

# spirax sarco

## FT47

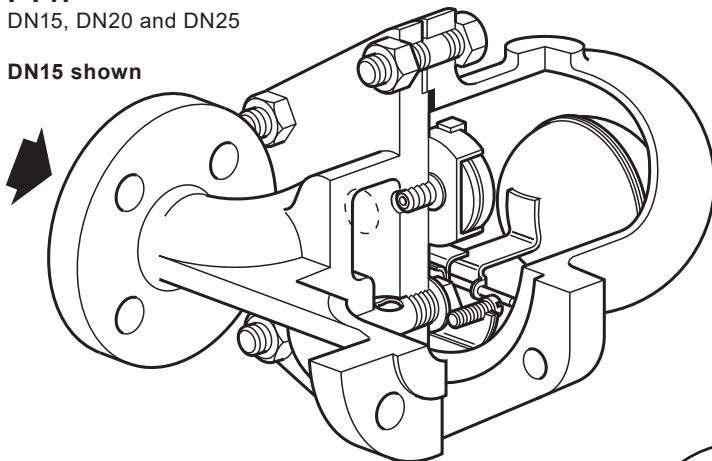
### SG Iron

## Ball Float Steam Traps (DN15 to DN50)

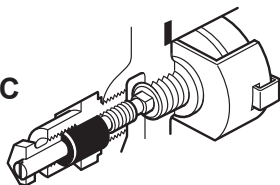
### FT47

DN15, DN20 and DN25

DN15 shown



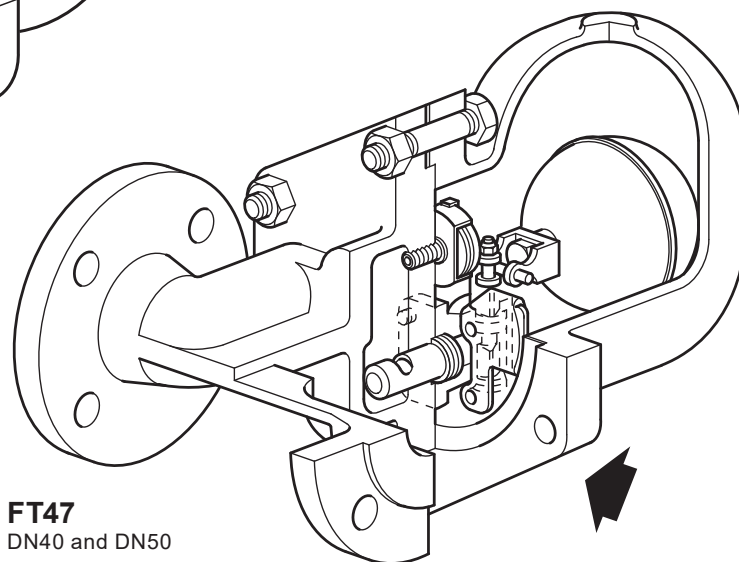
### FT47-C



### FT47

DN40 and DN50


DN50 shown



### Description

The FT47 is an SG iron ball float steam trap with integral automatic air venting facility. It is available with horizontal flanged connections as well as vertical flanged connections, designated FT47V. As an option in the horizontal version up to 21 bar g, a manually adjustable needle valve can be added for use as a steam lock release designated FT47-C. If required, the cover can be drilled and tapped  $\frac{3}{8}$ " BSP or NPT for the purpose of fitting a drain cock. For the horizontal DN50 only, body and cover castings are produced by a TÜV approved foundry.

### Standards

This product fully complies with the requirements of the Pressure Equipment Directive (PED) and carries the  mark when so required.

### Certification

This product is available with a manufacturers' Typical Test Report. As an available option certification to EN 10204 3.1 can be supplied. **Note:** All certification/inspection requirements must be specified at the time of order placement.

## Sizes and pipe connections

DN15, DN20, DN25, DN40 and DN50.

**Note:** Flow direction, for horizontal orientated traps, when facing the body:

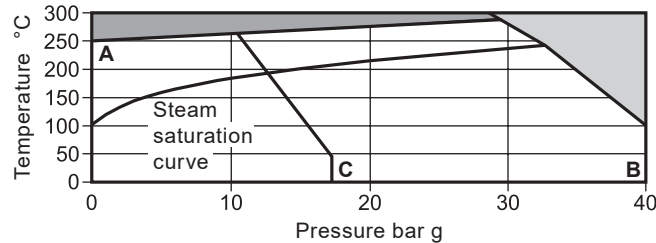
- DN15 to DN25 is left to right.
- DN40 and DN50 is right to left.

