



Cert. No. LRQ 0963008

ISO 9001

# spirax sarco

FT14

## Ball Float Steam Trap (Screwed)

TI-S02-03 / 401xxxA 1/6

ST Issue 5



ΧΡΥΣΑΦΙΔΗΣ Α.Ε.

### Description

The FT14 is an SG iron ball float steam trap with integral automatic air venting facility.

It is available with horizontal connections with flow from right to left FT14 (R-L), from left to right FT14 (L-R) or with vertical connections with flow downwards FT14 (V).

As an option a manually adjustable needle valve can be added for use as a steam lock release and is designated FT14-C. This is available in all three flow configurations. The FT14X has an optional strainer screen.

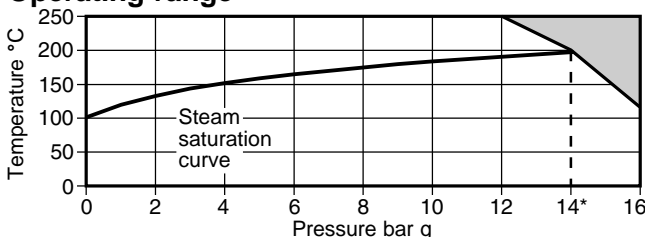
### Sizes and pipe connections

½", ¾" and 1" screwed BSP or NPT.

### Limiting conditions (ISO 6552)

Body design conditions	PN16
PMA - Maximum allowable pressure	16 bar g
TMA - Maximum allowable temperature	250°C
PMO - Maximum operating pressure	14 bar g
TMO - Maximum operating temperature	250°C
Designed for a maximum cold hydraulic test pressure of 24 bar g	

### Operating range



The product must not be used in this region.

\*PMO Maximum operating pressure for saturated steam 14 bar g.

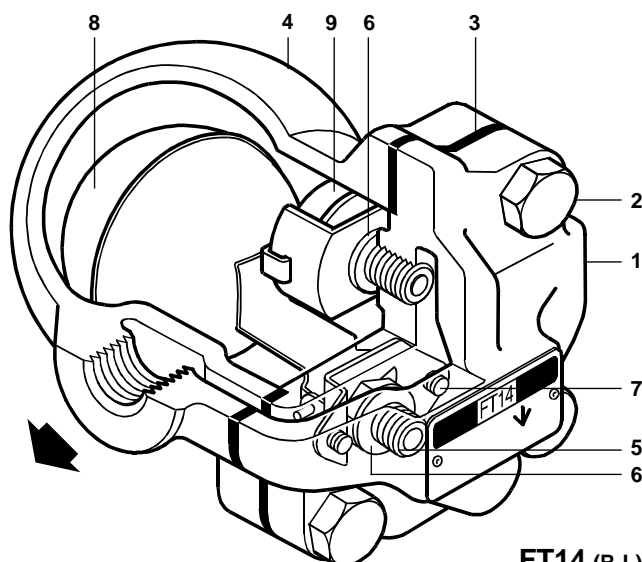
### Δ PMX-Maximum differential pressure

FT14-4.5	FT14-10	FT14-14
4.5 bar	10 bar	14 bar

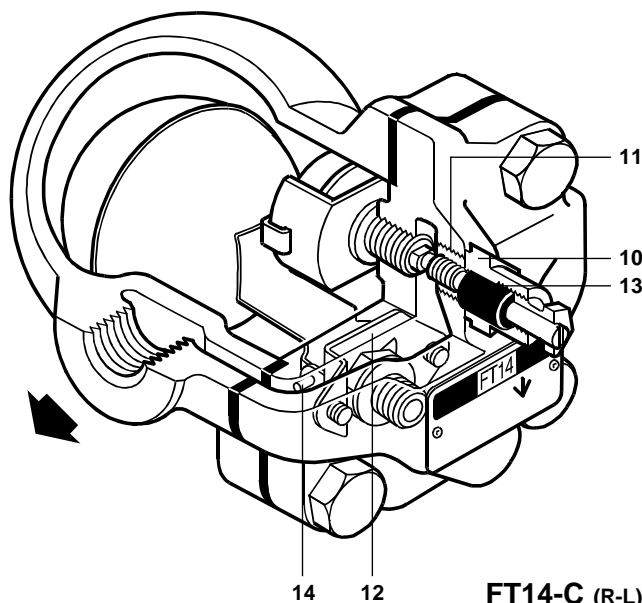
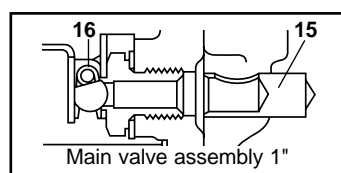
### Materials

