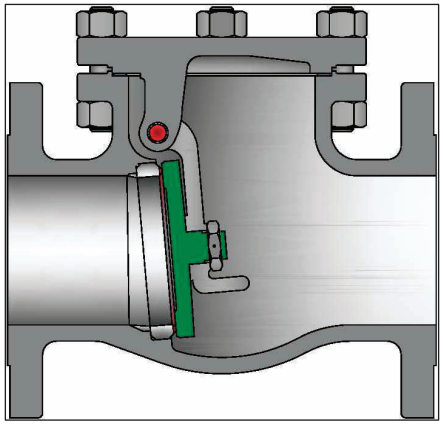
Powell Valves
2503 Spring Grove Ave.
Cincinnati, OH 45214
Phone: 513-852-2000
Fax: 513-852-2997

API 600 WALL SWING CHECK VALVES

BOLTED BONNET, ASME CLASSES 150 TO 1500
CAST CARBON , STAINLESS STEEL OR ALLOY STEEL



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

STANDARD MATERIALS (Other materials available)

PART	MATERIALS			
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			

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

DESIGN FEATURES:

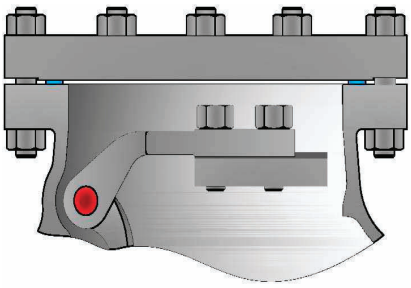
- **Standard trim** is API trim 8 for carbon steel valves, API trim 5 for chrome alloy valves, and API trim 10 for CF8M (T316) valves for optimal performance under normal conditions. Other trim materials available on request.
- **Seat faces** lapped for smooth finish and superior sealing.
- **Wall** 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).

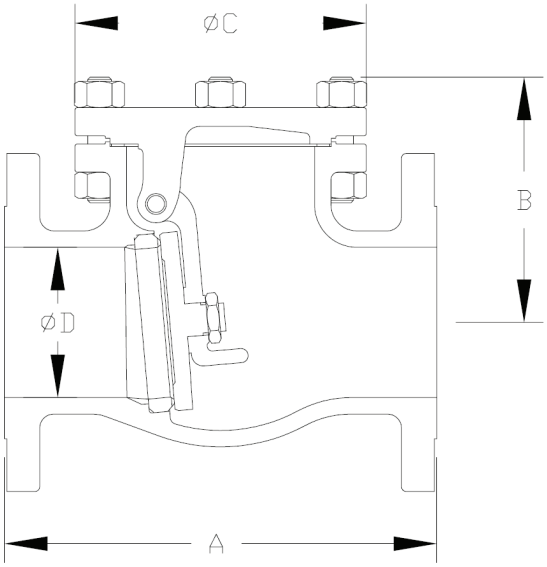
SIZE	ASME 150				ASME 300				ASME 600			
in	A	B	C	D	A	B	C	D	A	B	C	D
mm	WE/FE				WE/FE				WE/FE			
2	8.00	4.9	4.6	2.00	10.50	5.0	4.6	2.00	11.50	6.9	7.3	2.00
50	203	126	118	51	267	126	118	51	292	176	185	51
2 ½	8.50	5.6	6.8	2.50	11.50	5.6	6.8	2.50	13.00	7.4	7.9	2.50
65	216	142	172	64	292	142	172	64	330	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			
in	A	B	C	D	A	B	C	D
mm	WE/FE				WE/FE			
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.



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

SIZE	ASME 150							ASME 300							ASME 600						
in / mm	F	in / mm	WT FE	lb kg	WT WE	lb kg	C_v	F	in / mm	WT FE	lb kg	WT WE	lb kg	C_v	F	in / mm	WT FE	lb kg	WT WE	lb kg	C_v
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 / mm	F	in / mm	WT FE	lb kg	WT WE	lb kg	C_v	F	in / mm	WT FE	lb kg	WT WE	lb kg	C_v
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_V = Flow coefficient

