



FUGITIVE EMISSION VALVE DEVELOP THE WORLD



- A GATE VALVES
- B GLOBE VALVES
- C BALL VALVES
- D CHECK VALVES
- E STRAINERS
- F FORGED STEEL VALVES

**TOP QUALITY PRODUCTS FOR AN
INTERNATIONAL MARKET
FOCUS ON LOW EMISSION VALVES**

S&W IND. CO., LTD.

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Structural Features

The cryogenic ball vales is used for low temperature service condition,especially the dangerous media service conditions such as natural gas.Our company has accumulated rich experence in designing,manufa-cturing,testing and inspecting the cryogenic ball valve.

Lowest Working Temperature
of Shell Materials and Main Parameters

lowest woring temperature of sheel materials				
Casting			Forging	
Materials	Lowest Working		Materials	Lowest Working
ASTM A352 LCB	-46℃		ASTM A350 LF2	-46℃
ASTM A352 LCC	-46℃		ASTM A350 LF2	-46℃
ASTM A352 LC1	-59℃		ASTM A350 LF5	-59℃
ASTM A352 LC2	-73℃		ASTM A350 LF9	-73℃
ASTM A352 LC3	-101℃		ASTM A350 LF3	-101℃
ASTM A351 CF8	-254℃		ASTM A182 F304	-254℃
ASTM A351 CF8M	-254℃		ASTM A182 F316	-254℃
ASTM A351 CF3	-254℃		ASTM A182 F304L	-254℃
ASTM A351 CF3M	-254℃		ASTM A182 F306L	-254℃
Main Parameters				
Design and Manufacturing	MSS SP-134-2006 GB/T24925			
Face to Face Dimensions	ASME B16.10			
Type of Connection	Flange	ASME B16.5	Wafer	ASME B16.5
Pressure Test	API 598			
Transmission Mode	Maual, Worm drive, Pneumatic, Electrical			

material selection

Common steel will show low temperature brittleness under low temperature. Therefore, It is a key for design and manufacturing to select suitable body materials according to the lowest working temperature of the cryogenic ball valve. Refer to the following table for the lowest working temperature of body materials. The low temperature materials shall be subuedcted to low temperature impact test according to standard require-ments. for valves with working temperature lower than -100℃,the body, bonnet and stem must be subjected to cryogenic treatmetn after rough maching the ball and seat sealing face should be subjected to cryogenic treat-ment hard alloy spray welding/overlay welding, then grinding and assembly can be carried out so as to ensure the adaptability of materials under low temperature. in addition, the pacing, gasket, bolt and nut shall be made of materials suitable for low temperature service codition.

Structural Design and Machining
and Manufacturing Features

According to standard requirements, the ball valve with temperature lower than -50℃ generally adopts the long neck structure design to improve the temperature at the packing and ensure reliable sealing of stem packing, the neck length is generally designed according to standard requirements or according to contract requirements if users have specil requirements for the valve used for lowe temperature media.when the valves is at the closed posit-ion,the low temperature liquid staying in the middle cavity of valve will be gasified with the rise of temperature,which causes the volume to expand rapidly and leads to abnormal pressure rise in the middle cavity. or even valve breakage if serious.



the ball vale is provited with the function of middle cavity automatic pressure relief. In case of abnormal pressure rise in the middle cavity, the medium in the middle cavity will overcome the spring pre-tightening effect through its own force and push the seat out of the ball to realize auto-matic pressure relief, so as to ensure valve safety.according to contract requirements, cryogenic test can be carried out to test operating torque, sealing performance and other indexes under low temperatue the parts of the valve have been subjected to cryogenic treatment to ensure stability of stem and size of parts under low temperature.