For vertically orientated traps the flow is downwards only.

**Standard flanges** are EN 1092 PN40 with face-to-face dimensions in accordance with EN 26554 (Series 1).

**On request** ASME B 16.5 Class 150 flanges are also available with face-to-face dimensions in accordance with EN 26554 (Series 1). ASME flanges are supplied with tapped (UNC) holes for flanged bolts.

## Pressure/temperature limits



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

This product should not be used in this region as damage to the internals may occur.

**A - C** Flanged ASME (ANSI) A150

**A - B** Flanged EN 1092 PN40

Body design conditions		PN40
PMA	Maximum allowable pressure	40 bar g @ 100 °C
TMA	Maximum allowable temperature	300 °C @ 28 bar g
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure for saturated steam service <b>Note:</b> The DN40 and DN50 traps are limited to a PMO equal to ΔPMX	32 bar g @ 239 °C
TMO	Maximum operating temperature	285 °C @ 29 bar g
Minimum operating temperature		0 °C
<b>Note:</b> For lower operating temperatures consult Spirax Sarco		

	Size	DN15, 20, 25	DN40, 50
ΔPMX	FT47-4.5	4.5 bar	4.5 bar
	FT47-10	10 bar	10 bar
	FT47-14	14 bar	-
	FT47-21	21 bar	21 bar
	FT47-32	32 bar	32 bar

Designed for a maximum cold hydraulic test pressure of : 60 bar g  
**Note:** With internals fitted, test pressure must not exceed ΔPMX

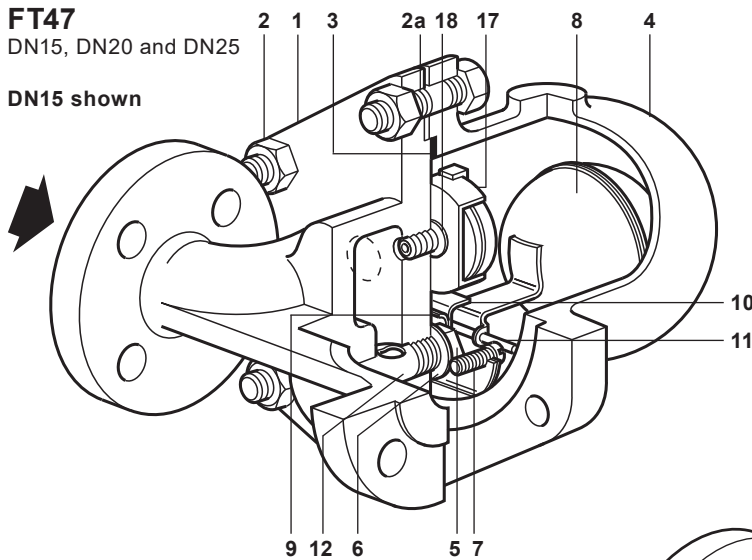
**Caution:** The trap in its complete operational form must not be subjected to a pressure greater than 48 bar otherwise damage to the internal mechanism may result.

## Materials

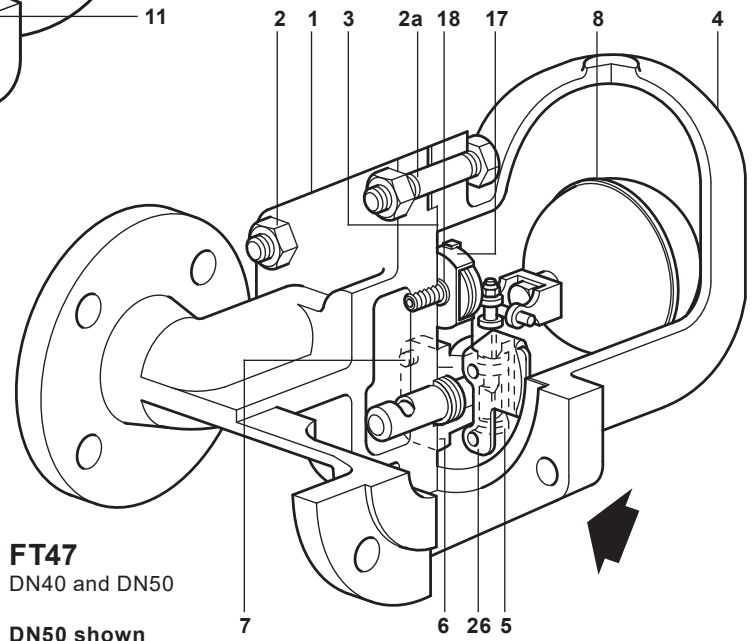
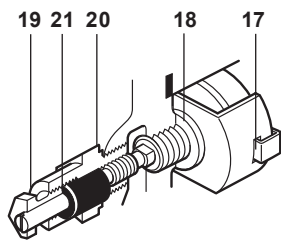
### FT47

