

Block and Bleed Valves

MB1, BB1, BB2, BB3, BB4, DBB1, DBB2,
DBB3 and DBB4 Series



- ❖ Maximum working pressure up to 10000 psig (689 bar)
- ❖ Working temperature from -10°F to 1200°F (-23°C to 649°C)
- ❖ Flanged connections comply with ASME B16.5
- ❖ Stainless steel, carbon steel, Alloy 20, Alloy 400, Incoloy 825, and duplex stainless steel materials

Introduction

The unique combination of double block and bleed valve systems enable a smooth transition from the process piping system to instrumentation, providing fewer potential leak points, lower installed weight, and a smaller space envelope.

Applications

- ❖ Process piping isolation points
- ❖ Direct mount to instruments
- ❖ Close coupling of instruments
- ❖ Double block and bleed isolation
- ❖ Vents and drains

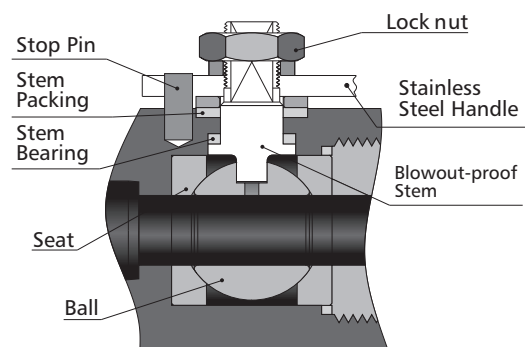
Features

- ❖ Maximum working pressure up to 10000 psig (689 bar)
- ❖ Working temperature up to 1200°F (649°C) with Graphite packing
- ❖ Colour coded valve function identification
- ❖ Every valve is hydraulic pressure tested in accordance with EN 12266-1 and API 598. Every set is tested with nitrogen for leak-tight performance at 6000 psig
- ❖ Fire-tested design in accordance with BS 6755 part 2/API 607
- ❖ Flanged connections comply with ASME B16.5 RF and RTJ
- ❖ Pressure ratings in accordance with ASME B16.34

Ball Type Valve specification

Features

- ❖ Maximum working pressure up to 10000 psig (689 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
- ❖ Hikelok ball valves are designed to be operated in a fully open or fully closed position



Needle Type Valve specification

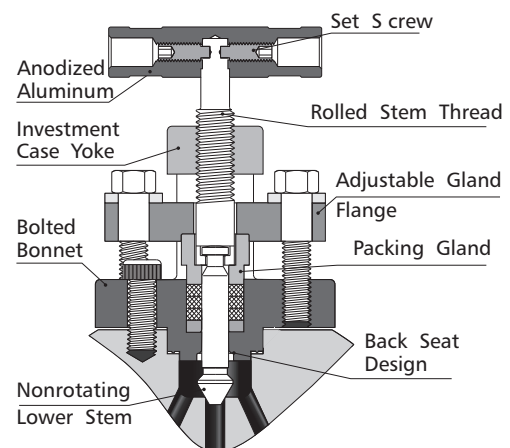
Features

- ❖ Maximum working pressure up to 10000 psig (689 bar)
- ❖ Working temperature:
 - PTFE packing: -65°F to 450°F (-54°C to 232°C)
 - Graphite packing: -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 nonrotating lower stem, linearly 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
- ❖ 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
- ❖ Handle of different colors are available for option

OS&Y Needle Type Valve specification

Features

- ❖ Maximum working pressure is 10000 psig (689 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 nonrotating lower stem, linearly 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:

Blue = Isolate/Block RED = Vent/Bleed

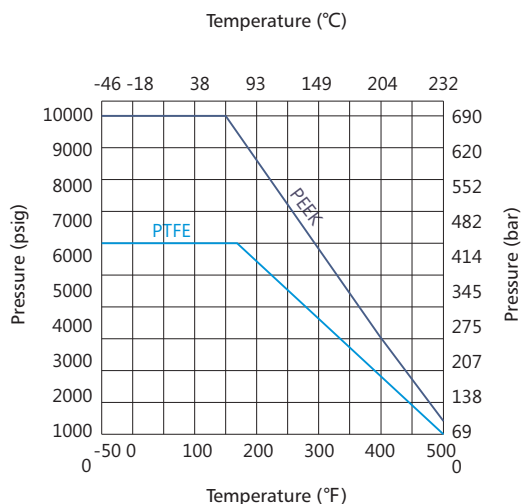
Standard Materials of Construction

Component		Body Material				
		Stainless Steel		Carbon Steel	Duplex Stainless Steel	
		Material Grade/Specification				
Body/End connector		F316 S.S., F316L S.S. /A182	316 S.S., 316L S.S. /A479	LF2/A350	F51/A182	S31803/A479
Ball Valve	Ball	316 S.S.,316L S.S./A479			S31803/A479	
	Stem					
	Retainer					
	Socket					
	Seat	PTFE, Reinforced PTFE, PEEK				
Needle Type Globe Valve	Stem Tip	316 S.S., 316L S.S./A479			S31803/A479	
	Stem					
	Bonnet					
OS&Y Type Globe Valve	Stem Tip	316 S.S., 316L S.S./A479			S31803/A479	
	Stem					
	Bonnet					
	Yoke	CF8M/A351 or F316 SS/A182				

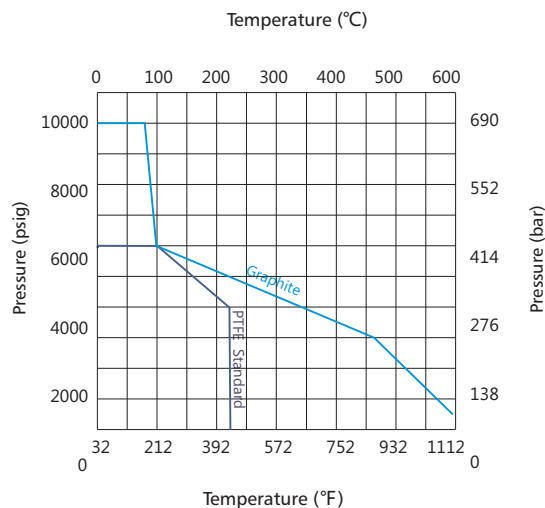
Stainless steel is standard material, others are available.

