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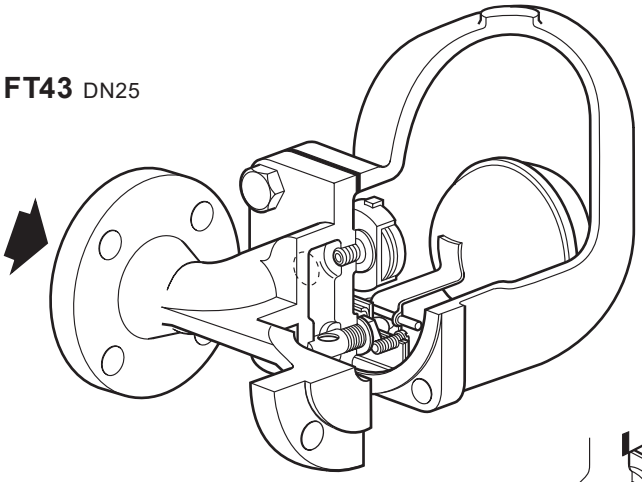
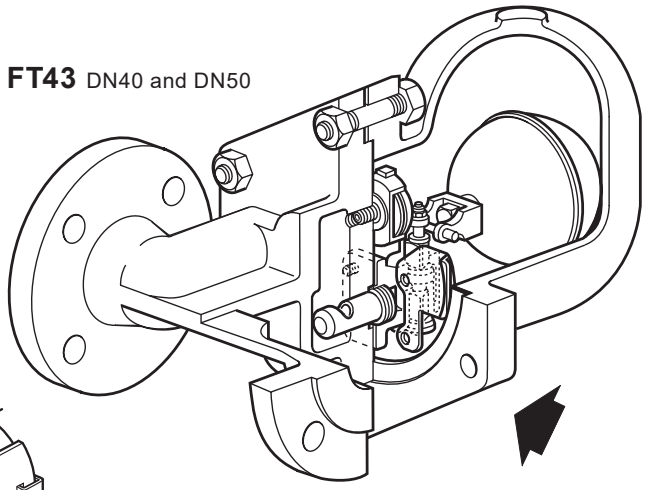
FT43
Cast Iron
Ball Float Steam Trap DN25 to DN50

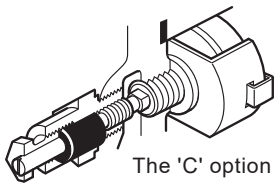
FT43 DN25



FT43 DN40 and DN50



FT43-C



The 'C' option is available for horizontal versions only.

Description

The FT43 is a cast iron bodied ball float steam trap having stainless steel working internals and automatic air venting facility. The trap is supplied with integrally flanged connections and can be maintained without disturbing the pipework. Vertical flanged connections, are available for all sizes. Flow direction for the horizontal trap is clearly illustrated below. For vertically orientated traps the flow is downwards only.

Available options

- **FT43** – Horizontal flow
- **FT43V** – Vertical flow

Standards

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

Certification

This product is available with a manufacturers' Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Optional extras

A **manually adjustable needle valve** (designated 'C' on the nomenclature i.e. FT43-C) can be fitted to the horizontal versions of FT43. This option provides a **steam lock release (SLR)** feature in addition to the standard air vent. Vertical versions can be supplied either with an SLR or an Air Vent.The 'C' version is not available upon a vertical version FT43V. For further information please consult Spirax Sarco.

The **top of the cover can be drilled and tapped ⅜" BSP or NPT** for the purpose of fitting a balance line if requested at the point of order.

The **bottom of the cover can be drilled and tapped ⅜" BSP or NPT** for the purpose of fitting a drain cock if requested at the point of order.

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Sizes and pipe connections

DN25, DN40 and DN50
Note: Flow direction, for FT43 horizontal orientated traps, when facing the body:

- DN25 is left to right (L-R). (R-L versions are available for DN25 FT43TV PN16 only)
- DN40 and DN50 is right to left (R-L). Flow direction, for FT43V vertically orientated traps is downwards only.

