

CMTOFT

Compact Module Two Orifice Float Trap

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

1/2" and 3/4" 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	247 Psig @ 428°F	
TMA - Maximum allowable temperature	428°F	
Minimum allowable temperature	14°F	
PMO - Maximum operating pressure	217.5 Psig	
TMO - Maximum operating temperature	428°F	
Minimum operating temperature	32°F	
Δ PMX	Maximum differential pressure CMTOFT	65 Psig
	CMTOFT	145 Psig
	CMTOFT	217.5 Psig

Maximum cold hydraulic test pressure 435 Psig

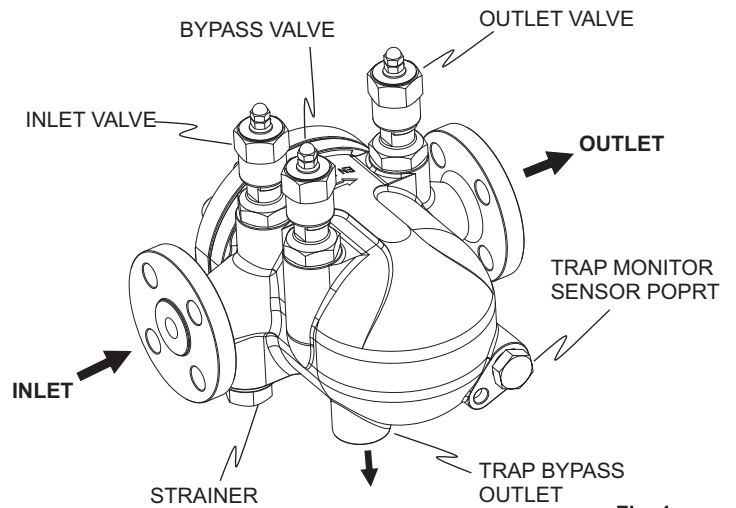


Fig. 1

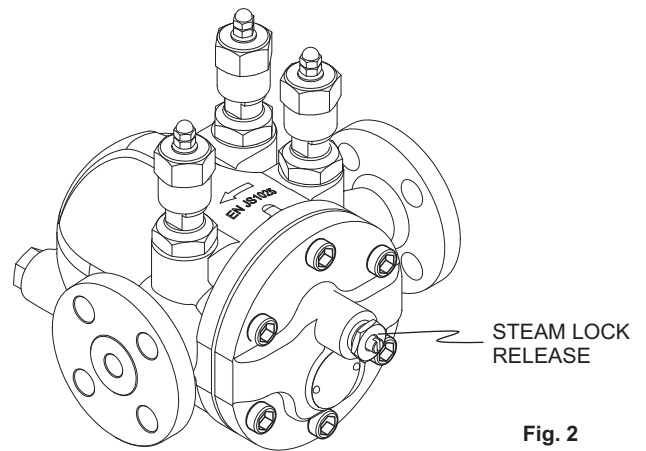
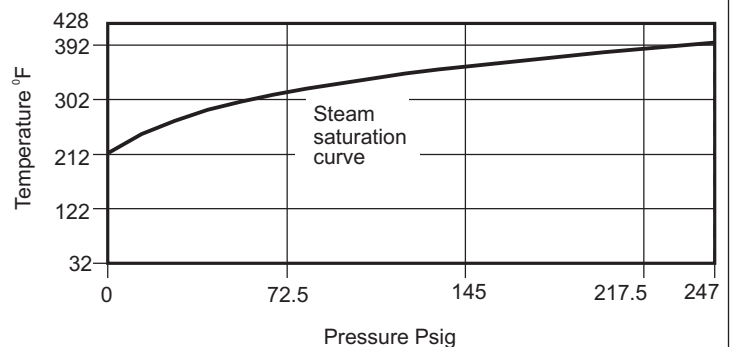
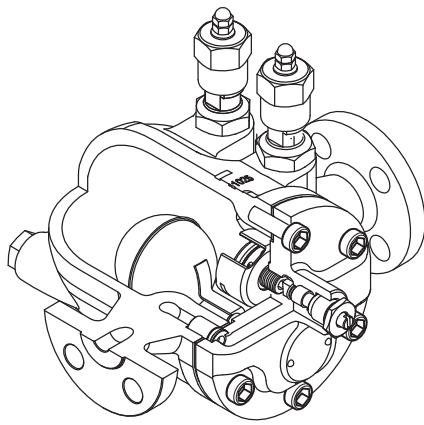


