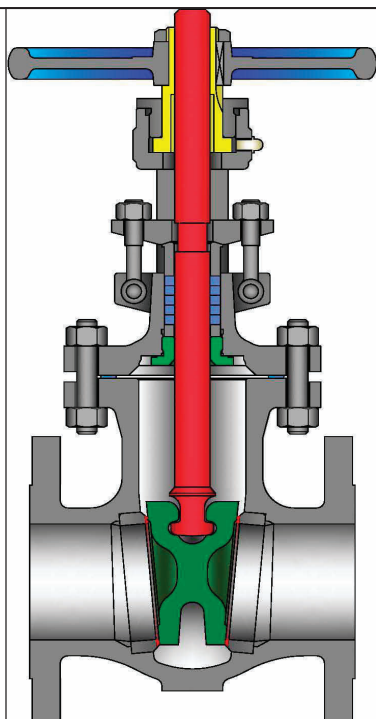




**API 600 GATE VALVES**  
BOLTED BONNET, ASME CLASSES 150 TO 1500  
CAST CARBON, STAINLESS STEEL OR ALLOY STEEL



**STANDARD MATERIALS (Other materials available)**

PART	MATERIALS			
Body	A216 Gr. WCB (STANDARD)	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M (1)
Bonnet / Yoke arm	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M
Wedge	A217 Gr CA15 or WCB + 13% CR Faced	WC6 + Stellite 6 Faced	WC9 + Stellite 6 Faced	A351 Gr. CF8M
Seat Ring	Carbon Steel + Stellite 6 Faced	A182 F11 + Stellite 6 Faced	A182 F22 + Stellite 6 Faced	SST 316
Stem	SST 410			SST 316
Stem Bushing	A 439 Ductile NI-Resist Gr. D2			
Stem Bushing Lock Nut	Steel			SST 316
Gland Flange	Carbon Steel			Series 300 SST
Eye Bolt	A193 Gr. B7			A193 Gr. B8
Eye Bolt Nut	A194 Gr. 2H			A194 Gr.8
Groove Pin	Steel			Series 300
Gland	SST 410			SST 316
Packing	Graphite			PTFE
Packing Washer / Packing Spacer	SST 410			SST 316
Gasket	Class 150: Corrugated SST Encapsulated w/ Graphite Class 300 to 600: Spiral Wound SST with Graphite Class 900-1500: RTJ			Class 150: PTFE Class 300-600: Spiral Wound SST with PTFE
Back Seat	SST 410			SST 316
Hand Wheel	Malleable Iron or Steel			
Hand Wheel Nut	Malleable Iron or Steel			
Key	Steel			
Lubricant Fitting	Steel			
Body / Bonnet Stud	A193 Gr. B7	A193 Gr. B16		A193 Gr. B8
Body / Bonnet Nut	A194 Gr. 2H	A194 Gr. 7		A194 Gr.8
Bearing Cap	Carbon Steel			Series 300 SST
Cap Screws	Steel			
Identification Plate	Series 300 SST			

Class	Fig. No.
150	1503
300	3003
600	6003
900	9003
1500	1303

**DESIGN FEATURES:**

- **Flexible Wedge** for improved seating and ease of operation, especially in high temperature service. Wedges are accurately guided thru the entire stroke.
- **Standard trim** is API trim 8 for carbon steel valves, API trim 5 for chrome alloy valves, and API trim 10 for CF8M (T316) valves for optimal performance under normal conditions. Other trim materials available on request.
- **Seat faces** lapped for smooth finish and superior sealing.
- **Stems** are non-rotating with surface finish to maximize packing seal for low fugitive emissions.
- **Bonnet and Yoke arms** designed for ease of gear, motor or cylinder actuator adaptation.
- **Each** valve is shell, seat and back-seat pressure tested per industry standard API 598.
- **Gland** is two piece gland / gland flange design for optimal alignment and uniform packing compression.

(1) Weld end valve body A351 Gr. CF3M

**NOTE: See page 52 for flow, safety and maintenance information.**

**Design Specifications**

Item	Applicable Specification
Wall thickness	API 600
Pressure - temperature ratings	ASME B16.34
General valve design	API 600 & B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

- **End Flanges** have the following raised faces per ASME B16.5:  
Classes 150-300: 1/16" (2mm).  
Classes 600-1500: 1/4" (7mm).
- **Weld ends** are available per ASME B16.25 or per customer's specification.
- **Each** valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test report, inspection report and certificate of conformance.
- **Other** available options as follows:  
-Alternate valve materials such as chrome and stainless steel alloys  
-Alternate trim materials  
-Bypass, drain and other auxiliary connections  
-Gear, motor, and cylinder actuators available  
-NACE service  
-Special cleaning for applications such as oxygen or chlorine  
-Other options available as specified

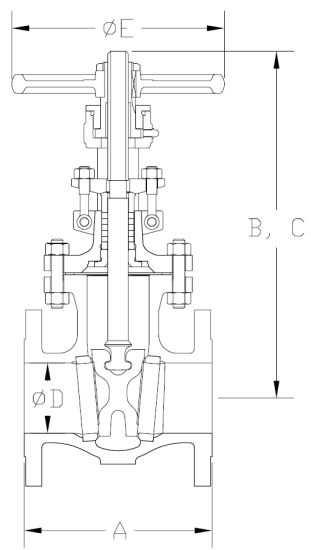
**GATE VALVE DIMENSIONS (CLASS 150–1500).**

SIZE	ASME 150						ASME 300					ASME 600				
	A		B(1)	C(1)	D	E	A	B(1)	C(1)	D	E	A	B(1)	C(1)	D	E
	in	mm					FE					WE				
1	5.00	5.00	8.6	9.8	1.00	4	6.50	8.6	9.8	1.00	4	-	-	-	-	-
25	127	127	217	248	25	114	165	217	248	25	114	-	-	-	-	-
1 1/2	6.50	6.50	10.7	12.4	1.50	6	7.50	10.7	12.4	1.50	6	-	-	-	-	-
40	165	165	271	314	38	152	190	271	314	38	152	-	-	-	-	-
2	7.00	8.50	12.3	14.6	2.00	7	8.50	12.3	14.6	2.00	7	11.50	13.5	15.7	2.00	8
50	178	216	313	372	51	178	216	313	372	51	178	292	342	400	51	203
2 1/2	7.50	9.50	12.8	15.6	2.50	7	9.50	12.8	15.6	2.50	7	13.00	18.1	21.9	2.50	12
65	190	241	324	395	64	178	241	324	395	64	178	330	461	555	64	305
3	8.00	11.12	14.8	18.1	3.00	9	11.12	15.9	19.3	3.00	9	14.00	19.2	22.8	3.00	12
80	203	282	375	459	76	230	282	405	490	76	230	356	487	580	76	305
4	9.00	12.00	17.7	22.1	4.00	10	12.00	19.0	23.3	4.00	10	17.00	23.0	27.5	4.00	14
100	229	305	450	561	102	254	305	482	593	102	254	432	585	698	102	356
5	10.00	15.00	24.4	31.1	5.00	12	15.00	26.5	33.1	5.00	14	-	-	-	-	-
125	254	381	620	789	127	305	381	674	842	127	356	-	-	-	-	-
6	10.50	15.88	24.4	31.1	6.00	12	15.88	26.5	33.1	6.00	14	22.00	32.5	39.1	6.00	20
150	267	403	620	789	152	305	403	674	842	152	356	559	825	993	152	508
8	11.50	16.50	30.7	39.2	8.00	14	16.50	32.8	41.4	8.00	16	26.00	35.0	45.4	7.87	22
200	292	419	780	996	203	356	419	833	1051	203	406	660	890	1154	200	560
10	13.00	18.00	36.4	47.2	10.00	16	18.00	39.4	50.3	10.00	20	31.00	41.9	52.4	9.75	24
250	330	457	925	1198	254	406	457	1002	1277	254	508	787	1065	1332	248	610
12	14.00	19.75	42.7	55.6	12.00	20	19.75	44.8	57.7	12.00	20	33.00	47.3	59.9	11.75	28
300	356	502	1084	1412	305	508	502	1139	1466	305	508	838	1202	1521	298	710
14	15.00	22.50	47.5	61.5	13.25	20	30.00	49.1	63.4	13.25	22	35.00	67.4 (1)	12.87	28	
350	381	572	1207	1562	337	508	762	1248	1611	337	560	889	1712	327	710	
16	16.00	24.00	51.7	67.8	15.25	22	33.00	54.5	70.7	15.25	24	39.00	75.2 (1)	14.75	36	
400	406	610	1313	1722	387	560	838	1384	1796	387	610	991	1910	375	915	
18	17.00	26.00	58.1	76.4	17.25	24	36.00	79.2 (1)	17.00	28	43.00	81.1 (1)	16.50	36		
450	432	660	1477	1940	438	610	914	2012	432	710	1092	2060	419	915		
20	18.00	28.00	63.3	83.3	19.25	28	39.00	87.3 (1)	19.00	28	47.00	87.3 (1)	18.25	28		
500	457	711	1615	2123	489	710	991	2217	483	710	1194	2217	464	710		
24	20.00	32.00	76.7	101.1	23.25	28	45.00	102.9 (1)	23.00	36	55.00	104.3 (1)	22.00	32		
600	508	813	1948	2568	591	710	1143	2614	584	915	1397	2649	559	810		
30	24.00	36.00	91.9	123.0	29.25	24	55.00	130.0 (1)	29.00	24						
750	610	914	2334	3125	743	610	1397	3302	737	610						

