Cert. No. LRQ 0963008

ISO 9001

spirax sarco

FT14
Ball Float Steam Trap (Screwed)

TI-S02-03
ST Issue 9

CHRYSSAFIDIS

Description

The FT14 is an SG iron bodied ball float steam trap having stainless steel working internals and integral automatic air venting facility. The FT14 can be maintained without disturbing the pipework.

Available types

FT14 (R-L)	Horizontal connections with flow from right to left
FT14 (L-R)	Horizontal connections with flow from left to right
FT14V	Vertical connections with flow downwards

Capsule
The BP99/32 capsule which is used in the FT14 is suitable for use on 150°C superheat @ 0 bar g and 50°C superheat @ 32 bar g.

Optional extras

A **manually adjustable needle valve** (designated 'C' on the nomenclature i.e. **FT14-C**) can be fitted to the trap. This option provides a **steam lock release** (**SLR**) feature in addition to the standard air vent. For further information please consult Spirax Sarco.

The FT14 has the option of an **integral strainer screen** (designated 'X' on the nomenclature i.e. **FT14-X**).

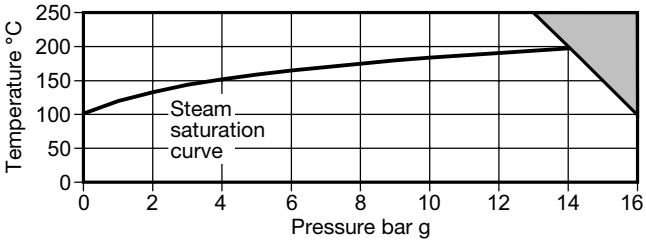
Standards
This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

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.

Sizes and pipe connections

½", ¾" and 1" screwed BSP or NPT.

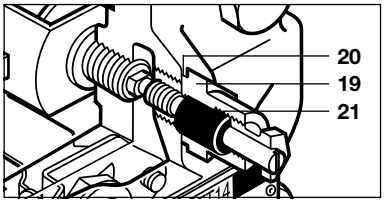
Pressure/temperature limits (ISO 6552)

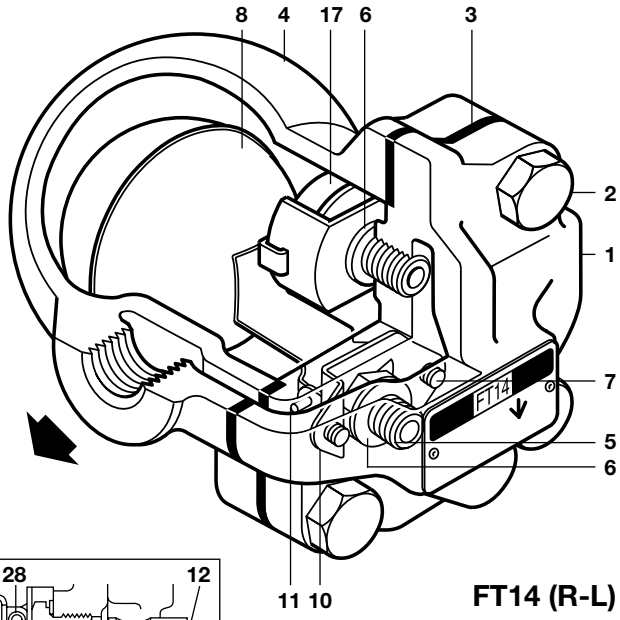


The product **must not** be used in this region.

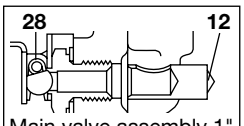
Body design conditions			PN16
PMA	Maximum allowable pressure		16 bar g @ 100°C
TMA	Maximum allowable temperature		250°C @ 13 bar g
Minimum allowable temperature			-10°C
PMO	Maximum operating pressure for saturated steam service		14 bar g
TMO	Maximum operating temperature		250°C @ 13 bar g
Minimum operating temperature			0°C
ΔPMX	Maximum differential pressure	FT14-4.5	4.5 bar
		FT14-10	10 bar
		FT14-14	14 bar
Designed for a maximum cold hydraulic test pressure of 24 bar g			

FT14-C (R-L)





FT14 (R-L)



Main valve assembly 1"

