FMSEP31, FMSEP34
Forbes Marshall Moisture Separator - Screwed / Flanged

Description

The Forbes Marshall Moisture Separator FMSEP31 (screwed) / FMSEP34 (flanged) is a cast iron baffle type separator used for the removal of entrained liquids in steam, so that they can be drained away as condensate.

Size and End Connections

DN 15 and DN 20 – Screwed BSPT / NPT / BSP
DN 25 to DN 250 – Flanged (for details see overleaf)

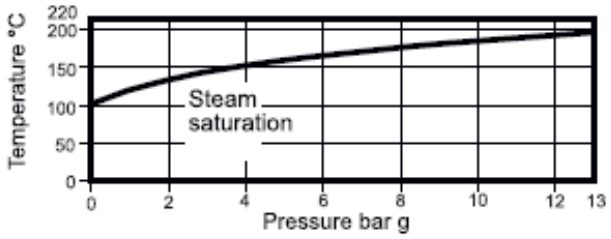
Notes : Available with IBR test certificates, on request.

Optional insulation jackets are available which will increase the performance of the separator.

Limiting Conditions (DN 15, 20) (FMSEP31)

Max. Operating pressure	13 bar g at 220 °C
Max. Operating temperature	220 °C at 13 bar g
Cold hydraulic test pressure	26 bar g
Min. Operating temperature	0 °C

Operating Range (FMSEP31)



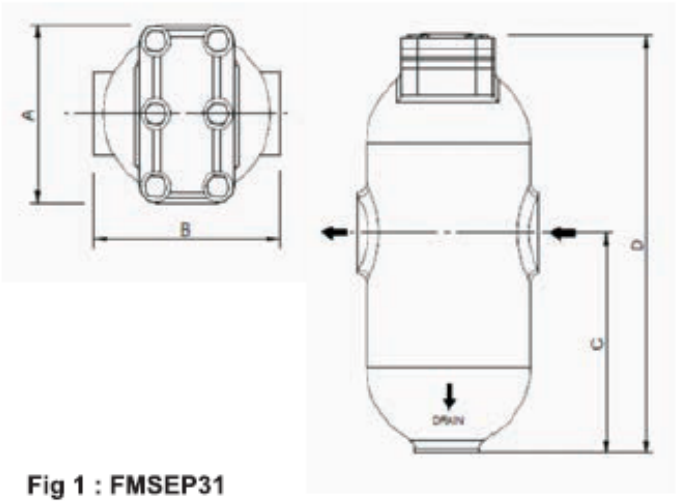


Fig 1 : FMSEP31

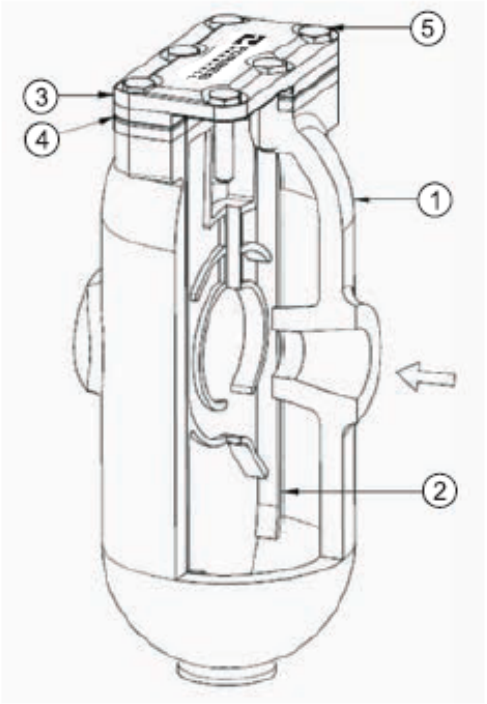


Fig 2 : FMSEP31

Material

No	Part	Material	Standard
1	Body	Cast Iron	IS 210 Gr FG 260
2	Baffle Plate	Cast Iron	IS 210 Gr FG 260
3	Cover	Cast Iron	IS 210 Gr FG 260
4	Gasket	Asbestos free	IS2712
5	Hex HT Bolt	Carbon Steel	IS1367 Gr. 8.8

Dimensions: (approx.) in mm (FMSEP31 DN15/20)

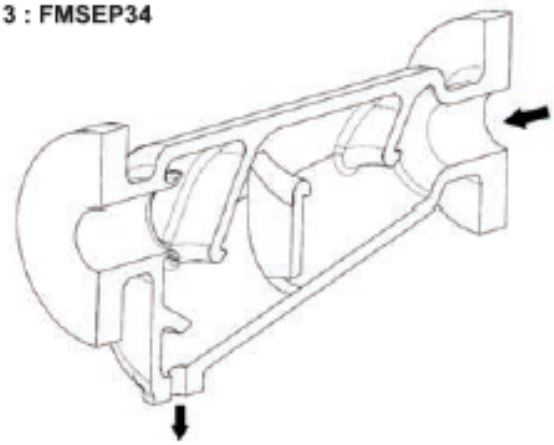
	Dimensions				Weight
Size	A	B	C	D	Kg
DN 15	86	90	110	215	4
DN 20	83	115	143	248	6.3