DN15, DN20 and DN25

DN15 shown



### FT47-C



### FT47

DN40 and DN50

DN50 shown

No.	Part	Material		
1	Body	DN15, DN20, DN25 and DN40	SG iron 5.3103	
		DN50	SG iron 5.3103	
2	Cover nuts	DN15, DN20 and DN25	Steel EN 10269 25 Cr Mo 4	
		DN40 and DN50	Steel DIN 17420 24 Cr Mo 5	
2a	Cover stud	Steel	DIN 17420 21 Cr Mo V57	
3	Cover gasket	Reinforced exfoliated graphite		
4	Cover	SG iron	DIN 1693 5.3103	
5	Main valve assembly with erosion deflector	DN15, DN20 and DN25	Stainless steel BS 970 431 S29	
		DN40 and DN50	Stainless steel BS 3146 Pt2 ANC2 BS 970 416 S37	
	Valve seat gasket	DN15, DN20 and DN25	Stainless steel BS 1449 304 S11	
6	Main valve assembly gasket	DN40 and DN50	Reinforced exfoliated graphite	
		Pivot frame assembly set screws	DN15, DN20 and DN25	Stainless steel BS 4183 18/8
7	Main valve assembly	Bolts	DN40	Stainless steel BS 970 302 S25
		Studs and nuts	DN50	Stainless steel BS 970 431 S29
8	Ball float and lever	Stainless steel	BS 1449 304 S16	

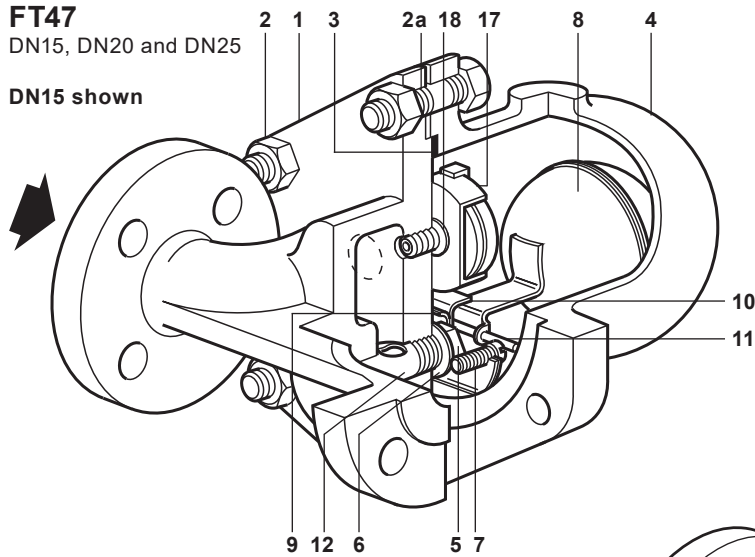
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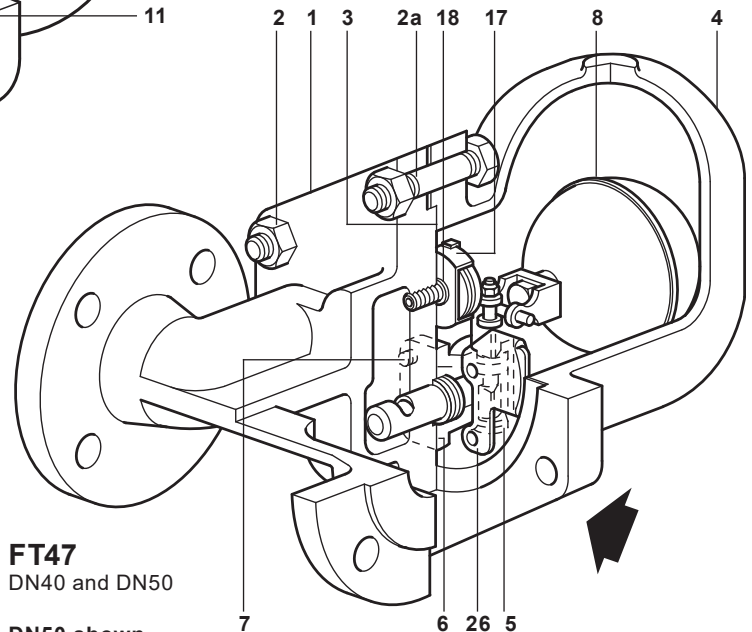
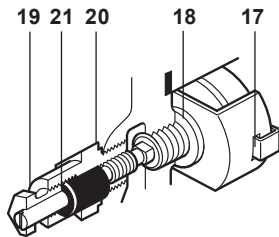
### FT47

