

spirax sarco

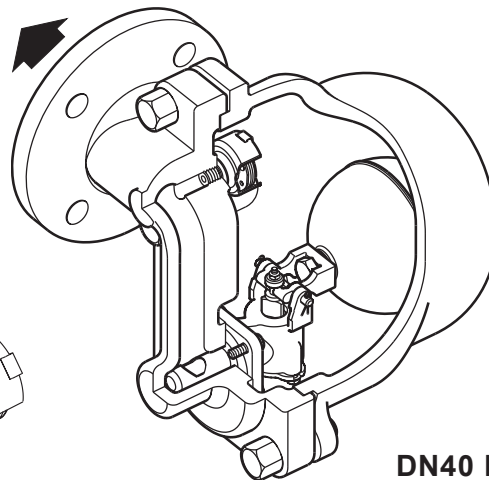
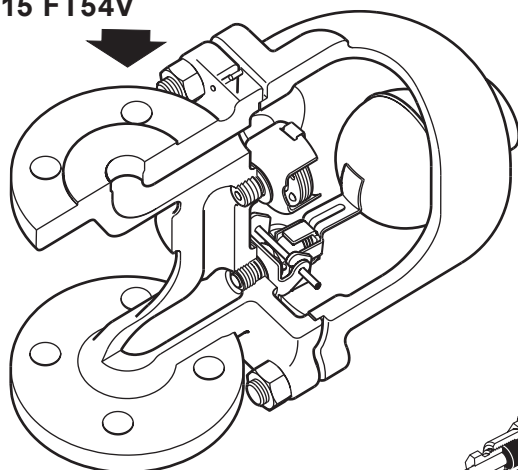
FT54

TI-P603-01
CMGT Issue 6

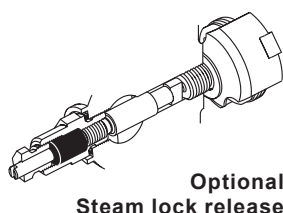
Carbon Steel

Ball Float Steam Trap with Flanged Connections

DN15 FT54V



DN40 FT54H

Optional
Steam lock release

Description

The FT54 is a carbon steel ball float steam trap with internal thermostatic air vent for the prompt removal of large condensate loads from steam systems. The trap is supplied with integrally flanged connections (for horizontal or vertical installation) and can be maintained without disturbing the pipework. Body and cover are produced by TÜV approved foundries.

Available options

FT54H - Horizontal flow.

FT54V - 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 certification to EN 10204 3.1.

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

Sizes and pipe connections

DN15, DN20, DN25, DN40 and DN50.

Standard flange EN 1092 PN40 (formerly DIN 2501).

Face-to-face dimensions to BS EN 26554 Series 1.

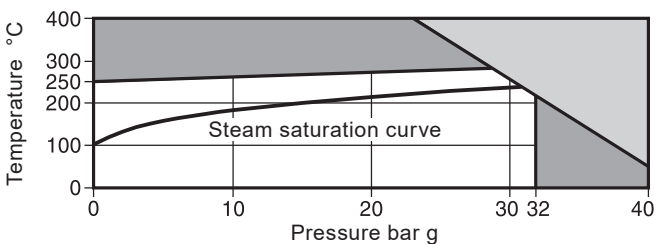
Optional extras



Manually adjustable needle valve (designated 'C' on the nomenclature) can be fitted to all versions. This option provides a **steam lock release** feature in addition to the standard air vent.

The **cover can be drilled and tapped** for the purpose of fitting a balance line and drain cock if requested at the point of order.

Steam traps
Ball float

Pressure/temperature limits



-  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.

