

Block and Bleed Valves

BB, DB, SB and DBB Series



FITOK Group

FITOK GmbH (Headquarter)

Sprendlinger Landstr. 115, 63069 Offenbach, Germany

Tel.: +49 69 8900 4498

Fax: +49 69 8900 4495

FITOK INC.

13000 Murphy Road, Suite 116, Stafford, TX 77477, USA

Tel.: +1 281 888 0077

Fax: +1 281 888 0033

FITOK INCORPORATED

Yingtailong Industrial Park, Shenzhen, 518109, China

Tel.: +86 755 2803 2500

Fax: +86 755 2803 2619

info@fitokgroup.com

www.fitokgroup.com

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Valves and Fittings

www.fitokgroup.com

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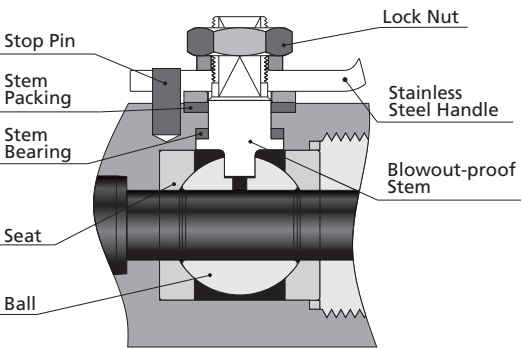
DBB Series: Double Block and Bleed Valves

13

Features

- Maximum working pressure: 6000 psig (414 bar)
- Working temperature up to 1200°F (649°C) with Graphite packing
- Color coded valve function identification
- Every design is hydraulic pressure tested in accordance with API 598 and EN 12266-1. Every set is tested with nitrogen for leak-tight performance at 6000 psig
- Fire-tested design in accordance with API 607 and BS 6755 part 2
- Flanged connections comply with ANSI B16.5 RF and RTJ
- Pressure ratings in accordance with ANSI B16.34

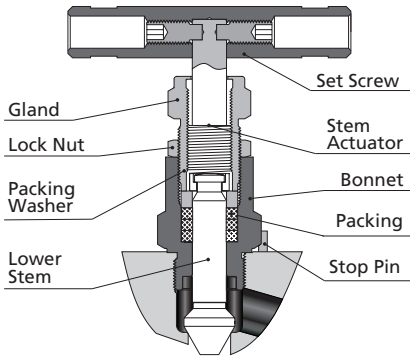
Ball Valve Model



Features

- Maximum working pressure: 6000 psig (414 bar)
- Working temperature are as follows:
 - PTFE:-65°F to 450°F (-54°C to 232°C)
 - PEEK: -65°F to 450°F (-54°C to 232°C)
- Actuate at quarter-turn.
- Directional stem flats show open or closed position.
- Bottom-loaded stem prevents stem blowout and enhances system safety.
- High-strength stem bearing provides smooth actuation and eliminates galling between valve stem and body.
- It may be required to adjust the packing during the service life of the valve.
- FITOK ball valves are designed to be operated in a fully open or fully closed position.

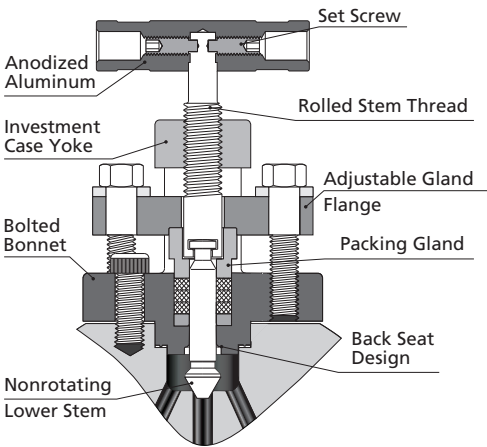
Needle Type Valve Model



Features

- Maximum working pressure:6000 psig (414 bar)
- Working temperature are as follows:
PTFE:-65°F to 450°F (-54°C to 232°C)
Graphite: -65°F to 1200°F (-54°C to 649°C)
- Two-stem design: thread hardened upper stem and smooth surface hardened lower stem.
- Upper stem thread lubricant is isolated from system fluid.
- The non-rotating lower stem's linear instead of helical movement avoids galling damage to the seat and tip, avoids galling damage to the seat and tip, as well as reduces the total friction area between the packing and the lower stem.
- Stem back seating seals in fully open position.
- Panel mounting is available as an option.
- Double lock-pins enable steady and durable fastening of the handle.
- Handles with different colors are available.

OS&Y Needle Type Valve Model



Features

- Maximum working pressure:6000 psig (414 bar)
- Working temperature are as follows:
PTFE:-65°F to 450°F (-54°C to 232°C)
Graphite: -65°F to 1200°F (-54°C to 649°C)
- Two-stem design: thread hardened upper stem and smooth surface hardened lower stem.
- Upper stem thread lubricant is isolated from system fluid.
- The non-rotating lower stem's linear instead of helical movement avoids galling damage to the seat and tip, as well as reduces the total friction area between the packing and the lower stem.
- Bolted bonnet enhance strength and reliability.
- Back seat design provides secondary stem sealing and prevents stem blowout.
- Adjustable gland flange allows easy access to the packing gland and packing adjustment for an effective stem seal.
- Investment case yoke is formed by precision casting which enhances strength and perfect stem alignment.
- Two handle pins make the handle fixed firmly and lastingly.

Handle colors indicate functions:
Needle and OS&Y valves:
BLACK = Isolate/Block RED = Vent/Bleed
Ball valves:
YELLOW = Isolate/Block RED = Vent/Bleed

Standard Materials of Construction

Component		Body Material				
		Stainless Steel		Carbon Steel	Duplex Stainless Steel	
		Material Grade/Specification				
Body/End connector		316 SS, 316L SS /A182	316 SS, 316L SS /A479	LF2/A350	F51/A182	S31803/A479
Ball Valve	Ball	316 SS, 316L SS/A479			S31803/A479	
	Stem					
	Retainer					
	Socket					
		Seat	Reinforced PTFE, PEEK			
Needle Type Globe Valve	Stem Tip	316 SS, 316L SS/A479			S31803/A479	
	Stem					
	Bonnet					
OS&Y Needle Type Globe Valve	Stem Tip	316 SS, 316L SS/A479			S31803/A479	
	Stem					
	Bonnet					
	Yoke					

Stainless steel is standard material, others are available upon request.

Flange Connect

Pressure - Temperature Rating

FITOK process and Instrumentation products pipeline's pressure - temperature rating depends on flange end connection. We offers a variety of sizes and pressure ratings of the flange in accordance with ASME B16.5 Specifications. Below listed data adopts ASME B16.5-2003 Table 2-2.2 and Table F2-2.2. The rating data are based on stainless steel F316/F316L.

Temp. °C	ASME Ratings					
	150	300	600	900	1500	2500
	Working Pressure, bar					
-29 to 38	19.0	49.6	99.3	148.9	248.2	413.7
50	18.4	48.1	96.2	144.3	240.6	400.9
100	16.2	42.2	84.4	126.6	211.0	351.6
150	14.8	38.5	77.0	115.5	192.5	320.8
200	13.7	35.7	71.3	107.0	178.3	297.2
250	12.1	33.4	66.8	100.1	166.9	278.1
300	10.2	31.6	63.2	94.9	158.1	263.5
325	9.3	30.9	61.8	92.7	154.4	257.4
350	8.4	30.3	60.7	91.0	151.6	252.7
375	7.4	29.9	59.8	89.6	149.4	249.0
400	6.5	29.4	58.9	88.3	147.2	245.3
425	5.5	29.1	58.3	87.4	145.7	242.9
450	4.6	28.8	57.7	86.5	144.2	240.4

Temp. °F	ASME Ratings					
	150	300	600	900	1500	2500
	Working Pressure, psig					
-20 to 100	275	720	1440	2160	3600	6000
200	235	620	1240	1860	3095	5160
300	215	560	1120	1680	2795	4660
400	195	515	1025	1540	2570	4280
500	170	480	955	1435	2390	3980
600	140	450	900	1355	2255	3760
650	125	440	885	1325	2210	3680
700	110	435	870	1305	2170	3620
750	95	425	855	1280	2135	3560
800	80	420	845	1265	2110	3520
850	65	420	835	1255	2090	3480

Sour Gas Service/NACE Compliant

Process interface valves for sour gas service are available. Materials are selected in accordance with NACE MR0175/ISO 15156. Contact the authorized representative or FITOK Group if any request.

