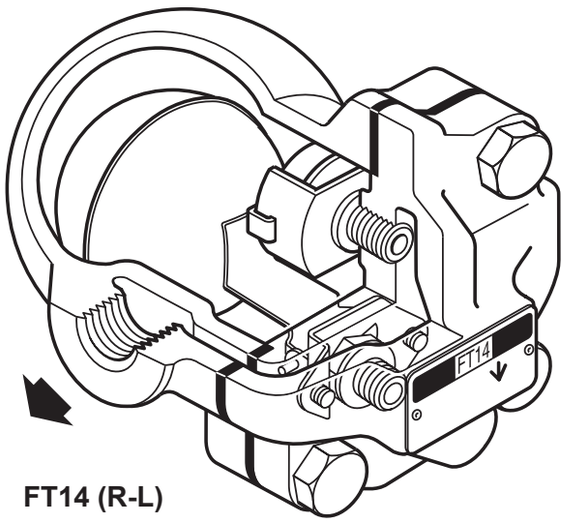
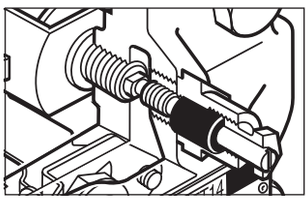
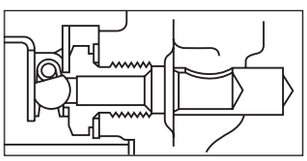
TI-S02-03
CMGT Issue 11

FT14
Ball Float Steam Trap (Screwed)



FT14 (R-L)


FT14-C (R-L)


Main valve assembly 1"

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**).

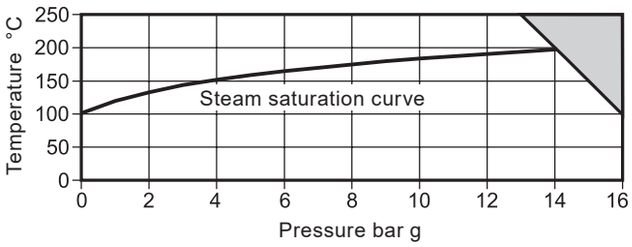
Standards
This product fully complies with the requirements of the EU Pressure Equipment Directive/UK Pressure Equipment (Safety) Regulations.

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.

8 Steam traps
Ball float

Pressure/temperature limits (ISO 6552)



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

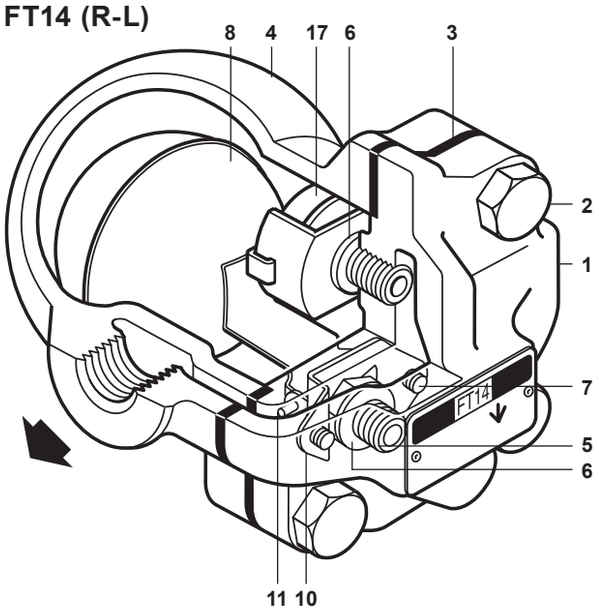
Body design conditions			PN16
PMA	Maximum allowable pressure		16 bar g @ 100 °C
TMA	Maximum allowable temperature		250 °C @ 13 bar g
Minimum allowable temperature			-10 °C
PMO	Maximum operating pressure for saturated steam service		14 bar g
TMO	Maximum operating temperature		250 °C @ 13 bar g
Minimum 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			

Materials

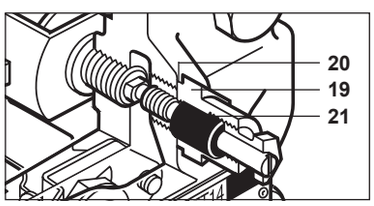
No.	Part	Material	
1*	Body	SG iron	EN 1563 EN-GJS-400-15
2	Cover bolts	Steel	BS 3692 Gr.8.8
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	SG iron	EN 1563 EN-GJS-400-15
5	Valve seat	Stainless steel	BS 970 431 S29
6	Valve seat gasket	Stainless steel	BS 1449 409 S19
7	Pivot frame assembly screws	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).**

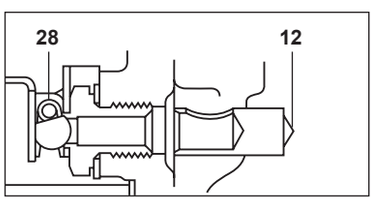
FT14 (R-L)



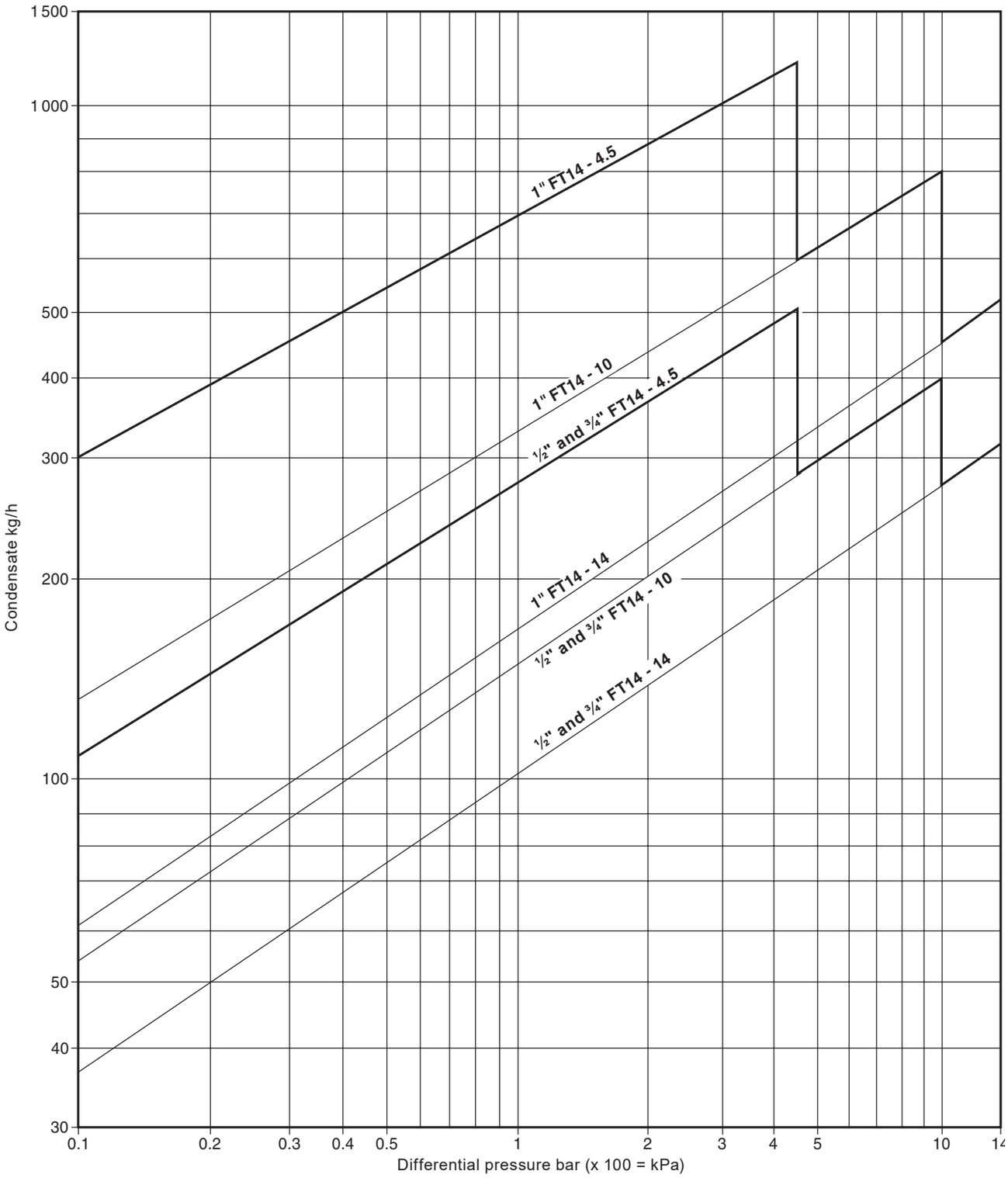
FT14-C (R-L)



