

# Integral Block & Bleed Valves

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We support the innovations of customers



# 16



Catalogue No. S-LOK Oct.2020

# SSB & SDB Series Block & Bleed Valves

S-LOK Block & Bleed Valves has the ultimate solutions for a compact range one-piece forged body primary isolation Valves, featuring a choice of end connections, body styles and valve technology.

## Product Information

### Design Standards

- ASME B 16.34 Valves-Flanged, Threaded, and Welding End.
- ASME B 16.5 Pipe Flanges and Flanged Fittings.
- ASME B 1.20.1 Pipe Threads, General Purpose.
- API 607 / BS 6755 part 2 Fire test for Quarter-turn Valves.
- ISO 15848-1 / 15848-2 Measurement, test and qualification procedures for fugitive emissions.
- NACE MR 0175 / ISO 15156 General principles for selection of cracking-resistant materials.

### Applications

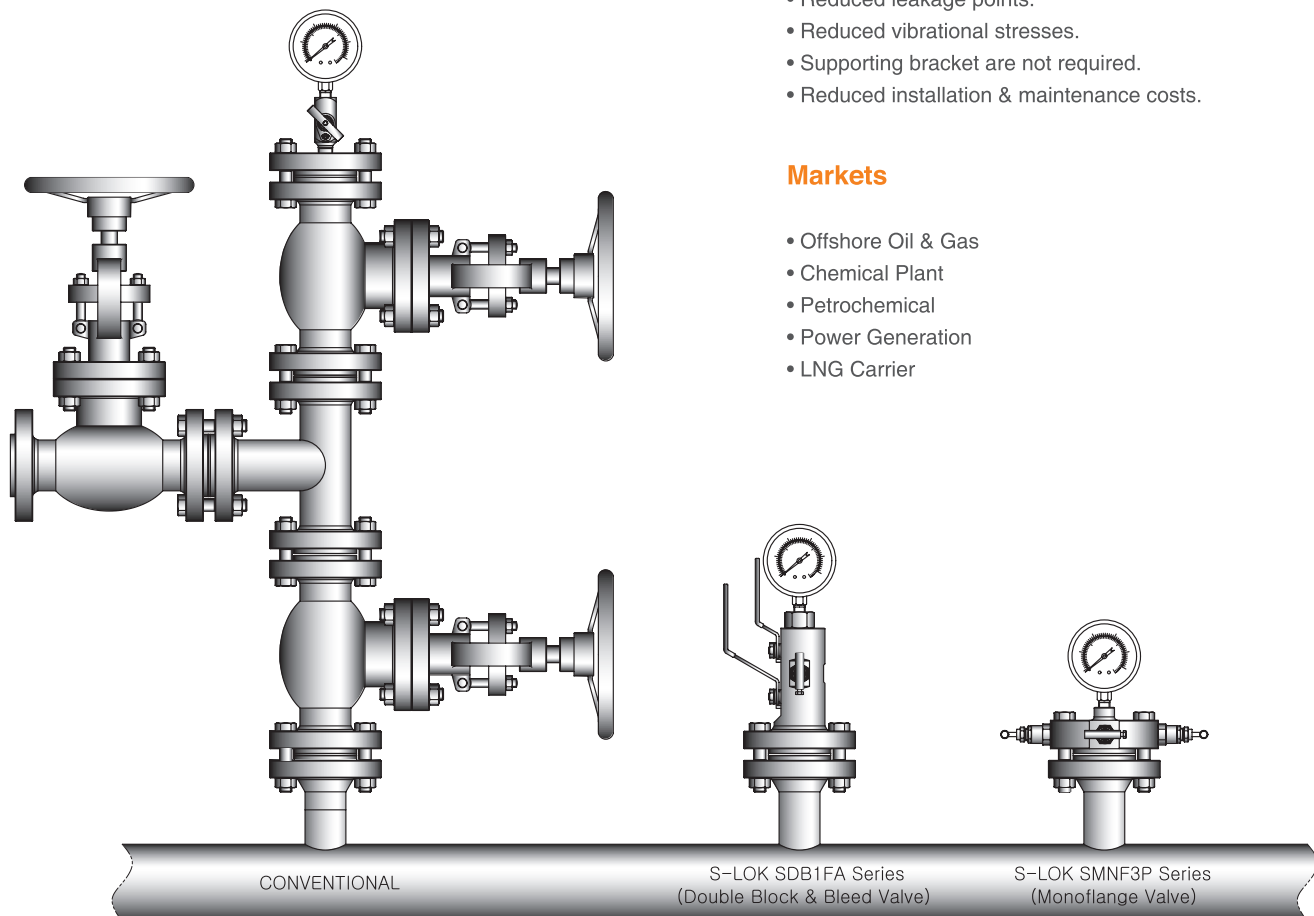
- Double block and bleed instrument isolation.
- Process piping isolation point.
- Chemical injection systems.
- Sampling systems.
- Instrument Vents & drain.
- Piping / instrument interface.
- Direct mounting of instruments.

