



SVI
SUN VALVE INC.

Gate Valve

Size: ½" thru 2"

Class: 150 thru 1500

Design: API602

Ends: NPT&SW, Flanged



**Small Forged
Gate, Globe & Check
Valve**



Globe Valve

Size: ½" thru 2"

Class: 150 thru 1500

Design: API602

Ends: NPT&SW, Flanged

Check Valve

Size: ½" thru 2"

Class: 150 thru 1500

Design: API602

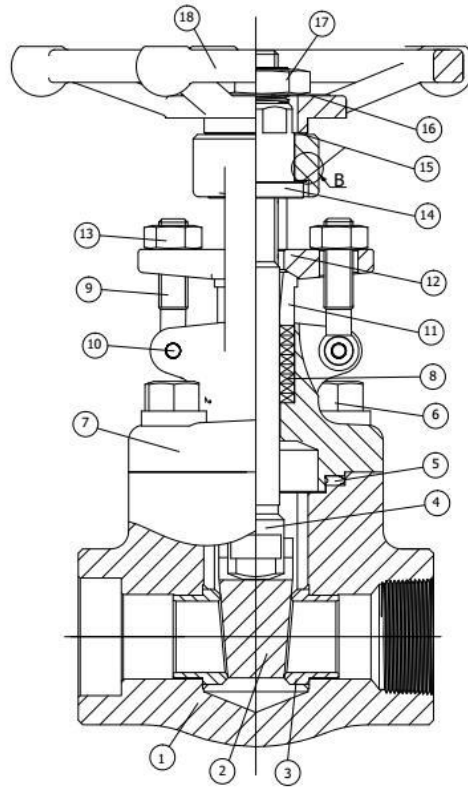
Ends: NPT&SW, Flanged



Forged Gate Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

Design and Manufacturing Standards	
DESIGN:	API 602 ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800, 900, 1500 FLANGED – 150,300,600,900, 1500
CONNECTIONS:	NPT – ASME B1.20.1
	SW - ASME B16.11
	FLANGED – ASME B16.5 FACE TO FACE-ASME B16.10

BB Series:
Bolted Bonnet



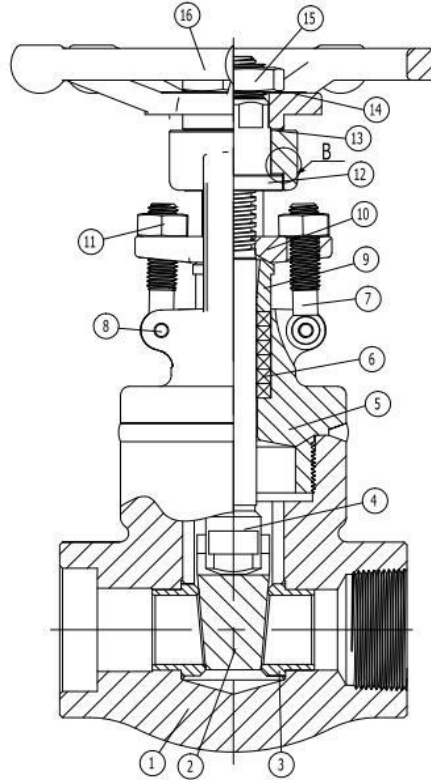
NO.	DISCRIPTION	Material list accordance to Application type				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
2	WEDGE	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
3	SEAT RING	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 316+STL	ASTM A182 F51
4	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
5	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
6	BONNET BOLT	ASTM A193-B7/B7M	ASTM A320-L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
7	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
8	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
9	GLAND BOLT	ASTM A193-B7/B7M	ASTM A320 -L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
10	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
11	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
12	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
13	NUT	ASTM A194-2H/2HM	ASTM A194-4/7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
14	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
15	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
16	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
17	HAND WHEEL NUT	A108 1020	A108 1020	A108 1020	A108 1020	A108 1020
18	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request

Forged Gate Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

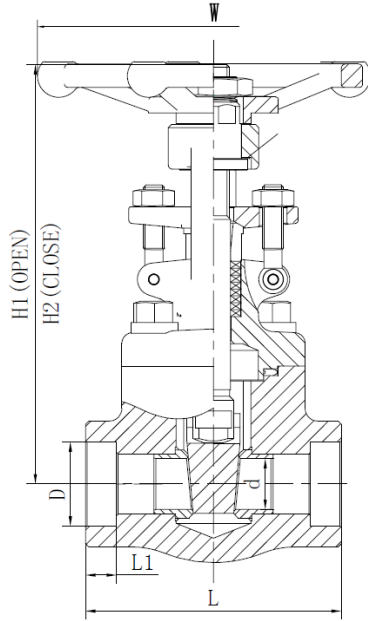
Design and Manufacturing Standards	
DESIGN:	API 602 ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800, 900, 1500 FLANGED – 150,300,600,900, 1500
CONNECTIONS:	NPT – ASME B1.20.1
	SW - ASME B16.11
	FLANGED – ASME B16.5
	FACE TO FACE–ASME B16.10

WB Series:
Welded Bonnet

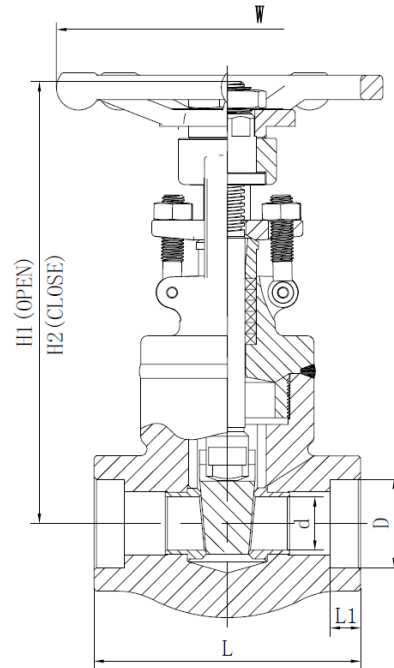


NO.	DISCRIPTION	Material list accordance to Application type				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
2	WEDGE	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
3	SEAT RING	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 316+STL	ASTM A182 F51
4	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
5	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
6	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
7	GLAND BOLT	ASTM A193-B7/B7M	ASTM A320 -L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
8	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
9	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
10	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
11	NUT	ASTM A194-2H/2HM	ASTM A194-4/7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
12	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
13	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
14	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
15	HAND WHEEL NUT	A108 1020	A108 1020	A108 1020	A108 1020	A108 1020
16	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of SW-800 BB Series

SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H1±5	H2±5	W±5
1/2"	79.0	Φ13.0	Φ21.8	10.0	157.0	142.0	100.0
3/4"	92.0	Φ13.0	Φ27.2	13.0	157.0	142.0	100.0
1"	111.0	Φ18.0	Φ33.9	13.0	185.0	165.0	120.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	226.0	200.0	160.0
1 1/2"	120.0	Φ29.0	Φ48.8	13.0	241.0	209.0	160.0
2"	140.0	Φ36.5	Φ61.2	16.5	273.0	229.0	220.0

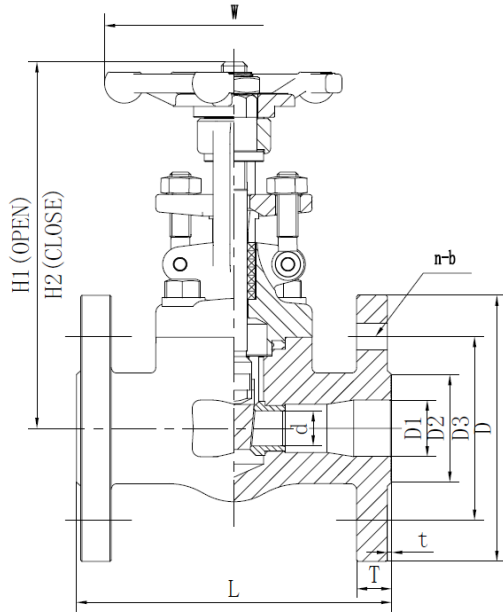
Regular Port Dimension(mm) of SW-800 WB Series

SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H1±5	H2±5	W±5
1/2"	79.0	Φ13.0	Φ21.8	10.0	158.0	143.0	100.0
3/4"	92.0	Φ13.0	Φ27.2	13.0	162.0	147.0	100.0
1"	111.0	Φ18.0	Φ33.9	13.0	198.0	178.0	120.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	230.0	204.0	160.0
1 1/2"	120.0	Φ29.0	Φ48.8	13.0	244.0	213.0	160.0
2"	140.0	Φ36.5	Φ61.2	16.5	284.0	245.0	220.0