Main valve assembly 1"



Capacities

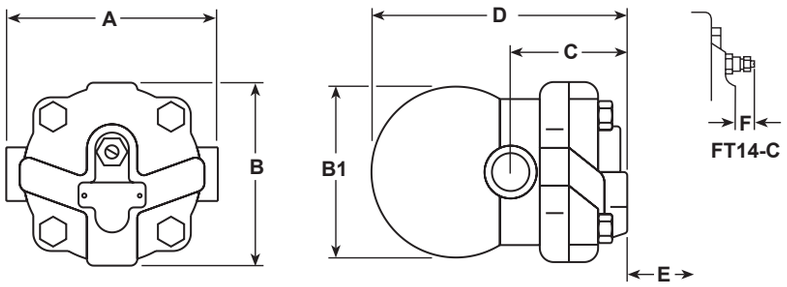


Capacities shown above are based on condensate at saturation temperature. When discharging sub-cooled condensate the air vent provides extra capacity. Under start-up conditions when the condensate is cold the internal thermostatic air vent will be open and provides additional capacity to the main valve. 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	1130	1500
1"	120	240	360	500	640	920	1220	1500

Steam traps
Ball float

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

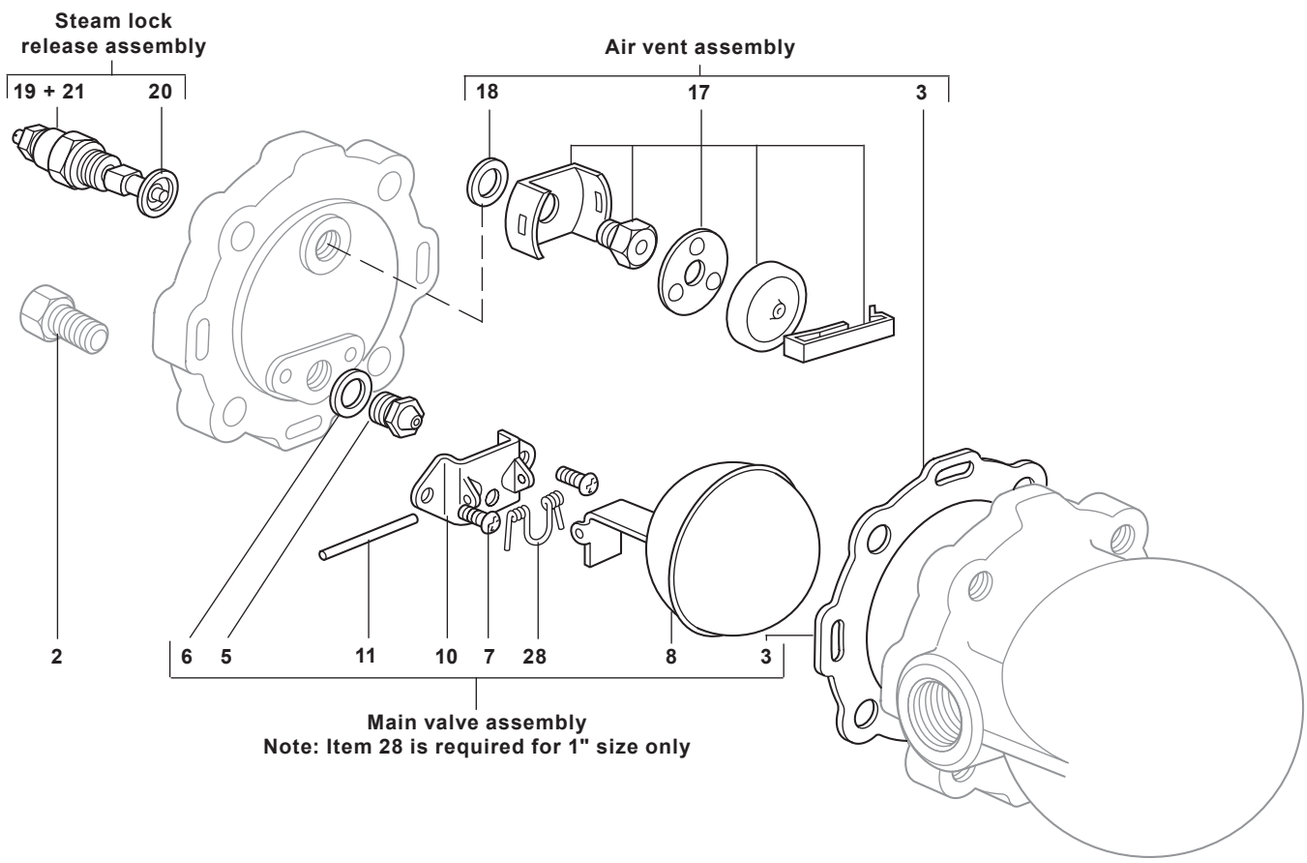
The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares

Main valve assembly with float	**3, 5, 6, 7** (2 off)**, 8, 10, 11, 28** (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

