CMTOFT

Compact Module Two Orifice Float Trap

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Description

The Forbes Marshall Compact Module Two Orifice Float Trap, CMTOFT, has SG iron cover and base with stainless steel internals and integral automatic air venting facility .

The CMTOFT is provided with two orifices operated by single float. For normal running condensate load single orifice opens and with increase in condensate load opens the second orifice. This modulating mechanism makes this trap to cope up efficiently the condensate load at startup, normal running and peak load conditions. CMTOFT is provided with other inbuilt features - upstream and downstream isolation valves, bypass valve, non-return valve, automatic air venting, steam lock release and strainer. Trap monitoring sensor port is provided to monitor the trap with Forbes Marshall steam trap monitoring system.

CMTOFT is supplied with horizontal flanged connections and can be maintained without disturbing the pipework.

Sizes and Pipe Connections

DN15 and DN20 Flanged ASA300.

Certification

This product is available with manufacturers typical test report.

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

Available Options

Optional steam lock release (SLR) feature is provided in addition to the standard air vent. For further information please consult Forbes Marshall.

Limiting Conditions

PMA - Maximum allowable pressure			17 bar g @ 220°C
TMA - Maximum allowable temperature			220°C
Minimum allowable temperature			-10°C
PMO - Maximum operating pressure			15 bar g
TMO - Maximum operating temperature			220°C
Minimum operating temperature			0°C
△PMX	Maximum differential pressure	CMTOFT	4.5 bar g
		CMTOFT	10 bar g
		CMTOFT	15 bar g
Maximum cold hydraulic test pressure 30 bar g			

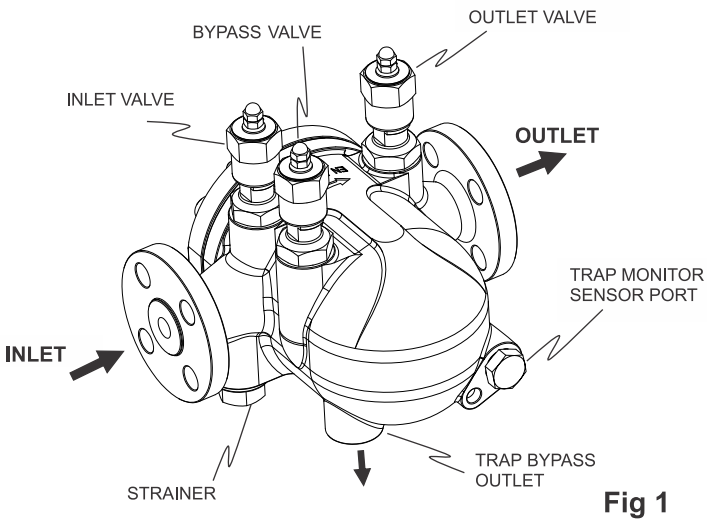


Fig 1

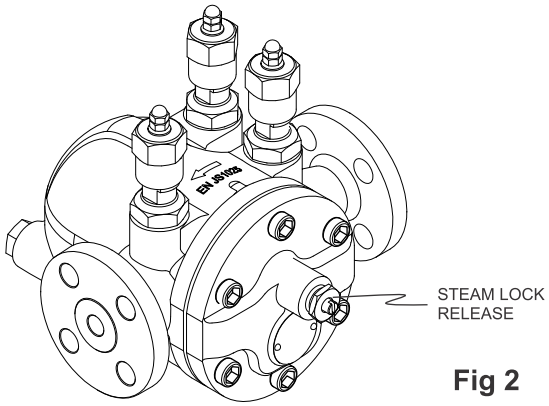
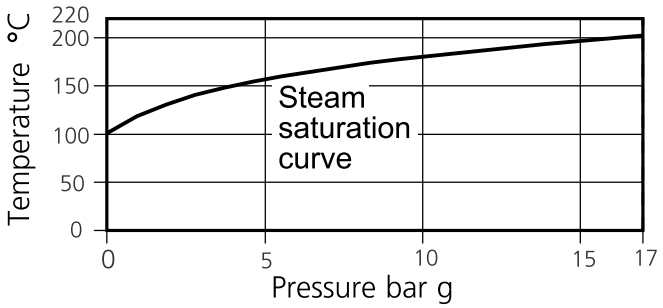
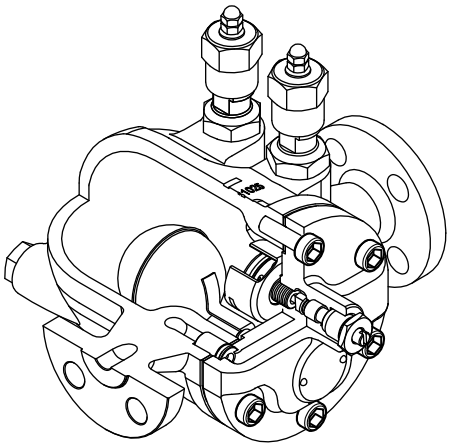


