Piping ball valve, split valve body design
Single or double block-and-bleed valve
Models PBV-FS2 and PBV-FS3

Applications

- Oil and gas industry, chemical and petrochemical industries, power plants, water and wastewater, shipbuilding
- Shut-off and vent natural gas, oil and chemicals in a process
- Connect piping systems and equipment
- Process interface to measuring instrument installations

Special features

- High-quality machining guarantees smooth and low-wear operation with a low operating torque
- Compact assembly saves weight and space, reduces leakage paths and guarantees easy maintenance
- Fulfils the fugitive emission requirements per ISO 15848-1, tightness class B
- Type tested for fire safety in accordance with API 607
- Customer-specific combination of valves and measuring instruments (instrument hook-up) on request

Fig. left: model PBV-FS3, double block-and-bleed
Fig. right: model PBV-FS2, block-and-bleed

Description

The piping valve is available with floating ball and with full or reduced bore.

The piping ball valve has been designed to meet the requirements of the process industry, especially for natural gas and aggressive media applications.

Model PBV-FS valves are used for process shut-off or pressure tapping. The compact design integrates one or two shut-off valves and a vent valve. This allows using an arrangement of ball valves and needle valves in single or double block-and-bleed configuration.

The valve seat design of the valve body ensures high durability and tightness. This valve fulfils the fugitive emission requirements per ISO 15848-1, tightness class B and is type tested for fire safety in accordance with API 607.

The super-finished machining of the internal parts allows a very smooth and precise operation, even at high pressures and after long periods without valve operation. The surface finish is also minimising corrosion with aggressive media and makes it easier to clean.

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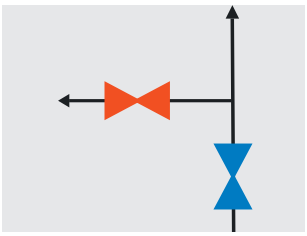
Data sheets showing similar products:
Monoblock with flange connection; model IBF1; data sheet AC 09.30
Monoblock with flange connection; models IBF2 and IBF3; data sheet AC 09.25

Specifications

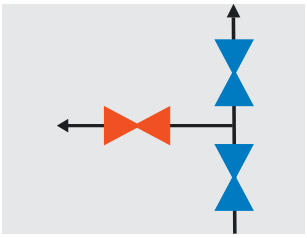
Piping valve, models PBV-FS2 and PBV-FS3			
Standards used			
Design	■ EEMUA publication 182, specification for integral block-and-bleed valve manifolds ■ ASME B16.34, valves - flanged, threaded and welding end ■ ASME B16.5, pipe flanges and flange fittings ■ EN 1092-1, flanges and their joints ■ ASME VIII Div.1, rules for construction of pressure vessels ■ MSS SP-99, valves for measuring instruments		
Production tests	■ API 598, valve inspection and testing ■ ISO 15848-2, valve test and qualification for fugitive emissions (option) ■ API 6D, specification for pipeline and piping valves (option)		
Material requirements	NACE MR0175 / ISO 15156, use in H_2S-containing environments in oil and gas production (option)		
Marking	MSS SP-25, standard marking system for valves, fittings, flanges, and unions		
Temperature limits	The limits for operating pressure and temperature depend on the sealing material. → For diagram, see page 6		
Function	■ Model PBV-FS2: block-and-bleed (shut-off and vent), 2 piece split valve body ■ Model PBV-FS3: double block-and-bleed (2 x shut-off and 1 x vent), 3 piece split valve body		
Arrangement	Shut-off valve(s): ball valve(s) Vent valve: needle valve or ball valve		
Pipe connection			
Per ASME B16.5	Flange ½" … 2" / class 150 … class 2500		
Per EN 1092-1	Flange DN 15 … DN 50 / PN 16 … PN 420		
Per ASME B1.20.1	Thread ½ ... ¾ NPT		
Surface roughness Ra of the sealing face			
Per ASME B16.5	■ RF: 3.2 ... 6.3 µm [125 ... 250 µin] (spiral surface) ■ RJ: 1.6 µm [63 µin]		
Per EN 1092-1	■ Form B1: 3.2 ... 12.5 µm [125 ... 500 µin]		
Vent connection	■ ½ NPT female; plug screw is included in delivery, though not prefitted. ■ ½" blind flange; pre-fitted including sealing and threaded bolts.		
Ball bore [1]	■ 15 mm [0.59 in] ■ 38 mm [1.5 in]	■ 20 mm [0.79 in] ■ 42 mm [1.65 in]	■ 25 mm [0.98 in] ■ 49 mm [1.93 in]
	Full or reduced bore		
Vent bore [1]	5 ... 10 mm [0.20 ... 0.39 in]		
Ball valve design	■ Antistatic design ■ Blow-out-proof valve stem ■ Self-relieving valve seat		
Needle valve design	■ Non-rotating spindle tip ■ Blow-out-proof spindle tip ■ Design with back seat seal ■ Back seat seal		

1) Dimension depends on pipe connection. → See dimensions from page 6.

