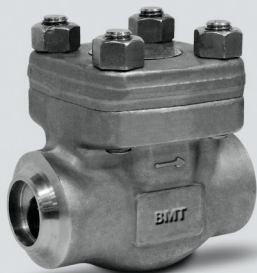
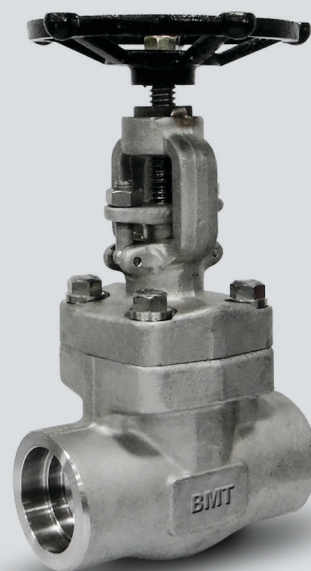


Forged Steel Valves

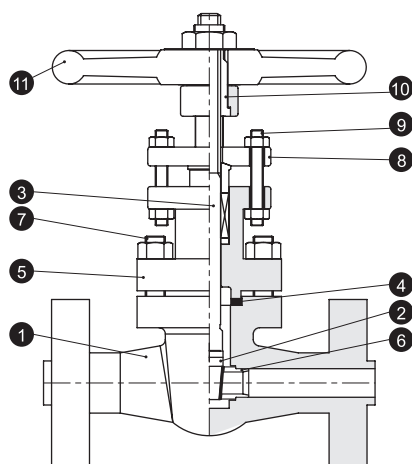
Gate & Globe Valves / Check Valves



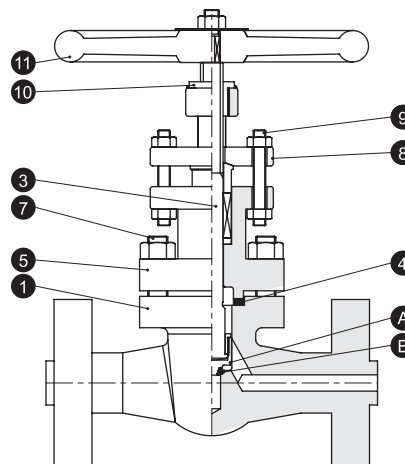
Forged Steel Gate & Globe Valves

ASME Classes : 150 ~ 2500

Sizes : 1/2" ~ 6" (15mm ~ 150mm)



GATE VALVE



GLOBE VALVE

Features

1. Body

The body is forged steel and designed to the basic dimensional requirements of the applicable specifications such as API602 and ASME B16.34. The body is available in both the full or conventional port design.

2. Wedge

The wedge, which is a solid design, is forged or investment cast steel and is part of the valve trim. The seating surfaces are ground and lapped.

A. Disc

The disc is forged steel and is part of the valve trim. The disc seating surface is of the tapered or plug type design. The disc is attached to the stem using a loose or swivel disc arrangement.

3. Stem

The stem is forged steel and is part of the valve trim. It contains an integral back seat shoulder, which mates with the integral backseat of the bonnet. The stem is designed to the basic dimensional requirements of the applicable specifications such as API602.

4. Gasket

The bolted bonnet joint design valve uses a contained, controlled compression, spiral wound type gasket.

5. Bonnet

The bonnet is forged steel, has an integral backseat and incorporates the stuffing box, which has dimensions per the applicable specifications such as API602.

B. Seat

The body seat is an integral weld overlay and is part of the valve trim.

6. Seat Ring

The seat rings are steel and make up part of the valve trim. They are pressed into the valve body and wedged into place, forming a seal with the body. The seating surfaces are ground and lapped.

7. Bonnet Bolting

The bonnet bolting is manufactured of alloy steel in accordance with the requirements of the applicable specifications such as API602 and ASME B16.34.

8. Gland & Flange

The gland and flange assembly utilizes a separate, two-piece design. The self-aligning design allows the flange to be evenly tightened while the gland maintains its parallel alignment with the stem and stuffing box.

9. Gland Bolts & Nuts

The steel/stainless steel gland bolt and nut assembly is a stud, double nut arrangement. This design allows complete removal from the valve when service is required. The use of industry standard thread full length studs and nuts also allows easy replacement should these items be lost or in need of replacement.