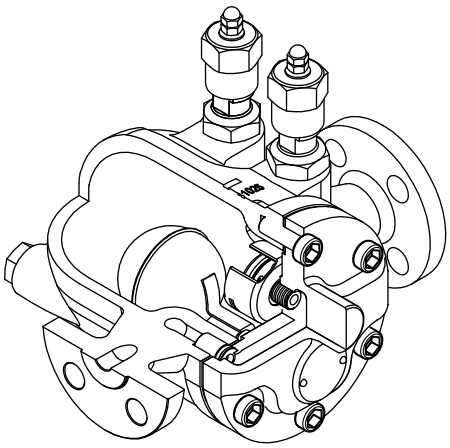
Fig 2

Operating range

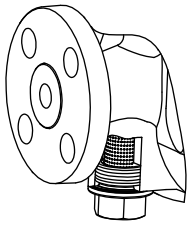




WITH SLR AND AIR VENT



WITH AIR VENT



STRAINER

FIG - 3

Materials

No.	Part	Material	Standard
1	Base	SG iron	ENJS 1025
2	Cover bolts	Carbon steel chromium plated	A193 BS
3	Cover gasket	Reinforced exfoliated graphite	-
4	Cover	SG iron	ENJS 1025
5	Seat	Stainless steel CA40	A743
6	Seat gasket	Reinforced exfoliated graphite	-
7	Seat screws	Stainless steel SS304	A276
8	Float and lever assembly	Stainless steel SS304	A240
9	Secondary lever assembly	Stainless steel SS304	A240
10	Pivot pin	Stainless steel SS304	A276
11	Air vent assembly	Stainless steel SS304	-
12	NRV assembly	Stainless steel type 431	ASTM A276
13	Valve assembly	Stainless steel	ASTM A105
14	Valve sealing ring	Graphite	-
15	Valve Stem-piston	Stainless steel type 316	A276
16	Valve plain washer	Stainless steel SS304	ASTM A240
17	Bonnet	Stainless steel SS420	ASTM A276
18	Lock Nut M22x1.5	Stainless steel SS420	ASTM A276
19	Hex Knob	SG iron	IS1865-400/15
20	M6 washer	Stainless steel SS304	ASTM A240
21	M6 LH hex nut	Stainless steel SS304	ASTM A240
22	Strainer cap	Stainless steel type CA40	ASTM A743
23	Strainer Screen	Stainless steel SS304	ASTM A240
24	3/8" BSP plug	Stainless steel	ASTM A105
25	Plug gasket	Stainless steel SS304	
26	SLR gland nut	Stainless steel type 304	ASTM A276
27	SLR glands	Graphite	-
28	SLR stem	Stainless steel type 316	ASTM A240
29	Spacer	Stainless steel	

Dimensions and Weights (approx.) in mm and kg

Size	A	B	C	D	E	F	G	Weight
DN15	205	218.5	83	122	210	18	150	10
Dn20	205	221.5	83	122	210	18	150	10.7