Model PBV-FS2
Single block-and-bleed
(shut-off and vent)



Model PBV-FS3
Double block-and-bleed
(2 x shut-off and 1 x vent)



Colour coding

Vent (red)

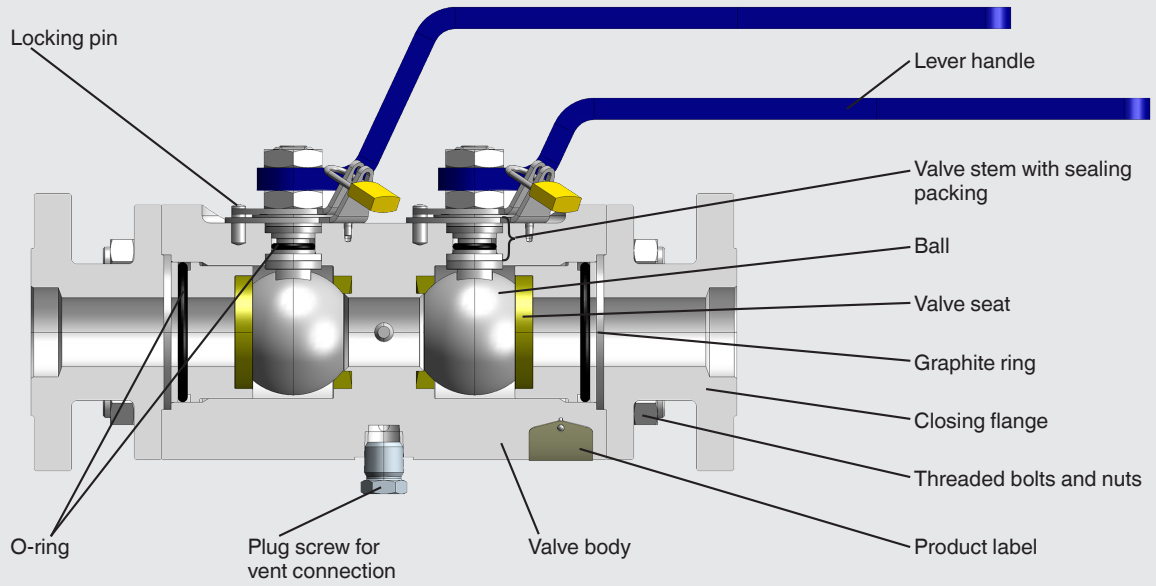
Shut-off (blue)

Material	
Wetted parts	
Valve body and closures	■ Stainless steel 316/316L ■ Stainless steel Duplex F51 ■ Carbon steel ASTM A350 LF2, class 2 [1]
Ball, valve stem, bonnet body, spindle tip	■ Stainless steel 316/316L ■ Stainless steel Duplex F51
Valve seats and packings	■ PEEK (ball valve seat) ■ RTFE (ball valve seat) ■ Graphite (needle valve sealing packing)
O-rings	■ FKM with resistance against explosive decompression (AED) [2] ■ FKM for low temperatures with resistance against explosive decompression (AED) [2]
Non-wetted parts	
Handle	■ With ball bore 15 mm: stainless steel, PVC coated (blue) ■ With ball bore ≥ 20 mm: carbon steel, painted (blue)
Bonnet, spindle, locking plate, locking pin, product label, screws	Stainless steel
Threaded bolts and nuts	■ Carbon steel A320 GrL7M/A194 Gr7M + HDG (hot-dip galvanised) ■ Stainless steel A193 GrB8MCl2/A194 Gr8M ■ Optional: PTFE-coated
Paints	
Stainless steel	Corrosivity category C4 per ISO 12944 with colour RAL 7038 (agate grey) Epoxy primer + epoxy intermediate + polyurethane finish
Carbon steel	Corrosivity category C4 per ISO 12944 with colour RAL 7038 (agate grey) Zinc rich primer + Epoxy intermediate + polyurethane finish

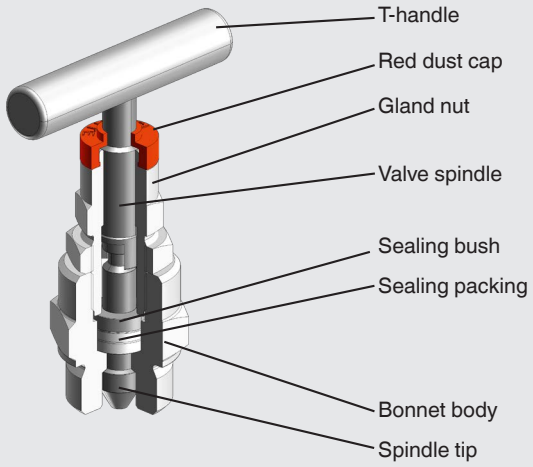
1) Valve body from carbon steel ASTM A350 LF2, the other wetted parts from stainless steel 316/316L. Unpainted carbon steel valves have an oil finish for corrosion protection during storage. This is not a substitute for paint or other protective coating to be applied at the place of use.
2) O-ring compliant with TotalEnergies SE and NORSOK standards on request