BB Series: Single Block and Bleed Valves

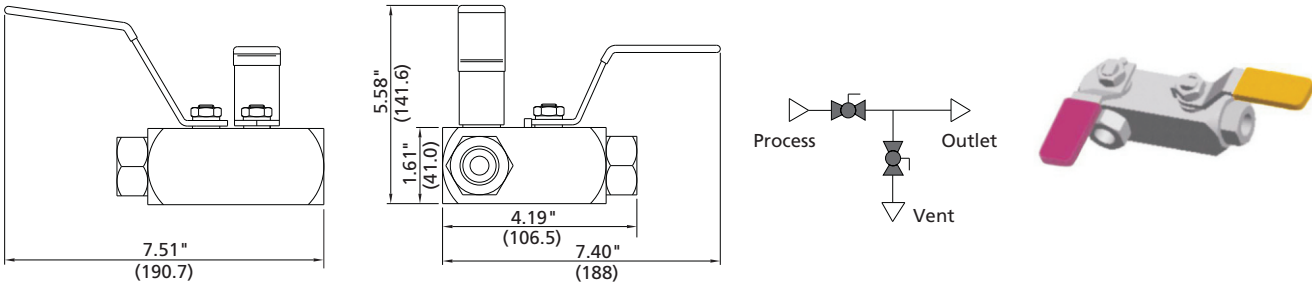
Instrument Single Block and Bleed Valves

Features

- ⦿ Threaded end connection or one-piece forged body
- ⦿ Combines piping & instrument valves in one body
- ⦿ Weight, space and cost saving over traditional designs
- ⦿ Standard high performance bonnet design
- ⦿ Blowout-proof valve stems and needles
- ⦿ Combinations of ball valves and needle valves in various configurations
- ⦿ Complete traceability of materials
- ⦿ Bleed port equipped with plug
- ⦿ Optional port sizes and threads available

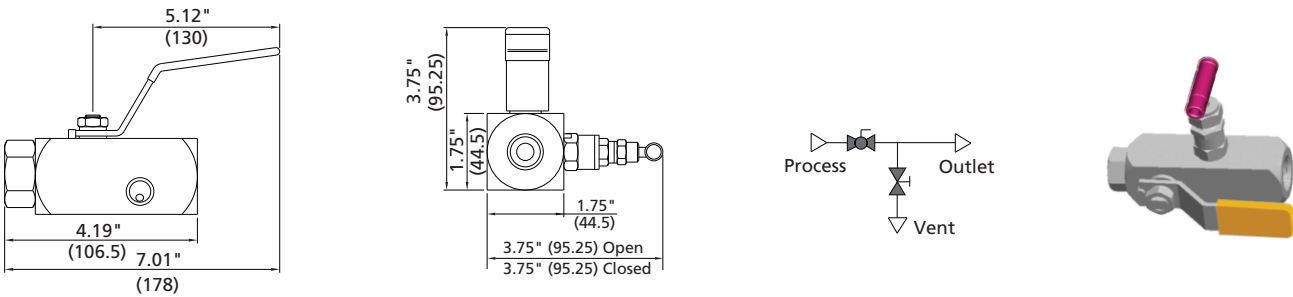
Block: ball Bleed: ball (BB)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB□□-BB-FNS8-V4-C	1/2 female NPT	1/2 female NPT	1/4 female NPT
BB□□-BB-FNS8-V4-CP	1/2 female NPT	1/2 female NPT	1/4 female NPT



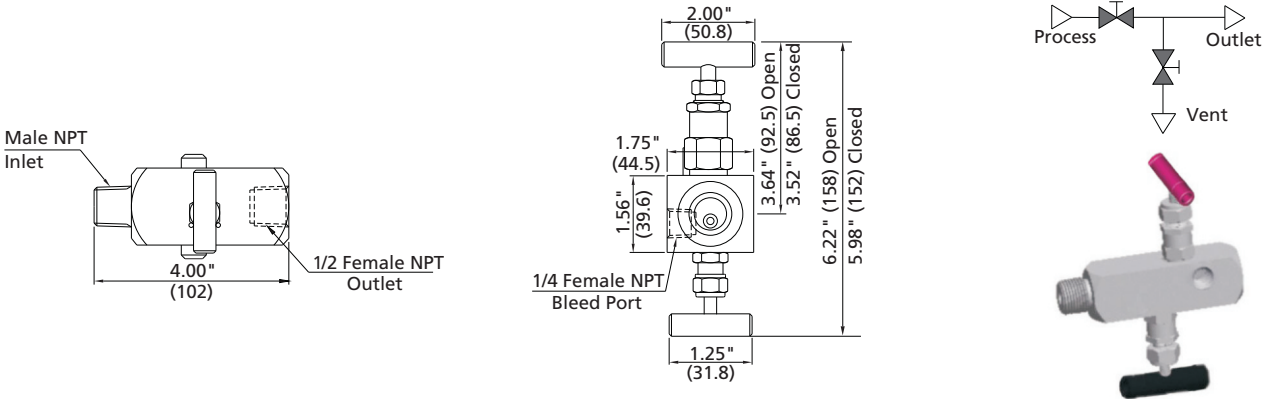
Block: ball Bleed: needle (BN)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB□□-BN-FNS8-V4-V	1/2 female NPT	1/2 female NPT	1/4 female NPT
BB□□-BN-FNS8-V4-VP	1/2 female NPT	1/2 female NPT	1/4 female NPT
BB□□-BN-FNS8-NS8-V4-V	1/2 female NPT	1/2 male NPT	1/4 female NPT
BB□□-BN-FNS8-NS8-V4-VP	1/2 female NPT	1/2 male NPT	1/4 female NPT

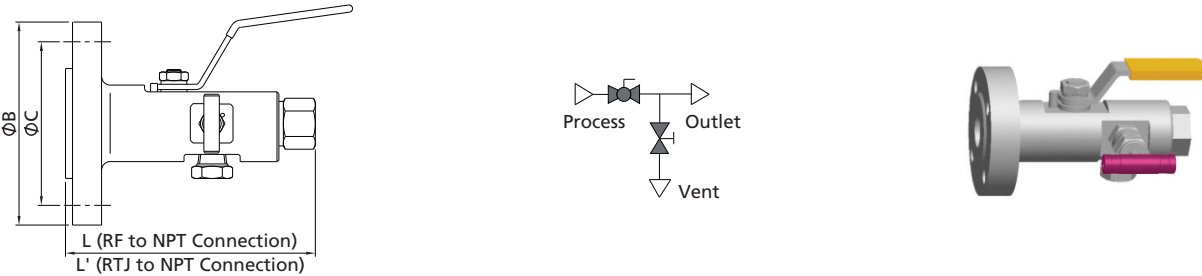


Block: needle Bleed: needle (NN)

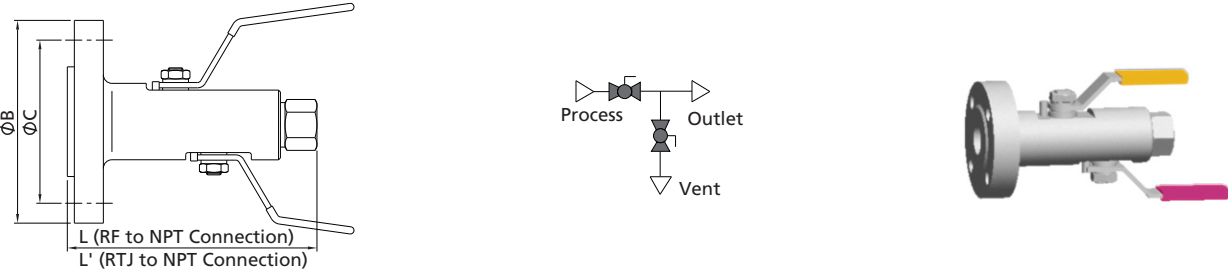
Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB□□-NN-NS8-FNS8-V4-H	1/2 male NPT	1/2 female NPT	1/4 female NPT
BB□□-NN-NS12-FNS8-V4-HG	3/4 male NPT	1/2 female NPT	1/4 female NPT



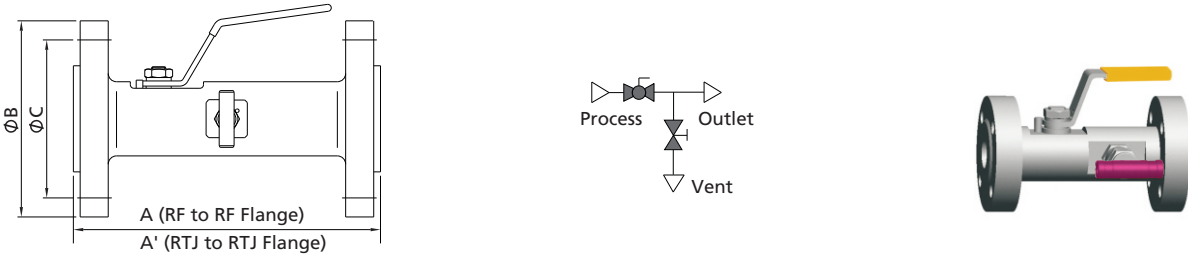
Block: ball Bleed: needle (BN)