DN15, DN20 and DN25

DN15 shown



### FT47-C



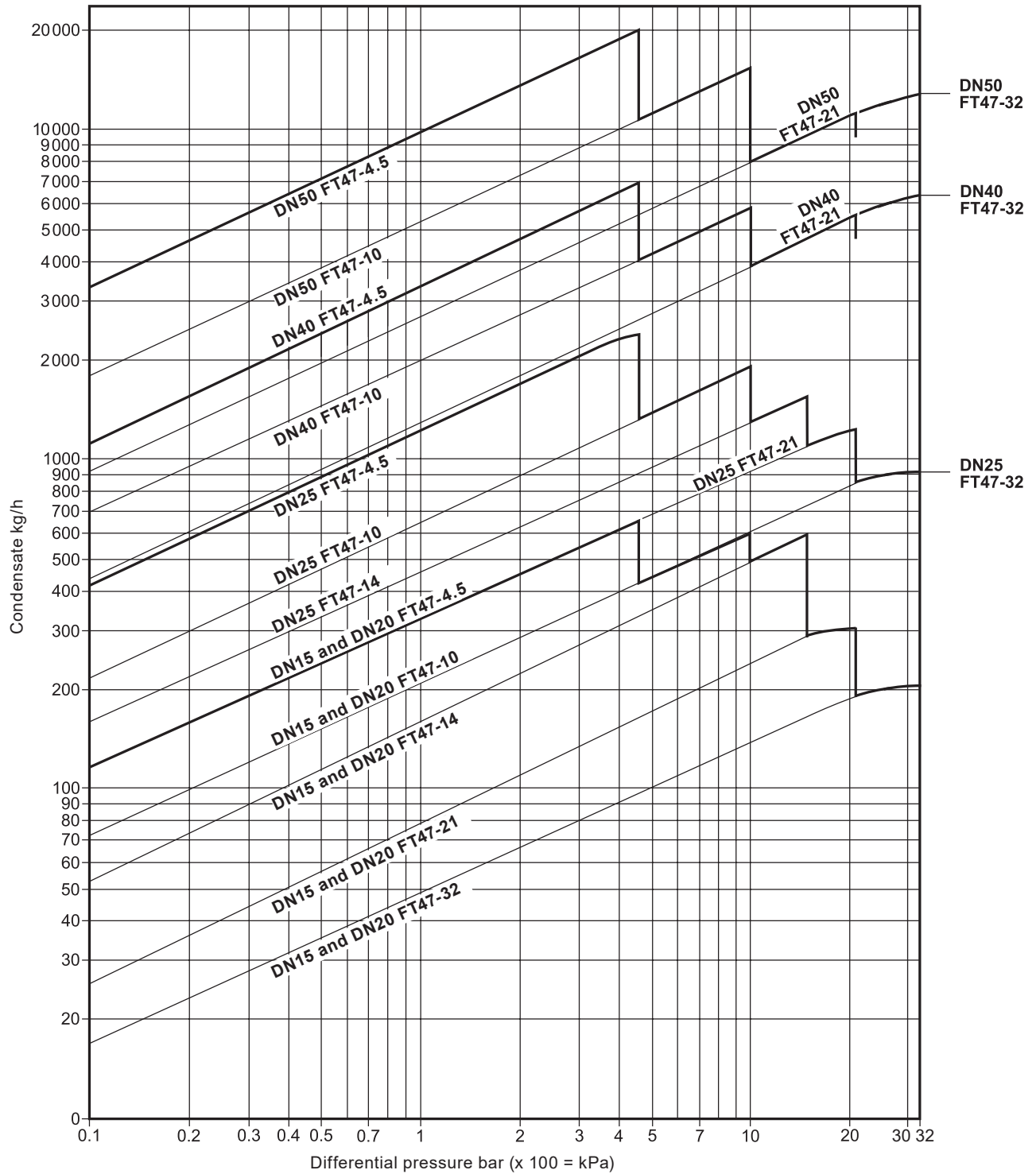
### FT47

DN40 and DN50

DN50 shown

No.	Part	Material
9	Support frame	DN15, DN20 and DN25 Stainless steel BS 1449 304 S16
10	Pivot frame	DN15, DN20 and DN25 Stainless steel BS 1449 304 S16
11	Pivot pin	DN15, DN20 and DN25 Stainless steel
12	Erosion deflector	DN15, DN20 and DN25 for horizontal installations only Stainless steel BS 970 431 S29
17	Air vent assembly	Stainless steel
18	Air vent seat gasket	Stainless steel BS 1449 409 S19
19	SLR assembly	Stainless steel BS 970 303 S31
20	SLR gasket	Steel BS 1449 CS 4
21	SLR seal	Graphite
26	Inlet plate	DN40 and DN50 for horizontal installations only Stainless steel BS 1449 304 S16

## Capacities



### Additional cold water capacities from the thermostatic air vent under start-up conditions

Capacities shown above are based on condensate at saturation temperature. Under start-up conditions when the condensate is cold the internal thermostatic air vent will be open and provides additional capacity to the main valve. The following table gives the minimum additional cold water capacities from the air vent.

ΔP (bar)		0.5	1	2	3	4.5	7	10	14	21	32