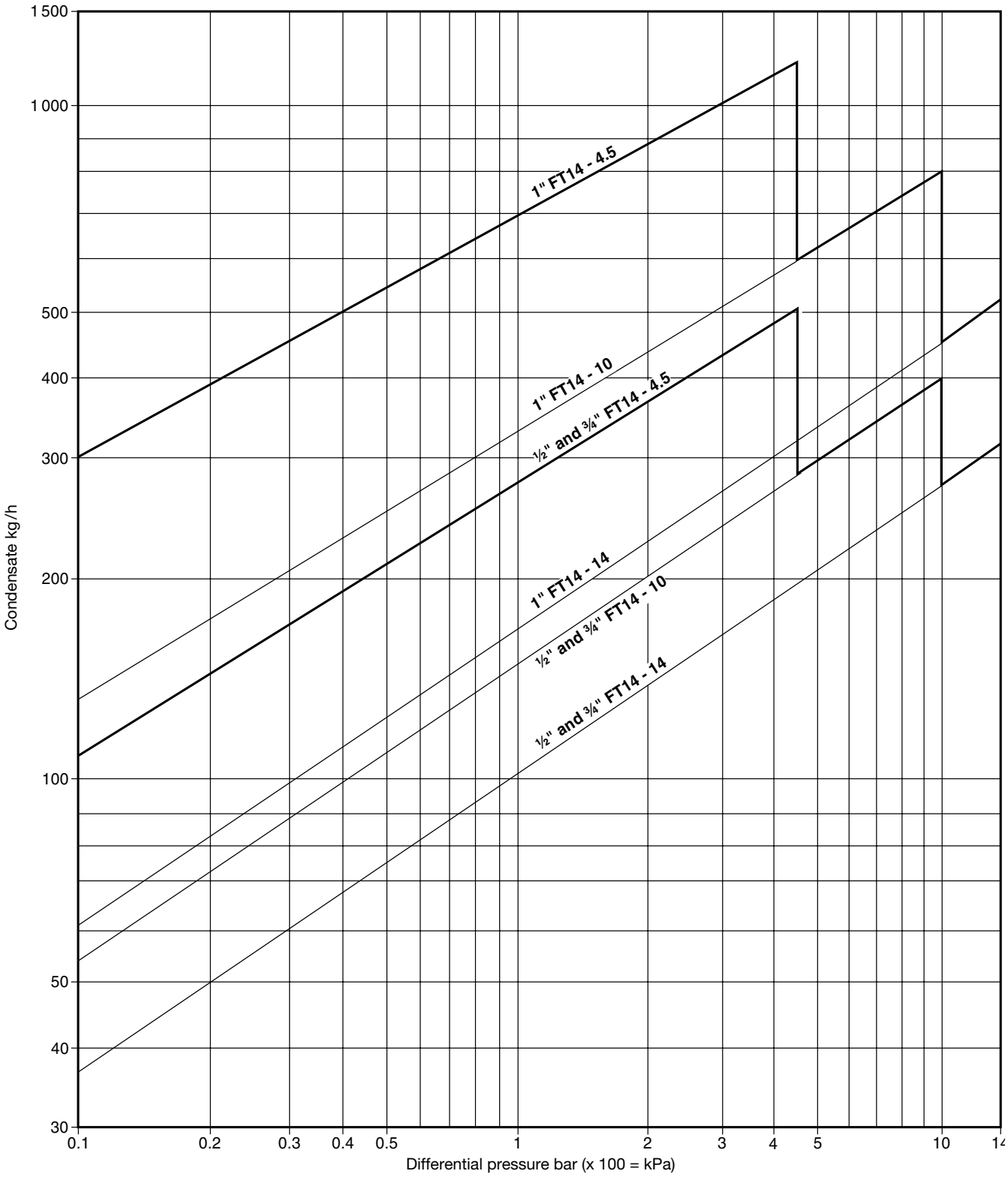
Materials

No.	Part	Material	
* **1**	Body	SG iron	DIN 1693 GGG 40
2	Cover bolts	Steel	BS 3692 Gr.8.8
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	SG iron	DIN 1693 GGG 40
5	Valve seat	Stainless steel	BS 970 431 S29
6	Valve seat gasket	Stainless steel	BS 1449 409 S19
7	Pivot frame assembly screws	Stainless steel	BS 6105 Cl A2-70
8	Ball float and lever	Stainless steel	BS 1449 304 S16
10	Pivot frame	Stainless steel	BS 1449 304 S16
11	Pivot pin	Stainless steel	
* **12**	Erosion deflector (1" only)	Stainless steel	BS 970 431 S29
17	Air vent assembly	Stainless steel	
18	Air vent gasket	Stainless steel	BS 1449 409 S19
19	SLR assembly	Stainless steel	BS 970 303 S21
20	SLR gasket	Stainless steel	BS 1449 304 S16
21	SLR seal	Graphite	
28	Valve spring (1" only)	Stainless steel	BS 2056 302 S26

* **Note:** Item **12** is pressed into item **1** (1" only).