General Tolerance ±3

How to Order

Example : DN20 BSPT Forbes Marshall Moisture Separator FMSEP31, IBR

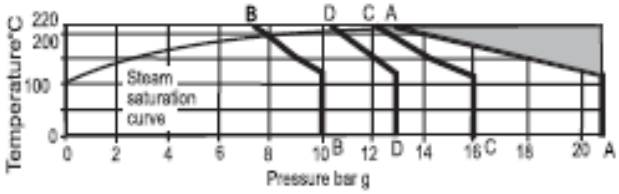
Fig 3 : FMSEP34



Material

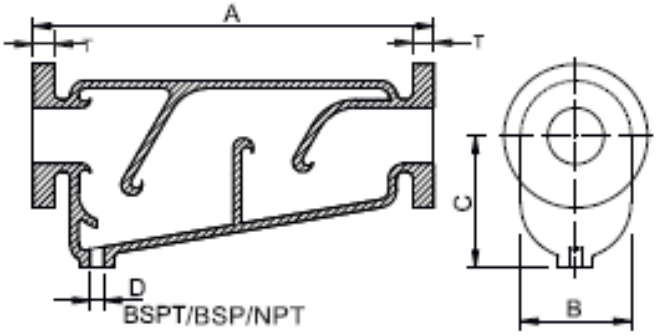
No	Part	Material	Standard
1	Body	Cast Iron	IS 210 Gr FG 260 (ASTM A48, Cl.35)

Operating Range (FMSEP34)



This product **must not** be used in this region.

A–A BS10 Table F
B–B PN 10
C–C PN 16
D–D Flanged ANSI 150



Sizes and End Connections

Flanged DN 25, 40, 50, 65, 80,100,125,150, 200 and 250
Available with IBR test certificates, on request.

Limiting Conditions (DN 25 - 250) (FMSEP34)

Flange Types	Max. Working Pressure	Max. Working Temp.
TAB 'F'	20.6 bar g at 120 °C	220 °C at 13 bar g
PN 10	10 bar g at 120 °C	220 °C at 7.6 bar g
PN 16	16 bar g at 120 °C	220 °C at 12.1 bar g
ASA 125/150	13 bar g at 120 °C	220 °C at 10.1 bar g

How to Order

Example DN 40 Forbes Marshall SEP34 Moisture Separator, Flanged ANSI Class 150

Installation

The FMSEP31 / FMSEP34 is installed in a horizontal pipeline with the drain directly below.

Note: To ensure that any separated liquid is drained away quickly, a suitable steam trap must be connected to the drain connection. Consult Forbes Marshall for further details.

FMSEP34 Flange Thickness "T" (mm)					
SIZE	BS10 TAB 'F'	CLASS 125/150	PN6	PN10	PN16
25	25.5	25.5	25.5	25.5	NA
40	15.9	14.3/15.9	16	18	NA
50	19	15.9/17.5	16	19	19
65	24	24	24	24	24
80	19.1	19.1	20	20	NA
100	22.2	24	22	22	NA
125	25.5	25.5	25.5	25.5	25.5
150	27	27	27	27	27
200	29	29	29	29	NA
250	30	30	30	30	NA

Dimensions (approx. in mm) for FMSEP34 DN 25-250

Size	Dimensions				Flange Connections		Weight		
DN	A	B	C	D	TAB F	CLASS 125/150	PN 10	PN16	Kg
25	280	70	98	¾"	A	A	A	NA	11.5
40	368	89	111	¾"	A	A	A	NA	14.5
50	457	121	146	1"	A	A	A	A	26
65	405	146	170	¾"	A	A	A	A	37
80	483	152	175	1"	A	A	A	NA	46
100	692	197	238	1"	A	A	A	NA	77
125	705	354	233	1"	A	A	A	A	161
150	706	375	232	1"	A	A	A	A	185
200	762	416	305	1½"	A	A	A	NA	255
250	822	472	382	1½"	A	A	A	NA	350

A–Available
NA–Not Available

FMSEP54
Forbes Marshall Moisture Separator - Flanged

Description

The Forbes Marshall Moisture Separator, FMSEP54, is a carbon steel baffle type separator used for the removal of entrained liquids in steam, so that they can be drained away as condensate.