		Minimum additional cold water capacity (kg/h)									
DN15 and DN20	up to 21 bar	450	600	780	1 040	1 140	1 350	1 530	1 750	2 300	-
	32 bar only	170	250	380	520	600	780	860	1 140	1 170	1 200
DN25, DN40 and DN50	up to 21 bar	460	680	900	1 080	1 300	1 600	1 980	2 050	2 600	-
	32 bar only	90	120	350	460	600	850	900	1 020	1 200	1 300

## 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	276	170	215	15.0
DN40	230	130	115	326	200	200	33.0
DN50	230	141	123	332	200	236	34.0

Face-to-face dimensions in accordance with EN 26554 (Series 1)

### FT47

DN15 and DN20

### FT47

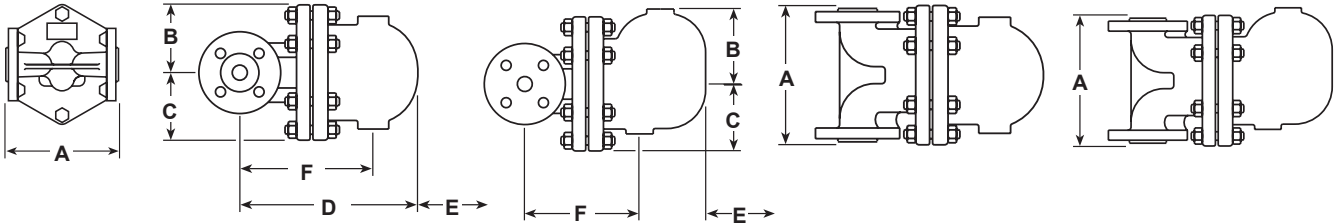
DN25, DN40 and DN50

### FT47V

DN15 and DN20

### FT47V

DN25, DN40 and DN50



## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S02-30) supplied with the product.

### Installation note:

The FT47 must be installed with the direction of flow as indicated on the body, and with the float arm in a horizontal plane so that it rises and falls vertically.

### Disposal

This 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 FT47-14 ball float steam trap, having an SG iron body and cover with thermostatic air vent. Connections are to be flanged to EN 1092 PN40.