### Installation Advantages

- Compact design.
- Provided weight & space savings.
- Reduced leakage points.
- Reduced vibrational stresses.
- Supporting bracket are not required.
- Reduced installation & maintenance costs.

### Markets

- Offshore Oil & Gas
- Chemical Plant
- Petrochemical
- Power Generation
- LNG Carrier



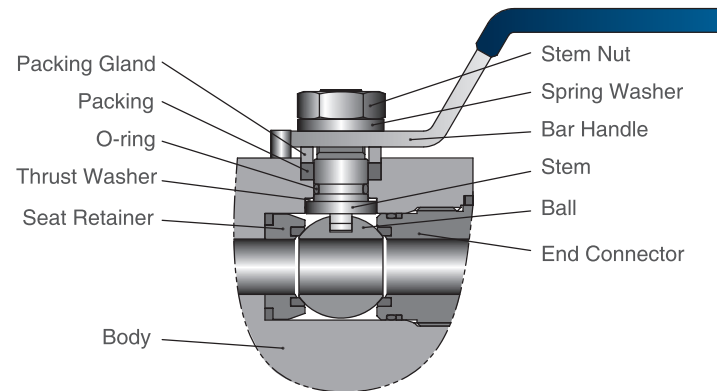
## Ball Valve Specification

### Design Standards

- ASME B 16.5 angled connections 1/2" to 2" sizes.
- Class150 rated to Class2500 rated.
- API angled connections sizes to 2-1/16"
- 1/2" ~ 1" NPT threaded female outlet / vent to ASME B1.20.1.
- Material thickness to ASME B16.34.
- Bolted Body construction (Inlet or Outlet) is options.
- Pressure test is in accordance with API 598.
- Fire safe designed to API 607, BS6755 Part2.

### Features

- Blowout proof stem.
- Fully encapsulated allow high working pressure.
- Super finished ball for low operating torque and long life.
- End connector threads are fully isolated from process by primary and secondary static seals.
- Color coded and function identified handles.
- Bore size available 10mm (3/8"), ~ 50mm (2").
- Ball seats choice of materials : PTFE(virgin or filled), PEEK.
- Anti-static design as standard.
- Pressure rating up to 10,000psig (690bar).
- Temperature rating -70.6°F to 482°F (-57°C to 250°C).
- Optional : NACE Compliance, Locking Device Handle.



## Materials of Construction

Description	Material Grade			
	Stainless Steel	Carbon Steel	Lower Temp. Carbon Steel	Duplex Stainless Steel
Body, Connector	A182 F316	A105	A350 LF2	A182 F51
Ball	SS316 / A479 or A276			UNS S31803
Stem	SS316 / A479 or A276			UNS S31803
Seat	PTFE / Reinforced PTFE / PEEK			
Thrust Washer	PEEK			
O-Ring	NBR / FKM (VITON)			
Packing, Seal	GRAPHITE / PTFE			
Bolt	A193 B8M	A193 B7	A320 L7	A453-660
Nut	A194 8M	A194 2H	A194 7	A453-660
All other part	Stainless steel			

