

# FMFV

## Forbes Marshall Flash Vessel with Insulation Jacket\*

### Description

Forbes Marshall Flash Vessel, FMFV, is particularly suited to boiler blowdown heat recovery systems where efficient separation of flash steam from blowdown is essential to prevent contamination of the boiler feed tank and /or heat transfer surfaces. It is equally suited to condensate flash steam applications.

### Sizes and Pipe Connections

Sizes	Condensate Inlet	Condensate Outlet	Flash Steam Outlet
6"	2" Class150	2" Class 150	2" Class 150
8"	3" Class150	2" Class 150	3" Class 150
12"	4" Class150	2" Class 150	4" Class 150
15"	6" Class150	2" Class 150	6" Class 150

### Limiting Conditions

PMO - Maximum working pressure	152 Psig
TMO - Maximum working temperature	356 °F
Cold hydraulic test pressure	305 Psig

\*For higher pressure applications contact Forbes Marshall

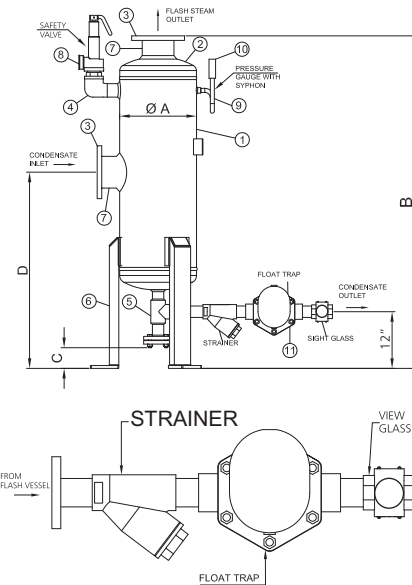
### Available Accessories

Flash Vessel	Safety Valve	Float trap	Strainer	Sight Glass
6"	3/4"	2"	2"	2"
8"	3/4"	2"	2"	2"
12"	1 1/2"	2"	2"	2"
15"	2"	2"	2"	2"

### Dimensions (approx. in Inches)

Size	A	B	C	D
6"	6.6	59.2	4.6	35.8
8"	8.6	70.6	3.9	41.6
12"	12.8	60.9	4.7	35.0
15"	15.7	69.3	4.3	40.9

\*Insulation Jacket is optional



### Material

Item No	Description	Material	Standard
1	Main shell	Carbon steel	IS 3589 (ASTM A 53 Gr. B)
2	Dish end	Carbon steel	IS 2062, Gr. B (ASTM A 36)
3	Flash steam outlet flange	Carbon steel	ASTM SA516 Gr. 70
4	Elbow	Forged carbon steel	ASTM A105
5	2" Drain assembly	Carbon steel	
6	Support legs	Carbon steel	IS 2062, Gr. B (ASTM A 36)
7	Nozzle pipe	Carbon steel	IS 1239 Class C (ASTM A 135)
8	Safety valve	Gun metal	BS 1400 Lg2 (ASTM B 505)
9	Syphon	Carbon steel	ASTM A106 Gr. B
10	Pressure gauge	Stainless steel	SS 304
11	Trap set		
11.1	Strainer	Cast iron	IS 210 Gr. Fg260 (ASTM A 48 cl.35)
11.2	Float trap	Cast iron	IS 210 Gr. Fg260 (ASTM A 48 cl.35)
11.3	Sight glass	Cast iron	IS 210 Gr. Fg260 (ASTM A 48 cl.35)

**Note:** Material specification mentioned in bracket are for reference only.

### How to size

Use the chart below to select the appropriate flash vessel. It is necessary to know the pressure on the steam traps or boiler pressure in the case of blowdown heat recovery, the flash steam pressure (desired or existing) and the condensate or blowdown flow rate.