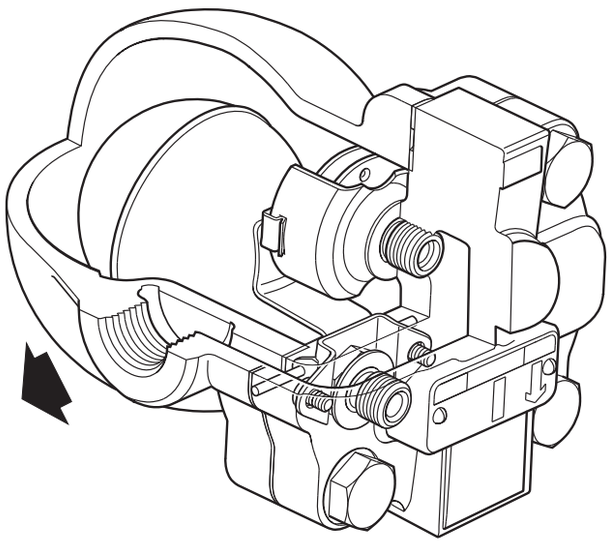
Item	or mm		N m
2	17 A/F	M10 x 30	47 - 50
5	17 A/F		50 - 55
7	Pozidrive	M4 x 6	2.5 - 3.0
17	17 A/F		50 - 55
19 and **21**	19 A/F		50 - 55

8 Steam traps
Ball float

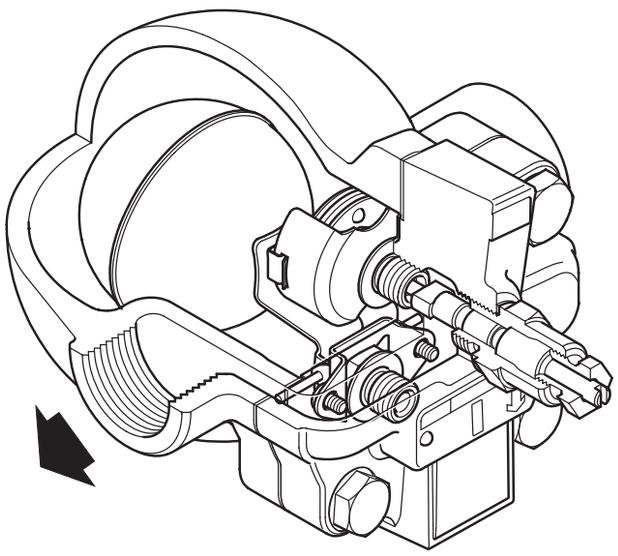
8.5
10

TI-P145-11
CMGT Issue 8

FTGS14
Ball Float Steam Trap (Screwed)



FTGS14 (R-L)



FTGS14-C (R-L)
(with optional SLR)

Description
The FTGS14 ball float steam trap has an austenitic stainless steel body, stainless steel working internals and integral automatic air venting facility. The SG iron cover is electroless nickel-plated offering increased resistance to erosion. The FTGS14 can be maintained without disturbing the pipework.

Available options

FTGS14 (R-L)	Horizontal connections with flow from right to left
FTGS14 (L-R)	Horizontal connections with flow from left to right
FTGS14V	Vertical connections with flow from top to bottom

Capsule
The BP99/32 capsule which is used in the FTGS14 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. **FTGS14-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.

An **integral strainer screen** (designated 'X' on the nomenclature i.e. **FTGS14X**) can be fitted to the trap.
For further information please consult Spirax Sarco.

Standards
This product fully complies with the requirements of the Pressure Equipment Directive (PED).

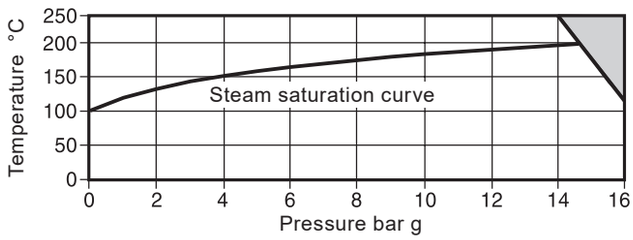
Certification
This product is available with a manufacturers Typical Test Report.

Note: All certification/inspection requirements must be stated at the time of order placement.

Steam traps
Ball float

Sizes and pipe connections
½", ¾" and 1" screwed BSP and NPT.

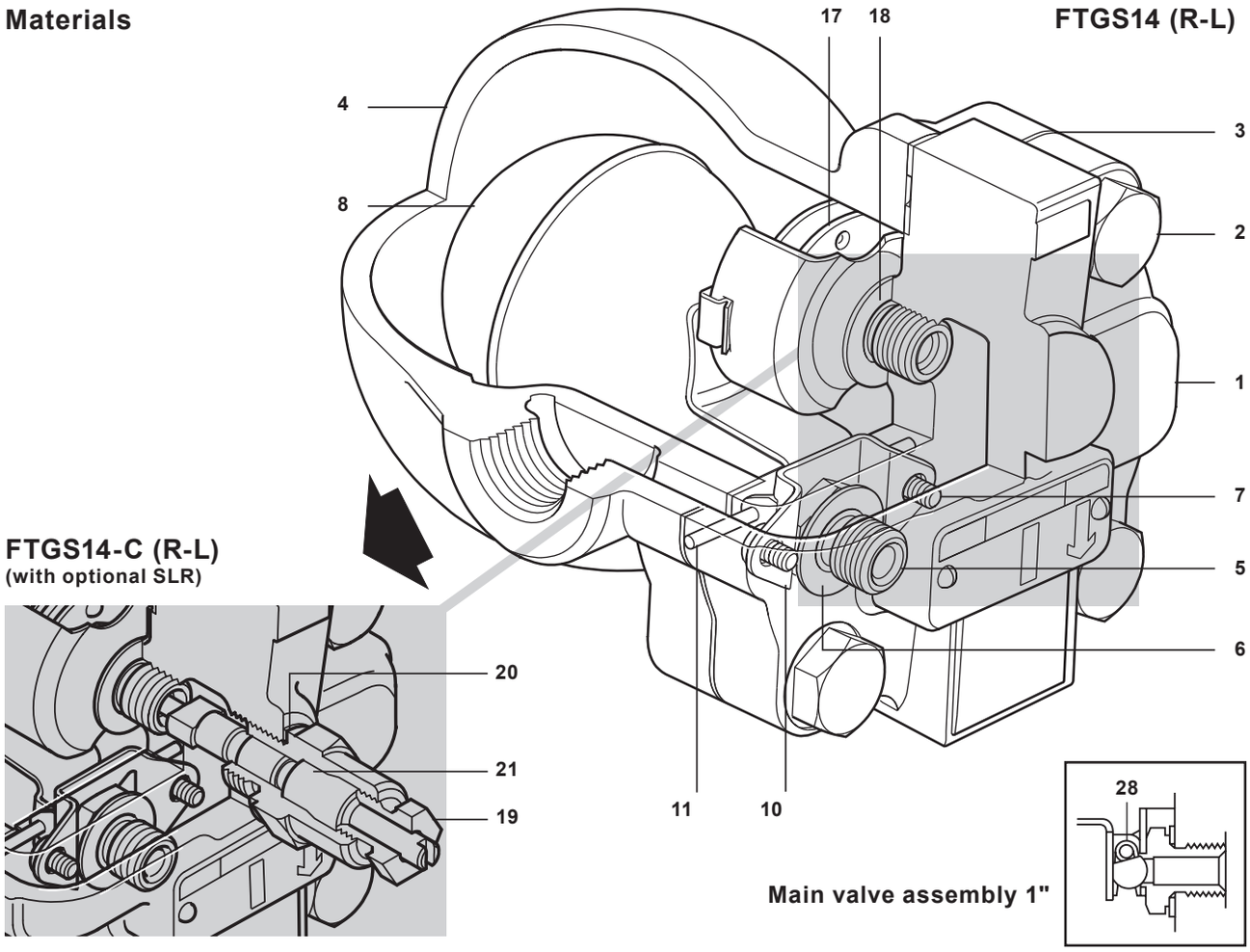
Pressure/temperature limits (ISO 6552)



