

Bleeding and Venting Valves

Continuous Bleeding and Venting Valves EB 1.20

Large Sized Cast Bleeding and Venting Valve

Technical Data

| | |
|---------------------|-------------------------|
| Connection DN | 80/65 - 200/150 |
| Nominal Pressure PN | 16 - 40 |
| Operating Pressure | 0 - 40 bar |
| Flow Rate | 7770 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 1.20 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 made of Cr/CrNiMo-steel/red brass and the float is made of CrNiMo-steel. Up to 130 °C the valve cone is fitted with a soft seal; up to 200 °C the seal is metallic.

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.

Options

- » manual bleed valve made of stainless steel (CrNiMo steel)
- » rubber or plastic coating for corrosive fluids
- » non-return valve to prevent venting
- » special versions on request

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



Pressure Ranges [bar]

| | | | | | | | | | |
|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|
| PN 16 | 0 - 2 | 0 - 4 | 0 - 8 | 0 - 13 | 0 - 16 | | | | |
| PN 25 | 0 - 2 | 0 - 4 | 0 - 8 | 0 - 13 | 0 - 16 | 0 - 22 | 0 - 25 | | |
| PN 40 | 0 - 2 | 0 - 4 | 0 - 8 | 0 - 13 | 0 - 16 | 0 - 22 | 0 - 25 | 0 - 32 | 0 - 40 |

Bleeding and Venting Valves

Continuous Bleeding and Venting Valves EB 1.20



Large Sized Cast Bleeding and Venting Valve

| 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 | | Cr / CrNiMo-steel / Rg | Cr / CrNiMo-steel / Rg |
| Float | | CrNiMo-steel | CrNiMo-steel |
| Valve Seal | | EPDM | metallic |

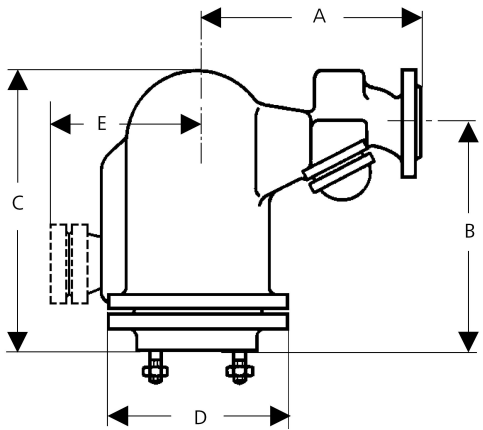
| Dimensions [mm] | | | | |
|-----------------|---------------------|--------|---------|---------|
| size | nominal diameter DN | | | |
| | 80/65 | 100/80 | 125/100 | 200/150 |
| A | 460 | 455 | 500 | 715 |
| B | 445 | 425 | 465 | 735 |
| C | 550 | 525 | 580 | 875 |
| øD | 285 | 365 | 380 | 520 |
| E | 220 | - | - | - |

| Weights [kg] | | | | |
|--------------|---------------------|--------|---------|---------|
| nom. press. | nominal diameter DN | | | |
| PN | 80/65 | 100/80 | 125/100 | 200/150 |
| 16 | 76 | 95 | 130 | 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



Bleeding and Venting Valves

Continuous Bleeding and Venting Valves EB 1.20



Large Sized Cast Bleeding and Venting Valve

| Seat Diameter [mm] | | | | |
|--------------------|---------------------|--------|---------|---------|
| pressure range bar | nominal diameter DN | | | |
| | 80/65 | 100/80 | 125/100 | 200/150 |
| 0 - 2 | 30 | 40 | 50 | 78 |
| 0 - 4 | 24 | 32 | 40 | 61 |
| 0 - 8 | 20 | 24 | 30 | 46 |
| 0 - 13 | 16 | 20 | 24 | 36 |
| 0 - 16 | 14 | 18 | 22 | 36 |
| 0 - 22 | 12 | 14 | 16 | |
| 0 - 25 | 10 | 12 | 14 | |
| 0 - 32 | 9 | 9 | | |
| 0 - 40 | 8 | 8 | | |

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.

| Air Flow Rate [Nm³/h] up to Δp 10 bar | | | | | | | | |
|---------------------------------------|------------------------------|------|------|------|------|------|------|------|
| seat ø mm | differential pressure Δp bar | | | | | | | |
| | 0.1 | 0.5 | 1 | 2 | 4 | 6 | 8 | 10 |
| 8 | 16 | 35 | 45 | 67 | 113 | 157 | 203 | 248 |
| 9 | 21 | 45 | 57 | 85 | 143 | 200 | 258 | 315 |
| 10 | 25 | 55 | 70 | 106 | 176 | 246 | 317 | 388 |
| 12 | 37 | 80 | 102 | 152 | 254 | 355 | 457 | 559 |
| 14 | 50 | 109 | 138 | 207 | 346 | 484 | 621 | 760 |
| 16 | 66 | 143 | 180 | 270 | 451 | 630 | 811 | 992 |
| 18 | 84 | 181 | 228 | 342 | 571 | 800 | 1028 | 1255 |
| 20 | 103 | 224 | 282 | 424 | 705 | 988 | 1270 | 1550 |
| 22 | 128 | 256 | 342 | 513 | 855 | 1197 | 1540 | 1880 |
| 24 | 148 | 321 | 406 | 610 | 1020 | 1420 | 1830 | 2240 |
| 28 | 205 | 417 | 556 | 834 | 1390 | 1950 | 2500 | 3060 |
| 30 | 233 | 503 | 635 | 953 | 1590 | 2220 | 2860 | |
| 32 | 264 | 570 | 721 | 1080 | 1800 | | | |
| 36 | 360 | 678 | 914 | 1370 | 2285 | 4000 | 4113 | 5027 |
| 40 | 415 | 895 | 1130 | 1690 | 2820 | | | |
| 46 | 564 | 1170 | 1490 | 2235 | 3425 | 5215 | 6705 | |
| 50 | 646 | 1392 | 1760 | 2640 | | | | |
| 61 | 992 | 2070 | 2624 | 3956 | 6555 | | | |
| 78 | 1517 | 3400 | 4290 | 6430 | | | | |

| Air Flow Rate [Nm³/h] from Δp 12 bar | | | | | | | | |
|--------------------------------------|------------------------------|------|------|------|------|-----|-----|-----|
| seat ø mm | differential pressure Δp bar | | | | | | | |
| | 12 | 13 | 16 | 22 | 25 | 32 | 35 | 40 |
| 8 | 293 | 315 | 383 | 518 | 584 | 743 | 810 | 923 |
| 9 | 372 | 400 | 486 | 658 | 742 | 943 | | |
| 10 | 459 | 494 | 599 | 810 | 916 | | | |
| 12 | 661 | 711 | 864 | 1170 | 1318 | | | |
| 14 | 900 | 967 | 1175 | 1590 | 1796 | | | |
| 16 | 1170 | 1260 | 1530 | | | | | |
| 18 | 1485 | 1595 | 1940 | | | | | |
| 20 | 1833 | 1975 | | | | | | |
| 22 | 2225 | 2395 | 2900 | | | | | |
| 24 | 2640 | 2845 | | | | | | |
| 28 | 3600 | 3890 | 4315 | | | | | |
| 30 | | | | | | | | |
| 32 | | | | | | | | |
| 36 | 5940 | 6400 | 7770 | | | | | |

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.