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

Capacities



Capacities shown above are based on condensate at saturation temperature. When discharging sub-cooled condensate the air vent provides extra capacity. 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. On 4.5 bar units this will provide a minimum of 50% increased capacity above the hot condensate figures shown. On 10 and 14 bar units this will be a minimum increase of 100% on the published capacity. 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)							
½" and ¾"	70	140	250	380	560	870	1 130	1 500
1"	120	240	360	500	640	920	1 220	1 500

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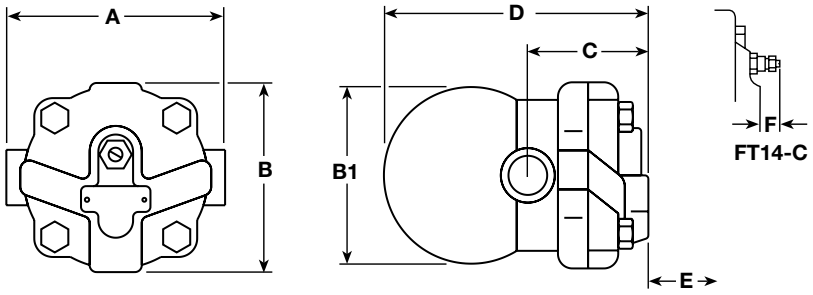
Dimensions/weights (approximate) in mm and kg

Size	A	B	B1	C	D	E Withdrawal distance	F	Weight
½"	121	107	96	67	147	105	30	2.9
¾"	121	107	96	67	147	105	30	2.9
1"	145	107	117	75	166	110	23	4.0



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-S02-13) supplied with the product.

Installation note:
The FT14 must be installed with the direction of flow as indicated on the body, and with the float arm in a horizontal plain so that it rises and falls vertically. If required the flow orientation can be changed on site.

Disposal
This product is recyclable. No ecological hazard is anticipated with the disposal of this product providing due care is taken.

How to order

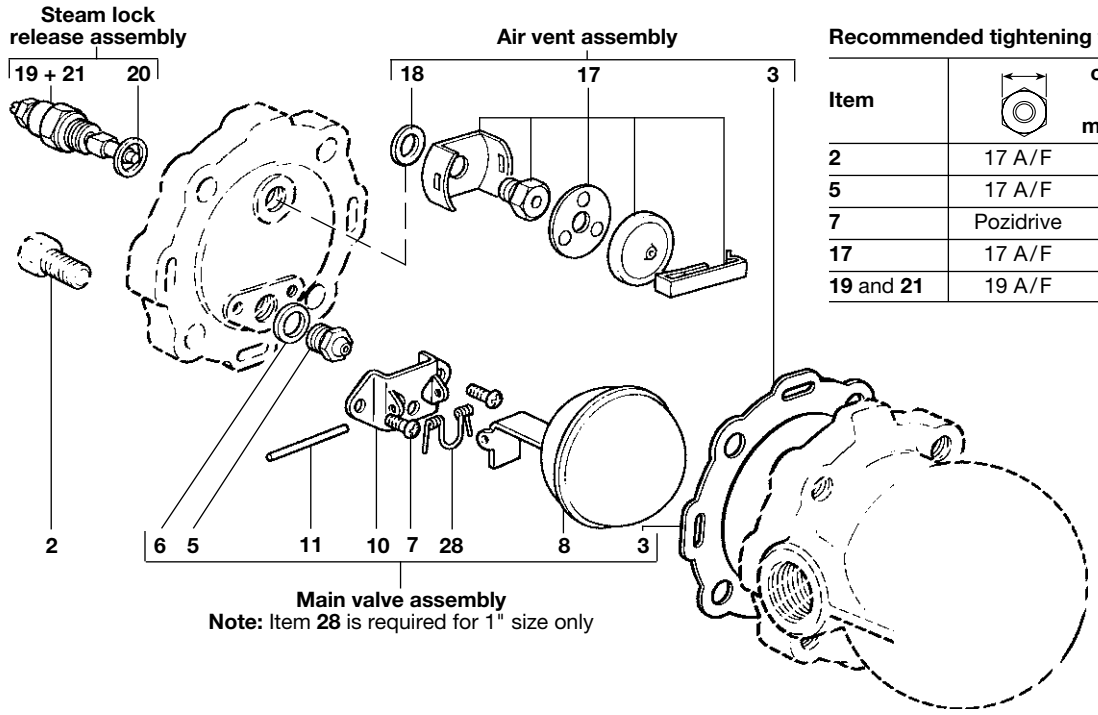
Example: 1 off Spirax Sarco ½" FT14-4.5 (R-L) ball float steam trap with screwed BSP connections and integral air vent.

