



## STANDARDS

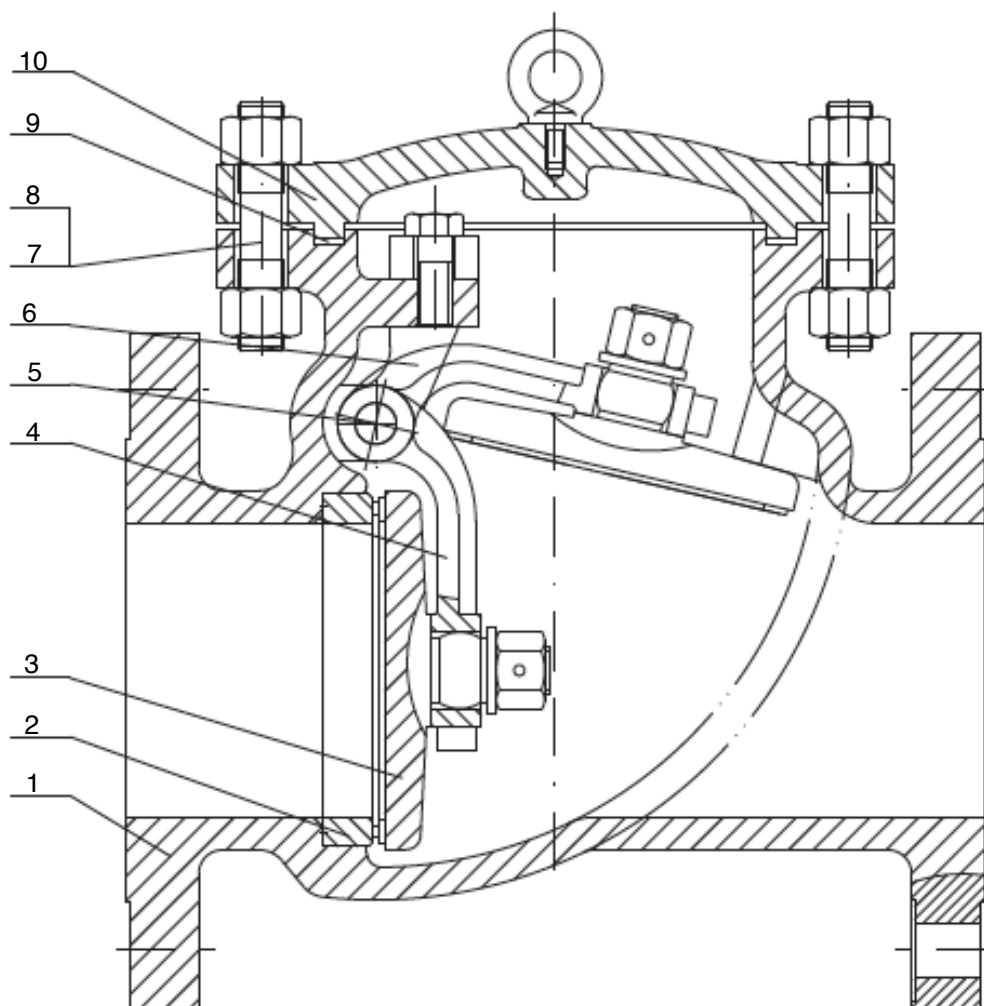
- Design and manufacture: BS 1868, ASME B16.34, API 6D
- Test & Inspection: API 598 or API 6D
- End flange dimension: ASME B16.5 (for NPS <24) MSS-SP-44 for NPS 22; ASME B16.47 series A for NPS >26; BW end dimension: ASME B16.25
- Face to face and end to end dimension: ASME B16.10
- Pressure - temperature rating: ASME B16.34

# J Flow Controls SC Series Check Valves

## FEATURES & BENEFITS

- Design features: Bolted cover (BC); swing or lift type disc; metallic seating surfaces
- Seat: for carbon steel check valve, the seat is usually forged steel. The sealing surface of the seat is spray welded with hard alloy specified by the customer. Renewable threaded seat is used for NPS <10 check valves, and welded on seat can also be optional if requested by customers. Welded on seat is used for NPS > 12 carbon steel gate valves. For stainless steel check valve, integral seat is usually applied, or to weld hard alloy directly integrally. Threaded or welded on seat is also optional for stainless steel check valve if requested by customers.
- The body and bonnet of Class 150 - Class 900 check valves are generally fastened with studs and nuts. And the body and bonnet of Class 1500 - Class 2500 check valves usually employ a pressure seal design.
- Body-to-cover joint - stainless steel + flexible graphite wounded gasket is used for Class 150 and Class 300 check valve; stainless steel flexible graphite wounded gasket is used for Class 600 check valve, and ring joint gasket is also optional for Class 600 check valve; ring joint gasket is used for Class 900 check valve; pressure seal design is used for Class 1500 - Class 2500 check valves.

## PARTS IDENTIFICATION



### Applicable Standards

- Design and manufacture: BS1868
- Face to face and end to end: ASME B 16.10
- Flanged ends: ASME B16.5
- Butt welded ends: ASME B16.25
- Test & inspection: API 598

