

TANA[®]

BLOCK & BLEED VALVE High Technology Valve & Fitting Series

TANA[®]
WENZHOU TOPNOTCH MACHINE CO.,LTD.



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Brief Introduction

Wenzhou Topnotch Machine Co.,Ltd., brand name TANA .established in the year 2003, located at China famous pump&valve TownOubei,Wenzhou. We'respecialized in producing and marketing all kinds of industrial valves,pump & actuators. Our corporate Vision is to be a pipeline control specialist by supply products and help our valued customersolve their problems with excellent sales & after-sales service, and also reasonable price.

Over the years, we already have expanded our operations with team of well experienced design,manufacturing and marketing engineers. We have 100 -150 employees,around 50 sets advantaged producing equipments, which ensure our production ability. Our products have been widely application in the gas, oil, refining, chemical, marine, power generation and pipeline transmission industries. And 80% of products are supplied to SoutheastAsia, the Middle East, North America, Europe and Africa, more than 30 oversea countries, we have accumulated good reputation from our clients.

Quality is at the heart of everything we do, through product development to manufacturing, supply and sale. We make products strictly according to International standards & clients' requirements, and have established quality control system to ensure us offer the high quality products.

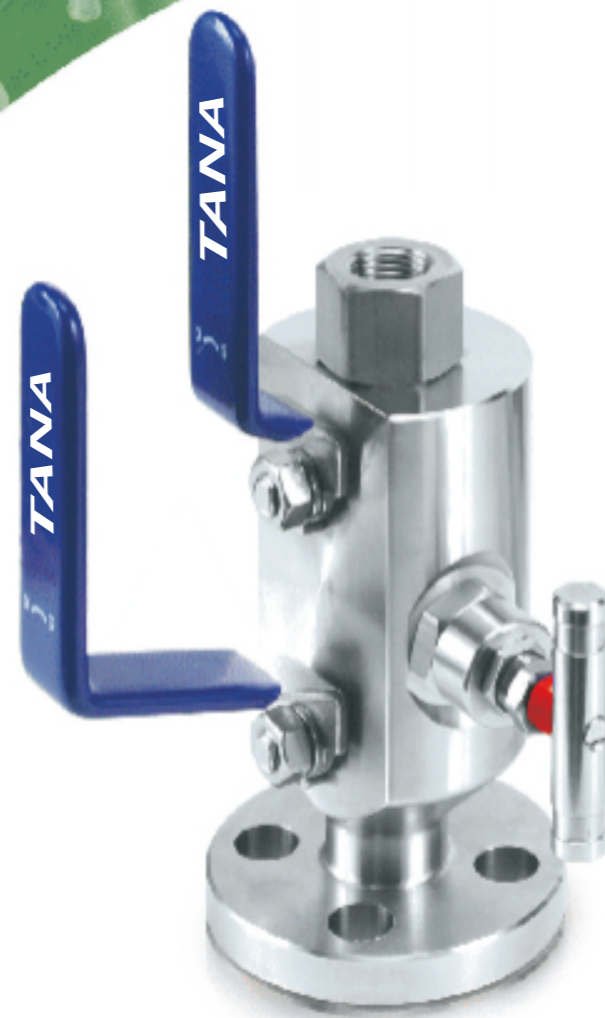
"Keep the promise and offer the top-class products & service" is our principle, we believe that we can establish and maintain long term win-win cooperation through our mutual effort by reasonable price, good quality product and best service.

Welcome to contact us, thank you!



High Technology Valve & Fitting Series

INTEGRAL BLOCK & BLEED VALVES



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APPLICATION & INSTALLATION

SOLUTIONS

TANA instrumentation products provided the ultimate suitable solutions for a integral block & bleed valve, which is consist of one piece forged body it provide many merits, featuring a choice of end connections, body style and

Conventional Installation <1>

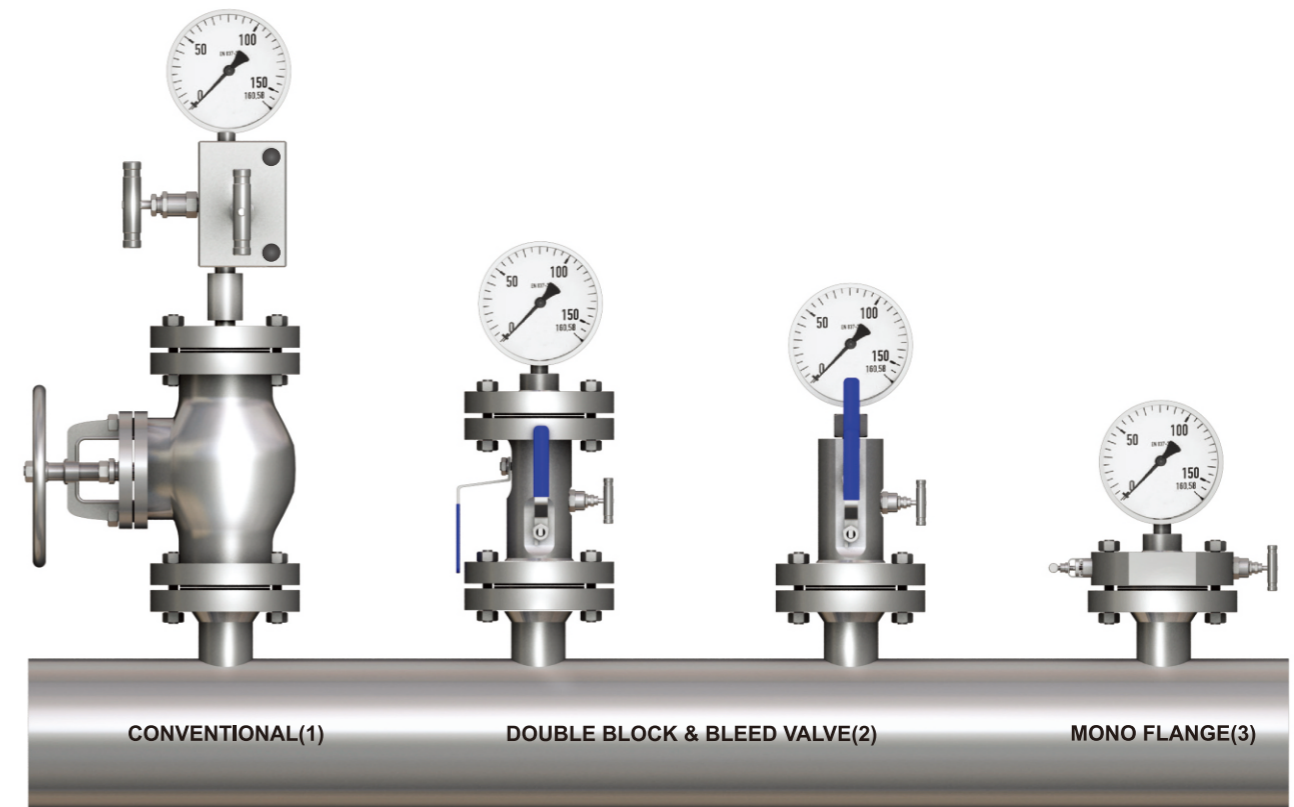
- A welded flange, connected to a primary ANSI class isolating valve. The primary valve will be connected to a secondary instrument valve. A pressure gauge or transmitter will then be installed do wnstream of the instrument valve.

