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**Climate Control
Electromechanical
Filtration
Fluid & Gas Handling
Hydraulics
Process Control
Sealing & Shielding**



VFK
Advanced Fluid Control

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Globe Valves

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Forged Steel Y-pattern Bonnetless Globe Valves

SY Series

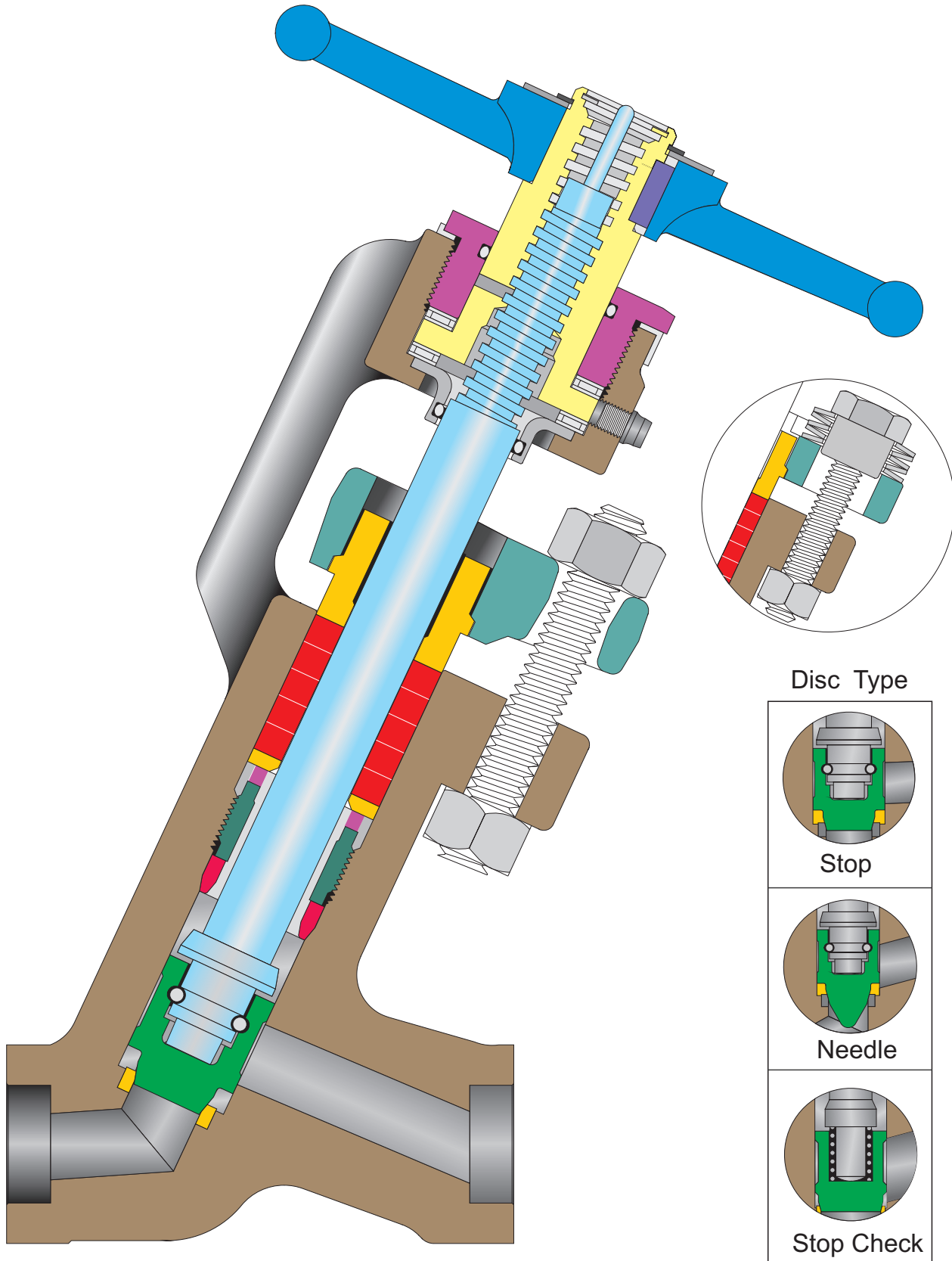
- ⊙ Size: 1/2 to 4" (15–100 mm)
- ⊙ ASME Class: 1500, 1690, 2500, 2680 and 4500

Specifications

- ⊙ Design: ASME B16.34
- ⊙ Testing: ASME B16.34, API 598
- ⊙ Marking: MSS-SP-25
- ⊙ Socket weld ends: ASME B16.11
- ⊙ Butt weld ends: ASME B16.25
- ⊙ Threaded ends: ASME 1.20.1

Features

- ⊙ One-piece, forged, bonnetless globe valves eliminate the potential for body-to-bonnet joint leakage, and not require cut or disassemble the bonnet for servicing.
- ⊙ 65° inclined body reduces pressure drop compared with T-type.
- ⊙ Splined bushing guides the stem allows quick and easy maintenance by removing all working parts at one time.
- ⊙ The non-rotating stem hardened and polished to reduce operating torque.
- ⊙ Linearly instead of helical movement of the non-rotating stem reduces the total friction area between the packing and stem.
- ⊙ Packing chamber burnished and combination graphite rings individually pre-stressed for tight seal.
- ⊙ Two-piece gland ensures gland and packing self-aligning.
- ⊙ Stellite disc, seat and backseat provide excellent long service life even in severe services.
- ⊙ Fully guided disc assures seat and disc precise alignment in spite of side thrust caused by high velocity flow, and prevents stem from scoring and galling, and provides longer disc seal and body life.
- ⊙ Double orifice design protects seating faces because part of the erosive flow energy dissipates through disc.
- ⊙ Two flat slots design at the internal bottom of the disc prevent the disc from rotating, so avoid high-speed rotating disc and seat contact, damage to disc and seat.
- ⊙ Backseat bevel on the stem, not on the disc, meet specifications API 602.
- ⊙ Large clearance between stem and disc allows disc to move freely.
- ⊙ Dust cover and sleeve protect stem threads from dirt, dust and sand.
- ⊙ Fully enclosed stem driving lubrication system with two needle roller bearings ensures low operating torque.
- ⊙ Upper stem position indicates if valve is open or closed.
- ⊙ Optional live-loading packing, disc springs keep packing tight for long periods of time without maintenance.
- ⊙ Stop, regulating, and stop check discs are available.
- ⊙ Handwheel is rugged and knobbed to make sure the grip even when wearing gloves.
- ⊙ Optional handwheel colors are available.