Sizes and Connections

Sizes: DN 25, 40, 50, 65, 80, 100, 125,150 and 200

Flange Connections
BS 10 Table F, H, J, K, ASME B 16.5
Class 150, 300, PN 10,16, 25 and 40
Notes : Available with IBR test certificates, on request.
Optional insulation packs are available which will increase the performance of the separator.

Limiting Conditions

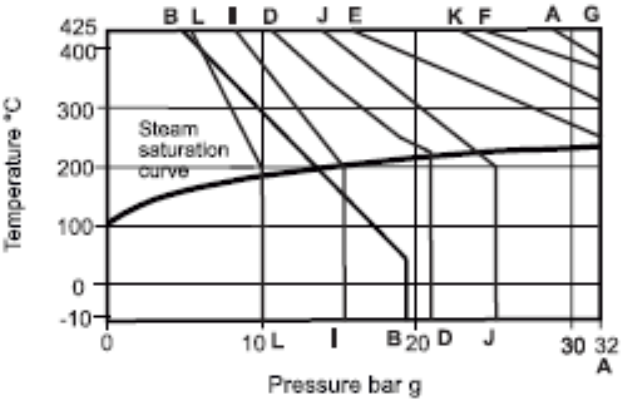
Body design condition	32 bar g at 425 °C
Cold hydraulic test pressure	64 bar g
Min. operating temperature	-10 °C

Flange Types	Max. Operating Pressure	Max. Operating Temperature
TAB 'F'	21 bar g at 232 °C	425 °C at 10,5 bar g
TAB 'H'	32 bar g at 232 °C	425 °C at 17 bar g
TAB 'J'	32 bar g at 232 °C	425 °C at 24 bar g
TAB 'K'	32 bar g at 232 °C	425 °C at 31 bar g
ASA 150	19.6 bar g at 38 °C	425 °C at 5.5 bar g
ASA 300	51,1 bar g at 38 °C	425 °C at 28,8 bar g
PN 10	10 bar g at 200 °C	425 °C at 5,65 bar g
PN 16	16 bar g at 200 °C	425 °C at 9,1 bar g
PN 25	25 bar g at 200 °C	425 °C at 14,25 bar g
PN 40	40 bar g at 200 °C	425 °C at 22.8 bar g

Material

Cast steel ASTM A216 Gr. WCB

Operating Range

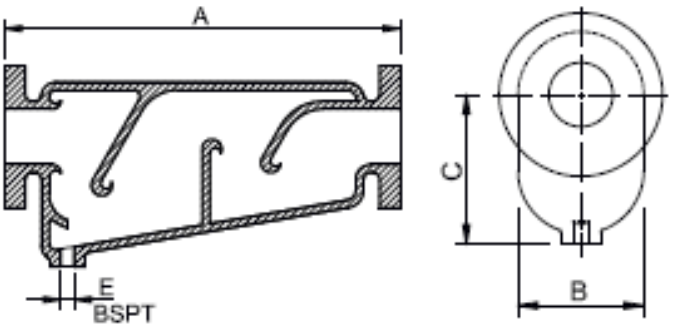


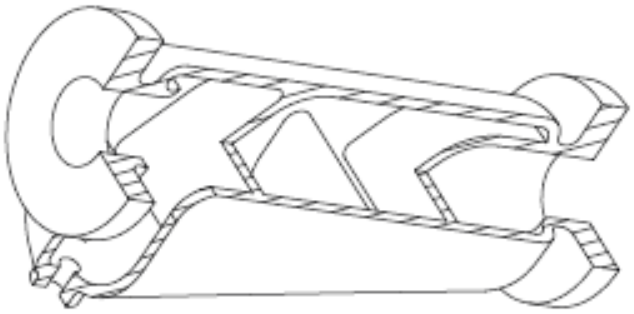
A-A	Flanged ANSI 300	G-A	BS10 Table K
B-B	Flanged ANSI 150	L-L	PN 10
D-D	BS10 Table F	H	PN 16
E-A	BS10 Table H	J-J	PN 25
F-A	BS10 Table J	K-A	PN 40

Dimensions: (approx.) in mm

Sizes DN	Dimensions A	B	C	E	Weight Kg
25	280	70	100	20	14
40	390	89	111	20	22
50	472	120.5	146	25	32
65	405	146	171	20	40
80	510	152.4	174	25	69
100	720	200	238	25	114
125	705	354	233	25	184
150	720	375	232	25	200
200	762	416	308	40	300

General Tolerance: ±3





How to Order

Example: 1 no. DN 40 Forbes Marshall Moisture Separator C.S. FMSEP54 Flanged BS 10 Table "K" IBR

Installation

Install in a horizontal pipeline with the drain directly below.

Note: To ensure that any separated liquid is drained away quickly, a suitable steam trap must be connected to the drain connection. Consult Forbes Marshall for further details.