No. Part		Material	
* 1	Body	½" and ¾"	SG iron DIN 1693 GGG 40
		1"	SG iron DIN 1693 GGG 40.3
2	Cover bolts	Steel	BS 3692 Gr.8.8
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	SG iron	DIN 1693 GGG 40.3
5	Main valve seat	Stainless steel	BS 970 431 S29
6	Main valve/air vent seat gasket	Stainless steel	BS 1449 409 S19
7	Main valve assembly screws	Stainless steel	BS 6105 CI A2-70
8	Ball float and lever	Stainless steel	BS 1449 304 S16
9	Air vent assembly	Stainless steel	
10	SLR assembly	Stainless steel	BS 970 303 S21
11	SLR gasket	Stainless steel	BS 1449 304 S16
12	Pivot frame	Stainless steel	BS 1449 304 S16
13	SLR seal	Graphite	
14	Pivot	Stainless steel	
* 15	Erosion deflector (1" only)	Stainless steel	BS 970 431 S29
16	Valve spring (1" only)	Stainless steel	BS 2056 302 S26

\* Note: Item 15 is pressed into item 1 (1" only).



FT14 (R-L)



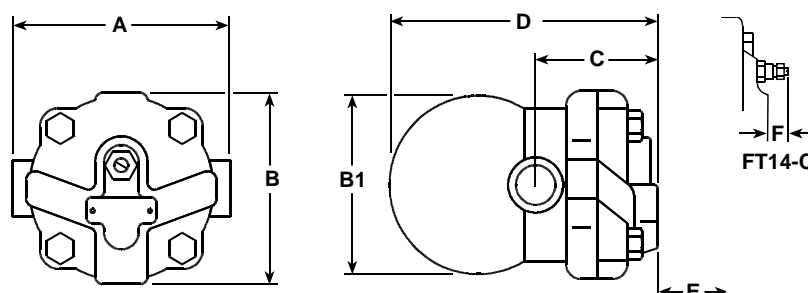
FT14-C (R-L)

### Certification

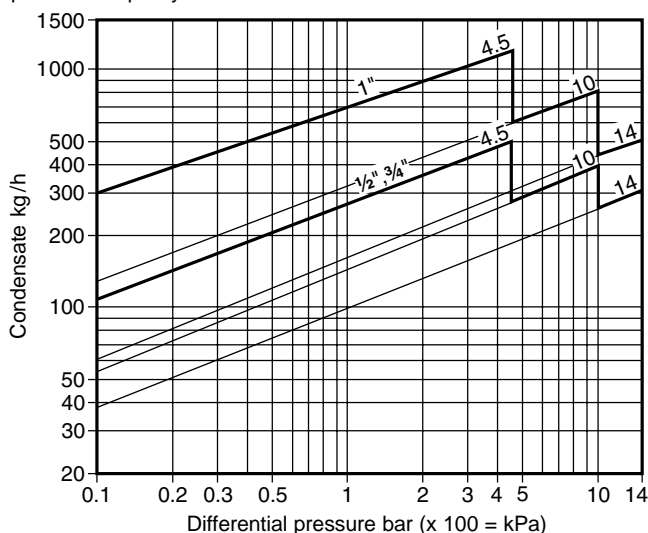
This product is available with material certification to EN 10204 2.2.  
**Note:** All certification / inspection requirements must be stated at the time of order placement.

**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

**Capacities**

**Note.** Capacities shown are based on discharge at saturation temperature. When discharging sub-cooled condensate the air vent provides extra capacity. Under start-up conditions the thermostatic air vent will be open, and will provide additional condensate capacity to the main valve assembly. 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. For full details see TI-S02-28.

**Safety information, Installation and Maintenance**

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

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.

