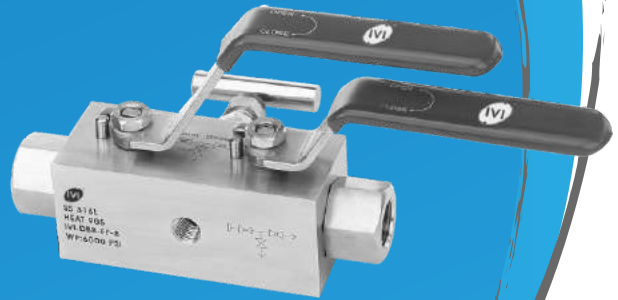




# BLOCK AND BLEED VALVES



**GUARANTEED**  
Reliability With  
Economy

# INTRODUCTION



## WHY USE DOUBLE BLOCK AND BLEED VALVES?

---

Double Block and Bleed valves have evolved to replace the process of bolting together individual valves to provide dual isolation.

This new assembly provides great savings in weight, space and installation times especially in instrument or instrument gauge isolation. These savings can be as much as 60% in weight and studies have shown that a 70% installation time saving is also possible. However, the greatest savings are to be seen in the reduction of leak paths to atmosphere, therefore reducing the risk of the potential hazards. Dual isolation is a necessary requirement when maintenance is taking place down stream of the First isolation valve. Cavity venting is provided by either a Needle, Ball or Globe OS&Y vent valve so that trapped pressure between the two isolation valves is safely vented.

These valves have also evolved to encompass the function of chemical injection (using a suitable quill) and sampling purposes. In-built check valves are often integrated in these valves.

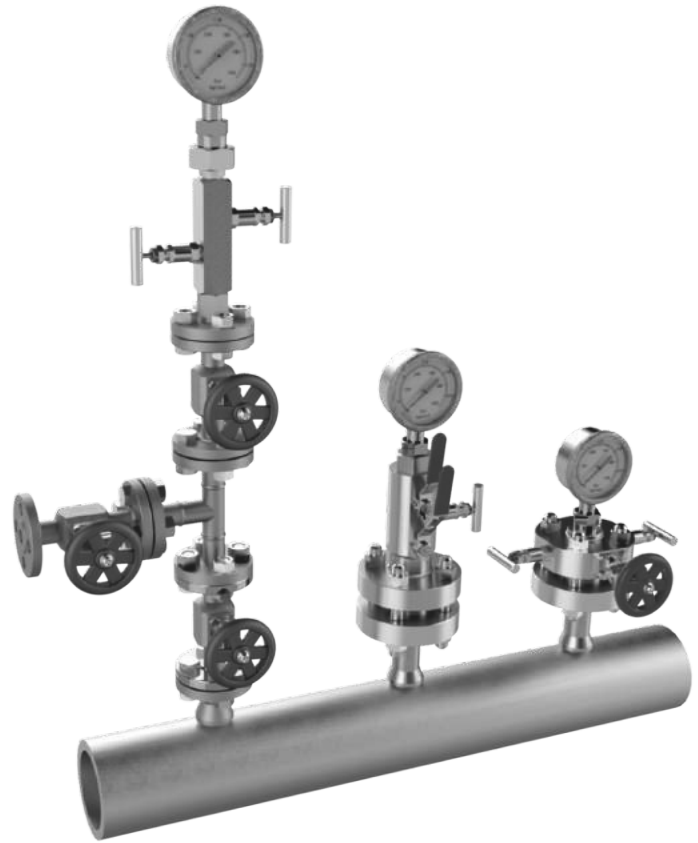


- Manufactured and designed in accordance with all recognized standards including - EEMUA 182, API 6D, ISO 17292, ASME B 16.34
- Ball Valves available in Trunnion and Floating ball options
- OS & Y Globe Type and Needle Valve variants available
- Special Designs include: Injection, Sampling and other custom options
- Tested to Low Emission standards of the Industry

# APPLICATION & INSTALLATION

## APPLICATION

- Double block & bleed Instrument Isolation
- Sampling connection
- Chemical Injection connection
- Direct or Remote mounting of instruments
- Instrument Drain
- Gauge Isolation
- Piping/Instrument Interface