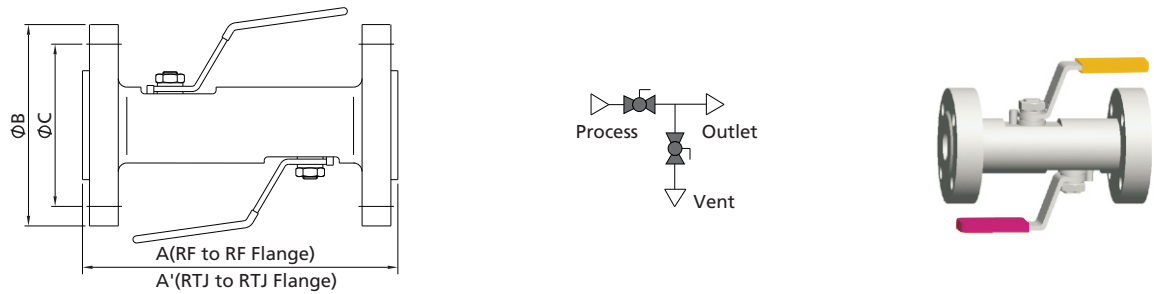
Block: ball Bleed: ball (BB)



Block: ball Bleed: needle (BN)



Block: ball Bleed: ball (BB)



Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	A in. (mm)	A' in. (mm)	ØB in. (mm)	ØC in. (mm)
1/2 (DN 15)		150	4.88 (124.0)	—	6.41 (162.8)	—	3.50 (88.9)	2.38 (60.5)
		300		4.88 (124.0)	6.81 (173.0)	6.81 (173.0)	3.75 (95.3)	2.62 (66.5)
		600			6.81 (173.0)	6.81 (173.0)	3.75 (95.3)	2.62 (66.5)
		900/1500	5.67 (144.0)	5.67 (144.0)	7.99 (202.9)	7.99 (202.9)	4.75 (120.7)	3.25 (82.6)
		2500					5.25 (133.4)	3.50 (88.9)
3/4 (DN 20)		150	4.88 (124.0)	—	6.41 (162.8)	—	3.88 (98.6)	2.75 (69.9)
		300		4.88 (124.0)	6.81 (173.0)	6.81 (173.0)	4.62 (117.3)	3.25 (82.6)
		600			6.81 (173.0)	6.81 (173.0)	4.62 (117.3)	3.25 (82.6)
		900/1500	5.67 (144.0)	5.67 (144.0)	7.99 (202.9)	7.99 (202.9)	5.13 (130.3)	3.50 (88.9)
		2500					5.50 (139.7)	3.75 (95.3)
1 (DN 25)	3/8 (9.5)	150	4.88 (124.0)	4.88 (124.0)	6.41 (162.8)	6.61 (167.9)	4.25 (108.0)	3.12 (79.2)
		300			7.00 (177.8)	7.00 (177.8)	4.88 (124.0)	3.50 (88.9)
		600			7.00 (177.8)	7.00 (177.8)	4.88 (124.0)	3.50 (88.9)
		900/1500			10.30 (261.6)	10.30 (261.6)	5.88 (149.4)	4.00 (101.6)
		2500			10.70 (271.8)	10.70 (271.8)	6.25 (158.8)	4.25 (108.0)
1 1/2 (DN 40)		150	5.98 (151.9)	5.98 (151.9)	8.90 (226.1)	9.49 (241.0)	5.00 (127.0)	3.88 (98.6)
		300			9.89 (251.2)	9.89 (251.2)	6.12 (155.4)	4.50 (114.3)
		600			9.89 (251.2)	9.89 (251.2)	6.12 (155.4)	4.50 (114.3)
		900/1500	6.61 (167.9)	6.61 (167.9)	11.50 (292.1)	11.50 (292.1)	7.00 (177.8)	4.88 (124.0)
		2500			12.40 (315.0)	12.40 (315.0)	8.00 (203.2)	5.75 (146.1)
2 (DN 50)		150	5.98 (151.9)	5.98 (151.9)	9.09 (230.9)	9.49 (241.0)	6.00 (152.4)	4.75 (120.7)
		300			10.10 (256.5)	10.30 (261.6)	6.50 (165.1)	5.00 (127.0)
		600			10.10 (256.5)	10.30 (261.6)	6.50 (165.1)	5.00 (127.0)
		900/1500	6.61 (167.9)	6.61 (167.9)	12.00 (304.8)	12.00 (304.8)	8.50 (215.9)	6.50 (165.1)
		2500	7.00 (177.8)	7.00 (177.8)	13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)

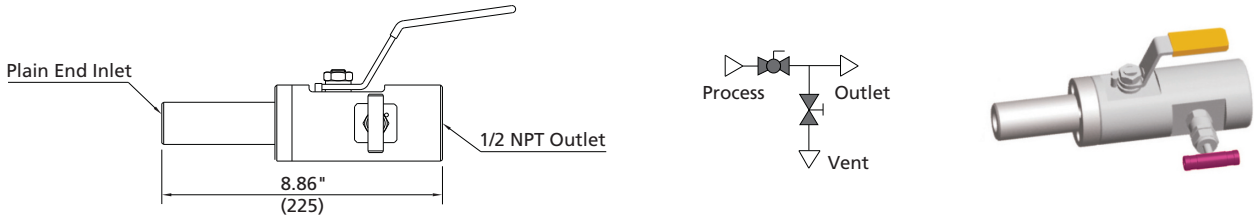
Dimensions are for reference only and are subject to change

Root Single Block and Bleed Valves

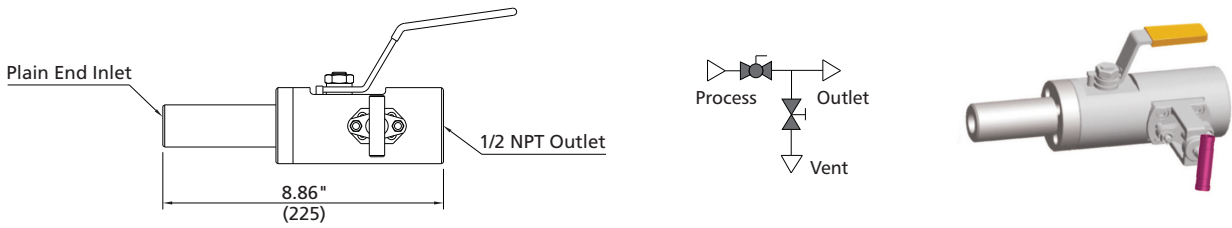
Features

- Directly-mounted root valves available to the vessel or process pipe
- Weight, space and cost saving over traditional designs
- Weld inlet connection sizes from 1/2 to 2
- Blowout-proof valve stems and needles
- Complete traceability of materials
- 1/2 female NPT standard vent with plug
- 1/2 female NPT standard outlet with plug

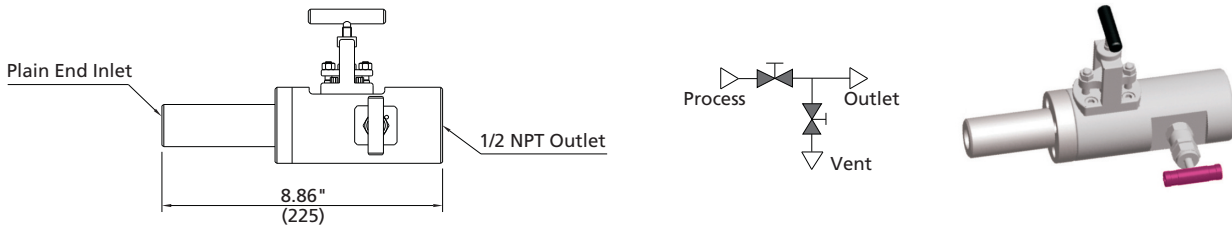
Block: ball Bleed: needle (BN)



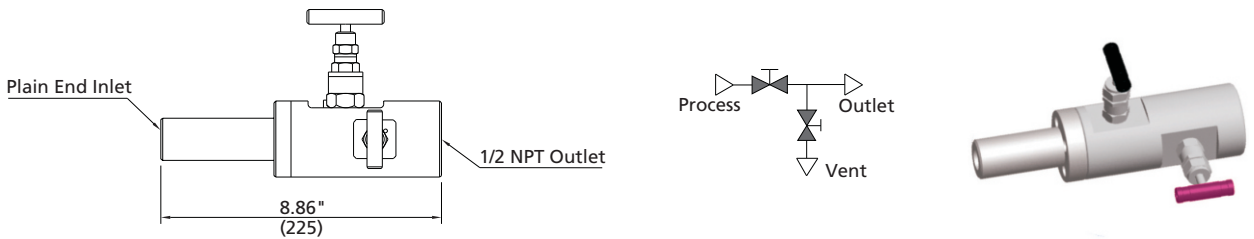
Block: ball Bleed: OS&Y (BO)