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	**3**, **5**, **6**, **7** (2 off), **8**, **10**, **11**, **16** (1" only)
Air vent assembly	**3, 17, 18**
Steam lock release and air vent assembly	**3**, **17, 18**, **19**, **20, 21**
Cover gasket (packet of 3)	**3**
Maintenance kit	**3**, **5**, **6**, **7** (2 off), **8**, **10**, **11, 17, 18, 28** (1" only)

How to order spares
Always order spares by using the description given in the column headed 'Available spares' and state the size, type of trap and pressure range.
Example: 1 - Main valve assembly for a Spirax Sarco ½" FT14-10 ball float steam trap.



Recommended tightening torques

Item	or mm		N m
2	17 A/F	M10 x 30	47 - 50
5	17 A/F		50 - 55
7	Pozidrive	M4 x 6	2.5 - 3.0
17	17 A/F		50 - 55
19 and **21**	19 A/F		50 - 55

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Cert. No. LRQ 0963008

ISO 9001

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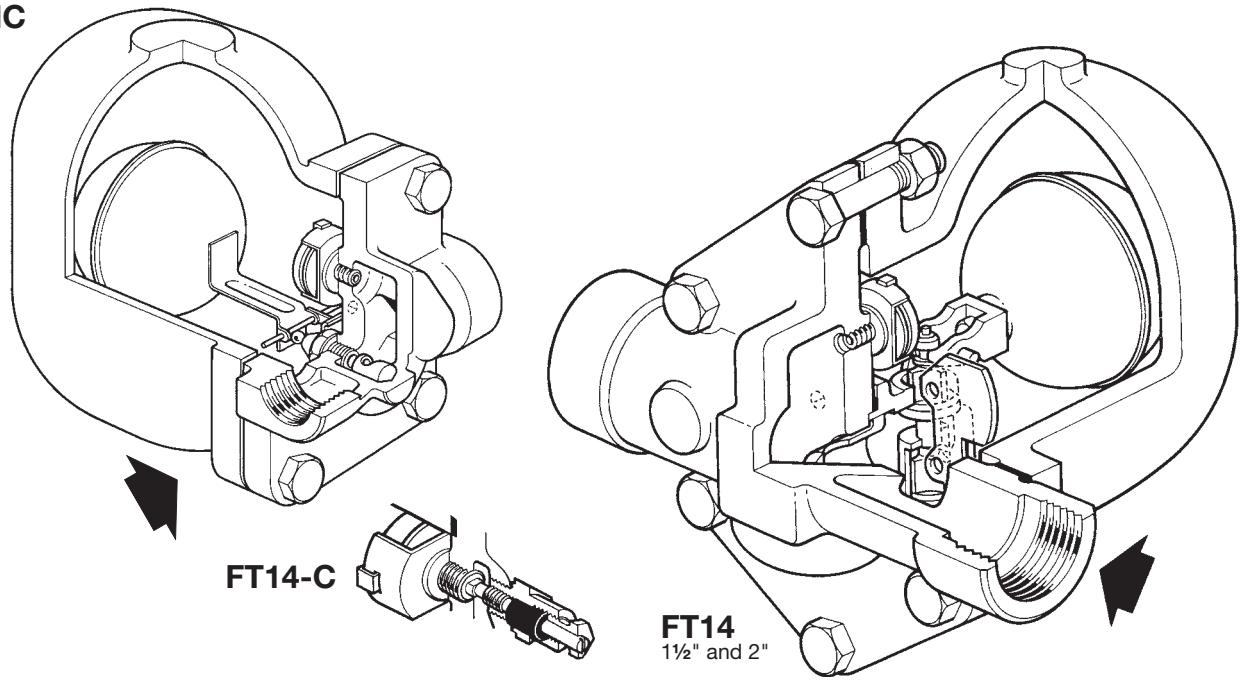
TI-S02-27
ST Issue 8

FT14 and FT14HC
SG Iron
Ball Float Steam Traps (1" HC, 1¼", 1½" and 2")



Description

The FT14 and FT14HC are iron bodied ball float steam traps having stainless steel working internals and integral automatic air venting facility. These traps are supplied with horizontal screwed connections only and can be maintained without disturbing the pipework. The flow direction is as indicated on the valve body.

Available types

FT14	Standard 1¼", 1½" and 2"
FT14HC	High capacity (1" only) - As standard the FT14HC is available with flow direction in either left-to-right or right-to-left direction. Please state preference when placing an order.

