

# CMTD42M-F

## Compact Module - Thermodynamic Trap Full Version (with 3 valves)

### Description

The Forbes Marshall Compact Module Thermodynamic Trap, CMTD42M-F, is a compact thermodynamic trap module designed with an in built bypass valve, a trap vent valve and a trap test valve for steam applications upto 42 bar g. Replaceable trap internals and inbuilt strainer eases inline maintenance. The CMTD42M-F has an integral upstream and downstream piston valve, which isolates the upstream piping of the steam trap.

### Sizes and Pipe Connections

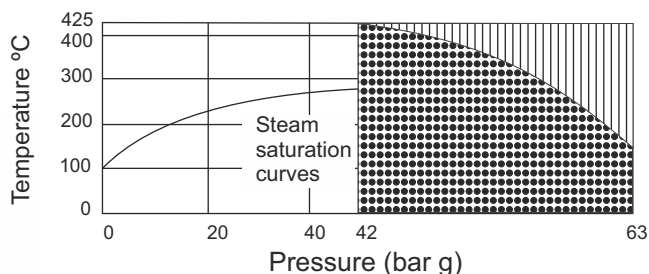
DN 15, 20 Socket weldable, Screwed BSPT/NPT end connection.  
(Available with class 150, 300, 600 weld on flanges on request)

**Note:** Available with IBR certificate on request


### Limiting Conditions

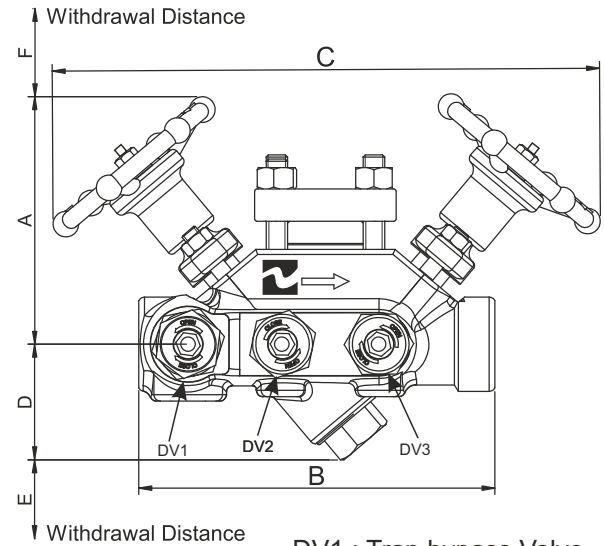
PMA Max. allowable pressure	63 bar g at 100°C
TMA Max. allowable temperature	425°C at 42 bar g
PMO Max. operating pressure	42 bar g
TMO Max. operating temperature	425°C at 42 bar g
Minimum operating temperature	0°C
Max. operating back pressure	80% of upstream pressure
Cold hydraulic test pressure	63 bar g

### Operating Range



 The product must not be used in this region

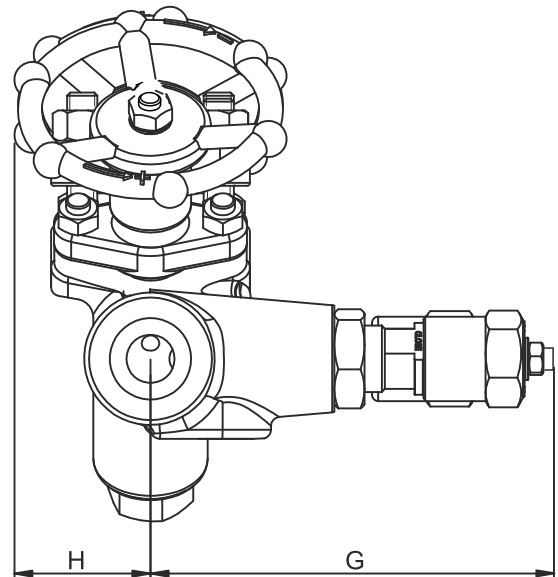
 The product should not be used in this region or beyond its operating range as damage to the internals may occur.

