Class 600 Flgd Swing Check Valve

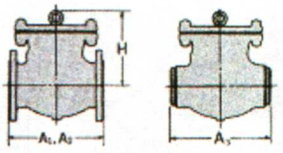
Steamco Valve

Design Data Features

These valves comply with requirements of applicable Standards :ASME B16.5, ASME B16.10, ASME B16.25 and ASME B16.34.
Male and female cover joint.
A Wide Range of Body / Cover materials
Trim Materials in Accordance with API 600 Trim Chart

Dimensions and Weights

Flange and facing dimensions are in Accordance with ANSI B16.5 Buttwelding end details will be prepared in accordance with ASME B16.25, unless otherwise specified. Please specify schedule number or wall thickness of pipe in your order.



Description			Valve Size												
			2	3	4	6	8	10	12	14	16	18	20	22	24
Dimensions in inches	Face-to-Face Flanged End	A_1	11.50	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	51.00	55.00
	Face-to-Face RTJ	A_2	11.62	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	51.38	55.38
	End-to-End Weld End	A_3	7.00	10.00	12.00	18.00	23.00	28.00	32.00	35.00	39.00	43.00	47.00	51.00	55.00
	Center-to-Top	H	7.75	10.50	11.88	14.62	17.25	21.25	23.75	25.75	29.62	32.25	34.88	38.75	38.75
Weight in pounds	Flanged End		62	185	240	450	790	1300	1750	2500	2950	4050	5200	7250	7700
	Weld End		42	145	160	300	570	950	1300	2100	2350	3350	4300	6150	6400

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STEAMCO FIGURE NUMBERS

(Sample Figure Numbers/ WCB Body /Flanged RF / API TRIM#8)

Gate Valve

150#--GT150CSF8
300#--GT300CSF8
600#--GT600CSF8
900#--GT900CSF8
1500#-GT1500CSF8

Globe Valve

150#--GL150CSF8
300#--GL300CSF8
600#--GL600CSF8
900#--GL900CSF8
1500#-GL1500CSF8

Swing Check Valve

150#--SC150CSF8
300#--SC300CSF8
600#--SC600CSF8
900#--SC900CSF8
1500#-SC1500CSF8

Figure Number Breakdown:

Style of Valve
Pressure Rating of Valve
Body & Bonnet Material
End Connection
Trim Material (Per API 600 Trim Chart)

Cross-Reference of ASTM Material Specifications
Covering Cast and Forged Valves, Fittings, Flanges and Unions

Material	Forgings	Castings	Wrought Fittings
Carbon Steel Cold Temperature Service	A105 A350-LF2	A216-WCB	A234-WPB A420-WPL6
Carbon-1/2 Moly Alloy Steel High Temperature Service	A182-F1	A217-WC1 A352-LC1	A234-WP1
3-1/2 Nickel Alloy Steel Low Temperature Service	A350-LF3	A352-LC3	A420-WPL3
1/2 Cr-1/2 Mo Alloy Steel 1/2 Cr-1/2 Mo-1 Ni Alloy Steel 3/4 Cr-1 Mo-3/4 Ni Alloy Steel 1 Cr-1/2 Mo Alloy Steel	A182-F2 A182-F12 CL2	A217-WC4 A217-WC5	A234-WP12 CL2
1-1/4 Cr-1/2 Mo Alloy Steel 2-1/4 Cr-1 Mo Alloy Steel 5 Cr-1/2 Mo Alloy Steel 5 Cr-1/2 Mo Alloy Steel 9 Cr-1 Mo Alloy Steel 13 Cr Alloy Steel	A182-F11 CL2 A182-F22 CL3 A182-F5 A182-F5a A182-F9 A182-F6	A217-WC6 A217-WC9 A217-C5 A217-C12 A743-CA15	A234-WP11 CL2 A234-WP22 CL3 A234-WP5 A234-WP9
Type 304 Stainless Steel (18 Cr-8 Ni) Standard Low Carbon High Temperature Service	A182-F304 A182-F304L A182-F304H	A351-CF3 A351-CF8	A403-WP304 A403-WP304L A403-WP304H
Type 310 Stainless Steel (25 Cr-20 Ni) Type 316 Stainless Steel (16 Cr-12 Ni-2 Mo) Standard Low Carbon High Temperature	A182-F310H A182-F316 A182-F316L A182-F316H	A351-CK20 A351-CF3M A351-CF8M	A403-WP310 A403-WP316 A403-WP316L A403-WP316H
Type 317 Stainless Steel (18 Cr-13 Ni-3 Mo) Type 321 Stainless Steel (18 Cr-10 Ni-Ti) Standard High Temperature Service	A182-F321 A182-F321H		A403-WP317 A403-WP321 A403-WP321H
Type 347 Stainless Steel (18 Cr-10 Ni-Cb) Standard High Temperature Service	A182-F347 A182-F321H	A351-CF8C	A403-WP347 A403-WP347H
Type 348 Stainless Steel (18 Cr-10 Ni-Cb) Standard High Temperature Service	A182-F348 A182-F348H		A403-WP348 A403-WP348H