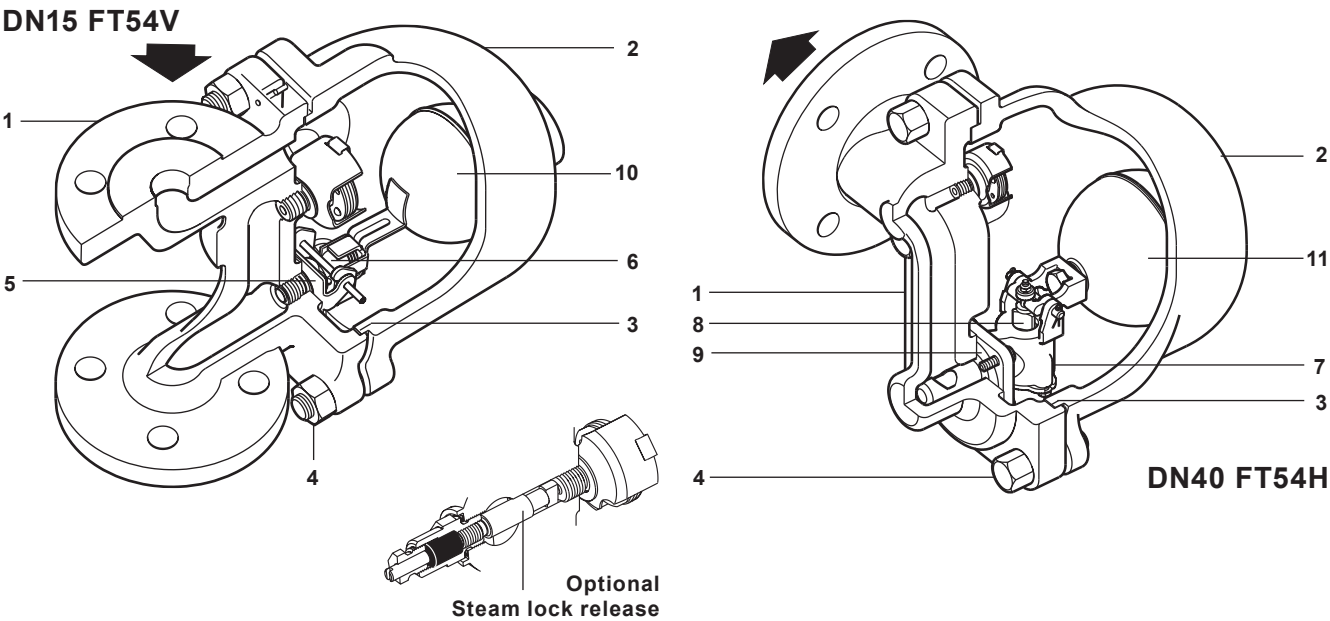
Body design conditions		PN40
PMA	Maximum allowable pressure	40 bar g @ 50 °C
TMA	Maximum allowable temperature	400 °C @ 24 bar g
Minimum allowable temperature		-10 °C
PMO	Maximum operating pressure for saturated steam service	31 bar g
TMO	Maximum operating temperature	284 °C @ 28.5 bar g
Minimum operating temperature		0 °C
Note: For lower operating temperatures consult Spirax Sarco		

ΔPMX Maximum differential pressures								
Size and model	FT54H-4 FT54V-4	FT54H-4.5 FT54V-4.5	FT54H-8 FT54V-8	FT54H-10 FT54V-10	FT54H-12 FT54V-12	FT54H-20 FT54V-20	FT54H-28 FT54V-28	FT54H-32 FT54V-32
DN15, DN20 and DN25	4 bar	-	8 bar	-	12 bar	20 bar	-	32 bar
DN40 and DN50	-	4.5 bar	-	10 bar	-	-	28 bar	-

Designed for a maximum cold hydraulic test pressure of: 60 bar g

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

Materials



No.	Part		Material	
1	Body		Carbon steel	1.0619+N
2	Cover		Carbon steel	1.0619+N
3	Cover gasket		Reinforced exfoliated graphite	
4	Cover bolts	FT54H	Steel	25 CrMo 4 (1.7218)
	Cover studs	FT54V	Steel	25 CrMo 4 (1.7218)
	Cover nuts	FT54V	Steel	CK 35 (1.1181)
5	Valve seat	DN15-DN25	Stainless steel	X 22 CrNi 17 2 (1.4057)
6	Valve	DN15-DN25	Stainless steel	X 105 CrMo 17 (1.4125)
7	Valve seat	DN40-DN50	Stainless steel	X 22 CrNi 17 2 (1.4057)
8	Valve	DN40-DN50	Stainless steel	X 22 CrNi 17 2 (1.4057)
9	Main valve gasket		Exfoliated graphite	
10	Ball float		Stainless steel	X 5 CrNi 18 10 (1.4301)
11				