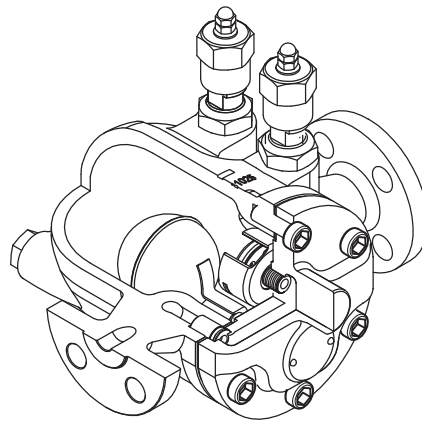
Fig. 2

Operating range:

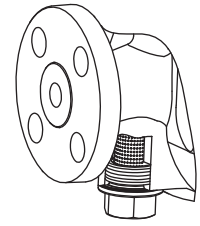




WITH SLR AND AIR VENT



WITH AIR VENT



STRAINER

Fig. 3

Materials (See Fig. 5)

No.	Part	Material	Standard
1	Base	SG iron	ENJS 1025 (ASTM 60-40-18)
2	Cover bolts	Carbon steel chromium plated	A193 B5
3	Cover gasket	Reinforced exfoliated graphite	(ASTM F 104)
4	Cover	SG iron	ENJS 1025 (ASTM 60-40-18)
5	Seat	Stainless steel	A743, Type CA40
6	Seat gasket	Reinforced exfoliated graphite	(ASTM F 104)
7	Seat screws	Stainless steel	A276, Type 304
8	Float and lever assembly	Stainless steel	A240, Type 304
9	Secondary lever assembly	Stainless steel	A240, Type 304
10	Pivot pin	Stainless steel	A276, Type 304
11	Air vent assembly	Stainless steel	Type 304
12	NRV assembly	Stainless steel	ASTM A276, Type 431
13	Valve assembly	Stainless steel	ASTM A105
14	Valve sealing ring	Graphite	-
15	Valve Stem-piston	Stainless steel	A276, Type 316
16	Valve plain washer	Stainless steel	ASTM A240, Type 304
17	Bonnet	Stainless steel	ASTM A276, Type 420
18	Lock Nut 7/8"x1/16"	Stainless steel	ASTM A276, Type 420
19	Hex Knob	SG iron	IS1865-400/15 (ASTM A 536)
20	1/4" washer	Stainless steel	ASTM A240, Type 304
21	1/4"LH hex nut	Stainless steel	ASTM A240, Type 304
22	1/4" LH lock nut	Stainless steel	Type 304
23	Strainer cap	Stainless steel	ASTM A743, Type CA40
24	Strainer Screen	Stainless steel	ASTM A240, Type 304
25	Spacer	Stainless steel	
26	3/8" BSP plug	Stainless steel	ASTM A105
27	Plug gasket	Stainless steel	Type 304
28	SLR gland nut	Stainless steel	ASTM A276, Type 304
29	SLR glands	Graphite	-
30	SLR stem	Stainless steel	ASTM A240, Type 316

Note: Material specification mentioned in brackets are for reference only.