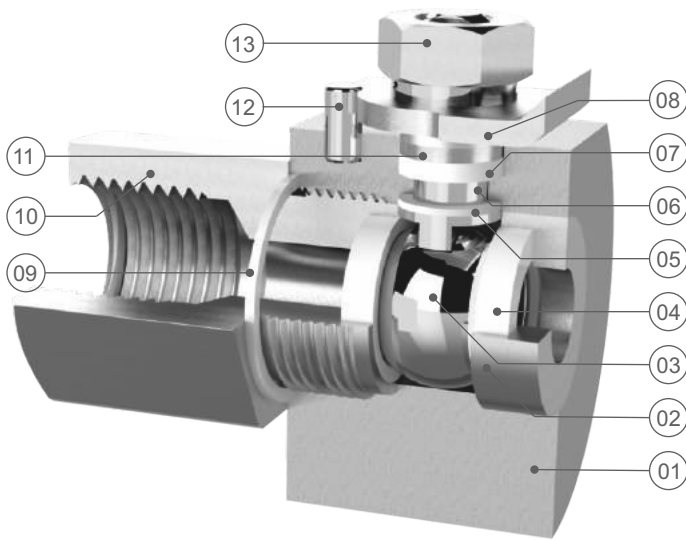
## DESIGN CONSTRUCTION

- Design - ASME B 16.34
- Flange Dimensions - ASME B 16.5
- Flange - Raised face & Ring type joint
- NPT Threads - ASME B 1.20.1
- Fire Safe Design API 607/API 6FA/ ISO 10497
- Fugitive Emission - ISO 15848-2/ MESC 77/312 (Optional)
- Anti-blowout Valve Stems
- Non-rotating tip for Needle Valve
- Optional locking / Anti tamper arrangement for Needle valve
- Valves tested in accordance with API 598

## INSTALLATION ADVANTAGES

- 👍 Single Piece, Compact Design
- 👍 Reduced Height & Weight
- 👍 Reduced No. of Joints & Potential Leak Paths
- 👍 Reduced Installation, Maintenance Costs and time
- 👍 Significant Space Savings
- 👍 Cost saving on site
- 👍 Reduced stresses from loading and vibration
- 👍 Designed and engineered on a case-by-case basis

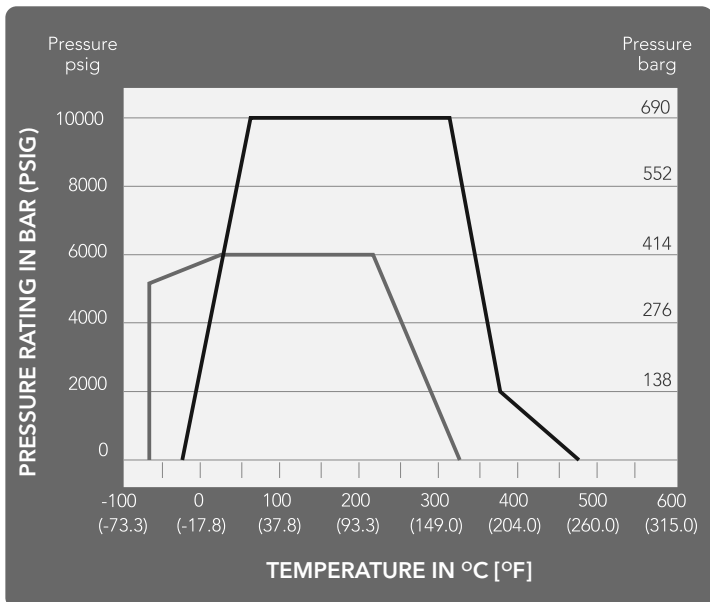
# BALL VALVE



## PART DESCRIPTION

01 BODY	08 HANDLE
02 SEAT RETAINER	09 BODY SEAL
03 BALL	10 OUTLET CONNECTOR
04 BALL SEAT	11 PACKING GLAND
05 STEM PACKING	12 STOPPER PIN
06 STEM	13 STEM NUT
07 STEM PACKING	

## PRESSURE & TEMPERATURE RATING



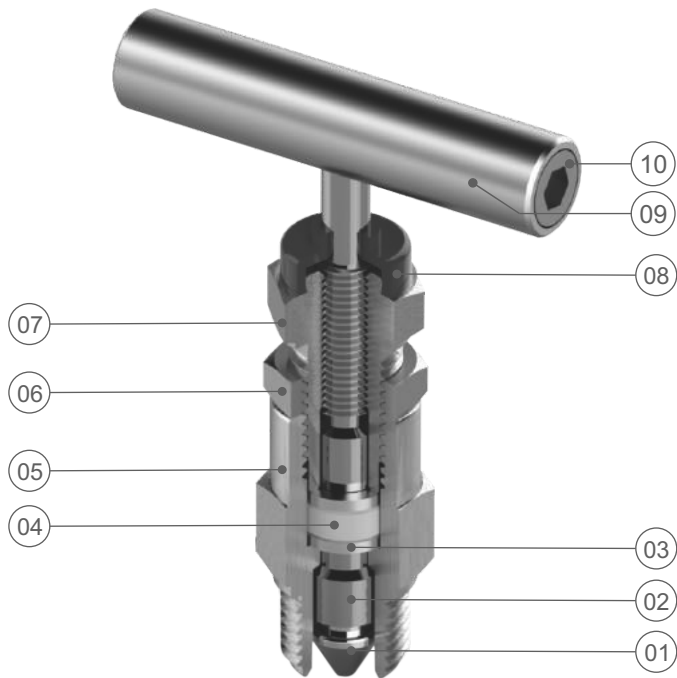
● RPTFE

● PEEK

## FEATURES

- Quarter Turn actuation
- Blowout proof stem
- Fully supported ball seats minimize seat extrusion and allow high working pressures
- Micro-finished ball for low operating torque and long life
- Standard 10mm bore. Fully roddable
- Anti-static design available on request
- Pressure rating from 150 to 2500#
- Temperature range from -20°C to +220°C
- Single-piece body design – fewer potential leak paths and a safer, more practical arrangement
- Designed to comply with requirements of ANSI/ASME B16.34
- Ball seats available in PTFE, DEVLON or PEEK materials
- Firesafe designed to meet API 607(optional)