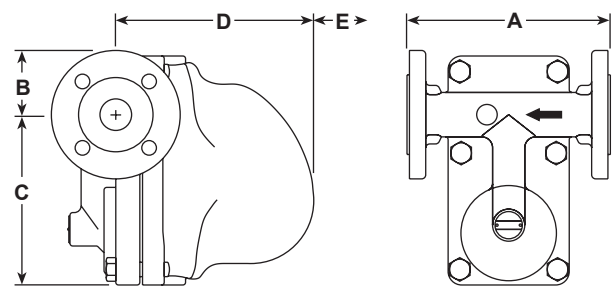
Note: All other internals are manufactured in stainless steel.

Steam traps
Ball float

Dimensions/weights (approximate) in mm and kg
FT54H

Size	A	B	C	D	E	Weight
DN15	150	48	126	151	119	7.5
DN20	150	53	126	151	119	8.0
DN25	160	58	126	151	119	8.5
DN40	230	75.5	192	208	168	27.0
DN50	230	83	192	208	168	28.0

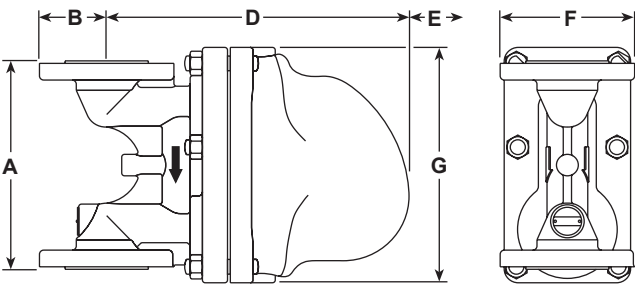
DN15 - DN50



FT54V

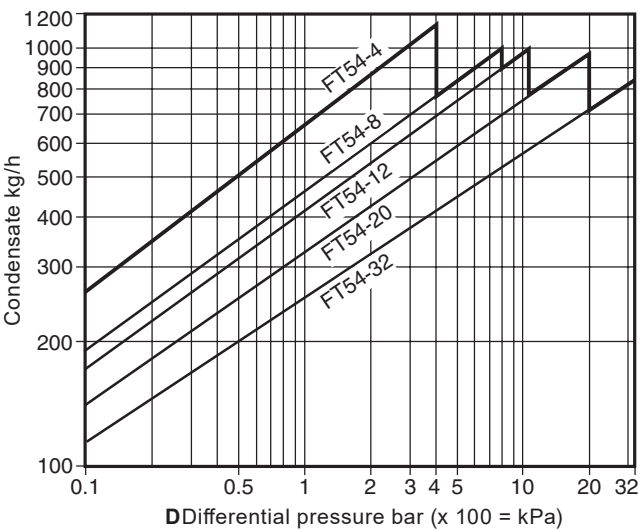
Size	A	B	D	E	F	G	Weight
DN15	150	48	214	119	96	175	7.5
DN20	150	53	214	119	106	175	8.0
DN25	160	58	221	119	116	175	8.5
DN40	230	75.5	312	168	151	255	29.0
DN50	230	83	312	168	166	255	30.0

DN15 - DN50

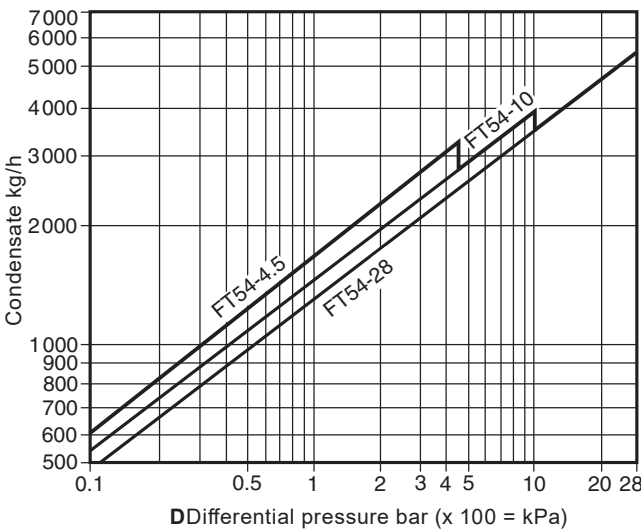


Capacities (in accordance with ISO 7842)
Capacities shown are based on boiling hot condensate.