Dimensions and Weights (approx. in Inches)

Size	A	B	C	D	E	F	G	Wt. (Lbs.)
1/2	8.1	8.6	3.3	4.8	8.3	0.71	5.9	22
3/4	8.1	8.7	3.3	4.8	8.3	0.71	5.9	24

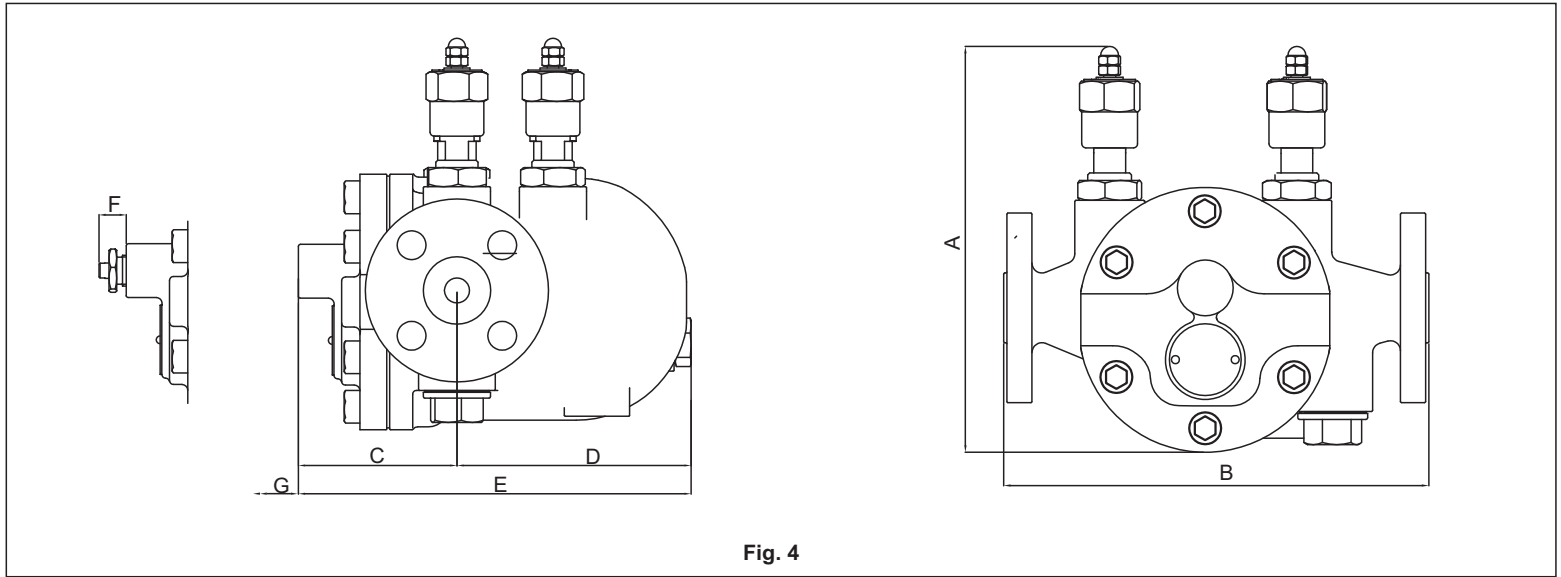
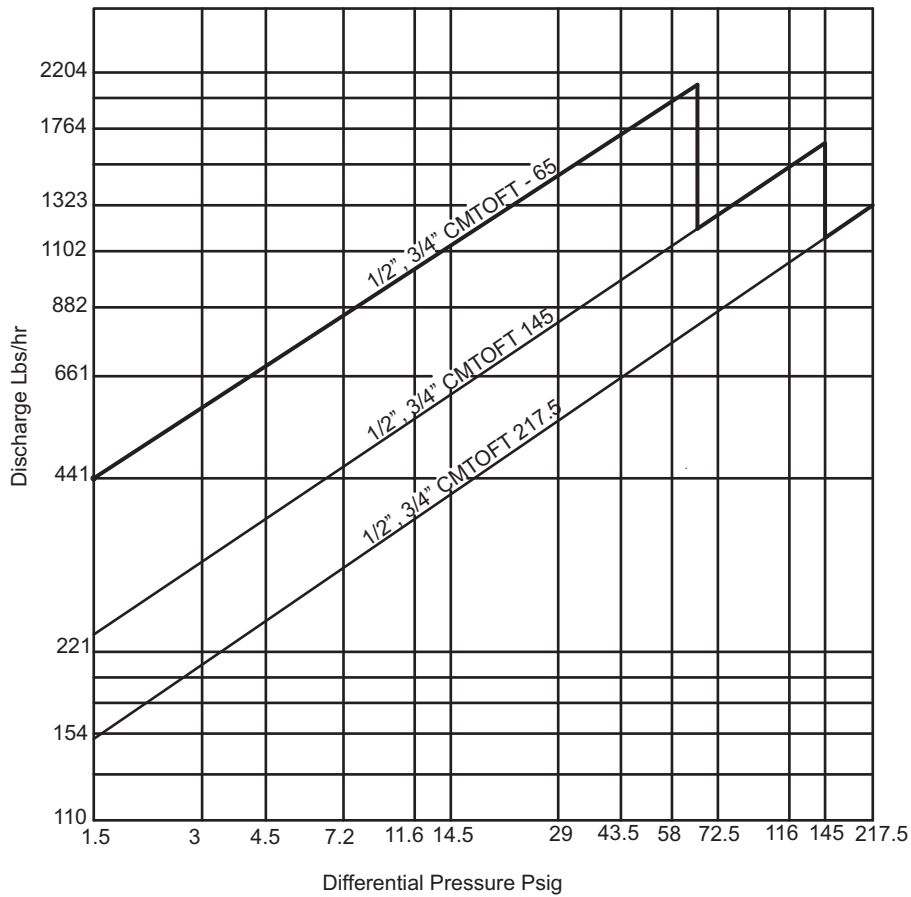


