



**3A.115-E**  
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# FTC23 Carbon steel Ball Float Steam Trap

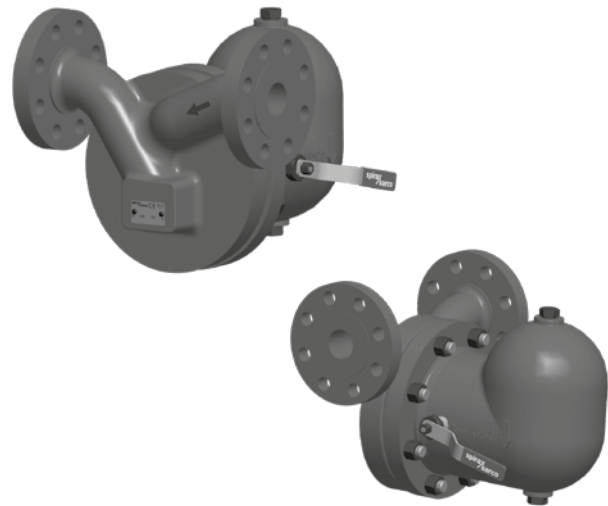
## Description

The FTC23 is a carbon steel ball float steam trap having stainless steel cover and internals it is suitable for use with saturated and superheated steam, on process equipments, and is the first choice for drainage of temperature controlled systems.

This trap is ideal to solve problems caused by dirt steam carrying solid and incondensable contaminants (salts and gasses), that lead quickly to fouling and accumulation of sediment and debris, resulting in failure of the internal mechanism (This trap is typically used on geothermal steam).

The main feature is the innovative self-cleaning floating closure mechanism, which allows automatic safe operation even in cases of severe contamination of the steam. Furthermore, the position and size of main valve and seat makes easier the discharge of the condensate and of any solid contaminant. The trap is able to modulate the condensate flow adapting immediately to sudden and large variations of flow and pressure.

Another key feature is the external manual lever that allows to fully open the plug regardless of the presence or absence of condensate in the device. In this way it is allowed both the removal of any sediment interior and checking the proper operation of the unit.



## Standards

This product fully complies with the requirements of the European Pressure Equipment 2014/68/EU and carries the CE mark when so required.

## Approvals

This product is available, on request, with certification as defined in EN 10204 2.2 or EN 10204 3.1.

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

## Versions

FTC23-07, FTC23-23  
 Special executions available on request.

## Sizes and pipe connections

Flanged EN 1092 PN 40  
 Flanged ASME B16.5, Class 150  
 Flanged ASME B16.5, Class 300, standard  
 DN 40 and 50 - 1½" and 2"

## Pressure/temperature limits (ISO 6552)

PMA - Maximum allowable pressure	@ 350°C	50 bar g*
TMA - Maximum allowable temperature	@ 32 bar g	425°C*
Minimum allowable temperature		-10°C
PMO - Maximum operating pressure	@ 350°C	23 bar g*
Minimum operating temperature, danger of freezing considered		0°C
ΔPMX - Maximum differential pressure	FTC23-07	7 bar g
	FTC23-23	23 bar g*

Designed for a maximum cold hydraulic test pressure of 75 bar g

\* **Note:** maximum allowable and operating pressure can be limited by the flange rating.

## Materials

No	Part	Material	Designation
1	Body	Carbon steel	ASTM A216 WCB
		Stainless steel	ASTM A351 CF8 (on request)
2	Studs	Carbon steel	ASTM A193 B7
3	Body Gasket	Exfoliated graphite reinforced steel	
4	Seat Gasket	Exfoliated graphite reinforced steel	
5	Seat	Stainless steel	ASTM A479 316
6	Seat screws	Stainless steel	AISI304
7	Ball	Stainless steel	AISI316
8	Float lever	Stainless steel	ASTM A240 316
9	Float lever pin	Stainless steel	ASTM A479 316
10	Float	Stainless steel	AISI316
11	Washer	Stainless steel	AISI304
12	Screw	Stainless steel	AISI304
13	Cover	Stainless steel	ASTM A351 CF8
14	Plug (½")	Carbon steel	ASTM A105
15	Internal lever	Stainless steel	AISI316
16	Graphite packing seals	Graphite	Graphite
17	Spacer	Stainless steel	AISI316
18	Gland nut	Stainless steel	AISI316
19	Manual lever	Stainless steel	ASTM A240 304
20	Nut and locknut	Stainless steel	AISI304
21	Nut	Carbon steel	ASTM A194 8M

### Capacities (kg/h)

The condensate discharge capacities shown below are based on the actual temperature of operation.