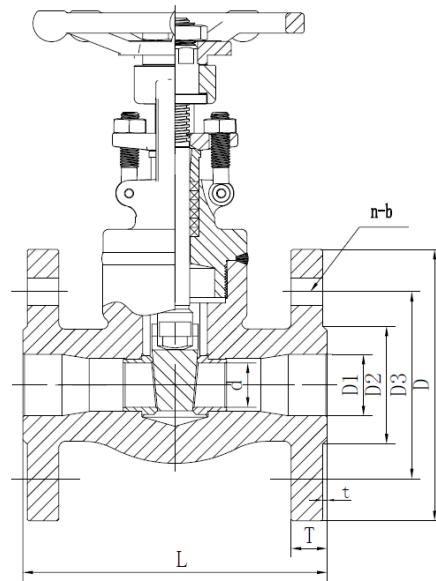
Regular Port Dimension(mm) of W-1500 BB Series

SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H1±5	H2±5	W±5
1/2"	111.0	Φ13.0	Φ21.8	10.0	180.0	165.0	120.0
3/4"	111.0	Φ13.0	Φ27.2	13.0	180.0	165.0	120.0
1"	120.0	Φ18.0	Φ33.9	13.0	220.0	200.0	160.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	235.0	209.0	160.0
1 1/2"	140.0	Φ29.0	Φ48.8	13.0	266.0	235.0	220.0
2"	160.0	Φ36.5	Φ61.2	16.5	322.0	283.0	220.0

Regular Port Dimension(mm) of SW-1500 WB Series							
SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H1±5	H2±5	W±5
1/2"	111.0	Φ13.0	Φ21.8	10.0	196.0	181.0	120.0
3/4"	111.0	Φ13.0	Φ27.2	13.0	196.0	181.0	120.0
1"	120.0	Φ18.0	Φ33.9	13.0	225.0	205.0	160.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	239.0	213.0	160.0
1 1/2"	140.0	Φ29.0	Φ48.8	13.0	279.0	248.0	220.0
2"	178.0	Φ36.5	Φ61.2	16.5	319.0	280.0	220.0



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of RF-150 BB Series												
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	108.0	Φ10.0	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	153.0	140.0	100.0
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	157.0	142.0	100.0
1"	127.0	Φ18.0	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	185.0	165.0	120.0
1 1/2"	165.0	Φ29.0	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	241.0	210.0	160.0
2"	178.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	280.0	240.0	220.0

Regular Port Dimension(mm) of RF-150 WB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	
1/2"	108.0	Φ10.0	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	
1"	127.0	Φ18.0	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	
1 1/2"	165.0	Φ29.0	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	
2"	178.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	

Product Line Technical Data

Regular Port Dimension(mm) of RF-300 BB Series												
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	140.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	153.0	140.0	100.0
3/4"	152.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ19	157.0	142.0	100.0
1"	165.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ19	185.0	165.0	120.0
1½"	190.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ22.5	241.0	210.0	160.0
2"	216.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	23.5	2.0	8-Φ19	280.0	240.0	220.0

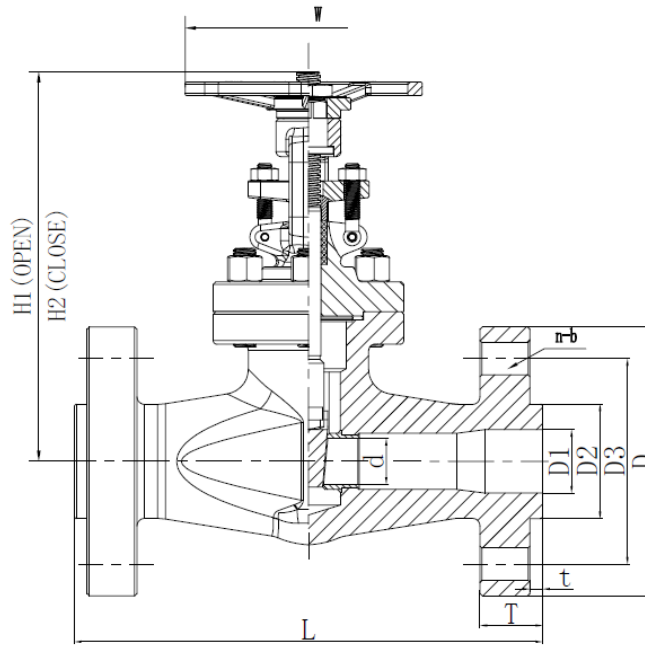
Regular Port Dimension(mm) of RF-300 WB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	
1/2"	140.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	
3/4"	152.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ19	
1"	165.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ19	
1½"	190.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ22.5	
2"	216.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	23.5	2.0	8-Φ19	

Regular Port Dimension(mm) of RF-600 BB Series												
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	165.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	153.0	140.0	100.0
3/4"	190.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	157.0	142.0	100.0
1"	216.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	185.0	165.0	120.0
1½"	241.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	241.0	210.0	160.0
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	33.5	7.0	8-Φ19	280.0	240.0	220.0

Regular Port Dimension(mm) of RF-600 WB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	
1/2"	165.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	
3/4"	190.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	
1"	216.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	
1½"	241.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	33.5	7.0	8-Φ19	

Regular Port Dimension(mm) of RF-1500 BB Series												
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3 ±1.5	D±2	T _{-0.5} ⁺²	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	216.0	Φ10.0	Φ16.0	Φ34.9	Φ82.6	Φ120.0	29.5	6.4	4-Φ22.5	180.0	165.0	120.0
3/4"	229.0	Φ13.0	Φ21.0	Φ42.9	Φ88.9	Φ130.0	32.5	6.4	4-Φ22.5	180.0	165.0	120.0
1"	254.0	Φ18.0	Φ26.5	Φ50.8	Φ101.6	Φ150.0	36.0	6.4	4-Φ22.5	220.0	200.0	160.0

**Flanged End
with roundness
up flange**



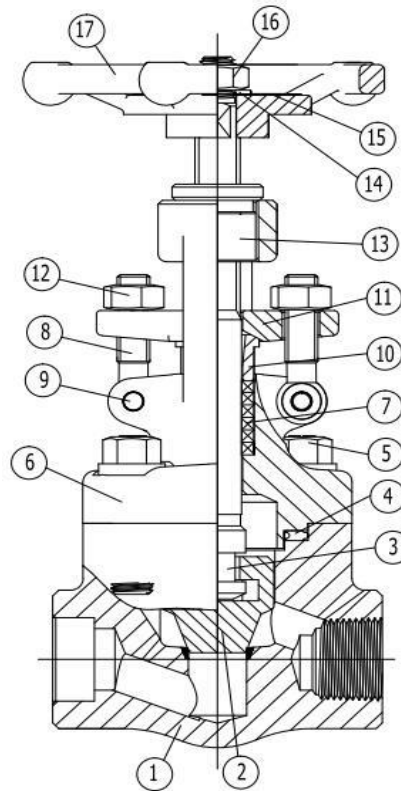
Regular Port Dimension(mm) of RF-1500 BB Series

SIZE	L ±1.6	d ±0.5	D1 ±1.0	D2 ±0.5	D3 ±1.5	D ±2	T ⁺² _{-0.5}	t ±0.5	n-b ±1	H1 ±5	H2 ±5	W ±5
1½"	305.0	Φ29.0	Φ41.0	Φ73	Φ123.8	Φ180.0	39.0	6.4	4-Φ29.0	299.0	268.0	220.0
2"	368.0	Φ36.5	Φ52.5	Φ92.1	Φ165.1	Φ215.0	45.5	6.4	8-Φ25.5	354.0	315.0	260.0

Forged Globe Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

Design and Manufacturing Standards	
DESIGN:	API 602
	MSS SP-118
	ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800, 900, 1500
	FLANGED – 150,300,600,900,1500
CONNECTIONS:	NPT – ASME B1.20.1
	SW - ASME B16.11
	FLANGED – ASME B16.5
	FACE TO FACE–ASME B16.10

BB Series:
Bolted Bonnet



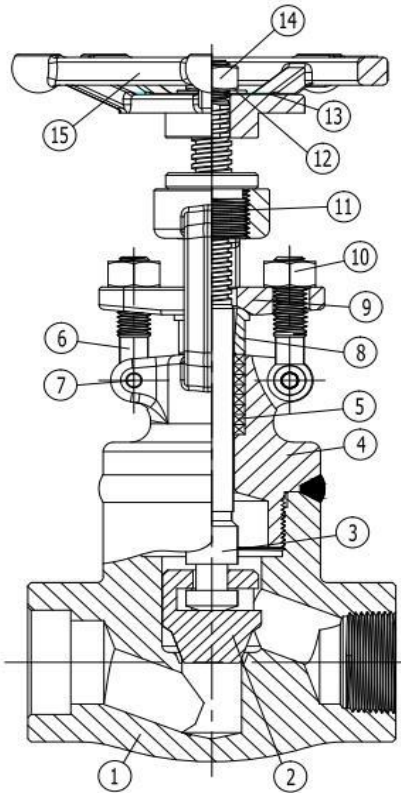
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2	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
3	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
4	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
5	BONNET BOLT	ASTM A193-B7/B7M	ASTM A320-L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
6	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
7	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
8	GLAND BOLT	ASTM A193-B7/B7M	ASTM A320 -L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
9	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
10	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
11	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
12	NUT	ASTM A194-2H/2HM	ASTM A194-4/7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
13	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
14	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
15	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
16	HAND WHEEL NUT	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8
17	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.