Fig. 4

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 65 Psig units this will provide a minimum of 25% increased capacity above the hot condensate figures shown. On 145 and 217.5 Psig 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: 1/2" Compact Module Two Orifice Float Trap, Flanged ASA300 CMTOFT-65 Psig differential pressure with steam lock release

Recommended Tightening Torques

Item		Or Inches		(Ft-Lbsf)
2		3/8"	1" Long	34-37
7		5/32"	1/2" Long	4-5
22 & 21		1/4"		1.5-2
11	11/16"	1/2"		37-41
26	15/16"	3/8"		37-41
18	1 3/16"			74-81
23	1"	1 1/8"		88-92

Spare parts

The spare parts available are shown in the figure below.

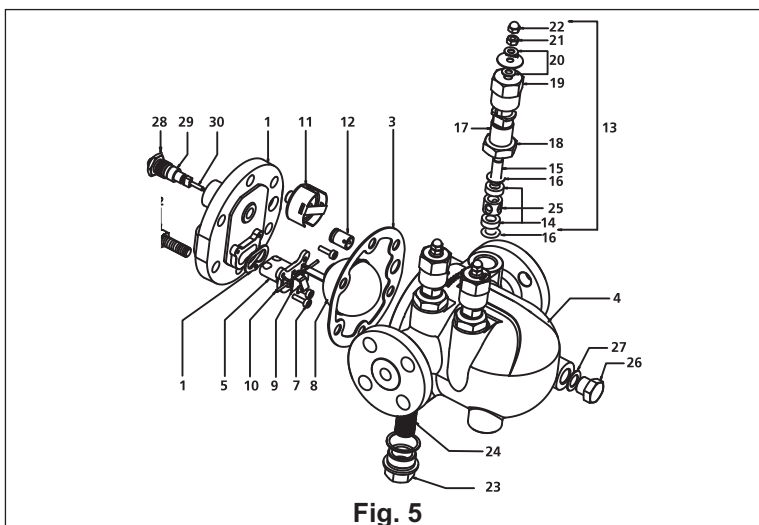
Available spares

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: Main valve assembly for 1/2" Compact Module Two Orifice Float Trap CMTOFT-65.



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