Block: OS&Y Bleed: needle (ON)



Block: needle Bleed: needle (NN)



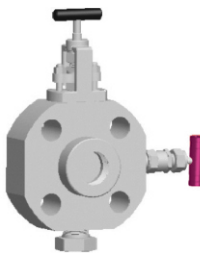
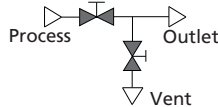
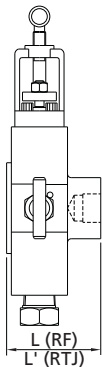
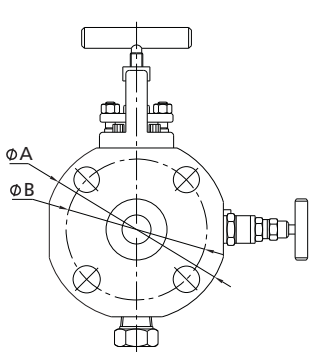
Dimensions are for reference only and are subject to change

Monoflange Single Block and Bleed Valves

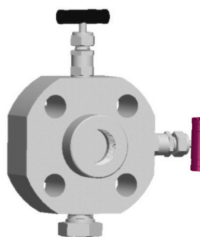
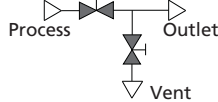
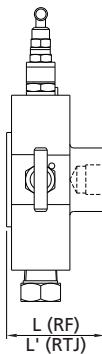
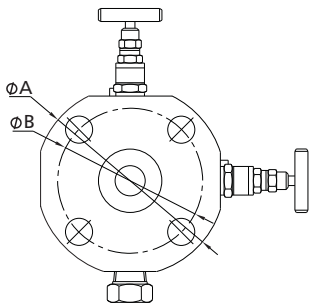
Features

- Piping and instrument valves in one body
- Weight, space and cost saving over traditional designs
- Blowout-proof valve stems and needles
- Complete traceability of materials
- 1/4 female NPT standard vent with plug
- 1/2 female NPT standard outlet with plug

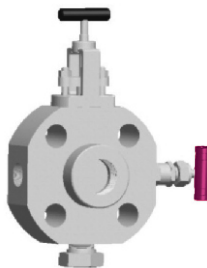
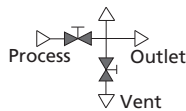
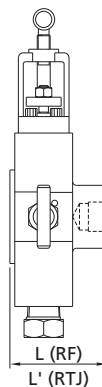
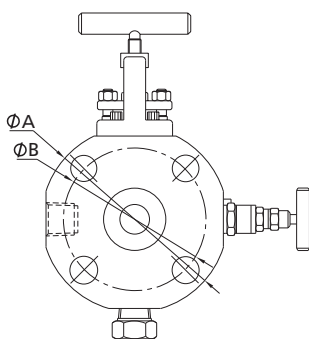
Block: OS&Y Bleed: needle (ON)



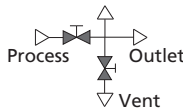
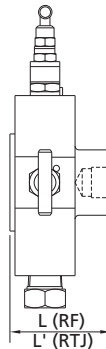
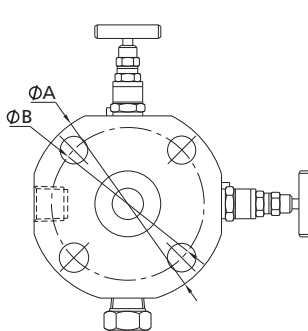
Block: needle Bleed: needle (NN)



Block: OS&Y Bleed: needle (ON)



Block: needle Bleed: needle (NN)



Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	ϕA in. (mm)	ϕB in. (mm)
1/2 (DN 15)	0.157 (4.0)	150	2.03 (51.6)	—	3.50 (88.9)	2.38 (60.5)
		300		2.03 (51.6)	3.75 (95.2)	2.62 (66.5)
		600			4.75 (120.7)	3.25 (82.5)
		900/1500			5.25 (133.4)	3.50 (88.9)
		2500			5.50 (139.7)	3.75 (95.2)
3/4 (DN 20)	0.157 (4.0)	150	2.03 (51.6)	—	3.88 (98.6)	2.75 (69.8)
		300		2.03 (51.6)	4.62 (117.3)	3.25 (82.6)
		600			5.13 (130.3)	3.50 (88.9)
		900/1500			5.50 (139.7)	3.75 (95.2)
		2500			5.50 (139.7)	3.75 (95.2)
1 (DN 25)	0.157 (4.0)	150	2.03 (51.6)	2.03 (51.6)	4.25 (108.0)	3.12 (79.2)
		300			4.88 (124.0)	3.50 (88.9)
		600			5.88 (149.4)	4.00 (101.6)
		900/1500			6.25 (158.8)	4.25 (108.0)
		2500	2.11 (53.5)	2.11 (53.5)	5.50 (139.7)	3.75 (95.2)
1 1/2 (DN 40)	0.157 (4.0)	150	2.03 (51.6)	2.03 (51.6)	5.00 (127.0)	3.88 (98.6)
		300	2.11 (53.5)	2.11 (53.5)	6.12 (155.5)	4.50 (114.3)
		600			7.00 (177.8)	4.88 (124.0)
		900/1500			8.00 (203.2)	5.75 (146.1)
		2500			8.00 (203.2)	5.75 (146.1)
2 (DN 50)	0.157 (4.0)	150	2.11 (53.5)	2.11 (53.5)	6.00 (152.4)	4.75 (120.7)
		300	2.19 (55.5)	2.19 (55.5)	6.50 (165.1)	5.00 (127.0)
		600			8.50 (215.9)	6.50 (165.1)
		900/1500			9.25 (235.0)	6.75 (171.5)
		2500			9.25 (235.0)	6.75 (171.5)

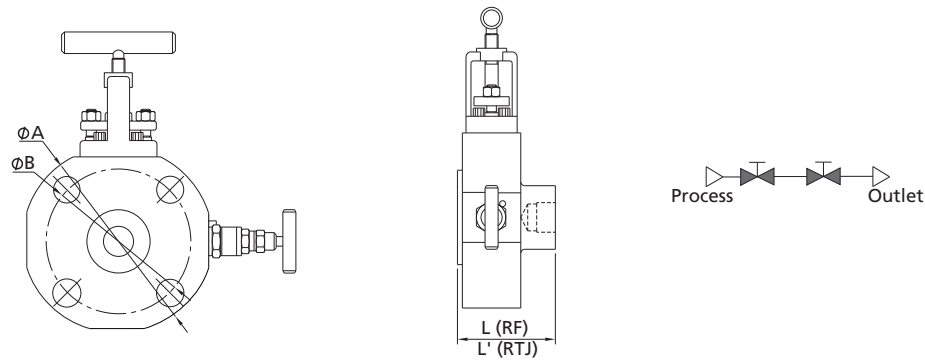
Dimensions are for reference only and are subject to change.

DB Series: Double Block Valves

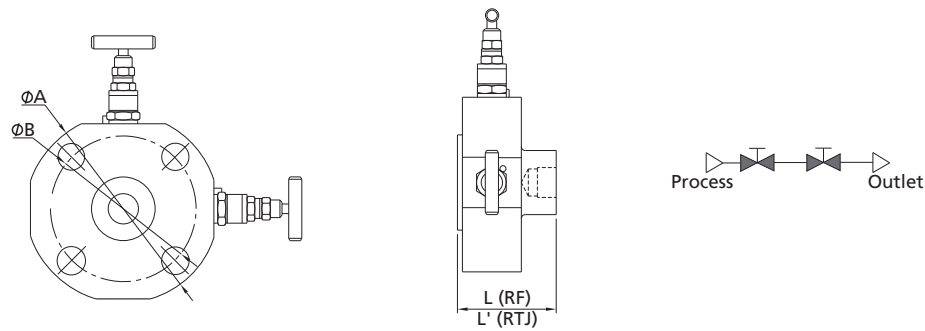
Features

- ⦿ Piping and instrument valves in one body
- ⦿ Weight, space and cost saving over traditional designs
- ⦿ Blowout-proof valve stems and needles
- ⦿ Complete traceability of materials
- ⦿ 1/2 female NPT standard outlet with plug