**Disposal**

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

**How to order**

**Example:** 1 off Spirax Sarco ½" FT14-4.5 (R-L) steam trap with screwed BSP connections (right to left) and integral air vent. Maintainable in-line. Modification of flow orientation can be changed on site.

**Spare parts**

The spare parts available are shown in heavy 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, 12, 14, 16 (1" only)**

Air vent assembly **3, 6, 9**

Steam lock release and air vent assembly **3, 6, 9, 10, 11**

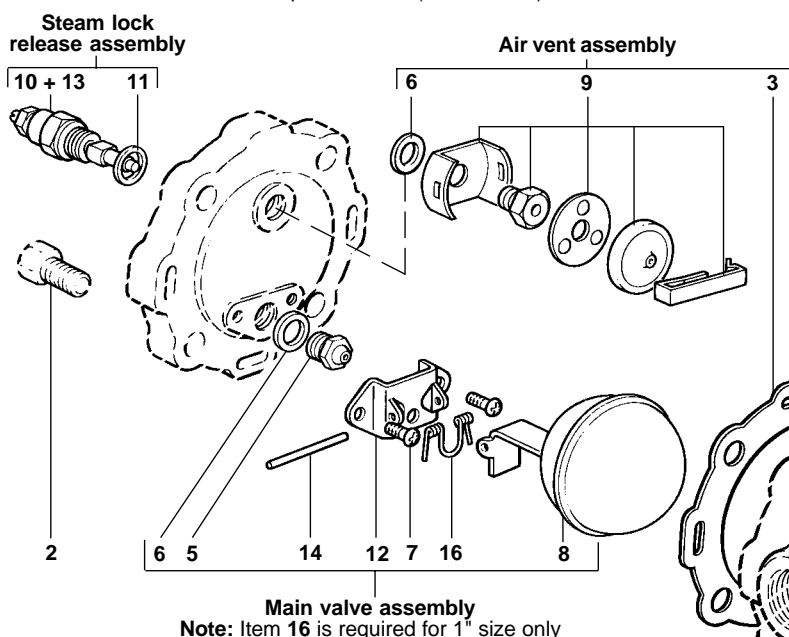
Cover gasket (packet of 3) **3**



Maintenance kit **3, 5, 6, 7 (2 off), 8, 9, 12, 14, 16 (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 ½" Spirax Sarco FT14-10 ball float steam trap.

**Recommended tightening torques**

Item	 or 	N m
2	17 A/F M10 x 30	45 - 55
5	17 A/F	50 - 55
7	pozidrive M4 x 6	2.5 - 3.0
9	17 A/F	50 - 55
10 and 13	19 A/F	50 - 55



ΧΡΥΣΑΦΙΔΗΣ Α.Ε.

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FT14 Ball Float Steam Trap (Screwed)

TI-S02-03 ST Issue 5



Certificate No. FM163

ISO 9001

# spirax sarco

TI-S02-27 / 401xxxA 3/6

ST Issue 2



ΧΡΥΣΑΦΙΔΗΣ Α.Ε.

## FT 14 and FT 14 HC Ball Float Steam Trap (1" HC, 1¼", 1½" and 2")

### Description

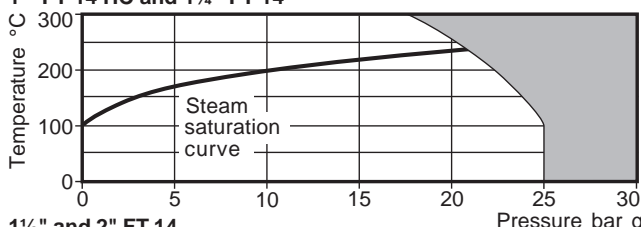
The FT 14 in sizes 1" HC (High Capacity), 1¼", 1½" and 2" is an iron bodied ball float steam trap with stainless steel internals and integral automatic air venting facility. It is available with horizontal screwed connections only. As an option a manually adjustable needle valve can be added for use as a steam lock release designated FT 14-C. If required the cover can be drilled and tapped ⅜" BSP or NPT for the purpose of fitting a drain cock and/or balance pipe