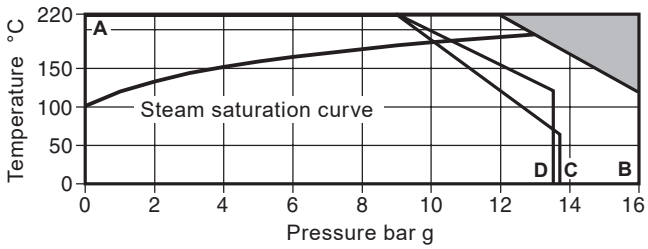
Only the one size, DN25, is available with JIS/KS flange connections with flow vertically downward FT43V.

Standard flanges are EN 1092 PN16 with face-to-face dimensions in accordance with EN 26554 (Series 1).

On request - ASME B 16.1 Class 125 and JIS/KS 10 flanges are also available.

Note: ASME flanges are supplied with tapped holes to receive flange bolts. JIS/KS flanges will be supplied drilled as normal with plain bolts holes.

Pressure/temperature limits



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

A - B Flanged EN 1092 PN16.

A - C Flanged ASME 125.

A - D Flanged JIS/KS 10

Body design conditions			PN16
PMA	Maximum allowable pressure		16 bar g @ 120 °C
TMA	Maximum allowable temperature		220 °C @ 12.1 bar g
Minimum allowable temperature			0 °C
PMO	Maximum operating pressure for saturated steam service **Note:** The DN40 and DN50 traps are limited to a PMO equal to PMX		13 bar g @ 195 °C
TMO	Maximum operating temperature		220 °C @ 12.1 bar g
Minimum operating temperature **Note:** For lower operating temperatures consult Spirax Sarco			0 °C
ΔPMX	Maximum differential pressure	**FT43-4.5**	4.5 bar
		FT43-10	10 bar
		FT43-14	13 bar
Designed for a maximum cold hydraulic test pressure of: **Note:** With internals fitted, test pressure must not exceed ΔPMX			24 bar g

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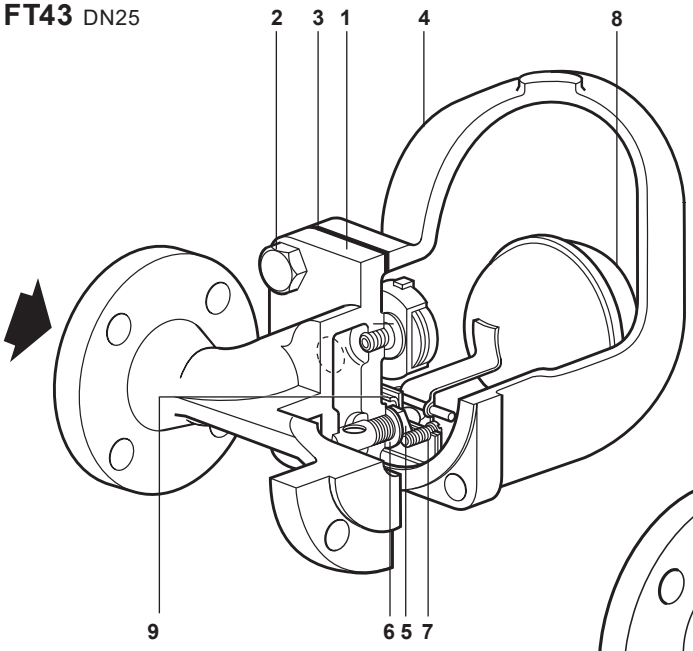
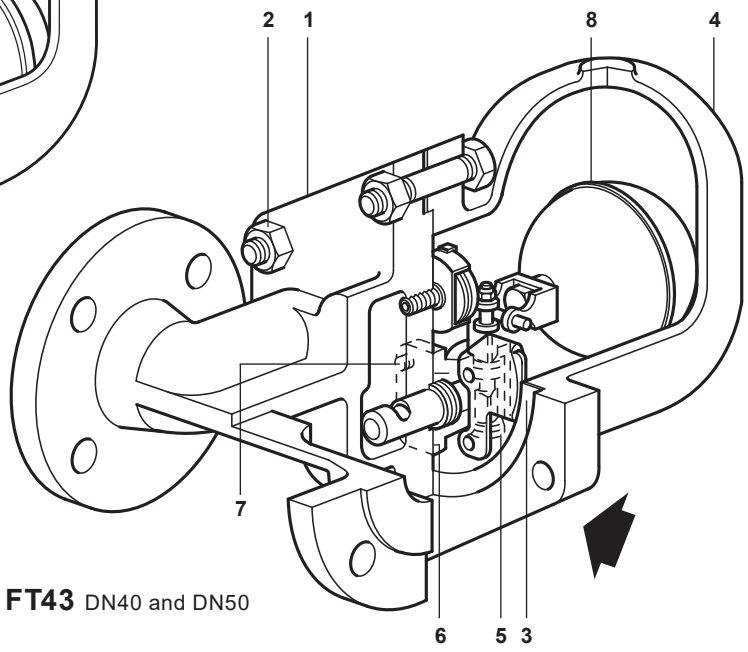
Materials

