

# CHECK VALVE



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**CWT Valve**  
**CWT VALVE INDUSTRIES INC.**

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## CWT FIGURE NUMBER SYSTEM

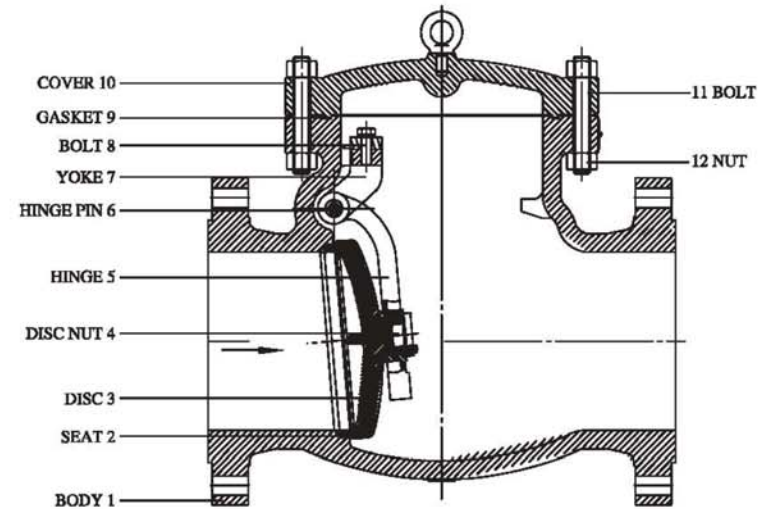
<b>1. VALVE TYPE</b>	CSC=SWING CHECK CLC=LIFT CHECK	CBC=BALL CHECK VALVE CLD=LUG DUAL PLATE CHECK	CWD=WAFER DUAL PLATE CHECK CWS=WAFER SINGLE PLATE CHECK
<b>2. SIZE</b>	25=1/4" 41=1 1/4 50=1/2" 75=3/4" 01=1" 15=1 1/2" 02=2" 21=2 1/2" 03=3"	04=4" 05=5" 06=6" 08=8" 10=10" 12=12" 14=14" 16=16" 18=18"	20=20" 24=24" 26=26" 28=28" 30=30" 32=32" 36=36" 40=40" 42=42"
<b>3. PRESSURE</b>	01=ANSI CLASS 150 03=ANSI CLASS 300 06=ANSI CLASS 600 08=ANSI CLASS 800		09=ANSI CLASS 900 15=ANSI CLASS 1500 25=ANSI CLASS 2500 00=ANSI CLASS 125
<b>4. ENDS</b>	RF=RAISED FACE FLANGED JF=RTJ FLANGED RW=RAISED FACE FLANGEDxWELD END JR=RTJxRAISED FACE FLANGED JW=RTJxWELD END SW=SOCKET WELD NT=NPT FEMALE		BW=BUTT WELD FF=FLAT FACE SN=SWxNPT WR=WAFER RF LR=LUGGED RF
<b>5. CONSTRUCTION</b>	B=BOLTED BONNET W=WELDED BONNET S=PRESSURE SEAL BONNET		
<b>6. BODY MATERIAL</b>	01=WCB / A105 02=LCC / LP2 03=CF8M / F316 04=DUPLEX F51 05=DUPLEX F55 06=A105N 07=WCB+ENP / A105+ENP 08=DUCTILE IRON 09=CF8 / F304	10=WC6 / F11 11=C5 / F5 12=CF3 / F304L 13=CF3M / F316L 14=MONEL 15=CN7M (ALLOY 20) 16=C12 / F9 17=WC9 / F22 18=CAST IRON	19=WCC 20=LCB 21=C12A / F91 22=F12 23=F321 24=WC1 25=BRONZE (B61 / B62) 26=F60 27=HASTELLOY

## CWT FIGURE NUMBER SYSTEM

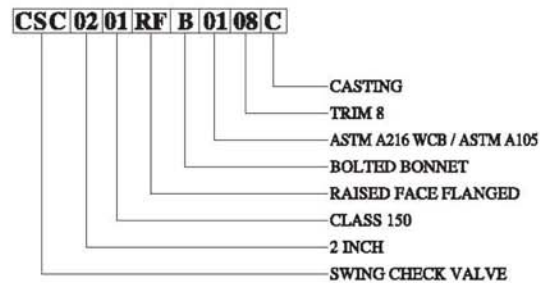
7. TRIM MATERIAL	TRIM NUMBER#	WEDGE FACE	SEAT FACE	STEM
	01=13CR	13CR	13CR	13CR
	02=304SS	304SS	304SS	304SS
	05=STL / STL	STL	STL	13CR
	08=13CR / STL	13CR	STL	13CR
	10=316SS	316SS	316SS	316SS
	12=316 / STL	316SS	STL	316SS
	13=ALLOY 20	ALLOY 20	ALLOY 20	ALLOY 20
	14=ALLOY 20 / STL	ALLOY 20	STL	ALLOY 20
	15=STL / STL	STL	STL	304SS
	16=STL / STL	STL	STL	316SS
	19=MONEL	MONEL	MONEL	MONEL
	20=BRONZE	BRONZE	BRONZE	13CR
	23=304SS / STL	304SS	STL	304SS
	27=316L / 316L	316LSS	316LSS	316LSS
	28=316L / STL	316LSS	STL	316LSS
	29=STL / STL	STL	STL	316LSS
	30=F55 / STL	F55	STL	F55

8. MATERIAL TYPE C=CASTING F=FORGED

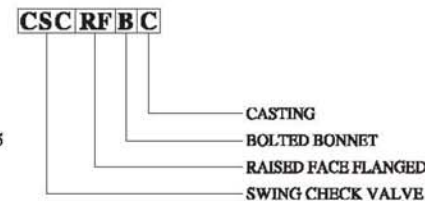
## CAST STEEL SWING CHECK VALVE



### 1. PART NUMBER EXAMPLE:



### 2. SERIES NUMBER EXAMPLE:



### DESIGN FEATURES:

- BOLTED COVER DESIGN
- SWING DISC: DISC IS FASTENED SECURELY TO DISC HANGER WITH A LOCK NUT AND COTTER PIN
- SEAT TYPE: RENEWABLE THREADED SEAT, WELDED SEAT OR INTEGRAL SEAT
- CLASS150-CLASS300: HALF-GROOVE SPIRAL WOUND GASKET; CLASS600: FULL-GROOVE SPIRAL WOUND GASKET; CLASS900: OCTAGONAL RING GASKET AND OVEL ORAL RING GASKET