TANA BLOCK & BLEED Valve <2>

- A one-piece integral forging incorporating up 3 ball valve or mixture of ball and needle design.
- Improved safety : leak paths reduced by up to 60%
- Reduced costs : installation and component costs reduced by up to 70%
- Reduced weight : by up to 80%
- Reduced susceptibility to problems caused by vibration

TANA Monofange <3>

- More compact then TANA DBB valve, adding further space and weight saving possibilities
- Improved safety : leak paths reduced by up to 60%, less susceptibility to vibration
- Reduced costs : installation and component costs saving up to 80%
- Reduced weight : up to 85%

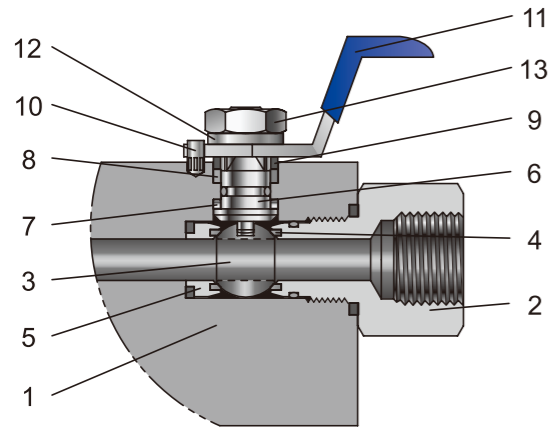


SPECIFICATION

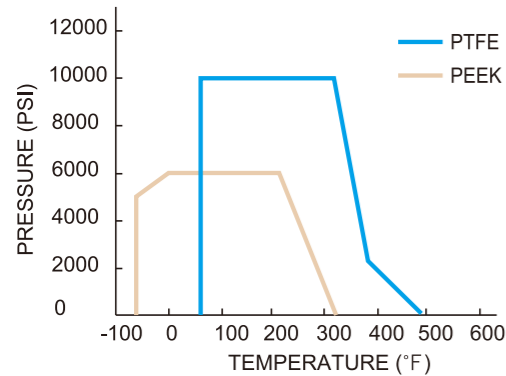
Design codes

- ANSI / ASME B 16.34 - Designed to meet the pressure and temperature requirements
- ANSI / ASME B 16.5 - Flange dimensions
- ANSI / ASME B 1.20.1 - National pipe threads
- API 607 / BS 6755 - Fire safe designed

Ball Valve



DESCRIPTION	BODY MATERIAL		
	STAINLESS STEEL	CARBON STEEL	DUPLEX STAINLESS STEEL
1 BODY	A182 F316	A350 LF2	A182 F51
2 OULET CONNECTOR	A182 F316	A350 LF2	A182 F51
3 BALL	A479 TP316 S31803		
4 BALL SEAL	PTFE / R.PTFE / PEEK		
5 SEAT CAPSULE	A479 TP316 S31803		
6 STEM	A479 TP316 S31803		
7 LOWER STEM SEAL	PTFE		
8 UPPER STEM SEAL	GRAPHITE		
9 PACKING GLAND	A479 TP316 S31803		
10 STOP PIN	SS 316 S31803		
11 HANDLE	SS 316		
12 STEM WASHER	SS 316		
13 STEM NUT	A194 8M		

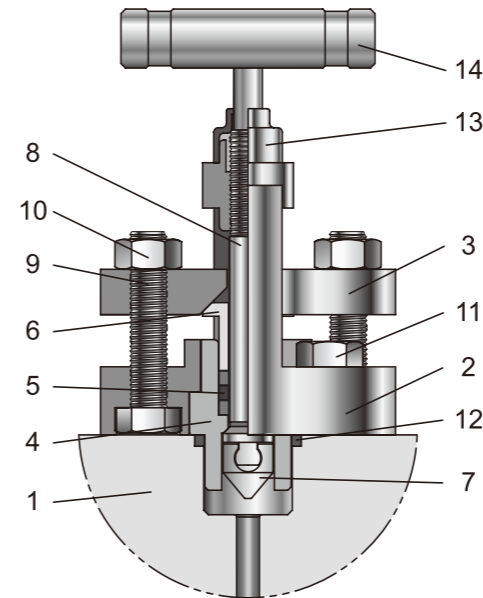


- 316 Stainless steel construction .
- Maximum cold working pressure rating 6,000 psig(414 bar) with PTFE seats.
- Temperature rating PTFE seats -54°C to 204°C (-65°F to 400°F)
- Maximum cold working pressure rating 10,000 psig(689 barg) with PEEK seats.
- Temperature rating PEEK seats -54°C to 232°C (-65°F to 450°F)

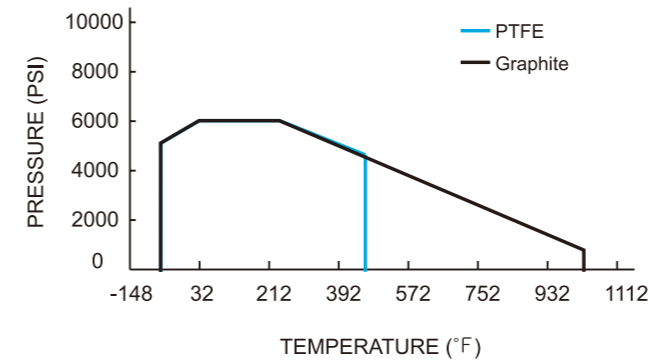
Features

- Two piece body design - minimize leakage paths.
- Designed to comply with requirements of ANSI/ASME B16.34.
- Bi-directional.
- Ball seats choice of seat materials : PTFE(virgin or filled)PVDF , NYLON or PEEK.
- Bubble tight shutoff.
- Floating ball principal with dynamic response seats featuring inherent self relief.
- Anti blowout stem.
- Integral compression ends a vailable eliminating taper threads and thread sealants.
- Low torque operation.
- Connector thread environmentally sealed
- Anti static design as standar d.
- Firesafe designed to meet BS 6755 Part2 / API 607,(optional).

Outside screw and yoke(OS&Y) needle valve



DESCRIPTION	BODY MATERIAL		
	STAINLESS STEEL	CARBON STEEL	DUPLEX STAINLESS STEEL
1 BODY	A182 F316	A350 LF2	A182 F51
2 OS & Y BONNET	A351 CF8M	A352 LCC	A182 F51
3 GLAND FLANGE	A351 CF8M	A352 LCC	A182 F51
4 INSERT	A479 TP316 S31803		
5 PACKING	GRAPHITE		
6 BUSHING	A479 TP316 S31803		
7 VEE TIP	SS630 + Hard Cr		
8 STEM	A479 TP316 S31803		
9 FLANGE BOLT	A193 B8M	A320 L7M	A453 Gr.660
10 FLANGE NUT	A194 8M	A194 Gr.7	
11 BONNET BOLT	A193 B8M	A320 L7M	
12 BONNET SEAL	GRAPHITE		
13 DUST CAP	NYLON		
14 BAR HANDLE	A276 TP316 S31803		

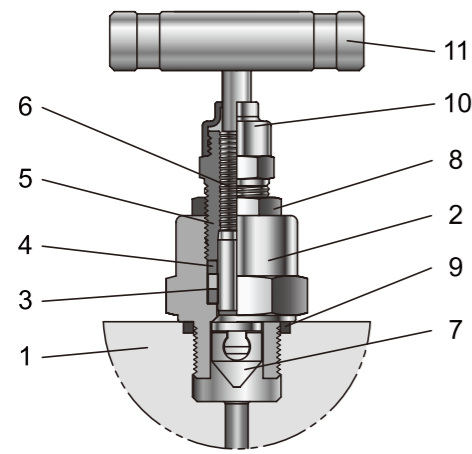


- 316 Stainless steel construction.
- Maximum cold working pressure rating 10,000 psig(690 bar).
- Temperature rating -54°C to 538°C (-65°F to 1000°F).

