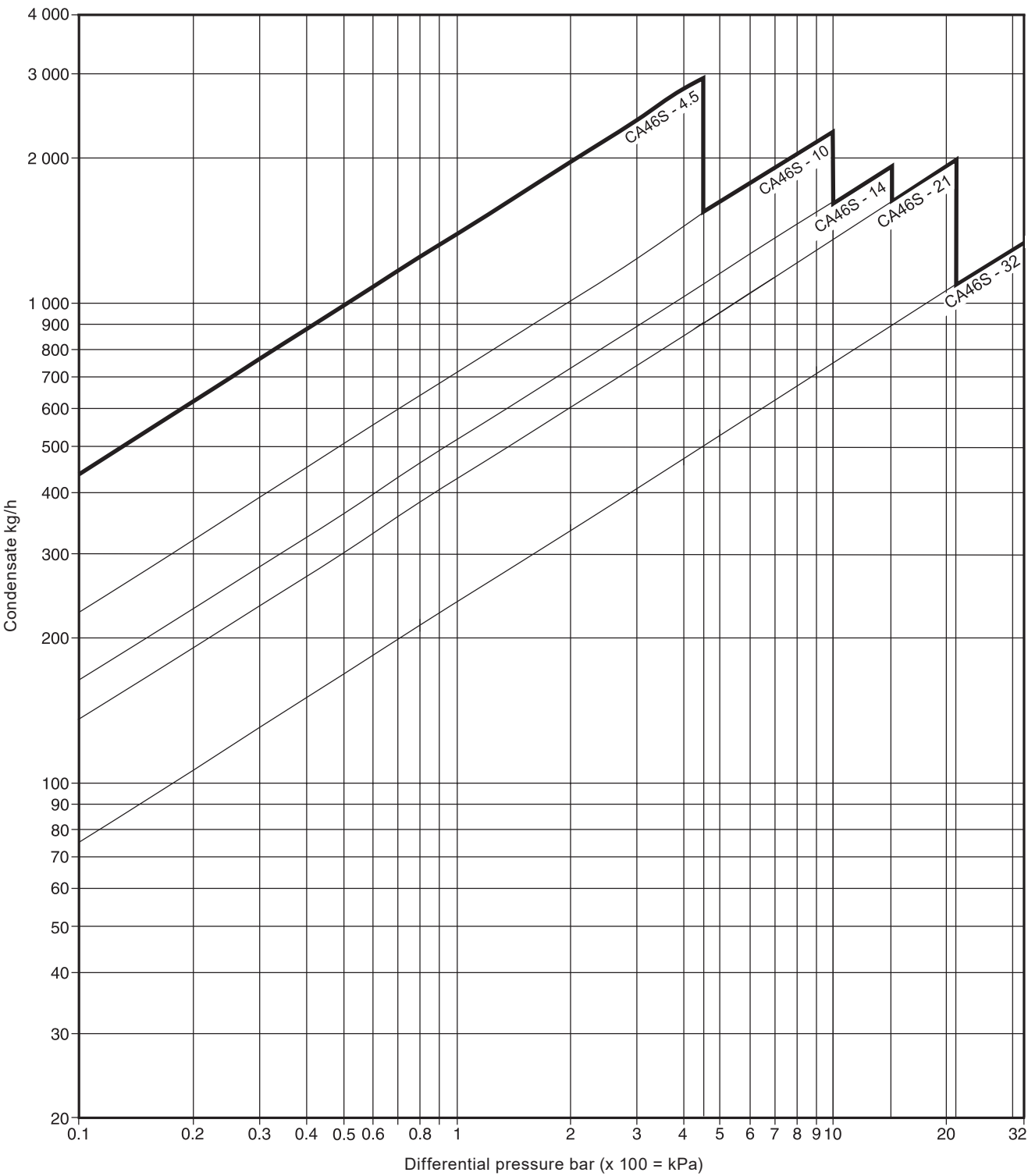
Body design conditions		PN40
PMA	Maximum allowable pressure	40 bar g
TMA	Maximum allowable temperature	400 °C
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure for saturated steam service	40 bar g
TMO	Maximum operating temperature	400 °C
Minimum operating temperature for satisfactory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

		Specific gravity					
<div>ΔPMX Maximum differential pressure</div> <div>The maximum differential pressure depends on the specific gravity of the liquid being drained.</div>	Trap	1.0	0.9	0.8	0.7	0.6	
	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	
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

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.