## CAST STEEL SWING CHECK VALVE

### STANDARDS:

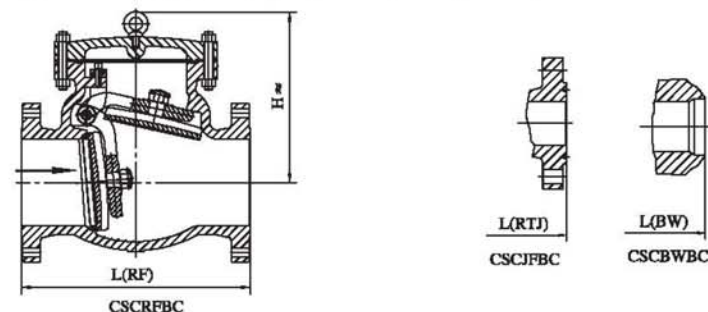
• DESIGN AND MANUFACTURE:	BS 1868 / ASME B16.34 / API 6D
• FACE TO FACE DIMENSIONS:	ASME B16.10
• FLANGE ENDS DIMENSIONS:	
NPS 1/2"-24"	ASME B16.5
NPS 26"-36"	ASME B16.47
• BW ENDS DIMENSIONS:	ASME B16.25
• PRESSURE-TEMPERATURE RATINGS:	ASME B16.34
• NORMAL PRESSURE:	CLASS 150-1500
• NORMAL DIAMETER:	NPS 2"-36"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	LOW TEMPERATURE	STAINLESS STEEL
1	BODY	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
2	SEAT	ASTM A105	ASTM A350 LF2	ASTM A182 F316
3	DISC	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
4	DISC NUT	CARBON STEEL	STAINLESS STEEL	316 SS
5	HINGE	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
6	HINGE PIN	ASTM A276 410	ASTM A276 304	ASTM A276 316
7	YOKE	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
8	BOLT	CARBON STEEL	STAINLESS STEEL	316 SS
9	GASKET	304SS/316SS+GRAPHITE / SOFT STEEL / 304SS/316SS METAL RING		
10	COVER	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
11	BOLT	ASTM A193 B7/B7M	ASTM A320 L7/L7M	ASTM A193 B8M
12	NUT	ASTM A194 2H/2HM	ASTM A194 7/7M	ASTM A194 8M
	SEALING FACE OVERLAY	API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

## CAST STEEL SWING CHECK VALVE



### CLASS 150

NPS	in	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24	30	36
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	750	900
L(RF)	mm	203	216	241	292	330	356	495	622	699	787	864	978	978	1295	1524	1956
L(BW)	mm	203	216	241	292	330	356	495	622	699	787	864	978	978	1295	1524	1956
L(RTJ)	mm	216	229	254	305	343	368	508	635	711	800	876	991	991	1308	1537	1968
H	mm	150	168	180	204	230	275	340	355	410	480	556	620	680	740	980	1100
WT(RF)	Kg	17	23	33	44	69	78	137	207	279	428	555	775	835	1300	1620	-
WT(BW)	Kg	14	26	24	34	57	63	122	175	229	368	483	685	720	1150	1450	-

### CLASS 300

NPS	in	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24	30
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	750
L(RF)	mm	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1594
L(BW)	mm	267	292	318	356	400	445	533	622	711	838	864	978	1016	1346	1594
L(RTJ)	mm	282	308	333	371	416	460	549	638	727	854	879	994	1035	1368	1619
H	mm	180	185	210	245	275	320	350	385	430	500	575	635	685	795	1000
WT(RF)	Kg	21	24	39	51	80	90	175	210	286	700	774	1000	1273	1650	1819
WT(BW)	Kg	15	17	30	40	60	68	145	180	260	490	640	850	1100	1400	1700

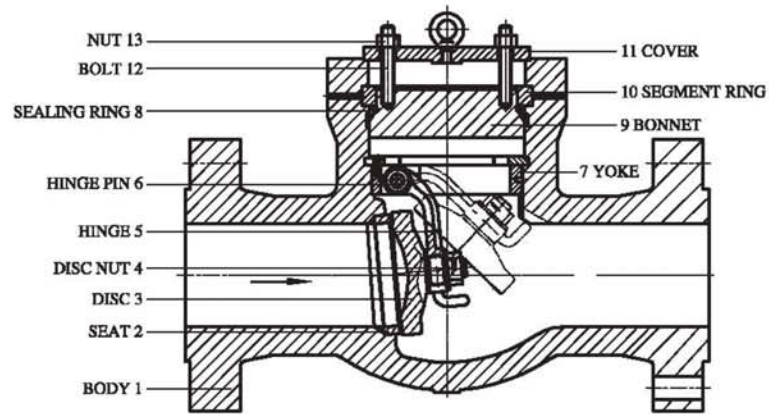
### CLASS 600

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(RF)	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L(BW)	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L(RTJ)	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H	mm	197	207	231	281	362	437	490	528	572	660	720	746	960
WT(RF)	Kg	34	45	63	114	207	387	580	790	892	1200	1600	2420	3150
WT(BW)	Kg	26	37	50	98	145	310	490	670	752	1020	1350	2050	2720

### CLASS 900

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16
DN	mm	50	65	80	100	150	200	250	300	350	400
L(RF)	mm	368	419	381	457	610	737	838	965	1029	1130
L(BW)	mm	368	419	381	457	610	737	838	965	1029	1130
L(RTJ)	mm	371	422	384	460	613	740	841	968	1038	1140
H	mm	240	260	280	320	382	530	560	590	630	700
WT(RF)	Kg	69	93	85	145	310	500	772	1080	1380	1810
WT(BW)	Kg	60	78	70	120	265	385	600	860	1140	1510

## CAST STEEL PRESSURE SEAL BONNET SWING CHECK VALVE



### DESIGN FEATURES:

- PRESSURE SEAL BONNET (PSB) DESIGN
- SWING DISC: DISC IS FASTENED SECURELY TO DISC HANGER WITH A LOCK NUT AND COTTER PIN
- SEAT TYPE: WELDED SEAT OR INTERGAL SEAT

## CAST STEEL PRESSURE SEAL BONNET SWING CHECK VALVE

### STANDARDS:

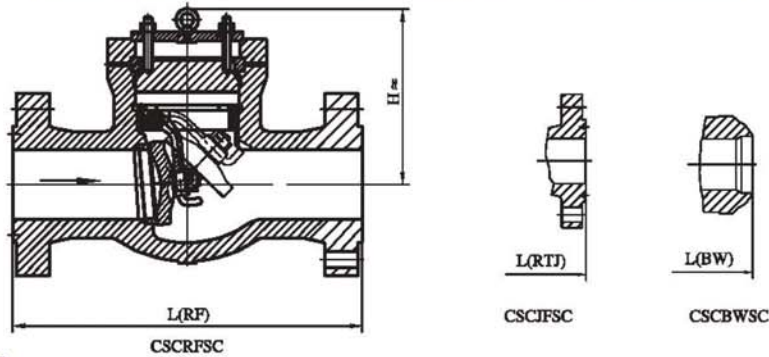
- DESIGN AND MANUFACTURE: BS 1868 / ASME B16.34 / API 6D
- FACE TO FACE DIMENSIONS: ASME B16.10
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"–24" ASME B16.5
  - NPS 26"–36" ASME B16.47
- BW ENDS DIMENSIONS: ASME B16.25
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 900–2500
- NORMAL DIAMETER: NPS 2"–24"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	ALLOY CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
2	SEAT	ASTM A105	ASTM A182 F11	ASTM A182 F316
3	DISC	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
4	DISC NUT	CARBON STEEL	STAINLESS STEEL	316 SS
5	HINGE	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
6	HINGE PIN	ASTM A276 410	ASTM A276 410	ASTM A276 316
7	YOKE	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
8	SEALING RING	AISI 1008	SS304L / SS316L	SS316 / SS316L
9	BONNET	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
10	SEGMENT RING	ASTM A276 410	ASTM A276 410	ASTM A276 316
11	COVER	ASTM A216 WCB	ASTM A217 WC6	ASTM A351 CF8M
12	BOLT	ASTM A193 B7/B7M	ASTM A193 B16	ASTM A193 B8M
13	NUT	ASTM A194 2H/2HM	ASTM A194 4	ASTM A194 8M
	SEALING FACE OVERLAY		API TRIMS AVAILABLE	