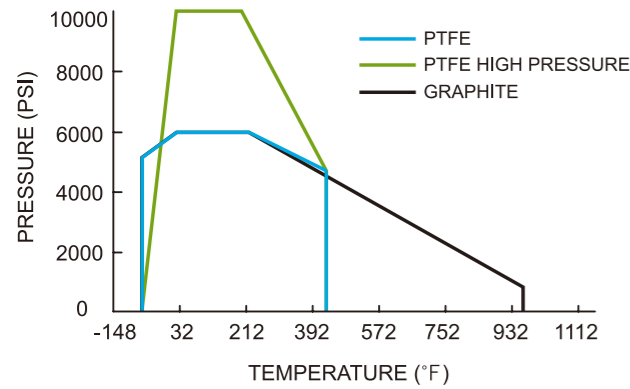
Features

- Externally adjustable gland
- PTFE or Graphite packing for bubble tight sealing
- Self centering crimped needle tip for bubble tight shut off and repeatability.
- All componets stainless steel .
- Firesafe certified to BS6755 part 2/API 607.
- Flange gasket seal ensures a bubble-tight between body and yoke.
- Back seat design provides secondary stem sealing and prevents stem blow out.
- Rolled stem operating threads.
- Independent stem thread bush with maximum female thread interface.
- Colour coded close con tact dust cap and function label for easy indentification.

Glove style needle valve



DESCRIPTION	BODY MATERIAL		
	STAINLESS STEEL	CARBON STEEL	DUPLEX STAINLESS STEEL
1 BODY	SS 316	A350 LF2	A182 F51
2 BONNET	SS 316	A350 LF2	A182 F51
3 PACKING	GRAPHITE		
4 PACKING GLAND	A479 TP316		S31803
5 PACKING BOLT	SS 316	A350 LF2	S31803
6 STEM	A479 TP316		S31803
7 VEE TIP	SS630 + Hard Cr		
8 LOCK NUT	SS 316	A350 LF2	S31803
9 BONNET SEAL	GRAPHITE		
10 DUST CAP	NYLON		
11 BAR HANDLE	A276 TP316		S31803



- 316 Stainless steel construction.
- Maximum cold working pressure rating 10,000 psig(690 bar).
- Temperature rating -54°C to 538°C (-65°F to 1000°F).

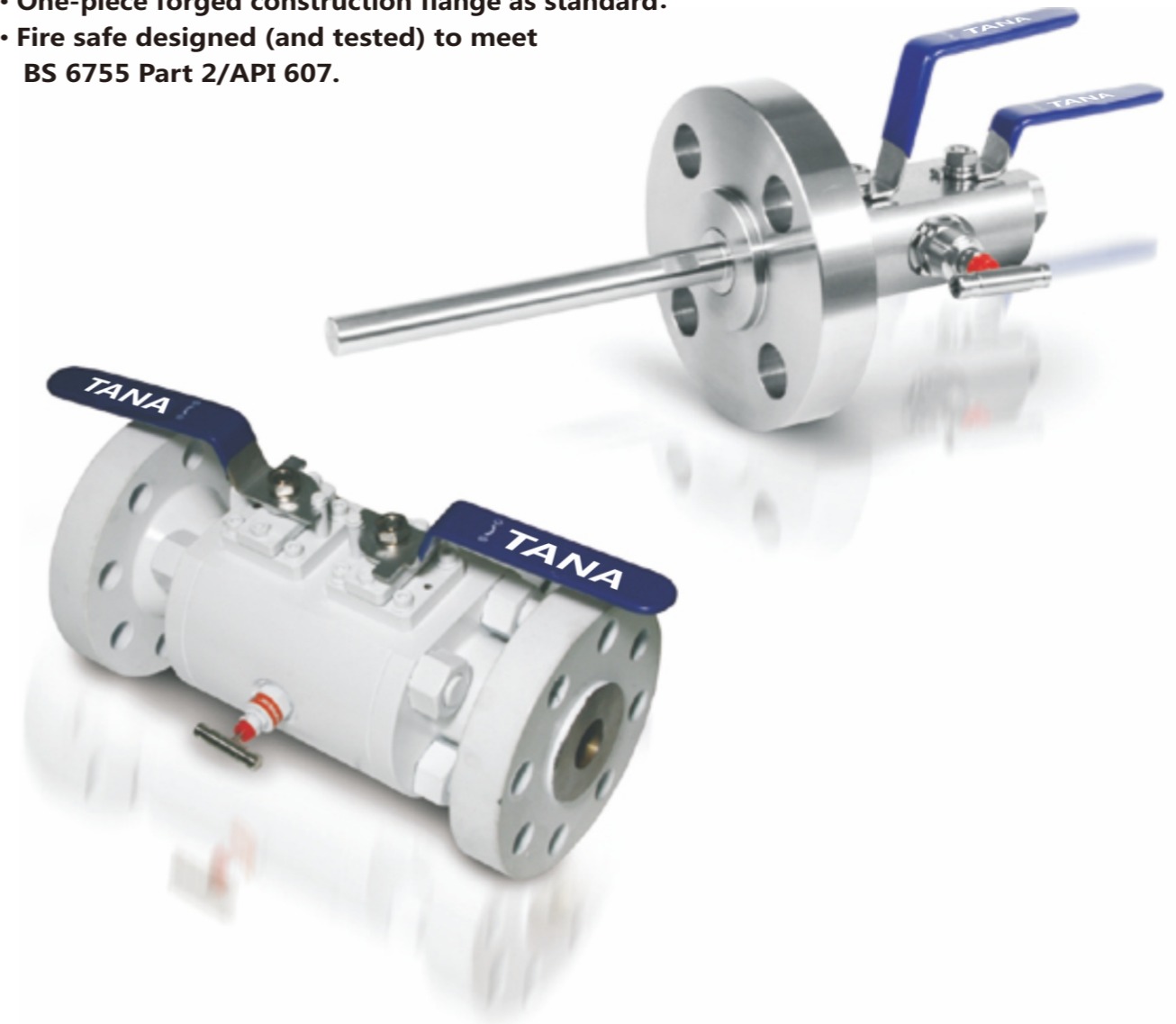
Features

- Rolled stem operating threads for low torque operation.
- Gland packing in PTFE or Graphite for bubble tight sealing
- Colour coded close contact dust cap and function label for easy identification.
- Self centering crimped needle tip for bubble tight seat sealing
- Close contact dust cap for operating thread protection.
- Packing bolt with easy access.
- Lock nut for vibration protection.