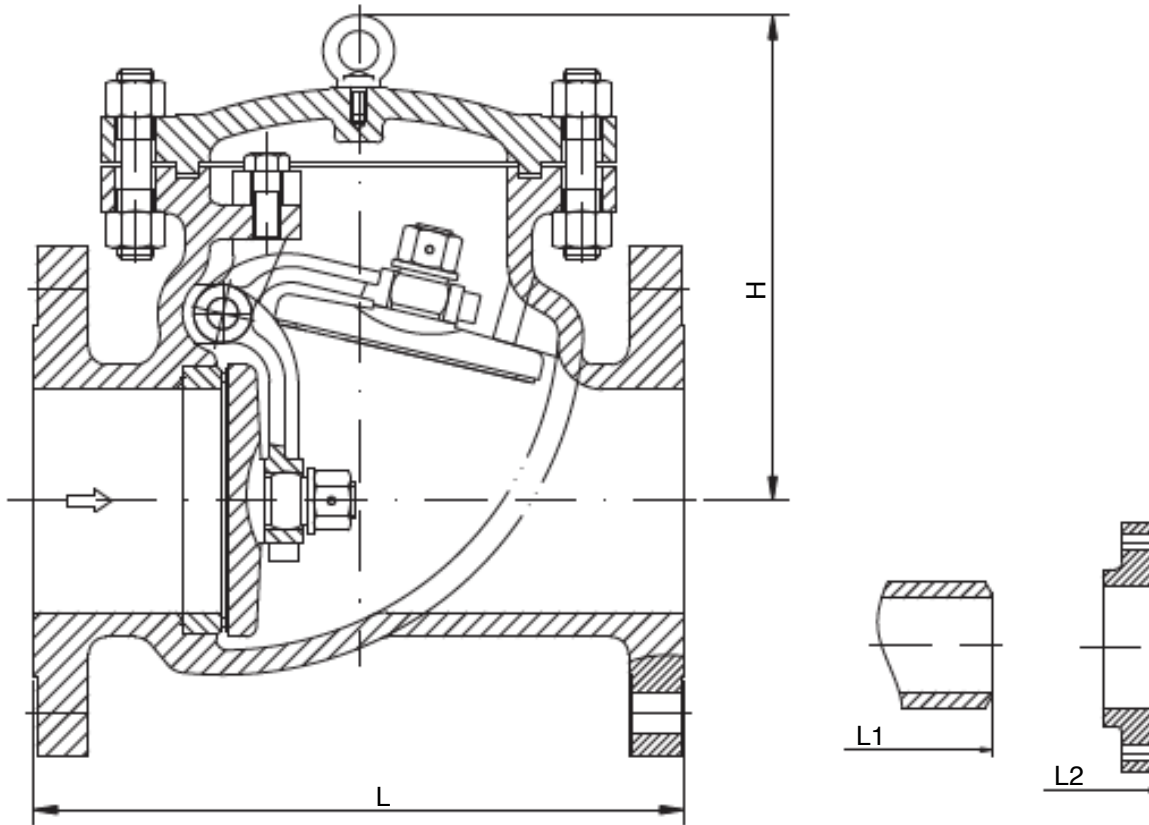
### Main Materials

- WCB, LCB, WC6, WC9, CF8, CF8M, CF3, CF3M, A995 4A, A995 5A, A995 6A, Alloy 20, Monel, Inconel

No	Part Name	Material				
		WCB	LCB	WC6	CF8 (M)	CF3 (M)
1	Body	A216 WCB	A352 LCB	A217 WC6+STL	A351 CF8 (M)+STL	A351 CF3 (M) + STL
2	Seat	A105 + 13 Cr	A105 + 13 Cr	-	-	-
3	Disc	A216 WCB + 13 Cr	A352 LCB + 13 Cr	A217 WC6+STL	A351 CF8 (M)	A351 CF3 (M)
4	Hinge	A216 WCB	A182 F6	A182 F6	A351 CF8 (M)	A351 CF3 (M)
5	Hinge Pin	A276 304	A182 F6	A182 F6	A182 F304 (F316)	A182 F304 (F316)
6	Fork	A216 WCB	A352 LCB	A217 WC6	A351 CF8 (M)	A351 CF3 (M)
7	Cover Bolt	A193 B7	A320 L7	A193 B16	A193 B8 (M)	A193 B8 (M)
8	Cover Nut	A194 2H	A194 7	A194 4	A194 8 (M)	A194 8 (M)
9	Gasket	SS304 + Graphite			PTFE/SS304+Graphite	PTFE/SS316+Graphite
10	Cover	A216 WCB	A352 LCB	A217 WC6	A351 CF8 (M)	A351 CF3 (M)