**ADDITIONAL SIZES, MATERIALS AND CLASSES AVAILABLE UPON REQUEST.**

SIZE	ASME 900					ASME 1500				
	A	B(1)	C(1)	D	E	A	B(1)	C(1)	D	E
	in					mm				
2	14.50	15.8	18.5	1.87	10	14.50	15.8	18.5	1.87	10
50	368	402	470	48	254	368	402	470	48	254
2 1/2	16.50	18.7	22.1	2.25	12	16.50	18.7	22.1	2.25	12
65	419	475	561	57	305	419	475	561	57	305
3	15.00	19.5	23.1	2.87	14	18.50	20.4	24.1	2.75	16
80	381	495	588	73	350	470	518	613	70	400
4	18.00	21.4	25.8	3.87	14	21.50	22.1	26.5	3.62	16
100	457	543	655	98	350	546	561	674	92	400
6	24.00	30.4	37.3	5.75	22	27.75	32.9	40.2	5.37	24
150	610	773	948	146	560	705	836	1021	136	610
8	29.00	34.7	43.4	7.50	24	32.75	48.0	56.5	7.00	26
200	737	882	1102	191	610	832	1219	1435	178	660
10	33.00	40.6	51.2	9.37	30	39.00	57.8	68.2	8.75	30
250	838	1030	1300	238	762	991	1467	1734	224	762

- (1) Gear operators standard for 18" and up class 300 and 14" and up class 600. Height is to top of actuator.
- WE** = Butt weld ends
- FE** = Flanged ends
- B** = Center to top closed
- C** = Center to top open

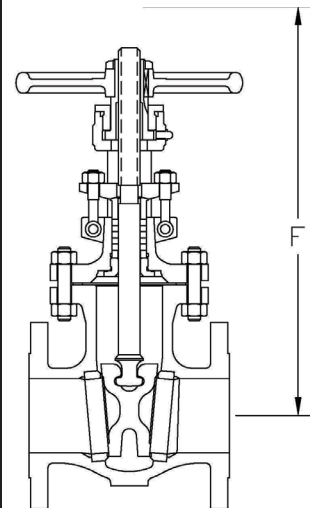


SIZE	ASME 150							ASME 300							ASME 600							
	in mm	F	in mm	WT FE	lb kg	WT WE	lb kg	C <sub>v</sub>	F	in mm	WT FE	lb kg	WT WE	lb kg	C <sub>v</sub>	F	in mm	WT FE	lb kg	WT WE	lb kg	C <sub>v</sub>
1	12.0		14		12		90		12.0		19		15		90	-		-		-		-
25	305		6		5				305		9		7			-		-		-		-
1 ½	15.5		25		22		190		15.5		34		25		190	-		-		-		-
40	390		11		10				390		15		11			-		-		-		-
2	19.0		35		33		240		19.0		42		33		240	20.0		77		57		240
50	475		16		15				475		19		15			505		35		26		
2 ½	19.5		49		44		390		19.5		55		44		390	26.0		148		126		390
65	500		22		20				500		25		20			655		67		57		
3	22.0		72		62		560		24.0		112		73		560	28.0		174		143		560
80	565		33		28				610		51		33			710		79		65		
4	26.5		112		97		1000		29.0		176		135		1000	33.5		315		251		1000
100	675		51		44				735		80		61			850		143		114		
5	36.0		142		-		1600		39.0		225		-		1600	-		-		-		-
125	915		64		-				990		102		-			-		-		-		-
6	36.0		203		190		2400		39.0		346		273		2400	46.5		677		573		2400
150	915		92		86				990		157		124			1185		307		260		
8	45.5		320		287		4500		48.5		540		430		4500	54.5		1096		942		4300
200	1155		145		130				1230		245		195			1380		497		427		
10	53.0		507		465		7000		58.5		838		692		7000	62.0		1574		1334		6700
250	1350		230		211				1480		380		314			1580		714		605		
12	63.0		721		662		10000		67.0		1162		955		10000	71.0		2000		1702		10000
300	1600		327		300				1705		527		433			1805		907		772		
14	70.5		988		966		13000		74.0		1555		1277		13000	76.0		2761		2373		12000
350	1795		448		438				1875		705		579			1935		1252		1076		
16	78.0		1191		1111		17000		82.0		1949		1663		17000	85.0		3616		3098		16000
400	1985		540		504				2080		884		754			2150		1640		1405		
18	85.0		1433		1299		23000		89.5		3790		2196		22000	91.5		4507		3861		21000
450	2150		650		589				2270		1720		996			2325		2044		1751		
20	95.0		1744		1678		28000		98.0		4230		2745		27000	100.0		4507		4279		25000
500	2415		791		761				2505		1918		1245			2520		2044		1941		
24	112.5		2580		2481		41000		116.0		6850		4500		40000	116.5		7949		7621		37000
600	2860		1170		1125				2945		3100		2040			2960		3605		3457		
30	133.5		5510		*		65000		132.5		7932		*		64000							
750	3395		2500		*				3365		3600		*									
36	155.5		7453		*		90000															
900	3950		3380		*																	
42	192.0		11687		*		120000															
1050	4875		5300		*																	

(\* ) Weld ends are available on request.

**FE** = Flanged Ends  
**WE** = Weld Ends

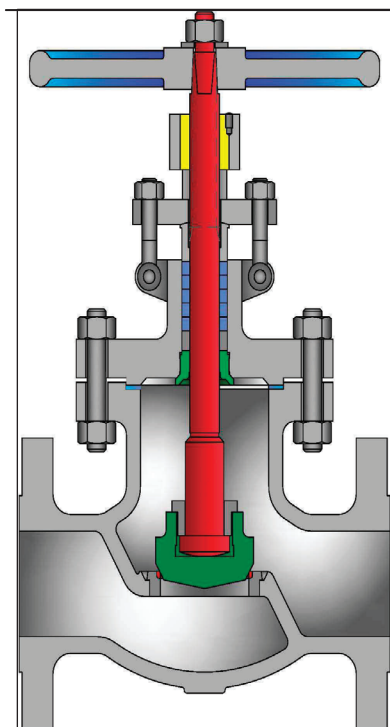
**WT** = Weight  
**F** = Dismantling Dimension  
**C<sub>v</sub>** = Flow Coefficient



SIZE	ASME 900							ASME 1500							
	in mm	F	in mm	WT FE	lb kg	WT WE	lb kg	C <sub>v</sub>	F	in mm	WT FE	lb kg	WT WE	lb kg	C <sub>v</sub>
2	23.5		176		141		210		23.5		176		141		210
50	595		80		64				595		80		64		
2 ½	29.0		210		176		310		29.5		386		316		310
65	735		95		80				745		175		143		
3	29.0		210		176		510		29.5		387		316		470
80	735		95		80				745		175		143		
4	32.5		324		239		950		33.0		536		446		830
100	825		147		108				830		243		202		
6	46.0		794		644		2200		49.0		1365		1230		2000
150	1170		360		292				1235		619		558		
8	53.5		1320		1100		3900		57.0		2500		2200		3400
200	1355		599		499				1455		1134		998		
10	63.5		2340		2190		6200		69.0		5200		5000		5400
250	1615		1061		993				1745		2267		2313		