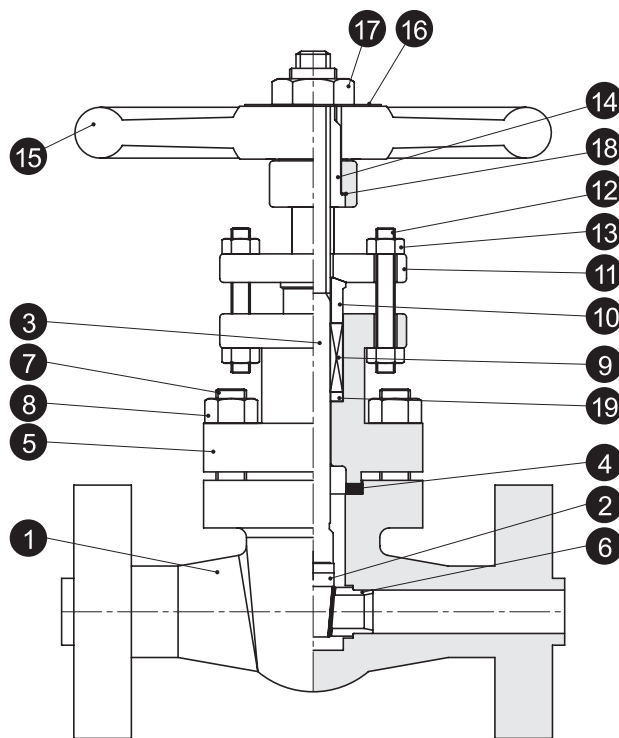
10. Sleeve

The sleeve is of forged stainless steel material having a high melting point and is resistant to wear and corrosion.

11. Handle

The handle is forged carbon steel of an open spoke design. This robust construction along with appropriate sizing allows for ease of operation.

Forged Steel Gate Valves



- Forged steel, outside screw and yoke (OS & Y).
- Rising stem, non-rising handwheel.
- Full or conventional port.
- Bolted bonnet joint.
- Integral backseat.

Features

Size : 1/2" ~ 6"
Classes : 150 ~ 2500
Forged Steel Body & Bonnet
Full Bore / Reduce Bore

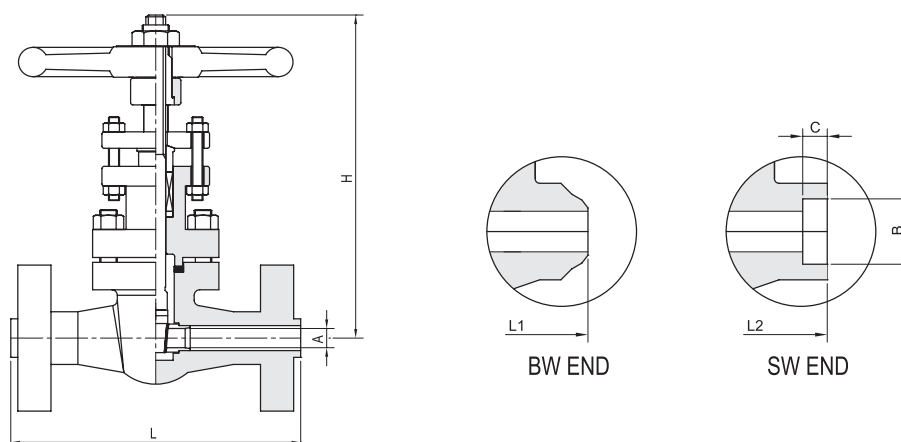
Specifications

Design	ASME B16.34 / API 6D
Face to Face	ASME B16.10
End Flange	ASME B16.5
BW End	ASME B16.25
Thread / Socket End	ASME B1.20.1 / B16.11
Test	API 598

Material Specifications

No.	Component	Material	
		Stainless Steel	Carbon Steel
1	BODY	A182 F316	A105
2	DISC	A276 316 (+ HF)	A276 410 (+ HF)
3	STEM	A276 316	A276 410
4	GASKET	316 / GRAPHITE	316 / GRAPHITE
5	BONNET	A182 F316	A105
6	SEAT RING	A276 316 (+ HF)	A276 410 (+ HF)
7	BONNET BOLT	A193 B8M	A193 B7
8	BONNET NUT	A194 8M	A194 2H
9	PACKING	GRAPHITE	GRAPHITE
10	PACKING GLAND	A276 316	A276 410
11	GLAND FLANGE	A276 316	A276 410
12	GLAND BOLT	A193 B8M	A193 B7
13	GLAND NUT	A194 8M	A194 2H
14	SLEEVE	A276 316	A276 410
15	HANDWHEEL	A47	A47
16	NAME PLATE	STAINLESS STEEL	STAINLESS STEEL
17	WHEEL NUT	A194 8	A307 B
18	SLEEVE WASHER	A276 316	A276 410
19	SUPPORT RING	A276 316	A276 410