Forged Globe Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

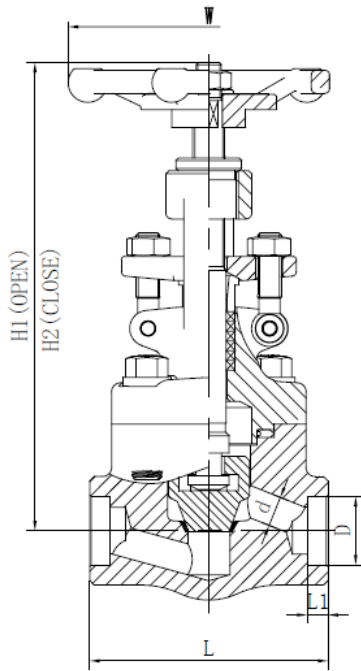
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CONNECTIONS:	NPT – ASME B1.20.1 SW - ASME B16.11 FLANGED – ASME B16.5 FACE TO FACE–ASME B16.10

WB Series:
Welded Bonnet

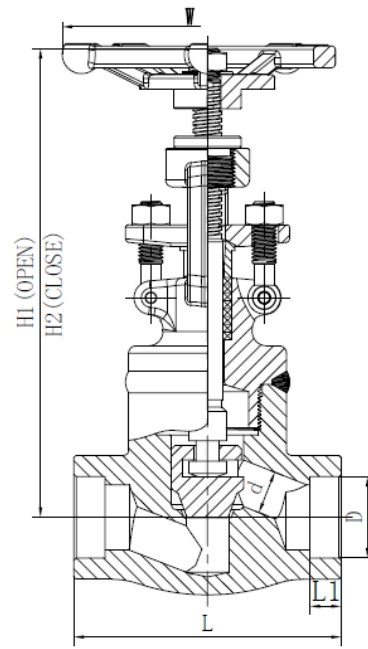


NO.	DISCRIPTION	Material list accordance to Application type				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
3	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
4	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
5	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
6	GLAND BOLT	ASTM A193-B7/B7M	ASTM A320 -L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
7	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
8	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
9	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
10	NUT	ASTM A194-2H/2HM	ASTM A194-4/7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
11	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
12	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
13	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
14	HAND WHEEL NUT	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8
15	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of SW-800 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	161.0	149.0	100.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	161.0	149.0	100.0
1"	111.0	Φ17.5	Φ33.9	13.0	193.0	177.0	120.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	230.0	212.0	160.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	248.0	224.0	160.0
2"	172.0	Φ36.5	Φ61.2	16.5	282.0	258.0	220.0

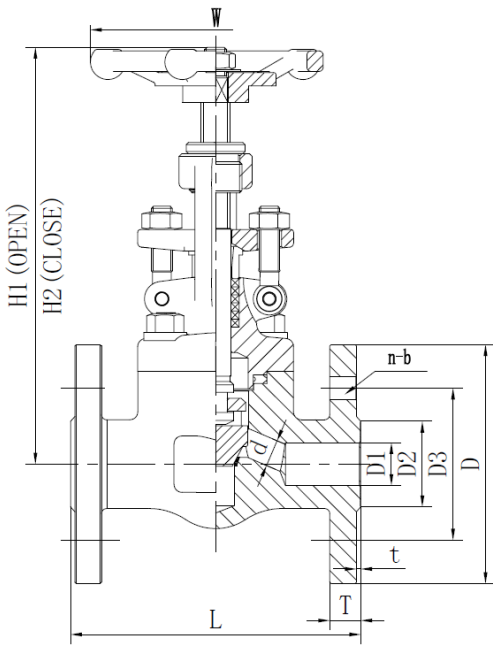
Regular Port Dimension(mm) of SW-800 WB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	166.0	155.0	100.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	169.0	155.0	100.0
1"	111.0	Φ17.5	Φ33.9	13.0	205.0	193.0	120.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	239.0	218.0	160.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	251.0	232.0	160.0
2"	172.0	Φ36.5	Φ61.2	16.5	290.0	268.0	220.0

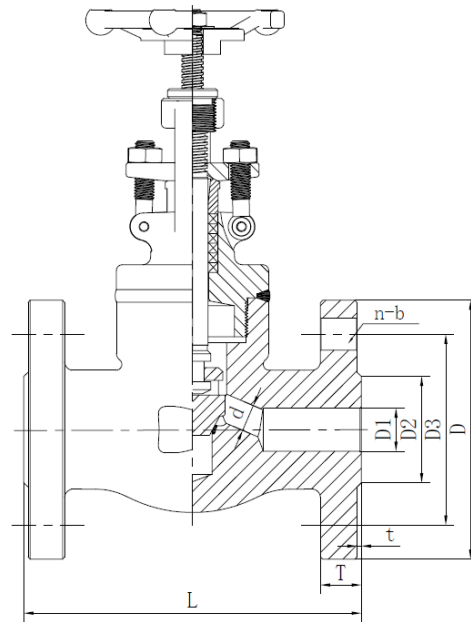
Regular Port Dimension(mm) of SW-1500 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	161.0	194.0	177.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	161.0	194.0	177.0
1"	120.0	Φ17.5	Φ33.9	13.0	193.0	232.0	215.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	230.0	247.0	227.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	248.0	275.0	256.0
2"	220.0	Φ36.5	Φ61.2	16.5	282.0	332.0	303.0

Regular Port Dimension(mm) of SW-1500 WB Series							
SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	209.0	195.0	120.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	209.0	195.0	120.0
1"	120.0	Φ17.5	Φ33.9	13.0	239.0	221.0	160.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	251.0	233.0	160.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	288.0	264.0	220.0
2"	220.0	Φ36.5	Φ61.2	16.5	320.0	300.0	220.0



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of RF-150 BB Series												
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	108.0	Φ9.5	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	161.0	149.0	100.0
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	161.0	149.0	100.0
1"	127.0	Φ17.5	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	193.0	177.0	120.0
1 1/2"	165.0	Φ28.5	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	248.0	224.0	160.0
2"	203.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	290.0	256.0	220.0

Regular Port Dimension(mm) of RF-150 WB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	
1/2"	108.0	Φ9.5	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	
1"	127.0	Φ17.5	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	
1 1/2"	165.0	Φ28.5	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	
2"	203.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	

Product Line Technical Data

Regular Port Dimension(mm) of RF-300 BB Series												
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	152.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	161.0	149.0	100.0
3/4"	178.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ16	161.0	149.0	100.0
1"	203.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ16	193.0	177.0	120.0
1½"	229.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ16	248.0	224.0	160.0
2"	267.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	23.5	2.0	8-Φ19	290.0	256.0	220.0

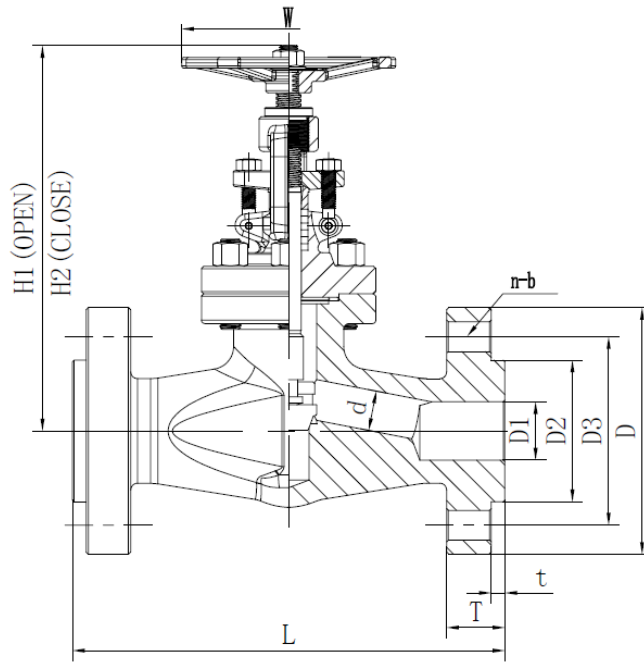
Regular Port Dimension(mm) of RF-300 WB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	
1/2"	152.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	
3/4"	178.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ16	
1"	203.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ16	
1½"	229.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ16	
2"	267.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	23.5	2.0	8-Φ19	