**API 600 WALL GLOBE VALVES**  
BOLTED BONNET, ASME CLASS 150 TO 1500  
CAST CARBON, STAINLESS STEEL OR ALLOY STEEL



Class	Fig. No.
150	1531
300	3031
600	6031
900	9031
1500	1331

**STANDARD MATERIALS (Other materials available)**

PART	MATERIALS			
	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M (1)
Body	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M (1)
Bonnet	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M
Disc	A105 or A216 WCB + 13% Cr Faced	A217 WC6 + Stellite 6 Faced	A217 WC9 + Stellite 6 Faced	SST 316
Disc Nut	SST 410			SST 316
Seat Ring	A105 or A216 WCB + Stellite 6 Faced	A182 F11 + Stellite 6 Faced	A182 F22 + Stellite 6 Faced	A351 Gr.CF8M
Stem	SST 410			SST 316
Stem Bushing	A 439 Ductile NI-Resist Gr. D2			
Stem Bushing Set Screw	Steel			Series 300 SST
Gland Flange	Carbon Steel			A351 Gr. CF8M
Eye Bolt	A193 Gr. B7			Series 300 SST
Eye Bolt Nut	A194 Gr. 2H			A194 Gr.8
Groove Pin	Steel			Series 300 SST
Gland	SST 410			SST 316
Packing	Graphite			PTFE
Packing Washer	SST 410			SST 316
Gasket	Class 150: Corrugated SST Encapsulated w/ Graphite Class 300 to 600: Spiral Wound SST with Graphite Class 900 to 1500: RTJ			Class 150: PTFE Class 300-600: Spiral Wound SST with PTFE
Back Seat	SST 410			SST 316
Hand Wheel	Malleable Iron or Steel			
Hand Wheel Nut	Malleable Iron or Steel			
Body / Bonnet Stud	A193 Gr. B7	A193 Gr. B16		A193 Gr. B8
Body / Bonnet Nut	A194 Gr. 2H	A194 Gr. 7		A194 Gr.8
Identification Plate	Series 300 SST			

**DESIGN FEATURES:**

- **Standard trim** is API trim 8 for carbon steel valves, API trim 5 for chrome alloy valves, and API trim 10 for CF8M (T316) valves for optimal performance under normal conditions. Other trim materials available on request.
- **Wall thickness** per heavy wall API 600 requirements.
- **Seat faces** lapped for smooth finish and superior sealing.
- **Swivel disc** for optimal seating and longer seat life.
- **Stems** of hand wheel operated valves are rotating / rising design.
- **Each** valve is shell, seat and backseat pressure tested per industry standard API 598.
- **Gland** is two piece gland / gland flange design for optimal alignment and uniform packing compression.
- **End Flanges** have the following raised faces per ASME B16.5:  
Classes 150-300: 1/16" (2mm)  
Classes 600-1500: 1/4" (7mm)

(1) Weld end valve body A351 Gr. CF3M

**NOTE: See page 52 for flow, safety and maintenance information.**

**Design Specifications**

Item	Applicable Specification
Wall thickness	API 600
Pressure - temperature ratings	ASME B16.34
General valve design	B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

- **Weld ends** are available per ASME B16.25 or per customer's specification.
- **Impactor** hand wheel design standard on the following sizes to assist seating.  
8" to 12" class 150  
6" to 12" class 300  
4" to 10" 600  
For larger sizes or pressure classes, gears are standard.
- **Each** valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- **Other** available options as follows:  
-Alternate valve materials such as chrome and stainless steel alloys  
-Alternate trim materials  
-Bypass, drain and other auxiliary connections  
-Gear, motor, and cylinder actuators available  
-NACE service  
-Special cleaning for applications such as oxygen or chlorine  
-Other options available as specified

**GLOBE VALVE DIMENSIONS (CLASS 150—1500).**

SIZE	ASME 150					ASME 300					ASME 600				
	A	B	C	D	E	A	B	C	D	E	A	B	C	D	E
	WE/FE					WE/FE					WE/FE				
2	8.00	11.9	12.9	2.00	8	10.50	11.9	13.1	2.00	8	11.50	13.6	14.7	2.00	10
50	203	302	327	51	200	267	302	332	51	200	292	346	374	51	250
2 ½	8.50	14.9	16.4	2.50	8	11.50	12.9	14.5	2.50	10	13.00	16.4	17.6	2.50	12
65	216	378	416	64	200	292	328	369	64	250	330	416	448	64	300
3	9.50	14.1	15.4	3.00	10	12.50	14.1	15.4	3.00	12	14.00	17.2	18.7	3.00	14
80	241	357	390	76	250	318	357	390	76	300	356	438	475	76	350
4	11.50	16.5	18.0	4.00	12	14.00	16.7	18.0	4.00	14	17.00	20.2	21.7	4.00	18
100	292	419	457	102	300	356	423	458	102	350	432	514	552	102	450
6	16.00	17.6	19.7	6.00	14	17.50	21.0	23.2	6.00	18	22.00	25.7	27.9	6.00	20
150	406	446	499	152	350	444	534	589	152	450	559	653	709	152	500
8	19.50	20.1	22.6	8.00	18	22.00	23.9	26.3	8.00	18	26.00	29.1	31.6	7.87	22
200	495	511	574	203	450	559	606	669	203	450	660	739	803	200	560
10	24.50	29.5	33.6	10.00	18	24.50	29.7	35.1	10.00	22	31.00	32.7	38.9	9.75	28
250	622	750	853	254	450	622	753	892	254	560	787	830	988	248	710
12	27.50	31.9	36.7	12.00	20	28.00	34.2	41.2	12.00	26	33.00	47.8 (1)		11.75	28
300	698	810	932	305	500	711	868	1047	305	650	838	1215		298	710
14	31.00	42.5 (1)		13.25	24	33.00	45.9 (1)		13.25	24	35.00	51.2 (1)		12.87	32
350	787	1080		337	610	838	1165		337	610	889	1401		327	810
16	36.00	45.1 (1)		15.25	24	34.00	51.4 (1)		15.25	24	39.00	56.4 (1)		14.75	40
400	914	1146		387	610	864	1305		387	610	991	1630		375	1000
18	38.50	50.1 (1)		17.25	28	38.50	57.2 (1)		17.00	24	43.00	61.7 (1)		16.50	40
450	978	1450		438	710	978	1453		432	610	1092	1567		419	1000
20	38.50	55.9 (1)		19.25	28	40.00	62.2 (1)		19.00	40	47.00	67.3 (1)		18.25	40
500	978	1420		489	710	1016	1579		483	1000	1194	1710		464	1000
24	51.00	67.7 (1)		23.25	32	53.00	72.9 (1)		23.00	40	55.00	78.9 (1)		22.00	60
600	1295	1720		591	810	1346	1852		584	1000	1397	2004		559	1500

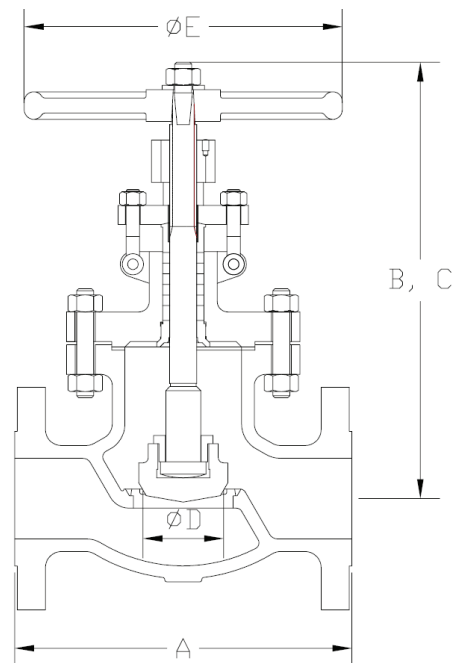
(1) Gear operators standard for 14" and up classes 150 and 300, 12" and up for class 600, 6" and up for classes 900 and 1500. Height is to top of actuator.