Bolted Bonnet Gate Dimensions



Class 150

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	108	108	79	13	180	100	21.42	10
3/4	117	117	92	19	180	100	27.05	13
1	127	127	111	25	220	125	33.78	13
1-1/4	140	140		32	320	160	42.55	13
1-1/2	165	165		38	320	160	48.64	13
2	178	216		49	355	180	61.11	16
2-1/2	190	241	-	62	400	224	-	-
3	203	282	-	74	440	224	-	-
4	229	305	-	100	550	224	-	-
6	267	403	-	150	780	300	-	-

Class 300

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	140	140	79	13	180	100	21.72	10
3/4	152	152	92	19	180	100	27.05	13
1	165	165	111	25	220	125	33.78	13
1-1/4	178	178	120	32	320	160	42.55	13
1-1/2	190	190	120	38	320	160	48.64	13
2	216	216	140	49	355	180	61.11	16
2-1/2	241	241	-	62	450	224	-	-
3	282	282	-	74	455	224	-	-
4	305	305	-	100	560	224	-	-
6	403	403	-	150	580	300	-	-

Class 600

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	165	165	79	13	180	100	21.72	10
3/4	190	190	92	19	180	100	27.05	13
1	216	216	111	25	220	125	33.78	13
1-1/4	229	229	120	32	320	160	42.55	13
1-1/2	241	241	120	38	320	160	48.64	13
2	292	292	140	49	355	180	61.11	16
2-1/2	330	330	-	62	420	224	-	-
3	356	356	-	74	465	260	-	-
4	432	432	-	100	660	300	-	-
6	559	559	-	150	880	400	-	-

Class 900/1500

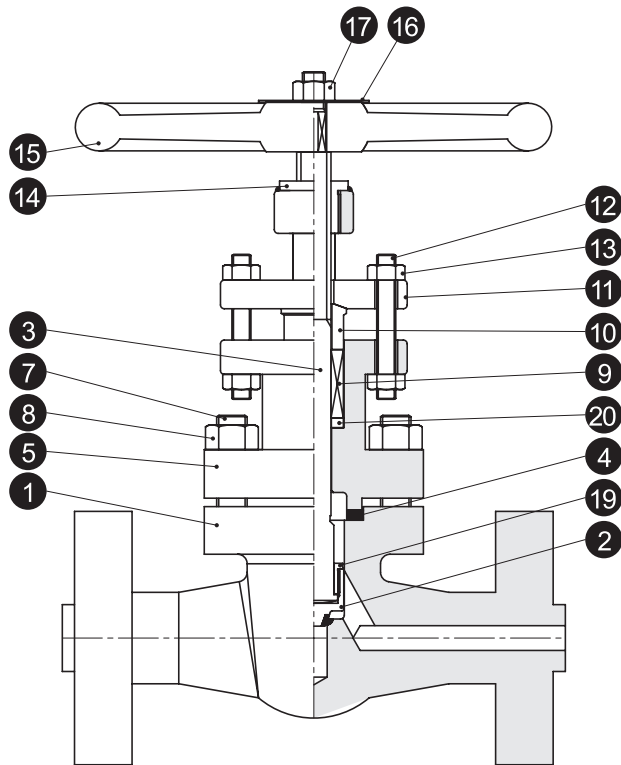
Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	-	-	111	13	292	125	21.72	10
3/4	-	-	111	19	297	125	27.05	13
1	254	254	120	25	359	180	33.78	13
1-1/4	279	279	140	32	380	180	42.55	13
1-1/2	305	305	140	38	413	180	48.64	13
2	368	368	144	49	546	180	61.11	16

Class 2500

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	264	264	264	13	346	150	21.72	10
3/4	273	273	273	19	353	200	27.05	13
1	308	308	308	25	400	200	33.78	13
1-1/4	349	349	349	32	440	200	42.55	13
1-1/2	384	384	384	38	540	250	48.64	13
2	451	451	451	42	583	300	61.11	16

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change.