### Limiting conditions (ISO 6552)

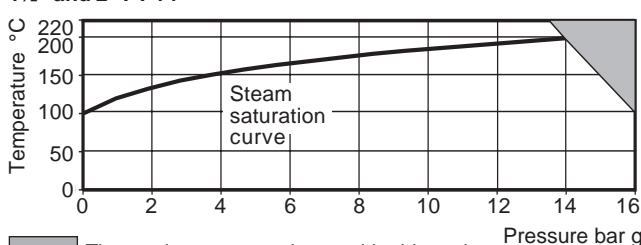
Body design conditions	PN25(1", 1¼")	PN16(1½", 2")
PMA - Maximum allowable pressure	25 bar g	16 bar g
TMA - Maximum allowable temperature	300°C	220°C
Cold hydraulic test pressure	38 bar g	24 bar g

### Operating range

1" FT 14 HC and 1¼" FT 14



1½" and 2" FT 14



■ The product must not be used in this region.

ΔPMX - Maximum differential pressure

1"	1¼", 1½" and 2"	ΔPMX
FT 14 HC - 4.5	FT 14-4.5	4.5 bar
FT 14 HC - 10	FT 14-10	10 bar
FT 14 HC - 14	FT 14-14	14 bar

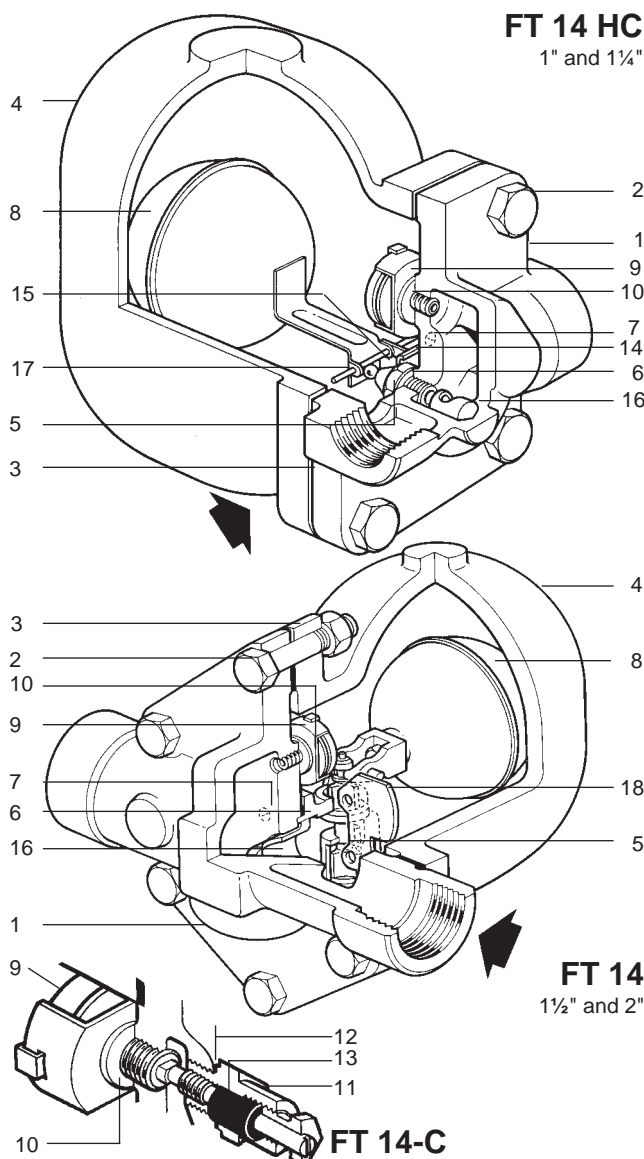
1½" and 2" traps are limited to a PMO equal to ΔPMX

### Sizes and pipe connections

1", 1¼", 1½" and 2" Screwed BSP or NPT

### Materials

No. Part	Material	Specification
1 Body	1", 1¼" SG iron 1½", 2" Cast iron	DIN 1693 GGG 40 DIN 1691 GG 25
Cover bolts	1" Steel	BS 3692 Gr 8.8
2 Cover bolts	1¼" Steel	ASTM A193 B7
Cover bolts & nuts	1½", 2" Steel	BS 3692 Gr. 8.8
3 Cover gasket	Reinforced exfoliated graphite	
4 Cover	1", 1¼" SG iron 1½", 2" Cast iron	DIN 1693 GGG 40 DIN 1961 GG 25
Valve seat	1", 1¼"	Stainless steel BS 970 431 S29
5 Main valve assembly with erosion deflector	1½", 2"	Stainless steel BS 3146 Part 2 ANC 2
Valve seat gasket	1", 1¼"	Stainless steel BS 1449 304 S11
6 Main valve assembly gasket	1½", 2"	Reinforced exfoliated graphite