FORGED
GATE VALVES
CL800-2500

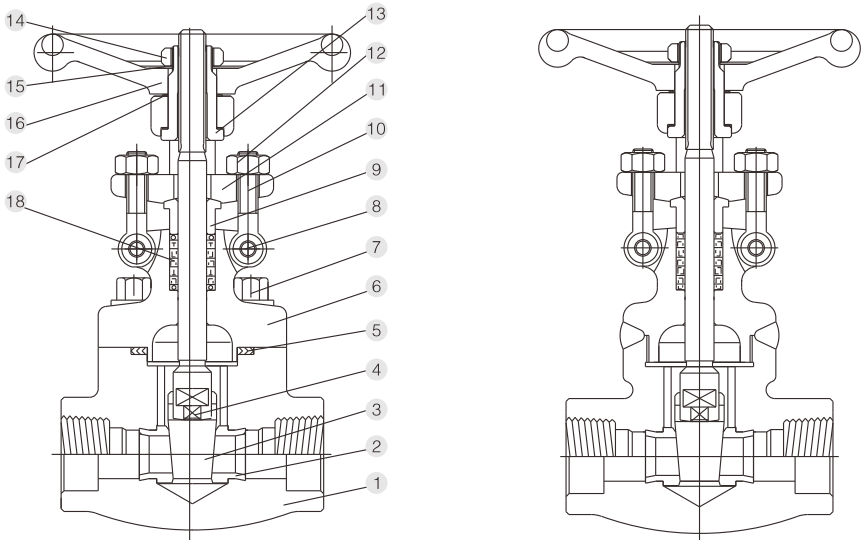


S&W Valves are available in three bonnet designs.the first design is the bolted bonnet,with male-female joint, spiral wound gasket,made in F304L/graphite.Ring joint gasket are also available on request.The second design is the welded bonnet ,with a threaded and seal welded joint.On request a full penetration strength welded joint is available.The third design is the pressure seal bonnet,with a threaded and pressure seal bonnet joint.

S&W Material:
A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM

Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BB,Bolted Bonnet;WB,Welded Bonnet
OS&Y,Outside Screw and Yoke
Solid Wedge
Newable Seat Rings
Thread /SW / BW/Flange

Specifications
Design:API602/ASME B16.34/BS5352
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat	410	410HF	304	410HF	304(L)	316(L)	F51
3	Wedge	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+Flexible Grapite						
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Name plate	AL	AL	AL	AL	AL	AL	AL
16	Hand wheel	A197	A197	A197	A197	A197	A197	A197
17	Lubrication gasket	410	410	410	410	410	410	410
18	Packing	Grapite	Grapite	Grapite	Grapite	Grapite	Grapite	Grapite

**HIGH
PRESSURE
GATE
VALVES**

CL1500-2500

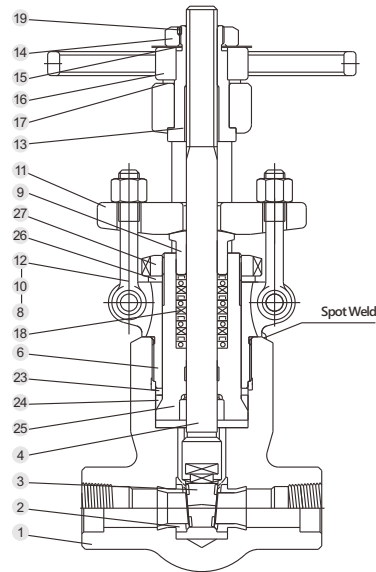
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Features
Size:1/2''~4''
Pressure Rating:Class 1500~2500
BB,WB,PSB
OS&Y,Outside Screw and Yoke
Solid Wedge
Newable Seat Rings
Thread /SW / BW/Flange



Specifications
Design:API602/ASME B16.34/BS5352
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/F91
1	Body	A105	A105	Lf2	F11	F304(L)	F316(L)	F91
2	Seat	410	410HF	304	410HF	304(L)	316(L)	410HF
3	Wedge	F6a	F6a	F304	F6aHF	F304(L)HF	F316(L)HF	F6aHF
4	Stem	410	410	304	410	304(L)	316(L)	410
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
8	Pin	410	410	410	410	304	304	410
9	Gland	410	410	304	410	304	316	410
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
11	Gland flange	A105	A105	A105	A105	F304	F304	A105
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Name plate	AL	AL	AL	AL	AL	AL	AL
16	Hand wheel	A197	A197	A197	A197	A197	A197	A197
17	Lubrication gasket	410	410	410	410	410	410	410
18	Packing	Grapite	Grapite	Grapite	Graphite	Graphite	Graphite	Graphite
19	Stop nut	35	35	35	35	35	35	35
23	Seal gasket	420	420	304	304	304(L)	316(L)	420
24	P.S.ring	304	304	304	304	304	316	316
25	P.S seal	420	420	304	304	304(L)	316(L)	F91
26	Nut pad	410	410	410	410	410	410	410
27	Packing nut	Cast steel	Cast steel	Cast steel	Cast steel	Stainless steel	Stainless steel	Cast steel