Forged Steel Globe Valves



- Forged steel, outside screw and yoke (OS & Y).
- Rotating rising stem, rising handwheel.
- Full or conventional port.
- Bolted bonnet joint.
- Integral backseat, Integral body seat.

Class 150

Size : 1/2" ~ 6"
Classes : 150 ~ 2500
Forged Steel Body & Bonnet
Full Bore / Reduce Bore

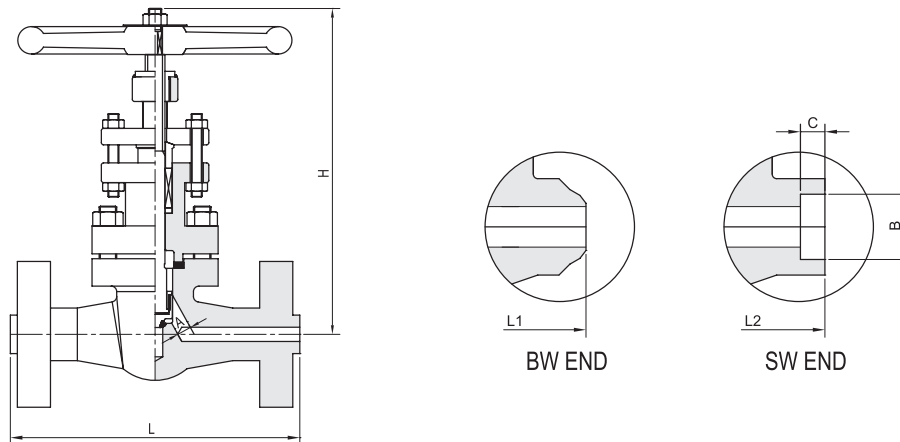
Specifications

Design	ASME B16.34 / BS1873
Face to Face	ASME B16.10
End Flange	ASME B16.5
BW End	ASME B16.25
Thread / Socket End	ASME B1.20.1 / B16.11
Test	API 598

Material Specifications

No.	Component	Material	
		Stainless Steel	Carbon Steel
1	BODY	A182 F316 (+ HF)	A105 (+ HF)
2	DISC	A276 316 (+ HF)	A276 410 (+ HF)
3	STEM	A276 316	A276 410
4	GASKET	316 / GRAPHITE	316 / GRAPHITE
5	BONNET	A182 F316	A105
7	BONNET BOLT	A193 B8M	A193 B7
8	BONNET NUT	A194 8M	A194 2H
9	PACKING	GRAPHITE	GRAPHITE
10	PACKING GLAND	A276 316	A276 410
11	GLAND FLANGE	A276 316	A276 410
12	GLAND BOLT	A193 B8M	A193 B7
13	GLAND NUT	A194 8M	A194 2H
14	YOKE SLEEVE	A276 316	A276 410
15	HANDWHEEL	A47	A47
16	NAME PLATE	STAINLESS STEEL	STAINLESS STEEL
17	WHEEL NUT	A194 8	A307 B
19	DISC NUT	A276 316	A276 410
20	SUPPORT RING	A276 316	A276 410

Bolted Bonnet Globe Dimensions



Class 150

Size Inch	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	108	108	79	13	220	100	21.42	10
3/4	117	117	92	19	220	100	27.05	13
1	127	127	111	25	260	125	33.78	13
1-1/4	140	140	152	32	355	160	42.55	13
1-1/2	165	165	152	38	355	160	48.64	13
2	178	216	172	49	355	180	61.11	16
2-1/2	190	241	-	62	370	224	-	-
3	203	282	-	74	400	224	-	-
4	229	305	-	100	480	224	-	-
6	267	403	-	150	600	300	-	-

Class 300

Size Inch	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	140	140	79	13	220	100	21.72	10
3/4	152	152	92	19	220	100	27.05	13
1	165	165	111	25	260	125	33.78	13
1-1/4	178	178	152	32	355	160	42.55	13
1-1/2	190	190	152	38	355	160	48.64	13
2	216	216	172	49	355	180	61.11	16
2-1/2	241	241	-	62	400	224	-	-
3	282	282	-	74	440	224	-	-
4	305	305	-	100	500	224	-	-
6	403	403	-	150	600	300	-	-

Class 600

Size Inch	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top Open	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	165	165	79	13	220	100	21.72	10
3/4	190	190	92	19	220	100	27.05	13
1	216	216	111	25	260	125	33.78	13
1-1/4	229	229	152	32	355	160	42.55	13
1-1/2	241	241	152	38	355	160	48.64	13
2	292	292	172	49	355	180	61.11	16
2-1/2	330	330	-	62	430	224	-	-
3	356	356	-	74	485	260	-	-
4	432	432	-	100	600	300	-	-
6	559	559	-	150	780	400	-	-