Pressure vs. Temperature

Ball Valve



Needle and OS&Y Type Valve



Sour Gas Service/NACE Compliant

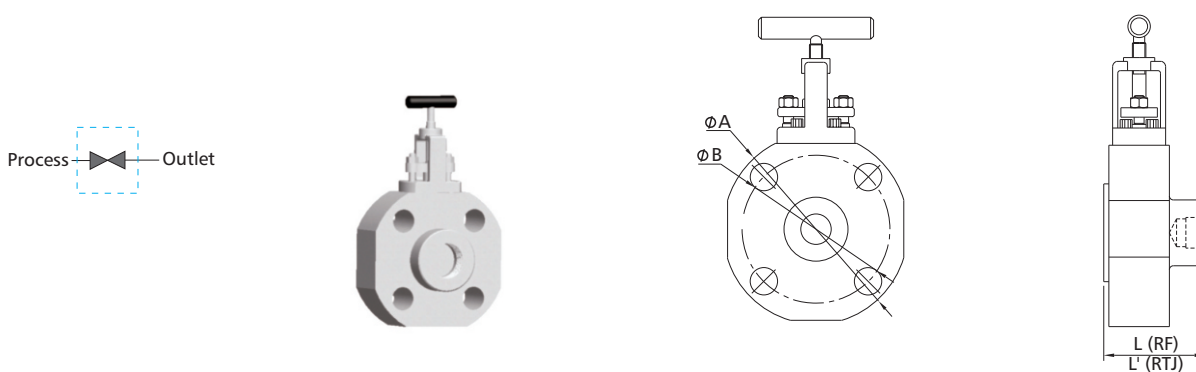
Process interface valves for sour gas service are available. Materials are selected in accordance with NACE MR0175/ISO 15156.

MB1 Series: Single Block Valve

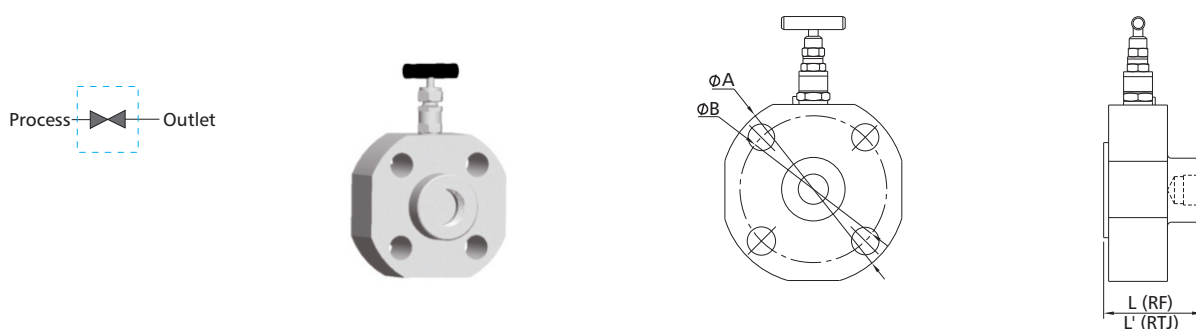
Features

- ❖ 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 valve



Block: needle valve



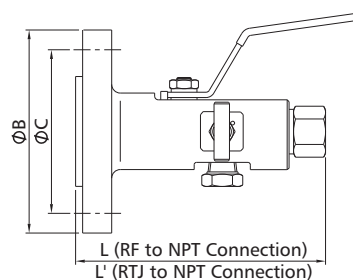
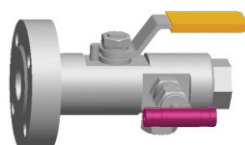
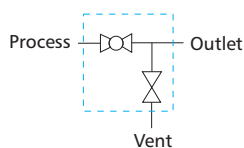
Dimensions are the same as the Monoflange single block & bleed valves (BB2 Series)

BB1 Serise: Flange Block and Bleed Valves

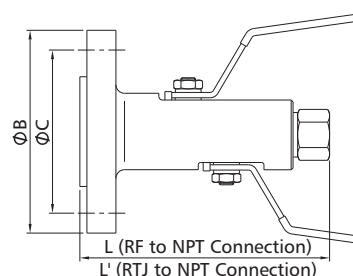
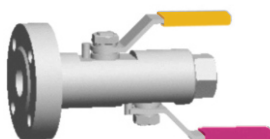
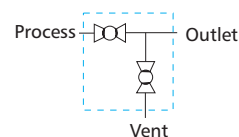
Features

- ❖ 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

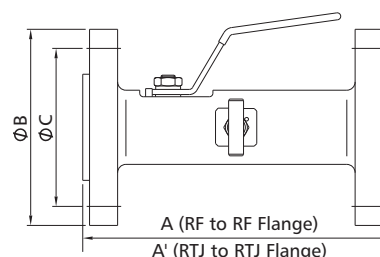
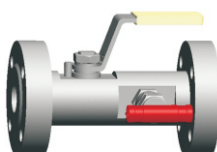
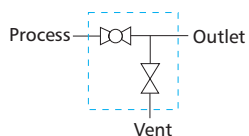
Block: ball valve Bleed: needle valve



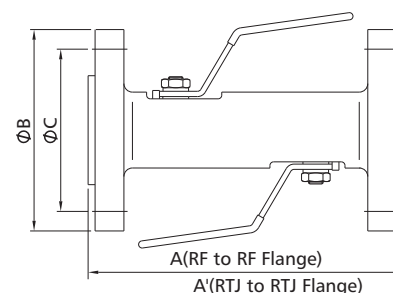
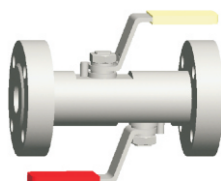
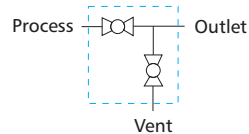
Block: ball valve Bleed: ball valve



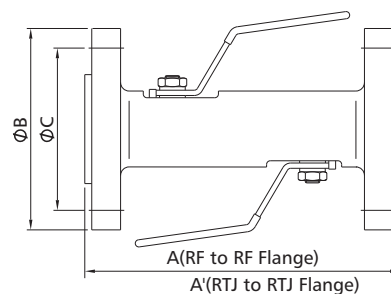
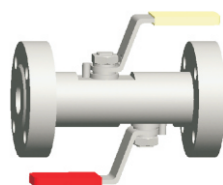
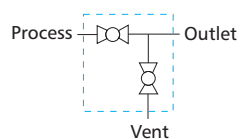
Block: ball valve Bleed: needle valve