DN15, DN20 and DN25



DN40 and DN50



Additional cold water capacities from thermostatic air vent under start-up conditions
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 Table below gives the minimum additional cold water capacities from the air vent.

Minimum additional cold water capacities from the air vent (kg/h)

Pressure (bar)	0.5	1	2	3	4	4.5	8	10	12	16	20	28	32
DN15, DN20 and DN25	460	680	900	1080	1250	-	1700	-	2000	2250	2550	-	3000
DN40 and DN50	460	680	900	1080	-	1300	1700	1900	-	2250	2550	2900	-

How to order

Example: 1 off Spirax Sarco DN40 FT54H-4.5 ball float steam trap with carbon steel body and cover. Flanged connections to EN 1092 PN40. Trap to be fitted with the optional balance and drain connections.

Note: If the product has the optional steam lock release fitted the nomenclature would be FT54-4.5-C.

Safety information

Pressure

Before attempting any maintenance on the trap, consider what is or may have been in the pipeline. Ensure that any pressure is isolated and safely vented to atmospheric pressure before attempting to maintain the steam trap. This is easily achieved by fitting Spirax Sarco depressurisation valves type DV (see separate literature for details). Do not assume that the system is depressurised even when a pressure gauge indicates zero.

Temperature

Allow time for temperature to normalise after isolation to avoid the danger of burns and consider whether protective clothing (including safety glasses) is required.

Caution: The cover gasket and main valve assembly gasket may contain a thin stainless steel support ring which may cause physical injury if it is not handled and disposed of carefully.

Installation

The trap is designed for installation with the float arm in a horizontal plane so that it rises and falls vertically, ideally with a drop leg immediately preceding the trap. Suitable isolation valves must be installed to allow for safe maintenance/replacement. Remove all protective caps prior to installation. Open isolation valves slowly and check for leaks. Where steam traps are fitted in exposed conditions, the possibility of freezing damage may be reduced by thermal insulation/draining/isolation.

Maintenance

Maintenance can be completed with the trap in the pipeline, once the safety procedures have been observed. It is recommended that new gaskets and spares are used whenever maintenance is undertaken. Ensure that the correct tools and necessary protective equipment are used at all times. When maintenance is complete open isolation valves slowly and check for leaks. See IM-P603-03 for further details.