FT43 DN25





FT43 DN40 and DN50

No.	Part		Material	
1	Body		Cast iron	EN-JL 1040
2	Cover bolts	DN25	Steel	BS 3692 Gr. 8.8
	Cover stud		Steel	BS 4882 - B7M
	Cover nuts		Steel	BS 3692 Gr. 8.8
3	Cover gasket		Reinforced exfoliated graphite	
4	Cover		Cast iron	EN-JL 1040
5	Valve seat	DN25	Stainless steel	BS 970 431 S29
	Main valve assembly with erosion deflector	DN40, DN50	Stainless steel	BS 3146 Part 2 Anc 2
6	Valve seat gasket	DN25	Stainless steel	BS 1449 304 S11
	Main valve assembly gasket	DN40, DN50	Reinforced exfoliated graphite	
7	Pivot frame assembly bolts	DN25	Stainless steel	BS 4183 18/8
	Main valve assembly bolts	DN40		BS 970 304 S16
	Studs and nuts	DN50		BS 6105 A4.80
8	Ball float and lever	DN25	Stainless steel	BS 1449 304 S16
	Ball float	DN40, DN50	Stainless steel	BS 1449 304 S16
9	Support frame		Stainless steel	BS 1449 304 S16

Materials continued on next page

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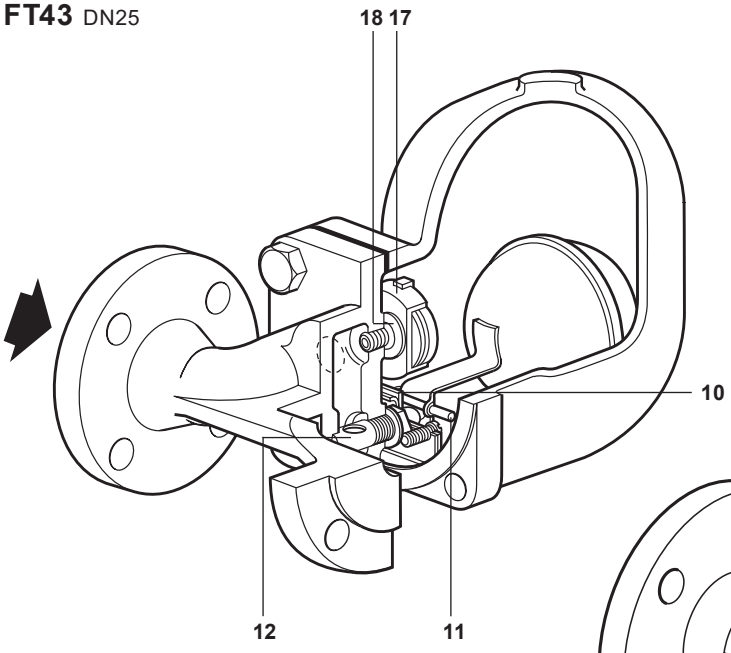
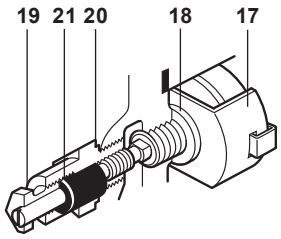
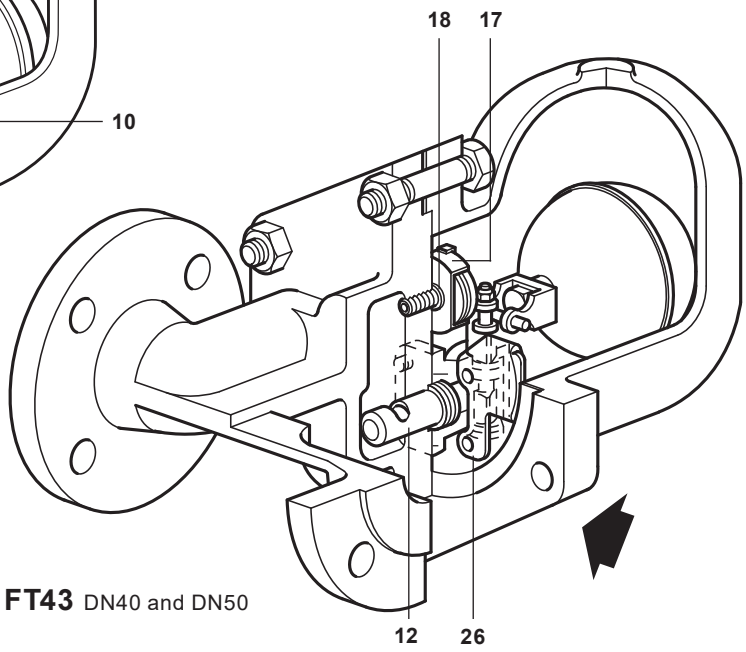
Materials (continued)