Pivot frame assembly set screws	1", 1¼"	Stainless steel	BS 4183 18/8
7 Main valve assembly bolts studs and nuts	1½"	Stainless steel	BS 970 304 S16
	2"	Stainless steel	BS 6105 A4-80
8 Ball float and lever		Stainless steel	BS 1449 304 S16
9 Air vent assembly		Stainless steel	
10 Air vent seat gasket		Stainless steel	BS 1449 304 S11
11 SLR assembly		Stainless steel	BS 970 303 S21
12 SLR gasket		Mild steel	BS 1449 CS4
13 SLR seal		Graphite	
14 Support frame		Stainless steel	BS 1449 304 S16
15 Pivot frame		Stainless steel	BS 1449 304 S16
16 Erosion deflector		Stainless steel	BS 970 431 S29
17 Pivot		Stainless steel	
18 Inlet baffle (1½", 2" only)		Stainless steel	BS 1449 304 S16

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.

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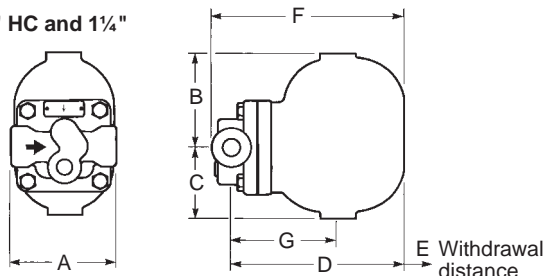
## How to specify

1-1" BSP Spirax Sarco FT 14 HC-14 TV steam trap with SG iron body and cover, with thermostatic air vent. Cover to be suitable for tapping  $\frac{3}{8}$ " for drain/balance connection.

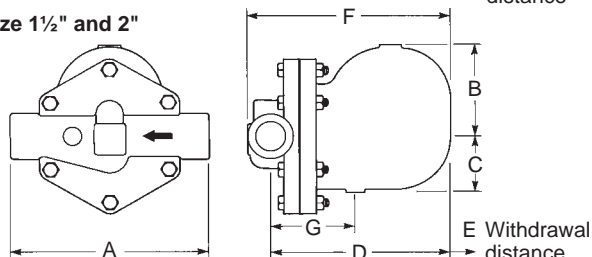
## Dimensions (approximate) in millimetres

Size	A	B	C	D	E	F	G	Weight
1" HC	120	110	80	195	160	220	115	6.8 kg
1¼"	120	110	80	195	160	220	115	6.9 kg
1½"	270	130	108	238	200	270	115	17.5 kg
2"	300	138	125	250	200	288	140	22.0 kg

Size 1" HC and 1¼"



Size 1½" and 2"