Block: ball valve Bleed: ball valve



Block: ball valve Bleed: ball valve



Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	A in. (mm)	A' in. (mm)	Ø B in. (mm)	Ø C in. (mm)		
1/2 (DN15)	0.39 (10.0)	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							5.67 (144.0)	5.67 (144.0)
		900/1500	5.25 (133.4)	3.50 (88.9)						
		2500								
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							5.67 (144.0)	5.67 (144.0)
		900/1500	5.50 (139.7)	3.75 (95.3)						
		2500								
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							10.30 (261.6)	10.30 (261.6)
		900/1500	10.70 (271.8)	10.70 (271.8)	6.25 (158.8)	4.25 (108.0)				
		2500								
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							11.50 (292.1)	11.50 (292.1)
		900/1500	12.40 (315.0)	12.40 (315.0)	8.00 (203.2)	5.75 (146.1)				
		2500								
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							12.00 (304.8)	12.00 (304.8)
		900/1500	13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)				
		2500								

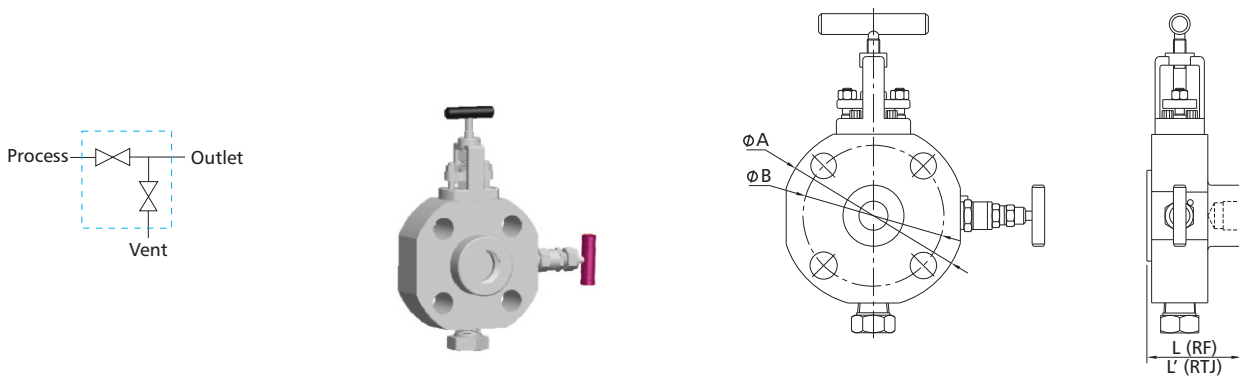
Dimensions are for reference only and are subject to change

BB2 Series: Monoflange Single Block and Bleed Valves

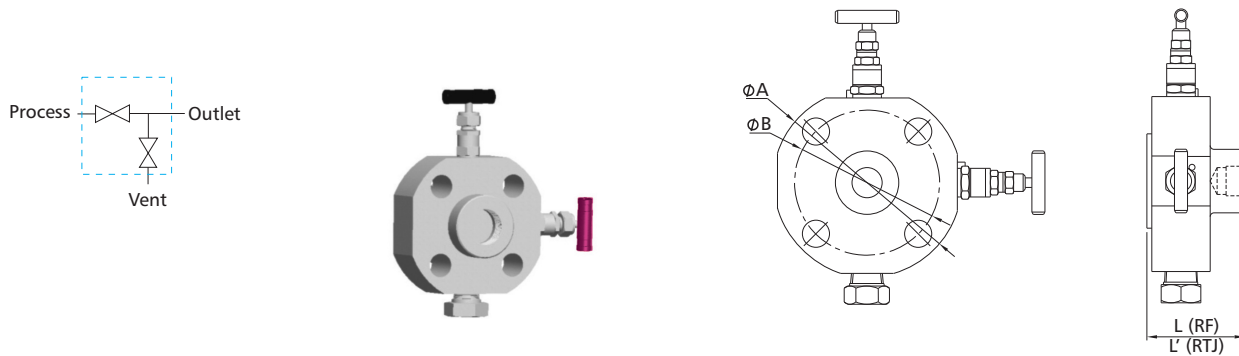
Features

- ❖ 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

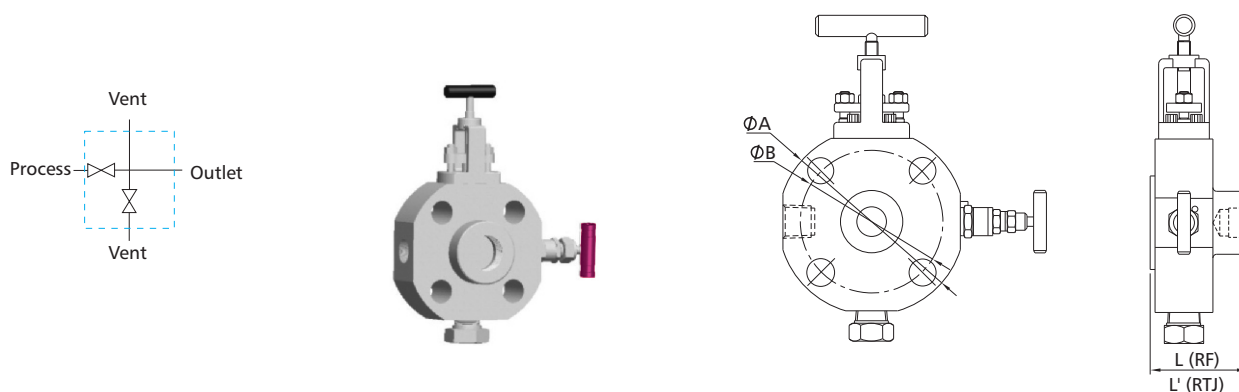
Block: OS&Y valve Bleed: needle valve



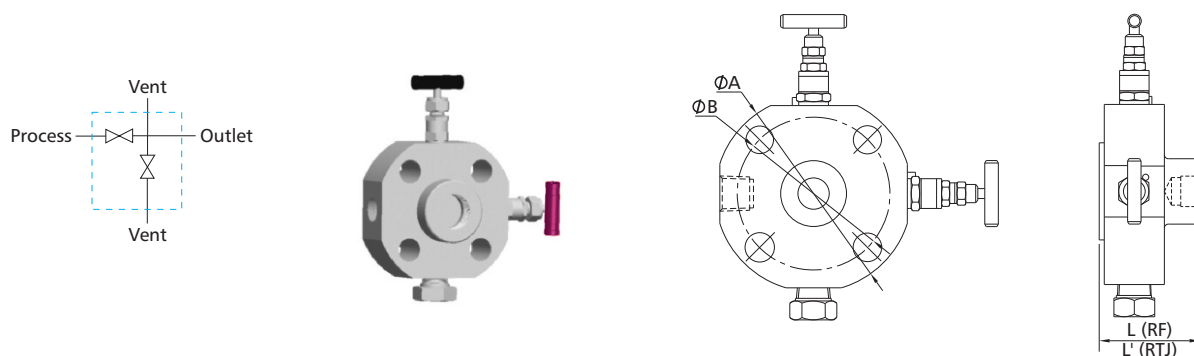
Block: needle Bleed: needle



Block: OS&Y valve Bleed: needle valve



Block: needle valve Bleed: needle valve



Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	ϕA in. (mm)	ϕB in. (mm)
1/2 (DN15)	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			5.50 (139.7)	3.75 (95.2)
		2500			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)	5.00 (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	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)	8.00 (203.2)	5.75 (146.1)
2 (DN 50)		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				
		900/1500	2.42 (61.5)	2.42 (61.5)	8.50 (215.9)	6.50 (165.1)
		2500	2.88 (73.4)	2.88 (73.4)	9.25 (235.0)	6.75 (171.5)