# SC Series Check Valves

## ***DIMENSIONS (Class 150 and 300)***

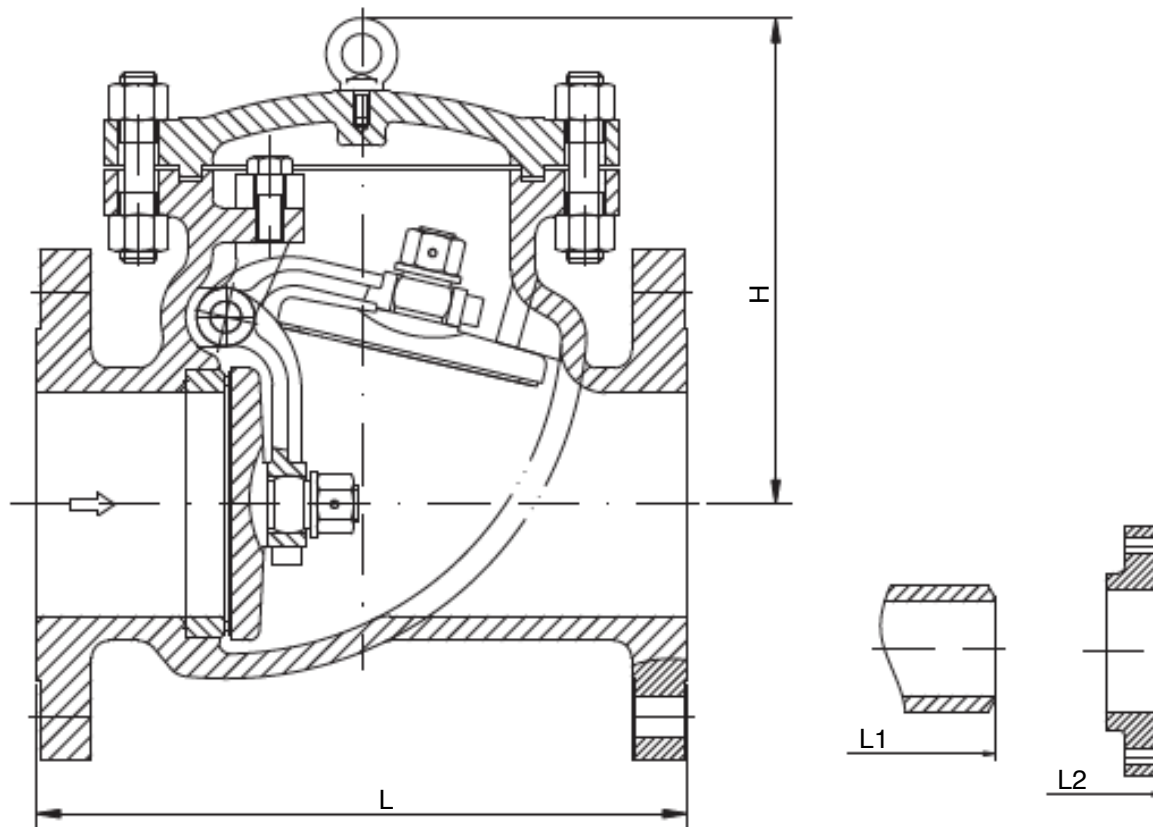


Size	CLASS 150																	
Inches	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	26
L/L1 (RF/BW)	4.25	4.62	5.00	6.50	8.00	8.50	9.50	11.50	14.00	19.50	24.50	27.50	31.00	34.00	38.50	38.50	51.00	-
L2 (RTJ)	-	-	-	-	8.50	9.00	10.00	12.00	14.50	20.00	25.00	28.00	31.50	34.50	39.00	39.00	21.50	-
H (Open)	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	18.75	20.62	22.88	24.62	24.75	-
WT (BW)	2.5	3.5	5	7.5	14	20	25	40	71	118	177	263	353	542	632	855	970	-
WT (RF/RTJ)	2	3	3.5	5.5	10	12	17	29	57	96	143	227	295	468	552	755	831	-

Size	CLASS 300																	
Inches	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	26
L/L1 (RF/BW)	6.00	7.00	8.00	9.00	10.50	11.50	12.50	14.00	17.50	21.00	24.50	28.00	33.00	34.00	38.50	40.00	53.00	-
L2 (RTJ)	-	-	-	-	11.12	12.12	13.12	14.62	18.12	21.62	25.12	28.62	33.62	34.62	39.12	40.75	53.88	-
H (Open)	3.12	3.38	3.88	4.38	6.00	6.50	6.88	8.00	11.50	13.88	15.38	17.00	20.62	20.62	22.88	24.62	34.75	-
WT (BW)	3	4	6	10	16	23	29	46	82	136	204	302	625	625	730	985	1115	-
WT (RF/RTJ)	2.5	3.5	5	7	11	13	18	31	61	103	155	245	503	503	593	812	895	-

# SC Series Check Valves

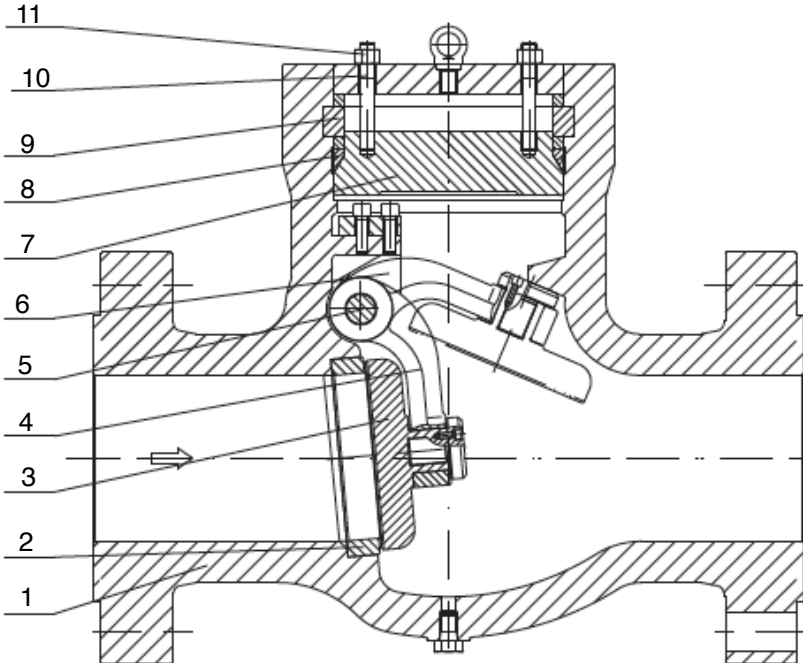
## DIMENSIONS (Class 600 and 900)



Size	CLASS 600																	
Inches	1/2	3/4	1	1-1/2	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	26
L/L1 (RF/BW)	6.50	7.50	8.50	9.50	11.50	13.00	14.00	17.00	22.00	26.00	31.00	33.00	35.00	39.00	43.00	47.00	55.00	-
L2 (RTJ)	-	-	-	-	11.62	13.12	14.12	17.12	22.12	26.12	31.12	33.12	35.12	39.12	43.12	47.25	55.38	-
H (Open)	3.38	3.50	4.50	5.50	7.50	8.00	8.75	10.00	14.50	17.50	19.25	21.38	23.38	25.75	28.75	31.00	43.50	-
WT (BW)	5.5	7.5	12	18	24	35	44	70	125	207	310	460	615	945	1105	1495	1695	-
WT (RF/RTJ)	4	6	8	12.5	16	19	26	44	87	147	220	350	452	720	845	1160	1280	-

Size	CLASS 900										
Inches	2	2-1/2	3	4	6	8	10	12	14	16	
L1 (BW)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	
L (RF)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.50	44.50	
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.38	44.88	
H	9.50	9.50	10.00	13.38	15.75	18.12	21.62	24.00	27.00	29.50	
WT (BW)	22	34	38	71	176	485	761	1125	1345	1490	
WT (RF/RTJ)	44	55	61	116	255	630	940	1433	1710	1820	

## CAST STEEL SWING CHECK VALVE (PRESSURE SEAL COVER)



### Applicable Standards

- Design and Manufacture: ASME B16.34
- Face to Face and End to End: ASME B16.10
- Flanged End: ASME B16.5
- But Welded End: ASME B16.25
- Test & Inspection: API 598