## Installation

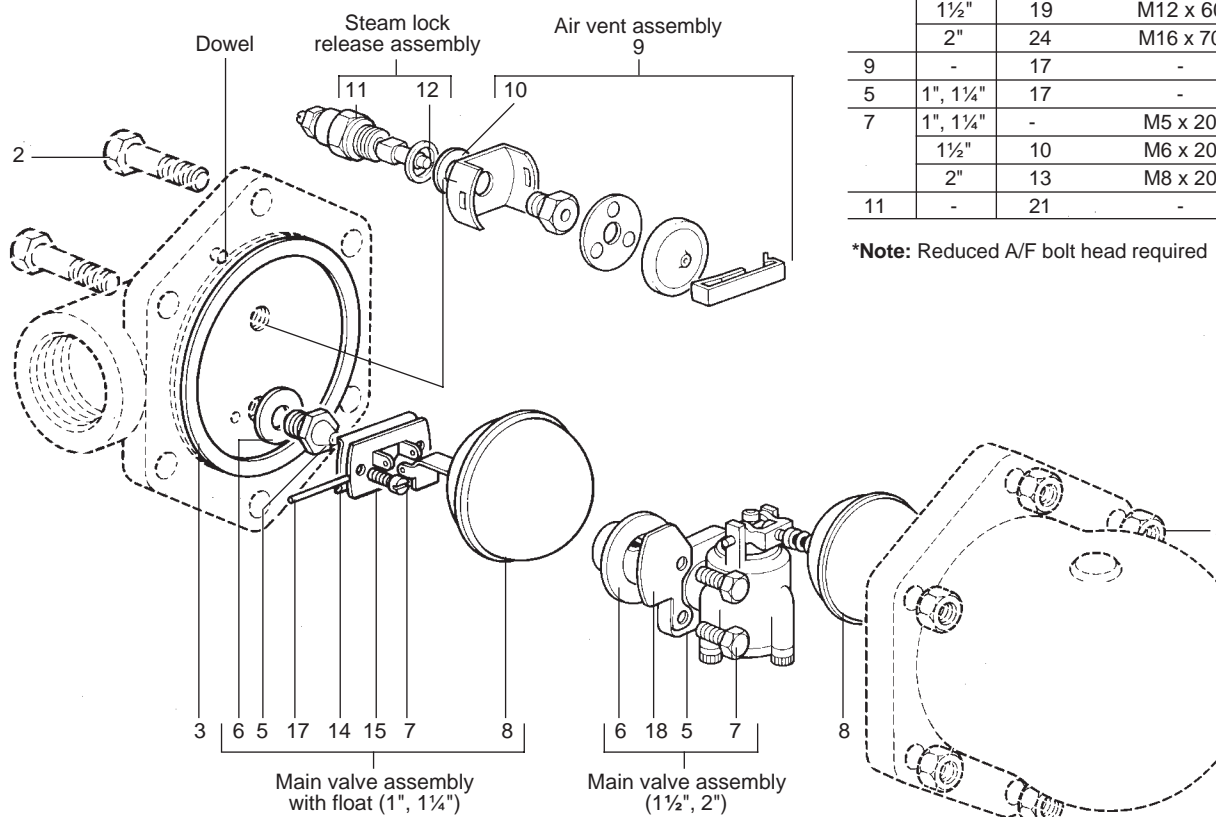
The trap must be fitted with the float arm in a horizontal plane so that it rises and falls vertically with the direction of flow as indicated on the body. Note that the 1" FT 14 HC and 1¼" FT 14 has a flow pattern from left to right when viewed from the body flange end. All other sizes are right to left.

## Available certification

This product is available with material certification to EN 10204 2.2 as standard. Certification must be requested when ordering.

## Capacities

See TI-S02-28 for full capacity details



## Spare parts

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

### AVAILABLE SPARE

Main valve assembly with float (1", 1¼")	5, 6, 7, 8, 14, 15, 17
Main valve assembly with erosion deflector (1½", 2")	5, 6, 7, 18
Ball float (1½", 2")	8
Air vent assembly	9, 10
Steam lock release and air vent assembly	9, 10, 11, 12
Complete set of gaskets (Packet of 3 sets)	3, 6, 10, 12

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

### How to order

Always order spares by using the description given in the column headed Available Spare and stating the size and type of trap.

**Example:** 1-Air vent assembly for 2" Spirax Sarco FT 14 steam trap.

## Maintenance

Before undertaking any maintenance on the trap it must be isolated from both supply line and return line and any pressure allowed to safely normalise to atmosphere. The trap should then be allowed to cool. Repairs can be carried out with the trap in the line. When reassembling make sure that all joint faces are clean and the dowel locates in the cover.

### How to fit main valve assembly



Size 1" and 1¼". Remove cover from body. Unscrew support and pivot frame and valve seat. Ensure seat/gasket faces are clean and dry. Fit the valve seat to the body (Do not use gasket paste). Attach the support frame and pivot frame to body with assembly set screws but do not tighten.

Fit the float arm to the pivot frame using the pin and by moving the complete assembly centre the valve head onto the seat orifice. Tighten the assembly set screws. Retighten cover bolts/nuts to required torque. Sizes 1½" and 2". Unscrew the 4 set screws or nuts. Remove the main valve assembly and replace with new one. Tighten the set screws or nuts evenly. Replace cover and gasket ensuring dowel is located correctly. Retighten cover bolts/nuts to required torque.