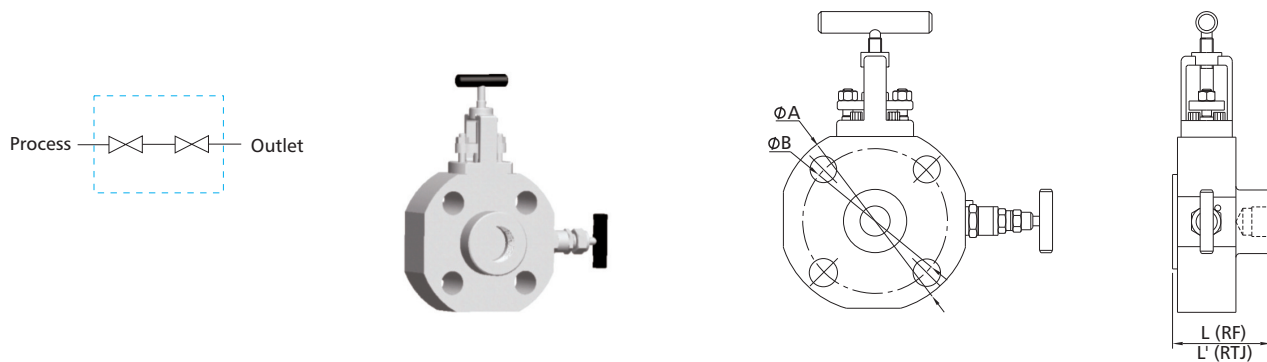
Dimensions are for reference only and are subject to change.

BB3 Series: Double Block Valves

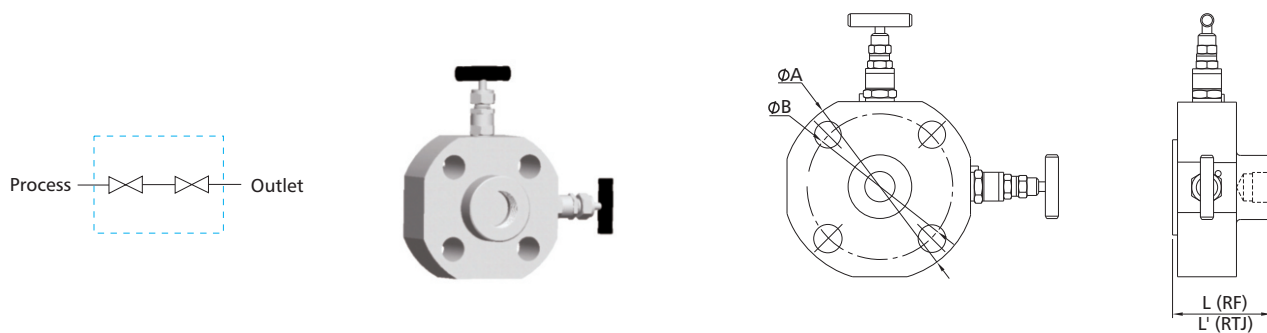
Features

- ❖ 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 valve Secondary: needle valve



Primary: needle valve Secondary: needle valve



Dimensions are the same as the monoflange single block & bleed valves (BB2 Series)

BB4 Series: Single Block and Bleed Valves

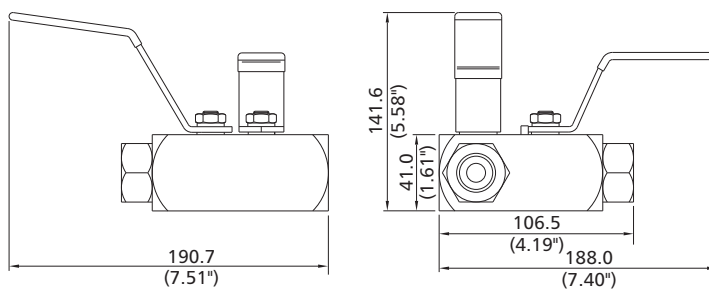
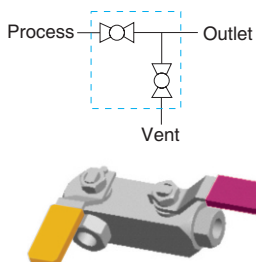
Instrument Single Block and Bleed Valves

Features

- ❖ Utilising bar stock 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

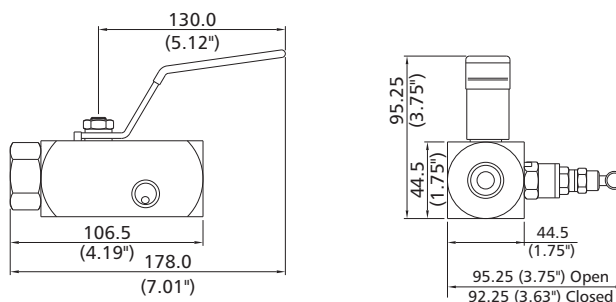
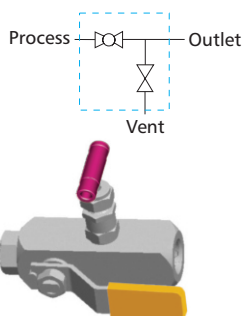
Block: ball valve Bleed: ball valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB4-BB-FNPT8-4-316	1/2 female NPT	1/2 female NPT	1/4 female NPT