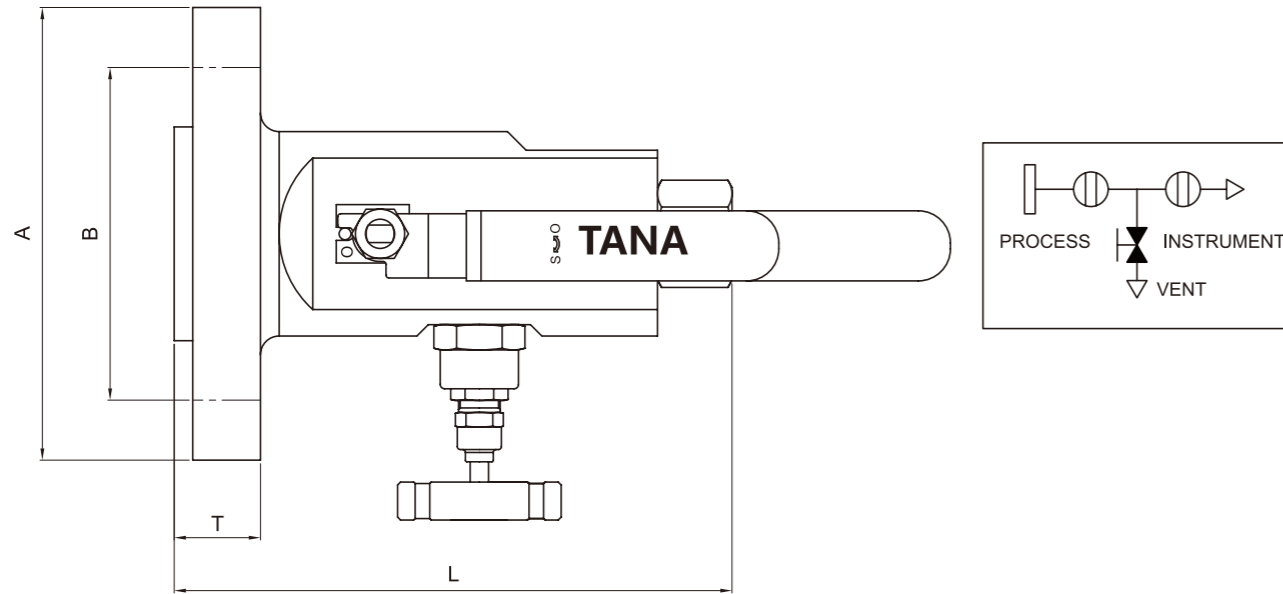
Block & Bleed valve

Features

- ANSI B16.5 flanged inlet connections 1/2" to 3" sizes.
- Class 150 rated to class 2500 rated.
- 1/2"-14 to 1"-11.5 NPT(female) standard outlet (depending on bore size).
- 1/2" NPT(female) standard vent.
- Standard materials of connection: Stainless steel ASTM A182 F316/F316L, Carbon steel ASTM A350 LF2/A105, Duplex ASTM A182 F51.
- Optional materials on request. Stainless steel ASTM A182 F316/F316L. Carbon steel ASTM A350 LF2/A105. Duplex ASTM A182 F51.
- Raised face and ring type joint flange face styles.
- One-piece forged construction flange as standard.
- Fire safe designed (and tested) to meet BS 6755 Part 2/API 607.
- 304 stainless steel handles and trim as standard to reduce the risk of corrosion.
- Designed to meet the pressure and temperature requirements of ASME/ANSI B16.34/B16.5.
- Pressure boundary designs calculated to ASME VIII Div 1 and verified by testing.
- Heat code traceable material to EN 10204.3.1.
- Bubble tight shut off.
- locking and anti tamper devices for all valve types available option.
- Positive lever stop.
- User preferred handles.
- Permanent affixed reference label.



DB-S1/S2 SERIES



Dimensions

(10mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
1/2 (DN15)	150	170	89	60.3	11.2
	300		96	66.7	14.2
	600	20.6			
	900/1500	186			121
	2500		134	88.9	36.6
3/4 DN(20)	150	175	99	69.8	12.7
	300		118	82.5	15.7
	600	22.1			
	900/1500	179			88.9
	2500	186	140	95.2	38.2
1 (DN25)	150	170	108	79.4	14.2
	300	179	124	88.9	17.5
	600		23.9		
	900/1500	186	150	101.6	34.8
	2500		159	108.0	41.5
1-1/2 (DN40)	150	170	127	98.4	17.5
	300	179	156	114.3	20.6
	600				27.0
	900/1500	186	178	124.0	38.2
	2500	200	203	146.1	50.9
2 (DN50)	150	179	152	120.6	22.4
	300		165	127.0	24.0
	600	30.4			
	900/1500	200			216
	2500	208	235	171.5	57.2

*Dimensions are for reference only and are subject to change.

Dimensions

(14mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
3/4 DN(20)	150	208	99	69.8	12.7
	300		118	82.5	15.7
	600	22.1			
	900/1500	130			88.9
	2500	224	140	95.2	38.2
1 (DN25)	150	208	108	79.4	14.2
	300	218	124	88.9	17.5
	600				23.9
	900/1500	224	150	101.6	34.8
	2500	227	159	108.0	41.5
1-1/2 (DN40)	150	208	127	98.4	17.5
	300	218	156	114.3	20.6
	600				27.0
	900/1500	224	178	124.0	38.2
	2500	238	203	146.1	50.9
2 (DN50)	150	218	152	120.6	22.4
	300				165
	600	30.4			
	900/1500	238	216	165.1	
	2500	246	235	171.5	57.2

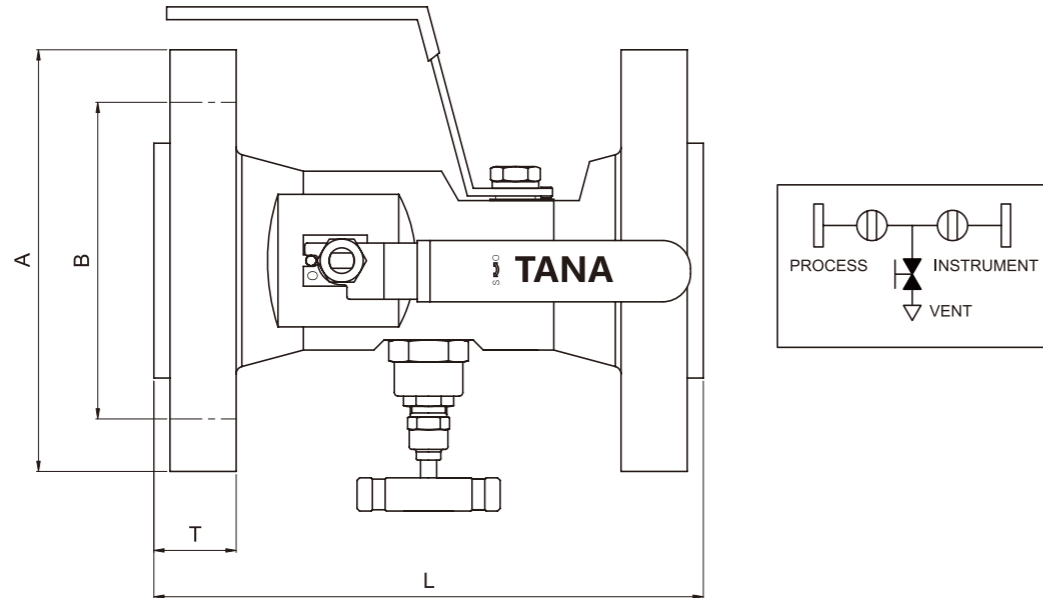
*Dimensions are for reference only and are subject to change.