Capacities

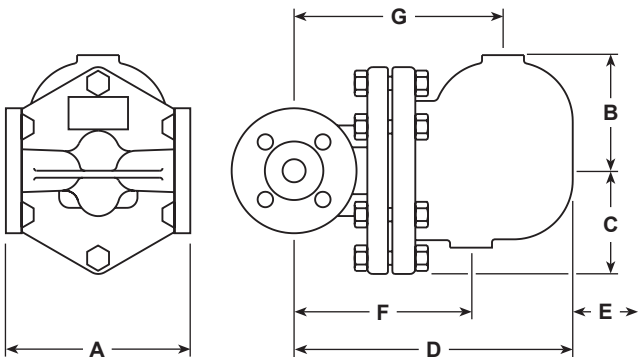
Note: The capacities provided here are calculated using water at ambient temperature.
The discharge capacity is affected with a change in specific gravity, for further information contact Spirax Sarco.



Compressed air products
Isolation valves, drain traps and ancillaries

Dimensions/weights (approximate) in mm and kg

Size	A	B	C	D	E	F	G	Weight
DN40	230	130	116	326	200	200	242	33
DN50	230	141	123	332	200	225	248	43



Flange bolt hole tapings

Size	ASME 150	ASME 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 a grey line are not supplied as spares.

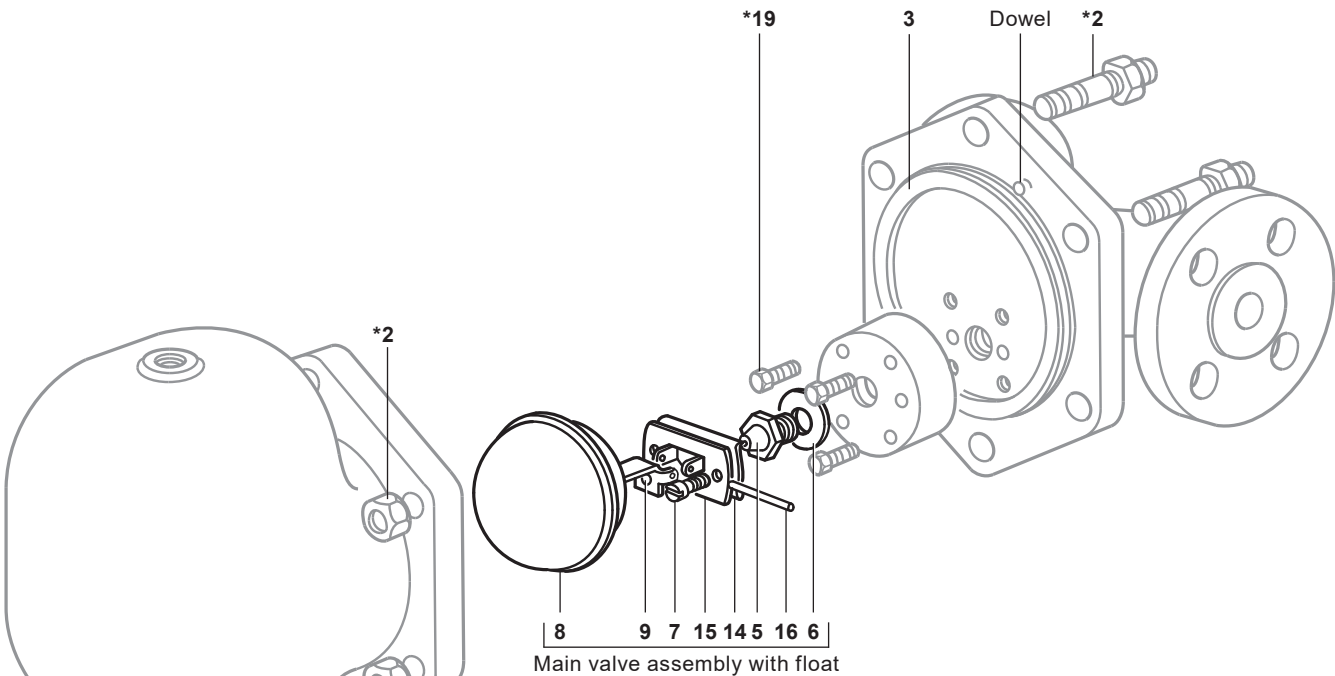
Available spares

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.



* **Note:** Items 2 and 19 are not an available spare.

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