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

## CAST STEEL PRESSURE SEAL BONNET SWING CHECK VALVE



### CLASS 900

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(RF)	mm	368	419	381	457	610	737	838	965	1029	1130	1219	1321	1549
L(BW)	mm	216	254	305	356	508	660	787	914	991	1092	1219	1321	1549
L(RTJ)	mm	371	422	384	460	613	740	841	968	1038	1140	1232	1334	1568
H	mm	240	270	300	320	405	466	536	611	688	757	830	898	973
WT(RF)	Kg	26	30	39	80	175	385	525	600	870	1150	1430	1810	3100

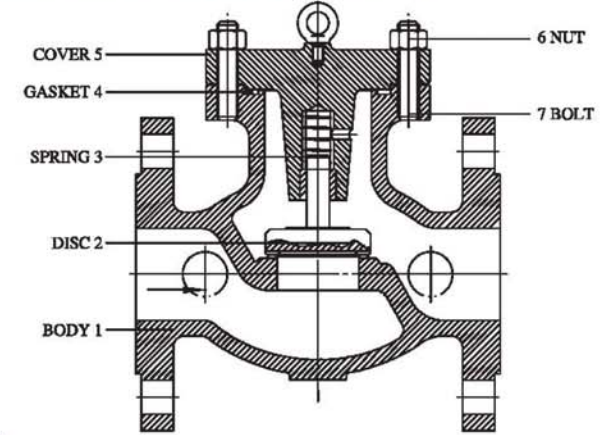
### CLASS 1500

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(RF)	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
L(BW)	mm	216	254	305	406	559	711	864	911	1067	1194	1537	1664	1943
L(RTJ)	mm	371	422	473	549	711	841	1000	1146	1276	1407	1559	1686	1972
H	mm	243	285	328	352	412	496	575	683	752	800	875	936	1033
WT(RF)	Kg	26	30	52	95	198	400	580	850	1100	1500	2230	2500	3100

### CLASS 2500

NPS	in	2	2-1/2	3	4	6	8	10	12
DN	mm	50	65	80	100	150	200	250	300
L(RF)	mm	451	508	578	673	914	1022	1270	1422
L(BW)	mm	279	330	368	457	610	762	914	1041
L(RTJ)	mm	454	514	584	683	927	1038	1292	1445
H	mm	243	285	328	352	412	496	575	683
WT(RF)	Kg	60	78	98	144	357	692	1066	1754

## CAST STEEL LIFT CHECK VALVE



### DESIGN FEATURES:

- BOLTED COVER DESIGN
- LIFT DISC
- INTEGRAL SEAT
- CLASS150-CLASS300: HALF-GROOVE SPIRAL WOUND GASKET; CLASS600: FULL-GROOVE SPIRAL WOUND GASKET
- ADOPT SPRING TO ASSIST RESETTING

### STANDARDS:

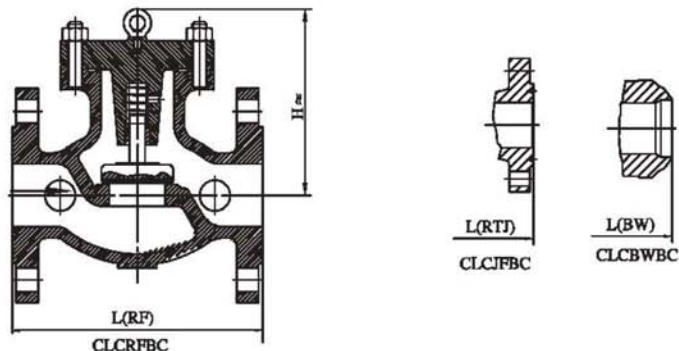
- DESIGN AND MANUFACTURE: BS 1868 / ASME B16.34 / API 6D
- FACE TO FACE DIMENSIONS: ASME B16.10
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"-24" ASME B16.5
- BW ENDS DIMENSIONS: ASME B16.25
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-600
- NORMAL DIAMETER: NPS 2"-24"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	LOW TEMPERATURE	STAINLESS STEEL
1	BODY	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
2	DISC	ASTM A105	ASTM A350 LF2	ASTM A182 F316
3	SPRING	STAINLESS STEEL / INCONEL X750		
4	GASKET	304SS/316SS+GRAPHITE / SOFT STEEL / 304SS/316SS METAL RING		
5	COVER	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
6	NUT	ASTM A194 2H/2HM	ASTM A194 7/7M	ASTM A194 8M
7	BOLT	ASTM A193 B7/B7M	ASTM A320 L7/L7M	ASTM A193 B8M
	SEALING FACE OVERLAY	API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

## CAST STEEL LIFT CHECK VALVE



### CLASS 150

NPS	in	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L(RF)	mm	203	216	241	292	356	406	495	622	699	787	914	978	978	1295
L(BW)	mm	203	216	241	292	356	406	495	622	699	787	914	978	978	1295
L(RTJ)	mm	216	229	254	305	368	419	508	635	711	800	927	991	991	1308
H	mm	150	168	180	204	230	275	340	355	410	480	556	620	680	740
WT(RF)	Kg	9	18	28	35	53	60	140	243	365	-	-	-	-	-
WT(BW)	Kg	6	13.5	19	29	45	50	100	198	315	-	-	-	-	-

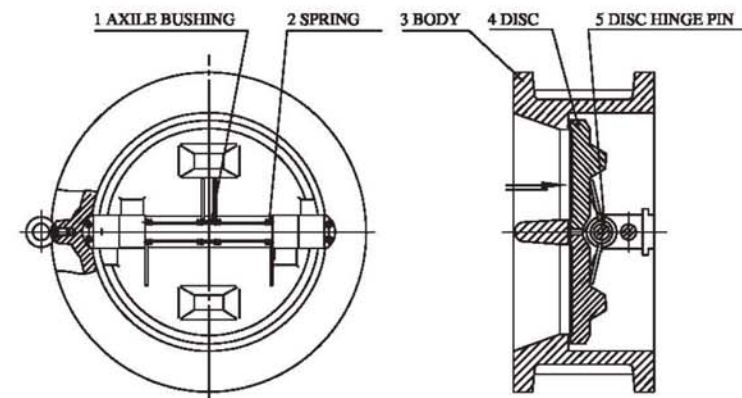
### CLASS 300

NPS	in	2	2-1/2	3	4	5	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600
L(RF)	mm	267	292	318	356	400	445	559	622	711	838	864	978	1016	1346
L(BW)	mm	267	292	318	356	400	445	559	622	711	838	864	978	1016	1346
L(RTJ)	mm	282	308	333	371	416	460	575	638	727	854	879	994	1035	1368
H	mm	180	185	210	245	275	320	350	385	430	500	575	635	685	795
WT(RF)	Kg	16	23	30	45	80	90	145	210	286	-	-	-	-	-
WT(BW)	Kg	13	16	22	38	60	68	115	180	260	-	-	-	-	-