Standard Materials of Construction

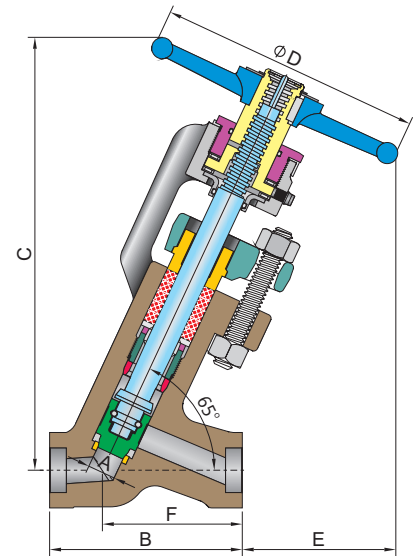
Item	Part	Valve Material			
1	Body	A105N	F22/A182	F91/A182	F316/A182
2	Seat	Stellite 6			
3	Disc	Stellite 6			
4	Holder	Stellite 6			
5	Stem	410 SS/A276			316 SS/A276
6	Backseat	Stellite 6			
7	Spline bushing	630 SS			
8	Packing washer	304 SS			
9	Packing	Graphite			
10	Split gland bushing	CA15			
11	Packing flange	A105			F304/A182
12	O-Ring	Nitrile rubber			
13	Stem protector	Steel			Steel
14	Thrust bearing	Steel			
15	Stem nut	D-2C/A439			
16	Yoke bushing	1020			1020/A108(nickel-plated)
17	Name plate	304 SS			
18	Dust cover	304 SS			
19	Indicator	410 SS/A276			316 SS/A276
20	Snap ring	Steel			
21	Handwheel	Malleable iron			
22	Tab washer	304 SS			
23	Gland nut	2H			8M
24	Gland stud	B7			B8M2
25	Springs	S17700			

Sour Gas Service

The globe valves with female NPT, male NPT, socket weld and butt weld end connections are available for sour gas service. Materials for wetted components are selected in accordance with NACE Mr0175 for sulfide stress cracking-resistant materials.

Dimensions

Size NPS DN	øA in. mm		B in. mm		C in. mm		øD in. mm		E in. mm		F in. mm	
	Port		End to End		Center to Top Open		Handlewheel		Clearance Open		Center to End	
	1500~ 2680	4500	1500~ 2680	4500	1500~ 2680	4500	1500~ 2680	4500	1500~ 2680	4500	1500~ 2680	4500
1/2	0.559	0.375	4.88	5.75	9.63	11.75	6.00	6.00	3.63	3.25	3.20	4.19
15	14.2	9.5	124	146	245	298	152	152	92	83	81	106
3/4	0.559	0.559	4.88	7.00	9.63	14.20	6.00	8.00	3.63	6.00	3.20	3.88
20	14.2	14.2	124	178	245	361	152	203	92	152	81	99
1	0.833	0.559	5.75	7.00	13.19	14.20	8.00	8.00	5.13	6.00	4.19	3.88
25	21.2	14.2	146	178	335	361	203	203	130	152	106	99
1 1/4	1.125	0.833	7.25	10.13	16.63	18.88	12.00	12.00	7.57	7.00	4.94	6.57
32	28.6	21.2	184	257	422	480	305	305	192	178	125	167
1 1/2	1.125	1.125	7.25	12.00	16.63	20.75	12.00	18.00	7.57	8.00	4.94	8.00
40	28.6	28.6	184	305	422	527	305	457	192	203	125	203
2	1.688	1.50	10.13	12.00	19.86	20.75	12.00	18.00	7.50	8.00	6.57	8.00
50	42.9	38.1	257	305	505	527	305	457	190	203	167	203
2 1/2	1.688	1.50	12.00	12.00	20.69	20.75	16.00	16.00	7.25	7.25	8.00	8.00
65	42.9	38.1	305	305	526	527	406	406	184	184	203	203
3	1.688	1.50	12.00	12.00	20.69	20.75	16.00	16.00	7.25	7.25	8.00	8.00
50	42.9	38.1	305	305	526	527	406	406	184	184	203	203
4	1.688	1.50	12.00	12.00	20.69	20.75	16.00	16.00	7.25	7.25	8.00	8.00
100	42.9	38.1	305	305	526	527	406	406	184	184	203	203