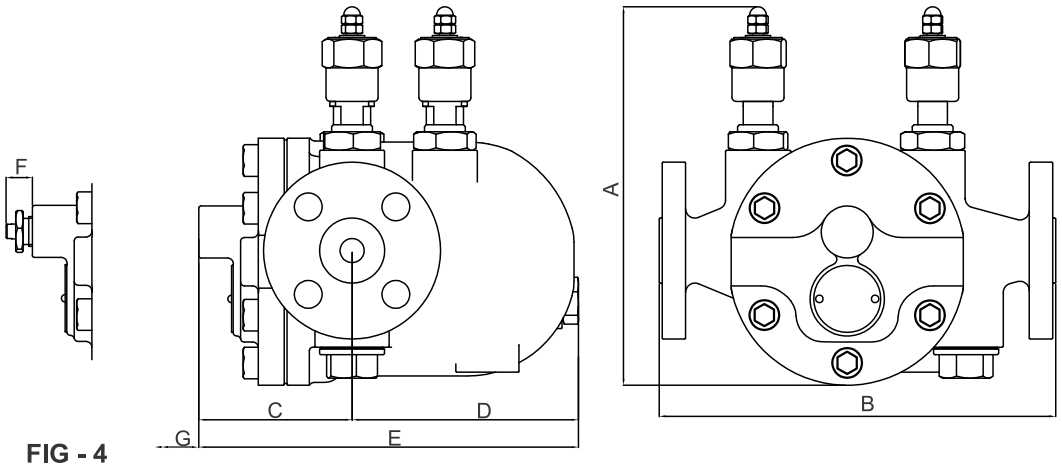
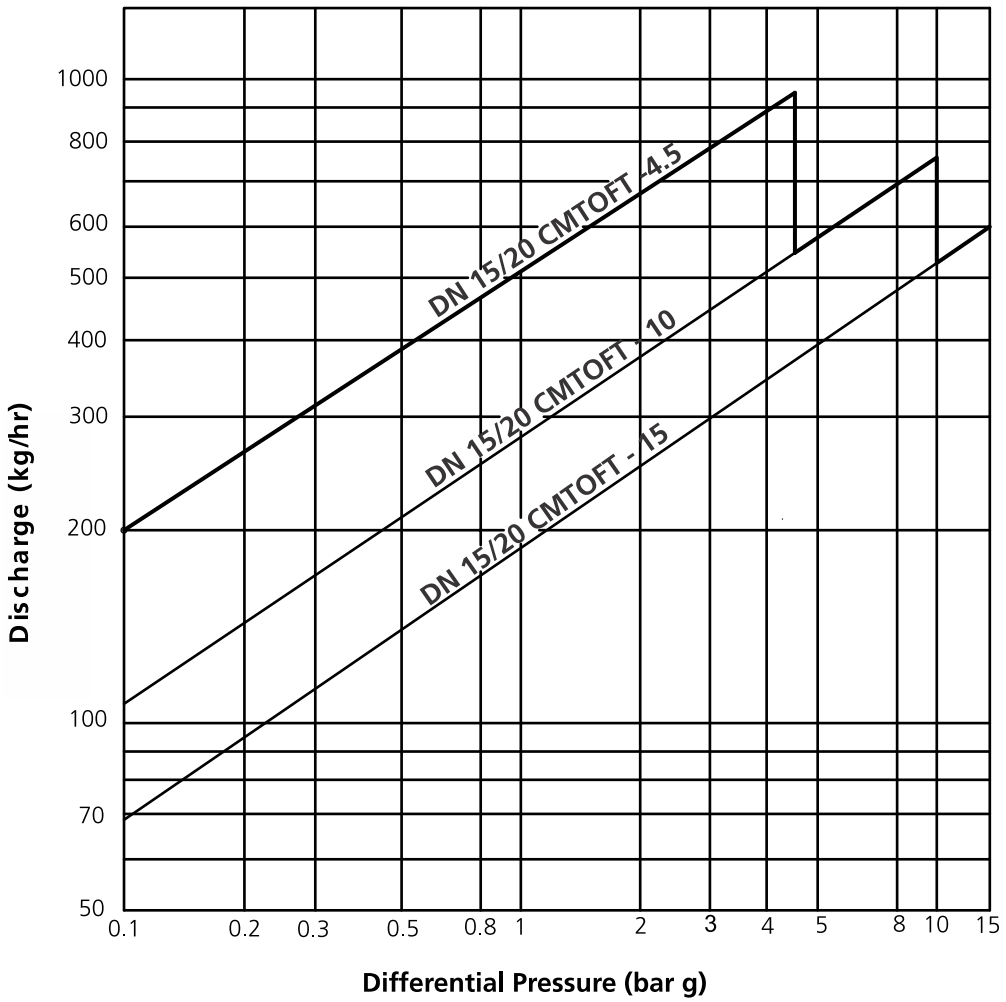


FIG - 4

Capacity Chart



Capacities shown are based on condensate at saturation temperature. When discharging sub-cooled condensate the air vent provides extra capacities. 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 g units this will provide a minimum of 25% increased capacity above the hot condensate figures shown. On 10 and 15 bar g units this will be minimum increase of 40% on the published capacity.

Safety Information, Installation and Maintenance
For full details see the user manual supplied with the product.

Installation Note
The CMTOFT 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. The arrow on the nameplate must point downwards.

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

How to Order
Example: DN15 Compact Module Two Orifice Float Trap, Flanged ASA300 CMTOFT-4.5 bar g differential pressure with steam lock release

Recommended Tightening Torques

Item	Or mm		Nm
2		M10 x 25L	47 - 50
7		M4 x 12L	6 - 7
22 & 21		M6	2 - 3
11	17 A/F	M12	50 - 55
26	24 A/F	3/8" BSP	50 - 55
18	30 A/F		100 - 110
23	25 A/F	M28	120 - 125

Spare parts
The spare parts available are shown in the figure below.