Primary: OS&Y Secondary: needle (ON)



Primary: needle Secondary: needle (NN)



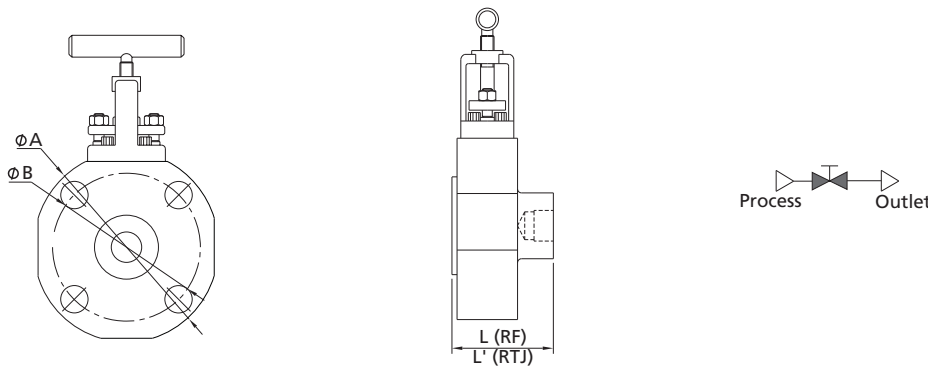
Dimensions are the same as the monoflange single block & bleed valves

SB Series: Single Block Valve

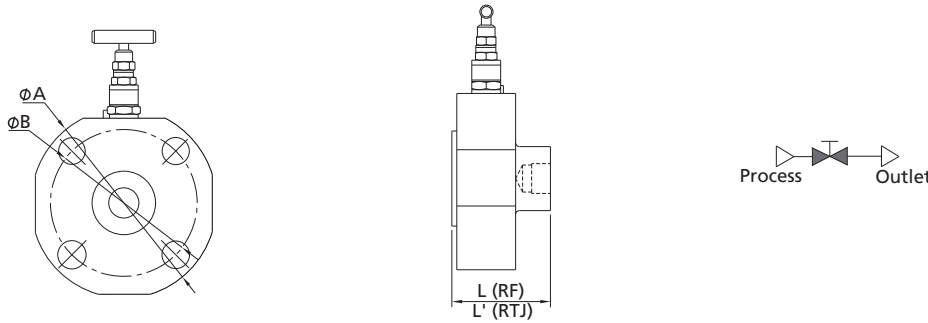
Features

- ⦿ Piping and instrument valves in one body
- ⦿ Weight, space and cost saving over traditional designs
- ⦿ Blowout-proof valve stems and needles
- ⦿ Complete traceability of materials
- ⦿ 1/2 female NPT standard outlet with plug

Block: OS&Y (O)



Block: needle (N)



Dimensions are the same as the Monoflange single block & bleed valves

DBB Series: Double Block and Bleed Valves

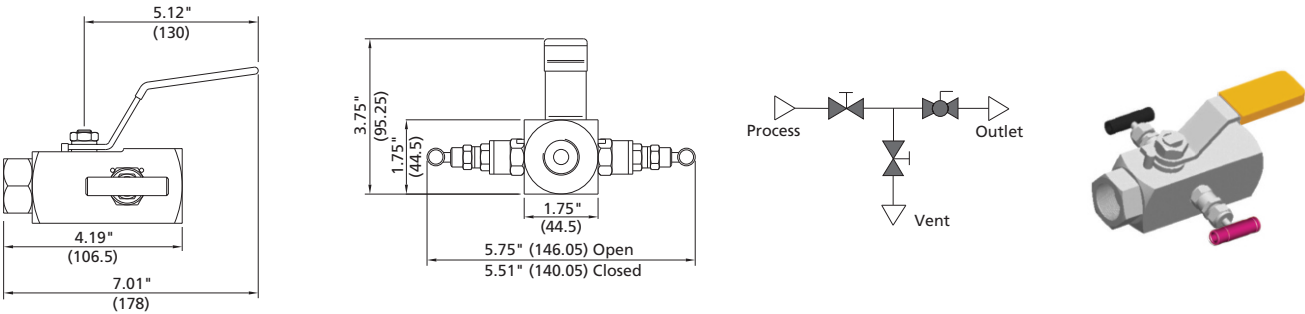
Instrument Double Block and Bleed Valves

Features

- Threaded end connection or one-piece forged body
- Standard high performance bonnet design
- Optional port sizes and thread forms available
- Combinations of ball pattern and needle pattern valves in various configurations
- Suitable for double block and bleed of instrument
- Easy operation
- Complete traceability of materials

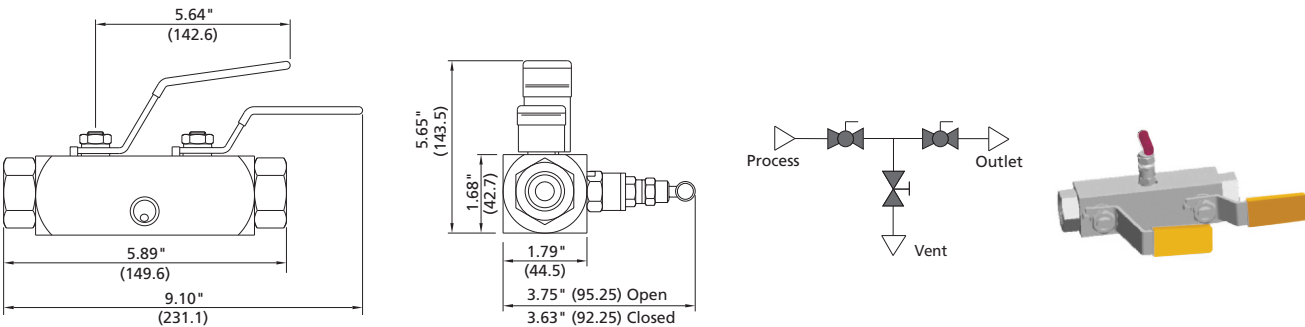
Primary: needle Secondary: ball Bleed: needle (NBN)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB□□-NBN-FNS8-V4-V	1/2 female NPT	1/2 female NPT	1/4 female NPT
DBB□□-NBN-FNS8-V4-VP	1/2 female NPT	1/2 female NPT	1/4 female NPT



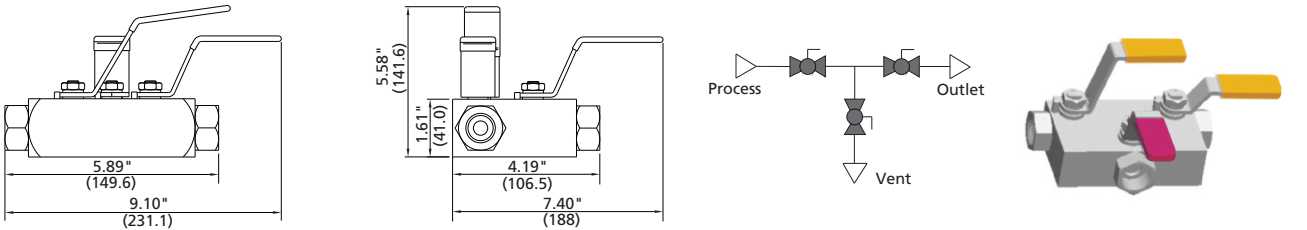
Primary: ball Secondary: ball Bleed: needle (BBN)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB□□-BBN-FNS8-V4-V	1/2 female NPT	1/2 female NPT	1/4 female NPT
DBB□□-BBN-FNS8-V4-VP	1/2 female NPT	1/2 female NPT	1/4 female NPT



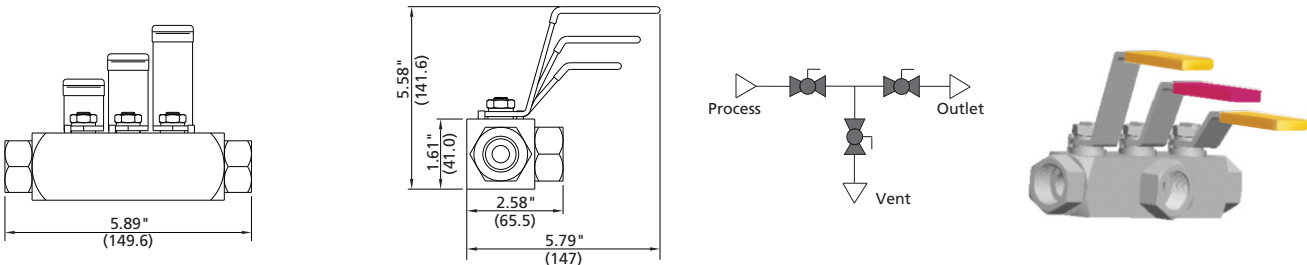
Primary: ball Secondary: ball Bleed: ball (BBB)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB□□-BBB-FNS8-V4-C	1/2 female NPT	1/2 female NPT	1/4 female NPT
DBB□□-BBB-FNS8-V4-CP	1/2 female NPT	1/2 female NPT	1/4 female NPT