### CLASS 600

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L(RF)	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L(BW)	mm	292	330	356	432	559	660	787	838	889	991	1092	1194	1397
L(RTJ)	mm	295	333	359	435	562	663	790	841	892	994	1095	1200	1407
H	mm	197	207	231	281	362	437	490	528	572	660	720	746	960
WT(RF)	Kg	28	41	60	95	185	312	-	-	-	-	-	-	-
WT(BW)	Kg	20	33	49	80	135	253	-	-	-	-	-	-	-

## WAFER DUAL PLATE CHECK VALVE



### STANDARDS:

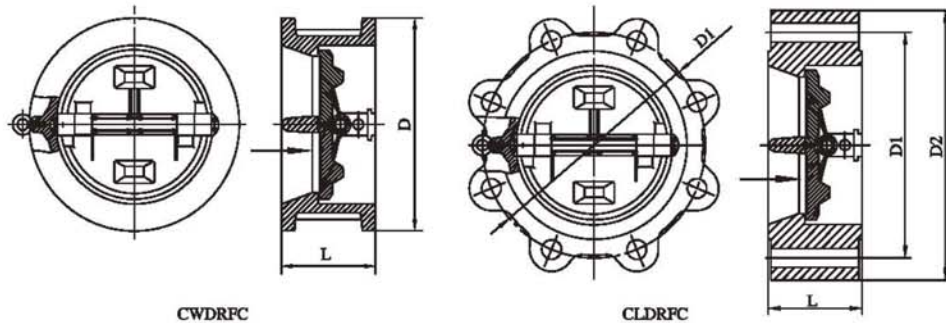
- DESIGN AND MANUFACTURE: API 594
- FACE TO FACE DIMENSIONS: API 594
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"-24" ASME B16.5
  - NPS 26"-48" ASME B16.47
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-2500
- NORMAL DIAMETER: NPS 2"-48"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	LOW TEMPERATURE	STAINLESS STEEL
1	AXILE BUSHING	STAINLESS STEEL	STAINLESS STEEL	SS316
2	SPRING	STAINLESS STEEL / INCONEL X750		
3	BODY	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
4	DISC	ASTM A216 WCB	ASTM A352 LCC	ASTM A351 CF8M
5	DISC HINGE PIN	ASTM A276 410	ASTM A276 304	ASTM A276 316
SEALING FACE OVERLAY		API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

### WAFER AND LUG DUAL PLATE CHECK VALVE



#### CLASS 150

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900	1050	1200
L	mm	60	67	73	73	98	127	146	181	184	191	203	219	222	305	368	432	524
D	mm	102	121	134	172	220	278	338	406	448	512	546	604	715	880	1046	1217	1382
D1	mm	120.7	139.7	152.4	190.5	241.3	298.5	362	431.8	476.3	539.8	577.9	635	749.3	914	1086	1257	1422
D2	mm	150	180	190	230	280	345	405	485	535	595	635	700	815	984	1168	1346	1511
WT(CW)	Kg	1.2	2.3	3	7	15	23	30	37	49	62	78	97	125	300	395	470	595

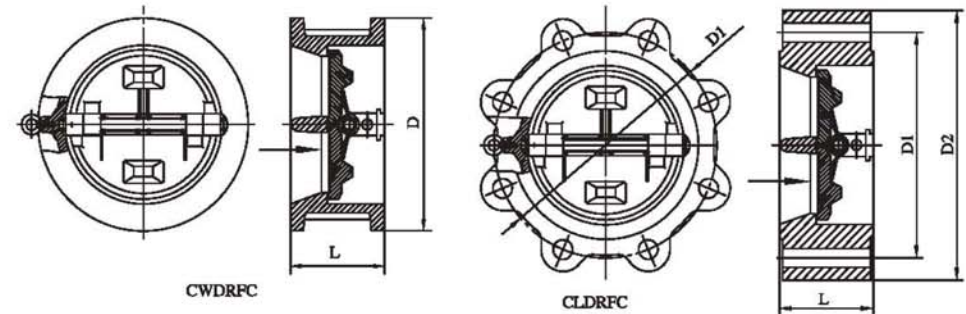
#### CLASS 300

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900	1050	1200
L	mm	60	67	73	73	98	127	146	181	222	232	264	292	318	368	483	568	629
D	mm	109	127	146	178	248	305	359	420	484	538	595	652	773	950	1115	1163	1322
D1	mm	127	149.2	168.3	200	269.9	330.2	387.4	450.8	514.4	571.5	628.6	685.8	812.8	997	1168	1207	1372
D2	mm	165	190	210	255	320	380	445	520	585	650	710	775	915	1092	1270	1289	1467
WT(CW)	Kg	2	2.9	5.5	9.5	20	25	32	39	52	67	82	102	135	321	400	515	611

#### CLASS 600

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24	30	36	42
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900	1050
L	mm	60	67	73	79	136	165	213	229	273	305	362	368	438	505	635	701
D	mm	109	128	147	192	265	318	398	455	490	563	610	680	788	969	1128	1218
D1	mm	127	149.2	168.3	215.9	292.1	349.2	431.8	489	527	603.2	654	723.9	838.2	1022	1194	1283
D2	mm	165	190	210	275	355	420	510	560	605	685	745	815	940	1130	1314	1403
WT(CW)	Kg	2.5	3.4	6.3	10.2	22	35	41	57	72	83	100	140	350	410	589	698

### WAFER AND LUG DUAL PLATE CHECK VALVE



#### CLASS 900

NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L	mm	70	83	83	102	159	206	241	292	356	384	451	451	495
D	mm	140	163	166	205	286	357	433	496	519	573	636	696	836
D1	mm	165.1	190.5	190.5	235	317.5	393.7	469.9	533.4	558.8	616	685.8	749.3	901.7
D2	mm	215	245	240	290	380	470	545	610	640	705	785	855	1040
WT(CW)	Kg	2.8	4	8.3	13	25	41	59	82	105	198	225	255	398