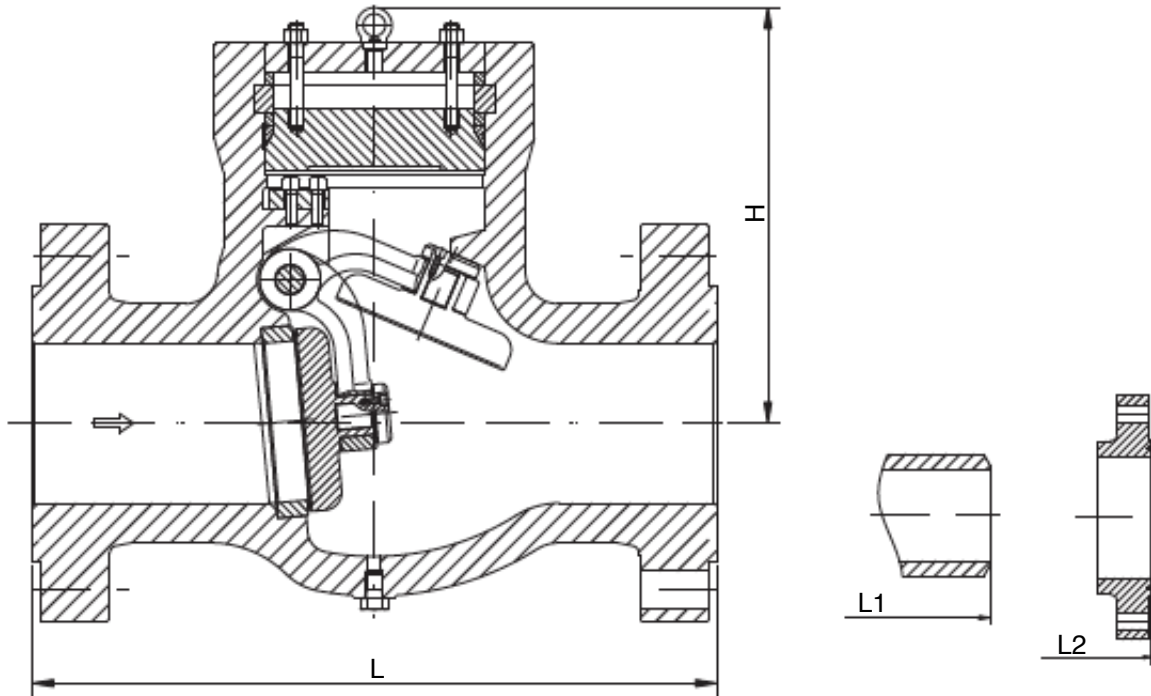
### Main Materials

- WCB, LCB, WC6, WC9, CF8, CF8M, CF3, CF3M, A995 4A, A995 5A, A995 6A, Alloy 20, Monel, Inconel

No	Part Name	Material				
		WCB	LCB	WC6	CF8 (M)	CF3 (M)
1	Body	A216 WCB	A352 LCB	A217 WC6+STL	A351 CF8 (M)+STL	A351 CF3 (M)+STL
2	Seat	A105 + STL	A105+13Cr	-	-	-
3	Disc	A216 WCB+13Cr	A352 LCB+13Cr	A217 WC6 + STL	A351 CF8 (M) + STL	A351 CF3 (M) + STL
4	Hinge	A216 WCB	A352 LCB	A217 WC6	A351 CF8(M)	A351 CF3 (M)
5	Hinge Pin	A276 304	A276 304	A276 304	A182 F304 (F316)	A182 F304L (F316L)
6	Fork	A216 WCB	A350 LF2	A217 WC6	A351 CF8(M)	A351 CF3(M)
7	Cover	A105	A105	A182 F11	A182 F304 (F316)	A182 F304L/(F316L)
8	Pressure Seal Ring	Pure Iron			SS304 / SS316	SS304 / SS316
9	Segment Ring	A182 F6			SS304 / SS316	SS304 / SS316
10	Stud	A193 B7	A320 L7	A193 B16	A193 B8	A193 B8
11	Nut	A194 2H	A194 4	A194 4	A194 4	A194 8