Regular Port Dimension(mm) of RF-600 BB Series												
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	165.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	161.0	149.0	100.0
3/4"	190.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	161.0	149.0	100.0
1"	216.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	193.0	177.0	120.0
1½"	241.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	248.0	224.0	160.0
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	33.5	7.0	8-Φ19	290.0	256.0	220.0

Regular Port Dimension(mm) of RF-600 WB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	
1/2"	165.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	
3/4"	190.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	
1"	216.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	
1½"	241.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127.0	Φ165.0	33.5	7.0	8-Φ19	

Regular Port Dimension(mm) of RF-1500 BB Series												
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	H1±5	H2±5	W±5
1/2"	215.0	Φ9.5	Φ16.0	Φ34.9	Φ82.6	Φ120.0	29.5	6.4	4-Φ22.5	194.0	177.0	120.0
3/4"	229.0	Φ9.5	Φ21.0	Φ42.9	Φ88.9	Φ130.0	32.5	6.4	4-Φ22.5	194.0	177.0	120.0
1"	254.0	Φ15	Φ26.5	Φ50.8	Φ101.6	Φ150.0	36.0	6.4	4-Φ25.5	232.0	215.0	160.0

**Flanged End
with roundness
up flange**



Regular Port Dimension(mm) of RF-1500 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3 ±1.5	D±2	$T_{-0.5}^{+2}$	t ±0.5	n-b±1	H1±5	H2±5	W±5
1½"	305.0	Φ26	Φ41.0	Φ73.0	Φ123.8	Φ180.0	39.0	6.4	4-Φ29.0	310.0	280.0	160.0
2"	368.0	Φ28.5	Φ52.5	Φ92.1	Φ165.1	Φ215.0	45.5	6.4	8-Φ25.5	370.0	335.0	260.0

SVI Small Y-Pattern Globe Valve

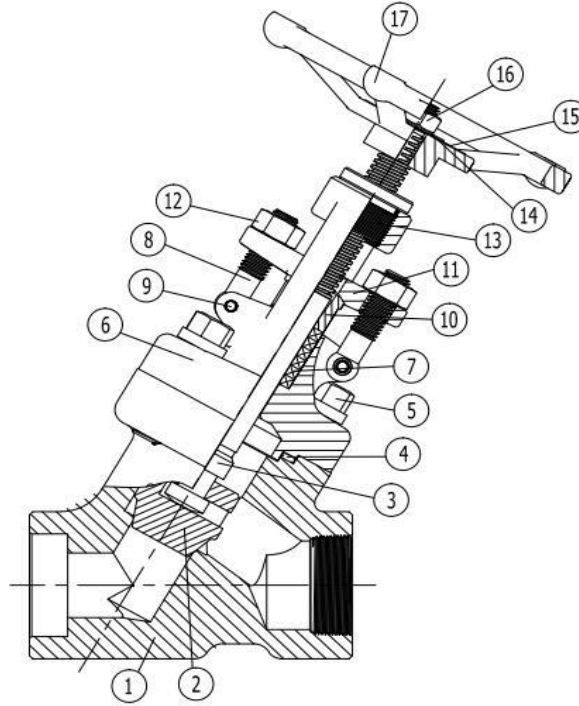
Product Line Technical Data

YOUR ONE-STOP VALVE SOURCING CHANNEL

Forged Y-Pattern Globe Valve
Pressure Class: 800,900,1500
Size: 1/2" thru 2"

Design and Manufacturing Standards	
DESIGN:	API 602
	MSS SP-118
	ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW - 800, 900,1500
CONNECTIONS:	NPT - ASME B1.20.1
	SW - ASME B16.11

BB Series:
Bolted Bonnet



NO.	DISCRIPTION	Material list accordance to Application type				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	DISC	ASTM A276 420/ 410	ASTM A276 420/ 410	ASTM A276 420/ 410	ASTM A276 316	ASTM A182 F51
3	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
4	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
5	BONNET BOLT	ASTM A193-B7/ B7M	ASTM A320-L7/ L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
6	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
7	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
8	GLAND BOLT	ASTM A193-B7/ B7M	ASTM A320 -L7/ L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
9	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
10	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
11	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
12	NUT	ASTM A194-2H/ 2HM	ASTM A194-4/ 7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
13	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
14	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
15	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
16	HAND WHEEL NUT	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8
17	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.

SVI Small Y-Pattern Globe Valve

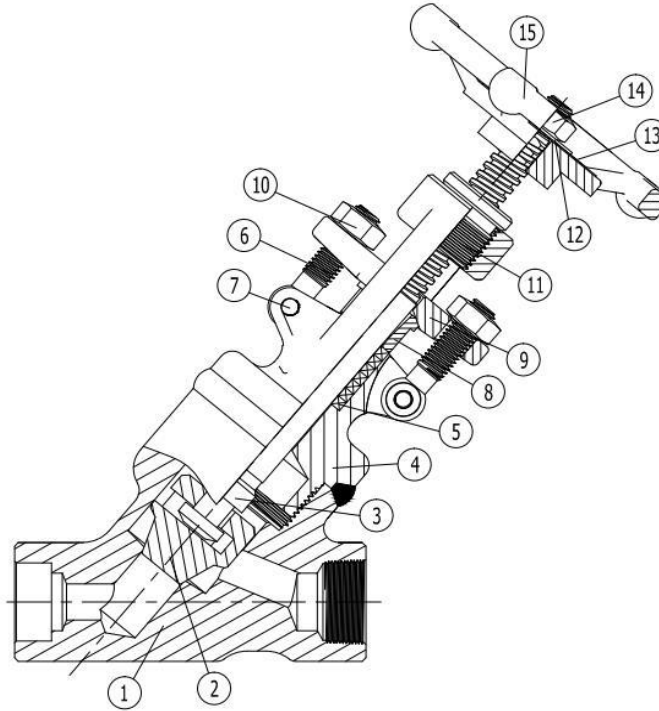
Product Line Technical Data

YOUR ONE-STOP VALVE SOURCING CHANNEL

Forged Y-Pattern Globe Valve
Pressure Class: 800,900,1500
Size: 1/2" thru 2"

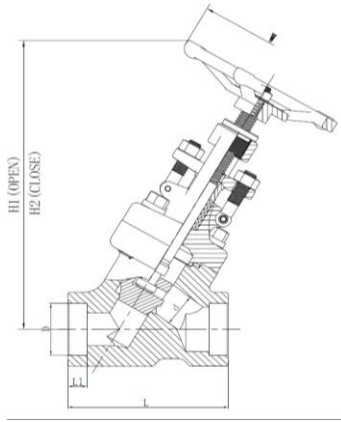
Design and Manufacturing Standards	
DESIGN:	API 602
	MSS SP-118
	ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW - 800, 900,1500
CONNECTIONS:	NPT - ASME B1.20.1
	SW - ASME B16.11

WB Series:
Welded Bonnet

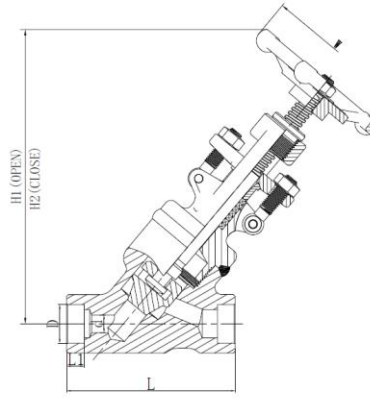


NO.	DISCRIPTION	Material list accordance to Application type				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
3	STEM	ASTMA276 410	ASTM A276 410	ASTM A276 410	ASTM A276 316	ASTM A182 F51
4	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
5	PACKING	Graphite	Graphite	Graphite	Graphite	Graphite
6	GLAND BOLT	ASTM A193-B7/B7M	ASTM A320 -L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
7	GLAND BOLT PIN	ASTM A276 304	ASTM A276 304	ASTM A276 304	ASTM A276 316	ASTM A276 316
8	GLAND	ASTM A276 420	ASTM A276 420	ASTM A276 420	ASTM A276 316	ASTM A276 316
9	GLAND FLANGE	ASTM A105N	ASTM A105N	ASTM A105N	ASTM A182 F316	ASTM A182 F316
10	NUT	ASTM A194-2H/2HM	ASTM A194-4/7M	ASTM A194 7	ASTM A194 8M	ASTM A194 8M
11	STEM NUT	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A 276 410
12	WASHER	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410	ASTM A276 410
13	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
14	HAND WHEEL NUT	ASTM A194 2H	ASTM A194 2H	ASTM A194 2H	ASTM A194 8	ASTM A194 8
15	HAND WHEEL	A197	A197	A197	A197	A197