# NEEDLE VALVE



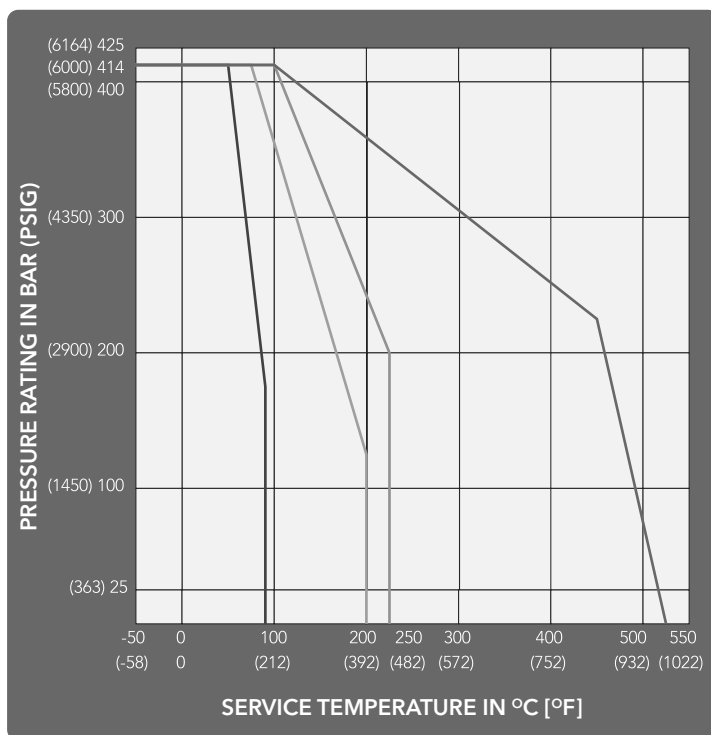
## PART DESCRIPTION

01 SPINDLE TIP	06 LOCK NUT
02 STEM	07 GLAND PUSHER
03 GLAND WASHER	08 DUST CAP
04 GLAND PACKING	09 HANDLE
05 BONNET	10 HANDLE SCREW

## FEATURES

- Non-rotating Tip for consistent bubble-tight shutoff
- Stem has rolled threads for smooth acting, strength and long life
- Packing is below stem threads to isolate threads from process media
- Dust cap on stem prevents inflow of contamination and protects actuating threads
- Stem has back seat for added security
- Simple and easily adjustable gland retainer for maximum packing stability and better performance
- Anti-Tamper bonnets are available with a removable T-bar key
- Pressure rating up to 10,000 psig [680 barg]
- Temperature range -20°C to +520°C