## Spare parts

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

### Available spares

Main valve assembly with float (DN15, DN20 and DN25 horizontal traps)*	5, 6, 7, 8, 9, 10, 11
Main valve assembly with integral erosion deflector (DN40 and 50) ** (specify horizontal or vertical trap)	5, 6, 7, 12, 26
Main valve assembly with float (DN15, DN20 and DN25 vertical traps only)	5, 6, 7, 8, 9, 10, 11
Ball float (DN40 and 50)	8
Air vent assembly	17, 18
Steam lock release and air vent assembly (FT47-C)	17, 18, 19, 20, 21
Complete set of gaskets (packet of 3 sets)	3, 6, 18, 20, 21

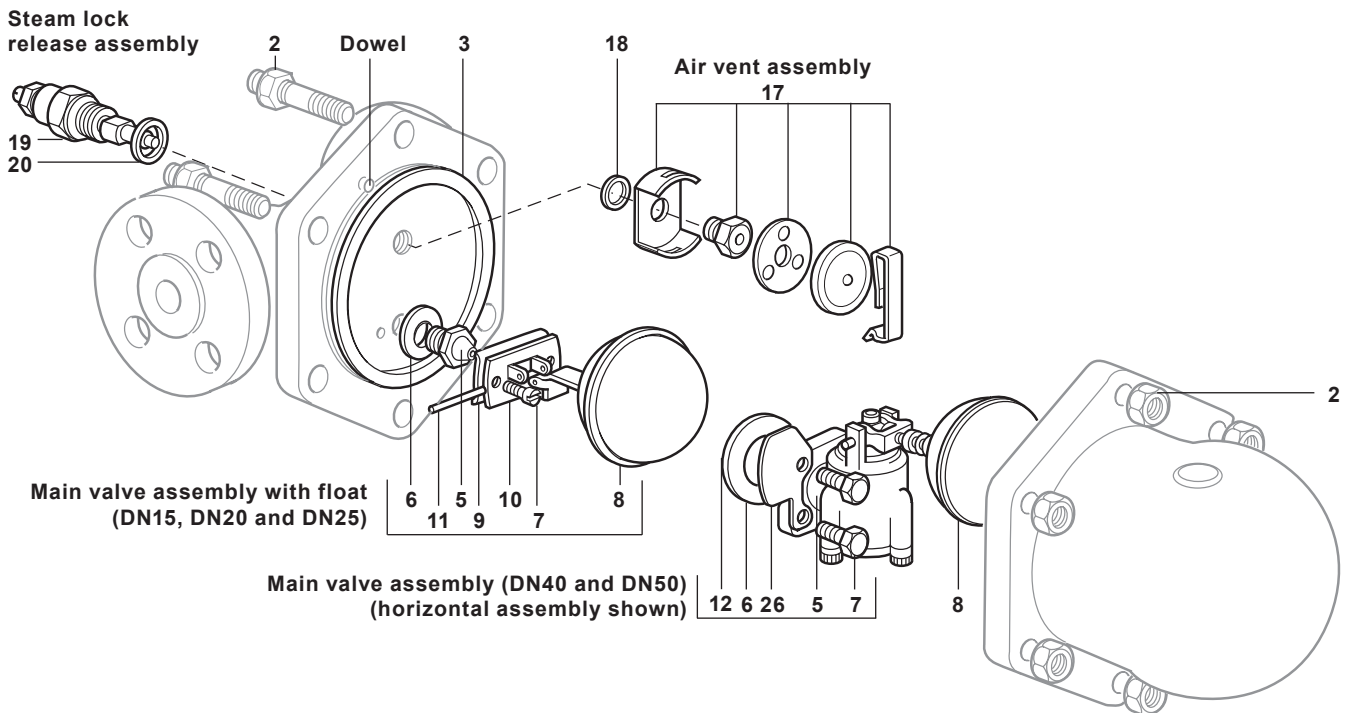
\* On horizontal traps the erosion deflector on the DN15, DN20 and DN25 is pressed into the body during manufacture and not available as a spare.

\*\* There is no erosion deflector on vertical traps in sizes DN40 and DN50.



### 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, including pressure range and orientation i.e.: horizontal or vertical connections.

**Example:** 1 - Air vent assembly for a Spirax Sarco DN20 FT47-21 ball float steam trap, with horizontal connections.



### Recommended tightening torques

Item	Part	or		N m
				
2	DN15, 20 and 25	17 A/F	M10 x 60	19 - 22
	DN40	19 A/F	M16 x 85	60 - 66
	DN50	24 A/F	M16 x 85	80 - 88
5	DN15, 20 and 25	17 A/F		50 - 55

Item	Part	or		N m
				
7	DN15, 20 and 25		M5 x 20	2.5 - 2.8
	DN40	10 A/F	M6 x 20	10 - 12
	DN50	13 A/F	M8 x 20	20 - 24
17		17 A/F		50 - 55
19		22 A/F		50 - 55