### How to fit air vent assembly

Remove spring clip, capsule and spacer plate. Unscrew seat. Fit new seat and frame and tighten to the specified torque. Assemble spacer plate, fit capsule and clip.

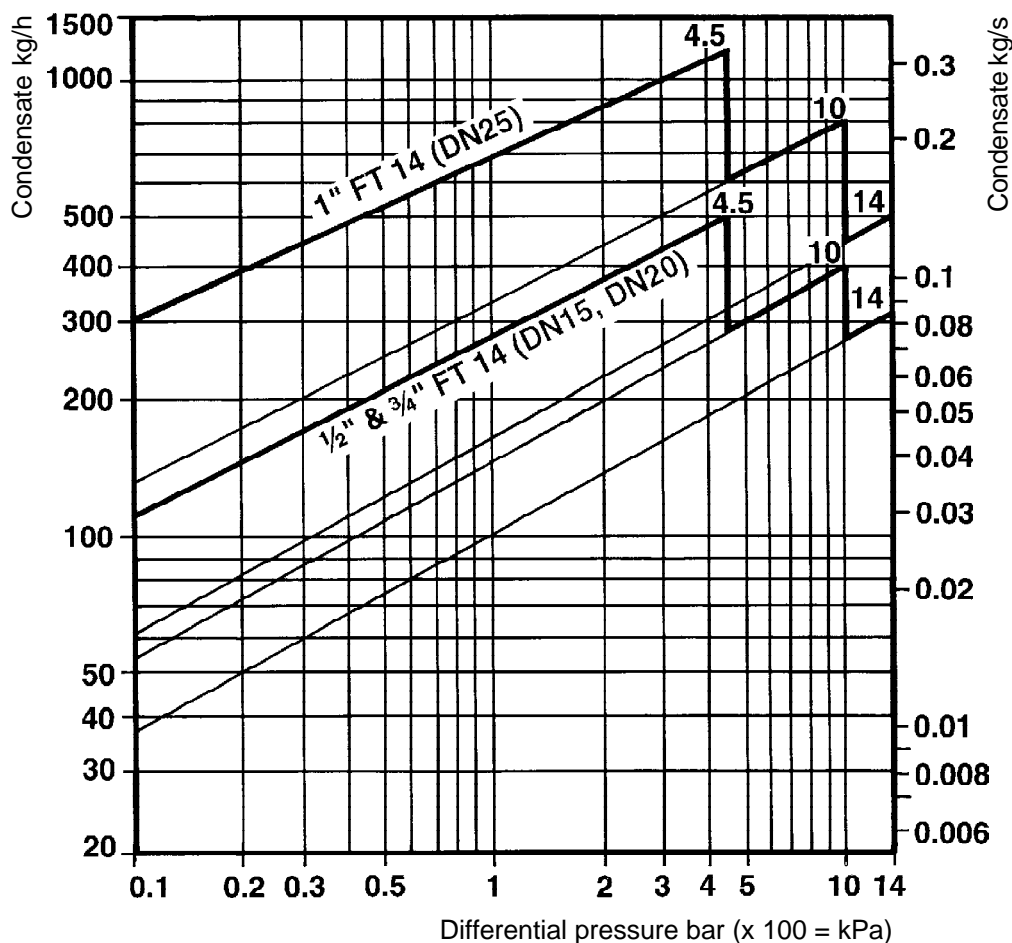
### Recommended tightening torques

Item	DN	 mm or 	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
9	-	17 -	50-55
5	1", 1¼"	17 -	40-45
7	1", 1¼"	- M5 x 20	10-12
	1½"	10 M6 x 20	10-12
	2"	13 M8 x 20	20-24
11	-	21 -	40-45

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

## Capacity charts for FT 14 Ball Float Steam Traps

$\frac{1}{2}$ " ,  $\frac{3}{4}$ " , 1" FT 14 (DN15, DN20, DN25)



Capacities shown above are based on condensate at saturation temperature. Under start-up conditions when the condensate is cold the internal thermostatic air vent (TV) 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.

