

FMTD65-B, FMTD65-A

Forbes Marshall Thermodynamic Trap with Blowdown Valve and/or Anti-Airbinding Disc

Description

The Forbes Marshall Thermodynamic Trap with blowdown valve, FMTD65-B, is a mainline thermodynamic trap with in-built strainer screen and unique three port design. The three port design ensures parallel lifting of the disc and no wear and tear due to uneven seating of the disc enhancing the life of the trap. Integral blowdown valve allows online cleaning of strainer screen. Typical applications include main distribution headers, tube line inlets etc.

During start up air is trapped in the control chamber of the trap. Being air, it cannot condense and hence the pressure will not drop. This causes the trap to fail in closed condition. FMTD65-A is specially designed to overcome this air binding problem. It is a trap with a 0.8 mm perforations stainless steel screen and a special anti-air binding disc.

Sizes and Connections

DN 15 and DN 20

Screwed BSPT/NPT/BSP and socket weld ends with blowdown valve.

Available with Class -150, 300 and 600 weld on flanges on request.

Available with IBR certificate.

Limiting Conditions

PMO: Max. Operating Pressure in bar g

TMO: Max Operating Temperature in °C

Parameter	Screwed end	Socket Weld end
PMO	31.5	55.0
TMO FMTD65-B	400	400
TMO FMTD65-A	255	255
Hydraulic test	63.0	110.0

PMOB-Max. Operating back pressure on outlet should not exceed 80% of inlet pressure.

FMTD65-B

Min. inlet pressure for satisfactory operation: 0.25 bar g

FMTD65-A

Min. inlet pressure for satisfactory operation: 0.8 bar g

Min. Operating Temperature : 0 °C

Operating range

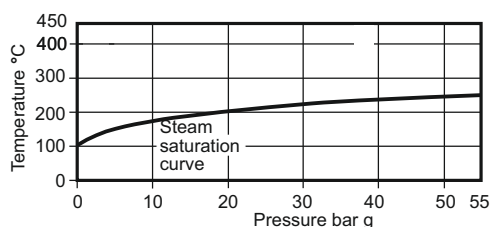
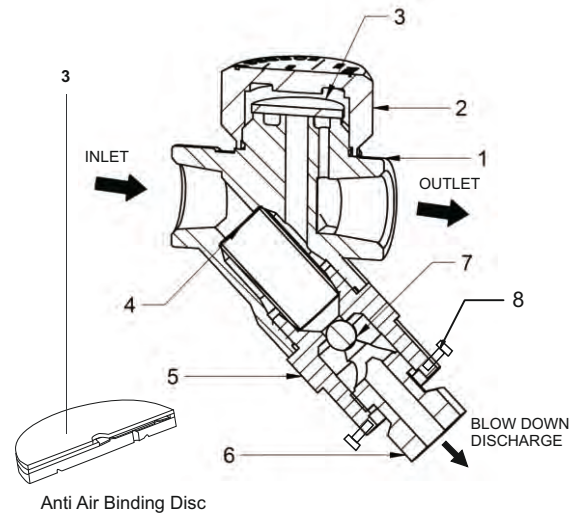


Fig 1



Material

Sr No	Part	Material	Standard
1	Body	Stainless Steel	ASTM A 743 Gr. CA 40
2	Cap	Stainless Steel	Bs3146 ANC2
3	Disc	Stainless Steel	ASTM A 240 SS 420
4	Screen	Stainless Steel	ASTM A 240 Type 304
5	Blowdown Cap	Stainless Steel	ASTM A276 SS 420
6	Blowdown Screw	Stainless Steel	ASTM A276 SS 304
7	Blowdown Valve	Stainless Steel	AISI 440B
8	Screw	Stainless Steel	SS 304

Dimensions (approx.) in mm and kg

SIZE	A	B	C	D	Weight
DN 15 & 20	42	68	78	125	1.2

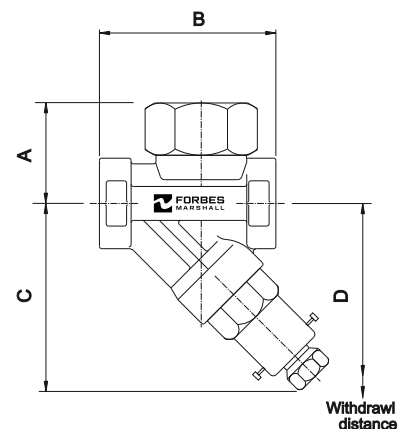
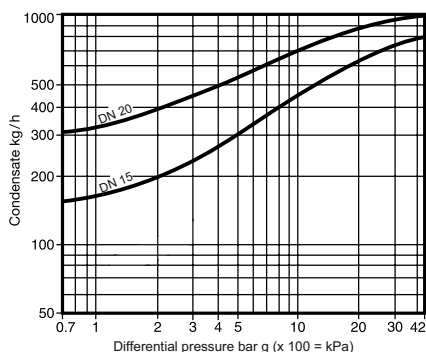