Available spares

Main valve assembly with float	3,5,6,7,8,9,10
Air vent assembly	11
Cover and seat gasket (packet of 5)	3,6
Valve maintenance kit	14,15,16,20,21,22,31
Valve sealing rings (packet of 15)	14
Valve stem piston (packet of 5)	15
Strainer screen	2

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 no. Main valve assembly for DN15 Compact Module Two Orifice Float Trap CMTOFT-4.5 .

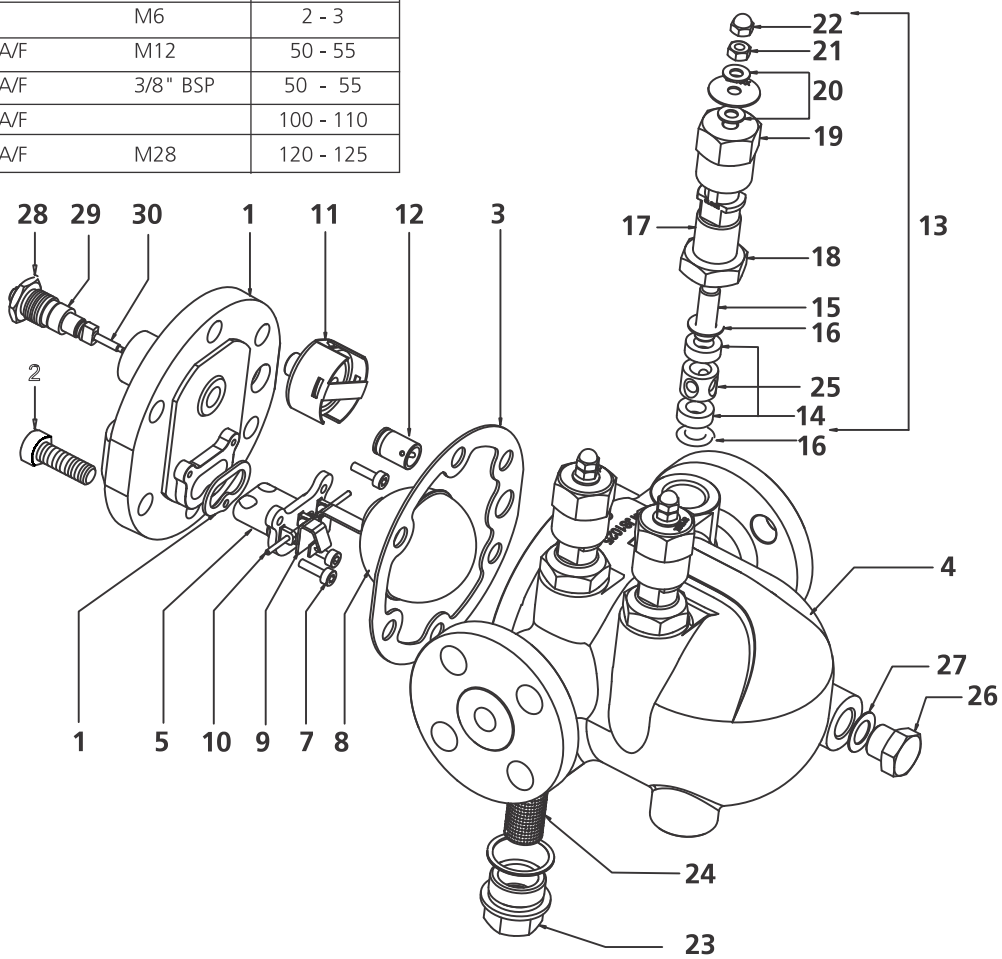


FIG - 5

FMSS/0415/TIS-CMTOFT/V1.R0

Forbes Marshall
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Forbes Marshall Pvt. Ltd.
Plot no. B-85, Chakan MIDC Phase-II
District - Pune -410 501. INDIA.
Tel.: 91(0)213-5393400

Forbes Marshall Steam Systems Pvt. Ltd.
(Formerly Spirax Marshall Pvt. Ltd.)
Mumbai-Pune Road, Kasarwadi
Pune - 411 034. INDIA.
Tel.: 91(0)20-27145595, 39858555
Fax : 91(0)20-27147413

Email : seg@forbesmarshall.com

www.forbesmarshall.com