1. Size and types listed are standard. Other sizes and types are available upon request.

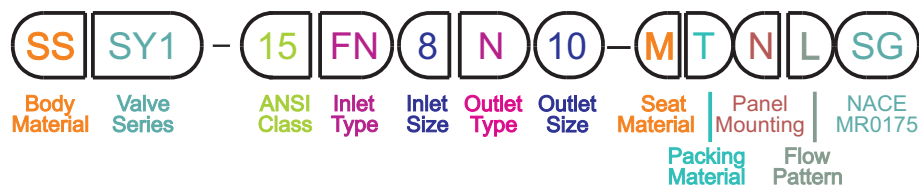
Temperature – Pressure Ratings

ASME B16.34-2004

Material	A105					F22					F91					F316				
Class	1500	1690	2500	2680	4500	1500	1690	2500	2680	4500	1500	1690	2500	2680	4500	1500	1690	2500	2680	4500
Temp. °F	psig																			
-20 至 100	3705	4175	6170	6615	11110	3750	4225	6250	6700	11250	3750	4225	6250	6700	11250	3600	4055	6000	6430	10800
200	3375	3805	5625	6030	10120	3750	4225	6250	6700	11250	3750	4225	6250	6700	11250	3095	3485	5160	5530	9290
300	3280	3695	5470	5865	9845	3640	4100	6070	6505	10925	3640	4100	6070	6505	10925	2795	3150	4660	4995	8390
400	3170	3570	5280	5660	9505	3530	3975	5880	6300	10585	3530	3975	5880	6300	10585	2570	2895	4280	4585	7705
500	2995	3375	4990	5350	8980	3325	3745	5540	5935	9965	3325	3745	5540	5935	9965	2390	2690	3980	4265	7165
600	2735	3080	4560	4890	8210	3025	3405	5040	5400	9070	3025	3405	5040	5400	9070	2255	2540	3760	4030	6770
650	2685	3025	4475	4795	8055	2940	3310	4905	5255	8825	2940	3310	4905	5255	8825	2220	2500	3700	3965	6660
700	2665	3005	4440	4760	7990	2840	3200	4730	5070	8515	2840	3200	4730	5070	8515	2170	2445	3620	3880	6515
750	2520	2840	4200	4500	7560	2660	2995	4430	4745	7970	2660	2995	4430	4745	7970	2135	2405	3560	3815	6410
800	2060	2320	3430	3675	6170	2540	2860	4230	4530	7610	2540	2860	4230	4530	7610	2110	2375	3520	3770	6335
850	1340	1510	2230	2390	4010	2435	2740	4060	4350	7305	2435	2740	4060	4350	7305	2090	2350	3480	3730	6265
900	—	—	—	—	—	2245	2530	3745	4010	6740	2245	2530	3745	4010	6740	2075	2338	3460	3705	6230
950	—	—	—	—	—	1885	2125	3145	3370	5665	1930	2175	3220	3450	5795	1930	2175	3220	3450	5795
1000	—	—	—	—	—	1305	1470	2170	2325	3910	1820	2050	3030	3245	5450	1750	1970	2915	3125	5245
1050	—	—	—	—	—	875	985	1455	1550	2625	1800	2030	3000	3215	5400	1720	1935	2865	3070	5155
1100	—	—	—	—	—	550	620	915	980	1645	1510	1700	2515	2695	4525	1525	1715	2545	2725	4575
1150	—	—	—	—	—	—	—	—	—	—	1115	1255	1855	1990	3345	1185	1330	1970	2110	3550
1200	—	—	—	—	—	—	—	—	—	—	720	810	1200	1285	2160	925	1040	1545	1655	2775
1250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	735	829	1230	1315	2210

1. A105 permissible but not recommended for prolonged usage above about 800°F (425°C) .

SY Series How to Order

**Body Material**

SS: F316 SS
6L: F316L SS
S4: F304 SS
6H: F316H SS
S1: F321 SS
91: F91
92: F92
D5: Duplex 2205
D7: Duplex 2507
A20: Alloy 20
M: Alloy 400
INC: Alloy 600
HC: Alloy C-276
CS: Carbon Steel

ANSI Class

8 Class 800
15 Class 1500
17 Class 1690
25 Class 2500
27 Class 2680
45 Class 4500

Inlet/Outlet Size

2 1/8"
4 1/4"
6 3/8"
8 1/2"
12 3/4"
16 1"
20 1 1/4"
24 1 1/2"
32 2"
40 2 1/2"
48 3"
64 4"

Packing Material

Standard with Graphite
T PTFE

Disc Type

Standard is Stop
N Needle
C Stop Check

Live-Loading

Standard with No Live-Loading
L Yes

Valve Series by Orifice Size

SY10: 3/8 (DN10)
SY15: 1/2 (DN15)
SY20: 3/4 (DN20)
SY25: 1 (DN25)
SY40: 1 1/2 (DN40)
SY50: 2 (DN50)
SY65: 2 1/2 (DN65)
SY80: 3 (DN80)

Inlet/Outlet Type

FN Female NPT
N Male NPT
FR Female BSPT
RT Male BSPT
PS Pipe Socket Weld
PB Pipe Butt Weld Fractional Tube

Seat Material

Standard Same with Stellite
M Monel (Alloy 400)
HC Alloy C-276
X Customer Specified

NACE MR0175

Standard with no NACE applicable
SG With NACE MR0175

Remark:

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
 Standard thread pitch should be ignored in the ordering number, others should be specified.

Forged Steel Y-Pattern Globe Valves

SL Series

- ⦿ Size: 3/8 to 2"
- ⦿ ASME Class: 150 to 4500

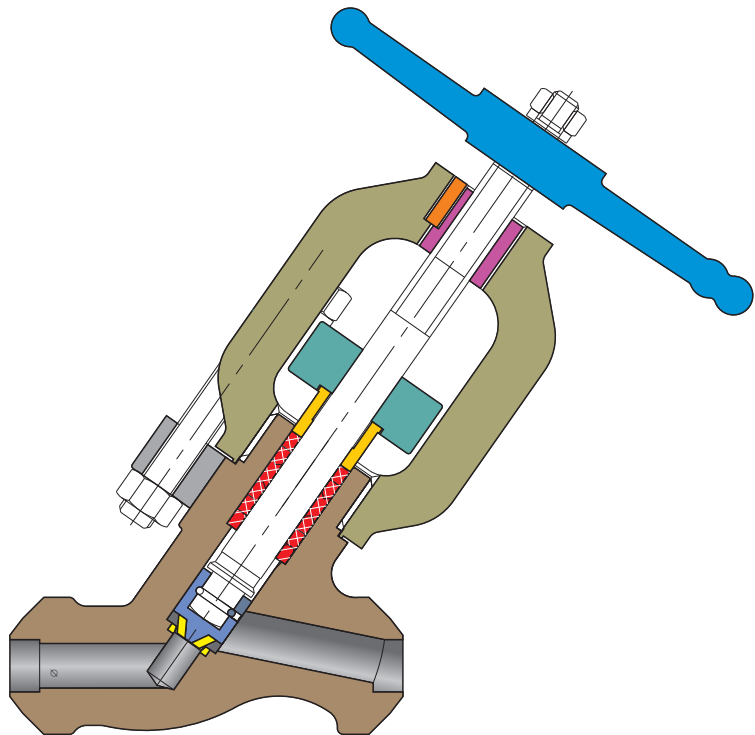
Specifications

- ⦿ Design: ANSI B16.34, BS5352, EN12516
- ⦿ Testing: ANSI B16.34, API 598, BS6755, DIN3230, EN12266
- ⦿ Socket weld ends: ASME B16.11, EN12760
- ⦿ Butt weld ends: ASME B16.25, DIN2559, EN12627

