Bleeding and venting valves

Bleeding and venting valves EB 1.10, 1.11

Sturdy valves of cast steel

Technical Data

Connection DN	32/15 - 100/50
Nominal pressure PN	40
Operating pressure	0 - 40 bar
Flow rate	2440 Nm^3/h
Temperature	200 °C
Medium	liquids

Description

Bleeding and venting valves remove air or gases from systems or pipelines without requiring an external energy input. When a system is drained they act as venting valves; venting may be prevented by fitting a non-return valve.

The EB 1.10 and EB 1.11 bleeding/venting valves are float-controlled robust valves made of spherical-graphite cast iron or cast steel to handle large air volumes e.g. in sand filters. The internal components are made of stainless steel featuring excellent corrosion resistance. Up to 130 °C the valve cone is fitted with a soft seal; up to 200 °C the seal is metallic.
EB 1.11 is fitted with an external float and specially suitable for foaming and contaminated media.

The simple design makes it easy to specify, install, handle and service these valves in an industrial environment.

Valves for continuous bleeding must not be overdimensioned. If a larger valve size is selected, a higher working pressure range with a correspondingly lower flow volume should be chosen. In case of doubt we shall be happy to advise you.

On filter vessels the bleed connection is often located in the middle of the vessel. If the flow volume is large and the distance between distribution funnel and bleed connection small, the incoming water jet hits the bleed connection. This will impair the efficiency of the bleed valve and can result in water hammer. This problem may be avoided by installing a baffle or by placing the bleed connection away from the centre.

For the EB 1.11 the supplied float rod guide is to be installed in such a way that the float rod will be vertically guided. It must not obstruct the lift movement of the float.

Standard

» Manual bleed valve made of stainless steel (supplied loose and must be fitted on-site)
» EB 1.11 with float rod guide (must be fitted on-site)

Options

» Rubber or plastic coating for corrosive fluids
» Non-return valve to prevent venting
» Special versions on request

Please state working pressure range when enquiring or ordering.

Operating instructions, know how and safety instructions must be observed. The pressure has always been indicated as overpressure.
We reserve the right to alter technical specifications without notice.

Pressure Ranges [bar] EB 1.10, EB 1.11

PN 16	0 - 2	0 - 6	0 - 10	0 - 16	-	-
PN 40	0 - 2	0 - 6	0 - 10	0 - 16	0 - 25	0 - 40

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Materials			
Temperature		130 °C	200 °C
Body	PN 16	spherodial cast iron	spherodial cast iron
	PN 25/40	cast steel	cast steel
Body Seal		Nova Universal	Nova Universal
Internals		CrNiMo-steel	CrNiMo-steel
Float		CrNiMo-steel	CrNiMo-steel
Valve Seal		FKM	metallic

Dimensions [mm]							
nom. pressure PN	size	nominal diameter DN					
		32/15	40/20	50/25	65/32	80/40	100/50
16	A*	120	130	140	160	185	205
	B	70	95	95	105	110	180
	C	260	240	250	270	315	375
	D	205	225	245	270	315	355
25/40	A*	130		160		200	
	B	70		100		110	
	C	275		260		385	
	D	225		270		350	

* Overall length tolerances in acc. with DIN EN 558

Weights [kg]						
nom. pressure PN	nominal diameter DN					
	32/15	40/20	50/25	65/32	80/40	100/50
16	11	14	18	23	31	45
25/40	18		23		41	