## SC Series Check Valves

### DIMENSIONS (CLASS 900 AND 1500)

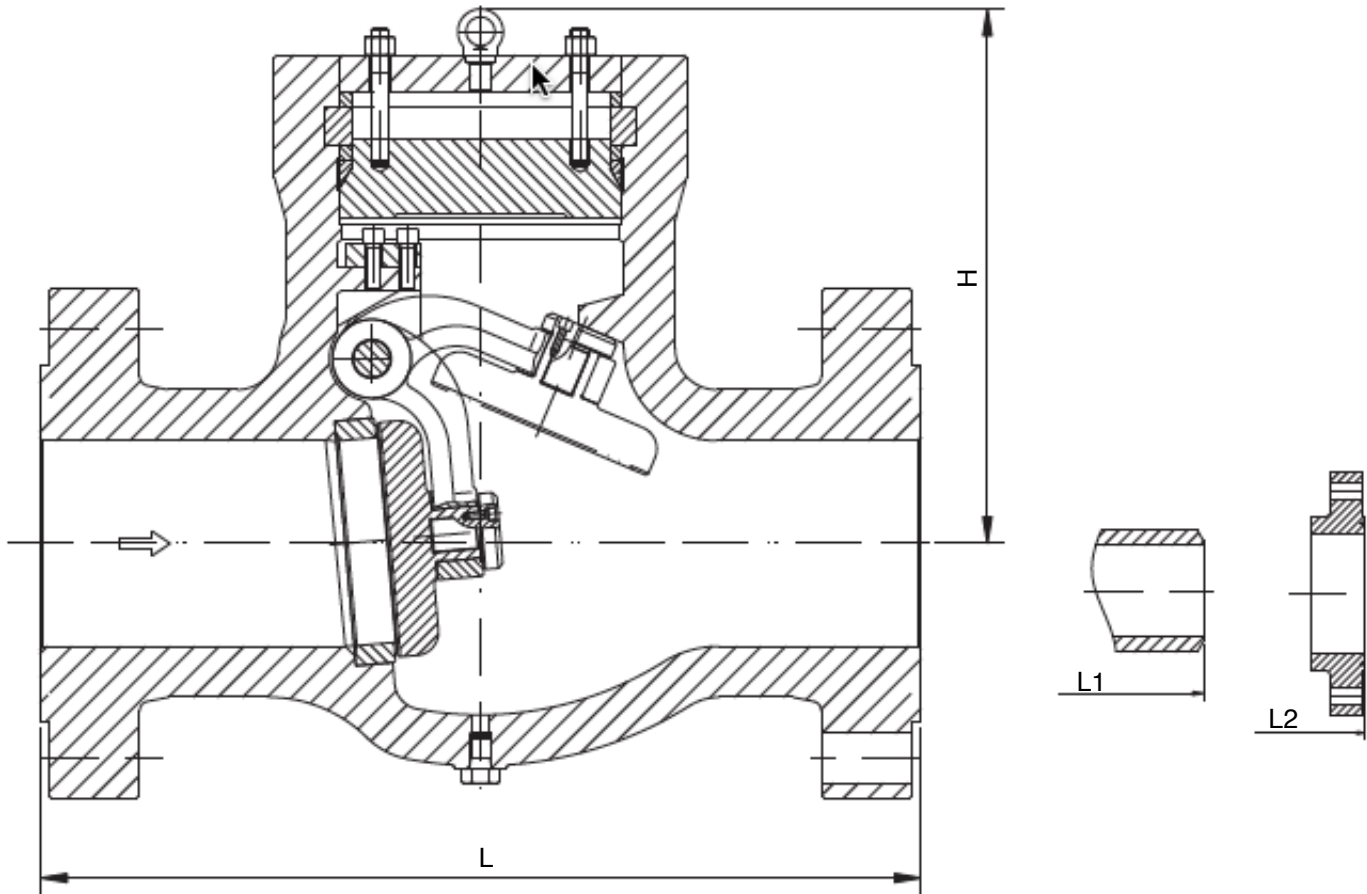


Size	CLASS 900									
Inches	2	2-1/2	3	4	6	8	10	12	14	16
L1 (BW)	8.50	10.00	12.00	14.00	20.00	26.00	31.00	36.00	39.00	43.00
L (RF)	14.50	16.50	15.00	18.00	24.00	29.00	33.00	38.00	40.5	44.5
L2 (RTJ)	14.62	16.62	15.12	18.12	24.12	29.12	33.12	38.12	40.38	44.88
H	9.50	9.50	10.00	13.38	15.75	18.12	21.62	24.00	27.00	29.50
WT (BW)	22	34	38	71	176	485	761	1125	1345	1490
WT (RF/RTJ)	44	55	61	116	255	630	940	1433	1710	1820

Size	CLASS 1500									
Inches	2	2-1/2	3	4	6	8	10	12	14	
L1 (BW)	8.50	10.00	12.00	16.00	22.00	28.00	34.00	39.00	42.00	
L (RF)	14.50	16.50	18.50	21.50	27.75	32.75	39.00	44.50	49.50	
L2 (RTJ)	14.62	16.62	18.62	21.62	28.00	33.12	39.38	45.12	50.25	
H	9.50	9.50	11.88	15.38	18.00	20.62	24.00	27.00	30.00	
WT (BW)	22	37	45	78	245	530	815	1213	1555	
WT (RF/RTJ)	44	61	110	155	378	675	1160	1710	2315	

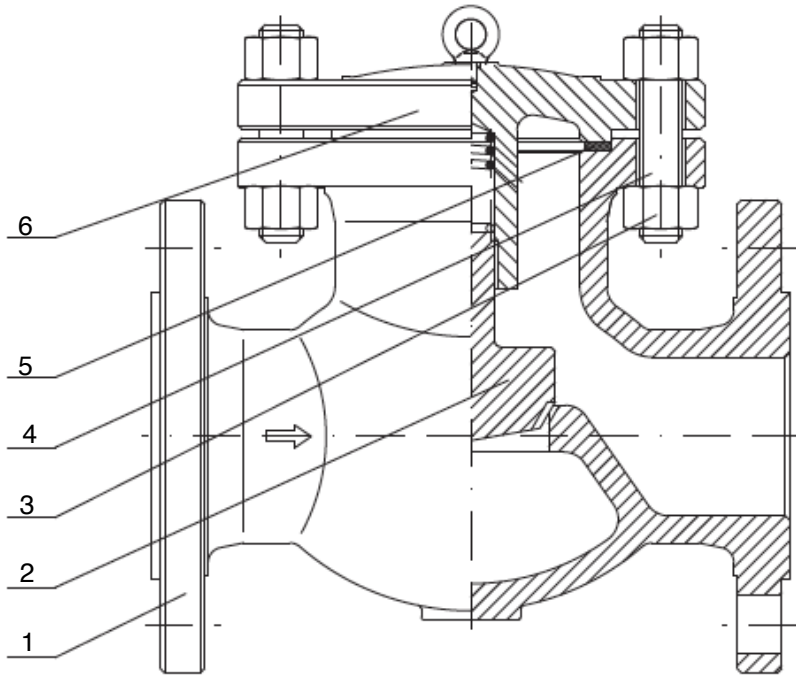
## SC Series Check Valves

### DIMENSIONS (CLASS 2500)



Size	CLASS 2500							
Inches	2	2-1/2	3	4	6	8	10	12
L1 (BW)	11.00	13.00	14.50	18.00	24.00	30.00	36.00	41.00
L (RF)	17.75	20.00	22.75	26.50	36.00	40.25	50	56
L2 (RTJ)	17.88	20.50	23.00	26.88	36.50	40.88	50.88	56.88
H	10.25	10.25	13.75	16.12	18.88	22.38	25.25	32.00
WT (BW)	55	78	95	182	300	630	825	1580
WT (RF/RTJ)	93	130	170	315	618	1125	1760	2910

## CAST STEEL LIFT CHECK VALVE (BOLT COVER)



### Applicable Standards

- Design and Manufacture: BS 1868
- Face to Face and End to End: ASME B16.10
- Flanged End: ASME B16.5
- But Welded End: ASME B16.25
- Test & Inspection: API 598