Features

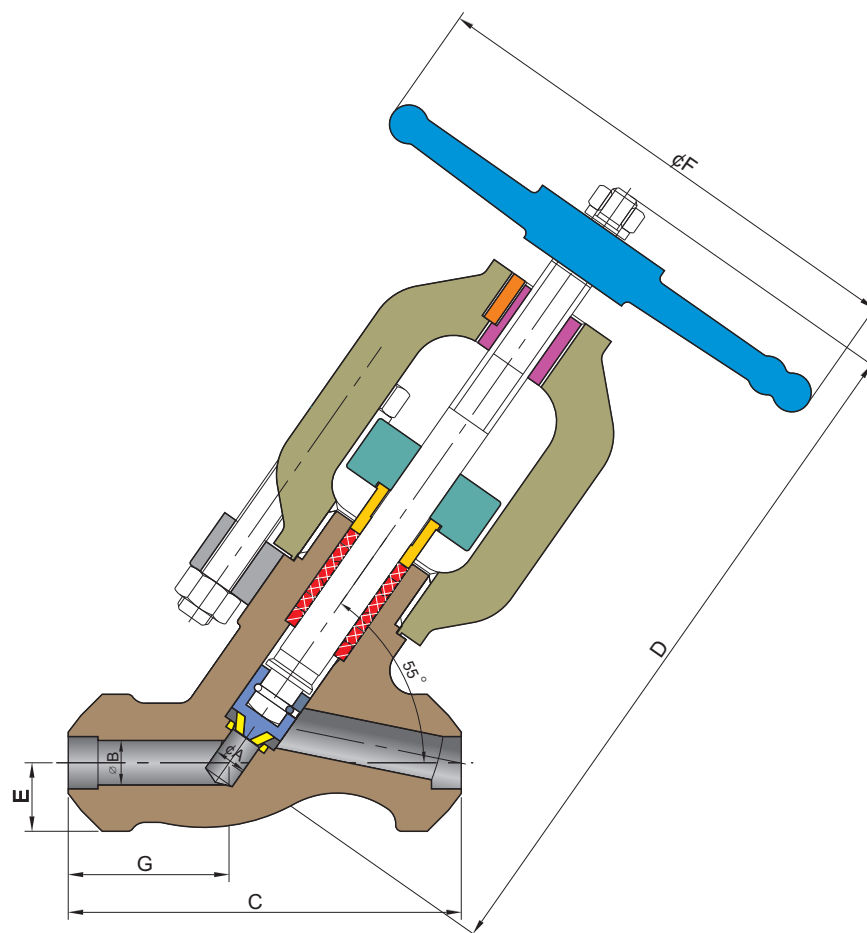
- ⦿ Integral bonnet (bonnetless) and loose backseat (fixed backseat optional).
- ⦿ High temperature vacuum brazed in seat ring with thickness > 5 mm (1/5")
- ⦿ Also in sizes exceeding 2"
- ⦿ Body materials: A105N, F22, F91, F316 and others on request
- ⦿ Graphite with integral or stainless steel reinforced anti extrusion rings
- ⦿ Gland bolting connected to valve-body
 - Provides additional protection against the yoke unscrewing.
 - Provides for anti-blow out design of stem.
- ⦿ Removable backseat
 - Stem, disc and packing are easily accessible and removable in-line.
 - Repairable and repackable within minutes.
 - Optional screwed-in backseat.
- ⦿ Integral bonnet design
 - Eliminates the risk of leakage across, body-to-bonnet connections.
 - Provides a more rigid construction.
 - Eliminates body welds or threading on pressure containing parts.
 - Enables easy in-line maintenance, reducing overall costs.

Materials of Construction



Item	Part	Valve Body Materials				
		A105N	F11/A182	F22/A182	F91/A182	F316/A182
1	Body	A105N	F11/A182	F22/A182	F91/A182	F316/A182
2	Seat	Stellite				
3	Disc	Stellite				
4	Stem	17Cr/Stellite	F316/Stellite			
5	Loose Backseat	304 SS				316
6	Yoke	A105N	F11/A182	F22/A182	F91/A182	F316/A182
7	Gland Bolt	B7				B8M2
8	Packing	Graphite				
9	Gland	416 SS/A276				316 SS/276
10	Gland Flange	A105				F304/A182
11	Gland Nut	2H				8M
12	Yoke Sleeve	Aluminum-Bronze				
13	Stem Nut	410 SS				
14	Handwheel	Malleable iron (painted)				
15	Name Plate	Aluminum				
16	Pin	Hardened Steel				

Forged Steel
Y-Parttern Globe
Vavle



Main Dimensions in mm (in.)

NOM. Size	A	B	C	D	E	F	G	Cv	Weight KG
10 (3/8")	11 (0.43)	7 (0.28)	115 (4.53)	236 (9.29)	21 (0.83)	150 (5.91)	43.3 (1.70)	1.5	3.4 (7.5 LB)
15 (1/2")	11 (0.43)	11 (0.43)	115 (4.53)	236 (9.29)	21 (0.83)	150 (5.91)	43.3 (1.70)	2.7	3.3 (7.3 LB)
20 (3/4")	18 (0.71)	16 (0.63)	140 (5.51)	291 (11.46)	29 (1.14)	200 (7.87)	51.5 (2.02)	8.0	5.9 (13.0 LB)
25 (1")	18 (0.71)	20 (0.79)	140 (5.51)	291 (11.46)	29 (1.14)	200 (7.87)	51.5 (2.02)	8.7	5.7 (12.6 LB)
32 (1-1/4")	36 (1.42)	30 (1.18)	245 (9.65)	469 (18.46)	50 (1.97)	350 (13.78)	85 (3.35)	34.4	28.9 (68.7 LB)
40 (1-1/2")	36 (1.42)	30 (1.18)	245 (9.65)	469 (18.46)	50 (1.97)	350 (13.78)	85 (3.35)	34.4	28.9 (68.7 LB)
50 (2")	36 (1.42)	40 (1.57)	245 (9.65)	469 (18.46)	50 (1.97)	350 (13.78)	85 (3.35)	44.2	27.6 (60.8 LB)