FT43 DN25



FT43-C





FT43 DN40 and DN50

No.	Part		Material	
10	Pivot frame		Stainless steel	BS 1449 304 S16
11	Pivot pin		Stainless steel	
12	Erosion deflector		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 S21
20	SLR gasket		Mild steel	BS 1449 CS4
21	SLR seal		Graphite	
26	Inlet plate	DN40, DN50	Stainless steel	BS 1449 304 S15

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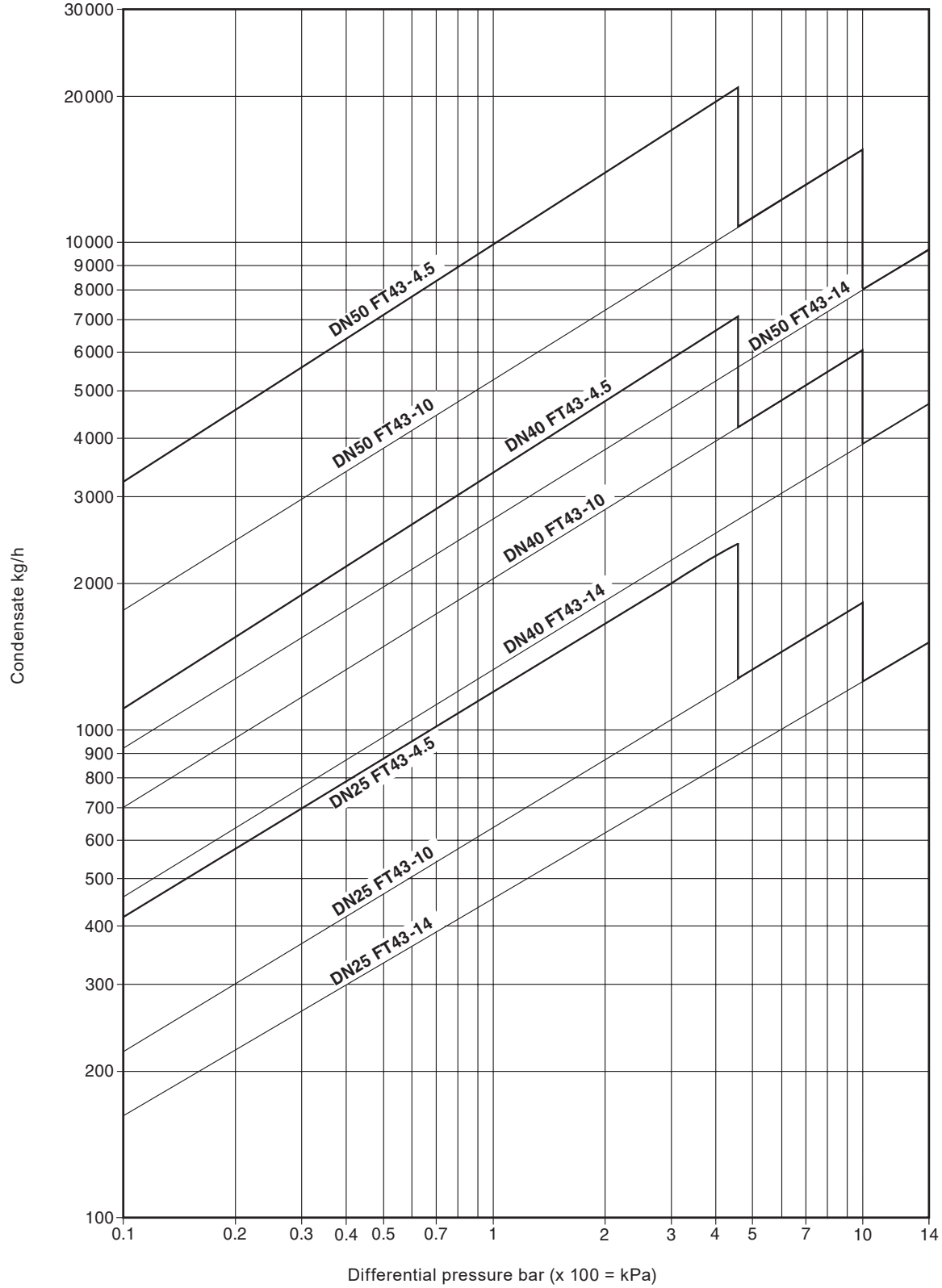
Capacities



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
	Minimum additional cold water capacity (kg/h)							
DN25, DN40 and DN50	460	680	900	1 080	1 300	1 600	1 980	2 050

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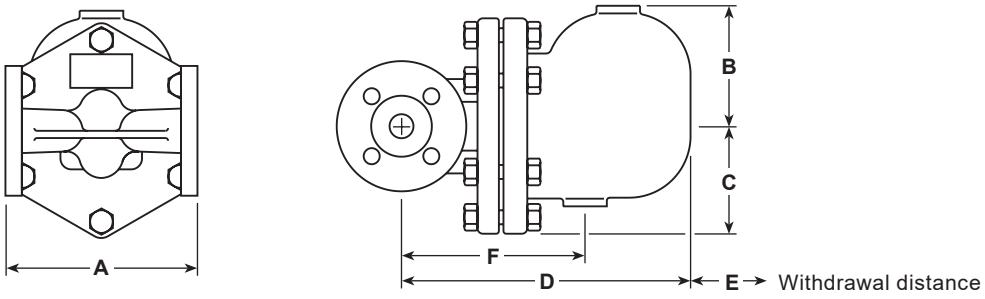
Dimensions / weights (approximate) in mm and kg

FT43 DN40 and DN50 shown



Size	A* PN16 JIS/KS 10	A* ASME 125	B	C	D	E	F	Weight
DN25	160	148	110	80	245	160	215	8.3
DN40	230	221	128	110	330	200	200	21.5
DN50	230	220	140	126	340	200	225	30.5

* The **face-to-face dimensions** for the PN16 are in accordance with ISO 6554; for other flange variants, please contact Spirax Sarco.

Safety information, installation and maintenance

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

Installation note:

The FT43 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 FT43-4.5 ball float steam trap, flanged to EN 1092 PN16 with cast iron body and cover with thermostatic air vent.