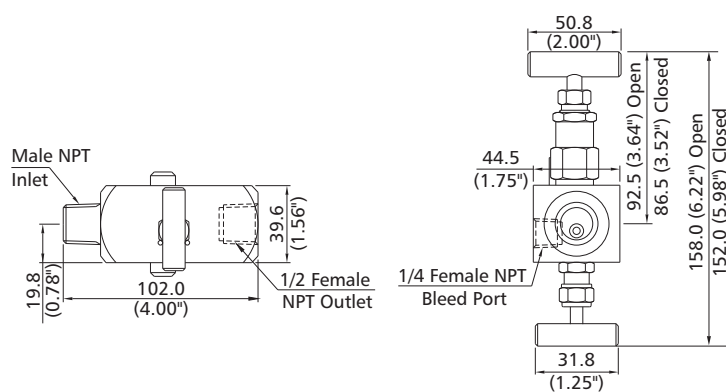
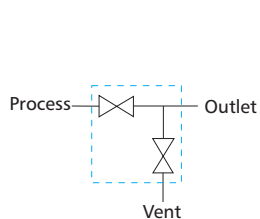
Block: ball valve Bleed: needle valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB4-BN-FNPT8-4-316	1/2 female NPT	1/2 female NPT	1/4 female NPT



Block: needle valve Bleed: needle valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
BB4-NN-NPT8-FNPT8-4-316	1/2 male NPT	1/2 female NPT	1/4 female NPT

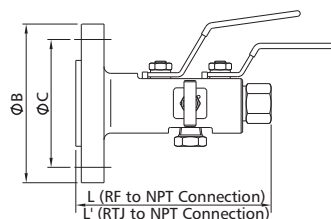
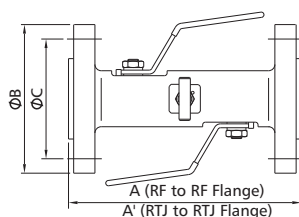
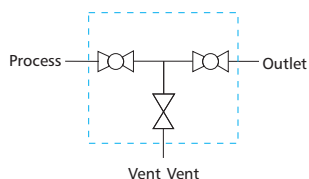


DBB1 Serise: Flange Double Block and Bleed Valves

Features

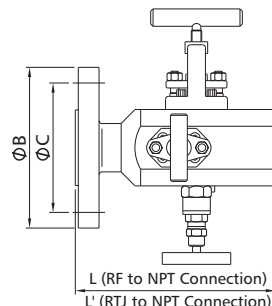
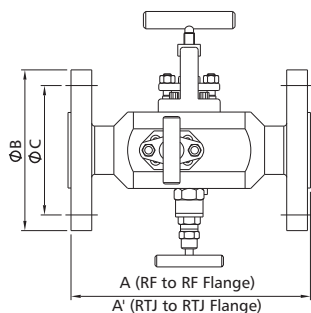
- ❖ One piece forged body, minimize potential leak point
- ❖ Piping and instrument valves in one design
- ❖ Weight, space and cost saving over traditional designs
- ❖ Blowout-proof valve stems and needles
- ❖ Complete traceability of materials

Primary: ball valve Secondary: ball valve Bleed: needle valve



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 (DN15)	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	7.00 (177.8)	7.00 (177.8)	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	8.03 (204.0)	8.03 (204.0)	13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)	

Primary: OS&Y valve Secondary: OS&Y valve Bleed: needle valve



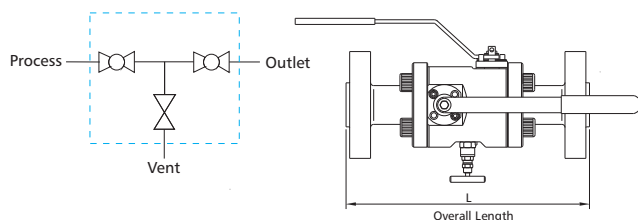
Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)	L' in. (mm)	A in. (mm)	A' in. (mm)	ΦB in. (mm)	ΦC in. (mm)
1/2 (DN 15)	3/8 (9.5)	150	4.88 (124.0)	—	6.41 (162.8)	—	3.50 (88.9)	2.38 (60.5)
		300		4.88 (124.0)	6.81 (173.0)	6.81 (173.0)	3.75 (95.3)	2.62 (66.5)
		600						
		900/1500	5.60 (142.2)	5.60 (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	5.98 (151.9)	5.98 (151.9)	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			13.60 (345.4)	13.60 (345.4)	9.25 (235.0)	6.75 (171.5)	

DBB2 Series: Large-bore Bolted Double Block and Bleed Valves

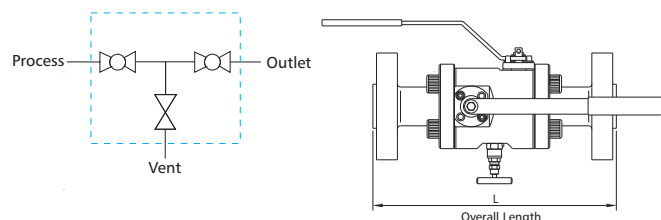
Features

- ❖ 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 VIII & ANSI B16.34
- ❖ Weight, space and cost saving over traditional designs
- ❖ Complete traceability of materials

Full-bore Series



Reduced-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)
11/2 (DN 40)	11/2 (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

Dimensions

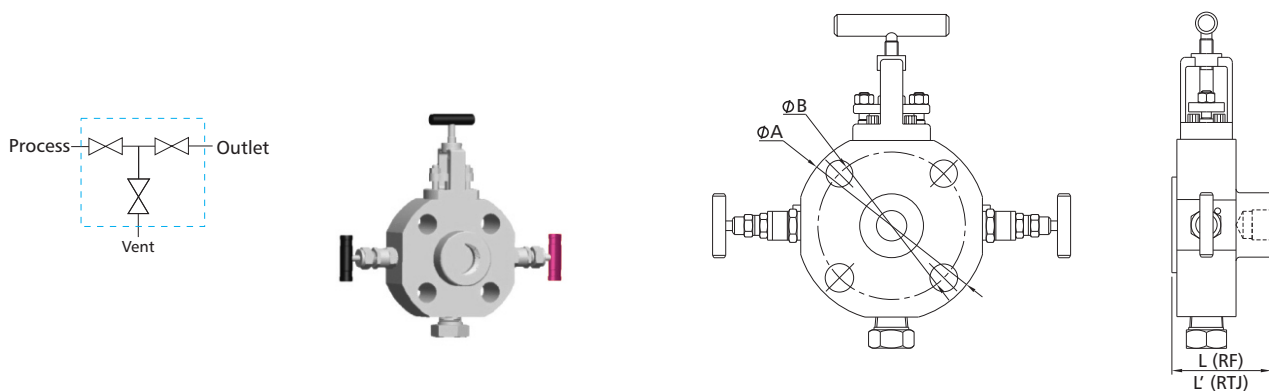
Flange Size	Bore Size in. (mm)	ANSI Class	L in. (mm)
11/2 (DN 40)	1 (25.4)	150	11.0 (279)
		300	11.2 (285)
		600	11.9 (301)
		900/1500	14.6 (370)
		2500	15.6 (396)
2 (DN 50)	11/2 (38.1)	150	14.3 (364)
		300	14.6 (372)
		600	15.4 (390)
		900/1500	16.3 (415)
		2500	18.7 (475)
3 (DN 80)	2 (50.8)	150	15.7 (400)
		300	16.1 (410)
		600	16.9 (428)
		900	17.4 (441)
		1500	19.7 (500)