### Main Materials

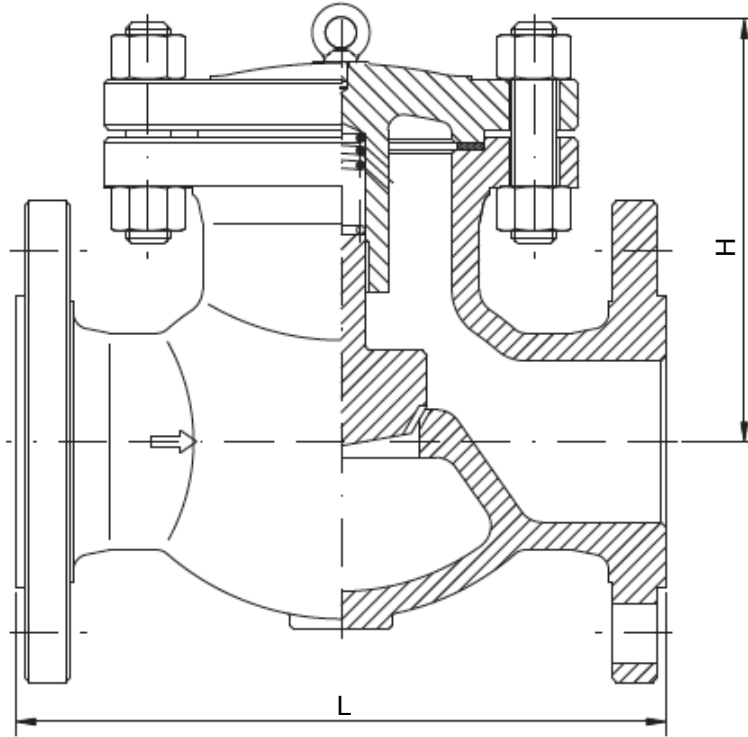
- WCB, LCB, WC6, WC9, CF8, CF8M, CF3, CF3M, A995 4A, A995 5A, A995 6A, Alloy 20, Monel, Inconel

No	Part Name	Material				
		WCB	LCB	WC6	CF8 (M)	CF3 (M)
1	Body	A216 WCB+13Cr	A352 LCB+13Cr	A217 WC6+STL	A351 CF8 (M)+STL	A351 CF3 (M)+STL
2	Disc	A216 WCB+13Cr	A352 LCB+13Cr	A217 WC6+STL	A351 CF8 (M)+STL	A351 CF3 (M)+STL
3	Cover Stud	A193 B7	A320 L7	A193 B16	A193 B8(M)	A193 B8(M)
4	Cover Nut	A194 2H	A194 4	A194 4	A194 8(M)	A194 8(M)
5	Gasket	SS304 + Graphite / SS316 + Graphite				
6	Cover	A216WCB	A352 LCB	A217 WC6	A351 CF8(M)	A351 CF3(M)



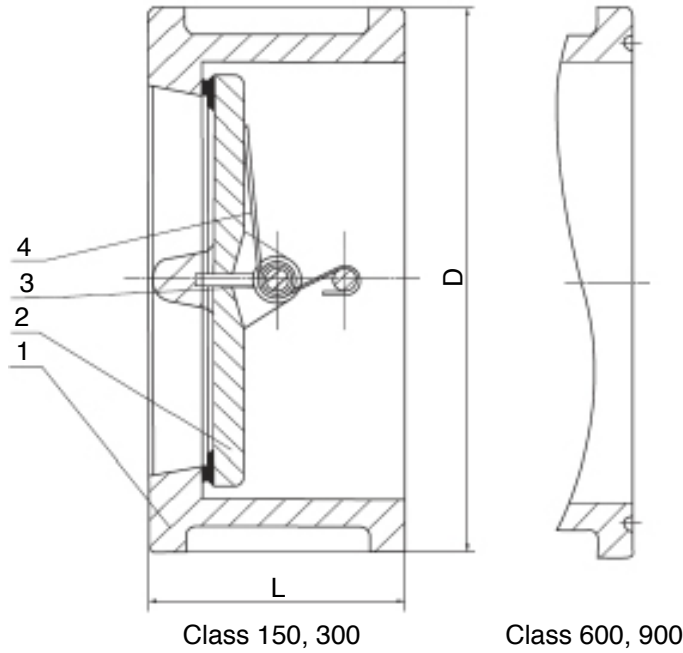
## SC Series Check Valves

### DIMENSIONS (CLASS 150 ~ 900)



Size	CLASS 150							
Inches	2	2-1/2	3	4	6	8	10	12
L	8.00	8.50	9.49	11.5	14.0	19.5	24.5	27.5
H	6.50	6.89	7.48	8.46	10.4	12.6	14.4	16.3
WT	33	60	46	68	88	150	309	397
Size	CLASS 300							
Inches	2	2-1/2	3	4	6	8	10	12
L	10.5	11.5	12.5	14.0	12.8	22.0	24.5	28.0
H	6.89	8.34	9.5	10.24	10.43	16.22	18.1	22.4
WT	37	44	55	82	179	291	412	572
Size	CLASS 600							
Inches	2	2-1/2	3	4	6	8	10	12
L	11.5	13.0	14.0	17.0	22.0	26.0	31.0	33.0
H	4.72	5.5	6.3	7.87	8.86	18.11	22.44	25.0
WT	37	50	66	93	212	375	750	1135
Size	CLASS 900							
Inches	2	2-1/2	3	4	6			
L	14.49	16.5	15.0	18.0	24.0			
H	9.84	11.0	11.4	13.2	20.0			
WT	55	64	110	187	485			

# CAST STEEL DUAL PLATE CHECK VALVE WAFER TYPE DUAL PLATE CHECK VALVE



### Technical Specification

<b>Design Standard</b>	<b>API 594</b>
<b>Face to face</b>	API 594
<b>Flange Ends</b>	ASME B16.5
<b>Test &amp; Inspection</b>	API 598

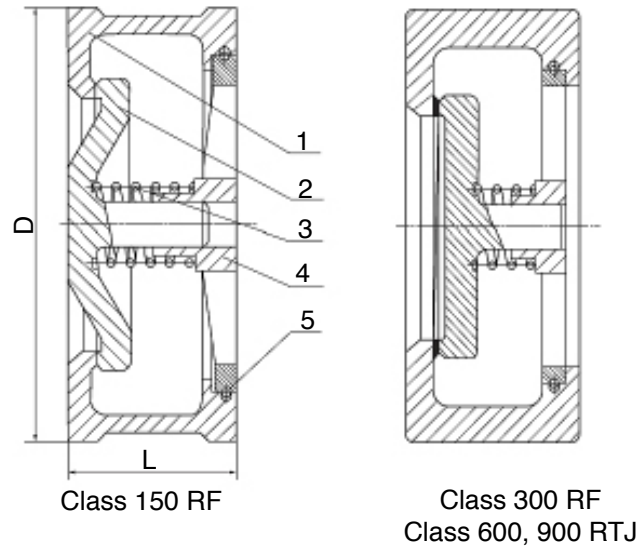
Notes: the dimensions of end connections can be designed as per customers' requirements