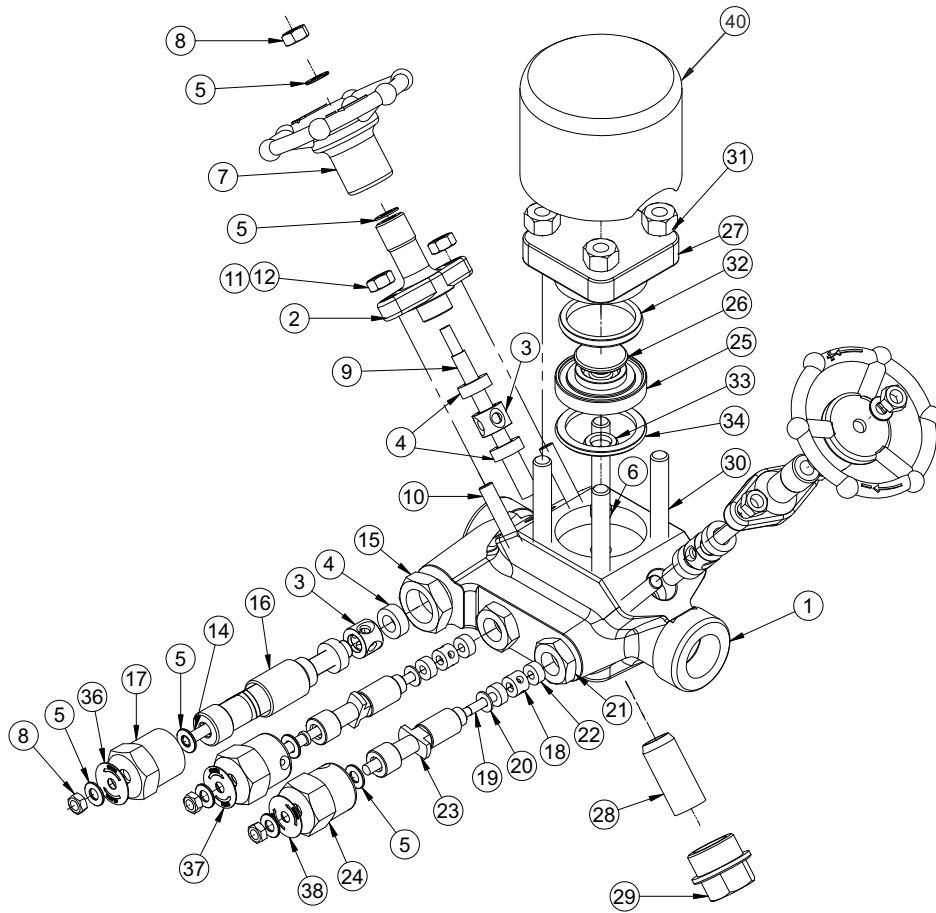


DV1 : Trap bypass Valve  
DV2 : Trap Vent Valve  
DV3 : Trap Test Valve

### Dimensions / Weight (approx.) in mm and kg (Valves in closed condition)

Size	A	B	C	D	E	F	G	H	Wt. (kg)
DN15	117	166	255	54	20	51	140	45	6.5
DN 20	117	166	255	54	20	51	140	45	6.5





## Material

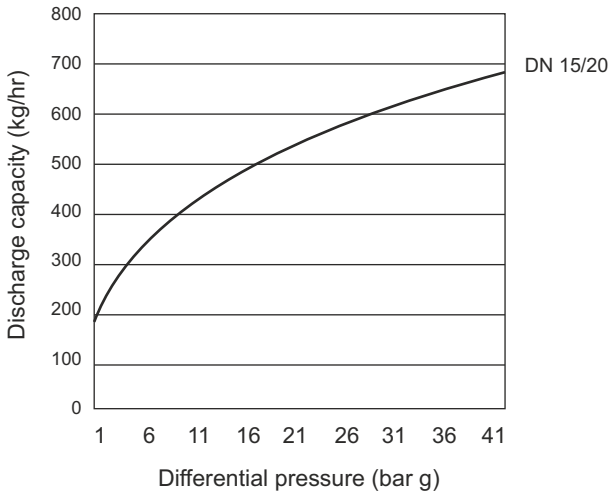
Sr. No	Part	Material
1	Body	ASTM A105N
2	Bonnet	ASTM A105N
3	DV1 Spacer	ASTM A276 Gr 410
4	DV1 Sealing Stack	SS 304 + graphite
5	Plain Washer	SS 304
6	Ferrule	SS 304
7	Hand Wheel	SG Iron 400/15A
8	Cleeve lock Nut LH	AISI 1010 Gr 8
9	Stem Piston	ASTM A276 Gr 316
10	M8 Stud	ASTM A193 B7
11	Belleville Washer	Spring Steel
12	Hex Nut	ASTM 194 2H
13*	DV1 Plain Washer	SS 304
14	DV1 Stem Piston	ASTM A276 Gr 316
15	DV1 Lock Nut	ASTM A276 Gr 304
16	DV1 Bonnet	ASTM A276 Gr 410
17	DV1 Hex Knob	ASTM A 108 GR 1018/1020
18	DV2 Spacer	ASTM A276 Gr 410
19	DV2 Stem Piston	ASTM A276 Gr 316
20	DV2 Plain Washer	SS 304