Note: These ball float steam traps are available with either 4.5, 10 or 14 bar internals (ΔPMX).

Capsule

The BP99/32 capsule which is used in the FT14 and FT14HC ball float steam traps is suitable for use on 150°C superheat @ 0 bar g and 50°C superheat @ 32 bar g.

Optional extras will only be supplied if specified at the point of order

A **manually adjustable needle valve** (designated 'C' on the nomenclature i.e. **FT14-C**) can be fitted to the trap. This option provides a **steam lock release** (**SLR**) feature in addition to the standard air vent. For further information please consult Spirax Sarco.

The **top of the cover can be drilled and tapped up to ⅜" BSP or NPT** for the purpose of fitting a balance line.

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

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

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.

Sizes and pipe connections 1" (FT14HC only), 1¼", 1½" and 2" screwed BSP and NPT.

Pressure / temperature limits See page 2 for the pressure/temperature limitations.

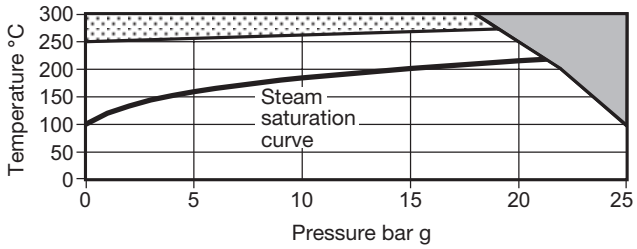
Materials See page 3 for the materials list.

Capacities See page 4 for full capacity details.

Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

Pressure / temperature limits

PN25

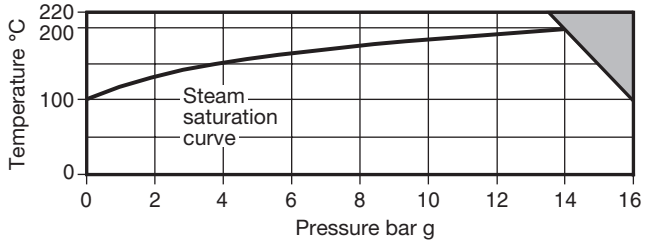


FT14HC 1"

and

FT14 1¼"

PN16



FT14 1½" and 2"

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

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

Size		1" HC and 1¼"		1½" and 2"
Body design conditions		PN25		PN16
PMA Maximum allowable pressure		25 bar g @ 100°C		16 bar g @ 100°C
TMA Maximum allowable temperature		300°C @ 18 bar g		220°C @ 13.5 bar g
Minimum allowable temperature		-10°C		-10°C
PMO Maximum operating pressure for saturated steam service		21 bar g		14 bar g
TMO Maximum operating temperature		275°C @ 19 bar g		220°C @ 13.5 bar g
Minimum operating temperature **Note:** For lower temperatures consult Spirax Sarco		0°C		0°C
ΔPMX Maximum differential pressure	**Size**	**1" HC**	**1¼"**	**1½" and 2"**
	4.5 bar	FT14HC-4.5	FT14-4.5	FT14-4.5
	10 bar	FT14HC-10	FT14-10	FT14-10
	14 bar	FT14HC-14	FT14-14	FT14-14
Designed for a maximum cold hydraulic test pressure of:		38 bar g		24 bar g

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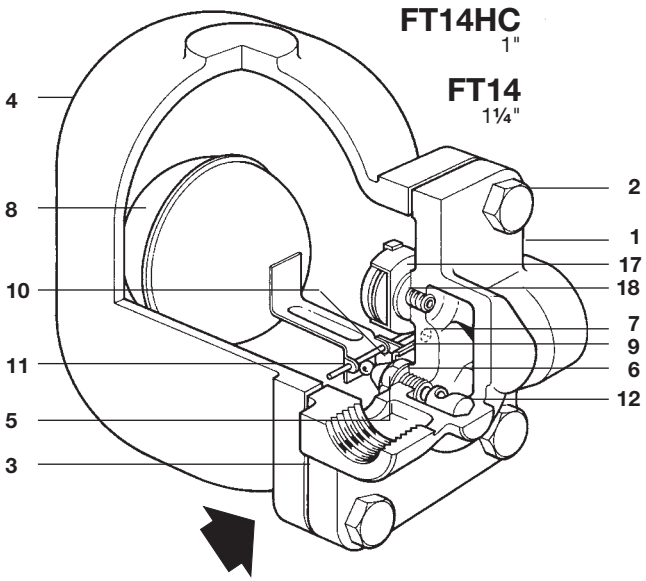