### Parts & Materials List

No.	Parts	Material
1	Body	ASTM A216-WCB, ASTM A352-LCB, ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
2	Disc	ASTM A216-WCB, ASTM A352-LCB, ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
3	Pin	AISI 9260, AISI 6150, ASTM A182-F304, F316, F321, F304L, F316L
4	Spring	ASTM A182-F6a, ASTM A182-F22, ASTM A182-F304, F316, F321, F304L, F316L

Size	CLASS 150													
Inches	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
8.7L	2.36	2.64	2.87	2.87	3.39	3.86	5.00	5.75	7.13	7.24	7.52	7.99	8.62	8.74
H4.06	4.06	4.80	5.31	6.81	7.72	8.74	10.98	13.35	16.10	17.72	20.24	21.61	23.86	28.23
WT	4.41	7.05	8.8	13	20	27	49	84	119	177	260	463	529	904
Size	CLASS 300													
Inches	2	2-1/2	3	4	5	6	8	10	12	14	16			
L	2.36	2.64	2.87	2.87	3.39	3.86	5.00	5.75	7.13	8.74	9.13			
H	4.33	5.08	5.83	7.09	8.46	9.84	12.09	14.21	16.61	19.09	21.22			
WT	7.72	11	15	22	41	42	73	119	194	282	373			
Size	CLASS 600													
Inches	2	2-1/2	3	4	5	6	8	10	12	14	16			
L	2.36	2.64	2.87	3.11	4.13	5.35	6.50	8.39	9.02	10.75	12.01			
H	4.33	5.08	5.83	7.56	9.45	10.43	12.56	15.71	17.95	19.25	22.13			
WT	8	11	15	27	50	77	99	170	243	298	359			
Size	CLASS 900													
Inches	2	2-1/2	3	4	6	8								
L	2.76	3.27	3.27	4.02	6.26	8.11								
H	5.59	6.46	6.57	8.07	11.34	14.09								
WT	14	20	31	52	95	124								

## SC Series Check Valves



### Technical Specification

<b>Design Standard</b>	<b>API 594</b>
<b>Face to face</b>	API 594
<b>Flange Ends</b>	ASME B16.5
<b>Test &amp; Inspection</b>	API 598

### Parts & Materials List

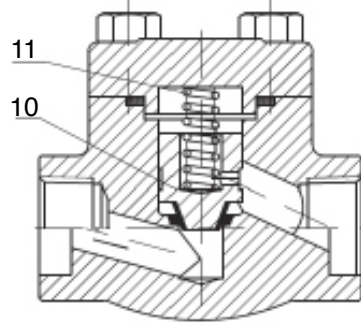
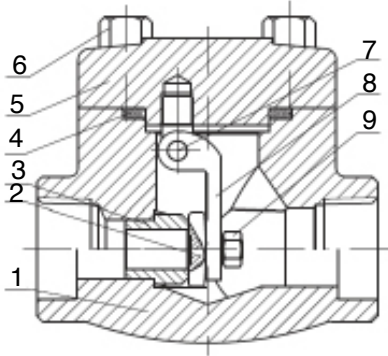
No.	Parts	Material
1	Body	ASTM A216-WCB, ASTM A352-LCB, ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
2	Disc	ASTM A216-WCB, ASTM A352-LCB, ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
3	Spring	AISI 9260, AISI 6150, ASTM A182-F304, F316, F321, F304L, F316L
4	Plate	ASTM A216-WCB, ASTM A350-LCB, ASTM A351-CF8, CF8M, CF8C, CF3, CF3M
5	Lock Ring	AISI 9260, AISI 6150, ASTM A182-F304, F316, F321, F304L, F316L

Size	CLASS 150										
Inches	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
L	0.63	0.75	0.87	1.24	1.24	1.57	1.81	1.97	2.36	3.65	4.17
H	7.9	2.24	2.60	3.35	3.35	4.06	4.80	5.31	6.81	7.72	8.74
WT	0.44	0.66	0.99	1.76	1.76	2.65	5.07	6.61	15	26	33
Size	CLASS 300										
Inches	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
L	0.98	1.24	1.40	1.57	1.77	2.20	2.48	2.80	3.15	4.33	4.92
H	2.09	2.56	2.83	3.19	3.74	4.33	5.08	5.83	7.09	8.46	9.84
WT	0.51	0.79	1.15	1.65	2.43	4.30	6.4	12	20	33	44
Size	CLASS 600										
Inches	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
L	0.98	1.24	1.40	1.57	1.77	2.20	2.48	2.80	3.15	4.33	4.92
H	2.09	2.56	2.83	3.19	3.74	4.33	5.08	5.83	7.56	9.45	10.43
WT	0.55	0.84	1.21	1.76	2.65	4.41	4.41	13.23	22.	28	49
Size	CLASS 900										
Inches	1/2	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6
L	0.98	1.24	1.40	1.57	1.77	2.20	2.48	2.80	3.15	4.33	4.92
H	2.48	2.72	3.07	3.46	3.86	5.59	6.46	6.57	8.07	9.72	11.34
WT	0.66	0.88	1.32	2.20	3.31	5.51	8.82	18	29	44	55