## PRESSURE & TEMPERATURE RATING



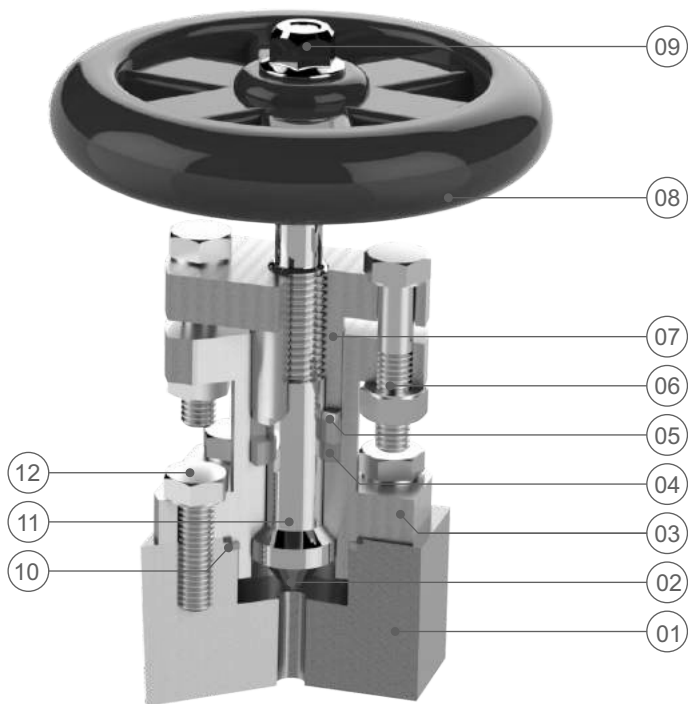
● DELTRIN

● PEEK

● PTFE

● GRAPHITE

# OS&Y TYPE NEEDLE VALVE

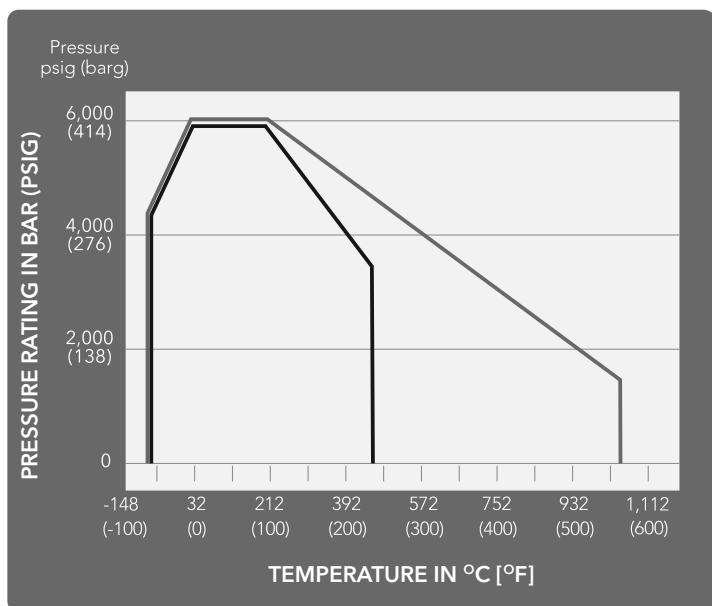


PART DESCRIPTION			
01	BODY	07	GLAND
02	SPINDLE TIP	08	HAND WHEEL
03	BONNET	09	DOME NUT
04	GLAND PACKING	10	BODY SEAL
05	GLAND WASHER	11	SPINDLE
06	GLAND NUT & BOLT	12	BONNET BOLT

## FEATURES

- Non-rotating Tip for consistent bubble tight shutoff
- Bolted bonnet enhances strength and reliability
- Graphite or PTFE is used as standard packing material
- Stellite seat is available on request
- Flange gasket ring ensures a bubble tight seal between body and bonnet
- Stem has rolled threads for smooth acting, strength and long life
- Packing is below stem threads to isolate threads from process media
- Stem has back seat for added security
- Pressure rating up to 6000 psig [414 barg]
- Temperature rating -20°C to +520°C

## PRESSURE & TEMPERATURE RATING



- Graphite
- PTFE

# ORDERING INFORMATION

## DBB VALVE

**BSS-DBB-FT-BNB-8RF150-8N-4N-SS6-S**

### MANUFACTURER

(BSS)

### BASIC PART NO.

SBB - Single Block & Bleed Valve  
DBB - Double Block & Bleed Valve

### INLET / OUTLET CONNECTION

FT Flange x Thread  
FF Flange x Flange  
TT Thread x Thread

### VALVE CONFIGURATION

Use Desig. Valve Name  
B BALL VALVE  
N NEEDLE VALVE

### FLANGE INLET / OUTLET CONNECTION

Size	Use Code	Type	Use Code	Class	Use Code
1/2"	8	Raised Face	RF	150 #	150
3/4"	12	Ring Type Joint	RTJ	300 #	300
1"	16			600 #	600
1-1/4"	20			900 #	900
1-1/2"	24			1500 #	1500
2"	32			2500 #	2500

### THREAD INLET / OUTLET CONNECTION

Size	Use Code	Type	Use Code
1/4"	4	NPT (Female)	N(F)
3/8"	6	BSP (Female)	IP(F)
1/2"	8	BSPT (Female)	IT(F)
3/4"	12	SOCKET WELD	SW
1"	16	BUTT WELD	BW

### DRAIN CONNECTION

Size	Use Code	TYPE	Use Code
1/4"	4	NPT (Female)	N(F)
3/8"	6	BSP (Female)	IP(F)
1/2"	8	BSPT (Female)	IT(F)
		SOCKET WELD	SW