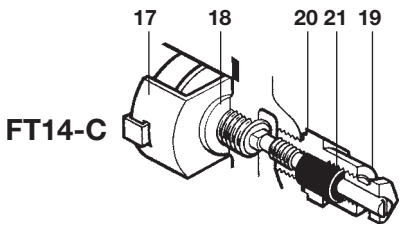

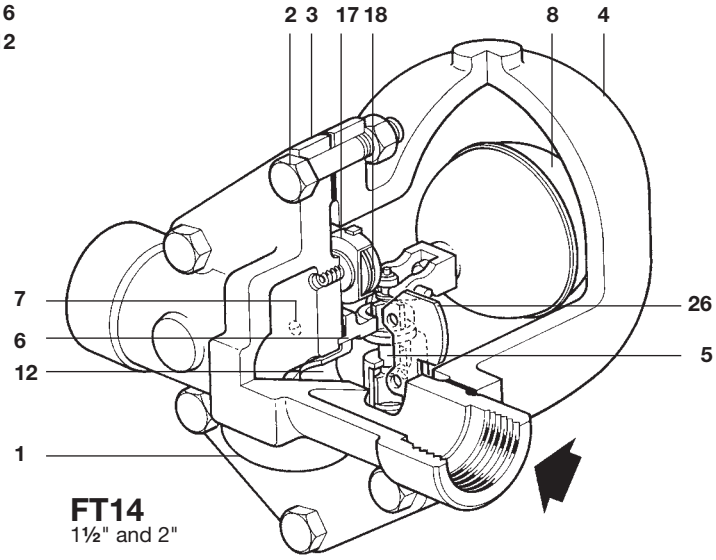

Materials

No.	Part			Material	
1	Body		1" and 1¼"	SG iron	BS EN 1563 JS 1030
			1½" and 2"	Cast iron	DIN 1691 GG 25
2	Cover bolts		1"	Steel	BS 3692 Gr. 8.8
	Cover bolts		1¼"	Steel	ASTM A193 B7
	Cover bolts & nuts		1½" and 2"	Steel	BS 3692 Gr. 8.8
3	Cover gasket			Reinforced exfoliated graphite	
4	Cover		1" and 1¼"	SG iron	BS EN 1563 JS 1030
			1½" and 2"	Cast iron	DIN 1961 GG 25
5	Valve seat		1" and 1¼"	Stainless steel	BS 970 431 S29
	Main valve assembly with erosion deflector		1½" and 2"	Stainless steel	BS 3146 Part 2 ANC 2
6	Valve seat gasket		1" and 1¼"	Stainless steel	BS 1449 304 S11
	Main valve assembly gasket		1½" and 2"	Reinforced exfoliated graphite	
7	Pivot frame assembly set screws		1" and 1¼"	Stainless steel	BS 4183 18/8
	Main valve assembly bolts	Bolts	1½"	Stainless steel	ISO 3506-2: A2-70
		Studs and nuts	2"	Stainless steel	BS 6105 A4-80
8	Ball float and lever			Stainless steel	BS 1449 304 S16
9	Support frame		1" and 1¼"	Stainless steel	BS 1449 304 S16
10	Pivot frame		1" and 1¼"	Stainless steel	BS 1449 304 S16
11	Pivot pin		1" and 1¼"	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 304 S11
19	SLR assembly			Stainless steel	BS 970 303 S21
20	SLR gasket			Mild steel	BS 1449 CS4
21	SLR seal			Graphite	
26	Inlet plate		1½" and 2" only	Stainless steel	BS 1449 304 S16