Other materials and paints on request

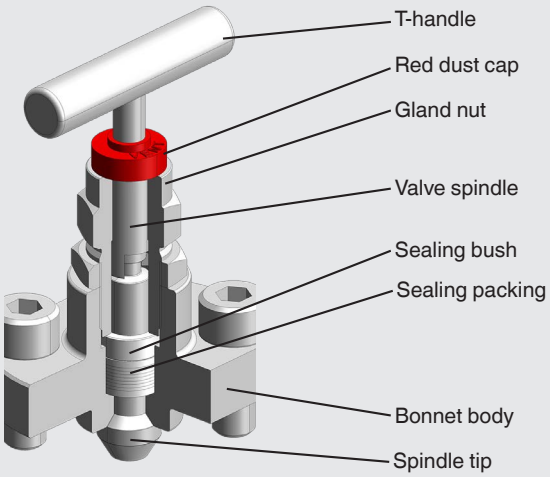
Shut-off valve
Ball valve design



Vent valve
Needle valve design with screwed bonnet
For ball bore 15 mm

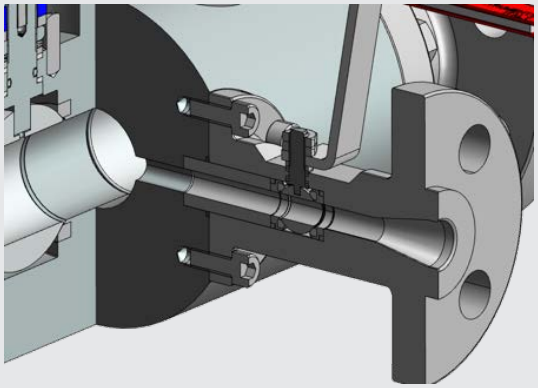


Vent valve
Needle valve design with bolted bonnet
For ball bore ≥ 20 mm

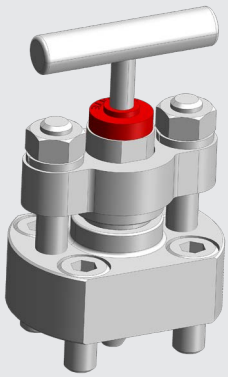


Other versions

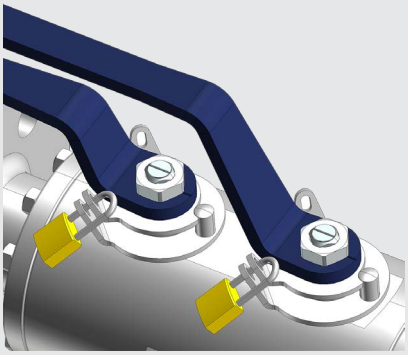
Vent valve
Ball valve design
Vent bore 10 mm



Vent valve
Needle valve design with OS&Y bonnet
Vent bore 6 mm



Shut-off valve
Lever with padlock

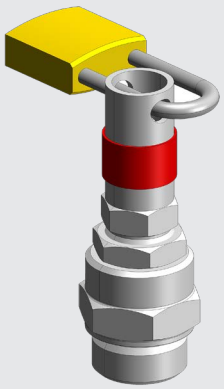


Vent valve
Anti-tamper version

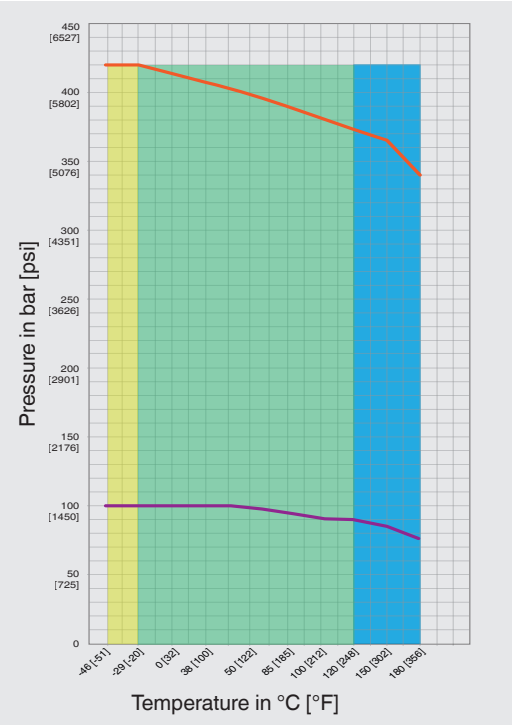
Accessory
Anti-tamper key

Order number: 81640006

Vent valve
Anti-tamper version with padlock



Pressure-temperature diagram



Sealing packing

Valve seat: RTFE [1) 2)]

O-rings	Max. allowable operating pressure at defined temperatures			
	Minimum temperature	Temperature of 0 °C [32 °F]	Temperature of 20 °C [68 °F]	Maximum temperature
FKM (AED)	100 bar at -29 °C	100 bar	100 bar	75 bar at 180 °C
	1,450 psi at -20 °F	1,450 psi	1,450 psi	1,100 psi at 356 °F
FKM for low temperatures (AED)	100 bar at -46 °C	100 bar	100 bar	90 bar at 120 °C
	1,450 psi at -51 °F	1,450 psi	1,450 psi	1,300 psi at 248 °F

1) Reinforced PTFE
2) Only available for flanges up to class 600 or PN 100

Valve seat: PEEK

O-rings	Max. allowable operating pressure at defined temperatures			
	Minimum temperature	Temperature of 0 °C [32 °F]	Temperature of 20 °C [68 °F]	Maximum temperature
FKM (AED)	420 bar at -29 °C	420 bar	420 bar	340 bar at 180 °C
	6,000 psi at -20 °F	6,000 psi	6,000 psi	4,950 psi at 356 °F
FKM for low temperatures (AED)	420 bar at -46 °C	420 bar	420 bar	380 bar at 120 °C
	6,000 psi at -51 °F	6,000 psi	6,000 psi	5,500 psi at 248 °F

The tables above provide information about the characteristics of the sealing material at the respective process parameters. To maximise the service life, it is recommended that the valve should not be operated continuously at the temperature limits.

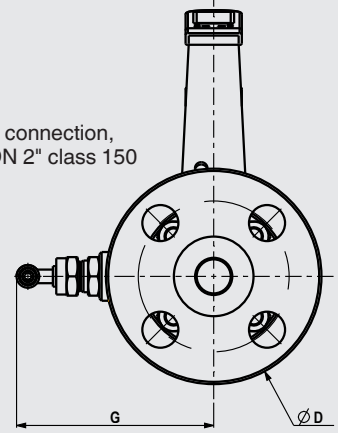
The minimum design temperature for needle valves is -46 °C [-51 °F].