### Example 1 (solid lines)

A boiler plant operating at 174 Psig has a TDS control blow down flow rate of 5511 Lbs/hr (3 boilers at 1836 Lbs/hr each). The flash steam from the blow down is to be added to the low pressure steam system operating at 14.5 psig

- From boiler pressure move horizontally to flash steam pressure -**A**
- Drop vertically to blow down flow rate in Lbs/hr -**B**
- Follow curve to right-hand scale and across to same flash pressure -**C**
- Move upwards to flash vessel size. Select flash vessel-in this case a **8"** FMFV is required.

### Example 2 (dotted lines)

A plant operating on steam at 160 Psig condenses 8818 Lbs/Hr of steam. Flash is to be recovered at 7.2 Psig

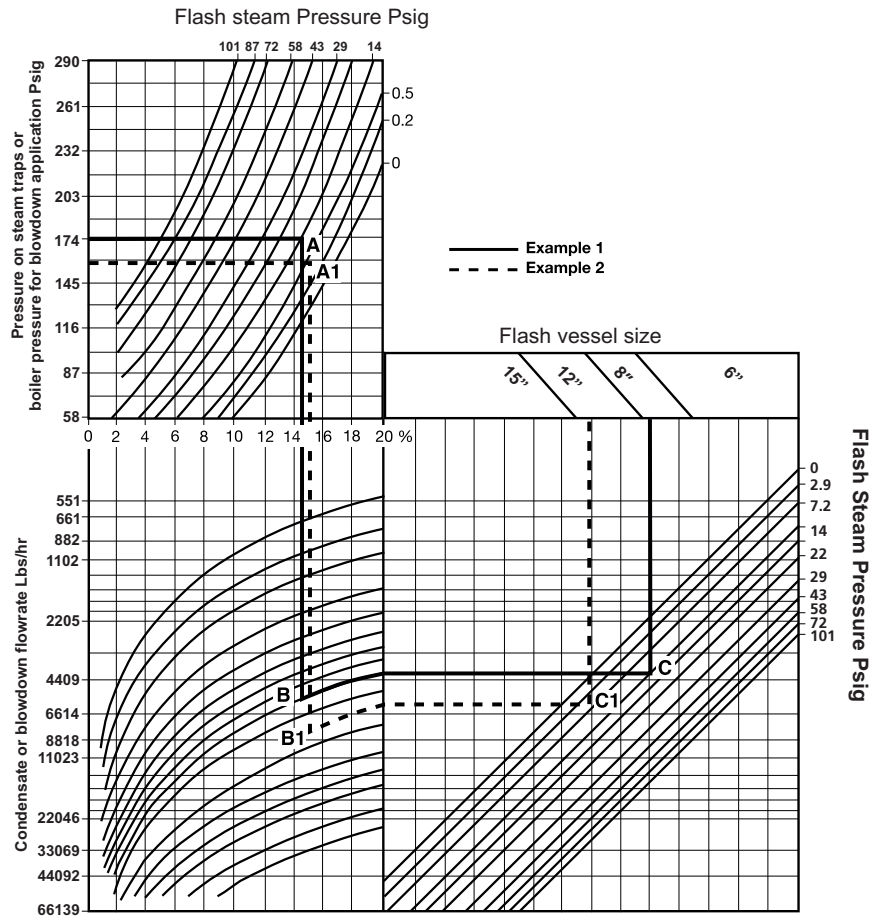
- From pressure on steam traps move horizontally to flash steam pressure -**A1**
- Drop vertically to condensate flow rate in Lbs/hr -**B1**
- Follow curve to right hand scale and across to same flash pressure -**C1**
- Move upwards to flash vessel size. Select flash vessel in this case an **12"** FMFV is required.

### How to Order

Example : 12" Forbes Marshall Flash Vessel, FMFV, with accessories.

### Installation

The flash vessel should be mounted with the flash steam outlet at the top and connected as indicated below. Each flash vessel incorporates a screwed socket for mounting of pressure gauge along with U type syphon. Drainage can be done by opening 2" blank flange provided at the bottom of the flash vessel. Connection is provided on the vessel for mounting of Safety Valve and 2" flange is provided at the bottom for mounting of float trap set (float trap, strainer and sight glass) which is a part of the flash vessel accessories.



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