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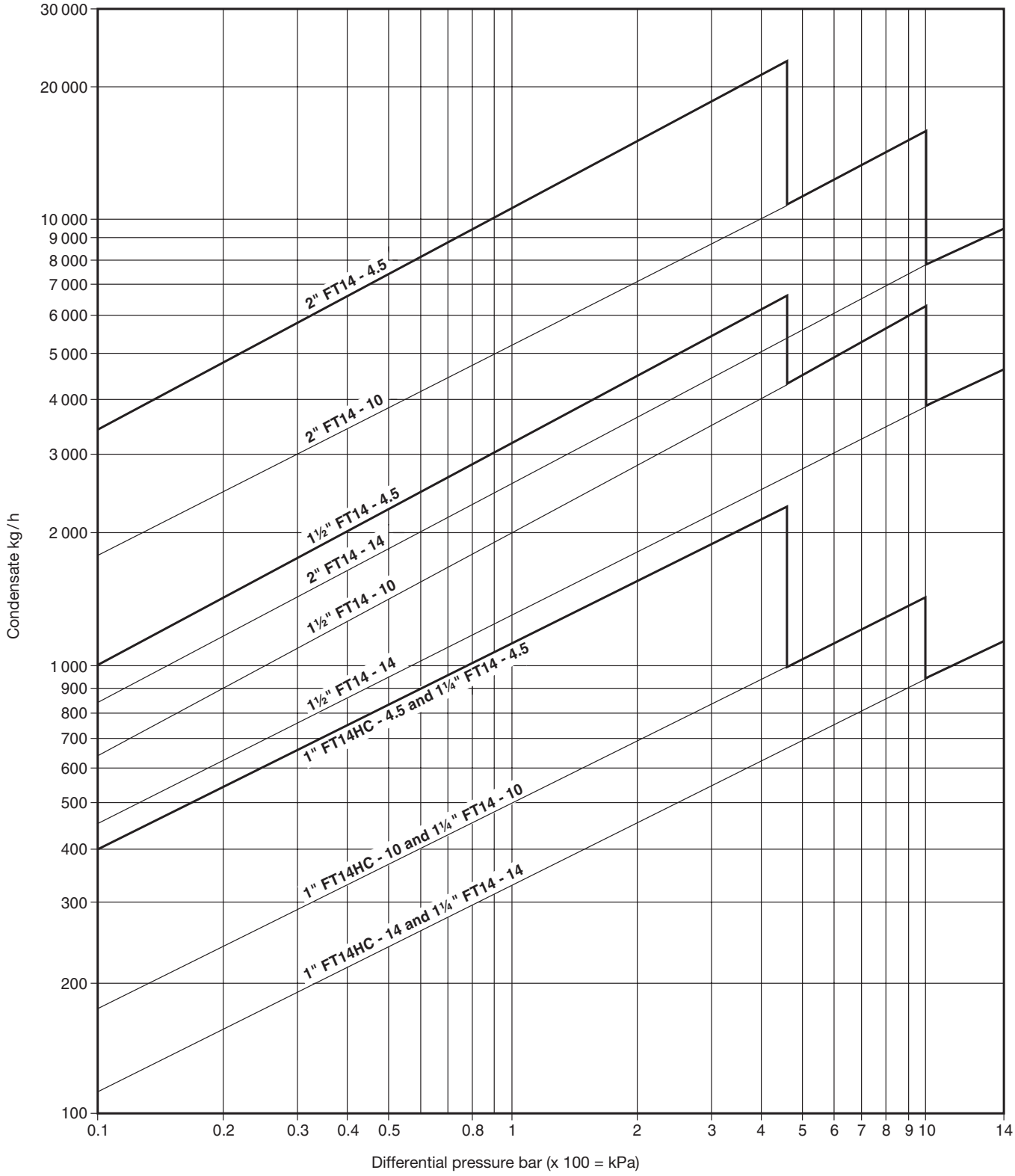
Capacities



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)							
1" HC	580	600	650	670	700	1 000	1 300	1 600
1¼, 1½" and 2"	580	600	650	670	700	1 000	1 300	1 600

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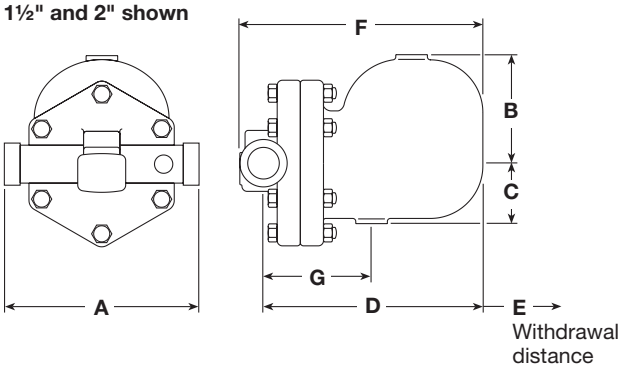
Dimensions / weights (approximate) in mm and kg

Size	A	B	C	D	E	F	G	Weight
1" HC	120	110	80	195	160	220	115	6.8
1¼"	120	110	80	195	160	220	115	6.9
1½"	270	130	108	248	200	270	115	17.5
2"	300	138	125	250	200	288	140	22.0

1½" and 2" shown



Safety information, installation and maintenance

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

Installation note:
The FT14 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 1" screwed BSP FT14HC-14 ball float steam trap having an SG iron body and cover, with thermostatic air vent - flow direction left-to-right. The cover is to be suitable for tapping ⅜" for drain/balance pipe connection.