**ADDITIONAL SIZES, MATERIALS AND CLASSES AVAILABLE UPON REQUEST.**

SIZE	ASME 900					ASME 1500				
	A	B	C	D	E	A	B	C	D	E
	WE/FE					WE/FE				
2	14.50	19.0	20.6	1.87	14	14.50	19.0	20.6	1.87	14
50	368	483	523	48	350	368	483	523	48	350
2 ½	16.50	19.0	20.6	2.25	14	16.50	19.0	20.6	2.25	16
65	419	483	523	57	350	419	483	523	57	400
3	15.00	23.8	25.5	2.87	18	18.50	27.9	28.9	2.75	18
80	381	605	648	73	450	470	702	735	70	450
4	18.00	26.0	28.2	3.87	18	21.50	28.0	30.2	3.62	18
100	457	661	716	98	450	546	712	767	92	450
6	24.00	33.6 (1)		5.75	24	27.75	39.2 (1)		5.37	28
150	610	853		146	610	705	996		136	710
8	29.00	43.5 (1)		7.50	28	32.75	47.1 (1)		7.00	32
200	737	1105		191	710	832	1196		178	810
10	33.00	52.4 (1)		9.37	32	39.00	56.2 (1)		8.75	32
250	838	1331		238	810	991	1427		224	810

**B** = Center to top closed  
**C** = Center to top open

**WE** = Butt weld ends  
**FE** = Flanged ends



## API 600 WALL GLOBE VALVES BOLTED BONNET, ASME CLASS 150 TO 1500 CAST CARBON, STAINLESS STEEL OR ALLOY STEEL

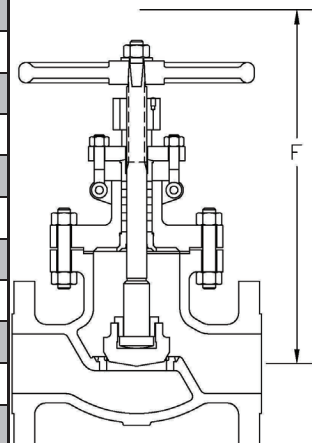
SIZE	ASME 150							ASME 300							ASME 600								
	in	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>	
mm		mm	FE	kg	WE	kg			mm	FE	kg	WE	kg		mm	FE	kg	WE	kg				
2	17.5		38		34		50		18.5		49		40		50		21.0		71		57		50
50	440		17		15				470		22		18				535		32		26		
2 ½	16.5		45		40		75		17.0		71		56		75		21.5		115		90		75
65	425		21		18				435		32		25				545		52		41		
3	20.5		77		66		110		21.5		104		84		110		24.0		148		121		110
80	520		35		30				545		47		38				610		67		55		
4	24.0		121		104		200		26.5		165		142		200		29.5		260		227		200
100	615		55		47				670		75		65				745		118		103		
6	28.5		205		175		480		31.5		280		232		480		38.0		585		584		480
150	720		93		79				795		127		105				960		265		265		
8	31.0		353		300		880		41.0		565		408		880		44.0		1010		904		850
200	785		160		136				1035		256		185				1115		458		410		
10	35.0		567		481		1370		43.0		830		672		1370		47.0		1450		1279		1300
250	895		257		218				1085		376		305				1190		658		580		
12	45.0		800		679		2050		50.5		1120		772		2050		56.5		2359		1920		2000
300	1145		363		308				1280		508		350				1435		1070		870		
14	47.0		1279		1080		2500		52.5		1786		1455		2500		60.0		4409		3629		2400
350	1200		580		490				1330		810		660				1530		2000		1646		
16	52.0		1742		1477		3300		56.0		2491		2028		3300		63.0		4982		4079		3100
400	1320		790		670				1420		1130		920				1605		2260		1850		
18	55.0		1874		1587		4400		64.5		3527		2866		4300		73.0		6812		5578		4000
450	1400		850		720				1640		1600		1300				1855		3090		2530		
20	60.0		1984		1676		5500		70.5		5710		3417		5300		79.5		8664		7099		4900
500	1525		900		760				1790		2590		1550				2015		3930		3220		
24	68.0		3307		2756		8000		82.0		10141		6107		7800		92.0		13161		10869		7200
600	1725		1500		1250				2080		4600		2770				2340		5970		4930		

SIZE	ASME 900							ASME 1500							
	in	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>
mm		mm	FE	kg	WE	kg			mm	FE	kg	WE	kg		
2	23.5		185		150		40		23.5		201		154		40
50	595		84		68				595		91		70		
2 ½	24.5		254		198		60		27.5		331		232		60
65	625		115		90				695		150		105		
3	26.5		290		238		100		30.0		452		364		90
80	675		132		108				765		205		165		
4	31.5		487		397		190		34.0		597		465		160
100	805		221		180				865		271		211		
6	42.0		891		728		440		46.0		1111		882		380
150	1065		404		330				1175		504		400		
8	45.0		1592		1323		770		57.5		2668		2161		670
200	1145		722		600				1460		1210		980		
10	55.0		2646		2094		1200		62.0		4850		3858		1050
250	1390		1200		950				1580		2200		1750		

FE = Flanged ends  
WE = Weld ends

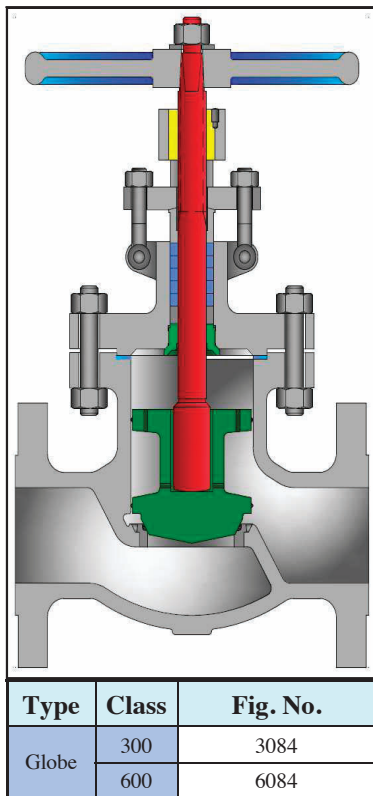
F = Dismantling dimension

WT = Weight  
C<sub>v</sub> = Flow coefficient





**API 600 WALL UPRIGHT AND ANGLE NON-RETURN VALVES**  
 BOLTED BONNET, ASME CLASSES 300 AND 600  
 CAST CARBON OR ALLOY STEEL



**STANDARD MATERIALS**  
 (Other materials available)

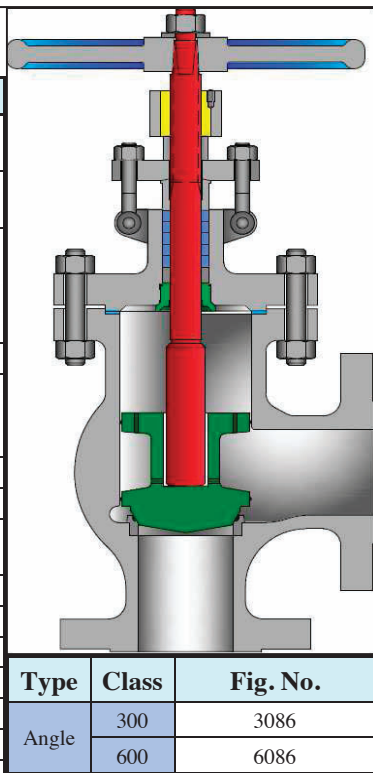
PART	MATERIALS		
Body	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9
Bonnet	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9
Disc	A105 or A216 WCB + 13% Cr Faced (1)	A217 WC6 + Stellite 6 Faced	A217 WC9 + Stellite 6 Faced
Disc Nut	SST 410		
Seat Ring	Carbon Steel + Stellite 6 Faced	A182 F11 + Stellite 6 Faced	A182 F22 + Stellite 6 Faced
Stem	SST 410		
Stem Bushing	A 439 Ductile NI-Resist Gr. D2		
Stem Bushing Set Screw	Steel		
Gland Flange	Carbon Steel		
Eye Bolt	A193 Gr. B7		
Eye Bolt Nut	A194 Gr. 2H		
Groove Pin	Steel		
Gland	SST 410		
Packing	Graphite		
Packing Washer	SST 410		
Gasket	Spiral Wound SST with Graphite		
Back Seat	SST 410		
Hand Wheel	Malleable Iron or Steel		
Hand Wheel Nut	Malleable Iron or Steel		
Body / Bonnet Stud	A193 Gr. B7	A193 Gr. B16	
Body / Bonnet Nut	A194 Gr. 2H	A194 Gr. 7	
Identification Plate	Series 300 SST		

(1) Class 600 discs have stellite facing.