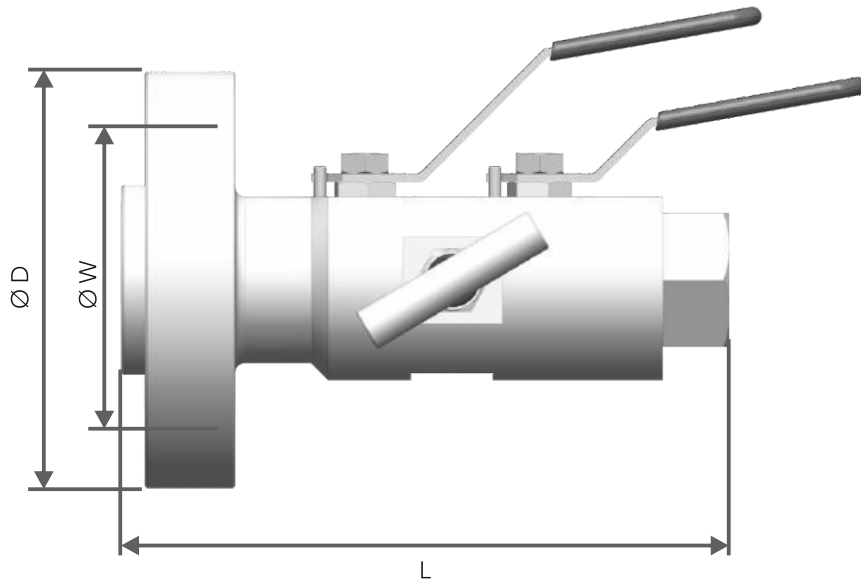
### MATERIAL

(SS6) SS316 (SS6L) SS316L (SD) Super Duplex (M) Monel 400 (IC825) Inconel 825  
(SS4) SS304 (D) Duplex (HC-276) Hastelloy C-276 (IC625) Inconel 625 (CS) Carbon Steel

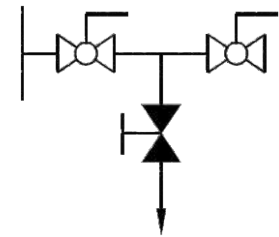
### SPECIAL REQUIREMENTS (MULTIPLE OPTIONS AVAILABLE)

(AT) Anti Tamper Drain (HL) Handle Locking (I) Injection Quill  
(AS) Anti Static Design (N) NACE Compliance (S) Sampling Probe

# DOUBLE BLOCK & BLEED VALVE



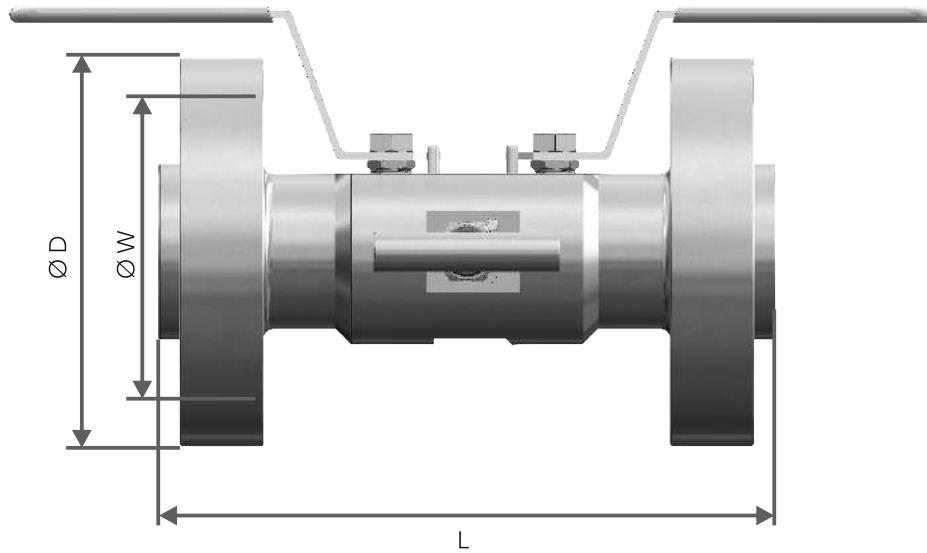
Flange X Thread
1st Isolate – Ball
2nd Isolate – Ball
Drain - Needle



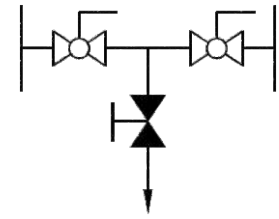
Flange Size(Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	200
	300	95	66.7	4	15.9	1/2	203
	600	95	66.7	4	15.9	1/2	205
	900/1500	120	82.6	4	22.2	3/4	218
	2500	135	88.9	4	22.2	3/4	310
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	203
	300	115	82.6	4	19.1	5/8	206
	600	115	82.6	4	19.1	5/8	213
	900/1500	130	88.9	4	22.2	3/4	228
	2500	140	95	4	22.2	3/4	315
1 (DN 25)	150	110	79.4	4	15.9	1/2	205
	300	125	88.9	4	19.1	5/8	208
	600	125	88.9	4	19.1	5/8	215
	900/1500	150	101.6	4	25.4	7/8	226
	2500	160	107.4	4	25.4	7/8	320
1 1/2 (DN 40)	150	125	98.4	4	15.9	1/2	205
	300	155	114.3	4	22.2	3/4	208
	600	155	114.3	4	22.2	3/4	215
	900/1500	180	123.8	4	28.6	1	235
	2500	205	146	4	31.8	1 1/8	330
2 (DN 50)	150	150	120.7	4	19.1	5/8	205
	300	165	127	8	19.1	5/8	208
	600	165	127	8	19.1	5/8	215
	900/1500	215	165.1	8	25.4	7/8	243
	2500	235	171.4	8	28.6	1	340