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

Body design conditions			PN16
PMA	Maximum allowable pressure		16 bar g @ 120 °C
TMA	Maximum allowable temperature		250 °C
Minimum allowable temperature			-10 °C
PMO	Maximum operating pressure for saturated steam service		14.6 bar g
TMO	Maximum operating temperature		250 °C @ 13.8 bar g
Minimum operating temperature			0 °C
ΔPMX	Maximum differential pressure	FTGS14-4.5	4.5 bar
		FTGS14-10	10 bar
		FTGS14-14	14 bar
Designed for a maximum cold hydraulic test pressure of:			24 bar g

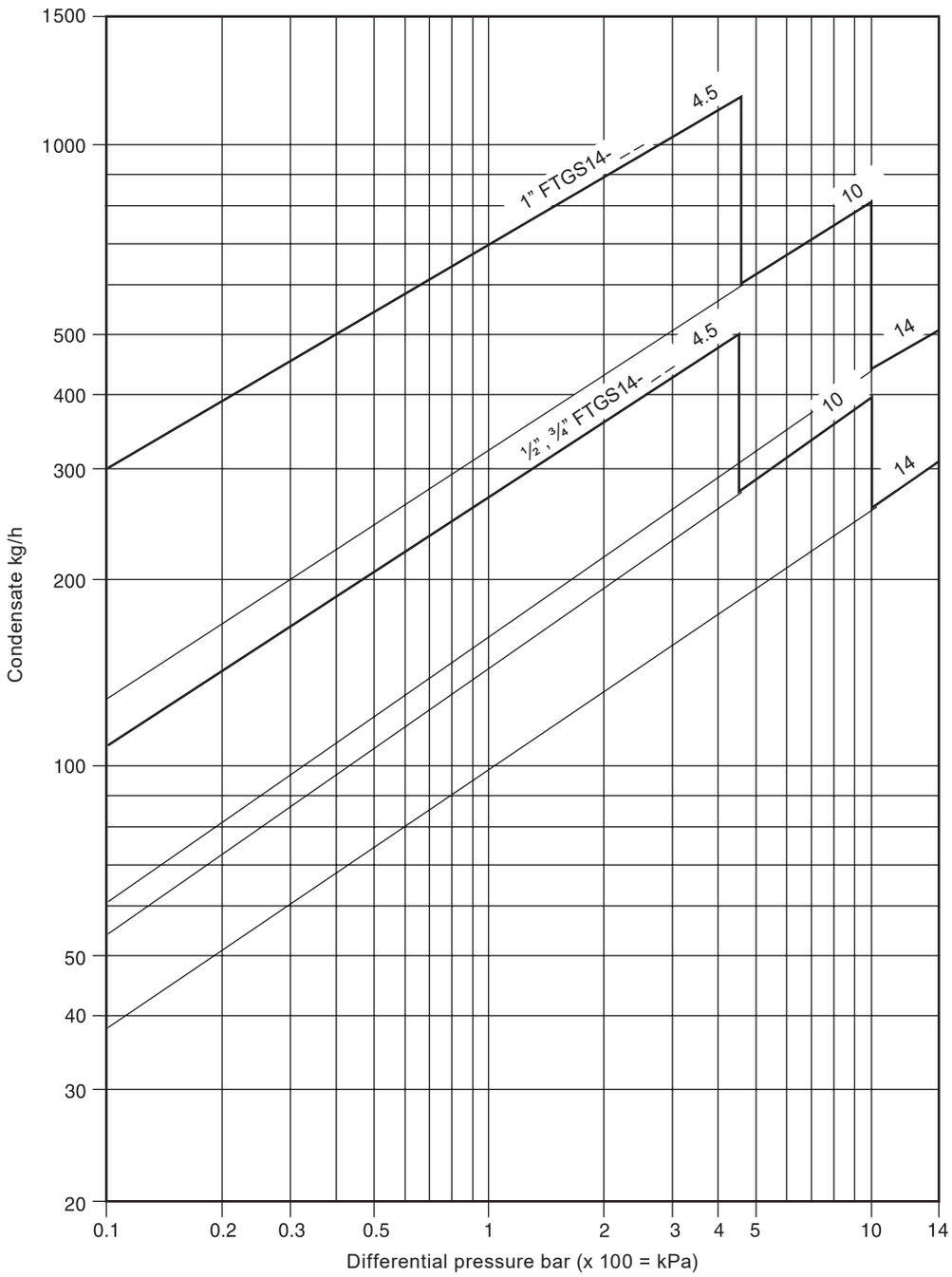
Materials



No.	Part	Material	
1	Body	Austenitic stainless steel	EN 10213-4 (1.4308) ASTM A351 CF8
2	Cover bolts	Steel	
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	Electroless nickel plated SG iron	DIN 1693 GGG 40
5	Valve seat	Stainless steel	
6	Valve seat gasket	Stainless steel	
7	Pivot frame assembly screws	Stainless steel	
8	Ball float and lever	Stainless steel	
10	Pivot frame	Stainless steel	
11	Pivot pin	Stainless steel	
17	Air vent assembly	Stainless steel	
18	Air vent seat gasket	Stainless steel	
19	SLR assembly	Stainless steel	
20	SLR gasket	Stainless steel	
21	SLR seal	Graphite	
28	Valve spring (1" only)	Stainless steel	

Note: Due to regional manufacturing differences some standard versions may be supplied with a 'C' type body with a stainless steel plug and gasket. If this configuration is specifically required it must be specified at the time of order placement.