**SPECIAL
PURPOSES
GATE
VALVES**

CL800-2500

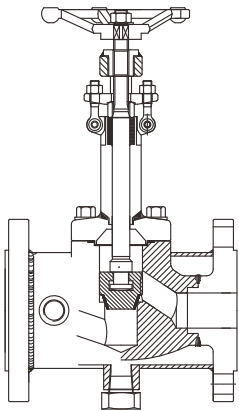
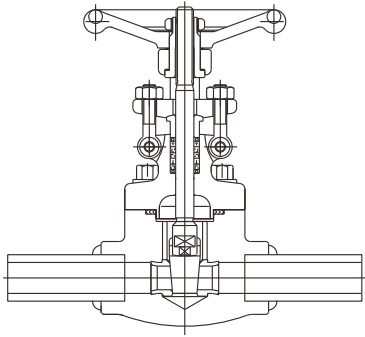
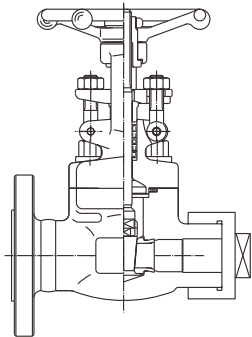
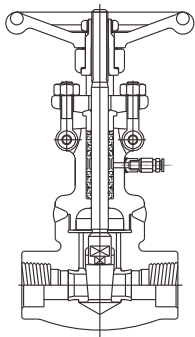
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S&W Material:
A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM



Features
Size:1/2''~4''
Pressure Rating:Class 1500~2500
BB,WB,PSB
OS&Y,Outside Screw and Yoke
Solid Wedge
Newable Seat Rings
Thread /SW / BW/Flange

Specifications
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End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



VACUUM GATE VALVES

Welded bonnet	Temperature pressure rate : 1975psi / 100°F
OS & Y	Body/bonnet : Cast steel
Packing	Trim : 13cr
Distance ring	Bolt : B7
Injector sealing gum valves	
Solid wedge	

FOR VENTING AND / OR RELEASING MEDIA

Bolted	Temperature pressure rate : 1975psi / 100°F
OS & Y	Body/bonnet : Cast steel
Cap fitting connection	Trim : 13cr
Solid wedge	Bolt : B7

COUPLING PIPE VALVES

Bolted boonet	Temperature pressure rate : 1975psi / 100°F
OS & Y	Body/bonnet : Cast steel
Double end pipe connection	Trim : 13cr
Solid wedge	Bolt : B7

HOOP GATE VALVES

Bolted boonet	Temperature pressure rate : 1975psi / 100°F
OS & Y	Body/bonnet : Cast steel
With jacket	Trim : 13cr
Solid wedge	Bolt : B7

FORGED
GLOBE VALVES
CL800-2500

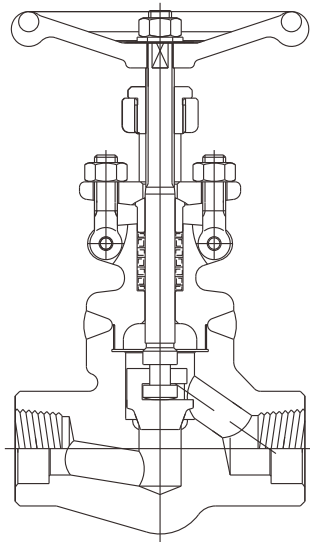
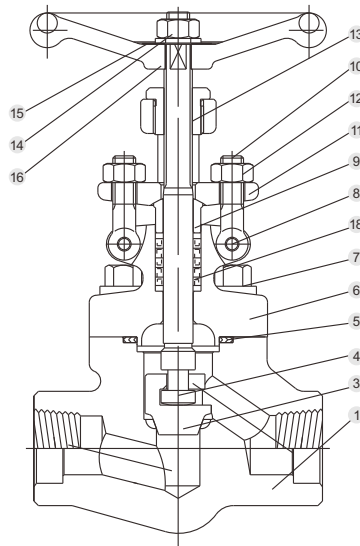
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Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BB,Bolted Bonnet;WB,Welded Bonnet
OS&Y,Outside Screw and Yoke
Solid Wedge
Thread /SW / BW/Flange