DBB3 Series: Monoflange Double Block & Bleed Valves

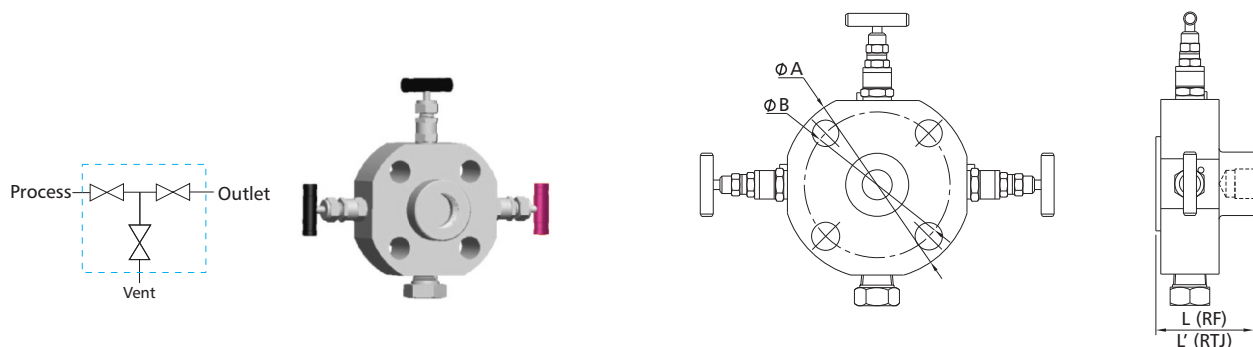
Features

- ❖ 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

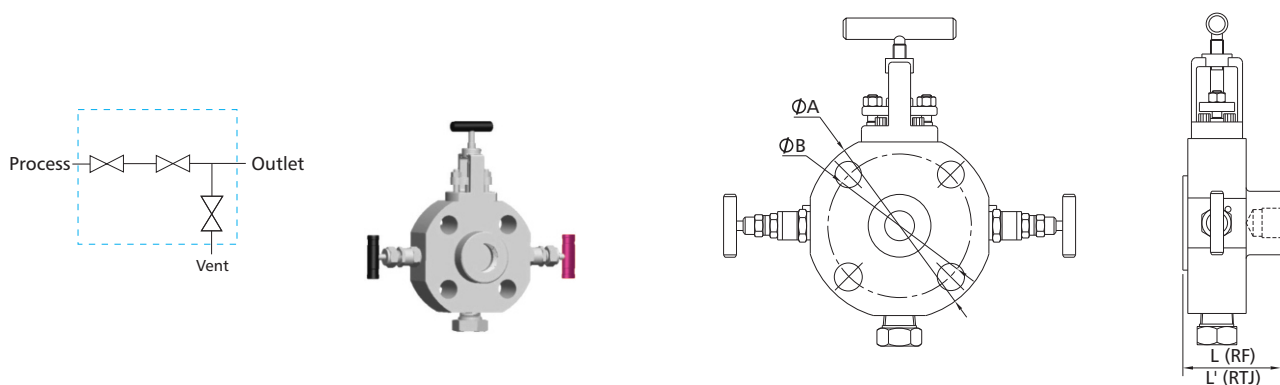
Primary: OS&Y valve Secondary: needle valve Bleed: needle valve



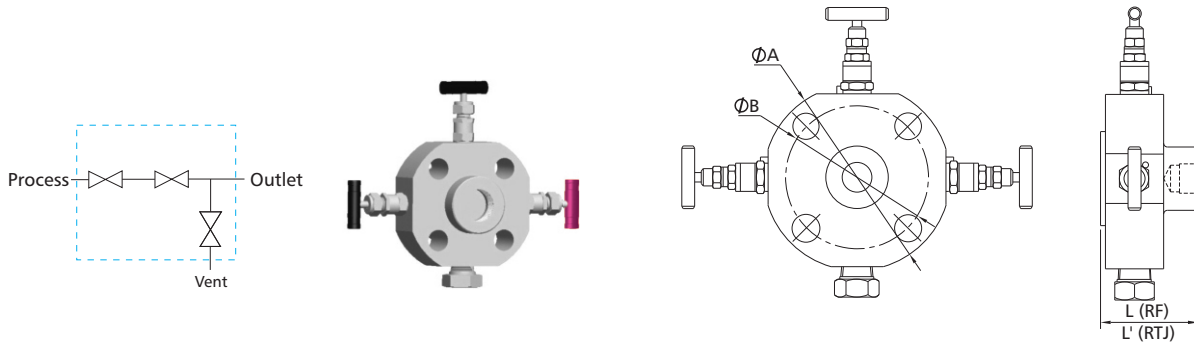
Primary: needle valve Secondary: needle valve Bleed: needle valve



Primary: OS&Y valve Secondary: needle valve Bleed: needle valve



Primary: needle valve Secondary: needle valve Bleed: needle valve



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			5.25 (133.4)	3.50 (88.9)
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			5.13 (130.3)	3.50 (88.9)
		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			4.88 (124.0)	3.50 (88.9)
		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			6.12 (155.4)	4.50 (114.3)
		900/1500	2.19 (55.5)	2.19 (55.5)	7.00 (177.8)	4.88 (124.0)
		2500	2.67 (67.9)	2.67 (67.9)	8.00 (203.2)	5.75 (146.1)
2 (DN 50)		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			6.50 (165.1)	5.00 (127.0)
		900/1500	2.42 (61.5)	2.42 (61.5)	8.50 (215.9)	6.50 (165.1)
		2500	2.88 (73.4)	2.88 (73.4)	9.25 (235.0)	6.75 (171.5)