Capacities



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

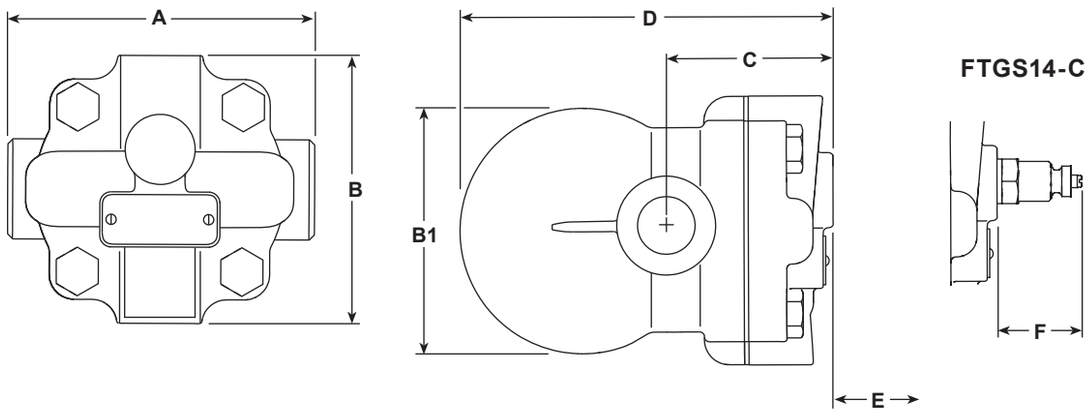
Capacities shown above are based on condensate at saturation temperature. Under start-up conditions when the condensate is cold the internal thermostatic air vent will be open and provides additional capacity to the main valve. The following table gives the minimum additional cold water capacities from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

ΔP (bar)	0.5	1	2	3	4.5	7	10	14
	Minimum additional cold water capacity (kg/h)							
½" and ¾"	70	140	250	380	560	870	1 130	1 500
1"	120	240	360	500	640	920	1 220	1 500

Dimensions/weights (approximate) in mm and kg

Size	A	B	B1	C	D	E Withdrawal distance	F	Weight
½" and ¾"	123	107	96	70	150	105	38	3.4
1"	145	107	117	70	160	120	38	4.6

FTGS14



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P145-12) supplied with the product.

Installation note

The FTGS14 must be installed with the direction of flow as indicated on the body and the arrow on the nameplate must point downwards with the float arm in a horizontal plane 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" FTGS14-4.5 (L-R) ball float steam trap with screwed BSP connections and integral air vent.

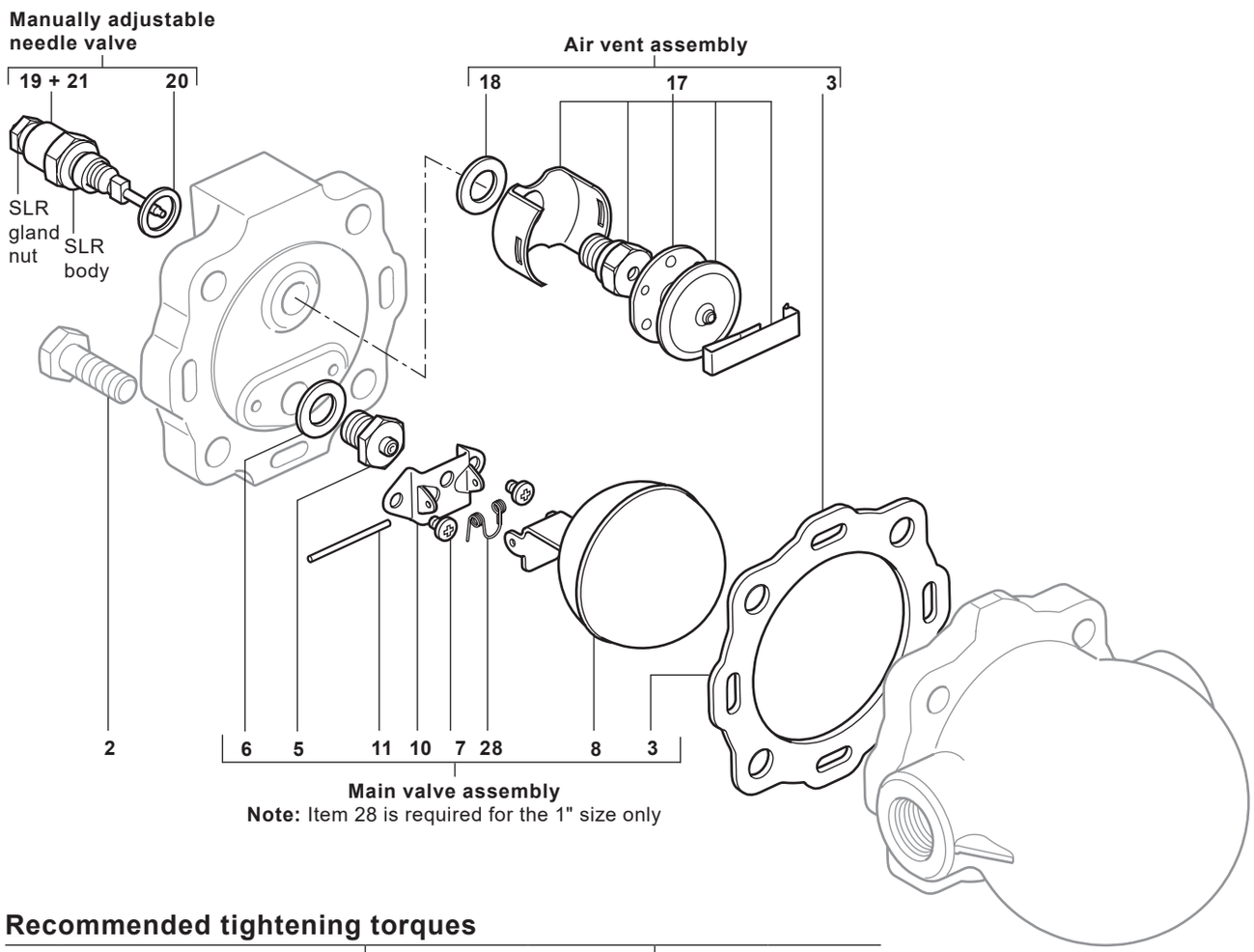
Steam traps
Ball float

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

Available spares

Maintenance kit	**3, 5, 6, 7 (2 off), 8, 10, 11, 17, 18, 28 (1" only)**
Main valve assembly with float	**3, 5, 6, 7 (2 off), 8, 10, 11, 28 (1" only)**
Air vent assembly	**3, 17, 18**
Manually adjustable needle valve (FTGS14-C only)	**19 + 21, 20**
Cover gasket (packet of 3)	**3**

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" FTGS14-10 ball float steam trap.