(20mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
1 (DN25)	150	235	108	79.4	14.2
	300		124	88.9	17.5
	600	23.9			
	900/1500	150			101.6
	2500	251	159	108.0	41.5
1-1/2 (DN40)	150	235	127	98.4	17.5
	300	244	156	114.3	20.6
	600				27.0
	900/1500	251	178	124.0	38.2
	2500	265	203	146.1	50.9
2 (DN50)	150	244	152	120.6	22.4
	300				165
	600	30.4			
	900/1500	265	216	165.1	
	2500	273	235	171.5	57.2

*Dimensions are for reference only and are subject to change.

DB-D1/D2 SERIES



Dimensions

(10mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
1/2 (DN15)	150	235	89	60.3	11.2
	300		96	66.7	14.2
	600	254	121	82.5	20.6
	900/1500				28.8
	2500				36.6
3/4 DN(20)	150	235	99	69.8	12.7
	300		118	82.5	15.7
	600	254	130	88.9	22.1
	900/1500				31.8
	2500				38.2
1 (DN25)	150	235	108	79.4	14.2
	300		124	88.9	17.5
	600	267	150	101.6	23.9
	900/1500				34.8
	2500				41.5
1-1/2 (DN40)	150	235	127	98.4	17.5
	300		156	114.3	20.6
	600	267	178	124.0	27.0
	900/1500				38.2
	2500				50.9
2 (DN50)	150	254	152	120.6	22.4
	300		165	127.0	24.0
	600	334	203	146.1	30.4
	900/1500				44.5
	2500				57.2

*Dimensions are for reference only and are subject to change.

Dimensions

(14mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
3/4 DN(20)	150	235	99	69.8	12.7
	300		118	82.5	15.7
	600	254	130	88.9	22.1
	900/1500				31.8
	2500				38.2
1 (DN25)	150	235	108	79.4	14.2
	300		124	88.9	17.5
	600	267	150	101.6	23.9
	900/1500				34.8
	2500				41.5
1-1/2 (DN40)	150	235	127	98.4	17.5
	300		156	114.3	20.6
	600	267	178	124.0	27.0
	900/1500				38.2
	2500				50.9
2 (DN50)	150	254	152	120.6	22.4
	300		165	127.0	24.0
	600	334	203	146.1	30.4
	900/1500				44.5
	2500				57.2

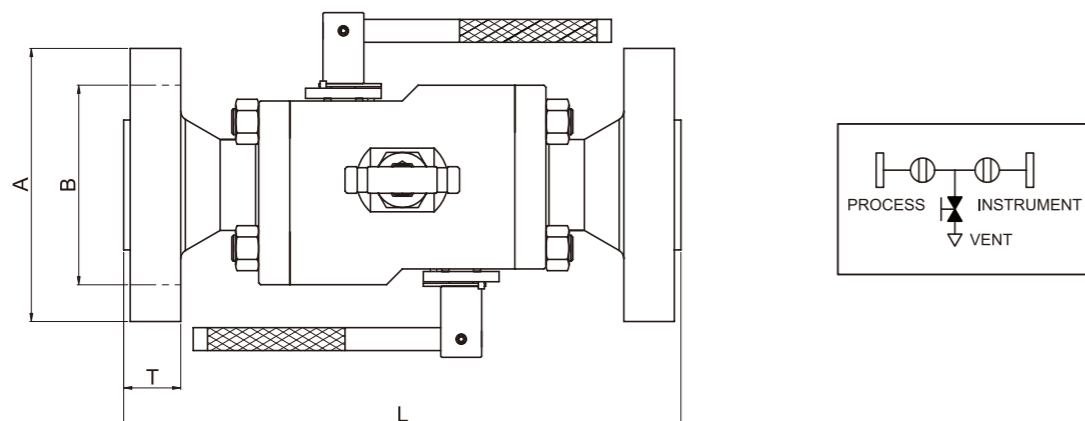
*Dimensions are for reference only and are subject to change.

(20mm BORE)

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		DB - S1 L (RF)	A	B	T
1 (DN25)	150	235	108	79.4	14.2
	300		124	88.9	17.5
	600	267	150	101.6	23.9
	900/1500				34.8
	2500				41.5
1-1/2 (DN40)	150	235	127	98.4	17.5
	300		156	114.3	20.6
	600	268	178	124.0	27.0
	900/1500				38.2
	2500				50.9
2 (DN50)	150	254	152	120.6	22.4
	300		165	127.0	24.0
	600	334	203	146.1	30.4
	900/1500				44.5
	2500				57.2

*Dimensions are for reference only and are subject to change.

Dimensions



(REDUCER BORE)

SIZE (inch)	BORE (mm)	RATING (lb)	DIMENSION (mm)					
			RF FLANGE		RTJ FLANGE		A	B
			L	T	L	T		
1-1/2 (DN40)	25.4	150	279	19.5	292	25.9	127	98.4
		300	285	22.6	-	-	156	114.3
		600	301	30.8	301	30.8		
		900/1500	370	40.2	370	40.2	178	124.0
		2500	396	52.9	399	54.4	203	146.1
2 (DN50)	38.1	150	364	21.1	377	27.5	152	120.6
		300	372	27.9	-	-	165	127.0
		600	390	33.8	393	35.3		
		900/1500	415	46.5	418	48.0	216	165.1
		2500	475	59.2	478	60.7	235	171.5
3 (DN75)	50.8	150	400	25.9	413	32.3	191	152.4
		300	410	30.9	-	-	210	168.1
		600	428	40.2	431	41.7		
		900/1500	441	46.5	444	48.0	241 / 267	190.5 / 203.2
		2500	500	56.2	503	57.7	305	228.6

*Dimensions are for reference only and are subject to change.