**Design Specifications**

Item	Applicable Specification
Wall thickness	API 600
Pressure - temperature ratings	ASME B16.34
General valve design	B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

**NOTE: See page 52 for flow, safety and maintenance information.**



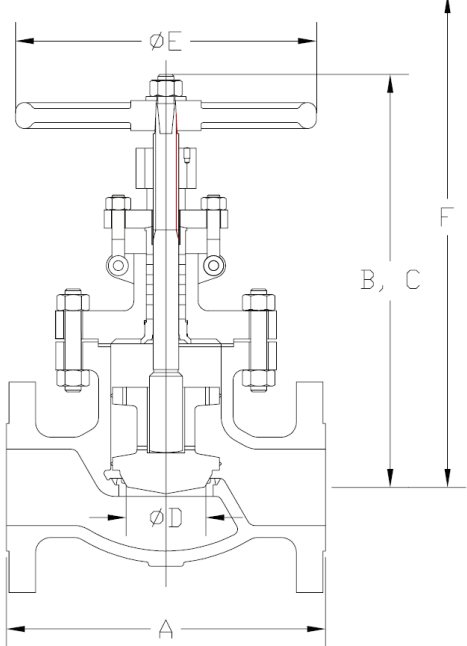
**DESIGN FEATURES:**

- **Standard trim** is API trim 8 for class 300 carbon steel valves and API trim 5 for all chrome alloy valves and class 600 carbon steel valves for optimal performance under normal conditions. Other trim materials available on request.
- **Wall thickness** per heavy wall API 600 requirements.
- **Seat faces** lapped for smooth finish and superior sealing.
- **Swivel** disc for optimal seating and longer seat life.
- **Stems** of hand wheel operated valves are rotating / rising design.
- **Each** valve is shell, seat and backseat pressure tested per industry standard API 598.
- **Gland** is two piece gland / gland flange design for optimal alignment and uniform packing compression.
- **End Flanges** have the following raised faces per ASME B16.5:  
 Class 300: 1/16" (2mm)  
 Class 600: 1/4" (7mm)

- **Weld ends** are available per ASME B16.25 or per customer's specification.
- **Impactor** hand wheel design standard on the following sizes to assist seating.  
 6" and larger class 300  
 4" and larger class 600
- **NON-RETURN** valve discs are fully body guided for smooth operation; internal pressure equalization eliminates need for external equalizer pipe.
- **Each** valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- **Other** available options as follows:  
 -Alternate valve materials such as chrome and stainless steel alloys  
 -Alternate trim materials  
 -Bypass, drain and other auxiliary connections  
 -Gear, motor, and cylinder actuators available  
 -NACE service  
 -Special cleaning for applications such as oxygen or chlorine  
 -Other options available as specified

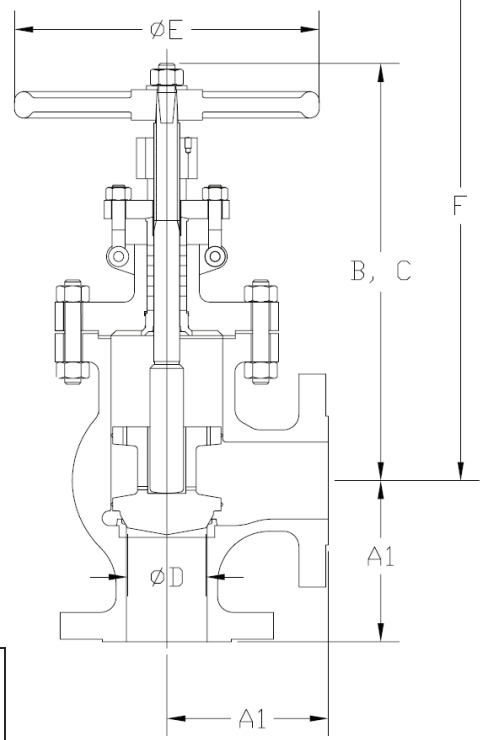
**NON-RETURN VALVE DIMENSIONS (CLASS 300 AND 600).**

SIZE	ASME 300					ASME 600				
	A (1)	B	C	D	E	A (1)	B	C	D	E
in	FE					in				
4	14.00	16.7	18.0	4.00	14	17.00	20.2	21.7	4.00	18
100	356	423	458	102	356	432	514	552	102	450
6	17.50	21.0	23.2	6.00	18	22.00	25.7	27.9	6.00	24
150	445	534	589	152	450	559	653	709	152	610
8	22.00	23.9	26.3	8.00	22	26.00	29.1	31.6	7.87	28
200	559	606	669	203	560	660	739	803	200	710
10	24.50	29.7	35.1	10.00	24	31.00	32.7	38.9	9.75	28
250	622	753	892	254	610	787	830	988	248	710
12	28.00	34.2	41.2	12.00	28	33.00	47.8 (2)		11.75	32
300	711	868	1047	305	710	838	1215 (2)		298	800



**FE = Flanged ends**  
**B = Center to top closed**  
**C = Center to top open**  
**F = Dismantling Dimension**  
**C<sub>v</sub> = Flow coefficient**

- (1) The center to end length, A1, is half of the end to end length, A.
- (2) Gear operators standard on 12" class 600 valves. Height is to top of actuator.
- (3) NOTE: Weld ends are available upon request.



**ADDITIONAL SIZES, MATERIALS AND CLASSES AVAILABLE UPON REQUEST.**

**NON-RETURN TECHNICAL INFORMATION (CLASS 300 AND 600)**

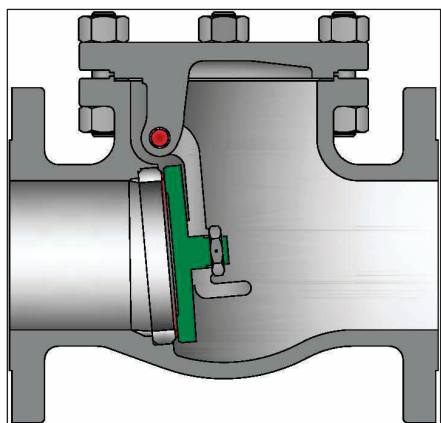
SIZE	ASME 300									ASME 600										
	F				WT				C <sub>v</sub>		F				WT				C <sub>v</sub>	
	Globe	in	Angle	in	Globe	lb	Angle	lb			Globe	in	Angle	in	Globe	lb	Angle	lb		
mm	mm		mm	kg	kg		kg	Globe	mm		mm	kg	kg		kg	Globe	Angle			
4	21.0	23.0	170	165	200	300	25.0	27.0	280	255	200	300	21.0	23.0	170	165	200	300		
100	535	580	77	75	630	685	127	116	480	730	32.0	35.0	580	570	480	730	21.0	23.0		
6	27.5	30.5	295	275	480	730	32.0	35.0	580	570	480	730	27.5	30.5	295	275	480	730		
150	690	770	134	125	815	895	263	259	1400	2100	41.0	46.5	1425	1390	1300	2000	27.5	30.5		
8	30.5	34.5	580	540	880	1300	36.5	40.5	985	945	850	1300	30.5	34.5	580	540	880	1300		
200	770	880	263	245	925	1030	447	429	1045	1180	646	630	770	880	263	245	925	1030		
10	34.0	39.5	875	810	1400	2100	41.0	46.5	1425	1390	1300	2000	34.0	39.5	875	810	1400	2100		
250	870	1005	397	367	1045	1180	646	630	1900	1860	2000	3000	870	1005	397	367	1045	1180		
12	40.0	46.0	1160	1090	2000	3100	47.0	51.5	1900	1860	2000	3000	40.0	46.0	1160	1090	2000	3100		
300	1010	1165	526	494	1190	1300	862	844	1900	1860	2000	3000	1010	1165	526	494	1190	1300		





**API 600 WALL SWING CHECK VALVES**  
 BOLTED BONNET, ASME CLASSES 150 TO 1500  
 CAST CARBON, STAINLESS STEEL OR ALLOY STEEL

**STANDARD MATERIALS (Other materials available)**



PART	MATERIALS			
	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M (2)
Body	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M (2)
Cap	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M
Disc	A105+13% CR Faced or WCB+13% CR Faced	WC6+Stellite 6 Faced	WC9+Stellite 6 Faced	A351 Gr. CF8M
Seat Ring	Carbon Steel + Stellite 6 Faced	A182 F11 + Stellite 6 Faced	A182 F22 + Stellite 6 Faced	316 SST
Gasket	Class 150: Corrugated SST Encapsulated w/ Graphite Class 300 to 600: Spiral Wound SST with Graphite Class 900-1500: RTJ			Class 150: PTFE Class 300-600: Spiral Wound SST with Graphite
Carrier	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M
Carrier Pin	SST 410			316 SST
Disc Nut	Series 300 SST			A193 Gr. B8M
Disc Carrier Hanger (1)	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9	A351 Gr. CF8M
Disc Carrier Hanger Bolts (1)	A193 Gr. B7	A193 Gr. B16		A193 Gr. B8M
Body / Cap Stud	A193 Gr. B7	A193 Gr. B16		A193 Gr. B8
Body / Cap Nut	A194 Gr. 2H	A194 Gr. 7		A194 Gr.8
Identification Plate	Series 300 SST			

Class	Figure Number
150	1561
300	3061
600	6061
900	9061
1500	1361

(1) 8" Valve size and up. (2) CF3M used for weld end valves.