Fig 2

Salient Features

1. Complete stainless steel construction ensures better mechanical and corrosion resistant properties.
2. The seat is hardened by induction hardening process to about 50 Rc to enable withstand continuous water hammering.
3. The seat is an integral part of the body, and eliminates leakage prone joints and gaskets.
4. Condensate entry below the disc concentric to disc and seat, ensures clean and parallel lift of disc with reference to seat, eliminating any localized uneven wear and tear.
5. An inbuilt strainer screen of adequate large area ensures long and trouble free operation.
6. Three port design ensures proper lifting and seating of the disc and results in uniform wear, enhancing life of the steam trap.
7. Integral blowdown valve facilitates on line cleaning of strainer screen.

Capacity Chart



Installation

Preferably on horizontal pipe line, can be fitted on the position if unavoidable.

Operation of Blowdown Valve

Warning: Note the blow down discharge as shown in Fig. 1 & ensure adequate safety precautions are taken when opening the blow down valve to atmosphere. Hand protection is a must.

The blowdown valve has a screw (6) which can be unscrewed with a 19 mm A/F spanner to discharge the contents of the strainer screen. Two screws prevent disengagement of the blowdown screw from the blowdown cap.

How To Order

Example: 1 No. DN 15 Forbes Marshall Thermodynamic Trap with blowdown valve FMTD65-B with screwed BSPT connections.

Optional extras

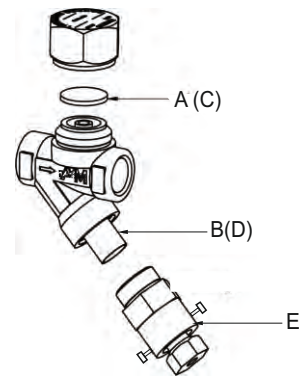
ISOTUB: An insulating cover on the cap prevents the trap being unduly influenced by excessive heat loss, such as when subjected to low outside temperature, wind, rain etc.

Available Spares

The parts shown in Fig. 3 are available as spares.

Disc and screen kit for FMTD65-B	A+B
Disc and screen kit for FMTD65-A (with anti-air-binding disc and Screen)	C+D
Blow down valve	E

Fig 3



Recommended Tightning Torques

Item	Part	Or mm	Or mm	Nm
2	Cap	42	M35	180-200
5	Blowdown Cap	32	M28	170-190

How to Order Spares

Always order spares by using the description given under 'Available Spares' and state the size and type of trap.

Example: Disc and strainer screen kit for DN 15 Forbes Marshall Thermodynamic Trap with blowdown valve FMTD65-B.

How to Service

Remove isotub if fitted and unscrew cap using spanner. Do not use Stillsons or any similar type of wrench which may cause distortion of the cap. If the disc and the body seating faces are only slightly worn they can be refaced by lapping individually on a flat surface plate. A figure of eight motion and fine aluminum oxide lapping slurry gives the best results.

If the wear is beyond rectification by simple lapping, the seating faces on the body must be ground flat and then lapped and the disc replaced by a new one. The total amount of metal removed in this way should not exceed 0.25 micron. Alternatively, customers may prefer to take advantage of our reconditioned trap scheme which allows this work to be done to original production standards.

When re-assembling, place the disc with the grooved side in contact with body seating face and screw on cap. No gasket is required but a suitable high temperature anti-seize grease should be applied to the threads.

How to clean or replace strainer

Periodical blow down will remove debris within strainer screen. However removal and cleaning /replacing of strainer screen is necessary on occasions. Unscrew blowdown valve assembly, with drawn screen and clean, or if damaged replace with new one. Put the screen into the cap and tighten the blowdown valve with suitable torque.

No gasket is required but a suitable high temperature anti-seize grease should be applied to the threads.



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