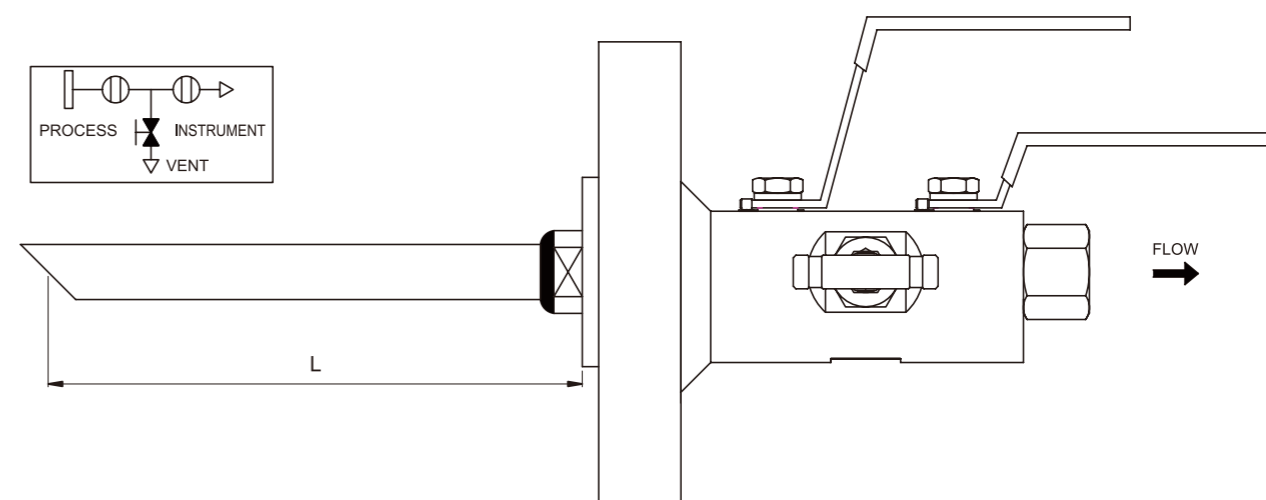
(FULL BORE)

SIZE (inch)	BORE (mm)	RATING (lb)	DIMENSION (mm)					
			RF FLANGE		RTJ FLANGE		A	B
			L	T	L	T		
1 (DN25)	25.4	150	272	16.2	285	22.6	108	79.4
		300	279	19.5	-	-	124	88.9
		600	292	25.9	292	25.9		
		900/1500	364	36.8	364	36.8	150	101.6
		2500	377	43.5	377	43.5	159	108.0
1-1/2 (DN40)	38.1	150	361	19.5	374	25.9	127	98.4
		300	367	22.6	-	-	156	114.3
		600	384	30.8	384	30.8		
		900/1500	402	40.2	402	40.2	178	124.0
		2500	463	52.9	466	54.4	203	146.1
2 (DN50)	50.8	150	390	21.1	403	27.5	152	120.6
		300	398	24.9	-	-	165	127.0
		600	416	33.8	419	35.3		
		900/1500	481	46.5	484	48.0	216	165.1

*Dimensions are for reference only and are subject to change.

SAMPLING VALVE

This manifold range is designed to replace conventional multiple-valve installations where sampling of the process stream is required. This design has been developed to remove a sample directly from the process stream at full system pressure.

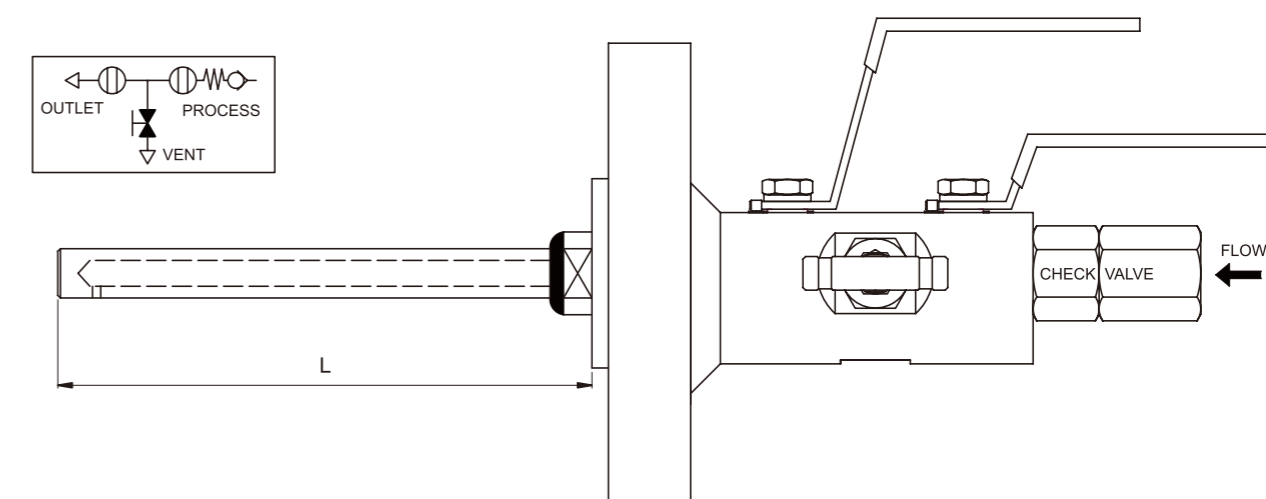


Sampling probe

The probe length must be specified from the raised face to the end of the probe in mm, to the nearest mm. Probes are supplied to suit the insertion length required by the pipeline and thus must be specified by the customer.

CHEMICAL INJECTION VALVE

This manifold range is designed to replace conventional multiple-valve installations where injection into the process stream is required. This design has been developed to inject directly into the process stream at full system pressure.



Injection quill

The probe length must be specified from the raised face to the end of the probe in mm. Probes length shall be decided in consideration of injection insert length in the pipeline and customer's request.

Non return check valve

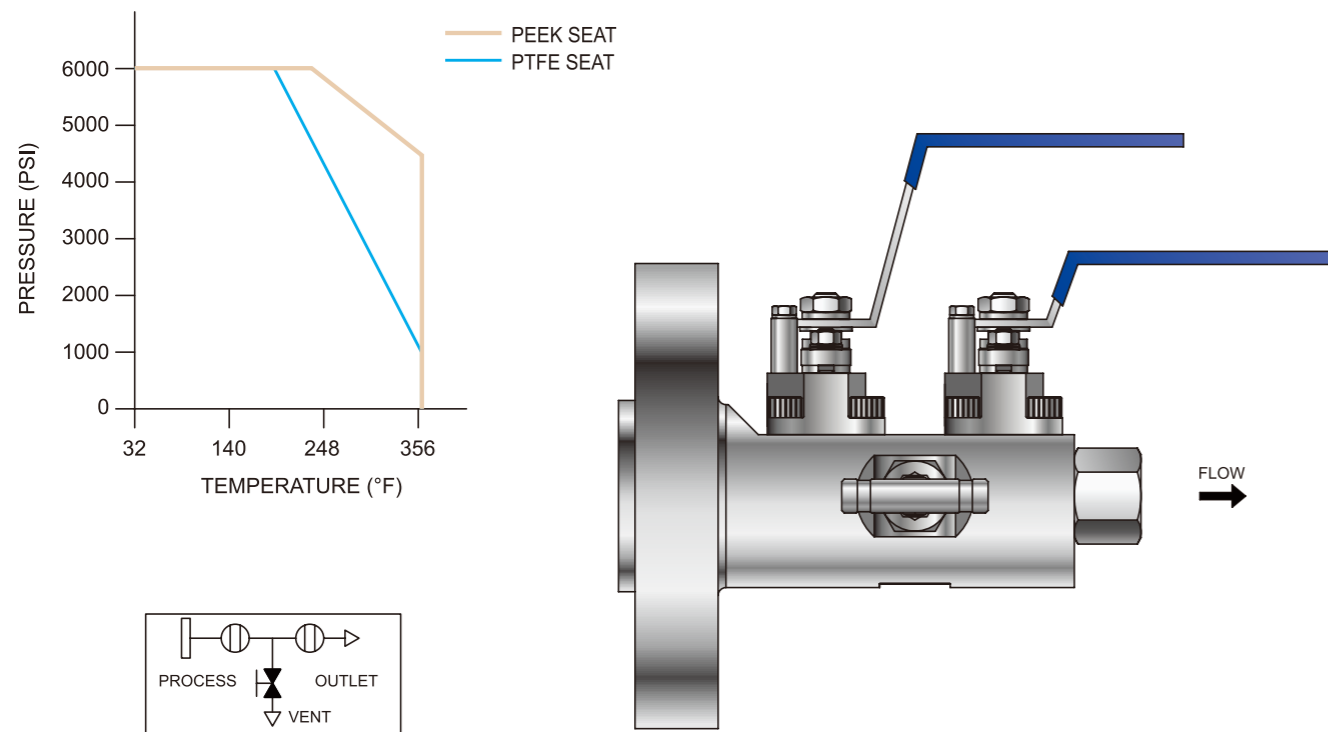
This poppet type spring return valve has a viton soft seal(TANA standard)