Dimensions in mm [in]

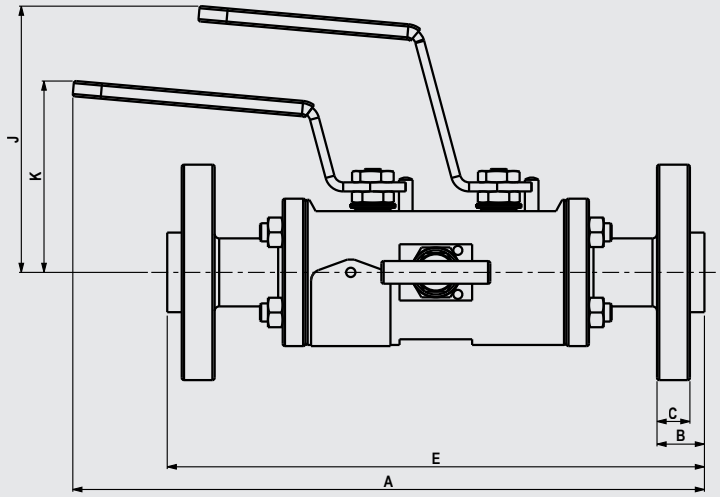
Model PBV-FS3
Sealing face RF of flange connections per ASME B 16.5

Shut-off: 2 x ball valve
Vent: 1 x needle valve

Flange connection,
up to DN 2" class 150



Flange connections from DN 2"
class 300 have 8 holes



DN	class	Dimensions in mm [in]								x [1]	Weight kg [lb]
		A	B	C	Ø D	E	G	J	K		
½"	150	275 [10.8]	11.2 [0.44]	9.7 [0.38]	90 [3.5]	229 [9]	101 [4]	116 [4.5]	83 [3.3]	4	5 [11]
	300	278 [10.9]	14.2 [0.56]	12.7 [0.5]	95 [3.7]	235 [9.2]	101 [4]	116 [4.5]	83 [3.3]	4	5 [11]
	600	284 [11.2]	30.6 [1.2]	14.2 [0.56]	95 [3.7]	247 [9.7]	101 [4]	116 [4.5]	83 [3.3]	4	6 [13.2]
	900/1500	317 [12.5]	28.8 [1.13]	22.4 [0.88]	121 [4.7]	309 [12.1]	104 [4.1]	124 [4.9]	91 [3.6]	4	10.5 [23.2]
	2500	324 [12.7]	36.6 [1.44]	30.2 [1.19]	135 [5.3]	323 [12.7]	104 [4.1]	147 [5.8]	107 [4.2]	4	13 [28.6]
¾"	150	312 [12.3]	12.7 [0.5]	11.2 [0.44]	99 [3.9]	257 [10.1]	104 [4.1]	128 [5]	96 [3.8]	4	7 [15.4]
	300	319 [12.5]	15.7 [0.62]	14.2 [0.56]	117 [4.6]	271 [10.7]	104 [4.1]	128 [5]	96 [3.8]	4	8 [17.6]
	600	326 [12.8]	22.1 [0.87]	15.7 [0.62]	117 [4.6]	285 [11.2]	104 [4.1]	128 [5]	96 [3.8]	4	9 [19.8]
	900/1500	468 [18.4]	31.8 [1.25]	25.4 [1]	130 [5.1]	348 [13.7]	105 [4.1]	138 [5.4]	97 [3.8]	4	13.5 [29.8]
	2500	474 [18.6]	38.2 [1.5]	31.8 [1.25]	140 [5.5]	360 [14.2]	105 [4.1]	150 [5.9]	110 [4.3]	4	16 [35.3]
1"	150	431 [16.9]	14.2 [0.56]	12.7 [0.5]	108 [4.2]	279 [11]	114 [4.5]	143 [5.6]	102 [4]	4	11.5 [25.3]
	300	438 [17.2]	17.2 [0.68]	15.7 [0.62]	124 [4.9]	293 [11.5]	114 [4.5]	143 [5.6]	102 [4]	4	13 [28.6]
	600	445 [17.5]	23.9 [0.94]	17.5 [0.69]	124 [4.9]	307 [12.1]	114 [4.5]	143 [5.6]	102 [4]	4	14 [30.8]
	900/1500	501 [19.7]	34.8 [1.37]	28.4 [1.12]	150 [5.9]	419 [16.5]	122 [4.8]	145 [5.7]	112 [4.4]	4	27.5 [60.6]
	2500	508 [20]	41.5 [1.63]	35.1 [1.38]	159 [6.2]	433 [17]	122 [4.8]	145 [5.7]	112 [4.4]	4	30.5 [67.2]
1½"	150	470 [18.5]	17.4 [0.68]	15.9 [0.62]	127 [5]	326 [12.8]	125 [4.9]	155 [6.1]	114 [4.5]	4	19.5 [43]
	300	481 [18.9]	20.5 [0.81]	19 [0.75]	155 [6.1]	348 [13.7]	125 [4.9]	155 [6.1]	114 [4.5]	4	22 [48.5]
	600	490 [19.3]	28.8 [1.13]	22.4 [0.88]	155 [6.1]	366 [14.4]	125 [4.9]	155 [6.1]	114 [4.5]	4	24.5 [54]
	900/1500	822 [32.3]	38.2 [1.5]	31.8 [1.25]	178 [7]	527 [20.7]	162 [6.4]	199 [7.8]	150 [5.9]	4	84.5 [186.3]
	2500	838 [33]	50.8 [2]	44.4 [1.75]	203 [8]	559 [22]	162 [6.4]	199 [7.8]	150 [5.9]	4	94.5 [208.3]
2"	150	512 [20.1]	19 [0.75]	17.5 [0.69]	152 [6]	364 [14.3]	142 [5.6]	182 [7.1]	138 [5.4]	4	35 [77.1]
	300	515 [20.3]	22.1 [0.87]	20.6 [0.81]	165 [6.5]	370 [14.5]	142 [5.6]	182 [7.1]	138 [5.4]	8	36.5 [80.4]
	600	524 [20.6]	31.8 [1.25]	25.4 [1]	165 [6.5]	388 [15.3]	142 [5.6]	182 [7.1]	138 [5.4]	8	39.5 [87.1]
	900/1500	667 [26.2]	44.5 [1.75]	38.1 [1.5]	216 [8.5]	472 [18.6]	142 [5.6]	184 [7.2]	138 [5.4]	8	61.5 [135.6]
	2500	939 [36.9]	57.2 [2.25]	50.8 [2]	235 [9.2]	579 [22.8]	166 [6.5]	247 [9.7]	175 [6.9]	8	119 [262.3]