Note: Item 28 is required for the 1" size only

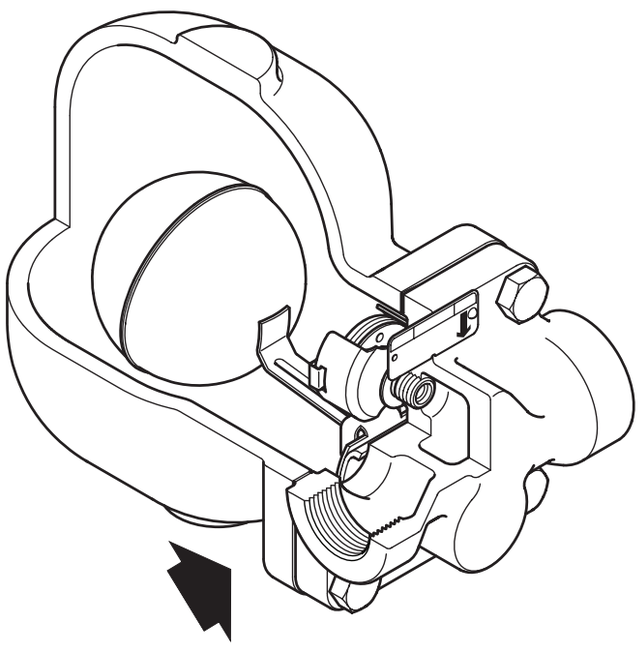
Recommended tightening torques

Item	Part		or mm	N m	lbf ft
2	Cover bolts	17 mm A/F	M10 x 30	47 - 50	35 - 37
5	Main valve seat	17 mm A/F		50 - 55	37 - 40
7	Main valve assembly screws	Pozidrive	M4 x 6	2.5 - 3.0	1.8 - 2.2
17	Air vent assembly	17 mm A/F		50 - 55	37 - 40
19	SLR body	19 mm A/F		57 - 63	42 - 46
	SLR gland nut	13 mm A/F		3 - 5	2.2 - 3.7

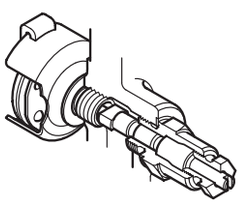
TI-P145-19
CMGT Issue 2

FTGS14HC
Ball Float Steam Trap
(1" Screwed)

FTGS14HC (L-R)



FTGS14HC-C



Description
The FTGS14HC ball float steam trap has an austenitic stainless steel body, stainless steel working internals and integral automatic air venting facility. The SG iron cover is electroless nickel-plated offering increased resistance to erosion. This trap is supplied with horizontal screwed connections and can be maintained without disturbing the pipework.

Available options

FTGS14HC (R-L) Horizontal connections with flow from right to left

FTGS14HC (L-R) Horizontal connections with flow from left to right

Note: If the orientation has to be changed on site - consult Spirax Sarco

Capsule
The BP99/32 capsule which is used in the FTGS14HC ball float steam trap 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. **FTGS14HC-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 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.

Standards
This product fully complies with the requirements of the Pressure Equipment Directive (PED).

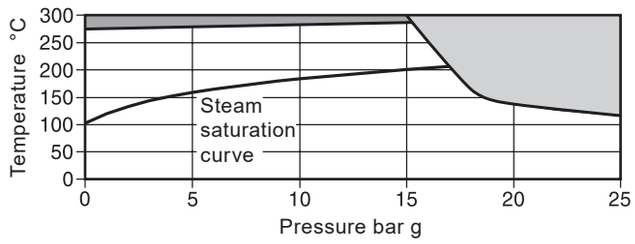
Certification
This product is available with a manufacturers Typical Test Report.
Note: All certification/inspection requirements must be stated at the time of order placement.

Polígono Industrial O Rebullón s/n. 36416 - Mos - España - rodavigo@rodavigo.com

Steam traps
Ball float

Sizes and pipe connections
1" screwed BSP and NPT.

Pressure/temperature limits (ISO 6552)

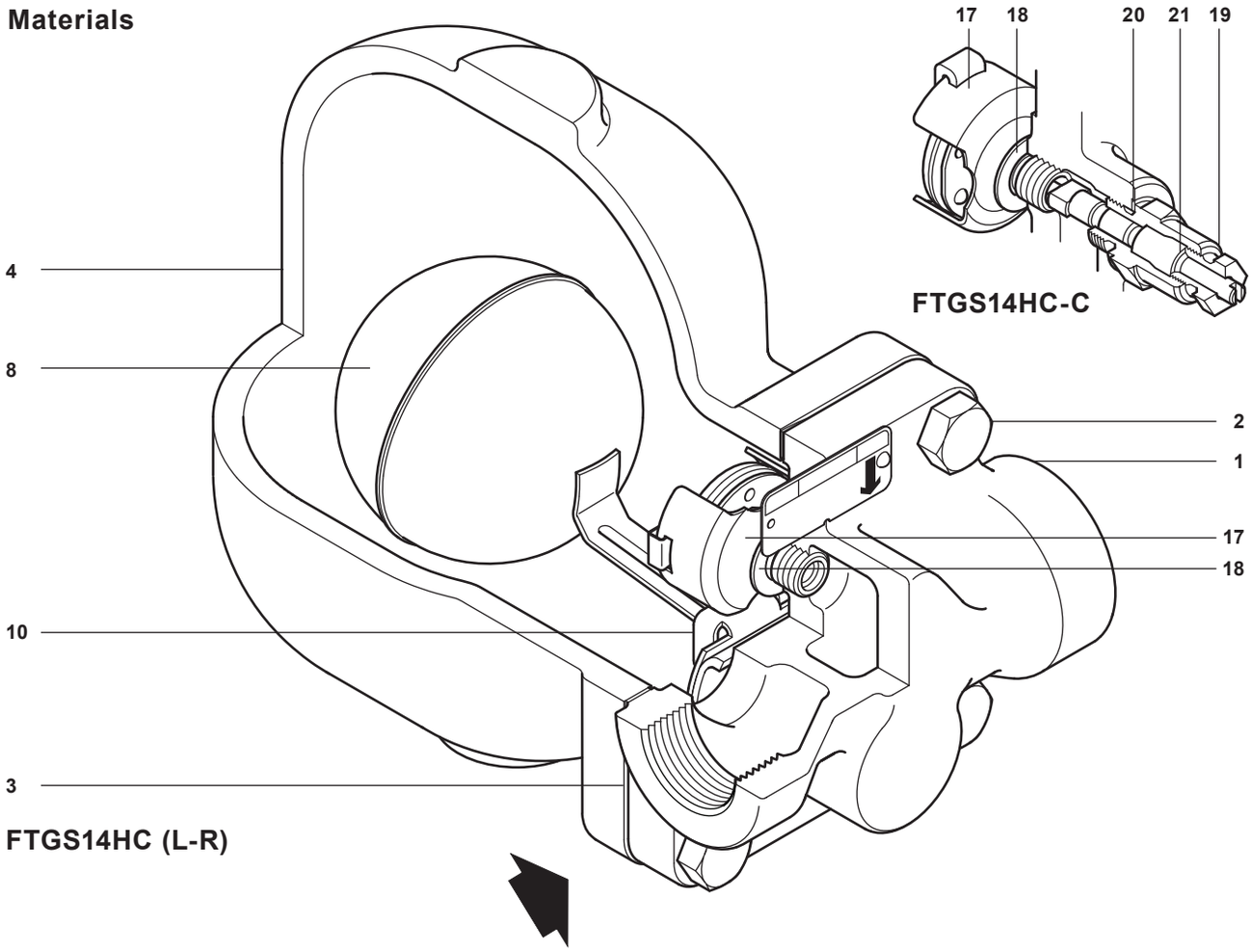


The product **must not** be used in this region.