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of SW-800 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	98.0	Φ9.5	Φ21.8	10.0	182.0	172.0	100.0
3/4"	98.0	Φ12.5	Φ27.2	13.0	182.0	172.0	100.0
1"	120.0	Φ17.5	Φ33.9	13.0	236.0	218.0	120.0
1 1/4"	140.0	Φ23.5	Φ42.7	13.0	255.0	245.0	160.0
1 1/2"	140.0	Φ28.5	Φ48.8	13.0	274.0	262.0	160.0
2"	165.0	Φ36.5	Φ61.2	16.5	352.0	342.0	220.0

Regular Port Dimension(mm) of SW-800 WB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	95.0	Φ9.5	Φ21.8	10.0	172.0	165.0	100.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	184.0	176.0	100.0
1"	120.0	Φ17.5	Φ33.9	13.0	217.0	210.0	120.0
1 1/4"	140.0	Φ23.5	Φ42.7	13.0	268.0	256.0	160.0
1 1/2"	140.0	Φ28.5	Φ48.8	13.0	268.0	256.0	160.0
2"	180.0	Φ36.5	Φ61.2	16.5	308.0	292.0	220.0

Regular Port Dimension(mm) of SW-1500 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	120.0	Φ9.5	Φ21.8	10.0	227.0	220.0	120.0
3/4"	120.0	Φ12.5	Φ27.2	13.0	227.0	220.0	120.0
1"	140.0	Φ17.5	Φ33.9	13.0	262.0	250.0	160.0
1 1/4"	140.0	Φ23.5	Φ42.7	13.0	279.0	267.0	160.0
1 1/2"	165.0	Φ28.5	Φ48.8	13.0	325.0	310.0	220.0
2"	220.0	Φ36.5	Φ61.2	16.5	365.0	345.0	220.0

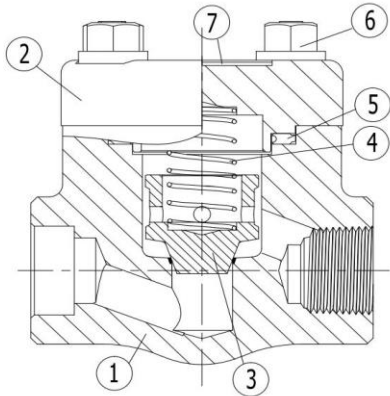
Regular Port Dimension(mm) of SW-1500 WB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H1±5	H2±5	W±5
1/2"	120.0	Φ9.5	Φ21.8	10.0	212.0	203.0	120.0
3/4"	120.0	Φ12.5	Φ27.2	13.0	212.0	203.0	120.0
1"	140.0	Φ17.5	Φ33.9	13.0	257.0	248.0	160.0
1 1/4"	140.0	Φ23.5	Φ42.7	13.0	276.0	257.0	160.0
1 1/2"	180.0	Φ28.5	Φ48.8	13.0	324.0	306.0	220.0
2"	225.0	Φ36.5	Φ61.2	16.5	335.0	317.0	220.0

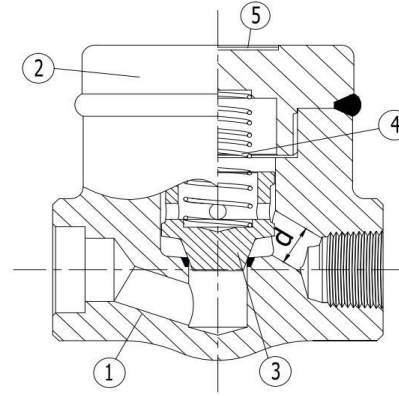
Forged Piston Check Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

Design and Manufacturing Standards	
DESIGN:	API 602 MSS SP-118 ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800, 900,1500 FLANGED – 150,300,600,900,1500
CONNECTIONS:	NPT – ASME B1.20.1 SW - ASME B16.11 FLANGED – ASME B16.5 FACE TO FACE– ASME B16.10

**BB Series:
Bolted Bonnet**



**WB Series:
Welded Bonnet**

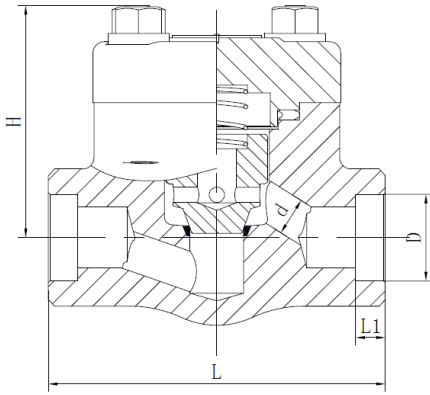


Material list accordance to Application type (BB)						
NO.	DISCRIPTION	Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
3	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
4	SPRING	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS
5	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
6	BONNET BOLT	ASTM A193-B7/B7M	ASTM A320-L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
7	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

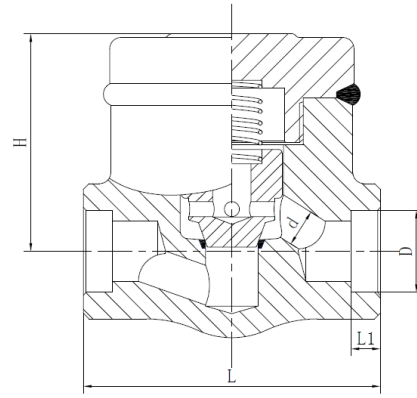
Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.

Material list accordance to Application type(WB)						
NO.	DISCRIPTION	Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
3	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
4	SPRING	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS
5	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of SW-800 BB Series

SIZE	L ±1.6	$d_{\pm 0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	58.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	58.0
1"	111.0	Φ17.5	Φ33.9	13.0	75.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	85.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	97.0
2"	172.0	Φ36.5	Φ61.2	16.5	108.0

Regular Port Dimension(mm) of SW-800 WB Series

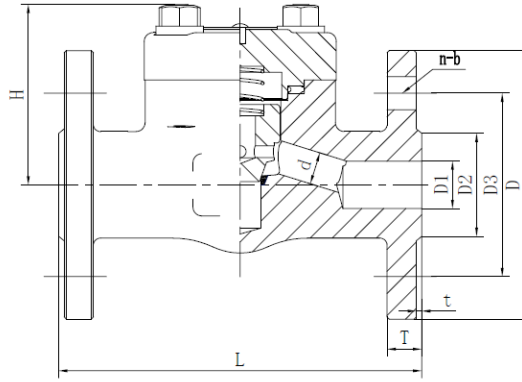
SIZE	L ±1.6	$d_{\pm 0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	50.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	52.0
1"	111.0	Φ17.5	Φ33.9	13.0	70.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	82.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	96.0
2"	172.0	Φ36.5	Φ61.2	16.5	110.0

Regular Port Dimension(mm) of SW-1500 BB Series

SIZE	L ±1.6	$d_{\pm 0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	75.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	75.0
1"	120.0	Φ17.5	Φ33.9	13.0	85.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	97.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	108.0
2"	220.0	Φ36.5	Φ61.2	16.5	132.0

Regular Port Dimension(mm) of SW-1500 WB Series

SIZE	L ±1.6	$d_{\pm 0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	70.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	70.0
1"	120.0	Φ17.5	Φ33.9	13.0	82.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	96.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	110.0
2"	220.0	Φ36.5	Φ61.2	16.5	115.0



Flanged End

Regular Port Dimension(mm) of RF-150 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	108.0	Φ9.5	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	56.0
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	56.0
1"	127.0	Φ17.5	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	75.0
1 1/4"	140.0	Φ23.5	Φ35.0	Φ63.5	Φ88.9	Φ115.0	14.0	2.0	4-Φ16	85.0
1 1/2"	165.0	Φ28.5	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	97.0
2"	203.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	118.0