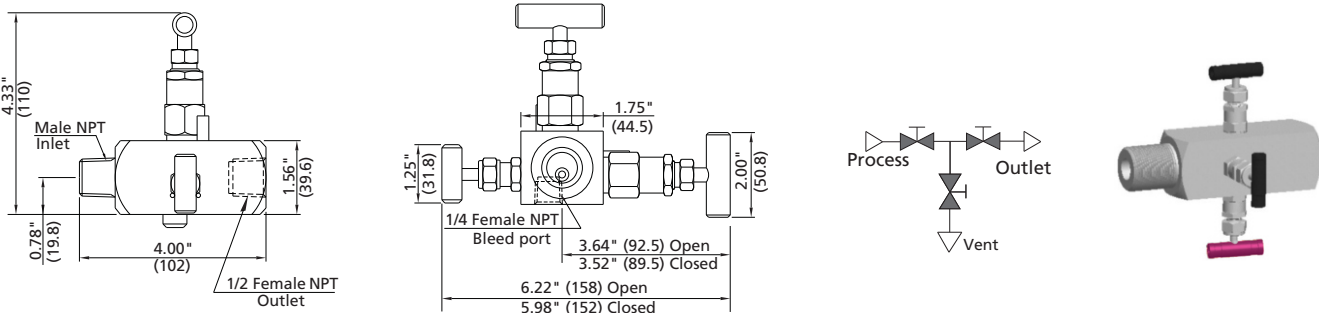
Primary: ball Secondary: ball Bleed: ball (BBB)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB□□-BBB-FNS8-V4-L	1/2 female NPT	1/2 female NPT	1/4 female NPT
DBB□□-BBB-FNS8-V4-LP	1/2 female NPT	1/2 female NPT	1/4 female NPT



Primary: needle Secondary: needle Bleed: needle (NNN)

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB□□-NNN-NS8-FNS8-V4-V	1/2 male NPT	1/2 female NPT	1/4 female NPT
DBB□□-NNN-NS12-FNS8-V4-VG	3/4 male NPT	1/2 female NPT	1/4 female NPT

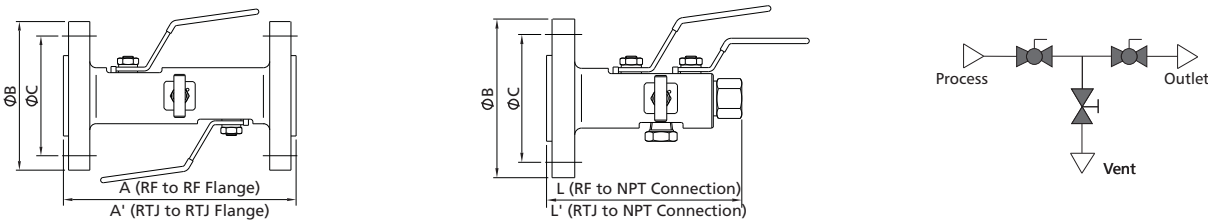


Flange Double Block and Bleed Valves

Features

- One piece forged body, minimize potential leak point
- Piping and instrument valves in one design
- Weight, space and cost saving over traditional designs
- Blowout-proof valve stems and needles
- Complete traceability of materials

Primary: ball Secondary: ball Bleed: needle (BBN)



Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	A in. (mm)	A' in. (mm)	ØB in. (mm)	ØC in. (mm)
1/2 (DN 15)	3/8 (9.5)	150	5.91 (150.1)	—	6.41 (162.8)	—	3.50 (88.9)	2.38 (60.5)
		300		5.91 (150.1)	6.81 (173.0)	6.81 (173.0)	3.75 (95.3)	2.62 (66.5)
		600						
		900/1500	6.69 (170.0)	6.69 (170.0)	7.99 (202.9)	7.99 (202.9)	4.75 (120.7)	3.25 (82.6)
		2500					5.25 (133.4)	3.50 (88.9)
3/4 (DN 20)		150	5.91 (150.1)	—	6.41 (162.8)	—	3.88 (98.6)	2.75 (69.9)
		300		5.91 (150.1)	6.81 (173.0)	6.81 (173.0)	4.62 (117.3)	3.25 (82.6)
		600						
		900/1500	6.69 (170.0)	6.69 (170.0)	7.99 (202.9)	7.99 (202.9)	5.13 (130.3)	3.50 (88.9)
		2500					5.50 (139.7)	3.75 (95.3)
1 (DN 25)		150	5.91 (150.1)	5.91 (150.1)	6.41 (162.8)	6.61 (167.9)	4.25 (108.0)	3.12 (79.2)
		300			7.00 (177.8)	7.00 (177.8)	4.88 (124.0)	3.50 (88.9)
		600						
		900/1500			10.30 (261.6)	10.30 (261.6)	5.88 (149.4)	4.00 (101.6)
		2500			10.70 (271.8)	10.70 (271.8)	6.25 (158.8)	4.25 (108.0)
1 1/2 (DN 40)		150	7.00 (177.8)	7.00 (177.8)	8.90 (226.1)	9.49 (241.0)	5.00 (127.0)	3.88 (98.6)
		300			9.89 (251.2)	9.89 (251.2)	6.12 (155.4)	4.50 (114.3)
		600						
		900/1500	7.64 (194.1)	7.64 (194.1)	11.50 (292.1)	11.50 (292.1)	7.00 (177.8)	4.88 (124.0)
		2500			12.40 (315.0)	12.40 (315.0)	8.00 (203.2)	5.75 (146.1)
2 (DN 50)		150	7.00 (177.8)	7.00 (177.8)	9.09 (230.9)	9.49 (241.0)	6.00 (152.4)	4.75 (120.7)
		300			10.10 (256.5)	10.30 (261.6)	6.50 (165.1)	5.00 (127.0)
		600						
		900/1500	7.64 (194.1)	7.64 (194.1)	12.00 (304.8)	12.00 (304.8)	8.50 (215.9)	6.50 (165.1)
		2500			13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)

Primary: OS&Y Secondary: OS&Y Bleed: needle (OON)



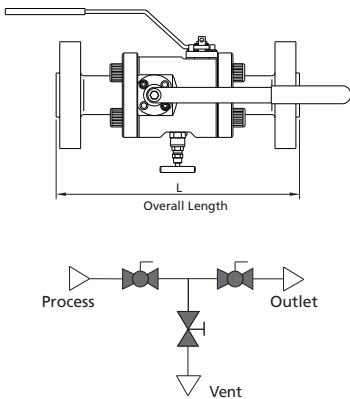
Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	A in. (mm)	A' in. (mm)	ØB in. (mm)	ØC in. (mm)
1/2 (DN 15)	3/8 (9.5)	150	4.88 (124.0)	—	6.41 (162.8)	—	3.50 (88.9)	2.38 (60.5)
		300		4.88 (124.0)	6.81 (173.0)	6.81 (173.0)	3.75 (95.3)	2.62 (66.5)
		600						
		900/1500	5.60 (142.2)	5.60 (142.2)	7.99 (202.9)	7.99 (202.9)	4.75 (120.7)	3.25 (82.6)
		2500					5.25 (133.4)	3.50 (88.9)
3/4 (DN 20)		150	4.88 (124.0)	—	6.41 (162.8)	—	3.88 (98.6)	2.75 (69.9)
		300		4.88 (124.0)	6.81 (173.0)	6.81 (173.0)	4.62 (117.3)	3.25 (82.6)
		600						
		900/1500	5.60 (142.2)	5.60 (142.2)	7.99 (202.9)	7.99 (202.9)	5.13 (130.3)	3.50 (88.9)
		2500					5.50 (139.7)	3.75 (95.3)
1 (DN 25)		150	4.88 (124.0)	4.88 (124.0)	6.41 (162.8)	6.61 (167.9)	4.25 (108.0)	3.12 (79.2)
		300			7.00 (177.8)	7.00 (177.8)	4.88 (124.0)	3.50 (88.9)
		600						
		900/1500			10.30 (261.6)	10.30 (261.6)	5.88 (149.4)	4.00 (101.6)
		2500			10.70 (271.8)	10.70 (271.8)	6.25 (158.8)	4.25 (108.0)
1 1/2 (DN 40)		150	5.98 (151.9)	5.98 (151.9)	8.90 (226.1)	9.49 (241.0)	5.00 (127.0)	3.88 (98.6)
		300			9.89 (251.2)	9.89 (251.2)	6.12 (155.4)	4.50 (114.3)
		600						
		900/1500	6.61 (167.9)	6.61 (167.9)	11.50 (292.1)	11.50 (292.1)	7.00 (177.8)	4.88 (124.0)
		2500			12.40 (315.0)	12.40 (315.0)	8.00 (203.2)	5.75 (146.1)
2 (DN 50)		150	5.98 (151.9)	5.98 (151.9)	9.09 (230.9)	9.49 (241.0)	6.00 (152.4)	4.75 (120.7)
		300			10.10 (256.5)	10.30 (261.6)	6.50 (165.1)	5.00 (127.0)
		600						
		900/1500	6.61 (167.9)	6.61 (167.9)	12.00 (304.8)	12.00 (304.8)	8.50 (215.9)	6.50 (165.1)
		2500	7.00 (177.8)	7.00 (177.8)	13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)