#### CLASS 1500

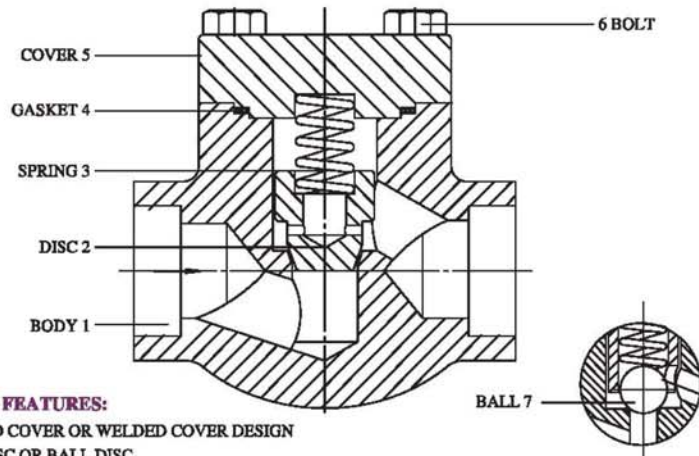
NPS	in	2	2-1/2	3	4	6	8	10	12	14	16	18	20	24
DN	mm	50	65	80	100	150	200	250	300	350	400	450	500	600
L	mm	70	83	83	102	159	206	248	305	356	384	468	533	559
D	mm	140	163	173	208	280	350	433	519	576	639	703	753	900
D1	mm	165.1	190.5	203.2	241.3	317.5	393.7	482.6	571.5	635	704.8	774.7	831.8	990.6
D2	mm	215	245	265	310	395	485	585	675	750	825	915	985	1170
WT(CW)	Kg	3.8	7	10.5	27.5	48.8	62	89	125	154	275	300	458	525

#### CLASS 2500

NPS	in	2	2-1/2	3	4	6	8	10	12
DN	mm	50	65	80	100	150	200	250	300
L	mm	70	83	86	105	159	206	254	305
D	mm	143	166	195	233	316	386	475	548
D1	mm	171.4	196.8	228.6	273	368.3	438.2	539.8	619.1
D2	mm	235	265	305	355	485	550	675	760
WT(CW)	Kg	7	11	21	46	65	97	155	325



## FORGED STEEL LIFT CHECK VALVE



### DESIGN FEATURES:

- BOLTED COVER OR WELDED COVER DESIGN
- LIFT DISC OR BALL DISC
- INTEGRAL SEAT
- SPIRAL WOUND GASKET
- ADOPT SPRING TO ASSIST RESETTING

### STANDARDS:

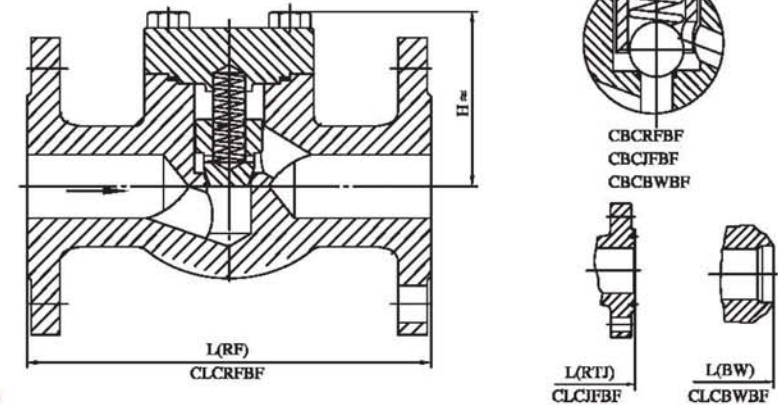
- DESIGN AND MANUFACTURE: BS 5352 / API 602
- FACE TO FACE DIMENSIONS: ASME B16.10 OR MANUFACTURER'S SPECIFICATION
- FLANGE ENDS DIMENSIONS: NPS 1/2"-2" ASME B16.5
- BW ENDS DIMENSIONS: ASME B16.25
- SOCKET WELD ENDS DIMENSIONS: ASME B16.11
- THREADED ENDS DIMENSIONS: ASME B1.20.1
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-1500
- NORMAL DIAMETER: NPS 1/2"-2"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	LOW TEMPERATURE	STAINLESS STEEL
1	BODY	ASTM A105	ASTM A350 LF2	ASTM A182 F316
2	DISC	ASTM A105	ASTM A350 LF2	ASTM A182 F316
3	SPRING	STAINLESS STEEL / INCONEL X750		
4	GASKET	304SS/316SS+GRAPHITE		
5	COVER	ASTM A105	ASTM A350 LF2	ASTM A182 F316
6	BOLT	ASTM A193 B7/B7M	ASTM A320 L7/L7M	ASTM A193 B8M
7	BALL			
	SEALING FACE OVERLAY	API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

## FORGED STEEL LIFT CHECK VALVE



### CLASS 150

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	108	117	127	140	165	203
L(BW)	mm	108	117	127	140	165	203
L(RTJ)	mm	-	-	140	153	178	216
H	mm	61	61	80	95	103	118
WT(RF)	Kg	2.56	3.37	4.37	8.17	8.94	12.64
WT(BW)	Kg	1.7	1.9	2.1	5.12	5.50	7.89

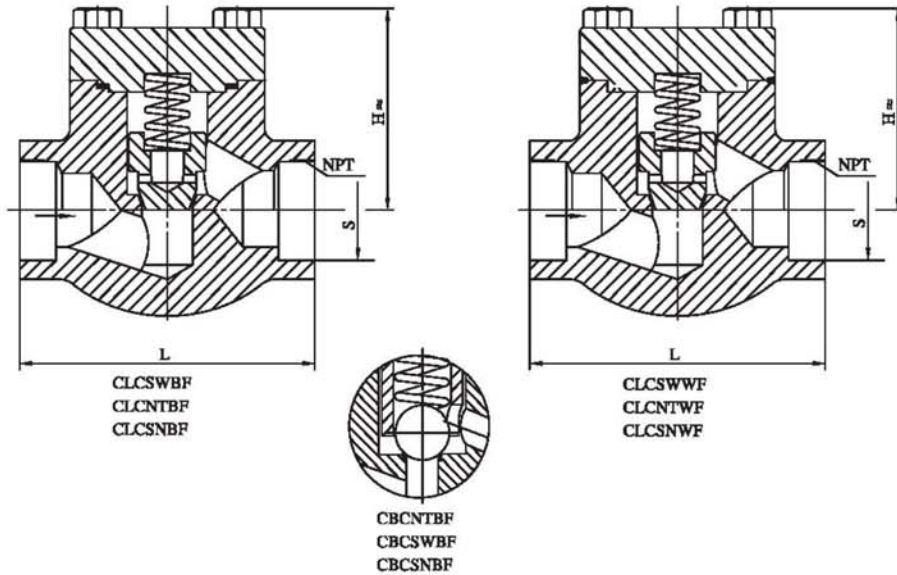
### CLASS 300

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	152	178	203	216	229	267
L(BW)	mm	152	178	203	216	229	267
L(RTJ)	mm	164	191	216	229	241	282
H	mm	61	61	80	95	103	118
WT(RF)	Kg	2.73	3.65	4.74	8.77	9.6	13.7
WT(BW)	Kg	1.9	2.1	3.0	5.12	6.6	7.85

### CLASS 600

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	165	191	216	229	241	292
L(BW)	mm	165	191	216	229	241	292
L(RTJ)	mm	163.5	191	216	229	241	295
H	mm	61	79	95	103	118	135
WT(RF)	Kg	3.0	4.0	5.83	9.47	10.1	15.6
WT(BW)	Kg	2.0	3.12	4.2	7.25	8.56	13.6