Class 900/1500

Size Inch	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	-	-	111	13	280	170	21.72	10
3/4	-	-	111	19	284	170	27.05	13
1	254	254	120	25	345	250	33.78	13
1-1/4	279	279	140	32	360	250	42.55	13
1-1/2	305	305	140	38	400	250	48.64	13
2	368	368	144	49	520	350	61.11	16

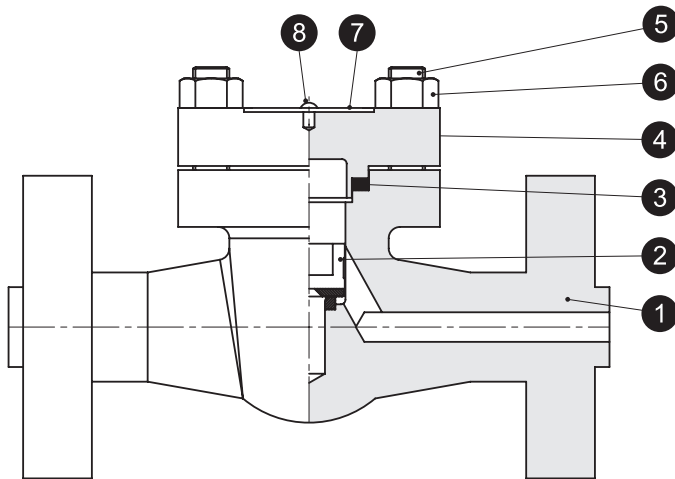
Class 2500

Size Inch	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	W Handwheel	B Socket Weld Bore	C Socket Weld Depth
1/2	264	264	264	13	320	250	21.72	10
3/4	273	273	273	19	336	250	27.05	13
1	308	308	308	25	390	250	33.78	13
1-1/4	349	349	349	32	420	400	42.55	13
1-1/2	384	384	384	38	520	400	48.64	13
2	451	451	451	42	555	400	61.11	16

Forged Steel Check Valves

ASME Classes : 150 ~ 600

Sizes : 1/2" ~ 2"(15mm ~ 50mm)



- Forged steel.
- Full or conventional port.
- Bolted bonnet joint.
- Integral body seat for piston or ball check.
- Separate seat ring design for the swing check valve.

Material Specifications

No.	Component	Material	
		Stainless Steel	Carbon Steel
1	Body	A182 F316	A105
2	Disc	A276 316	A276 410
3	Gasket	316 / GRAPHITE	316 / GRAPHITE
4	Bonnet	A276 316	A276 410
5	Bonnet Bolt	A193 B8M	A193 B7
6	Bonnet Nut	A194 8M	A194 2H
7	Name Plate	Stainless Steel	Stainless Steel
8	Rivet	SS 316	SS 316

Features

1. Body

The body is forged steel and designed to the basic dimensional requirements of the applicable specifications such as API602 and ASME B16.34. The body is available in both the full or conventional port design.

2. Piston, Ball or Disc

The piston, ball or disc is forged steel and is part of the valve trim. The seating surface of the piston and ball check is of the tapered or plug type design. The seating surface of the swing check is a flat seat design.

3. Gasket

The bolted bonnet is sealed with a controlled compression, spiral wound type gasket.

4. Bonnet

The bonnet is forged steel and designed to the basic dimensional requirements of the applicable specifications such as API602 and ASME B16.34.

5. Seat

The body seat for the piston and ball check design is an integral weld overlay and is part of the valve trim. The swing check valve is supplied with a separate seat ring which is pressed into the valve body and wedged into place, forming a seal with the body.