# DOUBLE BLOCK & BLEED VALVE



Flange X Flange
1st Isolate – Ball
2nd Isolate – Ball
Drain - Needle



Flange Size (Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	210
	300	95	66.7	4	15.9	1/2	215
	600	95	66.7	4	15.9	1/2	224
	900/1500	120	82.6	4	22.2	3/4	238
	2500	135	88.9	4	22.2	3/4	320
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	217
	300	115	82.6	4	19.1	5/8	223
	600	115	82.6	4	19.1	5/8	236
	900/1500	130	88.9	4	22.2	3/4	260
	2500	140	95	4	22.2	3/4	325
1 (DN 25)	150	110	79.4	4	15.9	1/2	220
	300	125	88.9	4	19.1	5/8	226
	600	125	88.9	4	19.1	5/8	240
	900/1500	150	101.6	4	25.4	7/8	265
	2500	160	107.4	4	25.4	7/8	335
1 ½ (DN 40)	150	125	98.4	4	15.9	1/2	223
	300	155	114.3	4	22.2	3/4	229
	600	155	114.3	4	22.2	3/4	245
	900/1500	180	123.8	4	28.6	1	308
	2500	205	146	4	31.8	1 1/8	350
2 (DN 50)	150	150	120.7	4	19.1	5/8	225
	300	165	127	8	19.1	5/8	230
	600	165	127	8	19.1	5/8	250
	900/1500	215	165.1	8	25.4	7/8	310
	2500	235	171.4	8	28.6	1	365



# ORDERING INFORMATION MONOFLANGE VALVE

**BSS - MFV - DBB - S - 8RF150 - 8N - 4N - SS6 - AT**

## MANUFACTURER

(BSS)

MFV MONOFLANGE

## BASIC PART NUMBER

SBB Single Block & Bleed Valve

DBB Double Block & Bleed Valve

## BASIC PART NUMBER

S Screwed Bonnet

O OS&Y

## FLANGE

Size	Use Desig.	Type	Use Code	Class	Use Code
1/2"	8	Raised Face	RF	150 #	150
3/4"	12	Ring Type Joint	RTJ	300 #	300
1"	16			600 #	600
1-1/4"	20			900 #	900
1-1/2"	24			1500 #	1500
2"	32			2500 #	2500

## INSTRUMENT CONNECTION

Size	Use Code	Type	Use Code
1/4"	4	NPT (Female)	N(F)
3/8"	6	BSP (Female)	IP(F)
1/2"	8	BSPT (Female)	IT(F)
3/4"	12	SOCKET WELD	SW
1"	16	BUTT WELD	BW

## DRAIN CONNECTION

Size	Use Code	TYPE	Use Code
1/4"	4	NPT (Female)	N(F)
3/8"	6	BSP (Female)	IP(F)
1/2"	8	BSPT (Female)	IT(F)
		SOCKET WELD	SW

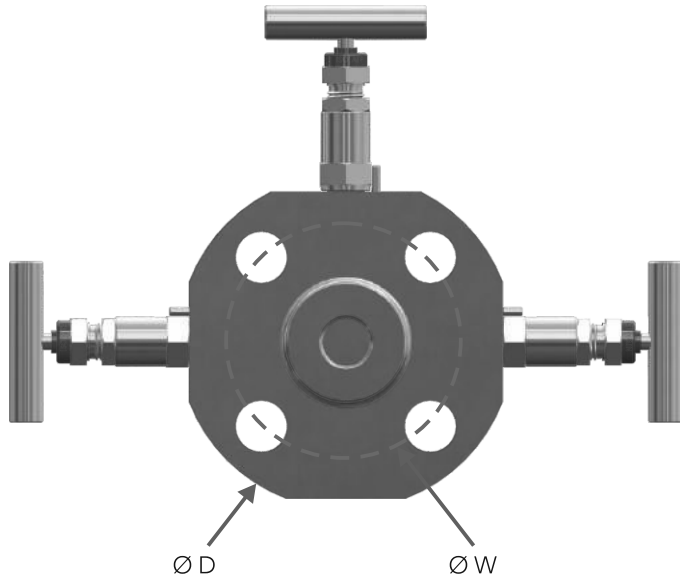
## MATERIAL

(SS6) SS316    (SS6L) SS316L    (SD) Super Duplex    (M) Monel 400    (IC825) Inconel 825  
 (SS4) SS304    (D) Duplex    (HC-276) Hastelloy C-276    (IC625) Inconel 625    (CS) Carbon Steel

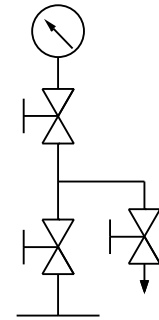
## SPECIAL REQUIREMENTS (MULTIPLE OPTIONS AVAILABLE)