## FORGED STEEL LIFT CHECK VALVE



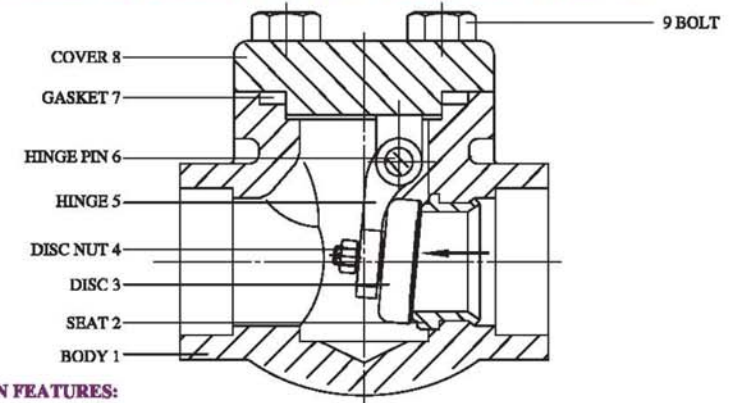
### CLASS 150-CLASS 800

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	79	92	111	120	152	172
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	61	65	79	95	103	118
WT	Kg	1.4	1.7	3.5	4.1	5.8	9.1

### CLASS 900-CLASS 1500

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	111	111	130	152	172	220
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	79	79	97	104	120	139
WT	Kg	3.5	3.7	5.5	6.0	9.5	13

## FORGED STEEL SWING CHECK VALVE



### DESIGN FEATURES:

- BOLTED COVER OR WELDED COVER DESIGN
- SWING DISC: DISC IS FASTENED SECURELY TO DISC HINGE WITH A LOCK NUT AND COTTER PIN
- EXPANDED SEAT
- SPIRAL WOUND GASKET

### STANDARDS:

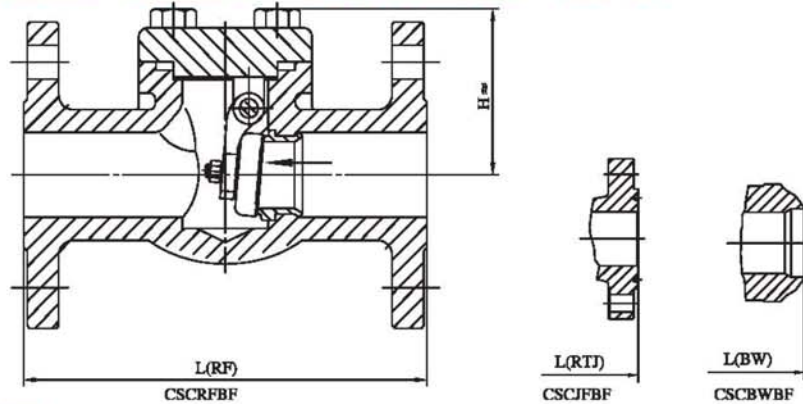
- DESIGN AND MANUFACTURE: BS 5352 / API 602
- FACE TO FACE DIMENSIONS: ASME B16.10 OR MANUFACTURER'S SPECIFICATION
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"-2" ASME B16.5
- BW ENDS DIMENSIONS: ASME B16.25
- SOCKET WELD ENDS DIMENSIONS: ASME B16.11
- THREADED ENDS DIMENSIONS: ASME B1.20.1
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-1500
- NORMAL DIAMETER: NPS 1/2"-2"

### BILL OF MATERIAL (PARTIAL)

ITEM	PART NAME	STANDARD	LOW TEMPERATURE	STAINLESS STEEL
1	BODY	ASTM A105	ASTM A350 LF2	ASTM A182 F316
2	SEAT	ASTM A105	ASTM A350 LF2	ASTM A182 F316
3	DISC	ASTM A105	ASTM A350 LF2	ASTM A182 F316
4	DISC NUT	CARBON STEEL	STAINLESS STEEL	316 SS
5	HINGE	ASTM A105	ASTM A350 LF2	ASTM A182 F316
6	HINGE PIN	ASTM A276 410	ASTM A276 304	ASTM A276 316
7	GASKET	304SS/316SS SPIRAL WOUND / SOLID 304SS/316SS METAL RING		
8	COVER	ASTM A105	ASTM A350 LF2	ASTM A182 F316
9	BOLT	ASTM A193 B7/B7M	ASTM A320 L7/L7M	ASTM A193 B8M
	SEALING FACE OVERLAY	API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

## FORGED STEEL SWING CHECK VALVE



### CLASS 150

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	108	117	127	140	165	203
L(BW)	mm	108	117	127	140	165	203
L(RTJ)	mm	-	-	140	153	178	216
H	mm	61	61	80	95	103	118
WT(RF)	Kg	2.56	3.37	4.37	8.17	8.94	12.64
WT(BW)	Kg	1.7	1.9	2.1	5.12	5.50	7.89

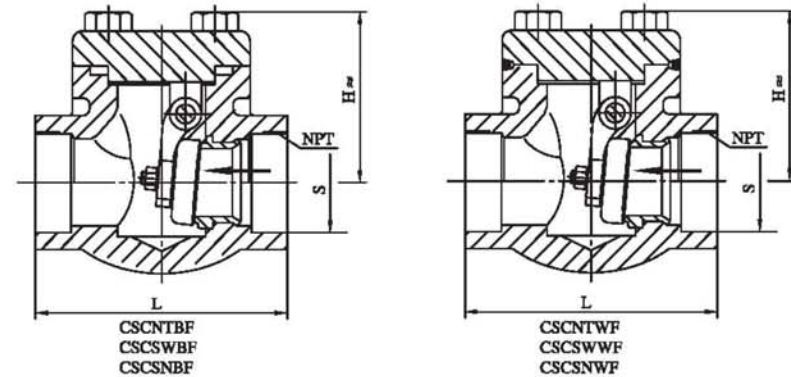
### CLASS 300

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	152	178	216	229	241	267
L(BW)	mm	152	178	216	229	241	267
L(RTJ)	mm	164	191	229	241	254	282
H	mm	61	61	80	95	103	118
WT(RF)	Kg	2.73	3.65	4.74	8.77	9.6	13.7
WT(BW)	Kg	1.9	2.1	3.0	5.12	6.6	7.85

### CLASS 600

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	165	191	216	229	241	292
L(BW)	mm	165	191	216	229	241	292
L(RTJ)	mm	163.5	191	216	229	241	295
H	mm	61	79	95	103	118	135
WT(RF)	Kg	3.0	4.0	5.83	9.47	10.1	15.6
WT(BW)	Kg	2.0	3.12	4.2	7.25	8.56	13.6