Specifications
Design:API602/ASME B16.34/BS5352
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End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	Lf2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+Flexible graphite						316+Flexible graphite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B(8M)	B(8M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Name plate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite	Graphite

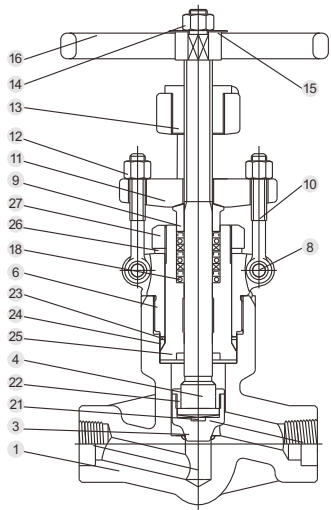
**PRESSURE
SEALING
GLOBE
VALVES**

CL1500-2500

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S&W Material:

A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F91/F91
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F91+HF
3	Disc	410	410	304	410+HF	304(L)+HF	316(L)+HF	410+HF
4	Stem	410	410	304	410	304(L)	316(L)	410
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F91
8	Pin	410	410	410	410	304	304	410
9	Gland	410	410	304	410	304	316	410
10	Galnd eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8
11	Gland flange	A105	A105	LF2	F11	F304	F304	F91
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Name plate	AL	AL	AL	AL	AL	AL	AL
16	Handwheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Graphite	Graphite	Grapite	Graphite	Graphite	Graphite	Graphite
21	Stempad	420	420	420	420	316SH	316SH	420
22	Disc nut	410	410	410	410	304(L)	3164(L)	410
23	Seal ring gasket	420	420	304	304	304(L)	316(L)	316(L)
24	P.S.ring	304	304	304	304	304	316	304
25	P.S.seat	420	420	304	304	304(L)	316(L)	F91
26	Nut pad	410	410	410	410	410	410	410
27	Draw-in stud	Cast steel				Stainless steel		

Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BB,Bolted Bonnet;PSB
OS&Y,Outside Screw and Yoke
Solid Wedge
Thread /SW / BW /Flange

Specifications
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75

Y TYPE GLOBE VALVES

CL800-2500

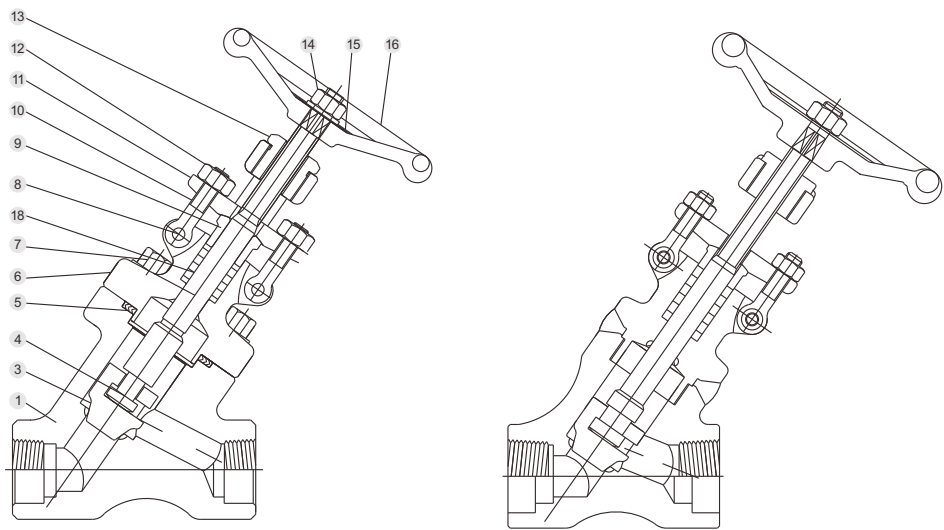
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S&W Material:
A105,LF2,F304,F316,F304L,F316L,F321,F51,F53,F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM

Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BB,Bolted Bonnet;PSB
OS&Y,Outside Screw and Yoke
Solid Wedge
Thread /SW / BW/Flange



Specifications
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End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105+HF	LF2	F11+HF	F304(L)	F316(L)	F51
3	Disc	F6a	F6a	F304	F6a+HF	F304(L)	F316(L)	F51
4	Stem	410	410	304	410	304(L)	316(L)	F51
5	Gasket	304+Flexible Grapite						
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
8	Pin	410	410	410	410	304	304	304
9	Gland	410	410	304	410	304	316	F51
10	Gland eyebolt	B7	B7	L7	B16	B8(M)	B8(M)	B8M
11	Gland flange	A105	A105	LF2	F11	F304	F304	F304
12	Hex nut	2H	2H	2H	2H	8(M)	8(M)	8M
13	Stem nut	410	410	410	410	410	410	410
14	Locking nut	35	35	35	35	35	35	35
15	Name plate	AL	AL	AL	AL	AL	AL	AL
16	Hand wheel	A197	A197	A197	A197	A197	A197	A197
18	Packing	Grapite						

**FORGED
CHECK VALVES**

CL800-2500

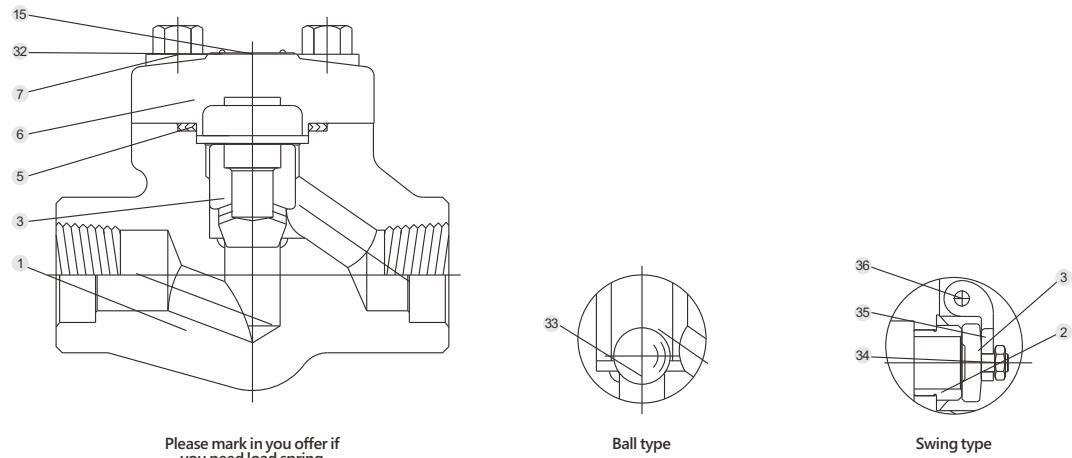


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Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BC,Bolted Bonnet,WC,Weld Cover
Thread /SW / BW/Flange

Specifications
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
2	Seat ring	410	410HF	304	410HF	304(L)	316(L)	F51
3	Disc	F6a	F6a	F304	F6aHF	F304(L)	F316(L)	F51
5	Gasket	304+Flexible Grapite						316+Flexible Grapite
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
15	Name plate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steelball	430	430	304	STL	316(L)	316(L)	STL
34	Disc nut	2H	2H	8	8	8(M)	8(M)	8M
35	Hinge	410	410	304	410	316(L)	316(L)	F51
36	Pin	410	410	304	410	304(L)	316(L)	F51