**DESIGN FEATURES:**

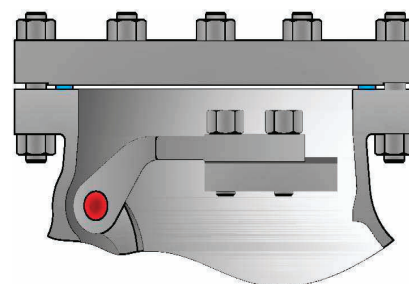
- **Standard trim** is API trim 8 for carbon steel valves, API trim 5 for chrome alloy valves, and API trim 10 for CF8M (T316) valves for optimal performance under normal conditions. Other trim materials available on request.
- **Seat faces** lapped for smooth finish and superior sealing.
- **Wall thickness** per heavy wall API 600 requirements.
- **Swivel disc** for improved seat alignment and longer life.
- **Each** valve is shell and seat pressure tested per industry standard API 598.
- **Check** valves are suitable for service in horizontal line with cap vertical or in a vertical line with flow upward.
- **Carrier Pin** is confined within the body wall and is not accessible from the exterior, thus no side body penetrations, eliminating a common leak path, on classes 150 through 600.
- **End Flanges** have the following raised faces per ASME B16.5:  
 Classes 150-300: 1/16" (2mm).  
 Classes 600-1500: 1/4" (7mm).

**NOTE: See page 52 for flow, safety and maintenance information.**

**Design Specifications**

Item	Applicable Specification
Wall thickness	API 600
Pressure - temperature ratings	ASME B16.34
General valve design	B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

- **Each** valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- **Other** available options as follows:
  - Alternate valve materials such as chrome and stainless steel alloys
  - Alternate trim materials
  - Drain and other auxiliary connections
  - NACE service
  - Special cleaning for applications such as oxygen or chlorine
  - Other options available as specified



Valve design for valve sizes 8" and above all pressure classes.

**SWING CHECK VALVE DIMENSIONS (CLASS 150–1500).**

SIZE	ASME 150				ASME 300				ASME 600			
	A	B	C	D	A	B	C	D	A	B	C	D
in	WE/FE				in				WE/FE			
2	8.00	4.9	4.6	2.00	10.50	5.0	4.6	2.00	11.50	6.9	7.3	2.00
50	203	126	118	51	267	126	118	51	292	176	185	51
2 ½	8.50	5.6	6.8	2.50	11.50	5.6	6.8	2.50	13.00	7.4	7.9	2.50
65	216	142	172	64	292	142	172	64	330	189	200	64
3	9.50	5.9	7.7	3.00	12.50	5.9	7.7	3.00	14.00	8.3	8.5	3.00
80	241	149	195	76	318	149	195	76	356	212	215	76
4	11.50	6.5	9.1	4.00	14.00	6.5	9.1	4.00	17.00	10.3	10.6	4.00
100	292	166	230	101	356	166	230	102	432	262	270	102
6	14.00	8.2	10.8	6.00	17.50	8.6	11.8	6.00	22.00	14.0	13.5	6.00
150	356	208	273	152	444	219	298	152	559	356	342	152
8	19.50	11.9	15.1	8.00	21.00	13.3	15.6	8.00	26.00	18.5	17.1	7.87
200	495	302	384	203	533	338	397	203	660	469	435	200
10	24.50	14.2	17.8	10.00	24.50	15.3	18.5	10.00	31.00	21.2	20.1	9.75
250	622	360	450	254	622	389	470	254	787	539	510	248
12	27.50	15.7	21.6	12.00	28.00	17.9	22.3	12.00	33.00	23.4	22.6	11.75
300	698	399	549	305	711	455	565	305	838	594	575	298
14	31.00	22.2	20.9	13.25	33.00	23.4	21.7	13.25	35.00	25.4	23.5	12.87
350	787	565	532	337	838	595	550	337	889	645	598	327
16	34.00	23.6	25.3	15.25	34.00	24.9	27.4	15.25	39.00	28.6	27.6	14.75
400	864	599	642	387	864	632	695	387	991	727	700	375
18	38.50	27.9	29.6	17.25	38.50	28.5	30.4	17.00	43.00	32.5	29.1	16.50
450	978	709	752	438	978	723	772	432	1092	826	740	419
20	38.50	26.7	27.0	19.25	40.00	24.9	29.1	19.00	47.00	31.6	32.3	18.25
500	978	679	685	489	1016	632	738	483	1194	802	820	464
24	51.00	33.5	36.0	23.25	53.00	34.8	37.6	23.00	55.00	40.2	39.4	22.00
600	1295	852	915	591	1346	884	955	584	1397	1020	1000	559

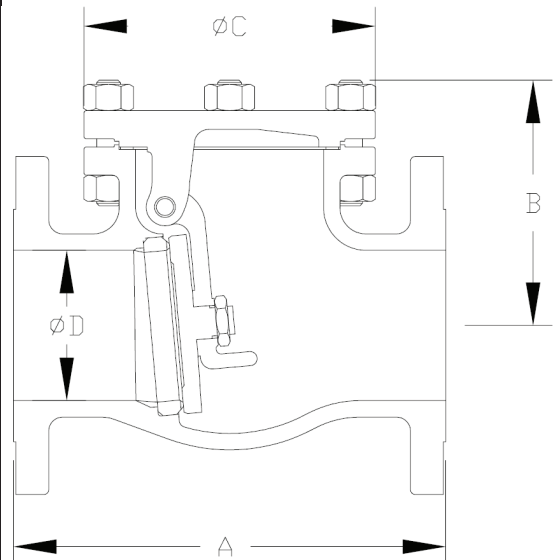
SIZE	ASME 900				ASME 1500			
	A	B	C	D	A	B	C	D
in	WE/FE				in			
2	14.50	9.6	8.9	1.87	14.50	9.6	8.9	1.87
50	368	244	226	47	368	244	226	47
2 ½	16.50	10.2	9.2	2.25	16.50	10.3	9.2	2.25
65	419	260	235	57	419	260	235	57
3	15.00	10.6	10.2	2.87	18.50	12.6	10.4	2.75
80	381	268	258	73	470	319	265	70
4	18.00	12.9	11.6	3.87	21.50	15.8	15.4	3.62
100	457	328	295	98	546	400	390	92
6	24.00	17	15.8	5.75	27.75	18.4	17.2	5.37
150	610	433	400	146	705	468	435	136
8	29.00	23.6	17.5	7.50	32.75	23.8	20.3	7.00
200	737	600	445	191	832	604	515	178
10	33.00	24.4	22.6	9.37	39.00	25.6	22.4	8.75
250	838	620	575	238	991	650	570	222