## FORGED STEEL SWING CHECK VALVE

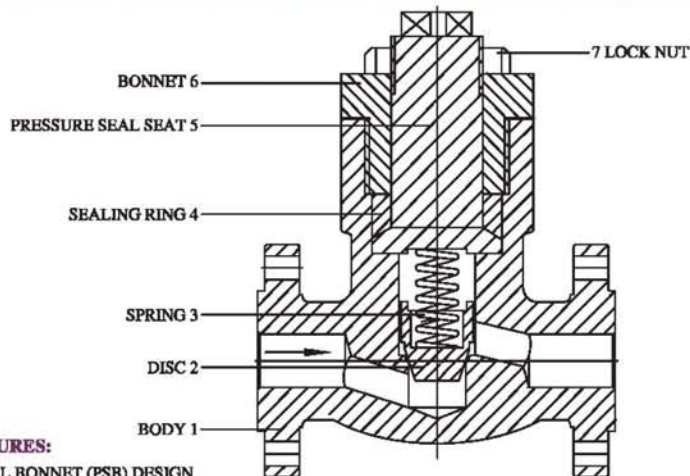


### CLASS 150-CLASS 800

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	79	92	111	120	152	172
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	61	65	79	95	103	118
WT	Kg	1.4	1.7	3.5	4.1	5.8	9.1

### CLASS 900-CLASS 1500

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	111	111	130	152	172	220
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	79	79	97	104	120	139
WT	Kg	3.5	3.7	5.5	6.0	9.5	13

**FORGED STEEL PRESSURE SEAL BONNET LIFT CHECK VALVE**

**DESIGN FEATURES:**

- PRESSURE SEAL BONNET (PSB) DESIGN
- LIFT DISC
- INTEGRAL SEAT
- ADOPT SPRING TO ASSIST RESETTING

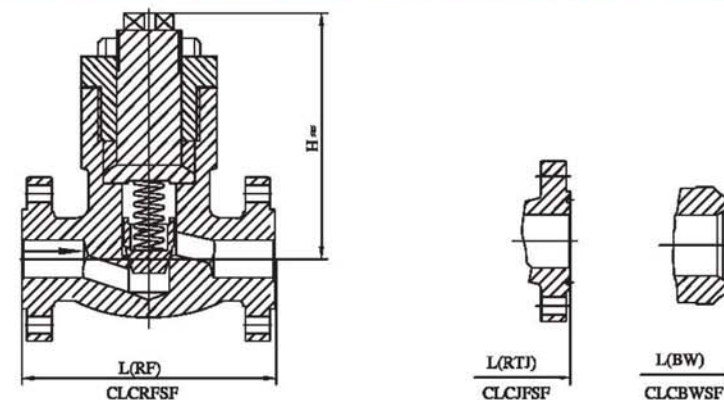
**STANDARDS:**

- DESIGN AND MANUFACTURE: BS 5352 / API 602
- FACE TO FACE DIMENSIONS: ASME B16.10 OR MANUFACTURER'S SPECIFICATION
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"-2" ASME B16.5
- BW ENDS DIMENSIONS: ASME B16.25
- SOCKET WELD ENDS DIMENSIONS: ASME B16.11
- THREADED ENDS DIMENSIONS: ASME B1.20.1
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-1500
- NORMAL DIAMETER: NPS 1/2"-2"

**BILL OF MATERIAL (PARTIAL)**

ITEM	PART NAME	STANDARD	ALLOY CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105	ASTM A182 F11	ASTM A182 F316
2	DISC	ASTM A105	ASTM A182 F11	ASTM A182 F316
3	SPRING	STAINLESS STEEL / INCONEL X750		
4	SEALING RING	AISI 1008/SS304L/SS316L		
5	PRESSURE SEAL SEAT	ASTM A105	ASTM A182 F11	ASTM A182 F316
6	BONNET	ASTM A105	ASTM A182 F11	ASTM A182 F316
7	BOLT	CARBON STEEL	CARBON STEEL	STAINLESS STEEL
	SEALING FACE OVERLAY	API TRIMS AVAILABLE		

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

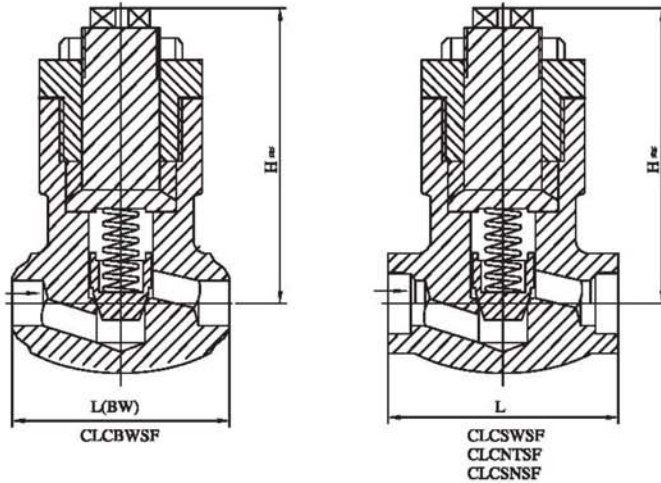
**FORGED STEEL PRESSURE SEAL BONNET LIFT CHECK VALVE**

**CLASS 900-CLASS 1500**

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	216	229	254	279	305	368
L(BW)	mm	216	229	254	279	305	368
L(RTJ)	mm	216	229	254	279	305	371
H	mm	117	117	117	152	152	195
WT(RF)	Kg	10.5	12	14	20	27	33

**CLASS 2500**

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	264	273	308	349	384	451
L(BW)	mm	264	273	308	349	384	451
L(RTJ)	mm	264	273	308	352	387	454
H	mm	117	117	117	152	152	195
WT(RF)	Kg	13	15	17	25	31	36

### FORGED STEEL PRESSURE SEAL BONNET LIFT CHECK VALVE



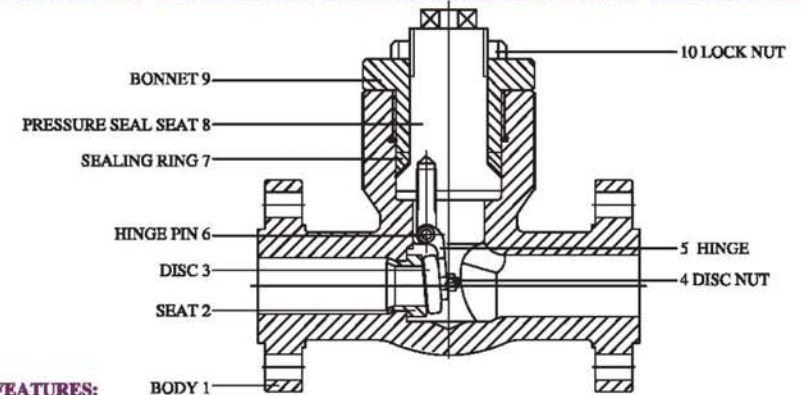
#### CLASS 900-CLASS 1500

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	140	140	140	178	178	216
L(BW)	mm	140	140	140	178	178	216
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	117	117	117	152	152	195
WT	Kg	8	9	12.5	18.5	20	25

#### CLASS 2500

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	111	111	130	152	172	220
L(BW)	mm	111	111	130	152	172	220
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	117	117	117	152	152	195
WT	Kg	9.0	11	14	22	24	28