### NOTE

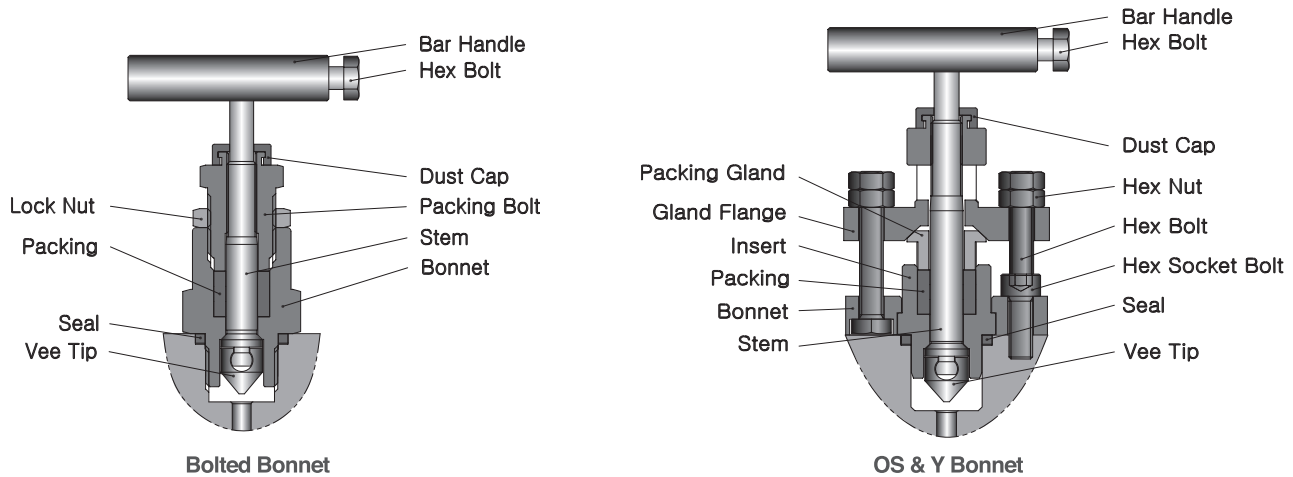
Stainless steel is standard body material but such a Monel, Super Duplex, Hastelloy, Inconel and other special material are available upon request.

## Needle Valve Specification

### Features

- Rolled stem threads prevent galling. Stem threads are completely isolated from the process.
- Stem packing with Graphite or PTFE rings for bubble-tight seal.
- Stem tip construction : non-rotating self-centering, Anti-galling tip positive bubble-tight and field interchangeable rip.
- Backseat design provides secondary stem sealing & prevents stem blowout.
- Packing bolt allows easy access to adjust the packing gland.
- Robust bar handle is standard.
- Color coded and function label for easy identification.
- Orifice size 0.2" (5mm).
- Pressure rating up to 10,000psig(690bar).
- Temperature rating -70.6°F to 1,022°F (-57°C to 550°C)
- Anti-Temper bonnets are available with a removable T-bar key to prevent unauthorized operation of vent valves.
- Standard valves are offered with Graphite. PTFE is also available as an option
- Stem threads are completely isolated from the process.
- Bolted bonnet for strength and reliability.
- Flange gasket seal ensures a bubble-tight between body & bonnet.
- Adjustable gland angle allows easy access to the packing gland and packing adjustment for an effective stem seal.
- Investment cast yoke is precision casted for strength and perfect stem alignment.

### Material of Construction

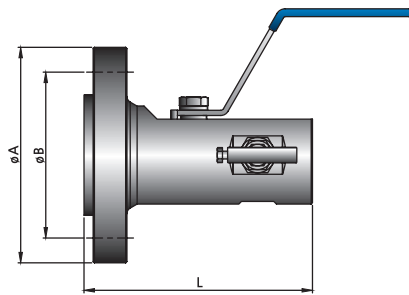


Description		Material Grade			
		Stainless Steel	Carbon Steel	Lower Temp. Carbon Steel	Duplex Stainless Steel
Bonnet	Bolted	SS316 / A479 or A276	A105	A350 LF2	UNS S31803
	OS & Y	A351 CF8M	A216 WCB	A352 LCC	UNS S31803
Vee Tip		A564-630			UNS S31803
Stem		SS316 / A479 or A276			UNS S31803
Insert		SS316 / A479 or A276			UNS S31803
Packing, Seal		GRAPHITE / PTFE			
Hex Socket Bolt (OS & Y)		A193 B8M	A194 B7	A320 L7	A453-660
All Other Part		Stainless Steel			

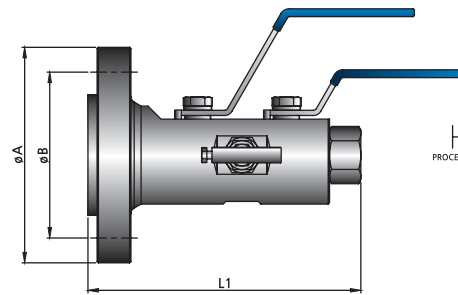
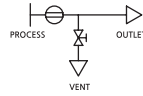
### NOTE

Stainless steel is standard body material but such a Monel, Super Duplex, Hastelloy, Inconel and other special material are available upon request.