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Spare parts

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

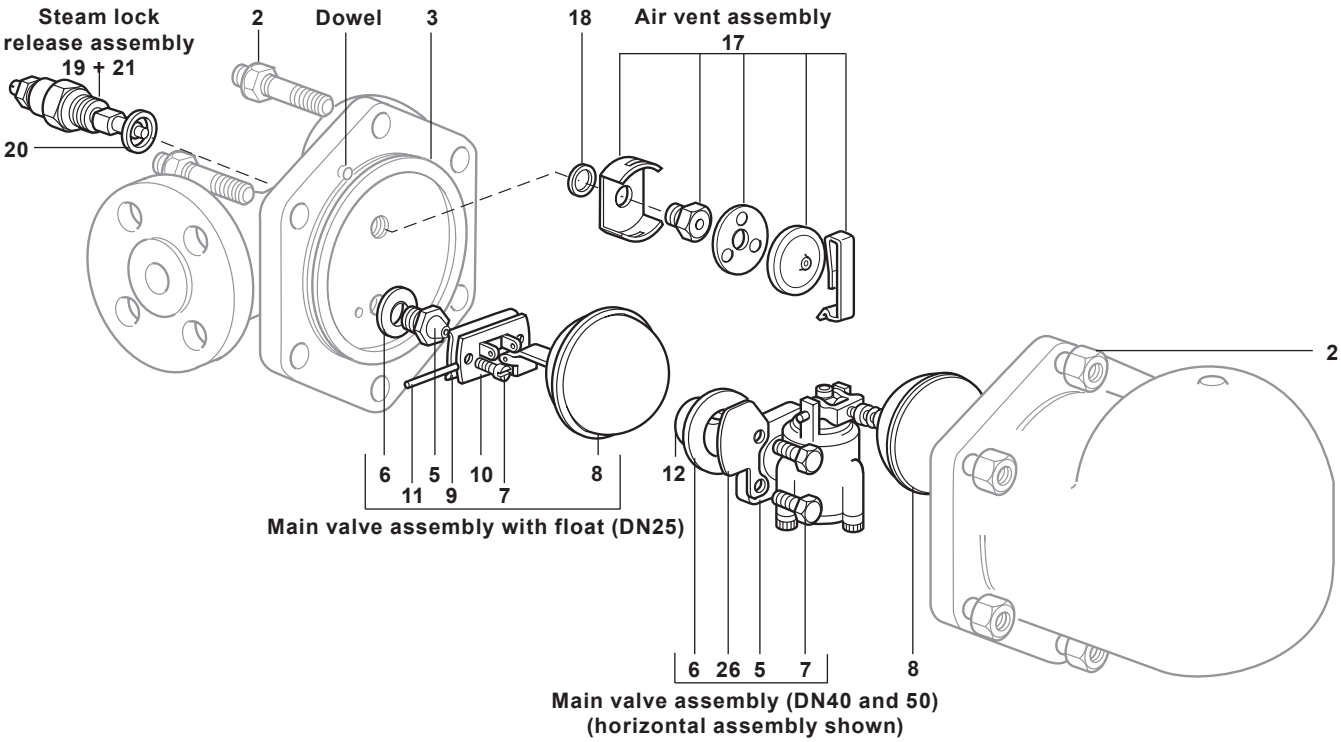
Available spares	
Main valve assembly complete with ball float (DN25 horizontal traps)*	**5**, **6**, **7**, **8**, **9, 10, 11**
Main valve assembly with erosion deflector (DN40 and DN50) (specify horizontal or vertical trap) **	**5**, **6**, **7**, **12, 26**
Ball float (DN40 and DN50)	**8**
Air vent assembly	**17, 18**
Manually adjustable needle valve and air vent assembly	**17, 18, 19, 20, 21**
Complete set of gaskets (packet of 3)	**3**, **6**, **20**

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

** There is no erosion deflector on vertical traps.

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 DN25 FT43-4.5 ball float steam trap, with horizontal connections.



Recommended tightening torques

Item	Part	or mm		N m
	DN25	17 A/F	M10 x 30	29 - 33
2	DN40	19 A/F	M12 x 60	60 - 66
	DN50	24 A/F	M16 x 70	80 - 88
5	DN25			50 - 50
	DN25		M5 x 20	2.5 - 2.8
7	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