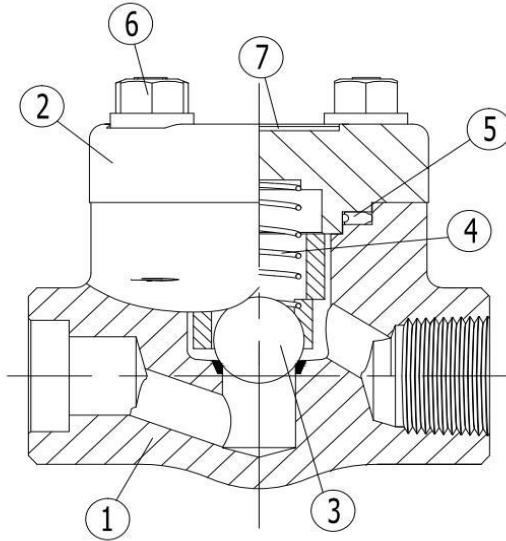
Regular Port Dimension(mm) of RF-300 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	152.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	56.0
3/4"	178.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ19	58.0
1"	203.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ19	75.0
1 1/4"	216.0	Φ23.5	Φ35.0	Φ63.5	Φ98.4	Φ135.0	20.5	2.0	4-Φ19	85.0
1 1/2"	229.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ22.5	97.0
2"	267.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	23.5	2.0	8-Φ19	118.0

Regular Port Dimension(mm) of RF-600 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	165.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	56.0
3/4"	190.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	58.0
1"	216.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	75.0
1 1/4"	229.0	Φ23.5	Φ35.0	Φ63.5	Φ98.4	Φ135.0	28.5	7.0	4-Φ19	85.0
1 1/2"	241.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	97.0
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	33.5	7.0	8-Φ19	115.0

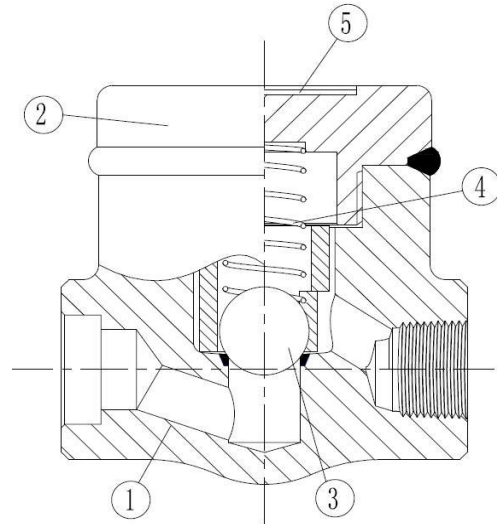
Forged Ball Check Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

Design and Manufacturing Standards	
DESIGN:	API 602
	MSS SP-118
	ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800,900,1500
	FLANGED – 150, 300, 600
CONNECTIONS:	NPT – ASME B1.20.1
	SW - ASME B16.11
	FLANGED – ASME B16.5
	FACE TO FACE – ASME B16.10

BB Series:
Bolted Bonnet



WB Series:
Welded Bonnet

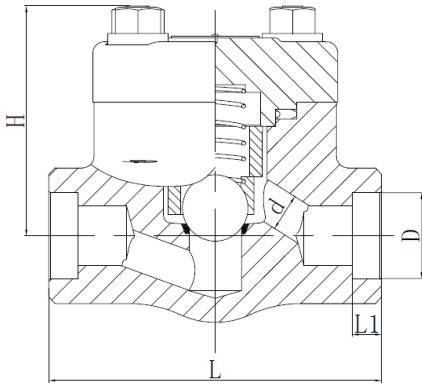


NO.	DISCRIPTION	Material list accordance to Application type (BB)				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
3	BALL	ASTM A276 440C	ASTM A276 440C	ASTM A276 440C	ASTM A276 316	ASTM A182 F51
4	SPRING	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS
5	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
6	BONNET BOLT	ASTM A193-B7/ B7M	ASTM A320-L7/ L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
7	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

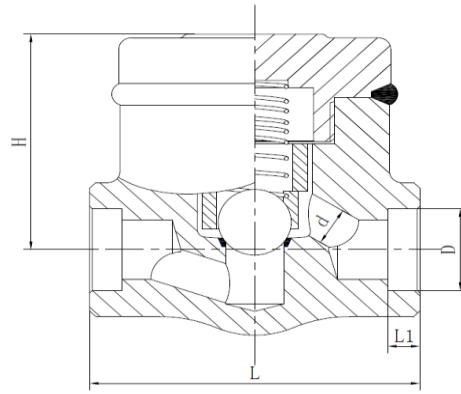
Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.

NO.	DISCRIPTION	Material list accordance to Application type (WB)				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N+STL	ASTM A350 LF2+STL	ASTM A182 F11+STL	ASTM A182 F316L+STL	ASTM A182 F51
2	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
3	BALL	ASTM A276 440C	ASTM A276 440C	ASTM A276 440C	ASTM A276 316	ASTM A182 F51
4	SPRING	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS	ASTM 316 SS
5	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.



BB Series: Bolted Bonnet



WB Series: Welded Bonnet

Regular Port Dimension(mm) of SW-800 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	58.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	58.0
1"	111.0	Φ17.5	Φ33.9	13.0	75.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	85.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	97.0
2"	172.0	Φ36.5	Φ61.2	16.5	108.0

Regular Port Dimension(mm) of SW-800 WB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	79.0	Φ9.5	Φ21.8	10.0	50.0
3/4"	92.0	Φ12.5	Φ27.2	13.0	52.0
1"	111.0	Φ17.5	Φ33.9	13.0	70.0
1 1/4"	120.0	Φ23.5	Φ42.7	13.0	82.0
1 1/2"	152.0	Φ28.5	Φ48.8	13.0	96.0
2"	172.0	Φ36.5	Φ61.2	16.5	110.0

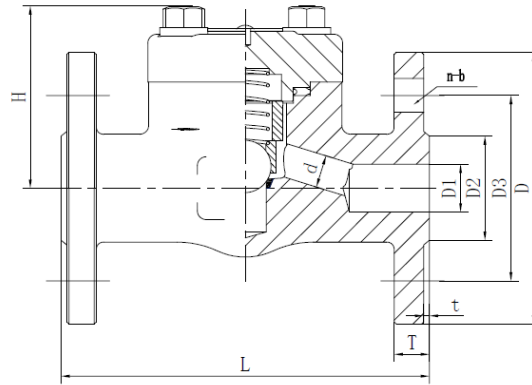
Regular Port Dimension(mm) of SW-1500 BB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	75.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	75.0
1"	120.0	Φ17.5	Φ33.9	13.0	85.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	97.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	108.0
2"	220.0	Φ36.5	Φ61.2	16.5	132.0

Regular Port Dimension(mm) of SW-1500 WB Series

SIZE	L ±1.6	$d_{-0.5}^{+1}$	$D_0^{+0.4}$	L1±0.5	H±5
1/2"	111.0	Φ9.5	Φ21.8	10.0	70.0
3/4"	111.0	Φ12.5	Φ27.2	13.0	70.0
1"	120.0	Φ17.5	Φ33.9	13.0	82.0
1 1/4"	152.0	Φ23.5	Φ42.7	13.0	96.0
1 1/2"	172.0	Φ28.5	Φ48.8	13.0	110.0
2"	220.0	Φ36.5	Φ61.2	16.5	115.0

Flanged End



Regular Port Dimension(mm) of RF-150 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	108.0	Φ9.5	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	56.0
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	56.0
1"	127.0	Φ17.5	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	75.0
1 1/4"	140.0	Φ23.5	Φ35.0	Φ63.5	Φ88.9	Φ115.0	14.0	2.0	4-Φ16	85.0
1 1/2"	165.0	Φ28.5	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	97.0
2"	203.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	118.0

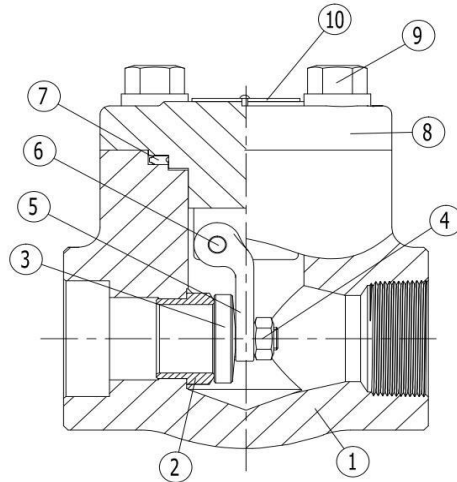
Regular Port Dimension(mm) of RF-300 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	152.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	56.0
3/4"	178.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ19	58.0
1"	203.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ19	75.0
1 1/4"	216.0	Φ23.5	Φ35.0	Φ63.5	Φ98.4	Φ135.0	20.5	2.0	4-Φ19	85.0
1 1/2"	229.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ22.5	97.0
2"	267.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	23.5	2.0	8-Φ19	118.0