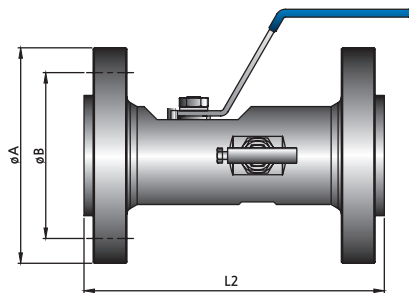
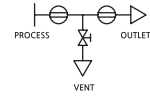
# SSB / SDB1F\* Series



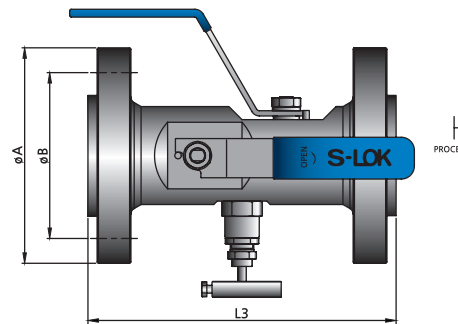
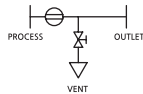
SSB1FA



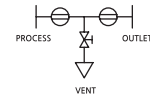
SDB1FA



SSB1FB



SDB1FB



## ⚡ Dimensions (Bore-10)

Size (Inch)	Pressure Rating (Class)	Dimension (mm)					
		L (RF)	L1 (RF)	L2 (RF)	L3 (RF)	øA	øB
1/2	150	130	170	160	185	90	60.3
	300	135	170	165	190	95	66.7
	600	140	175	180	205	95	66.7
	900/1500	155	195	205	235	120	82.6
	2500	165	200	225	250	135	88.9
3/4	150	135	170	160	190	100	69.9
	300	135	175	175	200	115	82.6
	600	145	180	190	215	115	82.6
	900/1500	160	200	215	240	130	88.9
	2500	165	205	225	255	140	95.2
1	150	135	170	165	195	110	79.4
	300	140	180	180	205	125	88.9
	600	150	185	195	225	125	88.9
	900/1500	165	205	225	255	150	101.6
	2500	170	210	240	270	160	108.0
1-1/2	150	140	175	170	200	125	98.4
	300	150	185	185	215	155	114.3
	600	155	195	205	235	155	114.3
	900/1500	175	215	245	275	180	123.8
	2500	190	230	285	310	205	146.0
2	150	145	185	180	210	150	120.7
	300	150	190	185	215	165	127.0
	600	155	195	205	235	165	127.0
	900/1500	175	220	245	275	215	165.1
	2500	195	235	295	315	235	171.4

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

### ↳ Dimensions (Bore-14)

Size (Inch)	Pressure Rating (Class)	Dimension (mm)					
		L (RF)	L1 (RF)	L2 (RF)	L3 (RF)	øA	øB
3/4	150	150	185	175	210	100	69.9
	300	155	195	185	225	115	82.6
	600	160	200	200	235	115	82.6
	900/1500	175	215	225	260	130	88.9
	2500	180	220	240	275	140	95.2
1	150	150	185	175	215	110	79.4
	300	155	195	190	225	125	88.9
	600	165	205	205	245	125	88.9
	900/1500	180	220	240	265	150	101.6
	2500	185	225	250	290	160	108.0
1-1/2	150	155	190	180	220	125	98.4
	300	160	200	200	235	155	114.3
	600	170	210	220	255	155	114.3
	900/1500	190	230	255	300	180	123.8
	2500	210	245	285	330	205	146.0
2	150	160	195	190	230	150	120.7
	300	160	200	200	235	165	127.0
	600	170	210	220	255	165	127.0
	900/1500	190	230	265	305	215	165.1
	2500	210	250	300	345	235	171.4

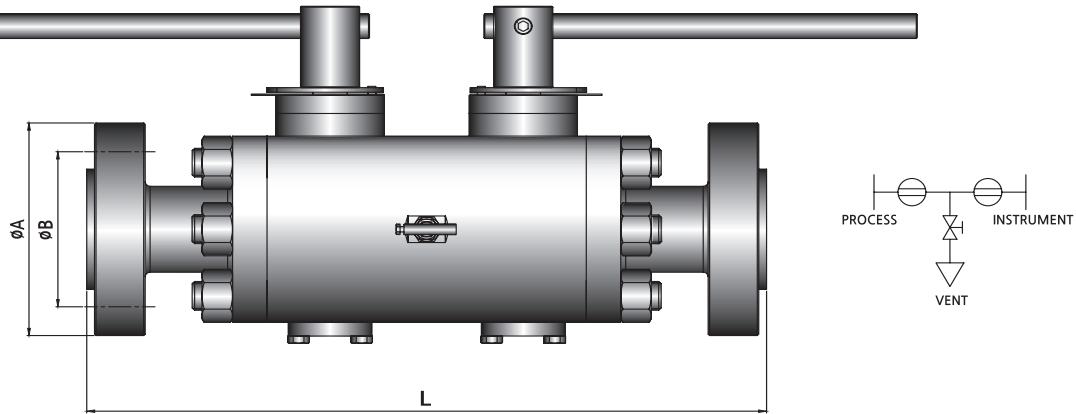
\* Dimensions are for reference only and are subject to change.