Pressure - Temperature Ratings

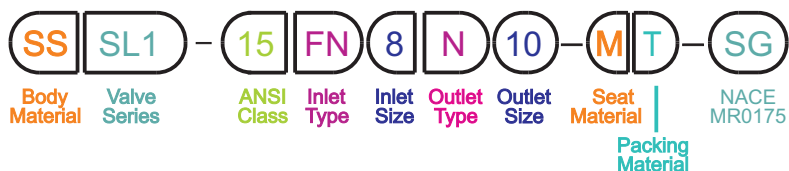
ASME B16.34-Class 150, 300, 600, 1500, 2500, 4500.

API 602-Class 800

Materials	A105&A350-LF2							F11						F22						
Class	150	300	600	800	1500	2500	4500	150	300	600	800	1500	2500	150	300	600	800	1500	2500	4500
Temp. °F	psig																			
-20 to 100	285	740	1480	1975	3705	6170	11110	290	750	1500	2000	3750	6250	290	750	1500	2000	3750	6250	11250
200	260	675	1350	1800	3375	5625	10120	260	750	1500	1900	3750	6250	260	750	1500	2000	3750	6250	11250
300	230	655	1315	1750	3280	5470	9845	230	720	1455	1795	3610	6015	230	730	1455	1940	3640	6070	10925
400	200	635	1270	1690	3170	5280	9505	200	695	1385	1755	3465	5775	200	705	1410	1880	3530	5880	10585
500	170	600	1200	1595	2995	4990	8980	170	665	1330	1710	3325	5540	170	665	1330	1775	3325	5540	9965
600	140	550	1095	1460	2735	4560	8210	140	605	1210	1615	3025	5040	140	605	1210	1615	3025	5040	9070
650	125	535	1075	1430	2685	4475	8055	125	590	1175	1570	2940	4905	125	590	1175	1570	2940	4905	8825
700	110	535	1065	1420	2665	4440	7990	110	570	1135	1515	2840	4730	110	570	1135	1515	2840	4730	8515
750	95	505	1010	1345	2520	4200	7560	95	530	1065	1420	2660	4430	95	505	1065	1420	2660	4430	7970
800	80	410	825	1100	2060	3430	6170	80	510	1015	1355	2540	4230	80	530	1015	1355	2540	4230	7610
850	65	270	535	715	1340	2230	4010	65	485	975	1300	2435	4060	65	510	975	1300	2435	4060	7305
900	—	—	—	—	—	—	—	50	450	900	1200	2245	3745	50	450	900	1200	2245	3745	6740
950	—	—	—	—	—	—	—	35	320	640	1005	1595	2655	35	375	755	1005	1885	3145	5665
1000	—	—	—	—	—	—	—	20	215	430	595	1080	1800	20	260	520	695	1305	2170	3910
1050	—	—	—	—	—	—	—	20	145	290	365	720	1200	20	175	350	465	875	1455	2625
1100	—	—	—	—	—	—	—	20	95	190	225	480	800	20	110	220	295	550	915	1645
1150	—	—	—	—	—	—	—	—	60	125	140	310	515	—	70	135	180	345	570	—
1200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	82	110	205	345	—

Materials	F51						F91							F316						
Class	150	300	600	800	1500	2500	150	300	600	800	1500	2500	4500	150	300	600	800	1500	2500	4500
Temp. °F	psig																			
-20 至 100	290	750	1500	2000	3750	6250	290	750	1500	2000	3750	6250	11250	275	720	1440	1920	3600	6000	10800
200	260	720	1440	1920	3600	6000	260	750	1500	2000	3750	6250	11250	235	620	1240	1655	3095	5160	92900
300	230	665	1330	1770	3325	5540	230	730	1455	1940	3640	6070	10925	215	560	1120	1495	2795	4660	8390
400	200	615	1230	1640	3070	5120	200	705	1410	1880	3530	5880	10585	195	515	1025	1370	2570	4280	7705
500	170	575	1150	1535	2880	4800	170	665	1330	1775	3325	5540	9965	170	480	955	1275	2390	3980	7165
600	140	555	1115	1480	2785	4640	140	605	1210	1615	3025	5040	9070	140	450	900	1205	2255	3760	6770
650	—	—	—	—	—	—	125	590	1175	1570	2940	4905	8825	125	445	890	1185	2220	3700	6660
700	—	—	—	—	—	—	110	570	1135	1515	2840	4730	8515	110	430	870	1160	2170	3620	6515
750	—	—	—	—	—	—	95	530	1065	1420	2660	4430	7970	95	425	855	1140	2135	3560	6410
800	—	—	—	—	—	—	80	510	1015	1355	2540	4230	7610	80	420	845	1125	2110	3520	6335
850	—	—	—	—	—	—	65	485	975	1300	2435	4060	7305	65	420	835	1115	2090	3480	6265
900	—	—	—	—	—	—	50	450	900	1200	2245	3745	6740	50	415	830	1105	2075	3460	6230
950	—	—	—	—	—	—	35	385	775	1030	1930	3220	5795	35	385	775	1030	1930	3220	5795
1000	—	—	—	—	—	—	20	365	725	970	1820	3030	5450	20	350	700	935	1750	2915	5245
1050	—	—	—	—	—	—	20	360	720	960	1800	3000	5400	20	345	685	915	1720	2865	5155
1100	—	—	—	—	—	—	20	300	605	805	1510	2515	4525	20	305	610	815	1525	2545	4575
1150	—	—	—	—	—	—	20	225	445	595	1115	1855	3345	20	235	475	630	1185	1970	3550
1200	—	—	—	—	—	—	20	145	290	385	720	1200	2160	20	185	370	495	925	1545	2775
1250	—	—	—	—	—	—	—	—	—	—	—	—	—	20	145	295	390	735	1230	2210