Large-bore Bolted Double Block and Bleed Valves

Features

- Complementing the existing one-piece range, flange to flange bolted construction DBB valves available in sizes from 1/2 to 2.
- Designed according to ASME SI B16.34
- Weight, space and cost saving over traditional designs.
- Complete traceability of materials

Full-bore Series

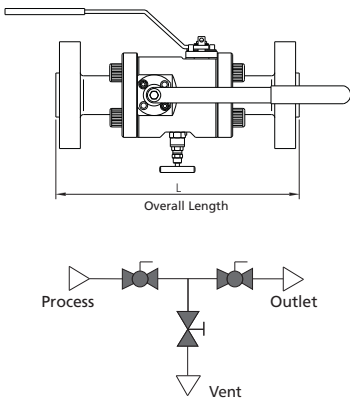


Dimensions

Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)
1 (DN25)	1 (25.4)	150	10.7 (272)
		300	11.0 (279)
		600	11.5 (292)
		900/1500	14.3 (364)
		2500	14.8 (377)
1 1/2 (DN 40)	1 1/2 (38.1)	150	14.2 (361)
		300	14.4 (367)
		600	15.1 (384)
		900/1500	15.8 (402)
		2500	18.2 (463)
2 (DN 50)	2 (50.8)	150	15.4 (390)
		300	15.7 (398)
		600	16.4 (416)
		900/1500	18.9 (481)

Dimensions are for reference only and are subject to change

Reduced-bore Series



Dimensions

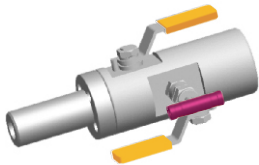
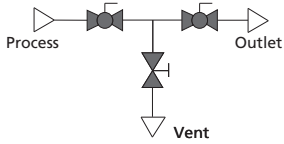
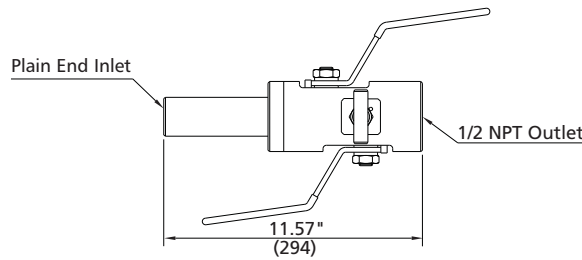
Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)
1 1/2 (DN 40)	1 (25.4)	150	11.0 (279)
		300	11.2 (285)
		600	11.9 (301)
		900/1500	14.6 (370)
		2500	15.6 (396)
2 (DN 50)	1 1/2 (38.1)	150	14.3 (364)
		300	14.6 (372)
		600	15.4 (390)
		900/1500	16.3 (415)
		2500	18.7 (475)
3 (DN 80)	2 (50.8)	150	15.7 (400)
		300	16.1 (410)
		600	16.9 (428)
		900	17.4 (441)
		1500	19.7 (500)

Root Double Block and Bleed Valves

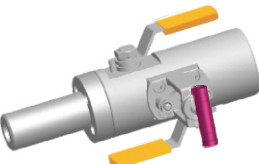
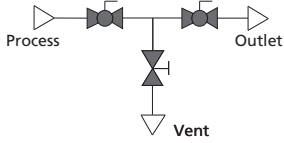
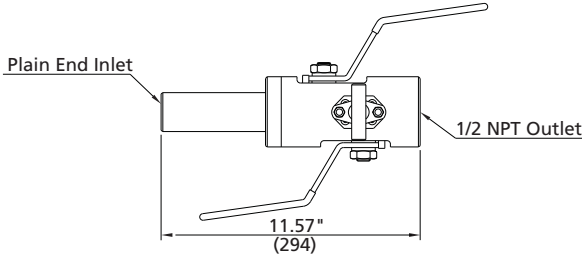
Features

- Directly-mounted root valves available to the vessel or process pipe
- Weight, space and cost saving over traditional designs
- Weld inlet connections in sizes from 1/2 to 2
- Blowout-proof valve stems and needles
- Complete traceability of materials
- 1/2 female NPT standard vent with plug
- 1/2 female NPT standard outlet with plug

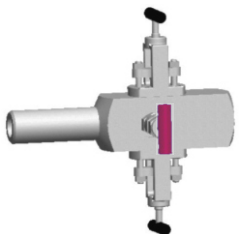
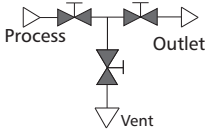
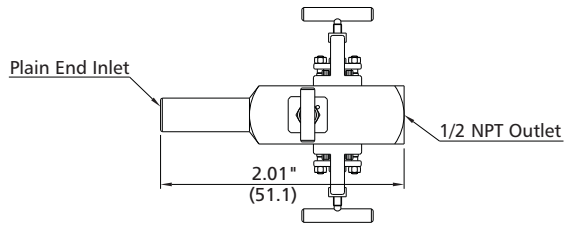
Primary: ball Secondary: ball Bleed: needle (BBN)



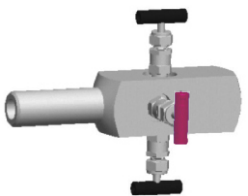
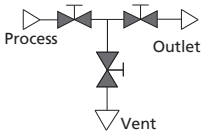
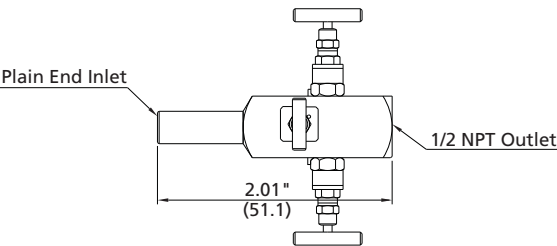
Primary: ball Secondary: ball Bleed: OS&Y (BBO)



Primary: OS&Y Secondary: OS&Y Bleed: needle (OON)



Primary: needle Secondary: needle Bleed: needle (NNN)



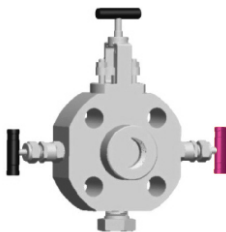
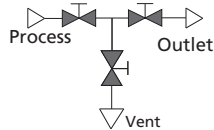
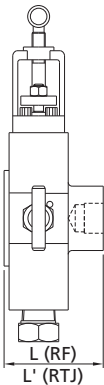
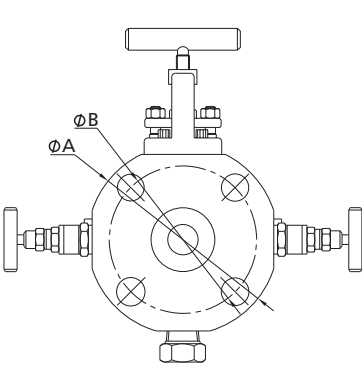
Dimensions are for reference only and are subject to change

Monoflange Double Block & Bleed Valves

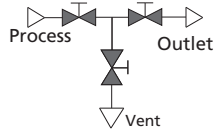
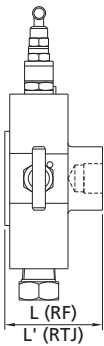
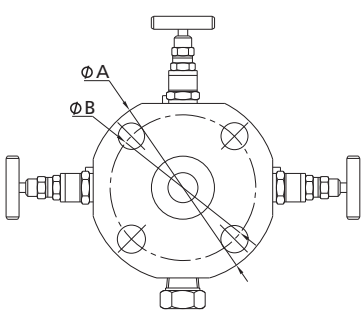
Features

- Piping and instrument valves in one body
- Weight, space and cost saving over traditional designs
- Blowout-proof valve stems and needles
- Complete traceability of materials
- 1/4 female NPT standard vent with plug
- 1/2 female NPT standard outlet with plug