(AT) Anti Tamper Drain    (HL) Handle Locking    (N) NACE Compliance

# MONOFLANGE DBB

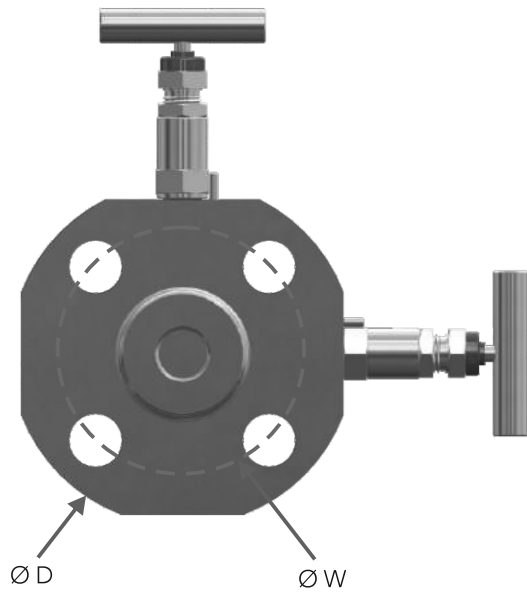


Flange X Thread
1st Isolate – Needle
2nd Isolate – Needle
Drain - Needle

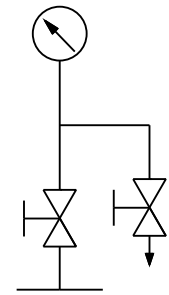


Flange Size (Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	52
	300	95	66.7	4	15.9	1/2	52
	600	95	66.7	4	15.9	1/2	52
	900/1500	120	82.6	4	22.2	3/4	52
	2500	135	88.9	4	22.2	3/4	52
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	52
	300	115	82.6	4	19.1	5/8	52
	600	115	82.6	4	19.1	5/8	52
	900/1500	130	88.9	4	22.2	3/4	52
	2500	140	95	4	22.2	3/4	52
1 (DN 25)	150	110	79.4	4	15.9	1/2	52
	300	125	88.9	4	19.1	5/8	52
	600	125	88.9	4	19.1	5/8	52
	900/1500	150	101.6	4	25.4	7/8	52
	2500	160	107.4	4	25.4	7/8	52
1 1/2 (DN 40)	150	125	98.4	4	15.9	1/2	52
	300	155	114.3	4	22.2	3/4	52
	600	155	114.3	4	22.2	3/4	52
	900/1500	180	123.8	4	28.6	1	52
	2500	205	146	4	31.8	1 1/8	52
2 (DN 50)	150	150	120.7	4	19.1	5/8	52
	300	165	127	8	19.1	5/8	52
	600	165	127	8	19.1	5/8	52
	900/1500	215	165.1	8	25.4	7/8	52
	2500	235	171.4	8	28.6	1	52

# MONOFLANGE SBB

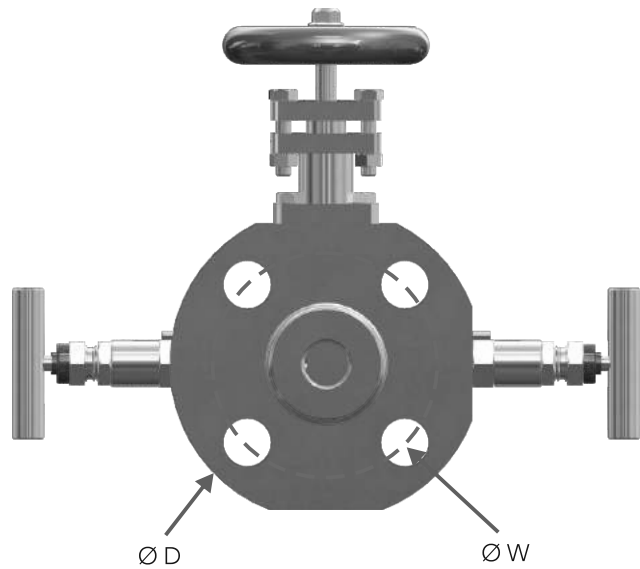


Flange X Thread
Isolate – Needle
Drain - Needle

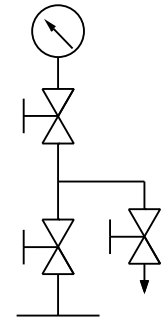


Flange Size (Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	52
	300	95	66.7	4	15.9	1/2	52
	600	95	66.7	4	15.9	1/2	52
	900/1500	120	82.6	4	22.2	3/4	52
	2500	135	88.9	4	22.2	3/4	52
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	52
	300	115	82.6	4	19.1	5/8	52
	600	115	82.6	4	19.1	5/8	52
	900/1500	130	88.9	4	22.2	3/4	52
	2500	140	95	4	22.2	3/4	52
1 (DN 25)	150	110	79.4	4	15.9	1/2	52
	300	125	88.9	4	19.1	5/8	52
	600	125	88.9	4	19.1	5/8	52
	900/1500	150	101.6	4	25.4	7/8	52
	2500	160	107.4	4	25.4	7/8	52
1 1/2 (DN 40)	150	125	98.4	4	15.9	1/2	52
	300	155	114.3	4	22.2	3/4	52
	600	155	114.3	4	22.2	3/4	52
	900/1500	180	123.8	4	28.6	1	52
	2500	205	146	4	31.8	1 1/8	52
2 (DN 50)	150	150	120.7	4	19.1	5/8	52
	300	165	127	8	19.1	5/8	52
	600	165	127	8	19.1	5/8	52
	900/1500	215	165.1	8	25.4	7/8	52
	2500	235	171.4	8	28.6	1	52