FUGITIVE EMISSION

ISO 15848 parts 1&2 (defining a classification system and qualification procedures, and production acceptance test of industrial valves, respectively) specify new ultra low standards for emissions. This standard is becoming the requirement for oil and gas and petrochemical organizations worldwide. The standard was originally created for process valves and control valves but is now being applied to Instrument valves which include primary isolation valves, especially on environmentally sensitive projects. Meeting these low levels is a challenge, which TANA Instrument has solved with the new ball and needle valve designs used in these DBB valves and mono flanges. These designs meet the highest class 'A' level over the temperature range -29°C to +180°C, alongside the standard instrumentation manifold pressure ranges. Production testing and certification is available upon request. Please specify sample quantity required for production testing with your order.

Valve Specication

- Tightness class A >1 x 10⁻⁶ mg.s⁻¹.m⁻¹.
- Maximum cold working pressure rating 6,000 psig.
- Temperature rating -29°C to 180°C (-20° F to 356° F)
- ISO15848-1 prototype tested using global helium vacuum method
- Performance class -ISO FE AH-CO1-SSA1-t(RT, 180° C)-ANSI2500-ISO 15848-1



The ISO 15848 standard effectively sets a requirement for zero emissions for processes involving volatile air pollutants and hazardous fluids. This design has been developed to minimise fugitive emissions.

Ordering Information

Example-1) : **DB-S11-F8R1N8-PE-FS-SS**
 1 3 4 5 3 4 6 7 8

Example-2) : **DB-D11-FB-F8R3-PE-FE-M**
 1 2 3 4 5 6 7 8

1. Valve Series

SERIES IDENTIFY			1st ISOLATE	2st ISOLATE	VENT		
SB	SINGLE BLOCK & BLEED VALVES	S1 / D1	1	BALL	-	NEEDLE	
			2			OS & Y	
			3			BALL	
		S2 / D2	1			OS & Y	OS & Y
			2			NEEDLE	NEEDLE
			3				
DB	DOUBLE BLOCK & BLEED VALVES	S1 / D1	1	BALL	BALL	NEEDLE	
			2			OS & Y	
			3			NEEDLE	
			4			BALL	
			5			NEEDLE	
			6			NEEDLE	
		S2 / D2	1	OS & Y	NEEDLE	OS & Y	
			2				
			3				
			4				
			OS & Y			OS & Y	
			NEEDLE			NEEDLE	

2. Bore size (mm)

- (NIL) - 10mm(STANDARD)
- 14 - 14mm
- 20 - 20mm
- RB - Reducing Bore
- FB - Full Bore

3. Connection type

- F - RAISED FACE FLANGE
- J - RING JOINT FLANGE
- N - FEMALE NPT
- M - MALE NPT
- FF - FLAT FACE FLANGE
- BW - BUTT WELD
- SW - SOCKET WELD

4. Connection size (inch)

- 4 - 1/4 16 - 1"
- 6 - 3/8 24 - 1-1/2"
- 8 - 1/2" 32 - 2"
- 12 - 3/4" 48 - 3"

5. Flange rating (class)

- R1 - 150 R4 - 900
- R2 - 300 R5 - 1500
- R3 - 600 R6 - 2500

6. Ball seat material

- (NIL) - R.PTFE(STANDARD)
- PV - PVDF
- PE - PEEK
- PC - PCTFE
- DE - DEVLON-V

7. Option

- SP - SAMPLING PROBE
- IQ - INJECTION QUILL
- FE - FUGITIVE EMISSION
- LD - LOCKING DEVICE
- AT - ANTI TAMPER KEY
- FS - FIRE SAFETY

8. Body material

- SS(NIL) - ASTM A182 F316
- 105 - ASTM A105
- LF2 - ASTM A350 LF2
- F51 - ASTM A182 F51
- M - MONEL ALLOY 400

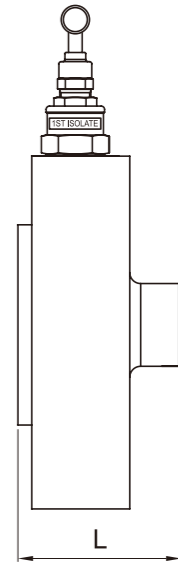
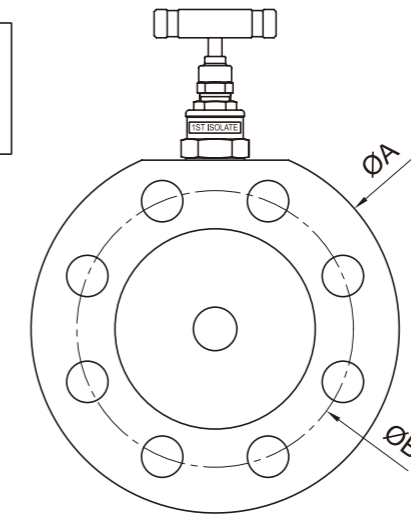
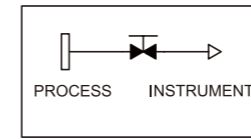
Monoflange valve

Features

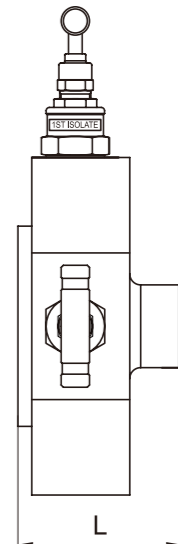
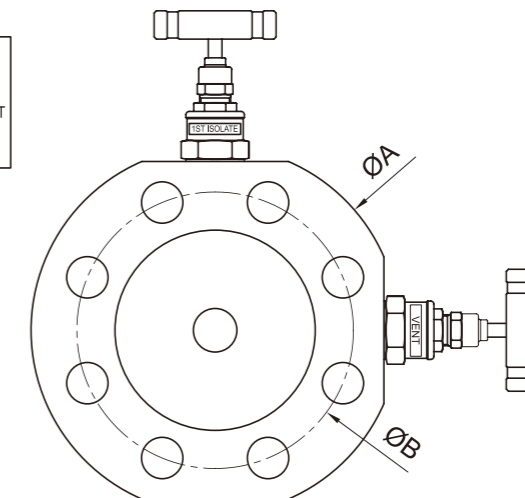
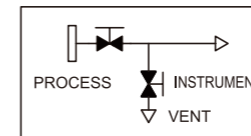
- ANSI B16.5 flanged inlet connections 1/2" to 2" sizes.
- Class 150 rated to class 2500 rated.
- 1/2"-14 NPT(female) standard outlet.
- 1/4"-18 NPT(female) standard vent.
- Standard materials of connection: Stainless steel
- Optional materials on request.
Stainless steel ASTM A182 F316/F316L
Carbon steel ASTM A350 LF2/A105
Duplex ASTM A182 F51, Super Duplex
Monel, Hastelloy, 6Mo, Incoloy.
- Combined needle and OS &Y valves available.
- Raised face and ring type joint flange face styles.
- One-piece forged construction flange as standard
- Fire safe designed to meet BS 6755 Part 2 / API 607.
(As option)
- Pressure boundary designs calculated to ASME VIII Div 1 and verified by testing.
- Heat code traceable material to EN 10204.3.1.
- Bubble tight shut off valve seats 17-4 PH tips standard.
- Optional PEEK tips available.
- Colour coded functional valves.
- Locking and anti tamper devices for all valve types available. (as option)
- Permanent marked body with full order and specification details.