Forging Materials

Chemistry Element – % Composition		Mechanical Properties	Chemistry Element – % Composition		Mechanical Properties
ASTM A105 Carbon Steel Where temperatures are moderate and corrosion resistance is not critical.			**ASTM A182, Grade 5 – 4-6% Chromium 1/2% Molybdenum** With moderately corrosive fluids and in oil refineries where high temperature stability and oxidation resistance of the lower alloy steels are inadequate.		
C 0.20 - 0.24 Mn 1.00 - 1.35 Si 0.15 - 0.30 P .030 Max. S 0.015 - 0.040 Cr 0.20 Ni 0.20 Mo 0.06 V 0.02 Cb 0.02 Cu 0.20 Pb 0.02 Total Residuals = 0.50	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn	70,000(485) 36,000(250) 22% 30% Max. 187	C 0.15 Max. Mn 0.30 - 0.60 P .030 Max. S 0.015 - 0.035 Si 0.50 Max Ni 0.50 Max Cr 4.00 - 6.00 Mo 0.44 - 0.65	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn	70,000(485) 40,000(275) 20% 35% 143-217
ASTM A350, LF2 Where cold temperature (-50°F) impact strength is essential.			**ASTM A182, Grade F9 – 9% Chromium** For services where the higher chrome alloys are preferred and where high temperature stability and oxidation resistance of the lower alloy steels are inadequate.		
C 0.20 - 0.24 Mn 1.00 - 1.35 Si 0.15 - 0.30 P .030 Max. S 0.015 - 0.040 Cr 0.20 Ni 0.20 Mo 0.06 V 0.02 Cb 0.02 Cu 0.20 Pb 0.02 Total Residuals = 0.50	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn -50°F Charpy Energy (Ft./Lb.) Average of Each Set of 3 Specimen For One Specimen	70,000(485) 36,000(250) 22% 30% Max. 197 Min. Impact (J) 15(20) 12(16)	C 0.15 Max. Mn 0.30 - 0.60 P .030 Max. S 0.030 Max Si 0.50 - 1.00 Cr 8.00 - 10.00 Mo 0.90 - 1.10	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn	85,000(585) 55,000(380) 20% 40% 179-217
ASTM A182, Grade F11, Class 2 – 1 1/4% Chromium 1/2% Molybdenum			**ASTM A182, Grade F316. Grade F316L – 18% Chromium 8% Nickel 2-3% Molybdenum**		

To minimize graphitization encountered with carbon and carbon moly steels at high temperatures.			For corrosion resistance applications where high temperature strength is required. Has restricted carbon level to minimize sensitization. Do not use for service temperatures above 1000°F.		
C 0.10 - 0.15 Mn 0.30 - 0.80 P .040 Max. S 0.015 - 0.035 Si 0.50 - 1.00 Cr 1.00 - 1.50 Mo 0.44 - 0.65	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn	70,000(485) 40,000(275) 20% 30% 143-207	C 0.035 Max. Mn 2.00 Max. P .040 Max. S 0.020 - 0.030 Si 1.00 Max Ni 10.00 - 14.00 Cr 16.00 - 18.00 Mo 2.00 - 3.00	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min.	75,000(515) 30,000(205) 30% 30%
ASTM A182, Grade F22, Class 3 – 2 1/4% Chromium 1% Molybdenum Where elevated temperature, surface stability, and greater strength than F11 are needed.			**ASTM A182, Grade F316H – 18% Chromium 8% Nickel 2-3% Molybdenum** For corrosion resistance applications where extreme high temperature service is expected. Has a restricted carbon range for high temperature strength above 1000°F.		
C 0.15 Max. Mn 0.30 - 0.60 P .040 Max. S 0.015 - 0.035 Si 0.50 Max Cr 2.00 - 2.50 Mo 0.87 - 1.13	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min. Hardness, Bhn	75,000(515) 40,000(310) 20% 30% 156-207	C 0.04 - 0.10 Mn 2.00 Max. P .040 Max. S 0.020 - 0.030 Si 1.00 Max Ni 10.00 - 14.00 Cr 16.00 - 18.00 Mo 2.00 - 3.00	TS Min. psi(MPa) YS Min. psi(MPa) EL (2" Min.) RA Min.	75,000(515) 30,000(205) 30% 30%

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API TRIM #	MATERIAL	SEAT	DISC	BACKSEAT	STEM	NOTES
1	410	410	410	410	410	
2	304	304	304	304	304	
3	F310	310	310	310	310	
4	Hard 410	Hard 410	Hard 410	410	410	Seats 750 BHN min.
5	Hardfaced	Stellite	Stellite	410	410	
5A	Hardfaced	Ni-Cr	Ni-Cr	410	410	
6	410 and Cu-Ni	Cu-Ni	Cu-Ni	410	410	
7	410 and Hard 410	Hard 410	Hard 410	410	410	Seats 750 BHN min.
8	410 and Hardfaced	Stellite	410	410	410	
8A	410 and Hardfaced	Ni-Cr	410	410	410	
9	Monel	Monel	Monel	Monel	Monel	
10	316	316	316	316	316	
11	Monel and Hardfaced	Stellite	Monel	Monel	Monel	
12	316 and Hardfaced	Stellite	316	316	316	
13	Alloy 20	Alloy 20	Alloy 20	Alloy 20	Alloy 20	
14	Alloy 20 and Hardfaced	Stellite	Alloy 20	Alloy 20	Alloy 20	
15	304 and Hardfaced	Stellite	Stellite	304	304	
16	316 and Hardfaced	Stellite	Stellite	316	316	
17	347 and Hardfaced	Stellite	Stellite	347	347	
18	Alloy 20 and Hardfaced	Stellite	Stellite	Alloy 20	Alloy 20	