**B** = Center to top

**WE** = Butt Weld ends

**FE** = Flanged ends

**ADDITIONAL SIZES, MATERIALS AND CLASSES AVAILABLE UPON REQUEST.**



SIZE	ASME 150						ASME 300						ASME 600								
	in	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>
mm	F	mm	FE	kg	WE	kg		mm	FE	kg	WE	kg	mm		FE	kg	WE	kg			
2	6.0		27		23		75	6.0		34		29		75	8.0		62		49		75
50	155		12		10			155		15		13			205		28		22		
2 ½	7.0		40		35		120	7.0		53		45		120	8.5		79		62		120
65	175		18		16			175		24		21			220		36		28		
3	7.5		53		41		170	7.5		68		58		170	10.0		110		79		170
80	190		24		19			190		31		27			250		50		36		
4	8.5		79		57		320	8.5		110		94		320	12.5		215		168		320
100	215		36		26			220		50		42			315		98		76		
6	11.0		132		113		760	11.5		212		182		760	17.0		439		335		760
150	285		60		51			295		96		82			435		199		152		
8	16.0		337		293		1400	17.5		507		437		1400	22.5		811		633		1300
200	405		153		133			440		230		198			570		368		287		
10	19.0		567		483		2200	20.5		858		728		2200	26.0		1343		1047		2100
250	490		257		219			515		389		330			665		609		475		
12	22.0		873		758		3300	24.0		1160		1077		3300	29.5		1702		1363		3100
300	555		396		344			610		526		488			745		772		618		
14	29.0		979		834		4000	30.0		1411		1241		4000	32.0		1958		1585		3700
350	735		444		378			765		640		563			810		888		719		
16	31.0		1438		1250		5200	32.5		1764		1550		5200	36.0		2994		2364		4900
400	795		652		567			825		800		703			915		1358		1072		
18	36.5		1927		1656		7000	37.0		2578		2192		6800	35.5		3449		2932		6400
450	930		874		751			940		1169		994			900		1564		1330		
20	36.5		1771		1522		8700	34.5		2913		2505		8500	36.5		4792		4121		7800
500	925		803		690			875		1321		1136			925		2174		1869		
24	45.0		3559		3062		13000	46.5		5204		4428		12000	45.0		7608		6467		11000
600	1150		1614		1388			1175		2360		2008			1145		3451		2933		

SIZE	ASME 900						ASME 1500								
	in	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>
mm	mm	FE	kg	WE	kg	mm	FE		kg	WE	kg	mm	FE	kg	
2	10.5		165		132		65		10.5		165		132		65
50	270		75		60				270		75		60		
2 ½	11.5		265		183		100		11.5		265		183		100
65	290		120		83				290		120		83		
3	12.0		209		154		160		14.0		375		271		150
80	305		95		70				355		170		123		
4	15.0		375		271		300		17.5		963		463		260
100	380		170		123				445		437		210		
6	20.0		716		518		700		21.0		1235		1036		600
150	505		325		235				535		560		470		
8	27.5		1257		877		1200		27.5		2271		1907		1100
200	700		570		398				695		1030		865		
10	29.0		1808		1437		1900		30.0		3483		2888		1700
250	740		820		652				760		1580		1310		

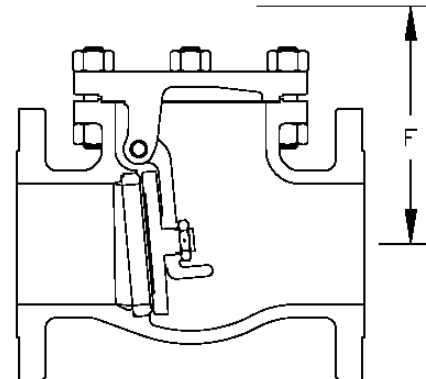
F = Dismantling dimension

WE = Butt Weld ends

FE = Flanged ends

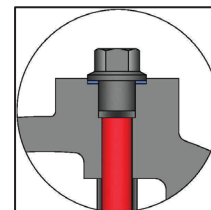
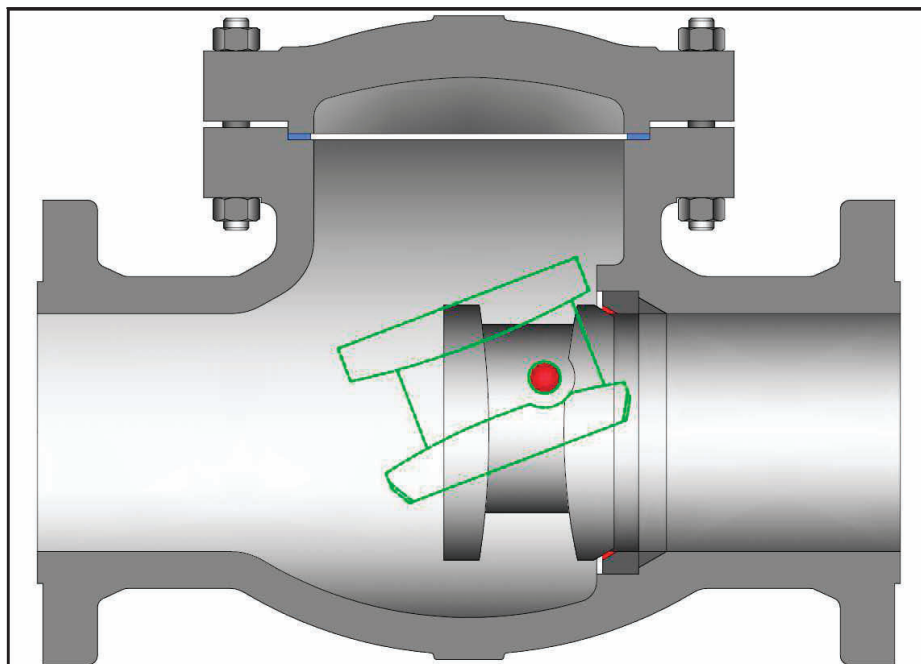
WT = Weight

C<sub>v</sub> = Flow coefficient

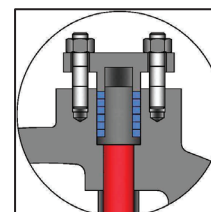




**API 600 WALL TILTING DISC CHECK VALVES**  
 BOLTED BONNET, ASME CLASSES 150 TO 1500  
 CAST CARBON OR ALLOY STEEL



(1) Side Plug Gasket Design



(2) Side Plug Packing Design

**STANDARD MATERIALS (Other materials available)**

Class	Figure Number
150	1595
300	3095
600	6095
900	9095
1500	1395

**NOTE:** See page 52 for flow, safety and maintenance information.

**DESIGN FEATURES:**

- **Standard trim** is API trim 8 for carbon steel valves, API trim 5 for chrome alloy valves, and API trim 10 for CF8M (T316) valves for optimal performance under normal conditions. Other trim materials available on request.
- **Seat face:** Stellite, ground and lapped to a smooth finish.
- **Body and cap joint** accurately machined.
- **Flanges:**  
 Classes 150-300: 1/16" raised face.  
 Class 600 and up: 1/4" raised face.  
 Finish 125-250 AARH for all valves.
- **Check** valves are suitable for service in horizontal line with cap vertical or in a vertical line with flow upward.

PART	MATERIALS		
Body	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9
Cap	A216 Gr. WCB	A217 Gr. WC6	A217 Gr. WC9
Disc	A105 + 13% CR or A216 WCB + 13% CR Faced	WC6 + Stellite 6 Faced	WC9 + Stellite 6 Faced
Seat Ring	Carbon Steel + Stellite 6 Faced	A182 F11 + Stellite 6 Faced	A182 F22 + Stellite 6 Faced
Gasket	Class 150: Corrugated SST Encapsulated w/ Graphite		
	Class 300 to 600: Spiral Wound SST w/ Graphite		
	Class 900 to 1500: RTJ		
Pin	SST 410		
Bushing	SST 410		
Pin Plug (1)	SST 410		
Pin Plug Gasket (1)	Graphite coated SST		
Body / Cap Stud	A193 Gr. B7	A193 Gr. B16	
Body / Cap Nut	A194 Gr. 2H	A194 Gr. 7	
Gland Flange (2)	A216 WCB	A217 WC6	A217 WC9
Gland (2)	SST 410		
Packing (2)	Graphite		
Gland Flange Stud (2)	A193 Gr. B7	A193 Gr. B16	
Gland Flange Nut (2)	A194 Gr. 2H	A194 Gr. 7	
Identification Plate	Series 300 SST		