Dimensions are for reference only and are subject to change

DBB4 Series: Double Block and Bleed Valves

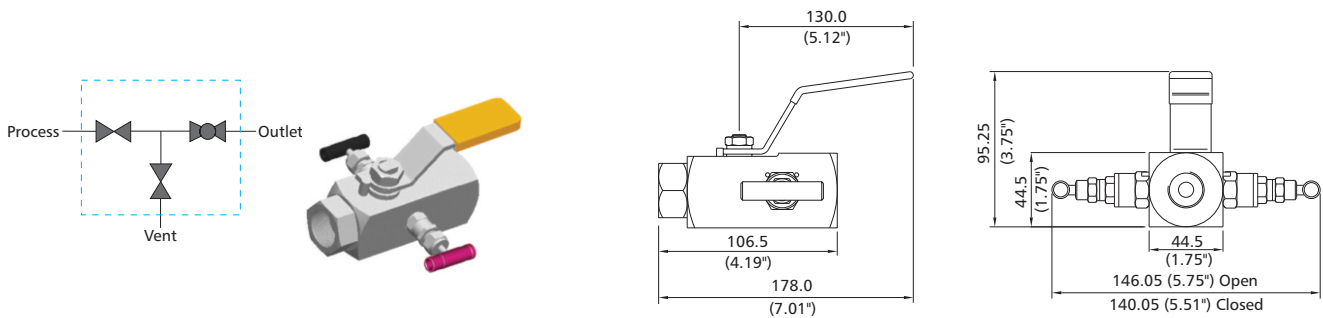
Instrument Double Block and Bleed Valves

Features

- ❖ Utilising bar stock 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

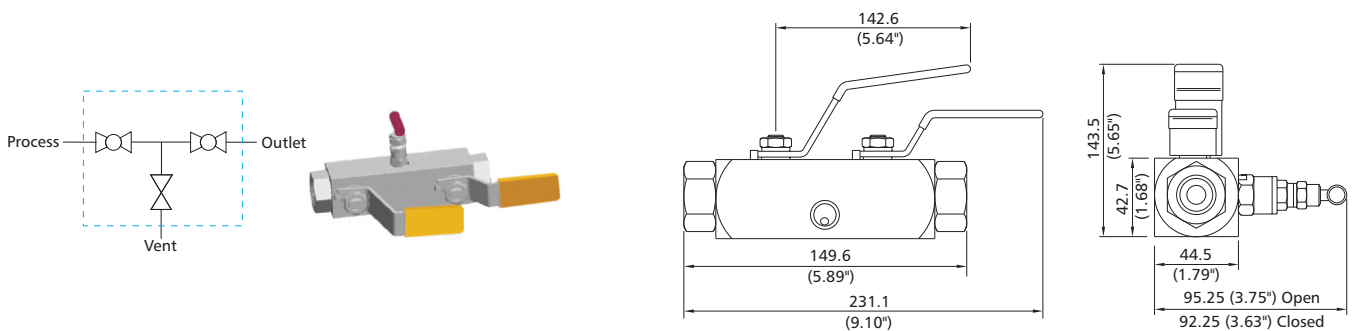
Primary: needle valve Secondary: ball valve Bleed: needle valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB4-NBN-FNPT8-4-316	1/2 female NPT	1/2 female NPT	1/4 female NPT



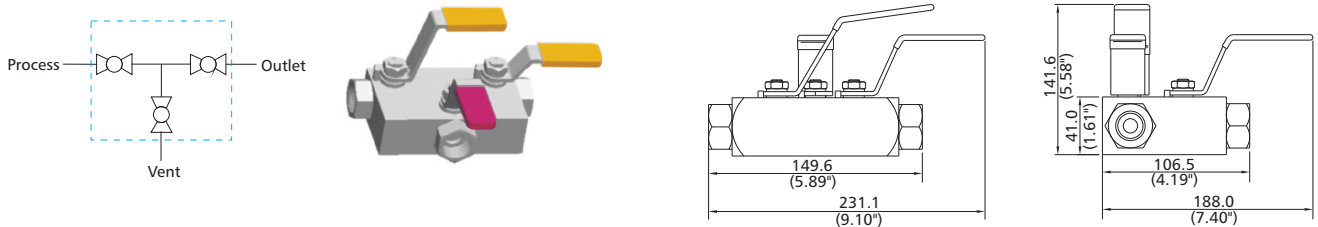
Primary: ball valve Secondary: ball valve Bleed: needle valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB4-BBN-FNPT8-4-316	1/2 female NPT	1/2 female NPT	1/4 female NPT



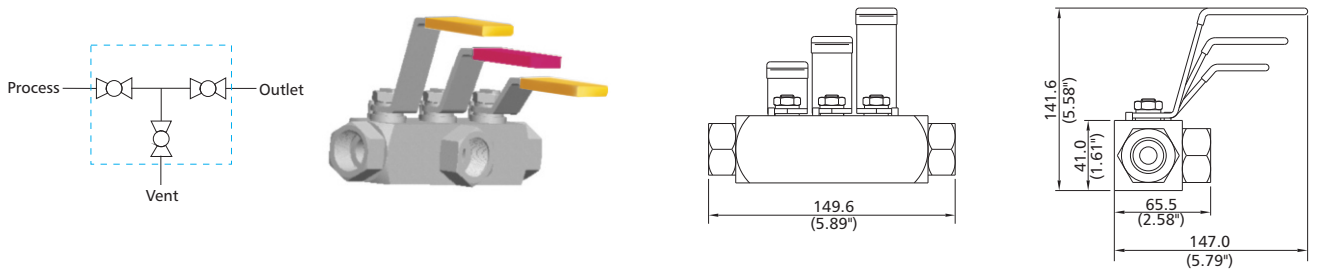
Primary: ball valve Secondary: ball valve Bleed: ball valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB4-BBB-FNPT8-4-316-C	1/2 female NPT	1/2 female NPT	1/4 female NPT



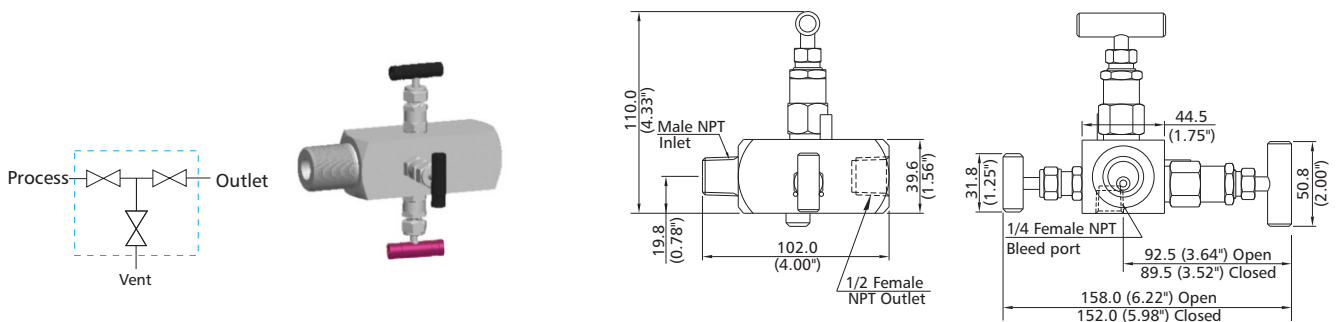
Primary: ball valve Secondary: ball valve Bleed: ball valve

Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB4-BBB-FNPT8-V4-316-L	1/2 female NPT	1/2 female NPT	1/4 female NPT



Primary: needle valve Secondary: needle valve Bleed: needle valve

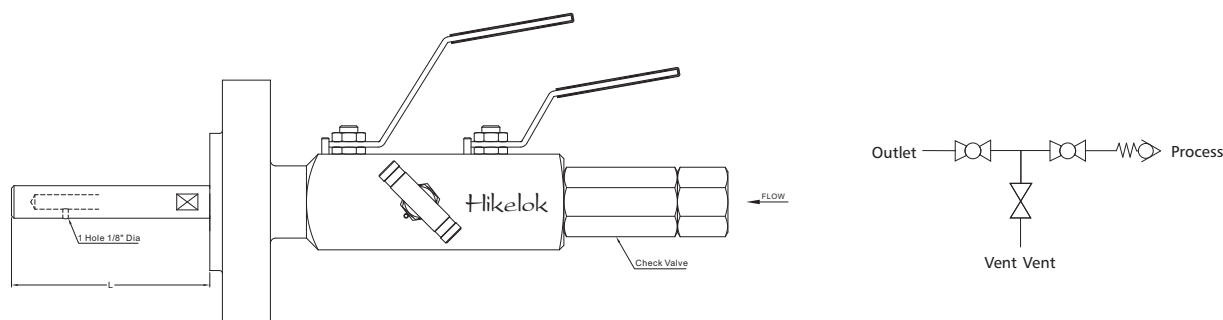
Basic Order Number	Inlet/Process	Outlet/Instrument	Vent/Bleed
DBB4-NNN-NPT8-FNPT8-4-316	1/2 male NPT	1/2 female NPT	1/4 female NPT



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" 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 0.125" diameter hole (standard).

Integral Check Valve

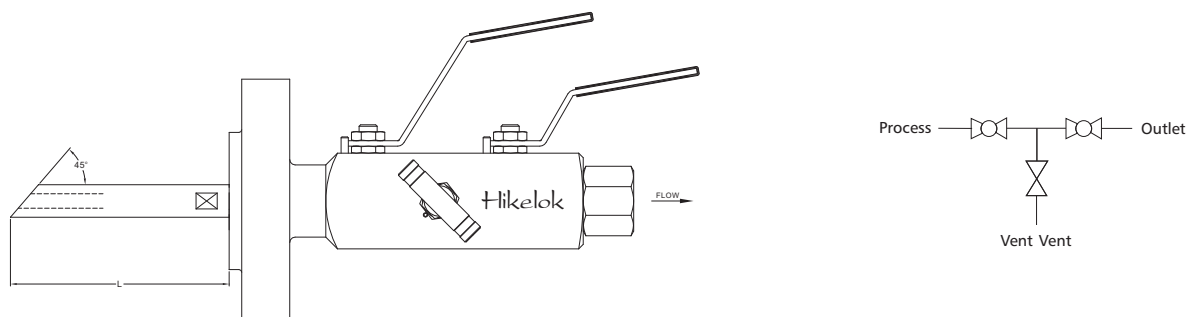
This poppet type spring return valve has a FKM soft seal (standard)

❖ To order Injection Double Block & Bleed Valves, add "-IN" suffixes to ordering number, for example: **DBB1-BBN-RF12900-FNPT8-8P-316-IN**

Sampling Double Block & Bleed Valves

Function-sampling

This design is developed to remove a sample directly from process stream at full system pressure. The customized 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.

❖ To order Injection Double Block & Bleed Valves, add "-SA" suffixes to ordering number, for example: **DBB1-BBN-RF12900-FNPT8-8P-316-SA**

How to Order

DBB1—BBN			G10		RF8300			FNPT8		8		316L	
Serialize	Configuration		Packing Material	Bore of ball valve	Port 1 Type	Inlet Size	ASME Class	Port 2 Type	Port 2 Size	Vent Type and Size	Body Material		
MB1	Primary	Sec-ondary	PTFE G Graphite	3/8 in. 10 (9.5 mm)	FNPT Female NPT	2 1/8 in.	300 Class 300	Same as Port 1		4 1/4 Female NPT	316 316 S.S.		
BB1	NNN Needle	Needle Needle		NPT Male NPT	3 3 mm	600 Class 600	8 NPT		316L 316L S.S				
BB2	NBN Needle	Ball Needle		FBT Female BSPT	4 1/4 in. 15 (14 mm)	900 Class 900	4P 1/4 Female NPT with Plug		304 304 S.S.				
BB3	BBN Ball	Ball Needle		MBT Male BSPT	5 5/16 in.	1500 Class 1500	8P 1/2 Female NPT with Plug		304L 304L S.S.				
BB4	BBB Ball	Ball Ball		FMS Female ISO 216 (for BG)	6 3/8 in. or 6 mm	2500 Class 2500	24 2-1/4 NPT Female NPT		A400 Alloy 400				
DBB1	OON OS&Y	OS&Y Needle		MS Male ISO 216 (for BG)	8 1/2 in. or 8 mm		28 2-1/2 NPT Female NPT		A20 Alloy 20				
DBB2	BBO Ball	Ball OS&Y		F Fractional Tube Fitting	10 10 mm		24P 2-1/4 NPT Female NPT with Plug		A600 Alloy 600				
DBB3	ONN OS&Y	Needle Needle		M Metric Tube Fitting	12 3/4 in. or 12 mm		28P 2-1/2 NPT Female NPT with Plug		A825 Alloy 825				
DBB4	BB Ball	— Ball		RF Smooth Flange	14 14 mm		CS Steel		A276 Alloy C276				
	NN Needle	— Needle	RTJ RTJ Flange	16 1 in. or 16 mm		Du7 Duplex 2507							
	NN Needle	Needle —		18 18 mm									
	BN Ball	— Needle		20 20 mm									
	BO Ball	— OS&Y		24 1 1/2 in.									
	ON OS&Y	— Needle		32 2 in.									
	ON OS&Y	Needle —		48 3 in.									
	O OS&Y	— —		64 4 in.									
	N Needle	— —											