1) Number of screws

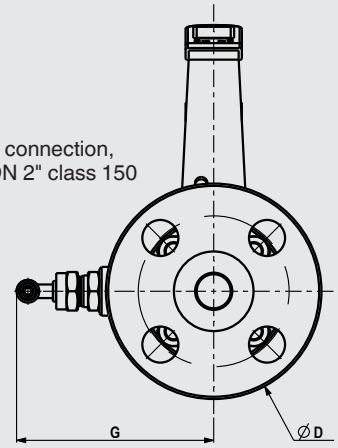
DN	class	Ball bore, full bore [1]
½"	150 ... 2500	15 mm [0.59 in]
¾"	150 ... 2500	20 mm [0.79 in]
1"	150 ... 2500	25 mm [0.98 in]
1½"	150 ... 2500	38 mm [1.5 in]
2"	150 ... 1500	49 mm [1.93 in]
	2500	42 mm [1.65 in]

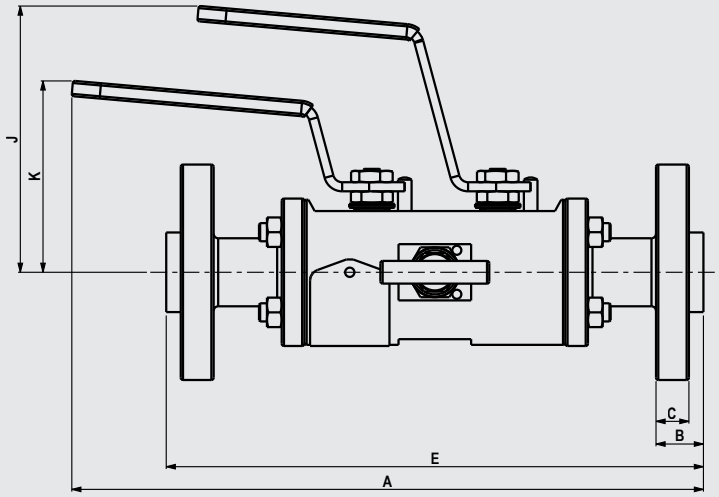
1) Other dimensions for reduced bore on request

Model PBV-FS3
Sealing face RJ of flange connections per ASME B 16.5

Shut-off: 2 x ball valve
Vent: 1 x needle valve

Flange connection,
up to DN 2" class 150





Flange connections from DN 2"
class 300/600 have 8 holes

DN	class	Dimensions in mm [in]								x [1]	Weight kg [lb]
		A	B	C	Ø D	E	G	J	K		
½"	300	282 [11.1]	18.3 [0.72]	12.7 [0.5]	95 [3.7]	243 [9.5]	101 [4]	116 [4.5]	83 [3.3]	4	5.5 [12.1]
	600	283 [11.1]	19.8 [0.78]	14.2 [0.56]	95 [3.7]	245 [9.6]	101 [4]	116 [4.5]	83 [3.3]	4	6 [13.2]
	900/1500	317 [12.5]	28.8 [1.13]	22.4 [0.88]	121 [4.7]	309 [12.1]	104 [4.1]	124 [4.9]	91 [3.6]	4	10.5 [23.2]
	2500	324 [12.7]	36.6 [1.44]	30.2 [1.19]	135 [5.3]	323 [12.7]	104 [4.1]	147 [5.8]	107 [4.2]	4	13 [28.6]
¾"	300	324 [12.7]	20.6 [0.81]	14.2 [0.56]	117 [4.6]	281 [11]	104 [4.1]	128 [5]	96 [3.8]	4	9 [19.8]
	600	326 [12.8]	22.1 [0.87]	15.7 [0.62]	117 [4.6]	285 [11.2]	104 [4.1]	128 [5]	96 [3.8]	4	9 [19.8]
	900/1500	468 [18.4]	31.8 [1.25]	25.4 [1]	130 [5.1]	348 [13.7]	105 [4.1]	138 [5.4]	97 [3.8]	4	13.5 [29.8]
	2500	474 [18.6]	38.2 [1.5]	31.8 [1.25]	140 [5.5]	360 [14.2]	105 [4.1]	150 [5.9]	110 [4.3]	4	16 [35.3]
1"	150	436 [17.1]	19.1 [0.75]	12.7 [0.5]	108 [4.2]	289 [11.4]	114 [4.5]	143 [5.6]	102 [4]	4	12.5 [27.5]
	300	443 [17.4]	22.1 [0.87]	15.7 [0.62]	124 [4.9]	303 [11.9]	114 [4.5]	143 [5.6]	102 [4]	4	13.5 [29.7]
	600	445 [17.5]	23.9 [0.94]	17.5 [0.69]	124 [4.9]	307 [12.1]	114 [4.5]	143 [5.6]	102 [4]	4	14 [30.8]
	900/1500	501 [19.7]	34.8 [1.37]	28.4 [1.12]	150 [5.9]	419 [16.5]	122 [4.8]	145 [5.7]	112 [4.4]	4	27.5 [60.6]
	2500	508 [20]	41.5 [1.63]	35.1 [1.38]	159 [6.2]	433 [17]	122 [4.8]	145 [5.7]	112 [4.4]	4	30.5 [67.2]
1½"	150	475 [18.7]	22.3 [0.88]	15.9 [0.62]	127 [5]	336 [13.2]	125 [4.9]	155 [6.1]	114 [4.5]	4	20.5 [45.2]
	300	486 [19.1]	25.4 [1]	19 [0.75]	155 [6.1]	358 [14.1]	125 [4.9]	155 [6.1]	114 [4.5]	4	23.5 [51.8]
	600	490 [19.3]	28.8 [1.13]	22.4 [0.88]	155 [6.1]	366 [14.4]	125 [4.9]	155 [6.1]	114 [4.5]	4	24.5 [54]
	900/1500	822 [32.3]	38.2 [1.5]	31.8 [1.25]	178 [7]	527 [20.7]	162 [6.4]	199 [7.8]	150 [5.9]	4	84.5 [186.3]
	2500	840 [33.1]	52.4 [2]	44.4 [1.75]	203 [8]	563 [22.1]	162 [6.4]	199 [7.8]	150 [5.9]	4	95 [209.4]
2"	150	517 [20.3]	23.9 [0.94]	17.5 [0.69]	152 [6]	374 [14.7]	142 [5.6]	182 [7.1]	138 [5.4]	4	36 [79.3]
	300	521 [20.5]	28.6 [1.12]	20.6 [0.81]	165 [6.5]	382 [15]	142 [5.6]	182 [7.1]	138 [5.4]	8	38.5 [84.9]
	600	526 [20.7]	33.4 [1.31]	25.4 [1]	165 [6.5]	392 [15.4]	142 [5.6]	182 [7.1]	138 [5.4]	8	40 [88.2]
	900/1500	688 [27.1]	46.1 [1.81]	38.1 [1.5]	216 [8.5]	474 [18.6]	142 [5.6]	184 [7.2]	138 [5.4]	8	62 [136.7]
	2500	940 [37]	58.8 [2.31]	50.8 [2]	235 [9.2]	581 [22.9]	166 [6.5]	247 [9.7]	175 [6.9]	8	120 [264.5]