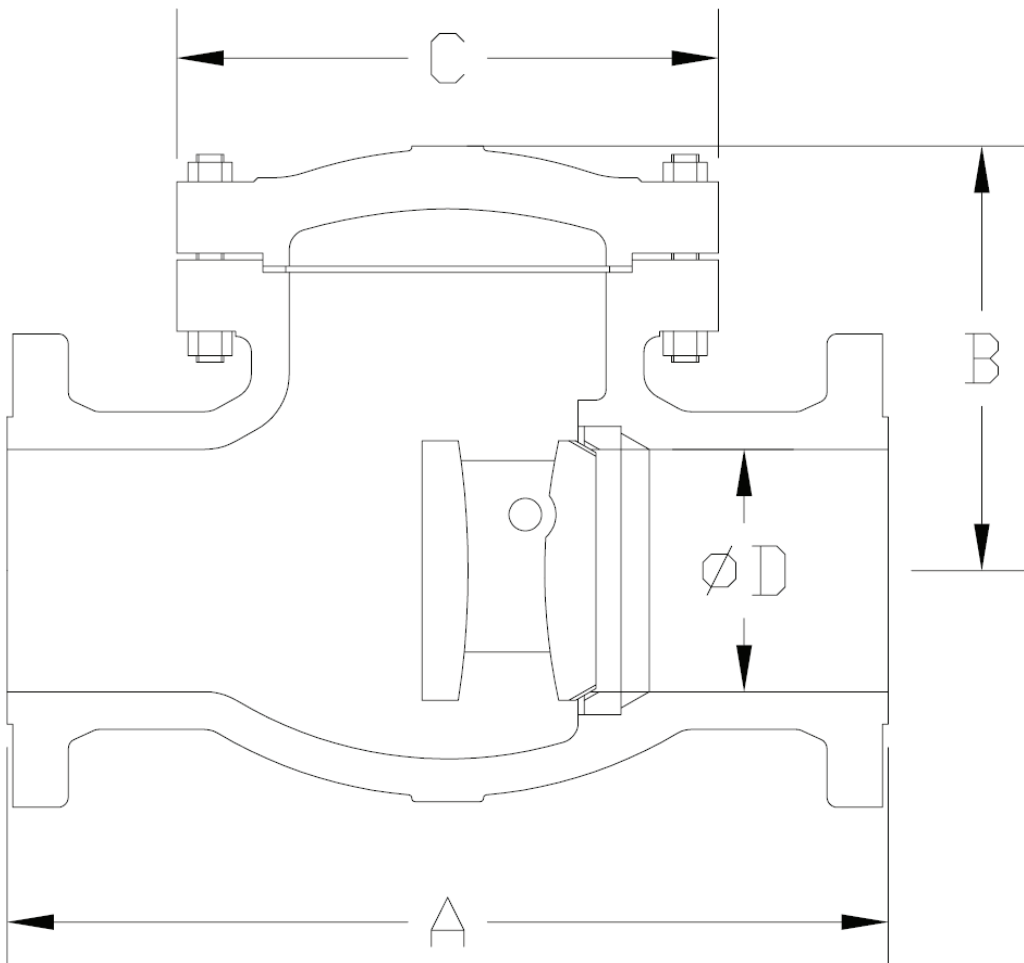
**Design Specifications**

Item	Applicable Specification
Wall thickness	API 600
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

**TILTING DISC CHECK VALVE DIMENSIONS (CLASS 150—600).**

SIZE	ASME 150				ASME 300				ASME 600			
	A	B	C	D	A	B	C	D	A	B	C	D
in	WE/FE				WE/FE				WE/FE			
2 ½	8.50	6.3	7.1	2.50	11.50	7.5	8.1	2.50	13.00	9.5	8.0	2.50
65	216	160	180	64	292	190	205	64	330	242	203	64
3	9.50	6.8	7.7	3.00	12.50	9.1	6.7	3.00	14.00	9.9	8.9	3.00
80	241	172	195	76	318	231	170	76	356	252	225	76
4	11.50	7.6	8.9	4.00	14.00	10.6	9.5	4.00	17.00	10.6	9.7	4.00
100	292	193	225	102	356	268	240	102	432	269	245	102
6	14.00	10.9	11.0	6.00	17.50	12.8	11.6	6.00	22.00	12.8	12.9	6.00
150	356	277	280	152	444	325	295	152	559	324	328	152
8	19.50	12.7	14.4	8.00	21.00	15.5	14.8	8.00	26.00	15.1	15.8	7.88
200	495	324	365	203	533	394	375	203	660	384	402	200
10	24.50	13.2	19.9	10.00	24.50	17.4	18.3	10.00	31.00	19.3	19.5	9.75
250	622	336	506	254	622	442	465	254	787	490	495	248
12	27.50	18.6	20.3	12.00	28.00	20.3	21.5	12.00	33.00	21.1	21.6	11.75
300	698	472	515	305	711	516	545	305	838	537	549	298
14	31.00	19.1	22.1	13.25	33.00	20.6	22.8	13.25	35.00	23.7	24.4	12.88
350	787	485	560	337	838	524	578	337	889	602	620	327
16	34.00	21.6	25.0	15.25	34.00	22.4	26.2	15.25	39.00	26.5	27.2	14.75
400	864	548	635	387	864	570	665	387	991	673	690	375
18	38.50	24.3	28.0	17.25	38.50	28.1	28.7	17.00				
450	978	617	710	438	978	713	730	432				
20	38.50	26.1	29.5	19.25	40.00	35.0	31.9	19.00				
500	978	674	750	489	1016	889	809	483				
24	51.00	27.3	33.9	23.25	53.00	42.8	37.5	23.00				
600	1295	694	860	591	1346	1082	953	584				

**ADDITIONAL SIZES,  
MATERIALS AND  
CLASSES AVAILABLE  
UPON REQUEST.**

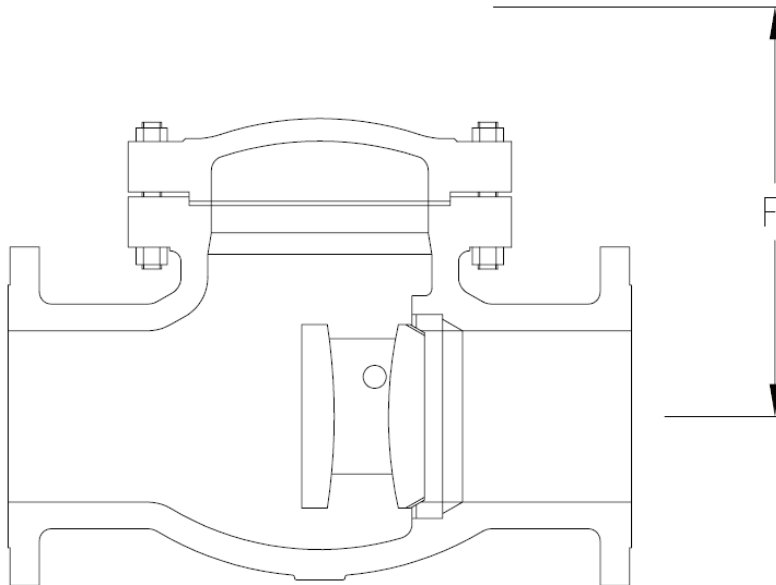


**B = Center to top**

**WE = Butt Weld ends**

**FE = Flanged ends**

SIZE	ASME 150							ASME 300							ASME 600								
	in	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>	F	in	WT	lb	WT	lb	C <sub>v</sub>	
mm		mm	FE	kg	WE	kg			mm	FE	kg	WE	kg			mm	FE	kg	WE	kg			
2 ½	9.0		20		17		150		10.0		35		30		150		12.0		40		34		150
65	225		9		8				255		16		14				305		18		15		
3	10.0		29		25		200		12.0		46		40		200		13.0		51		43		200
80	250		13		11				305		21		18				330		23		20		
4	11.5		49		42		360		14.5		58		50		360		14.5		75		65		360
100	295		22		19				370		26		23				370		34		29		
6	17.0		92		80		790		19.0		138		120		790		19.0		185		159		790
150	430		42		36				475		63		54				475		84		72		
8	20.5		161		140		1400		23.5		240		208		1400		23.0		335		289		1400
200	530		73		64				600		109		94				585		152		131		
10	23.5		262		229		2100		27.5		385		334		2100		29.0		700		600		2100
250	590		119		104				695		175		152				740		318		272		
12	30.5		380		330		3000		32.5		520		450		3000		33.0		774		672		3000
300	780		172		150				820		236		204				835		351		305		
14	32.5		517		450		3700		34.0		750		650		3700		36.5		980		850		3500
350	825		235		204				860		340		295				930		445		386		
16	37.0		713		620		4900		38.0		1050		900		4900		41.5		1300		1124		4600
400	935		323		281				960		476		408				1050		590		510		
18	41.5		829		720		6200		45.0		1126		980		6200								
450	1055		376		327				1145		511		445										
20	45.5		938		815		7700		54.0		1422		1231		7700								
500	1165		426		370				1375		645		558										
24	50.5		1325		1152		11000		66.0		2004		1735		11000								
600	1285		601		523				1670		909		787										



**FE** = Flanged ends  
**WE** = Weld ends  
  
**F** = Dismantling dimension  
  
**WT** = Weight  
**C<sub>v</sub>** = Flow coefficient