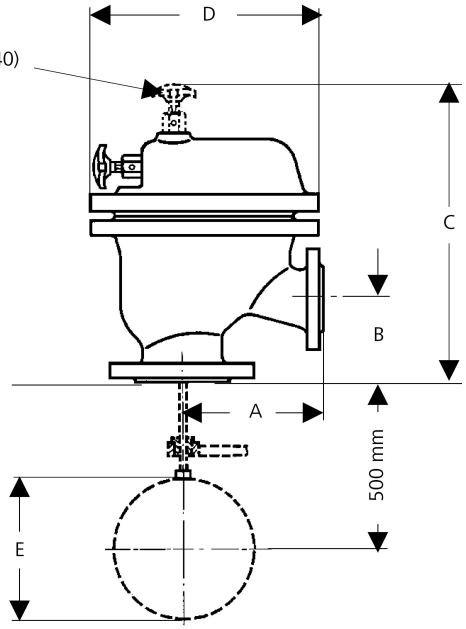
Float Dimensions [mm] EB 1.11							
pressure ranges [bar]	size	nominal diameter DN					
		32/15	40/20	50/25	65/32	80/40	100/50
0 - 2 / 0 - 6	E	110	110	110	130	160	180
0 - 10		110	130	130	150	180	200
0 - 16		120	150	150	180	200	220
0 - 25 / 0 - 40		150		180		280	

Customs Tariff Number
84818059

Special designs on request.
The pressure has always been indicated as overpressure.
Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

Dimensional Drawing

only with DN 32/15 (PN 16 and 40) and DN 80/40 (only PN 40)



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Seat Diameter[mm] EB 1.10						
pressure range bar	nominal diameter DN					
	32/15	40/20	50/25	65/32	80/40	100/50
0 - 2	6	7.5	8	10	13	16
0 - 6	4	4.5	5	6	9	12
0 - 10	3	3.5	4	5	7.5	10
0 - 16	2	2.5	3.5	4	5.5	8
0 - 25	2		3		4.5	
0 - 40	1.5		2		3.5	

Seat Diameter [mm] EB 1.11						
pressure range bar	nominal diameter DN					
	32/15	40/20	50/25	65/32	80/40	100/50
all ranges	6	7.5	8	10	13	16

Air Flow Rate [Nm^3/h] up to Δp 10 bar								
seat ø mm	differential pressure Δp bar							
	0.1	0.5	1	2	4	6	8	10
1.5	0.5	1.2	1.5	2.3	3.9	5.5	7.1	8.7
2	1	2.2	2.8	4.2	7	9.8	12	15
2.5	1.6	3.4	4.4	6.6	11	15	19	24
3	2.3	5	6.3	9.5	15	22	28	34
3.5	3.1	6.8	8.6	12	21	30	38	47
4	4.1	8.9	11	16	28	39	50	62
4.5	5.2	11	14	21	35	50	64	78
5	6.4	13	17	26	44	61	79	96
5.5	8	16	21	32	53	75	96	118
6	9.3	20	25	38	63	88	114	140
7.5	14	31	39	59	99	138	178	218
8	16	35	45	67	113	157	203	248
9	21	45	57	85	143	200		
10	25	55	70	106	176	246	317	388
12	37	80	102	152	254	355		
13	43	94	119	178	298	416	535	655
16	66	143	180	270	451	630	811	992

Air Flow Rate [Nm^3/h] from Δp 12 bar							
seat ø mm	differential pressure Δp bar						
	12	16	20	25	30	35	40
1.5	10	13	16	20	24	28	32
2	18	24	29	36	43	50	57
2.5	28	37					
3	41	54	66	82			
3.5	56	73	90	112	133	155	176
4	73	95					
4.5	93	121	150	185			
5							
5.5	139	182					
6	165	216	266	330	393	456	520
7.5	258	336					
8	293	383	473	586	697	810	923
9							
10	459	599					
12							
13	774	1010	1250	1550	1840	2140	2440
16	1170	1530					

Operating instructions, know how and safety instructions must be observed. The pressure has always been indicated as overpressure.
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The quoted flow volumes apply to a fully open valve i.e. in start-up condition at 0 °C and 1013 mbar. With continuous bleeding e.g. of filter vessels, the maximum flow volume is 30 % less on average.

* Please note: Smaller seat diameter for higher pressure range.
If the selected working pressure range is too high, the flow volume may be inadequate.