The product should not be used in this region or beyond its operating range as damage to the internals may occur.

Body design conditions			PN25
PMA	Maximum allowable pressure		25 bar g @ 120 °C
TMA	Maximum allowable temperature		300 °C
Minimum allowable temperature			-10 °C
PMO	Maximum operating pressure for saturated steam service		17 bar g
TMO	Maximum operating temperature		288 °C @ 15 bar g
Minimum operating temperature			0 °C
ΔPMX	Maximum differential pressure	FTGS14HC-4.5	4.5 bar
		FTGS14HC-10	10 bar
		FTGS14HC-14	14 bar
Designed for a maximum cold hydraulic test pressure of			37.5 bar g

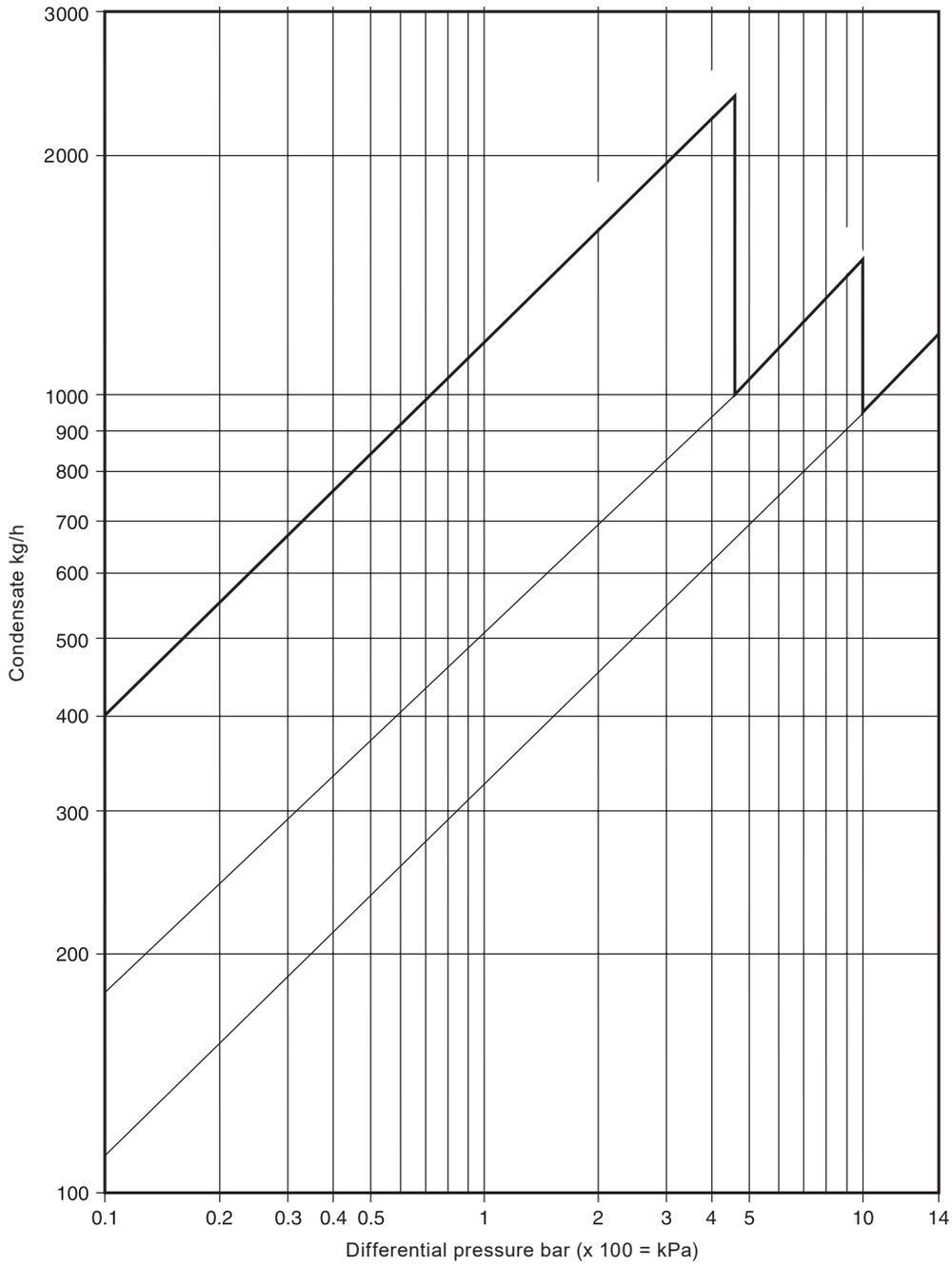
Materials



No.	Part	Material	
1	Body	Austenitic stainless steel	EN 10213-4 (1.4308) ASTM A351 CF8
2	Cover bolts	Steel	BS 3692 Gr. 8.8
3	Cover gasket	Reinforced exfoliated graphite	
4	Cover	Electroless nickel plated SG iron	DIN 1693 GGG 40
5 *	Valve seat	Stainless steel	BS 970 431 S29
6 *	Valve seat gasket	Stainless steel	BS 1449 304 S11
7 *	Pivot frame assembly screws	Stainless steel	BS 4183 18/8
8	Ball float and lever	Stainless steel	BS 1449 304 S16
9 *	Support frame	Stainless steel	BS 1449 304 S16
10	Pivot frame	Stainless steel	BS 1449 304 S16
11 *	Pivot pin	Stainless steel	
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	Stainless steel	BS 1449 304 S16
21	SLR seal	Graphite	