SL Series How to Order

**Body Material**

SS: F316 SS
 6L: F316L SS
 S4: F304 SS
 6H: F316H SS
 S1: F321 SS
 91: F91
 92: F92
 D5: Duplex 2205
 D7: Duplex 2507
 A20: Alloy 20
 M: Alloy 400
 INC: Alloy 600
 HC: Alloy C-276
 CS: Carbon Steel

ANSI Class

8 Class 800
 15 Class 1500
 17 Class 1690
 25 Class 2500
 27 Class 2680
 45 Class 4500

Inlet/Outlet Size

2 1/8"
 4 1/4"
 6 3/8"
 8 1/2"
 12 3/4"
 16 1"
 20 1 1/4"
 24 1 1/2"
 32 2"
 40 2 1/2"
 48 3"
 64 4"

Packing Material

Standard with Graphite
 T PTFE

NACE MR0175

Standard with no NACE applicable

SG With NACE MR0175

Valve Series by Orifice Size

SL11: 11 mm
 SL18: 18 mm
 SL36: 36 mm

Inlet/Outlet Type

FN Female NPT
 N Male NPT
 FR Female BSPT
 RT Male BSPT
 PS Pipe Socket Weld
 PB Pipe Butt Weld
 Fractional Tube

Seat Material

Standard Same with Stellite
 M Monel (Alloy 400)
 HC Alloy C-276
 X Customer Specified

Remark:

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
 Standard thread pitch should be ignored in the ordering number, others should be specified.

Forged Steel Globe Valves

ST Series

- ⊙ Size: 1/4 to 2"
- ⊙ ASME Class: 800 to 1500

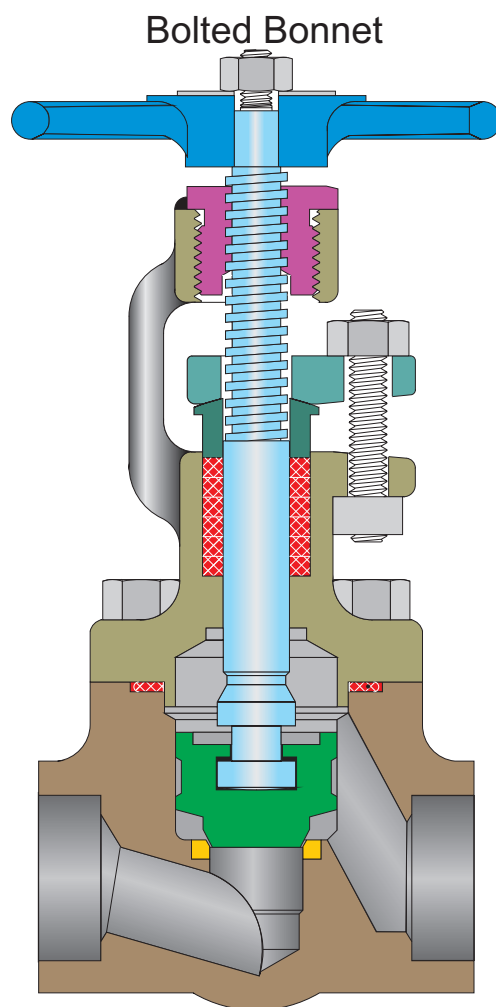
Specifications

- ⊙ Design: ANSI B16.34, API602
- ⊙ Testing: ANSI B16.34, API 598
- ⊙ Marking: MSS-SP-25
- ⊙ Socket weld ends: ASME B16.11
- ⊙ Butt weld ends: ASME B16.25
- ⊙ Threaded ends: ASME 1.20.1
- ⊙ Flanged: ASME B16.5

Features

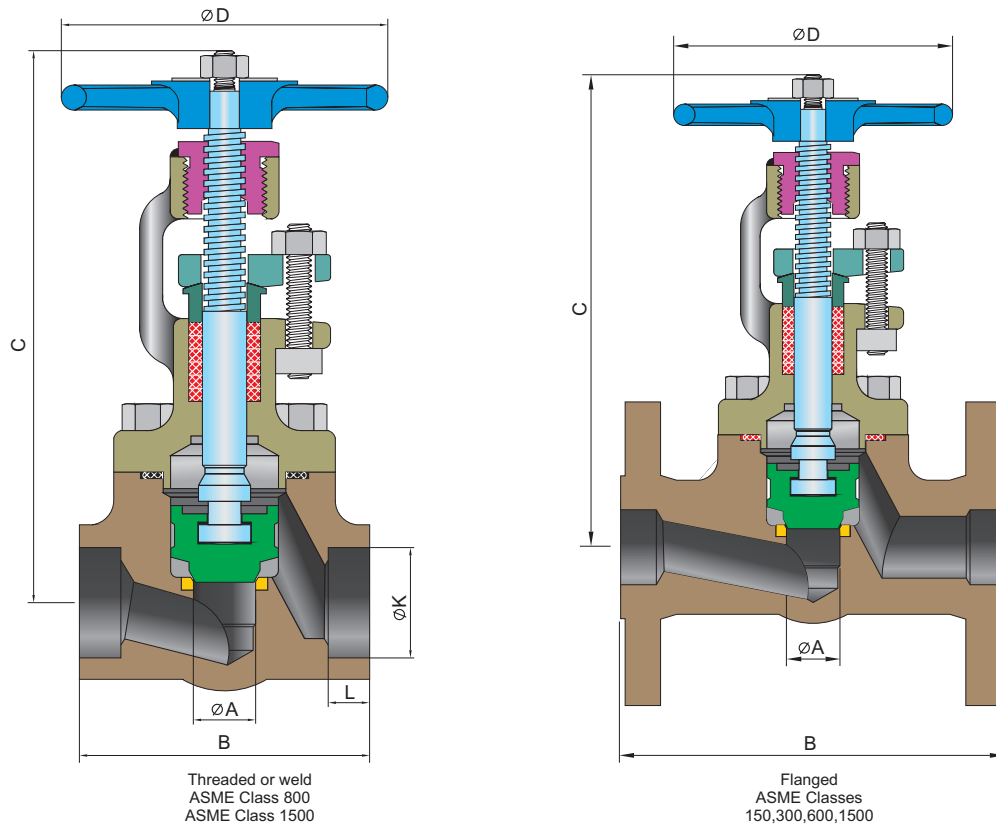
- ⊙ Three Bonnet designs"
 - Bolted Bonnet, Outside Screw and Yoke (OS&Y).
Stronger, leakproof body-bonnet joint fully encased spiral wound gasket
 - Welded Bonnet, Outside Screw and Yoke (OS&Y).
For welded bonnet valves, the bonnet is threaded in and torqued to an engineered torque value and the body bonnet joint is strength-welded, offering double protection against leakage. (body/bonnet threads and strength-weld).
 - Pressure Seal Bonnet, Outside Screw and Yoke (OS&Y).
- ⊙ The top- and bottom-guided disc assures perfect seat and disc alignment in spite of side thrust caused by high velocity flow. This prevents stem from scoring and galling and provides longer disc seal and body life.
- ⊙ Large clearance between stem and disc allows disc to move freely.
- ⊙ Precision stem and packing chambers, Packing rings individually pre-stressed for tight seal
- ⊙ Two-piece self-aligning gland.
- ⊙ The valve disc can be stop, stop check or needle control disc.