**FORGED STEEL CHECK VALVE**



Welded Bonnet



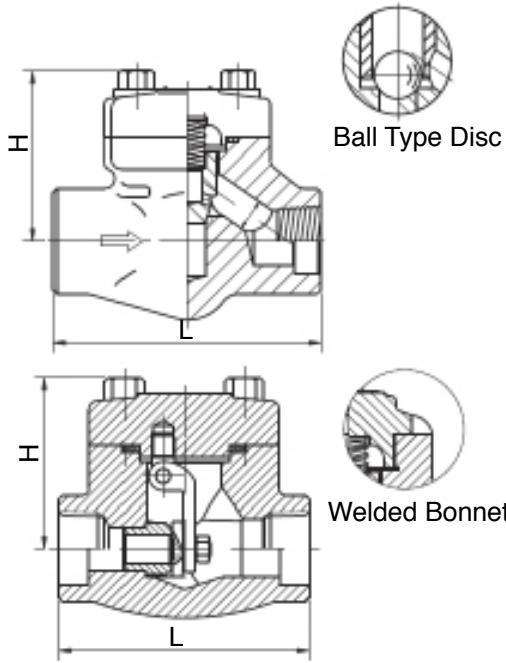
**Applicable Standards**

- Design and Manufacture: API 602, BS5352, ASME B16.34
- Connection End:  
 Socket Weld End (SW): ASME B16.11  
 Threaded End (NPT): ASME B1.20.1  
 Butt Weld End (BW): ASME B16.25  
 Flange End (RT/RTJ): ASME B16.5
- Test & Inspection: API 602, API 598
- Design Description: Bolted Bonnet (BB), Welded Bonnet (WB)
- Main Materials: A105, LF2, F5, F11, F22, 304(L), 316(L), F347, F321, F51, Alloy 20, Monel

No	Part Name	Material					
		A105	LF2	F11	F304(L)	F316(L)	F51
1	Body	A105	LF2	F11	F304(L)	F316(L)	F51
2	Disc	F6a	F6A	F6A+STL	F304(L)	F316(L)	F51
3	Seat	410	410	410+STL	304(L)	316(L)	F51
4	Gasket	304 + Graphite			304+Graphite	316(L)+Graphite	
5	Bonnet	A105	LF2	F11	F304(L)	F316(L)	F51
6	Bolt	B7	L7	B16	B8(M)	B8(M)	B8M
7	Pin	410			304(L)	316(L)	F51
8	Hinge	304			304(L)	316(L)	F51
9	Nut	194 2H			8	8M	8M
10		AA316					

# SC Series Check Valves

## CL800



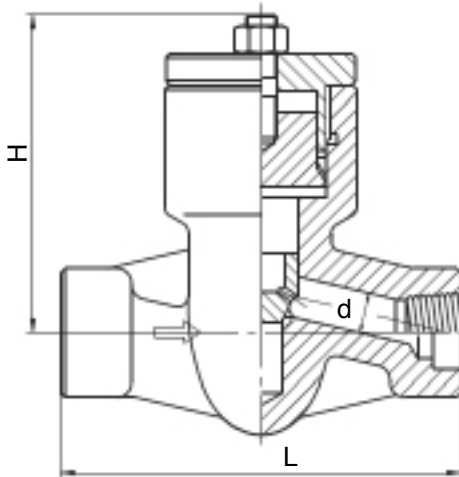
Size NPS		R.P.	1/2	3/4	1	1-1/4	1-1/2	2	
		F.P.	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Face to Face	Lift Type	L	3.11	3.62	4.37	4.72	5.98	6.77	8.66
	Swing Type		3.11	3.62	4.37	4.72	4.72	5.51	7.01
Height	Lift Type	H	2.40	2.40	3.07	3.31	4.06	4.65	5.20
	Swing Type		2.40	2.40	3.07	3.31	3.98	4.65	5.30
Flow Diameter	Lift Type	d	2.40	2.40	3.07	3.31	4.06	4.65	5.20
	Swing Type		2.40	2.40	3.07	3.31	3.98	4.65	5.20
Weight	Lift Type		3.3	3.8	7.3	9.3	14	23	28
	Swing Type		3.3	3.8	7.3	9.3	11	19	24

Note: Bolt Bonnet / Weld Bonnet

Size NPS		R.P.	1/2	3/4	1	1-1/4	1-1/2	2
		F.P.	3/8	1/2	3/4	1	1-1/4	1-1/2
Face to Face	Lift Type	L	3.62	4.37	4.72	5.98	6.77	8.66
	Swing Type		3.62	4.37	4.72	4.72	5.51	7.01
Height	Lift Type	H	3.07	3.07	3.31	4.06	4.65	5.20
	Swing Type		3.07	3.07	3.31	3.98	4.72	5.24
Flow Diameter	Lift Type	d	0.41	0.53	0.67	0.87	1.10	1.34
	Swing Type		0.41	0.53	0.71	0.91	1.14	1.42
Weight	Lift Type		7.5	7.3	9.3	14	23	28
	Swing Type		7.5	7.3	9.3	11	19	24

Note: Pressure Seal Bonnet

## CL900~1500; CL2500



Size NPS		R.P.	1/2	3/4	1	1-1/4	1-1/2	2
Face to Face	CL900-CL1500	L	5.51	5.51	5.51	7.01	7.01	8.50
	CL2500		7.32	7.32	7.32	9.13	9.13	10.98
Height	CL900-CL1500	H	4.61	4.61	4.61	5.98	5.98	7.68
	CL2500							
Flow Port Diameter	Lift Type	d	0.41	0.53	0.71	0.87	1.10	1.34
Weight	CL900-CL1500		17	19	22	33	40	45
	CL2500		22	25	33	51	58	86

## HOW TO ORDER

Series	Body Material	Trim Material	End Connections
<b>SC</b>	<b>22</b> Carbon Steel	<b>SS</b> Stainless Steel	<b>F150</b> ANSI 150
	<b>33</b> 316 CF8M	<b>22</b> Chrome Trim	<b>F300</b> ANSI 300
	<b>00</b> 304 CF8	<b>#1</b> 410 trim	<b>F600</b> ANSI 600
	<b>44</b> Alloy	<b>#4</b> Hard 410	<b>SW</b> Socket Weld
	<b>88</b> LF2/LCB	<b>#8</b> 410 Hard faced	<b>PT</b> Female NPT
	<b>99</b> Duplex		<b>B1</b> Butt Weld Sch 10
			<b>B4</b> Butt Weld Sch 40
			<b>B8</b> Butt Weld Sch 80
			<b>E1</b> Extended Butt Weld Sch 10
			<b>E4</b> Extended Butt Weld Sch 40
			<b>E8</b> Extended Butt Weld Sch 80
			<b>E6</b> Extended Butt Weld Sch 160
			<b>TW</b> Female NPT X Socket Weld
			<b>ES</b> Extended Socket Weld

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