Sr. No	Part	Material
21	DV2 Lock Nut	ASTM A276 Gr 304
22	DV2 Sealing Stack	SS 304 + Graphite
23	DV2 Bonnet	ASTM A276 Gr410
24	DV2 Hex Knob	ASTM A 108 GR 1018/1020
25	Seat	Tool Steel AISI D2
26	Disc	Tool Steel AISI D2
27	Top Cover	ASTM A105
28	Screen	SS 304
29	Strainer Cap	BS 3146 PART 2 ANC2
30	Stud	ASTM A193 B7
31	Nut	ASTM 194 2H
32	Top Cover Gasket	SS304 + graphite
33	Inner Seat Gasket	SS304 + graphite
34	Outer Seat Gasket	SS304 + graphite
35	Nameplate	SS 304
36	DV1 Direction Plate	SS 304
37	DV2 Direction Plate	SS 304
38	DV3 Direction Plate	SS 304
39*	Rivet	MILD STEEL
40	Isotub	SS304

\* Item not shown in figure

\*Item not shown

### Capacity Chart



### How to Order

Example: 1 No. DN 15 CMTD42M-F Compact Module - Thermodynamic Trap - Full Version (with 3 valves), socket weld able end connections, IBR

### Installation

Ensure the following for the CMTD42M-F to operate correctly and remove condensate effectively.

1. The CMTD42M-F is installed with flow in the direction of the arrow. Flow to be horizontal.
2. Ensure that there is sufficient access to the hand-wheel to allow proper operation of both upstream and downstream isolation valves.
3. Ensure that there is sufficient access to the strainer to allow it to be cleaned periodically.
4. Allow sufficient access for the bypass valve, trap vent and trap test valve to operate.
5. Ensure all the valves are either full opened or tightly shut, and never kept partially open / crack open.

After 24 hours in service the cover nuts should be checked for tightness. Separate user manual which comes along with the product gives full details.

### Bypass valve, trap vent valve and trap test valve

#### Maintenance

Lubricate valve frequently with Molykote M30 oil or equivalent. Lubricate the stem piston and bonnet threading of drain valves DV1. Operate the valves after lubrication.

### Maintenance

#### To clean or replace strainer screen

Access to the strainer screen can be obtained by removing strainer cap. Remove strainer screen, fit new or cleaned strainer screen into recess of the cap. A new gasket should be fitted and the cap screwed into the body. The use of a thread lubricant is recommended.

#### To replace the cover studs

After removing old cover studs, fit new cover studs. The use of a thread lock (high temperature grade) is recommended.

### Spares List

	Description	Part No.
1	Spare Isolation Valve Internals Set (Sealing Stack, Spacer, Stem-Piston)	3,4,9
2	Spare for trap isolation valve/ trap bypass valve (DV1) Extractor Tool and Insertor Tool	Refer user manual
3	DV1 Spare Kit ( Dome Nut, M6 Plain Washer, M6 Hex Nut, Sealing stack, Spacer, Stem-Piston)	3,4,5,6,8,9
4	Spare Sealing Stack for isolation valve and trap bypass valve (DV1)	4
5	CMTD42M-F Top Cover Stud and Nut Set	30, 31
6	15NB CMTD42M-F Seat, Disc	25, 26
7	20NB CMTD42M-F Seat, Disc	25, 26
8	CMTD42M-F Strainer Screen	28
9	CMTD42M-F Top Cover and Seat Gasket	32,33,34
10	Trap vent valve (DV2) and trap test valve (DV3) Internals Set	6,8,18,19,20,22
11	Trap vent valve (DV2) and trap test valve (DV3) Extractor and Insertor Tool	Refer user manual

### Recommended Tightening Torques

Description	Torque (Nm)
M8 Nuts (12)	10
M6 LH (8)	5
32 A/F (29)	142-158
M10x1.5 Studs (30)	20-25
17 A/F Nuts (19)	45-50



www.forbesmarshall.com

Forbes Marshall Arca

Codel International

Krohne Marshall

Forbes Vyncke

Forbes Marshall Steam Systems

#### A: Forbes Marshall Pvt. Ltd.

Opp. 106th Milestone, CTS 2220, Mumbai-Pune Road, Kasarwadi, Pune MH 411034 INDIA

P: +91(0)20-68138555

F: +91(0)20-68138402

E: ccmidc@forbesmarshall.com

#### Forbes Marshall International Pte. Ltd.

16A, Tuas Avenue 1, #05-21, JTC Space @Tuas Singapore - 639533

P: +65 6219 3890

CIN No: U28996PN1985PTC037806

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