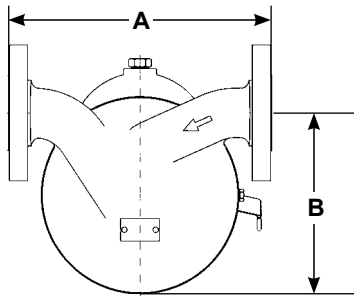
Differential pressure (bar g)	FTC23-07	FTC23-23
0,3	310	n.a.
0,5	490	330
0,7	590	500
1	1.000	700
1,5	1.400	830
2	1.820	1.080
4	2.510	1.550
7	3.000	2.050
10		2.340
13		2.540
15		2.680
18		2.880
21		3.070
23		3.160

The choice of trap should be based on the following data:

- a) Hourly amount of condensate to be discharged,
- b) Effective differential pressure

Safety factor:

1,25 ÷ 1,5 with continuous duty; 2 ÷ 3 with intermittent duty.



### Dimensions/weights in mm and kg (approximate)

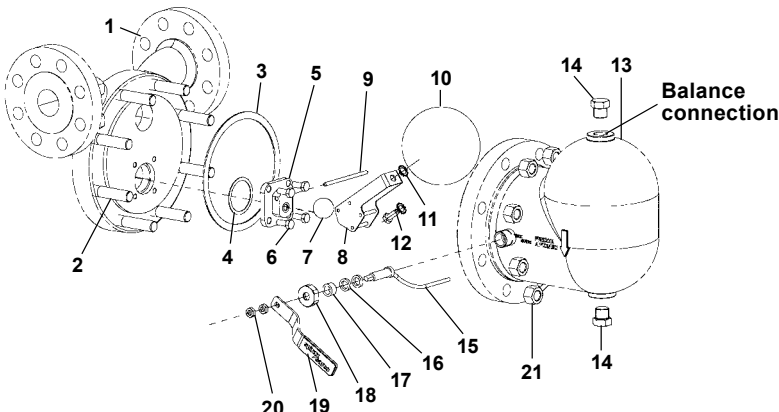
DN	A	B	C	D	E*	Weight
1½" e 2" - 40 e 50	320	220	305	310	560	40,0

### Spare parts

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

### Available spares

Seat assembly	5, 6
Plug ball	7
Float lever and pin assembly	8, 9
Float assembly	10, 11, 12
Manual lever kit	15, 16, 17, 18, 19, 20
Stuffing box and manual lever spacer assembly	16, 17
Gasket set (3 + 3 units)	3, 4



### Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions 3.341.5275.241 supplied with the product.

#### Installation note

The FTC23 traps must be installed below the draining point and respecting the flow direction as shown on the device cover, and with the float lever positioned on a horizontal plane so that it can vertically rise and lower freely. The use of an upstream protection strainers is always recommended to prevent possible damage to the internal components and to assure regular working operation. In order to allow a safe inspection for cleaning or maintenance purpose install suitable shut-off valves. If the trap discharges to atmosphere ensure that it is to a safe place, the discharged medium may be at a temperature of 100°C. In order to ensure an efficient discharge of incondensable, it is recommended to connect the balancing connection of the trap to the drained system (see sketch on Installation and Maintenance Instructions).

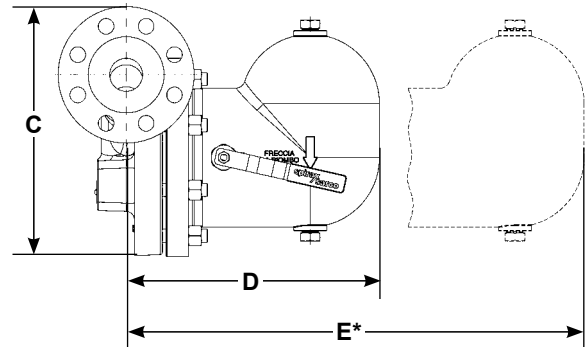
#### Disposal

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

In the event that, during the operation, the trap comes into contact with harmful substances, you will need to dispose it in accordance with regulations under the current legislation.

#### How to order

**Example:** No 1 off Spirax Sarco FTC23-23 Carbon steel Ball Float Steam Trap, with carbon steel body and stainless steel internal components. Maximum operating and differential pressure 23 bar. Flanged connections according to EN 1092 PN 40 DN 50.



\* Withdrawal distance for cover removal

#### How to order spares

Always order spare parts by using the description given in the table and state the size and type of trap, including pressure range and type of the connections.

**Example:** N°1 Ball float and cover gasket assembly for a ball float steam trap Spirax Sarco FTC23-07, DN 1½".

#### Recommended tightening torques

Item	o mm	N m
Stud	M 16 x 70	
Cover Nuts	24	90
Seat bolts	13	M 8 x 20 15