# MONOFLANGE DBB

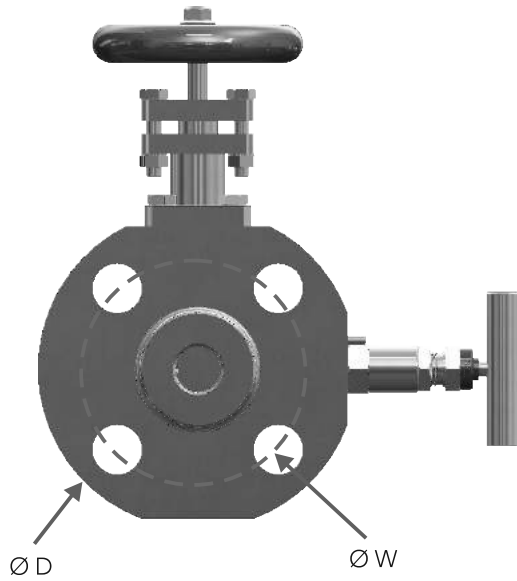


Flange X Thread
1st Isolate – OS&Y
2nd Isolate – Needle
Drain - Needle

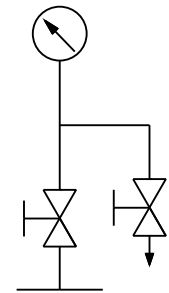


Flange Size (Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	52
	300	95	66.7	4	15.9	1/2	52
	600	95	66.7	4	15.9	1/2	52
	900/1500	120	82.6	4	22.2	3/4	52
	2500	135	88.9	4	22.2	3/4	52
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	52
	300	115	82.6	4	19.1	5/8	52
	600	115	82.6	4	19.1	5/8	52
	900/1500	130	88.9	4	22.2	3/4	52
	2500	140	95	4	22.2	3/4	52
1 (DN 25)	150	110	79.4	4	15.9	1/2	52
	300	125	88.9	4	19.1	5/8	52
	600	125	88.9	4	19.1	5/8	52
	900/1500	150	101.6	4	25.4	7/8	52
	2500	160	107.4	4	25.4	7/8	52
1 1/2 (DN 40)	150	125	98.4	4	15.9	1/2	52
	300	155	114.3	4	22.2	3/4	52
	600	155	114.3	4	22.2	3/4	52
	900/1500	180	123.8	4	28.6	1	52
	2500	205	146	4	31.8	1 1/8	52
2 (DN 50)	150	150	120.7	4	19.1	5/8	52
	300	165	127	8	19.1	5/8	52
	600	165	127	8	19.1	5/8	52
	900/1500	215	165.1	8	25.4	7/8	52
	2500	235	171.4	8	28.6	1	52

# MONOFLANGE SBB



Flange X Thread
Isolate – OS&Y
Drain - Needle



Flange Size (Inch)	Flange Class	Ø D	Ø W	No. of Bolts	Diameter of Bolt Holes (mm)	Diameter of Bolts (Inch)	Total Length L (mm)
1/2 (DN 15)	150	90	60.3	4	15.9	1/2	52
	300	95	66.7	4	15.9	1/2	52
	600	95	66.7	4	15.9	1/2	52
	900/1500	120	82.6	4	22.2	3/4	52
	2500	135	88.9	4	22.2	3/4	52
3/4 (DN 20)	150	100	69.9	4	15.9	1/2	52
	300	115	82.6	4	19.1	5/8	52
	600	115	82.6	4	19.1	5/8	52
	900/1500	130	88.9	4	22.2	3/4	52
	2500	140	95	4	22.2	3/4	52
1 (DN 25)	150	110	79.4	4	15.9	1/2	52
	300	125	88.9	4	19.1	5/8	52
	600	125	88.9	4	19.1	5/8	52
	900/1500	150	101.6	4	25.4	7/8	52
	2500	160	107.4	4	25.4	7/8	52
1 1/2 (DN 40)	150	125	98.4	4	15.9	1/2	52
	300	155	114.3	4	22.2	3/4	52
	600	155	114.3	4	22.2	3/4	52
	900/1500	180	123.8	4	28.6	1	52
	2500	205	146	4	31.8	1 1/8	52
2 (DN 50)	150	150	120.7	4	19.1	5/8	52
	300	165	127	8	19.1	5/8	52
	600	165	127	8	19.1	5/8	52
	900/1500	215	165.1	8	25.4	7/8	52
	2500	235	171.4	8	28.6	1	52