### FORGED STEEL PRESSURE SEAL BONNET SWING CHECK VALVE



#### DESIGN FEATURES:

- PRESSURE SEAL BONNET (PSB) DESIGN
- SWING DISC: DISC IS FASTENED SECURELY TO DISC HINGE WITH A LOCK NUT AND COTTER PIN
- EXPANDED SEAT

#### STANDARDS:

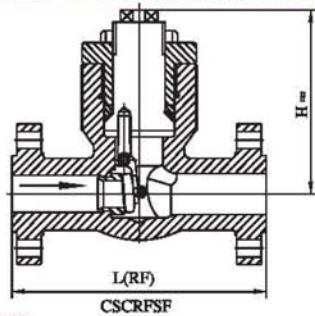
- DESIGN AND MANUFACTURE: BS 5352 / API 602
- FACE TO FACE DIMENSIONS: ASME B16.10 OR MANUFACTURER'S SPECIFICATION
- FLANGE ENDS DIMENSIONS:
  - NPS 1/2"-2" ASME B16.5
- BW ENDS DIMENSIONS: ASME B16.25
- SOCKET WELD ENDS DIMENSIONS: ASME B16.11
- THREADED ENDS DIMENSIONS: ASME B1.20.1
- PRESSURE-TEMPERATURE RATINGS: ASME B16.34
- NORMAL PRESSURE: CLASS 150-1500
- NORMAL DIAMETER: NPS 1/2"-2"

#### BILL OF MATERIAL (PARTIAL)

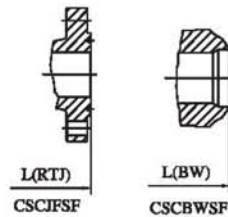
ITEM	PART NAME	STANDARD	ALLOY CARBON STEEL	STAINLESS STEEL
1	BODY	ASTM A105	ASTM A182 F11	ASTM A182 F316
2	SEAT	ASTM A105	ASTM A182 F11	ASTM A182 F316
3	DISC	ASTM A105	ASTM A182 F11	ASTM A182 F316
4	DISC NUT	CARBON STEEL	STAINLESS STEEL	316 SS
5	HINGE	ASTM A105	ASTM A182 F11	ASTM A182 F316
6	HINGE PIN	ASTM A276 410	ASTM A276 410	ASTM A276 316
7	SEALING RING		AISI 1008/SS304/SS316L	
8	PRESSURE SEAL SEAT	ASTM A105	ASTM A182 F11	ASTM A182 F316
9	BONNET	ASTM A105	ASTM A182 F11	ASTM A182 F316
10	LOCK NUT	CARBON STEEL	CARBON STEEL	STAINLESS STEEL
	SEALING FACE OVERLAY		API TRIMS AVAILABLE	

OTHER MATERIALS ARE AVAILABLE UPON REQUEST

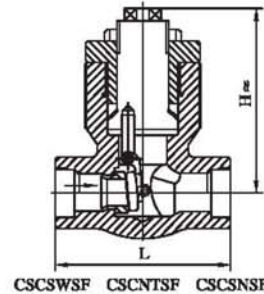
## FORGED STEEL PRESSURE SEAL BONNET SWING CHECK VALVE


**CLASS 900-CLASS 1500**

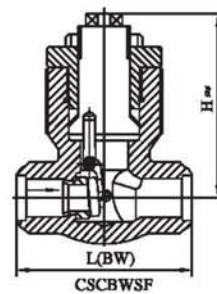
NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	216	229	254	279	305	368
L(BW)	mm	216	229	254	279	305	368
L(RTJ)	mm	216	229	254	279	305	371
H	mm	117	117	117	152	152	195
WT(RF)	Kg	11.5	13	15	22	29	35


**CLASS 2500**

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L(RF)	mm	264	273	308	349	384	451
L(BW)	mm	264	273	308	349	384	451
L(RTJ)	mm	264	273	308	352	387	454
H	mm	117	117	117	152	152	195
WT(RF)	Kg	14	16	18	26	32	38


**CLASS 900-CLASS 1500**

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	140	140	140	178	178	216
L(BW)	mm	140	140	140	178	178	216
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	117	117	117	152	152	195
WT	Kg	8.5	10.5	14	20	23	27


**CLASS 2500**

NPS	in	1/2	3/4	1	1-1/4	1-1/2	2
DN	mm	15	20	25	32	40	50
L	mm	111	111	130	152	172	220
L(BW)	mm	111	111	130	152	172	220
S	mm	21.8	27.1	33.8	42.6	48.7	61.1
NPT	in	1/2	3/4	1	1-1/4	1-1/2	2
H	mm	117	117	117	152	152	195
WT	Kg	10	13	16	23	26	30

## INSTALLATION MAINTENANCE AND OPERATING INSTRUCTION CHECK VALVES

### 1.0 WARNING

For your safety and protection, it is important that the following precautions be taken prior to removing the valve from service, or before any disassembly of the valve:

- 1.1 Keep hands safely out of the valve at all times during this entire procedure to avoid accidents resulting in serious injury.
- 1.2 Know what media is in the line. If there is any doubt, check with the proper authority.
- 1.3 Wear any protective clothing or equipment normally required when working with the media involved.
- 1.4 Body ratings—the practical and safe use of this product is determined by body ratings. Read the name tag and check ratings. Do not exceed these ratings.

### 2.0 INSTALLATION

- 2.1 Check valves are single flow directional valves. Note arrow on side of valve body showing direction of flow.
- 2.2 The valve should be tightened between flanges using appropriate gaskets and fasteners for the service. Tighten the bolts in compliance with the requirements of the gasket manufacturer.
- 2.3 Before installation, carefully check the valve markings and pressure rating to ensure the valve is suitable for service.

### 3.0 MAINTENANCE

- 3.1 General Maintenance requires periodic observation to ensure that the valve is functioning well.
- 3.2 Overhaul Maintenance may consist of replacing seats and seals. A standard service kit consisting of these parts may be obtained through your local Enflow distributor.

### 5.0 TROUBLE SHOOTING

PROBLEM	CAUSE	CLEAN UP METHOD
Leakage from sealing face.	1. Foreign matter between the wedge and sealing faces.	Clean the sealing faces.
	2. Sealing face damaged.	Re-grind or replace the clapper.
Leakage from bonnet gasket.	1. The bonnet bolt tightening is not equal.	Re-adjust the bolts and tighten equally.
	2. Damage of the bonnet gasket.	Change the gasket.
Valve cannot be totally closed.	1. Foreign matter deposited in valve body.	Clean the cavity.

### TABLE FOR BOLT TORQUE

Fastener Size	RECOMMENDED TORQUE, Lb-Ft (N.M)			
	Bolting Materials			
	Mtl.	ASTM A193 B7	ASTM A193 B8	ASTM A193 B7M
1/2"-13	Code	B7	B8	B7M
		75-85(102-115)	75-85(102-115)	55-65(75-88)
5/8"-11		160-190(217-258)	155-180(210-244)	125-145(169-197)
3/4"-10		250-290(339-393)	235-275(319-373)	190-220(258-298)