1) Number of screws

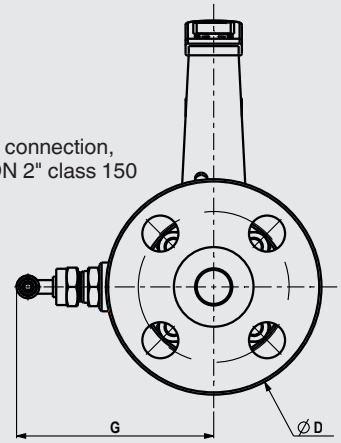
DN	class	Ball bore, full bore [1]
½"	300 ... 2500	15 mm [0.59 in]
¾"	300 ... 2500	20 mm [0.79 in]
1"	150 ... 2500	25 mm [0.98 in]
1½"	150 ... 2500	38 mm [1.5 in]
2"	150 ... 1500	49 mm [1.93 in]
	2500	42 mm [1.65 in]

1) Other dimensions for reduced bore on request

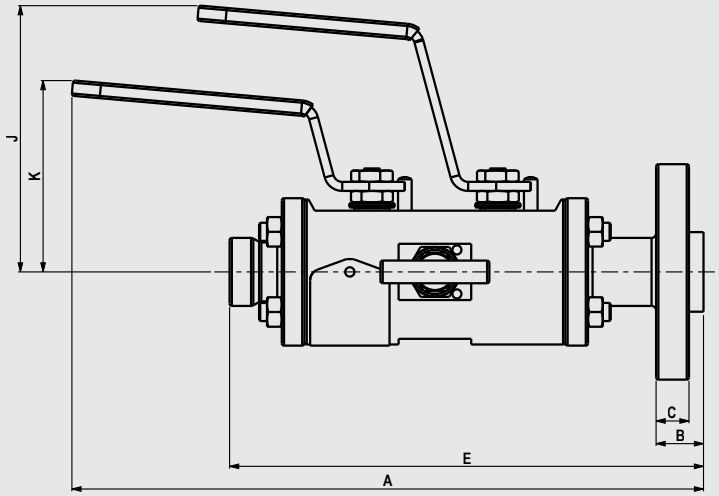
Model PBV-FS3
Sealing face RF of flange connection per ASME B 16.5 /
½ NPT female thread connection per ASME B1.20.1