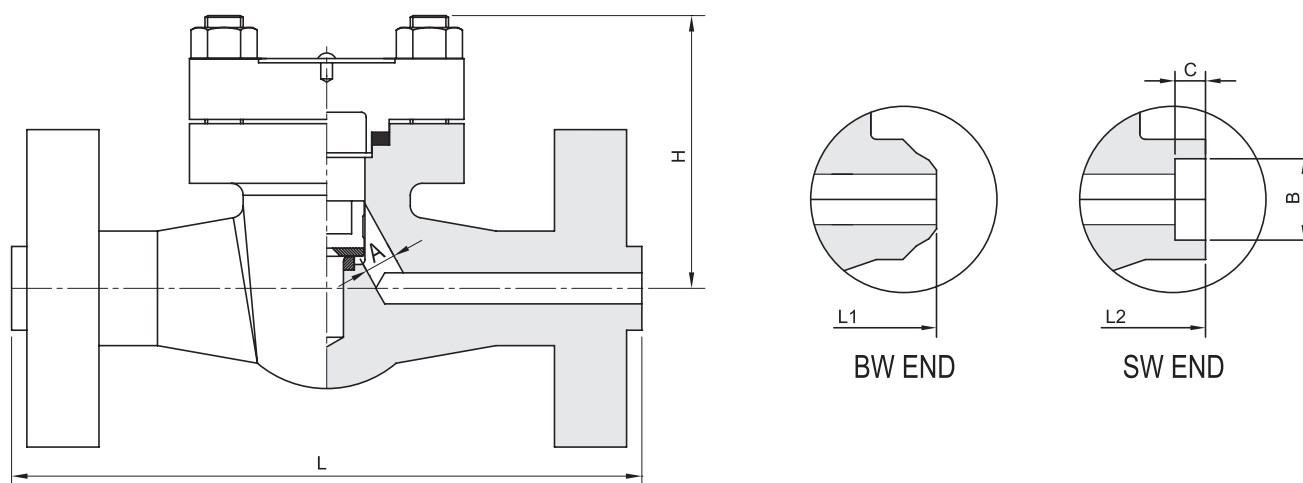
6. Bonnet Bolting

The bonnet bolting is manufactured of alloy steel in accordance with the requirements of the applicable specifications such as API602 and ASME B16.34.

7. Spring

The spring is optional and supplied only upon request.

Bolted Bonnet Lift Check Dimensions



Class 150

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	B Socket Weld Bore	C Socket Weld Depth
1/2	108	108	79	13	48	21.72	10
3/4	117	117	92	19	48	27.05	13
1	127	127	111	25	63	33.78	13
1-1/4	140	140	152	32	85	42.55	13
1-1/2	165	165	152	38	85	48.64	13
2	178	216	172	49	104	61.11	16

Class 300

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	B Socket Weld Bore	C Socket Weld Depth
1/2	140	140	79	13	48	21.72	10
3/4	152	152	92	19	48	27.05	13
1	165	165	111	25	63	33.78	13
1-1/4	178	178	152	32	85	42.55	13
1-1/2	190	190	152	38	85	48.64	13
2	216	216	172	49	104	61.11	16

Class 600

Size (Inch)	L Face To Face	L1 End To End	L2 Socket Weld	A Port	H Center to Top	B Socket Weld Bore	C Socket Weld Depth
1/2	165	165	79	13	48	21.72	10
3/4	190	190	92	19	48	27.05	13
1	216	216	111	25	63	33.78	13
1-1/4	229	229	152	32	85	42.55	13
1-1/2	241	241	152	38	85	48.64	13
2	292	292	172	49	104	61.11	16

Ordering Information

Example 1 : **FLC C RF 1 - 16 - G (-SS)**

1
2
3
4
5
6
7

Example 2 : **FGB C 8S RF 2 - 16 - 36L**

1
2
3
3
4
5
7

Example 3 : **FGT A SW FN 2 - 8 - 36L**

1
2
3
3
4
5
7

1. Valve

Valve	Lift Check	Globe	Gate
Designation	FLC	FGB	FGT

2. Pressure Rating

Class	150	300	600	900	1500	2500
Designation	A	B	C	D	E	F

3. End Connection

Flange	Raised Face		Ring Joint		Flat Face	
Designation	RF		RJ		FF	
Butt Weld	Sch10S	Sch20S	Sch40S	Sch80S	Sch160	SchXXS
Designation	1S	2S	4S	8S	16	DS
Type	Socket Weld	Male NPT	Male PT	Female NPT	Female PT	
Designation	SW	MN	MR	FN	FR	

4. Bore

Bore	Full Bore	Reduced Bore	Double Reduced Bore
Designation	1	2	3

5. Size

Size	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	5"	6"
Designation	8	12	16	20	24	32	40	48	64	80	96

6. Option

Option	Gear Actuator
Designation	G

7. Material

Material	A182-F316 / A351-CF8M	A182-F316L / A351-CF3M
Designation	Blank	36L