Regular Port Dimension(mm) of RF-600 BB Series										
SIZE	L ±1.6	$d_{-0.5}^{+1}$	D1±1.0	D2±0.5	D3±1.5	D±2	$T_{-0.5}^{+2}$	t±0.5	n-b±1	H±5
1/2"	165.0	Φ9.5	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	58.0
3/4"	190.0	Φ12.5	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	58.0
1"	216.0	Φ17.5	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	75.0
1 1/4"	229.0	Φ23.5	Φ35.0	Φ63.5	Φ98.4	Φ135.0	28.5	7.0	4-Φ19	85.0
1 1/2"	241.0	Φ28.5	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	97.0
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	33.5	7.0	8-Φ19	115.0

Forged Swing Check Valve
Pressure Class: 150 thru 1500
Size: 1/2" thru 2"

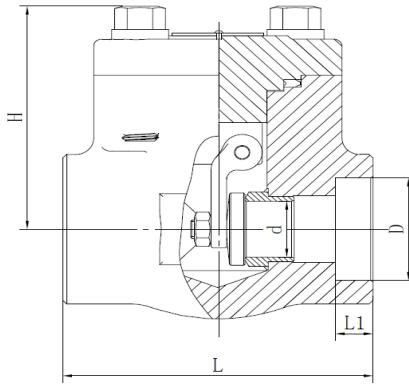
Design and Manufacturing Standards	
DESIGN:	API 602
	MSS SP-118 ASME B16.34
TESTING:	API 598
PRESSURE CLASS:	NPT & SW – 800, 900,1500
	FLANGED – 150,300,600,900,1500
CONNECTIONS:	NPT – ASME B1.20.1
	SW - ASME B16.11
	FLANGED – ASME B16.5
	FACE TO FACE– ASME B16.10

BB Series:
Bolted Bonnet



NO.	DISRIPTION	Material list accordance to Application type (BB)				
		Standard	Low Temp	High Temp	Stainless	Sour Service
1	BODY	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
2	SEAT RING	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 410+STL	ASTM A276 316+STL	ASTM A182 F51
3	DISC	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 420/410	ASTM A276 316	ASTM A182 F51
4	NUT	ASTM A194 8	ASTM A194 8	ASTM A194 8	ASTM A194 8M	ASTM A194 8M
5	ROCKER	ASTM A351 CF8	ASTM A351 CF8	ASTM A351 CF8	ASTM A351 CF8M	ASTM A351 CF8M
6	PIN	ASTM A276 316	ASTM A276 316	ASTM A276 316	ASTM A276 316	ASTM A276 316
7	GASKET	304+Graphite	304+Graphite	304+Graphite	316+Graphite	F51+Graphite
8	BONNET	ASTM A105N	ASTM A350 LF2	ASTM A182 F11	ASTM A182 F316L	ASTM A182 F51
9	BONNET BOLT	ASTM A193-B7/B7M	ASTM A320-L7/L7M	ASTM A193 B16	ASTM A193 B8M	ASTM A193 B8M
10	NAME PLATE	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum

Note: Material requested according to NACE-MR0175 as marked in red. Other material upon request.

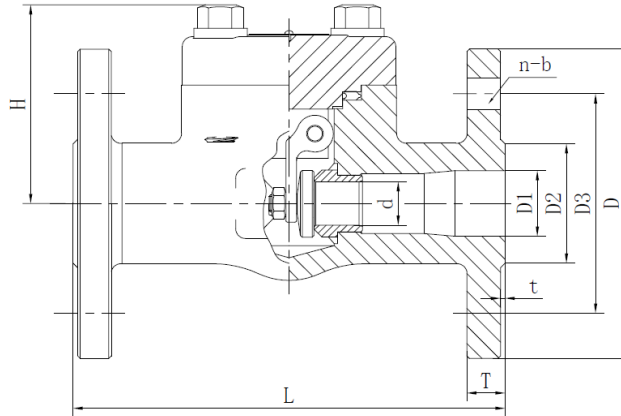


BB Series: Bolted Bonnet

Regular Port Dimension(mm) of SW-800 BB Series					
SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H±5
1/2"	79.0	Φ13.0	Φ21.8	10.0	58.0
3/4"	92.0	Φ13.0	Φ27.2	13.0	58.0
1"	111.0	Φ18.0	Φ33.9	13.0	75.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	83.0
1 1/2"	120.0	Φ29.0	Φ48.8	13.0	94.0
2"	140.0	Φ36.5	Φ61.2	16.5	107.0

Regular Port Dimension(mm) of SW-1500 BB Series					
SIZE	L ±1.6	d±0.5	D ₀ ^{+0.4}	L1±0.5	H±5
1/2"	111.0	Φ13.0	Φ21.8	10.0	75.0
3/4"	111.0	Φ13.0	Φ27.2	13.0	75.0
1"	120.0	Φ18.0	Φ33.9	13.0	83.0
1 1/4"	120.0	Φ24.0	Φ42.7	13.0	94.0
1 1/2"	140.0	Φ29.0	Φ48.8	13.0	107.0
2"	160.0	Φ36.5	Φ61.2	16.5	130.0

Flanged End



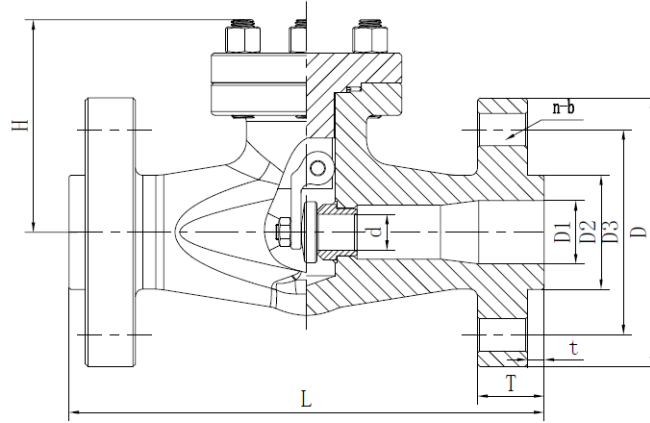
Regular Port Dimension(mm) of RF-150 BB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3±1.5	D±2	T ⁺² _{-0.5}	t±0.5	n-b±1	H±5
1/2"	108.0	Φ10.0	Φ16.0	Φ34.9	Φ60.3	Φ90.0	11.0	2.0	4-Φ16	56.0
3/4"	117.0	Φ12.5	Φ21.0	Φ42.9	Φ69.9	Φ100.0	12.0	2.0	4-Φ16	56.0
1"	127.0	Φ18.0	Φ26.5	Φ50.8	Φ79.4	Φ110.0	12.5	2.0	4-Φ16	75.0
1 1/4"	140.0	Φ24.0	Φ35.0	Φ63.5	Φ88.9	Φ115.0	14.0	2.0	4-Φ16	83.0
1 1/2"	165.0	Φ29.0	Φ41.0	Φ73.0	Φ98.4	Φ125.0	15.5	2.0	4-Φ16	94.0
2"	203.0	Φ36.5	Φ52.5	Φ92.1	Φ120.7	Φ150.0	17.0	2.0	4-Φ19	114.0

Regular Port Dimension(mm) of RF-300 BB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3±1.5	D±2	T ⁺² _{-0.5}	t±0.5	n-b±1	H±5
1/2"	152.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	15.5	2.0	4-Φ16	56.0
3/4"	178.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	17.0	2.0	4-Φ19	58.0
1"	216.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	19.0	2.0	4-Φ19	75.0
1 1/4"	229.0	Φ24.0	Φ35.0	Φ63.5	Φ98.4	Φ135.0	20.5	2.0	4-Φ19	85.0
1 1/2"	241.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	22.0	2.0	4-Φ22.5	97.0
2"	267.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	23.5	2.0	8-Φ19	115.0

Regular Port Dimension(mm) of RF-600 BB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3±1.5	D±2	T ⁺² _{-0.5}	t±0.5	n-b±1	H±5
1/2"	165.0	Φ10.0	Φ16.0	Φ34.9	Φ66.7	Φ95.0	22.0	7.0	4-Φ16	58.0
3/4"	190.0	Φ13.0	Φ21.0	Φ42.9	Φ82.6	Φ115.0	24.0	7.0	4-Φ19	58.0
1"	216.0	Φ18.0	Φ26.5	Φ50.8	Φ88.9	Φ125.0	25.5	7.0	4-Φ19	75.0
1 1/4"	229.0	Φ24.0	Φ35.0	Φ63.5	Φ98.4	Φ135.0	28.5	7.0	4-Φ19	85.0
1 1/2"	241.0	Φ29.0	Φ41.0	Φ73.0	Φ114.3	Φ155.0	30.0	7.0	4-Φ22.5	97.0
2"	292.0	Φ36.5	Φ52.5	Φ92.1	Φ127	Φ165.0	33.5	7.0	8-Φ19	115.0