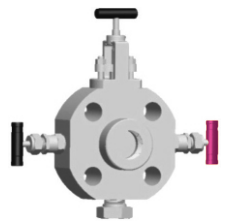
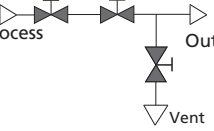
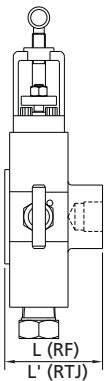
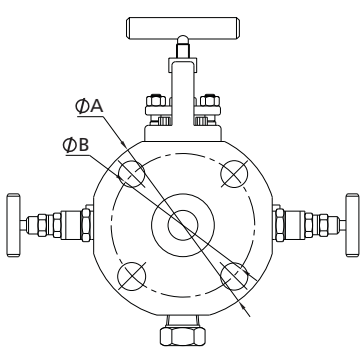
Primary: OS&Y Secondary: needle Bleed: needle (ONN)



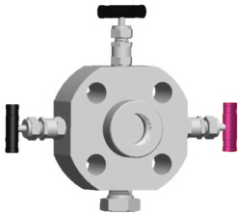
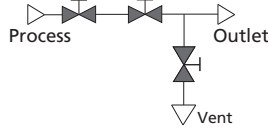
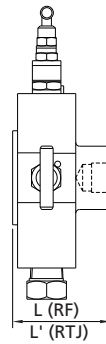
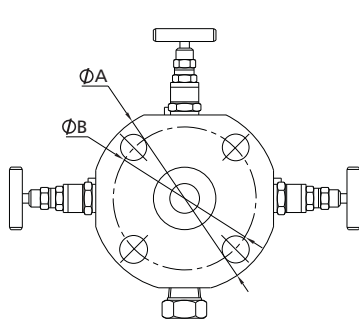
Primary: needle Secondary: needle Bleed: needle (NNN)



Primary: OS&Y Secondary: needle Bleed: needle (ONN)



Primary: needle Secondary: needle Bleed: needle (NNN)



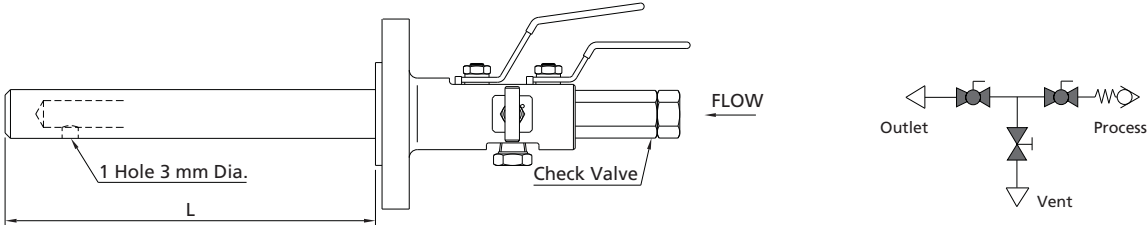
Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	ØA in. (mm)	ØB in. (mm)
1/2 (DN 15)	0.157 (4.0)	150	2.03 (51.6)	—	3.50 (88.9)	2.38 (60.5)
		300		2.03 (51.6)	3.75 (95.2)	2.62 (66.5)
		600			4.75 (120.7)	3.25 (82.5)
		900/1500			5.25 (133.4)	3.50 (88.9)
		2500				
3/4 (DN 20)		150	2.03 (51.6)	—	3.88 (98.6)	2.75 (69.8)
		300		2.03 (51.6)	4.62 (117.3)	3.25 (82.6)
		600			5.13 (130.3)	3.50 (88.9)
		900/1500				
		2500	2.11 (53.5)	2.11 (53.5)	5.50 (139.7)	3.75 (95.2)
1 (DN 25)		150	2.03 (51.6)	2.03 (51.6)	4.25 (108.0)	3.12 (79.2)
		300			4.88 (124.0)	3.50 (88.9)
		600				
		900/1500	2.11 (53.5)	2.11 (53.5)	5.88 (149.4)	4.00 (101.6)
		2500			6.25 (158.8)	4.25 (108.0)
1 1/2 (DN 40)		150	2.03 (51.6)	2.03 (51.6)	5.0 (127.0)	3.88 (98.6)
		300	2.11 (53.5)	2.11 (53.5)	6.12 (155.4)	4.50 (114.3)
		600			7.00 (177.8)	4.88 (124.0)
		900/1500	2.19 (55.5)	2.19 (55.5)	8.00 (203.2)	5.75 (146.1)
		2500	2.67 (67.9)	2.67 (67.9)		
2 (DN 50)		150	2.19 (55.5)	2.19 (55.5)	6.00 (152.4)	4.75 (120.7)
		300			6.50 (165.1)	5.00 (127.0)
		600			8.50 (215.9)	6.50 (165.1)
		900/1500	2.42 (61.5)	2.42 (61.5)	9.25 (235.0)	6.75 (171.5)
		2500	2.88 (73.4)	2.88 (73.4)		

Dimensions are for reference only and are subject to change

Injection Double Block & Bleed Valves

Function - injection

Injection of chemicals and other media into the process stream can be accomplished with this design. A check valve is installed to prevent process fluid from reaching the inlet injection position. There is a 0.125" (3 mm) hole in the injection nozzle orifice. The length of the injection nozzle orifice can be manufactured to meet customer requirements and needs to be specified. The injection orifice can also be rotated. Injection valves can be provided in most of the styles and options offered for the DBB ranges.



Injection Quill

The injection quill length (L) is manufactured to meet customer requirements. The injection nozzle is a 3 mm diameter hole (standard).

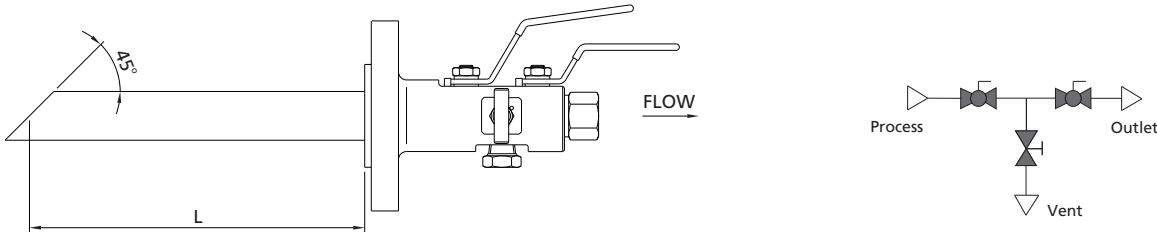
Integral Check Valve

This poppet type spring return valve has a FKM soft seal (standard).

Sampling Double Block & Bleed Valves

Function - sampling

This design is developed to remove a sample directly from process stream at full system pressure. The customised sampling probe extends from the pipe flange connection for correct sample removal. Sampling valves can be provided without a probe and valves can be provided in most of the styles and options offered for the DBB ranges.



Sampling Probe

The sampling probe length (L) is manufactured to meet customer requirements.

Part Number Description

DBSS – BBO1 – FE16300 – FNS8 – 2V8 – RPSF2

Series	Body Material	Configuration		Options of Ball Valve Bore	Inlet Type	Inlet Size	ANSI Class	Outlet Type	ANSI Class	Vent Number and Size	Body Style/Function	Packing/Sealing Material	Special Application	Cleaning and Packaging
BB	DB	SB	DBB	No ball valves configuration Bore size is Std. 9.5 mm Bore size is Std. 14 mm Bore size is Std. 20 mm	FNS Female NPT NS Male NPT FRT Female BSPT RT Male BSPT ML Metric Tube Fitting FL Fractional Tube Fitting FMS Female Metric Thread (for RP) MS Male Metric Thread (for RG) UMB Nut+Gasket+Metric Bulge Nipple	4 1/4" 6 3/8" or 6 mm 8 1/2" or 8 mm 10 10 mm 12 3/4" or 12 mm 14 14 mm 16 1" or 16 mm 20 1 1/4" or M20 x 1.5 24 1 1/2" 32 2"	Same as inlet Specified in the same way as the inlet type and size	V4 1/4 Female NPT with plug V8 1/2 Female NPT with plug	Flange and Root pattern C Compact pattern L Valves in-line mounted V Valves vertically mounted H Valves horizontally mounted F Full-bore three piece bolted mounted R Reduced-bore three piece bolted mounted X Block/Block/Bleed SA Sampling application IN Injection application	No NACE S MR0175 PTFE PEEK G Graphite	FC-01 F2 FC-02			
SS	316 SS							150 Class 150						
6L	316L SS							300 Class 300						
CS	Carbon Steel							600 Class 600						
D5	Duplex 2205							900 Class 900						
904L	904L SS							1500 Class 1500						
								2500 Class 2500						