**Y TYPE
CHECK VALVES**

CL800-2500

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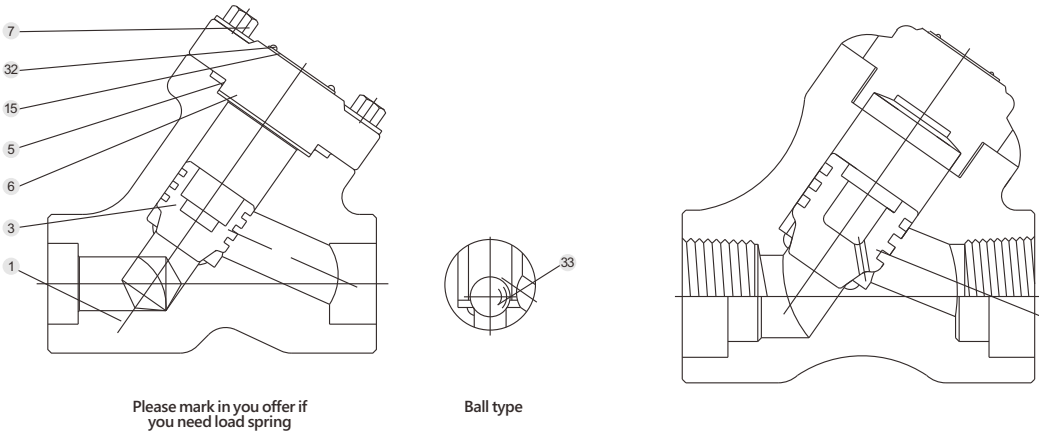
S&W Material:

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Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BC,Bolted Bonnet,WC,Weld Cover
Thread /SW / BW/Flange

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Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	F11/F6aHF	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	A105	LF2	F11	F304(L)	F316(L)	F51
3	Disc	410	410HF	304	410HF	304(L)	316(L)	F51
5	Gasket	304+Flexible Grapite					316+Flexible Grapite	
6	Bonnet	A105	A105	LF2	F11	F304(L)	F316(L)	F51
7	Bolt	B7	B7	L7	B16	B8(M)	B8(M)	B8(M)
15	Name plate	AL	AL	AL	AL	AL	AL	AL
32	Revit	AL	AL	AL	AL	AL	AL	AL
33	Steelball	430	430	304	STL	316(L)	316(L)	STL



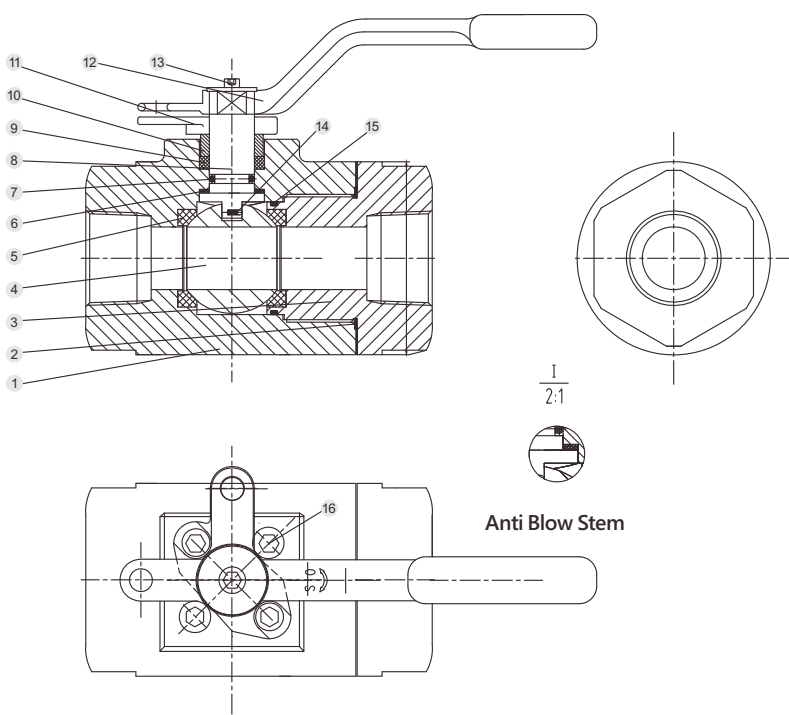
2PCS FORGED
STEEL
BALL VALVES
CL800-2500

S&W Valves are available in three bonet designs.the first design is the bolted bonnet,with male-female joint, spiral wound gasket,made in F304L/graphite.Ring joint gasket are also available on request.The second design is the welded bonnet ,with a threaded and seal welded joint.On request a full penetration strength welded joint is available.The third design is the pressure seal bonnet,with a threaded and pressure seal bonnet joint.