Regular Port Dimension(mm) of RF-1500 BB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3±1.5	D±2	T ⁺² _{-0.5}	t±0.5	n-b±1	H±5
1/2"	216.0	Φ10.0	Φ16.0	Φ34.9	Φ82.6	Φ120.0	29.5	6.4	4-Φ22.5	75.0
3/4"	229.0	Φ13.0	Φ21.0	Φ42.9	Φ88.9	Φ130.0	32.5	6.4	4-Φ22.5	75.0
1"	254.0	Φ18.0	Φ26.5	Φ50.8	Φ101.6	Φ150.0	36.0	6.4	4-Φ25.5	83.0

**Flanged End
with roundness
up flange**



Regular Port Dimension(mm) of RF-1500 BB Series										
SIZE	L ±1.6	d±0.5	D1±1.0	D2±0.5	D3±1.5	D±2	T _{-0.5} ⁺²	t±0.5	n-b±1	H±5
1½"	305.0	Φ29.0	Φ41.0	Φ73.0	Φ123.8	Φ180.0	39.0	6.4	4-Φ29.0	135.0
2"	368.0	Φ36.5	Φ52.5	Φ92.1	Φ165.1	Φ215.0	45.5	6.4	8-Φ25.5	135.0

API 600 TRIM CHART & Application Guide

API Trim Number	Material	Seat	Disc	Backseat	Stem	Application
1	410	410	410	410	410	For oil and oil vapors and general services with heat treated seats and wedges. General very low erosive or non-corrosive service between -100°C and 320°C. This stainless steel material lends itself readily to hardening by heat treatment and is excellent for contacting parts such as stems, gates, and discs. Steam, gas & general service to 370°C. Oil & Oil vapor 480°C.
2	304	304	304	304	304	For moderate pressure in corrosive, low erosive service between -265°C and 450°C.
3	F310	310	310	310	310	For moderate pressure in corrosive or non corrosive service between -265°C and 450°C.
4	Hard 410	Hard 410	410	410	410	Seats 275 BHN min. As trim 1 but for medium pressure and more corrosive service.
5	Hardfaced	Stellite	Stellite	410	410	High pressure slightly erosive and corrosive service between -265°C and 650°C and higher pressure. Premium trim service to 650°C. Excellent for high pressure water and steam service.
5A	Hardfaced	Ni-Cr	Ni-Cr	410	410	As trim 5 where Co is not allowed.
6	410 and Cu-Ni	Cu-Ni	Cu-Ni	410	410	As trim 1 and more corrosive service.
7	410 and Hard 410	Hard 410	Hard 410	410	410	Seats 750 BHN min. As trim 1 but for higher pressure and more corrosive/erosive service.
8	410 HF	Stellite	410	410	410	Universal trim for general service requiring long service life up to 593°C. As trim 5 for moderate pressure and more corrosive service. Steam, gas & general service to 540°C. Standard trim for gate valves.
8A	410 HF	Ni-Cr	410	410	410	As trim 5a for moderate pressure and more corrosive service
9	Monel	Monel	Monel	Monel	Monel	For corrosive service to 450°C such as acids, alkalis, salt solutions, etc. Very corrosive fluids. Erosive-corrosive service between -240°C and 480°C. Resistant to sea water, acids, alkalis. Has excellent corrosion resistance in chlorine and alkylation service.
10	316	316	316	316	316	For superior resistance to corrosion for liquids and gases which are corrosive to 410 stainless steel up to 455°C. As trim 2 but a higher level of corrosive service. Provides excellent resistance to corrosive media at high temperatures and toughness for service at low temperatures. Low temperature service standard for 316SS valves.
11	Moneland	Stellite	Monel	Monel	Monel	As trim 9 but for medium pressure and more corrosive service.
12	316 HF	Stellite	316	316	316	As trim 9 but for medium pressure and more corrosive service.
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20	Alloy 20	As trim 10 but for medium pressure and more corrosive service.
14	Alloy 20 HF	Stellite	Alloy 20	Alloy 20	Alloy 20	As trim 10 but for medium pressure and more corrosive service.
15	304 HF	Stellite	Stellite	304	304	Very corrosive service. For moderate pressure between -45°C and 320°C.
16	316 HF	Stellite	Stellite	316	316	As trim 13 but for medium pressure and more corrosive service.
17	347 HF	Stellite	Stellite	347	347	As trim 13 but for medium pressure and more corrosive service.
18	Alloy 20 HF	Stellite	Stellite	Alloy 20	Alloy 20	As trim 2 but more erosive service & higher pressure.
NACE	Specially treated 316 or 410 trim combined optionally with B7M bolts and 2HM nuts to meet NACE MR-01-75 requirements.					
Full Stellite	Full Hardfaced trim, suitable for abrasive & severe services up to 1200°F (650°C).					

NOTE: Note: This chart is provided for information only- consult current API publications to verify trim data.
HF as "Hardfaced"

PRESSURE TEMPERATURE RATINGS

Working Pressure BY PSI Class 150/300/600/800/900/1500/2500

Material Class/ °F	A105N/LF2/LF3							A182-F11/F22 F51/F44/F53/F55 N08020							A182-F304/F304H/F316/F316H/F347/F347H							A182-F304L/F316L							Material Class/ °C
	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500	150	300	600	800	900	1500	2500	
-20~100	285	740	1480	1975	2220	3705	6170	290	750	1500	2000	2250	3750	6250	275	720	1440	1920	2160	3600	6000	230	600	1200	1600	1800	3000	5000	-30~37
200	260	680	1360	1810	2035	3395	5655	260	750	1500	2000	2250	3750	6250	230	600	1200	1600	1800	3000	5000	195	510	1020	1365	1535	2555	4260	93
300	230	655	1310	1745	1965	3270	5450	230	720	1445	1925	2165	3610	6015	205	540	1075	1435	1615	2690	4480	175	455	910	1215	1370	2280	3800	149
400	200	635	1265	1690	1900	3170	5280	200	695	1385	1850	2080	3465	5775	190	495	995	1325	1490	2485	4140	160	420	840	1120	1260	2100	3500	204
500	170	605	1205	1610	1810	3015	5025	170	665	1330	1775	1995	3325	5540	170	465	930	1240	1395	2330	3880	150	395	785	1050	1180	1970	3280	260
600	140	570	1135	1515	1705	2840	4730	140	605	1210	1615	1815	3025	5040	140	440	885	1180	1325	2210	3680	140	370	745	990	1115	1860	3100	316
650	125	550	1100	1465	1650	2745	4575	125	590	1175	1570	1765	2940	4905	125	430	865	1150	1295	2160	3600	125	365	730	975	1095	1825	3040	343
700	110	530	1060	1415	1590	2665	4425	110	570	1135	1515	1705	2840	4730	110	420	845	1125	1265	2110	3520	110	360	720	960	1080	1800	3000	371
750	95	505	1015	1350	1520	2535	4230	95	530	1065	1420	1595	2660	4430	95	415	825	1100	1240	2065	3440	110	355	705	940	1060	1765	2940	399
800	80	410	825	1100	1235	2055	3430	80	510	1015	1355	1525	2540	4230	80	405	810	1080	1215	2030	3380	80	345	690	920	1035	1730	2880	427
850	65	320	640	850	955	1595	2655	65	485	975	1300	1460	2435	4060	65	395	790	1055	1190	1980	3300	65	340	675	900	1015	1690	2820	454
900	50	230	460	615	690	1150	1915	50	450	900	1200	1350	2245	3745	50	390	780	1035	1165	1945	3240								482
950	35	135	275	365	410	685	1145	35	320	640	850	955	1595	2655	35	380	765	1020	1145	1910	3180								510
1000	20	85	170	225	255	430	715	20	215	430	575	650	1080	1800	20	355	710	945	1065	1770	2950								538
1050								20	145	290	385	430	720	1200	20	325	650	865	975	1630	2715								566
1100								20	95	190	255	290	480	800	20	255	515	685	770	1285	2145								593
1150								20	65	130	175	195	325	545	20	205	410	645	615	1030	1715								621
1200								15	40	80	110	125	205	345	20	165	330	440	495	825	1370								649
1250															20	135	265	355	400	670	1115								677
1300															20	115	225	300	340	565	945								704
1350															20	95	185	250	280	465	770								732
1400															20	75	150	200	225	380	630								760
1450															20	60	115	155	175	290	485								788
1500															15	40	85	110	125	205	345								816

NOTE: °F=(°C*9/5)+32
°C=(°F-32)*5/9

Data reference ASME 16.34