Materials of Construction



Item	Part	Valve Body Materials				
1	Body	A105N	F11/A182	F22/A182	F91/A182	F316/A182
2	Seat	410 SS/A276				F316/A182
3	Disc	410 SS/A276				316 SS/276
4	Stem	410 SS/A276				316 SS/276
5	Gasket	304 SS+Graphite				316+Graphite
6	Bonnet	A105N	F11/A182	F22/A182	F91/A182	F316/A182
7	Bolt	B7				B8M2
8	Packing	Graphite				
9	Gland	416 SS/A276				316 SS/276
10	Gland Flange	A105				F304/A182
11	Gland Bolt	B7				B8M
12	Hex Nut	2H				8M
13	Stem Nut	410 SS				
14	Handwheel	Malleable iron (painted)				
15	Name Plate	Aluminum				
16	Handwheel Nut	Steel				

Bolted Bonnet



Bolted Bonnet Globe Dimensions and Weights

Size NPS DN	Ø A in. mm		B in. mm		C in. mm		Ø D in. mm		Ø K in. mm	L in. mm	Weight lb kg		B			
	Port		End to End		Center to Top		Open Handwheel		Socket Weld Bore	Socket Weld Depth			Flanged Valves			
	800	1500	800	1500	800	1500	800	1500			150	300	600	1500		
1/4 8	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.555 14.10	0.38 10	3.00 1.4	8.00 3.6	4.00 102	6.00 152	6.50 165	8.50 216
3/8 10	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.690 17.53	0.38 10	3.00 1.4	8.00 3.6	4.00 102	6.00 152	6.50 165	8.50 216
1/2 15	0.31 8	0.50 13	3.00 76	4.00 102	4.80 122	8.10 206	2.50 64	6.0 152	0.855 21.72	0.38 10	3.00 1.4	8.00 3.6	4.25 108	6.00 152	6.50 165	8.50 216
3/4 20	0.50 13	0.50 13	3.25 83	5.00 127	7.10 180	8.40 213	4.0 102	6.0 152	1.065 27.05	0.50 13	5.00 2.3	11.00 5.0	4.62 117	7.00 178	7.50 190	9.00 229
1 25	0.75 19	0.75 19	3.50 89	6.00 152	7.30 185	10.0 254	4.0 102	8.0 203	1.330 33.78	0.50 13	6.00 2.7	21.00 9.5	5.00 127	8.00 203	8.50 216	10.00 254
1 1/4 32	1.25 32	1.25 32	5.00 127	7.00 178	8.90 226	11.0 279	6.0 152	8.0 203	1.675 42.55	0.50 13	14.00 6.4	31.00 14.0	5.50 140	8.50 216	9.00 229	11.00 279
1 1/2 40	1.25 32	1.25 32	5.00 127	7.00 178	8.90 226	11.0 279	6.0 152	8.0 203	1.915 48.64	0.50 13	14.00 6.4	31.00 14.0	6.50 165	9.00 229	9.50 241	12.00 305
2 50	1.5 38	1.5 38	8.00 203	9.00 229	11.2 285	12.3 312	8.0 203	12.0 305	2.406 61.11	0.63 16	27.00 12.2	49.00 22.2	8.00 203	10.50 266	11.50 292	14.50 368