Disposal

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

Steam traps
Ball float

Spare parts

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

Available spares

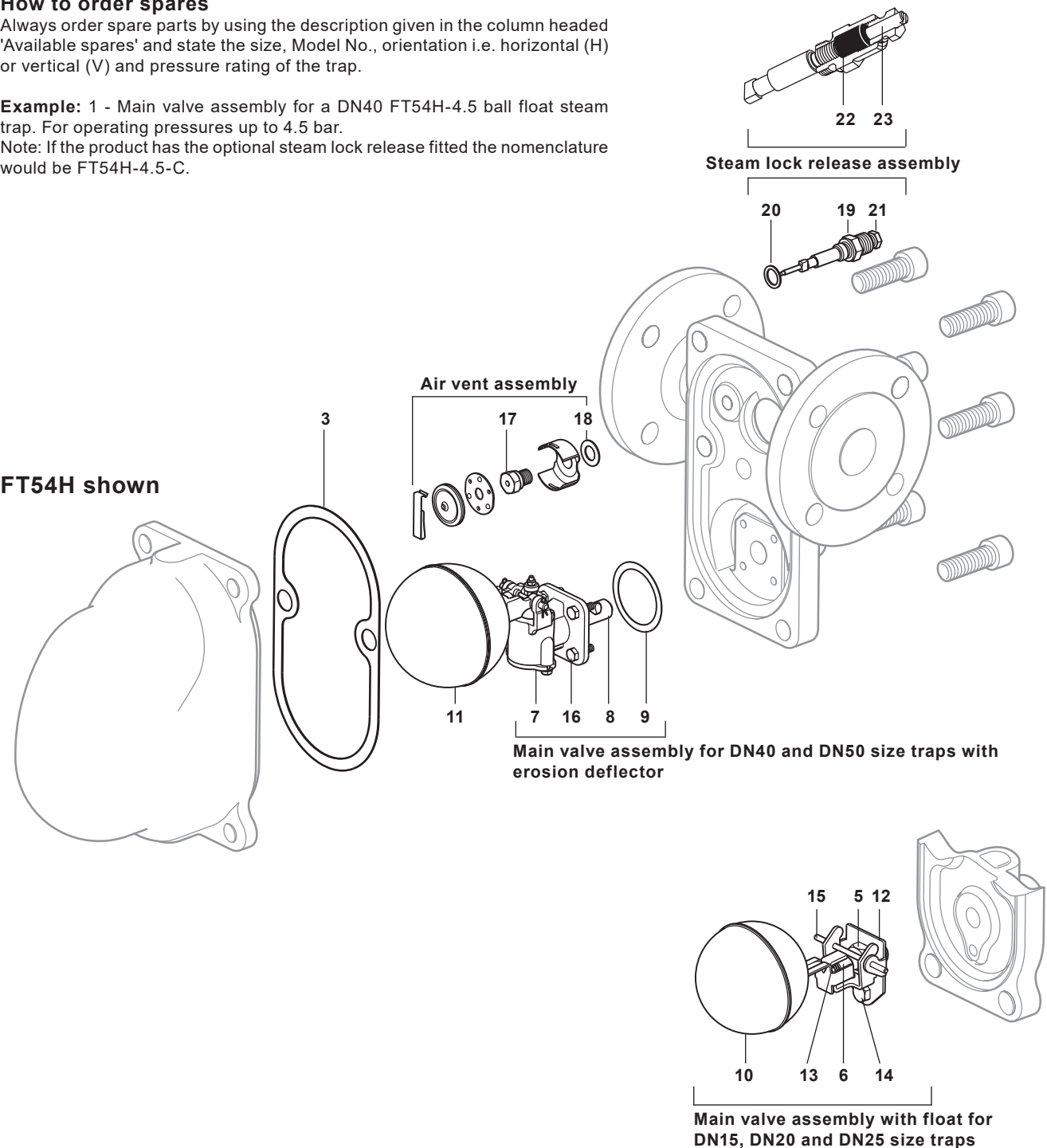
Main valve assembly with float (DN15, DN20 and DN25)	5, 6, 10, 12, 13, 14, 15
Main valve assembly with erosion deflector (DN40 and DN50)	7, 8, 9, 16
Ball float (DN40 and DN50 only)	11
Air vent assembly	17, 18
Complete set of gaskets (packet of 3)	3, 9, 18, 20
Steam lock release and air vent assembly	17, 18, 19, 20, 21, 22, 23