### ↳ Dimensions (Bore-20)

Size (Inch)	Pressure Rating (Class)	Dimension (mm)			
		L (RF)	L3 (RF)	øA	øB
1-1/2	150	230	230	125	98.4
	300	235	250	155	114.3
	600	245	270	155	114.3
	900/1500	270	315	180	123.8
	2500	305	375	205	146.0
3/4	150	230	245	150	120.7
	300	235	250	165	127.0
	600	245	270	165	127.0
	900/1500	270	315	215	165.1
	2500	310	380	235	171.4

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

# SDB3FB Series



## ↗ Dimensions (Reducing Bore)

Size (Inch)	Pressure Rating (Class)	Dimension (mm)		
		L (RF)	øA	øB
1	150	260	110	79.4
	300	275	125	88.9
	600	295	125	88.9
	900/1500	365	150	101.6
	2500	430	160	108.0
1-1/2	150	275	125	98.4
	300	290	155	114.3
	600	330	155	114.3
	900/1500	425	180	123.8
	2500	490	205	146.0
2	150	320	150	120.7
	300	330	165	127.0
	600	380	165	127.0
	900/1500	475	215	165.1
	2500	550	235	171.4

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

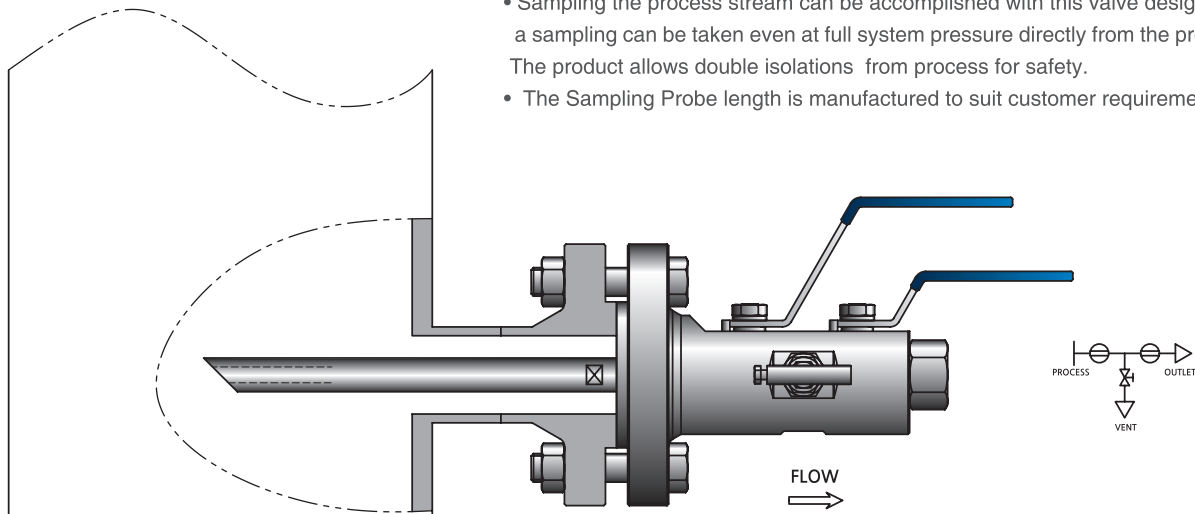
## ↗ Dimensions (Full Bore)

Size (Inch)	Pressure Rating (Class)	Dimension (mm)		
		L (RF)	øA	øB
1-1/2	150	310	125	98.4
	300	330	155	114.3
	600	395	155	114.3
	900/1500	460	180	123.8
	2500	540	205	146.0
2	150	335	125	98.4
	300	355	155	114.3
	600	420	155	114.3
	900/1500	520	180	123.8
	2500	690	205	146.0