*** Note:** For clarity items **5**, **6**, **7**, **9** and **11** are shown more clearly in the spare parts section.

Capacities



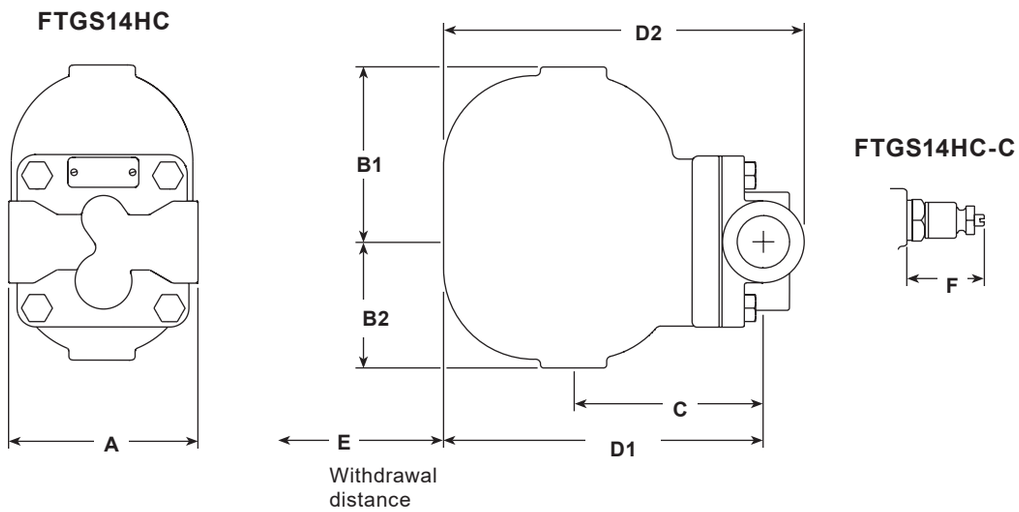
Additional cold water capacities from the thermostatic air vent under start-up conditions

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"	580	600	650	670	700	1000	1300	1600

Dimensions/weight (approximate) in mm and kg

Size	A	B1	B2	C	D1	D2	E Withdrawal distance	F	Weight
1"	120	111	80	115	203	230	160	35	7.0



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P145-20) supplied with the product.

Installation note

The FTGS14HC 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, therefore **the arrow on the name-plate must point downwards**.

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: 1 off Spirax Sarco 1" FTGS14HC-4.5 (L-R) ball float steam trap with screwed BSP connections and integral air vent. Cover to be supplied with ⅜" tappings ready for both drain and balance pipe connections.

Note: If the optional manually adjustable needle valve is required you would need to write your order as follows:

Example 2: 1 off Spirax Sarco 1" FTGS14HC-4.5C (L-R) ball float steam trap with screwed BSP connections and integral air vent complete with manually adjustable needle valve supplied fitted.

Steam traps
Ball float

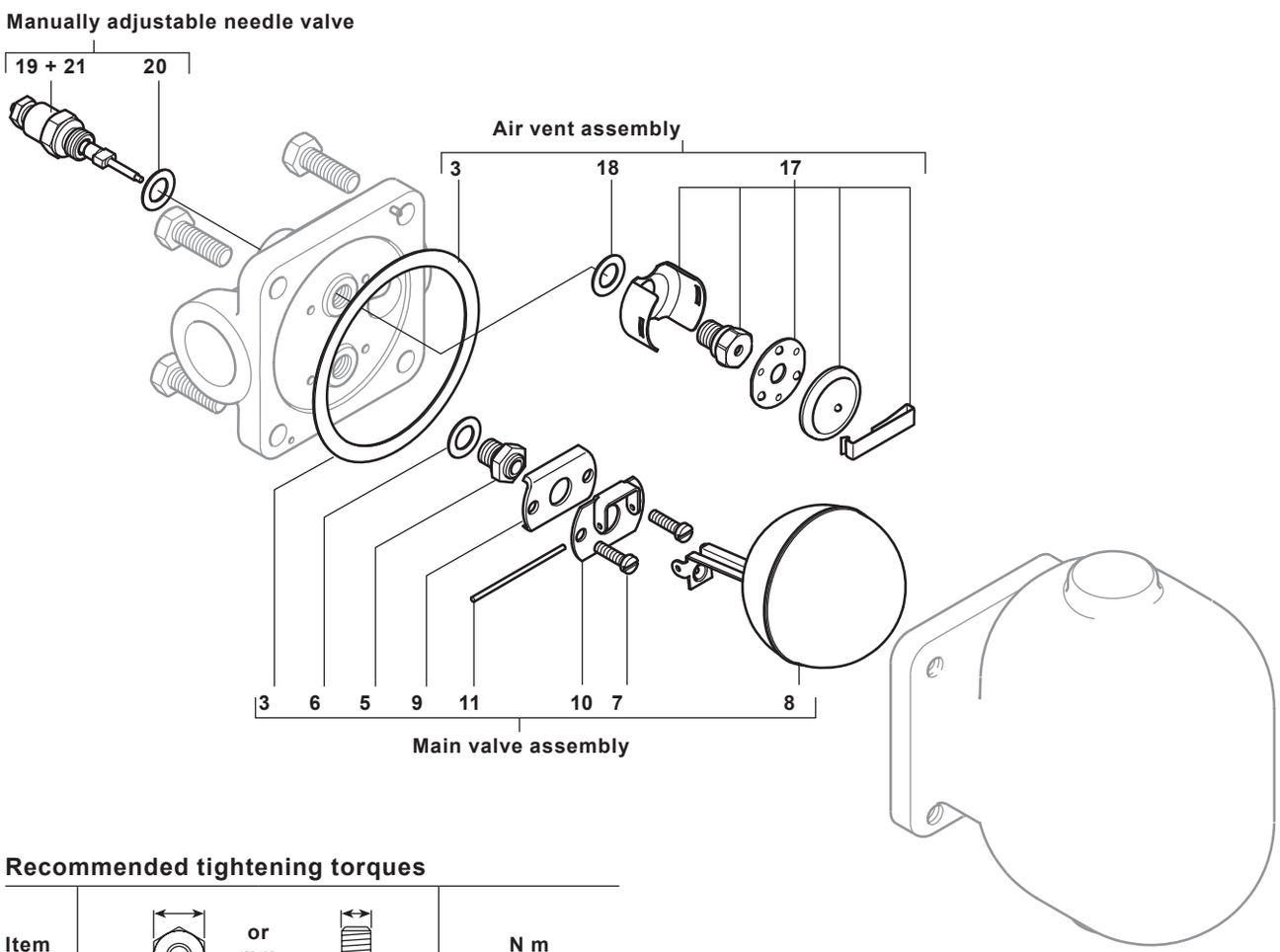
Spare parts
The spare parts available are shown in solid outline. Parts drawn in a grey line are not supplied as spares.

Available spares

Maintenance kit	**3, 5, 6, 7** (2 off)**, 8, 9, 10, 11, 17, 18**
Main valve assembly with float	**3, 5, 6, 7** (2 off)**, 8, 9, 10, 11**
Air vent assembly	**3, 17, 18**
Manually adjustable needle valve (FTGS14HC-C only)	**19 + 21**, **20**
Cover gasket (packet of 3)	**3**

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 with float for a Spirax Sarco 1" FTGS14HC-10 ball float steam trap.



Recommended tightening torques

Item	or mm		N m
2	17 A/F	M10 x 30	29 - 33
5	17 A/F		40 - 45
7	Pozidrive	M5 x 20	10 - 12
17	17 A/F		50 - 55
19	21 A/F		40 - 45