How to order spares

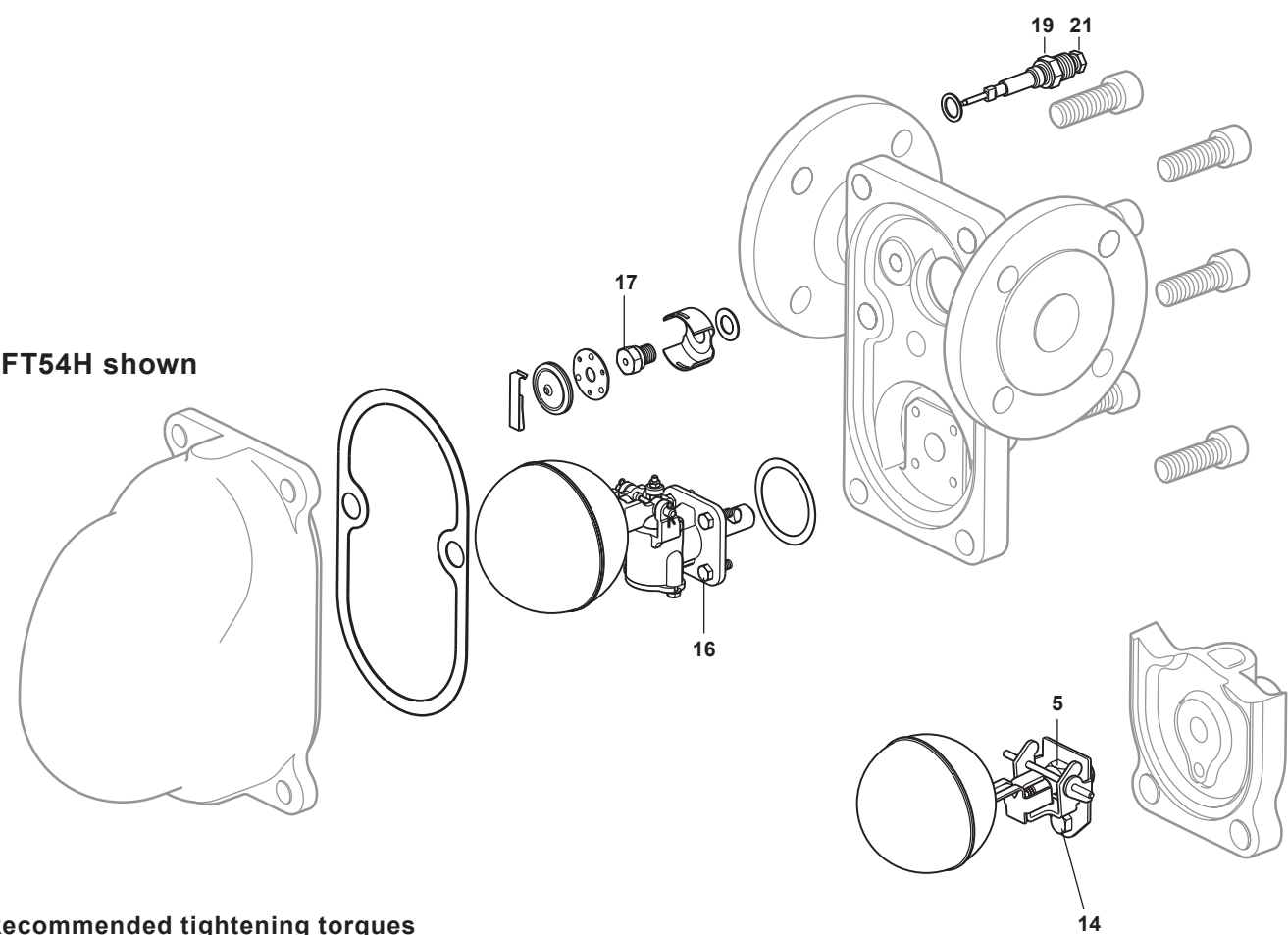
Always order spare parts by using the description given in the column headed 'Available spares' and state the size, Model No., orientation i.e. horizontal (H) or vertical (V) and pressure rating of the trap.

Example: 1 - Main valve assembly for a DN40 FT54H-4.5 ball float steam trap. For operating pressures up to 4.5 bar.
Note: If the product has the optional steam lock release fitted the nomenclature would be FT54H-4.5-C.



FT54H shown



FT54H shown



Recommended tightening torques

Item				or mm		N m
4	DN15, DN20 and DN25	FT54H Bolt	10 (socket)	M12 x 35	70-75	
		FT54V	Stud	M12	35-40	
			Nut	19	M12	70-75
	DN40 and DN50	FT54H Bolt	24	M16 x 55	150-165	
		FT54V	Stud	M16	70-80	
			Nut	24	M16	150-165
5			17	M12	50-55	
14			10	M6 x 10	10-12	
16			10	M6 x 10	10-12	
17			17		50-55	
19 (SLR sub-assembly)			19		40-45	
21 (SLR retaining nut)			13		4-5	

8.5

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Steam traps
Ball float

8.5

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