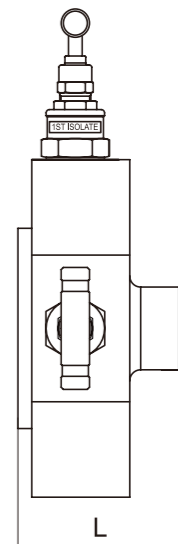
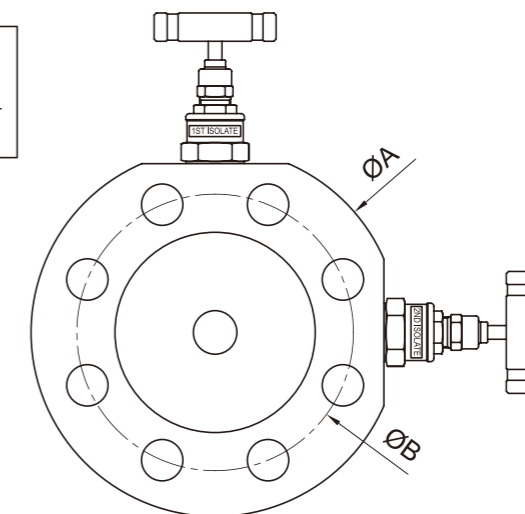
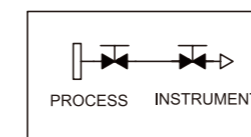
MF-V1 Series



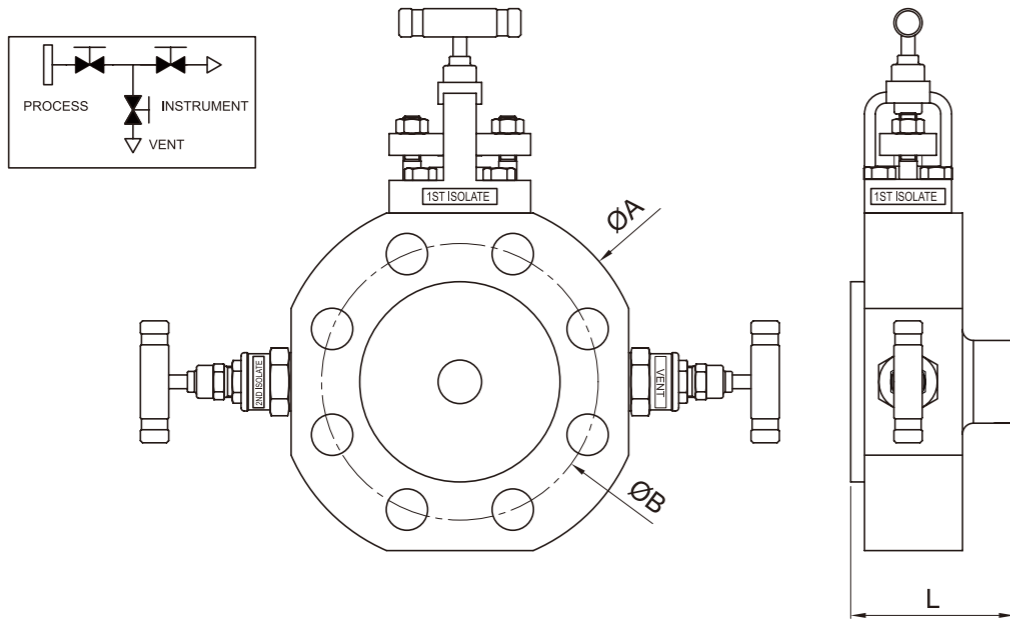
MF-V2 Series



MF-V3 Series



MF-V4 SERIES



Dimensions

SIZE (inch)	RATING (lb)	DIMENSION (mm)			
		L(RF)	L(RTJ)	A	B
1/2 (DN15)	150	64	-	89	60.3
	300			96	66.7
	600	68	64	121	82.5
	900/1500			134	88.9
	2500			99	69.8
3/4 DN(20)	150	64	-	99	69.8
	300	68	68	118	82.5
	600			130	88.9
	900/1500	73	73	140	95.2
	2500			108	79.4
1 (DN25)	150	64	68	124	88.9
	300	68			
	600	73	73	150	101.6
	900/1500			159	108.0
	2500			127	98.4
1-1/2 (DN40)	150	64	68	156	114.3
	300	69	69		
	600	73	73	178	123.8
	900/1500			203	146.1
	2500	82	84	216	165.1
2 (DN50)	150	69	73	165	127.0
	300				
	600	82	84	216	165.1
	900/1500			216	165.1

*Dimensions are for reference only and are subject to change.

Ordering Information

Example) : **MF - V11 - F8R1N8-SS-AT**
 1 2 3 4 2 3 5 6

1. Valve Series

SERIES IDENTIFY		1st ISOLATE	2st ISOLATE	VENT	
MF	V1	1	-	-	
		2			
	V2	1	-	NEEDLE	
		2			
	V3	1	NEEDLE	-	
		2			
	V4	1	NEEDLE	NEEDLE	NEEDLE
		2		OS & Y	
3		OS & Y	NEEDLE		
4			OS & Y		

2. Connection type

- F - RAISED FACE FLANGE
- J - RING TYPE JOINT FLANGE
- N - NPT
- BW - BUTT WELD
- SW - SOCKET WELD

3. Connection size (inch)

- 4 - 1/4 16 - 1"
- 6 - 3/8 24 - 1-1/2"
- 8 - 1/2" 32 - 2"
- 12 - 3/4"

4. Flange rating (class)

- R1 - 150 R4 - 900
- R2 - 300 R5 - 1500
- R3 - 600 R6 - 2500

5. Body Material

- SS(NIL) - ASTM A 182 F316
- 105 - ASTM A105
- LF2 - ASTM A350 LF2
- F51 - ASTM A182 F51
- M - MONEL ALLOY 400

6. Option

- BB - BOLTED BONNET
- FE - FUGITIVE EMISSION
- LD - LOCKING DEVICE
- AT - ANTI TAMPER KEY
- FS - FIRE SAFETY