S&W Material:
A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM

Features
Size:1/2"~2"
Pressure Rating:Class 150~1500
BB,Bolted Bonnet
Thread /SW

Specifications
Design:API608
Face to Face:ASME B 16.10/BSEN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO.	Part Name	A105/F6a	LF2/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	A105	LF2	F304(L)	F3316(L)	F51
2	Seat	RPTFE or PEEK				
4	Stem	410	304	304(L)	316(L)	F51
5	Gasket	PTFE				
6	Bonnet	A105	LF2	F304	F316	F51
9	Gland	410	304	304(L)	316(L)	F51
11	Gland flange	A105	LF2	F304	F316	F51
14	Flat nut	8	8	8	8M	8M
18	Packing	PTFE				
40	Ball	F6	F304	F304(L)	F316(L)	F51
41	O-ring	VITON				
42	Back seal gasket	RPTFE or PEEK				
43	Wrench	ANSI 1025				
44	Screw	B8	B8	B8	B8M	B8M
45	Lock					
46	Locator	ANSI1025	ANSI 1025	ANSI 1025	ANSI 1025	ANSI 1025

**3PCS FORGED
STEEL
BALL VALVES**

CL800-2500



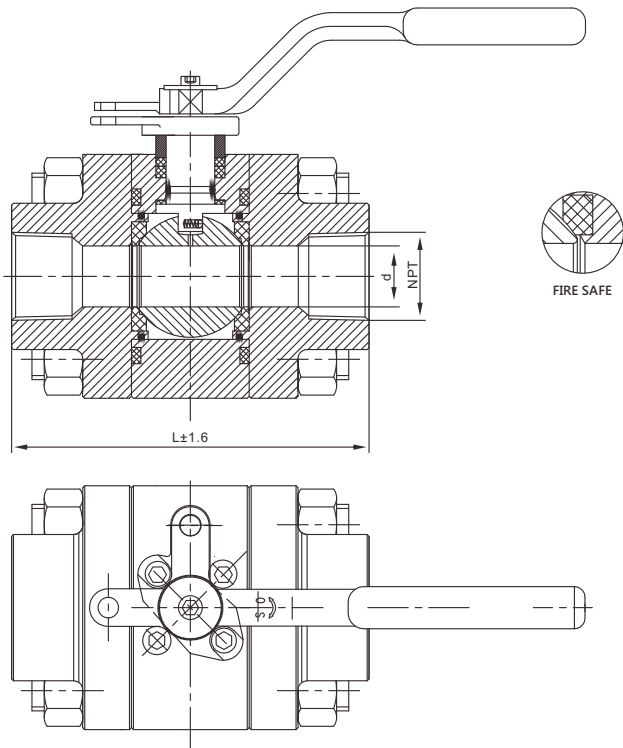
S&W Valves are available in three bonnet designs.the first design is the bolted bonnet,with male-female joint, spiral wound gasket,made in F304L/graphite.Ring joint gasket are also available on request.The second design is the welded bonnet ,with a threaded and seal welded joint.On request a full penetration strength welded joint is available.The third design is the pressure seal bonnet,with a threaded and pressure seal bonnet joint.

S&W Material:

A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM

Features
Size:1/2"~2"
Pressure Rating:Class 150~1500
BC,Bolted Bonnet
Thread /SW

Specifications
Design:API608
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



Materials of Parts

NO	Name	Material		
1	Hex Bolt	ASTM A193 B8M	ASTM A193 B8	ASTM A193 B8M
2	Hex Nut	ASTM A194 B8M	ASTM A194 8	ASTM A194 8M
3	Body	ASTM A182 F316	ASTM A182 F304	ASTM A182 F51
4	Gasket	SS 316+Graphite	SS 304+Graphite	SS 316+Graphite
5	Bonnet	ASTM A182 F316	ASTM A182 F304	ASTM A182 F51
6	Seat Ring	RPTFE	RPTFE	RPTFE
7	Ball	ASTM A182 F316	ASTM A182 F304	ASTM A182 F51
8	Antistatic Spring	SS	SS	SS
9	Stem	ASTM A182 F316	ASTM A182 F304	ASTM A182 F51
10	Thrust Pad	RPTFE	RPTFE	RPTFE
11	O ring	VITON	VITON	VITON
12	Packing	Graphite	Graphite	Graphite
13	Gland	ASTM A276 316	ASTM A216 304	ASTM A182 F51
14	Gland Flange	ASTN A216 WCB+Zn	ASTN A216 WCB+Zn	ASTN A216 WCB+Zn
15	The Handle	ASTN A216 WCB+Zn	ASTN A216 WCB+Zn	ASTN A216 WCB+Zn
16	Flat Pad	CS+Zn	CS+Zn	CS+Zn
17	Socket Head Bolts	ASTM A193 B8M	ASTM A193 B8	ASTM A193 B8M