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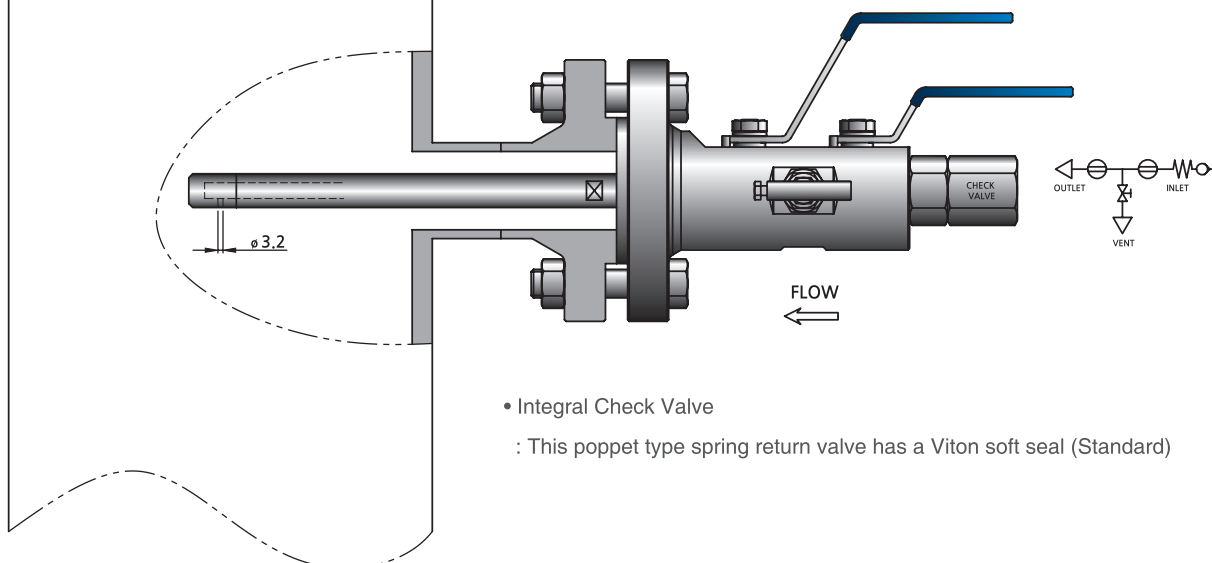
### Sampling Double Block & Bleed Valves

- Sampling the process stream can be accomplished with this valve design, where a sampling can be taken even at full system pressure directly from the process line. The product allows double isolations from process for safety.
- The Sampling Probe length is manufactured to suit customer requirements.



### Injection Double Block & Bleed Valves

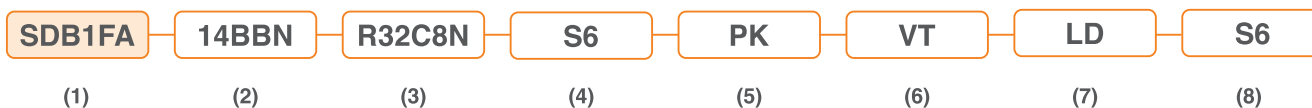
- Injection of chemicals and other media into the process stream can be accomplished with this valve design.
- The valve inlet houses a one way check valve which opens for injection and goes normally closed to eliminate process fluid outflow.
- The Injection Quill length is manufactured to suit customer requirements.
- The Injection Nozzle is a 3.2mm diameter hole. (Standard)



- Integral Check Valve  
: This poppet type spring return valve has a Viton soft seal (Standard)



## Ordering Information



### (1) Valve Model & Body Type

**SSB** : Single Block & Bleed (Floating)  
**SDB** : Double Block & Bleed (Floating)  
**SSBT** : Single Block & Bleed (Trunnion)  
**SDBT** : Double Block & Bleed (Trunnion)

**1F** : 1-piece Forged  
**2F** : 2-piece Forged  
**3F** : 3-piece Forged

**A** : Flanged x Female NPT  
**B** : Flanged x Flanged  
**C** : Female NPT x Female NPT  
**D** : Male NPT x Female NPT  
**E** : Socket Weld x Socket Weld  
**F** : Socket Weld x Female NPT  
**G** : Butt Weld x Butt Weld  
**H** : Butt Weld x Female NPT

### (2) Bore & Valve Type (Primary – Secondary – Vent)

**10** : 10mm    **32** : 31.8mm  
**14** : 14mm    **38** : 38.1mm  
**20** : 19mm    **50** : 50mm  
**25** : 25mm

**B** : Ball Valve  
**N** : Needle Valve  
**O** : OS & Y Needle Valve  
**G** : Gate Valve

### (3) Connection Detail (Inlet – Pressure Class – Outlet)

**R-** : Raised Face  
**F-** : Flat Face  
**J-** : Ring Type Joint  
**BW-** : Butt Weld  
**SW-** : Socket Weld  
**PE-** : Plain End