Shut-off: 2 x ball valve
Vent: 1 x needle valve

Flange connection,
up to DN 2" class 150



Flange connections from DN 2"
class 300 have 8 holes



DN	class	Dimensions in mm [in]								x [1]	Weight kg [lb]
		A	B	C	Ø D	E	G	J	K		
½"	150	275 [10.8]	11.5 [0.5]	10 [0.4]	89 [3.5]	229 [9]	95 [3.7]	116 [4.6]	83 [3.3]	4	4,5 [9,92]
	300	284 [11.2]	16 [0.6]	15.5 [0.6]	95 [3.7]	242 [9.6]	95 [3.7]	116 [4.6]	83 [3.3]	4	5 [11,02]
	600	284 [11.2]	21 [0.8]	15.5 [0.6]	95 [3.7]	247 [9.7]	95 [3.7]	116 [4.6]	83 [3.3]	4	5 [11,02]
	900/1500	317 [12.5]	29 [1.1]	22.5 [0.9]	121 [4.8]	309 [12.2]	98 [3.9]	124 [4.9]	91 [3.6]	4	8,5 [18,74]
	2500	324 [12.8]	37 [1.5]	30.5 [1.2]	133 [5.2]	323 [12.7]	98 [3.9]	124 [4.9]	91 [3.6]	4	9,5 [20,94]
¾"	150	276 [10.9]	13 [0.5]	11.5 [0.5]	99 [3.9]	218 [8.6]	95 [3.7]	116 [4.6]	83 [3.3]	4	4,5 [9,92]
	300	290 [11.4]	17.5 [0.7]	16 [0.6]	117 [4.6]	227 [9]	95 [3.7]	116 [4.6]	83 [3.3]	4	5,5 [12,13]
	600	290 [11.4]	22.5 [0.9]	16 [0.6]	117 [4.6]	232 [9.1]	95 [3.7]	116 [4.6]	83 [3.3]	4	5,5 [12,13]
	900/1500	320 [12.6]	32 [1.3]	25.5 [1]	130 [5.1]	274 [10.8]	98 [3.9]	124 [4.9]	91 [3.6]	4	9 [19,84]
	2500	326 [12.8]	38.5 [1.5]	32 [1.3]	140 [5.5]	280 [11]	98 [3.9]	124 [4.9]	91 [3.6]	4	10 [22,05]
1"	150	278 [10.9]	14.5 [0.6]	13 [0.5]	108 [4.3]	220 [8.7]	95 [3.7]	116 [4.6]	83 [3.3]	4	5 [11,02]
	300	292 [11.5]	19 [0.8]	17.5 [0.7]	124 [4.9]	229 [9.1]	95 [3.7]	116 [4.6]	83 [3.3]	4	6 [13,23]
	600	292 [11.5]	24 [0.9]	17.5 [0.7]	124 [4.9]	234 [9.2]	95 [3.7]	116 [4.6]	83 [3.3]	4	6 [13,23]
	900/1500	327 [12.9]	35 [1.4]	28.5 [1.1]	149 [5.9]	281 [11.1]	98 [3.9]	124 [4.9]	91 [3.6]	4	10,5 [23,15]
	2500	304 [12]	42 [1.7]	35.5 [1.4]	159 [6.3]	288 [11.3]	98 [3.9]	124 [4.9]	91 [3.6]	4	12 [26,46]
1½"	150	281 [11.1]	17.5 [0.7]	16 [0.6]	127 [5]	223 [8.8]	95 [3.7]	116 [4.6]	83 [3.3]	4	5,5 [12,13]
	300	301 [11.9]	25 [1]	22.5 [0.9]	155 [6.1]	238 [9.4]	95 [3.7]	116 [4.6]	83 [3.3]	4	8 [17,64]
	600	301 [11.9]	30 [1.2]	22.5 [0.9]	155 [6.1]	243 [9.6]	95 [3.7]	116 [4.6]	83 [3.3]	4	8 [17,64]
	900/1500	335 [13.2]	38.5 [1.5]	32 [1.3]	178 [7]	289 [11.4]	98 [3.9]	124 [4.9]	91 [3.6]	4	13 [28,66]
	2500	351 [13.8]	51 [2]	44.5 [1.8]	203 [8]	305 [12]	98 [3.9]	124 [4.9]	91 [3.6]	4	18 [39,68]
2"	150	287 [11.3]	19 [0.7]	17.5 [0.7]	152 [6]	229 [9]	95 [3.7]	116 [4.6]	83 [3.3]	4	6,5 [14,33]
	300	299 [11.8]	27 [1.1]	25.5 [1]	165 [6.5]	236 [9.3]	95 [3.7]	116 [4.6]	83 [3.3]	8	9 [19,84]
	600	299 [11.8]	32 [1.3]	25.5 [1]	165 [6.5]	241 [9.5]	95 [3.7]	116 [4.6]	83 [3.3]	8	9 [19,84]
	900/1500	337 [13.3]	44.5 [1.8]	38.5 [1.5]	216 [8.5]	291 [11.5]	98 [3.9]	124 [4.9]	91 [3.6]	8	17 [37,48]
	2500	354 [13.9]	57.5 [2.3]	51 [2]	235 [9.3]	308 [12.1]	98 [3.9]	175 [6.9]	91 [3.6]	8	24 [52,91]

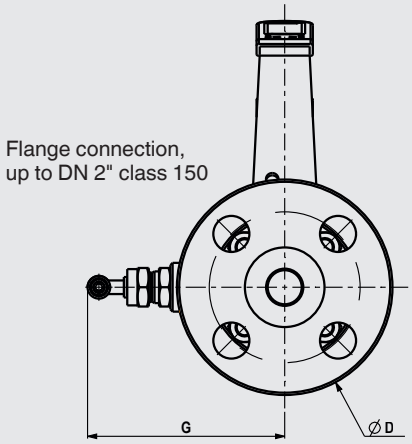
1) Number of screws

DN	class	Ball bore
½"	150 ... 2500	15 mm [0.59 in], full bore
1" ... 2"	150 ... 2500	15 mm [0.59 in], reduced bore [1]

1) Other bore diameters on request

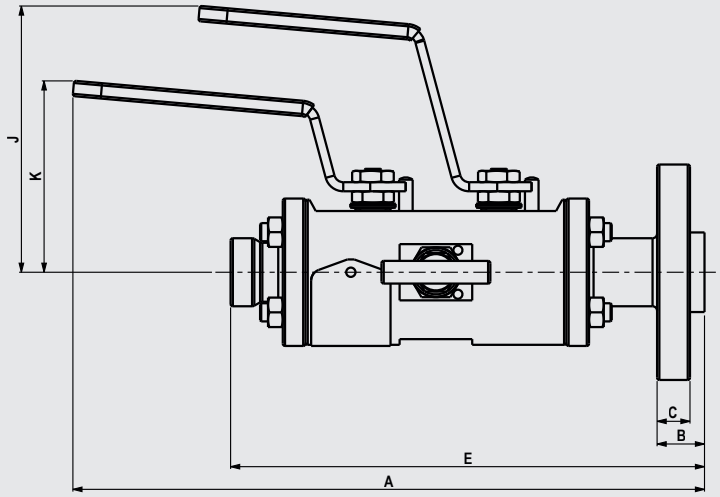
Model PBV-FS3
Sealing face RJ of flange connection per ASME B 16.5 /
½ NPT female thread connection per ASME B1.20.1