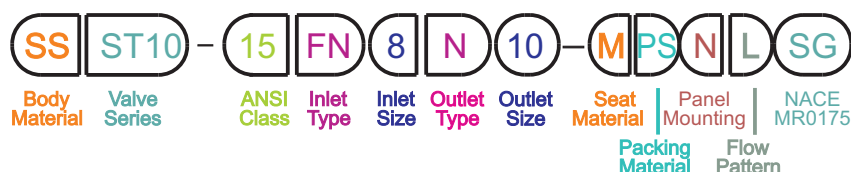
Pressure - Temperature Ratings

ASME B16.34-Class 150, 300, 600, 1500, 2500, 4500.**API 602-Class 800**

Materials	A105&A350-LF2							F11							F22						
Class	150	300	600	800	1500	2500	4500	150	300	600	800	1500	2500	150	300	600	800	1500	2500	4500	
Temp. °F	psig																				
-20 to 100	285	740	1480	1975	3705	6170	11110	290	750	1500	2000	3750	6250	290	750	1500	2000	3750	6250	11250	
200	260	675	1350	1800	3375	5625	10120	260	750	1500	1900	3750	6250	260	750	1500	2000	3750	6250	11250	
300	230	655	1315	1750	3280	5470	9845	230	720	1455	1795	3610	6015	230	730	1455	1940	3640	6070	10925	
400	200	635	1270	1690	3170	5280	9505	200	695	1385	1755	3465	5775	200	705	1410	1880	3530	5880	10585	
500	170	600	1200	1595	2995	4990	8980	170	665	1330	1710	3325	5540	170	665	1330	1775	3325	5540	9965	
600	140	550	1095	1460	2735	4560	8210	140	605	1210	1615	3025	5040	140	605	1210	1615	3025	5040	9070	
650	125	535	1075	1430	2685	4475	8055	125	590	1175	1570	2940	4905	125	590	1175	1570	2940	4905	8825	
700	110	535	1065	1420	2665	4440	7990	110	570	1135	1515	2840	4730	110	570	1135	1515	2840	4730	8515	
750	95	505	1010	1345	2520	4200	7560	95	530	1065	1420	2660	4430	95	505	1065	1420	2660	4430	7970	
800	80	410	825	1100	2060	3430	6170	80	510	1015	1355	2540	4230	80	530	1015	1355	2540	4230	7610	
850	65	270	535	715	1340	2230	4010	65	485	975	1300	2435	4060	65	510	975	1300	2435	4060	7305	
900	—	—	—	—	—	—	—	50	450	900	1200	2245	3745	50	450	900	1200	2245	3745	6740	
950	—	—	—	—	—	—	—	35	320	640	1005	1595	2655	35	375	755	1005	1885	3145	5665	
1000	—	—	—	—	—	—	—	20	215	430	595	1080	1800	20	260	520	695	1305	2170	3910	
1050	—	—	—	—	—	—	—	20	145	290	365	720	1200	20	175	350	465	875	1455	2625	
1100	—	—	—	—	—	—	—	20	95	190	225	480	800	20	110	220	295	550	915	1645	
1150	—	—	—	—	—	—	—	—	60	125	140	310	515	—	70	135	180	345	570	—	
1200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40	82	110	205	345	—	

Materials	F51						F91							F316						
Class	150	300	600	800	1500	2500	150	300	600	800	1500	2500	4500	150	300	600	800	1500	2500	4500
Temp. °F	psig																			
-20 至 100	290	750	1500	2000	3750	6250	290	750	1500	2000	3750	6250	11250	275	720	1440	1920	3600	6000	10800
200	260	720	1440	1920	3600	6000	260	750	1500	2000	3750	6250	11250	235	620	1240	1655	3095	5160	92900
300	230	665	1330	1770	3325	5540	230	730	1455	1940	3640	6070	10925	215	560	1120	1495	2795	4660	8390
400	200	615	1230	1640	3070	5120	200	705	1410	1880	3530	5880	10585	195	515	1025	1370	2570	4280	7705
500	170	575	1150	1535	2880	4800	170	665	1330	1775	3325	5540	9965	170	480	955	1275	2390	3980	7165
600	140	555	1115	1480	2785	4640	140	605	1210	1615	3025	5040	9070	140	450	900	1205	2255	3760	6770
650	—	—	—	—	—	—	125	590	1175	1570	2940	4905	8825	125	445	890	1185	2220	3700	6660
700	—	—	—	—	—	—	110	570	1135	1515	2840	4730	8515	110	430	870	1160	2170	3620	6515
750	—	—	—	—	—	—	95	530	1065	1420	2660	4430	7970	95	425	855	1140	2135	3560	6410
800	—	—	—	—	—	—	80	510	1015	1355	2540	4230	7610	80	420	845	1125	2110	3520	6335
850	—	—	—	—	—	—	65	485	975	1300	2435	4060	7305	65	420	835	1115	2090	3480	6265
900	—	—	—	—	—	—	50	450	900	1200	2245	3745	6740	50	415	830	1105	2075	3460	6230
950	—	—	—	—	—	—	35	385	775	1030	1930	3220	5795	35	385	775	1030	1930	3220	5795
1000	—	—	—	—	—	—	20	365	725	970	1820	3030	5450	20	350	700	935	1750	2915	5245
1050	—	—	—	—	—	—	20	360	720	960	1800	3000	5400	20	345	685	915	1720	2865	5155
1100	—	—	—	—	—	—	20	300	605	805	1510	2515	4525	20	305	610	815	1525	2545	4575
1150	—	—	—	—	—	—	20	225	445	595	1115	1855	3345	20	235	475	630	1185	1970	3550
1200	—	—	—	—	—	—	20	145	290	385	720	1200	2160	20	185	370	495	925	1545	2775
1250	—	—	—	—	—	—	—	—	—	—	—	—	—	20	145	295	390	735	1230	2210

ST Series How to Order



Body Material

SS: F316 SS
6L: F316L SS
S4: F304 SS
6H: F316H SS
S1: F321 SS
91: F91
92: F92
D5: Duplex 2205
D7: Duplex 2507
A20: Alloy 20
M: Alloy 400
INC: Alloy 600
HC: Alloy C-276
CS: Carbon Steel

ANSI Class

8 Class 800
15 Class 1500

Inlet/Outlet Size

2 1/8"
4 1/4"
6 3/8"
8 1/2"
12 3/4"
16 1"
20 1 1/4"
24 1 1/2"
32 2"

Body and Bonnet

Standard with Bolted Bonnet
BW Welded Bonnet
PS Pressure Sealing
YB Y Type Bolted Bonnet
YW Y Type Welded Bonnet
YS Y Type Pressure Sealing

Valve Series by Orifice Size

ST10: 3/8 (DN10)
ST15: 1/2 (DN15)
ST20: 3/4 (DN20)
ST25: 1 (DN25)
ST40: 1 1/2 (DN40)
ST50: 2 (DN50)

Inlet/Outlet Type

FN Female NPT
N Male NPT
FR Female BSPT
RT Male BSPT
PS Pipe Socket Weld
PB Pipe Butt Weld Fractional Tube

Seat Material

Standard Same with Stellite
M Monel (Alloy 400)
HC Alloy C-276
X Customer Specified

Disc Type

Standard is Stop
N Needle
C Stop Check

Live-Loading

Standard with No Live-Loading
L Yes

NACE MR0175

Standard with no NACE applicable
SG With NACE MR0175

Remark:

- Standard thread pitch for metric threads are as follows:
 M10 and below: 1 mm
 M12 to M24: 1.5 mm
 M27 and above: 2 mm
 Standard thread pitch should be ignored in the ordering number, others should be specified.



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