**FORGED STEEL
CRYOGENIC
GATE & GLOBE
VAVLES**

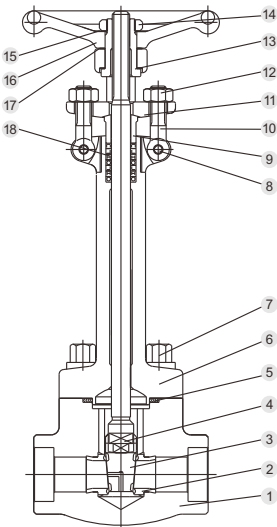
CL800-1500

S&W Valves are available in three bonnet designs.the first design is the bolted bonnet,with male-female joint, spiral wound gasket,made in F304L/graphite.Ring joint gasket are also available on request.The second design is the welded bonnet ,with a threaded and seal welded joint.On request a full penetration strength welded joint is available.The third design is the pressure seal bonnet,with a threaded and pressure seal bonnet joint.

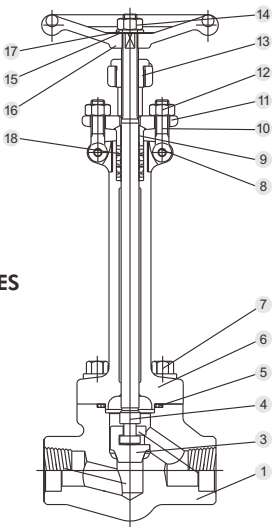
S&W Material:
A105,LF2,F304,F316,F304L,F316L,F321,F51,F53, F55, INCONEL,F11,F22,F5,F9,F91,TITANIUM

Features
Size:1/2"~4"
Pressure Rating:Class 150~2500
BB,Bolted Bonnet;
OS&Y,Outside Screw and Yoke
Solid Wedge
Thread /SW / BW/Flange

Specifications
Face to Face:ASME B 16.10/BS EN558
End Flange: ASME B 16.5
End BW:ASME B16.25
Pressure Temp:ASME 16.34
Test:API598
Special :NACE MR-01-75



CRYOGENIC
GATE VAVLES



CRYOGENIC
GLOBE VAVLES

Materials of Parts

NO.	Part Name	A105/F6a	A105/F6aHFS	LF2/304	LF3/304	F304(L)/304(L)	F316(L)/316(L)	F51/F51
1	Body	-	-	Lf2	Lf3	F304(L)	F316(L)	F51
2	Seat ring	-	-	304	304	304(L)	316(L)	F51
3	Wedge disc	-	-	F304	F304	F304(L)	F316(L)	F51
4	Stem	-	-	304	304	304(L)	316(L)	F51
5	Gasket	-	-	304+ Flexible graphite				
6	Bonnet	-	-	LF2	LF3	F304(L)	F316(L)	F51
7	Bolt	-	-	L7	L7	B8	B8	B8
8	Pin	-	-	410	410	304	304	304
9	Gland	-	-	304	304	304	316	F51
10	Gland eyebolt	-	-	L7	L7	B8(M)	B8(M)	B8M
11	Gland flange	-	-	LF2	LF3	F304	F304	F304
12	Hex nut	-	-	2H	2H	8(M)	8(M)	8M
13	Stem nut	-	-	410	410	410	410	410
14	Locking nut	-	-	35	35	35	35	35
15	Name plate	-	-	AL	AL	AL	AL	AL
16	Hand wheel	-	-	ALA197	ALA197	A197	A197	A197
17	Lubrication gasket	-	-	410	410	410	410	410
18	Packing	-	-	Graphite				