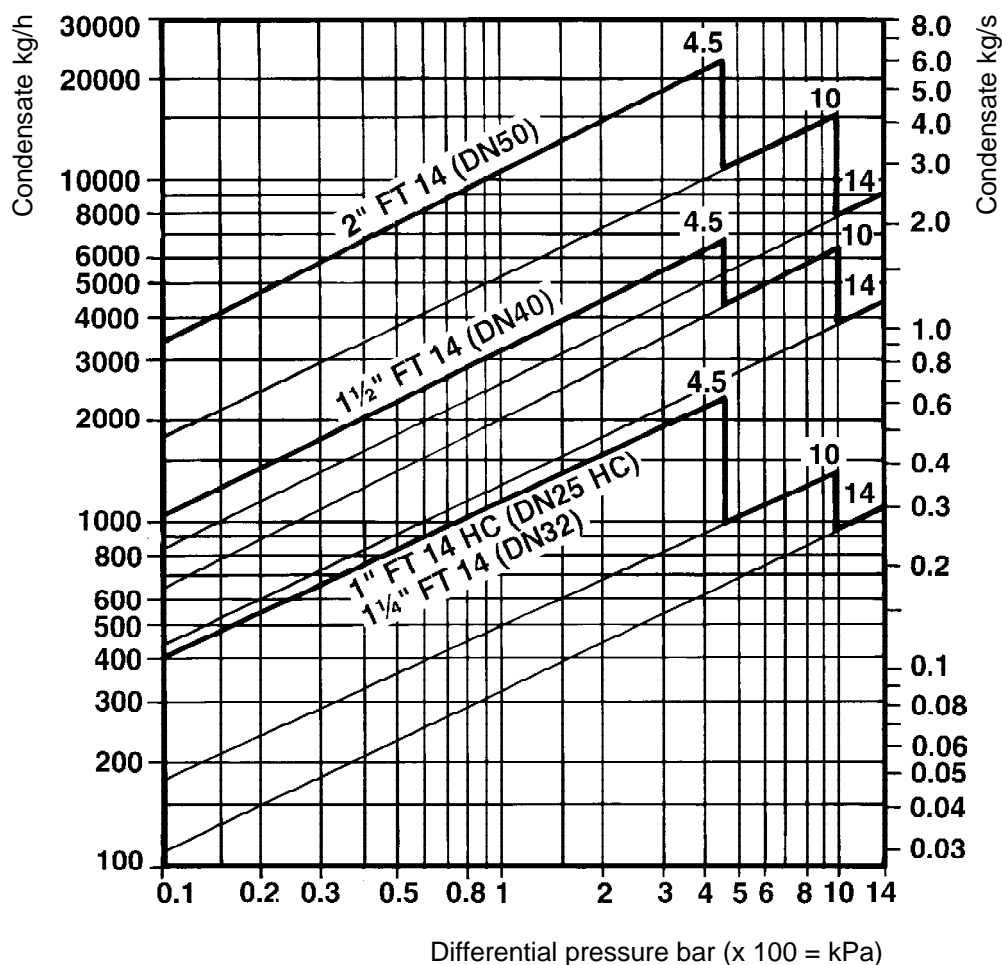
$\Delta P$ (bar)	0.5	1	2	3	4.5	7	10	14
Minimum additional cold water capacity (kg/h)								
$\frac{1}{2}$ " , $\frac{3}{4}$ " (DN15, DN20)	70	140	250	380	560	870	1,130	1,500
1" (DN25)	120	240	360	500	640	920	1,220	1,500

See TI-S02-03 and TI-S02-26 for details of traps.

**Note:** See overleaf for higher capacity models.



**1" FT 14 HC (DN25 HC)**  
**1¼, 1½" and 2" FT 14 (DN40, DN50)**



Capacities shown above are based on condensate at saturation temperature. Under start-up conditions when the condensate is cold the internal thermostatic air vent (TV) 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.

$\Delta P$ (bar)	0.5	1	2	3	4.5	7	10	14
Minimum additional cold water capacity (kg/h)								
1" HC (DN25 HC)	580	600	650	670	700	1,000	1,300	1,600
1¼, 1½, 2" (DN40, DN50)	580	600	650	670	700	1,000	1,300	1,600

See TI-P066-01 for details of traps.



**ΧΡΥΣΑΦΙΔΗΣ Α.Ε.**