**-R** : PT  
**-N** : NPT  
**-G** : PF

**8** : 1/2" (DN-15)  
**12** : 3/4" (DN-20)  
**16** : 1" (DN-25)  
**20** : 1-1/4" (DN-32)  
**24** : 1-1/2" (DN-40)  
**32** : 2" (DN-50)

**A** : CLASS 150  
**B** : CLASS 300  
**C** : CLASS 600  
**D** : CLASS 900  
**E** : CLASS 1500  
**F** : CLASS 2500  
**S** : CLASS 800

### (4)(8) Trim / Body Material

**S6** : SS316/316L  
**S6L** : SS316L  
**S4** : SS304  
**D** : UNS S31803  
**SD** : UNS S32750

**S630** : SS630  
**A400** : Monel 400  
**A625** : Inconel 625  
**A825** : Inconel 825  
**AB** : AL-Bronze

**LF2** : A350 LF2  
**105** : A105  
**15N** : A105N

### (5) Seat Material

**TE** : PTFE  
**T1** : GLASS 15% PTFE  
**T2** : GLASS 25% PTFE  
**T3** : CARBON 15% PTFE  
**T4** : CARBON 25% PTFE

**PK** : PEEK  
**PC** : PCTFE  
**DEV** : DEVLON  
**NY6** : NYLON-6  
**PM** : POM

**TCC** : METAL (SS316 + T.C.C)  
**STL** : METAL (SS316 + STELLITE)

### (6) O-Ring Material

**NBR** : NBR  
**HNB** : HNBR  
**VT** : VITON (FKM)

**EP** : EPDM  
**KA** : KALREZ (FFKM)

**-A** : AED

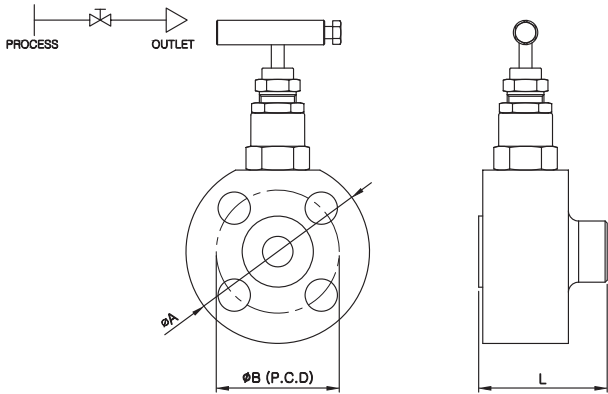
### (7) Option

**FS** : Fire Safety  
**LD** : Locking Device  
**AT** : Anti-Tamper Key  
**SP** : Sampling Probe  
**IQ** : Injection Quill

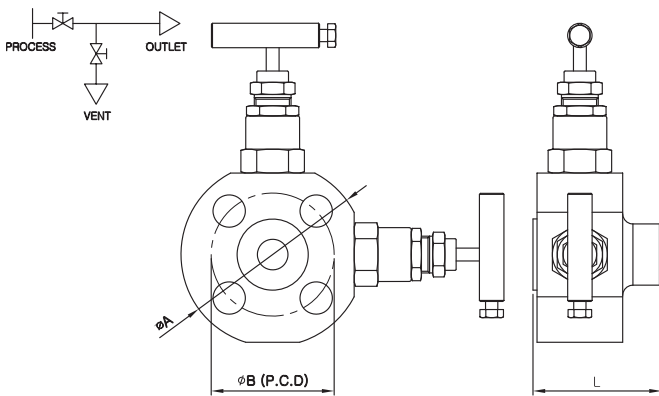
**FEA** : Fugitive Class-A  
**FEB** : Fugitive Class-B  
**WO** : Welding Overlay  
**WP** : Vent Plug  
**WF** : Vent Flange