Shut-off: 2 x ball valve
Vent: 1 x needle valve



Flange connection,
up to DN 2" class 150

Flange connections from DN 2"
class 300/600 have 8 holes



DN	class	Dimensions in mm [in]								x [1]	Weight kg [lb]
		A	B	C	Ø D	E	G	J	K		
½"	300/600	284 [11.2]	20 [0.8]	15.5 [0.6]	95 [3.7]	245 [9.6]	95 [3.7]	116 [4.6]	83 [3.3]	4	5 [11.02]
	900/1500	317 [12.5]	29 [1.1]	22.5 [0.9]	121 [4.8]	309 [12.2]	98 [3.9]	124 [4.9]	91 [3.6]	4	8.5 [18.74]
	2500	324 [12.8]	37 [1.5]	30.5 [1.2]	133 [5.2]	323 [12.7]	98 [3.9]	124 [4.9]	91 [3.6]	4	9.5 [20.94]
¾"	300/600	290 [11.4]	22.5 [0.9]	16 [0.6]	117 [4.6]	232 [9.1]	95 [3.7]	116 [4.6]	83 [3.3]	4	5.5 [12.13]
	900/1500	320 [12.6]	32 [1.3]	25.5 [1]	130 [5.1]	274 [10.8]	98 [3.9]	124 [4.9]	91 [3.6]	4	9 [19.84]
	2500	326 [12.8]	38.5 [1.5]	32 [1.3]	140 [5.5]	280 [11]	98 [3.9]	124 [4.9]	91 [3.6]	4	10 [22.05]
1"	150	278 [10.9]	19.5 [0.8]	13 [0.5]	108 [4.3]	225 [8.9]	95 [3.7]	116 [4.6]	83 [3.3]	4	5 [11.02]
	600	292 [11.5]	24 [0.9]	17.5 [0.7]	124 [4.9]	234 [9.2]	95 [3.7]	116 [4.6]	83 [3.3]	4	6 [13.23]
	900/1500	327 [12.9]	35 [1.4]	28.5 [1.1]	149 [5.9]	281 [11.1]	98 [3.9]	124 [4.9]	91 [3.6]	4	10.5 [23.15]
	2500	304 [12]	42 [1.7]	35.5 [1.4]	159 [6.3]	288 [11.3]	98 [3.9]	124 [4.9]	91 [3.6]	4	12 [26.46]
1½"	150	281 [11.1]	22.5 [0.9]	16 [0.6]	127 [5]	228 [9]	95 [3.7]	116 [4.6]	83 [3.3]	4	5.5 [12.13]
	600	301 [11.9]	30 [1.2]	22.5 [0.9]	155 [6.1]	243 [9.6]	95 [3.7]	116 [4.6]	83 [3.3]	4	8 [17.64]
	900/1500	335 [13.2]	38.5 [1.5]	32 [1.3]	178 [7]	289 [11.4]	98 [3.9]	124 [4.9]	91 [3.6]	4	13 [28.66]
	2500	351 [13.8]	52.5 [2.1]	44.5 [1.8]	203 [8]	307 [12.1]	98 [3.9]	124 [4.9]	91 [3.6]	4	18 [39.68]
2"	150	287 [11.3]	24 [0.9]	17.5 [0.7]	152 [6]	234 [9.2]	95 [3.7]	116 [4.6]	83 [3.3]	4	6.5 [14.33]
	600	299 [11.8]	33.5 [1.3]	25.5 [1]	165 [6.5]	243 [9.6]	95 [3.7]	116 [4.6]	83 [3.3]	8	9 [19.84]
	900/1500	337 [13.3]	46.5 [1.8]	38.5 [1.5]	216 [8.5]	292 [11.5]	98 [3.9]	124 [4.9]	91 [3.6]	8	17.5 [38.58]
	2500	354 [13.9]	59 [2.3]	51 [2]	235 [9.3]	309 [12.2]	98 [3.9]	175 [6.9]	91 [3.6]	8	24 [52.91]

1) Number of screws

DN	class	Ball bore
½"	300 ... 2500	15 mm [0.59 in], full bore
¾"	300 ... 2500	15 mm [0.59 in], reduced bore [1]
1" ... 2"	150 ... 2500	15 mm [0.59 in], reduced bore [1]

1) Other bore diameters on request

Approvals

Logo	Description	Region
CE	**EU declaration of conformity (option)** Pressure equipment directive Up to category III	European Union
EAC	**EAC** Machinery directive	Eurasian Economic Community

Manufacturer's declaration

Logo	Description
-	Type test for fire safety in accordance with API 607, ISO 10497
-	Type test for fugitive emissions in accordance with EN ISO 15848-1
-	Positive material identification (PMI) test certificate (option)
-	Dye penetrant inspection (DPI) test certificate (option)
-	Magnetic particles inspection (MPI) test certificate (option)
-	Ultrasonic test (UT) certificate (option)

Certificates

3.1 inspection certificate per EN 10204 (option)
- Material proof for all wetted parts per NACE MR0175
- Confirmation of pressure tests per API 598 [1)]

1) Shell test: 15 s test duration with 1.5 times the permissible working pressure (water)
Seat test: 15 s test duration with 6 bar (air/nitrogen)

→ For approvals and certificates, see website

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