Spare parts

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

Available spares

Main valve assembly	with float (1" and 1¼")	**5, 6, 7, 8, 9, 10, 11**
	with erosion deflector (1½" and 2")	**5, 6, 7, 26**
Ball float (1½" and 2")		**8**
Air vent assembly		**17, 18**
Manually adjustable needle valve (SLR) and air vent assembly		**17, 18, 19, 20, 21**
Complete set of gaskets (packet of 3 sets)		**3, 6, 18, 20**

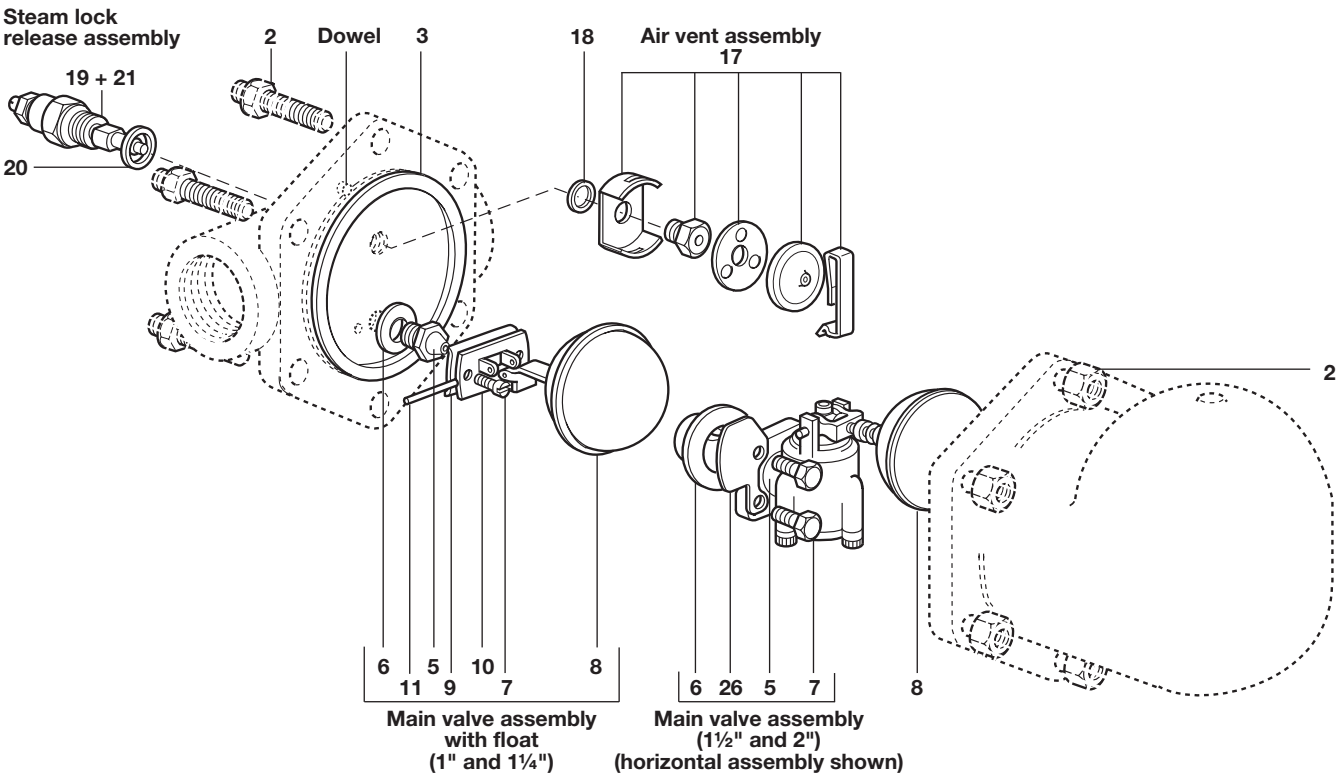
Note: The erosion deflector on the 1" and 1¼" is pressed into the body during manufacture and is not available as a spare.

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 - Air vent assembly for a Spirax Sarco 2" FT14-4.5 ball float steam trap.

Recommended tightening torques

Item	Size	or mm		N m
2	1"	17	M10 x 30	29 - 33
	1¼"	14*	M10 x 30	29 - 33
	1½"	19	M12 x 60	60 - 66
	2"	24	M16 x 70	80 - 88
5	1" and 1¼"	17	-	40 - 45
7	1" and 1¼"	-	M5 x 20	10 - 12
	1½"	10	M6 x 20	10 - 12
	2"	13	M8 x 20	20 - 24
17	-	17	-	50 - 55
19	-	21	-	40 - 45

***Note:** Reduced A/F bolt head required



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