**LBT** : Long Bonnet  
**V4N** : Vent 1/4" NPT  
**LT** : Low Temperature Service  
**CY** : Cryogenic Service

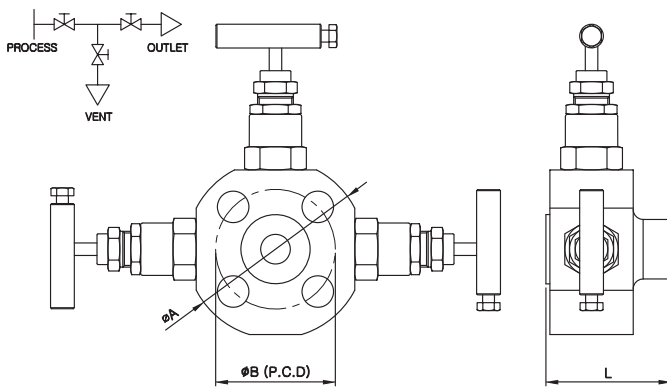
# SMNF Series Mono Flanged Valves



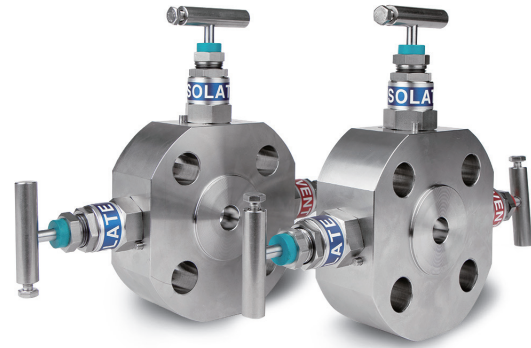
SMNF1P-A



SMNF2P-A



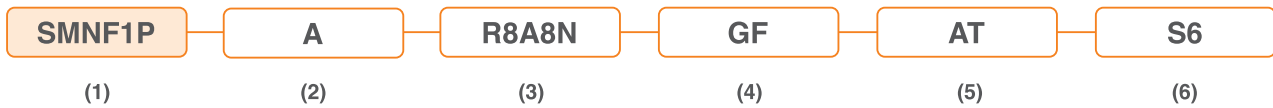
SMNF3P-A



## Dimensions

Size (Inch)	Pressure Rating (Class)	Dimension (mm)		
		L (RF)	ØA	ØB
1/2	150	63	90	60.3
	300	63	95	66.7
	600	68	95	66.7
	900/1500	68	120	82.6
	2500	68	135	88.9
3/4	150	63	100	69.9
	300	63	115	82.6
	600	68	115	82.6
	900/1500	68	130	88.9
	2500	72	140	95.2
1	150	63	110	79.4
	300	63	125	88.9
	600	68	125	88.9
	900/1500	72	150	101.6
	2500	72	160	108.0
1-1/2	150	63	125	98.4
	300	68	155	114.3
	600	72	155	114.3
	900/1500	72	180	123.8
	2500	78	205	146.0
2	150	68	150	120.7
	300	68	165	127.0
	600	72	165	127.0
	900/1500	72	215	165.1
	2500	78	235	171.4

## Ordering Information



### (1) Valve Model & Body Type

SMNF: Mono Flange Valves

1P : Block Valve  
 2P : Single Block & Bleed Valves  
 3P : Double Block & Bleed Valves

### (2) Valve Type (Primary – Secondary – Vent)

Valve type		Primary Valve	Secondary Valve	Bleed Valve
1P	A	Bolted Needle	-	-
	B	OS&Y Needle	-	-
2P	A	Bolted Needle	-	Bolted Needle
	B	OS&Y Needle	-	Bolted Needle
3P	A	Bolted Needle	Bolted Needle	Bolted Needle
	B	OS&Y Needle	Bolted Needle	Bolted Needle
	C	OS&Y Needle	OS&Y Needle	Bolted Needle

### (3) Connection Detail (Inlet – Pressure Class – Outlet)

R- : Raised Face	-R : PT	8 : 1/2" (DN-15)	A : CLASS 150
F- : Flat Face	-N : NPT	12 : 3/4" (DN-20)	B : CLASS 300
J- : Ring Type Joint	-G : PF	16 : 1" (DN-25)	C : CLASS 600
		20 : 1-1/4" (DN-32)	D : CLASS 900
		24 : 1-1/2" (DN-40)	E : CLASS 1500
		32 : 2" (DN-50)	F : CLASS 2500

### (4) Packing Material

TE : PTFE  
 GF : GRAPHITE

### (5) Option

FS : Fire Safety	FEA : Fugitive Class-A
LD : Locking Device	FEB : Fugitive Class-B
AT : Anti-Tamper Key	V4N : Vent 1/4" NPT
WP: Vent Plug	

### (6) Body Material

S6 : SS316/316L	S630 : SS630	LF2 : A350 LF2
S6L : SS316L	A400 : Monel 400	105 : A105
S4 : SS304	A625 : Inconel 625	15N : A105N
D : UNS S31803	A825 : Inconel 825	
SD : UNS S32750	AB : AL-Bronze	

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