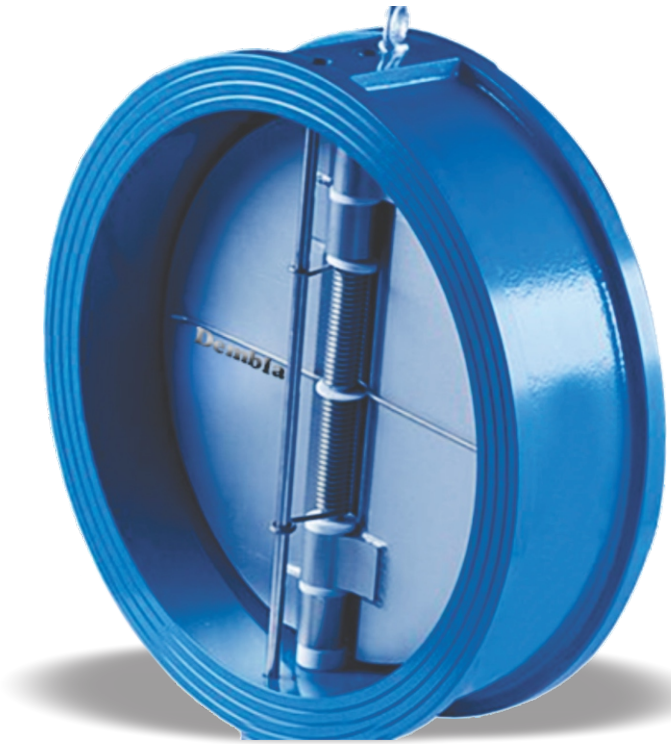
DEMBLA VALVES LTD.

Dembla

CHECK VALVE

Series - SCV 01, LCV 01, SPCV 01, DPCV 01,



First issue Aug -2021 : Rev-0 Aug-2021

Aiming at perfection

More Info - www.dembla.com

APLICABLE STANDARDS AND CODES

British Standards are the standards produced by BSI Group

BS 1873	Specification for Steel Globe, Globe Stop & Check Valves
BS 10	Specification for flanges and bolting for pipes, valves and fitting.
EN-1092-1	Flanges and their joints - Circular flanges for pipes, valves, fittings and accessories, PN designated - Part 1: Steel flanges.
BS EN 558	Industrial valves. Face-to-face and centre-to-face dimensions of metal valves for use in flanged pipe systems. PN and Class designated valves.
BS EN ISO 15761	Steel gate, globe and check valves for sizes DN 100 and smaller, for the petroleum and natural gas industries

API Standards – American Petroleum Institute

API 598	Valve Inspection and Testing
API 602	Gate, Globe,& Check Valves for Sizes up to NPS 4 (DN 100).
API 594	Check Valves: Flanged, Lug, Wafer, and Butt-welding,
API 6D	Specification defines the requirements for the design, manufacturing, assembly, testing and documentation of ball, check, gate and plug valves for application in pipeline & piping system for the petroleum and natural gas industries.

ASME Standards – ASME International (American Society of Mechanical Engineers)

ASME B16.1	Cast Iron Pipe Flanged Fittings.
ASME B16.5	Pipeline Flanges and Flanged Fittings.
ASME B16.10	Valve Dimentions, Face to Face and End to End.
ASME B16.25	Buttwelding Ends.
ASME B16.34	Valves- Flanged, Threaded and Welding End.
ASME B16.47	26" and Larger Flange dimensions.
ASME B31.1	Power Piping.
ASME B31.2	Fuel Gas Piping
ASME B31.3	Process Piping
ASME B16.11	Socket Weld ing & Thread
ASME B 1.20.1	Pipe Thread
ISO 15848-1 & ISO 15848-2	

MSS Standards – Manufacturers Standardization

MSS SP- 45	Bypass and Drain Connections
MSS SP- 55	Quality Standard for Steel Castings for Valves, Flanges and Fittings and Other Piping Components – Visual Method for Eval of Surface Irregularities

ASTM Standards – American Society for Testing and Materials

ASTM A 193	Standard Specification for Alloy - Steel and Stainless Steel Bolting Materials for High Temperature Service.
ASTM A 194	Standard Specification for Carbon and Alloy Steel Nuts for Bolts for High-Pressure and High- Temperature Service.
ASTM A 216	Standard Specification for Steel Castings, Carbon, Suitable for Fusion Welding for High- Temperature Service.
ASTM A 217	Standard Specification for Steel Castings, Matensitic Stainless and Alloy for Pressure-Containing Parts, Suitable for High- Temperature Service.
ASTM A 276	Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
ASTM A 351	Standard Specification for Castings, Austenitic, Austenitic-Ferritic (Duplex), for Pressure-Containing Parts.
ASTM A 352	Standard Specification for Steel Castings, Feritic and Matensitic, for Pressure-Containing Parts, Suitable for Low Temperature Service.
ASTM A 515	Standard Specification for Pressure Vessel Plates, Carbon Steel, for Internmediate and Higher-Temperature Service.
ASTM A 516	Standard Specification for Pressure Vessel Plates, Carbon Steel for Moderate-and Lower-Temperature Service.
EN 12266-1	Testing for Industrial Valves

NACE Standards – NACE (National Association Engineers)

NACE MR0175 Standard Material Requirements Sulfide Stress Cracking Resistant Metalic Materials for Oilfield Equipment.

Boiler and Pressure Vessel Code:

SECTION	II	Parte A – Ferrous Material Specifications.
SECTION	II	Parte B – Non Ferrous Material Specifications
SECTION	II	Parte C – Specifications for Welding Rods, Electrodes and Filler Metals Specifications
SECTION	V	Nondestructive Examination.
SECTION	VIII	Rules for Construction of Pressure Vessels, Divisions 1 and 2.
SECTION	IX	Welding and Brazing Qualifications.

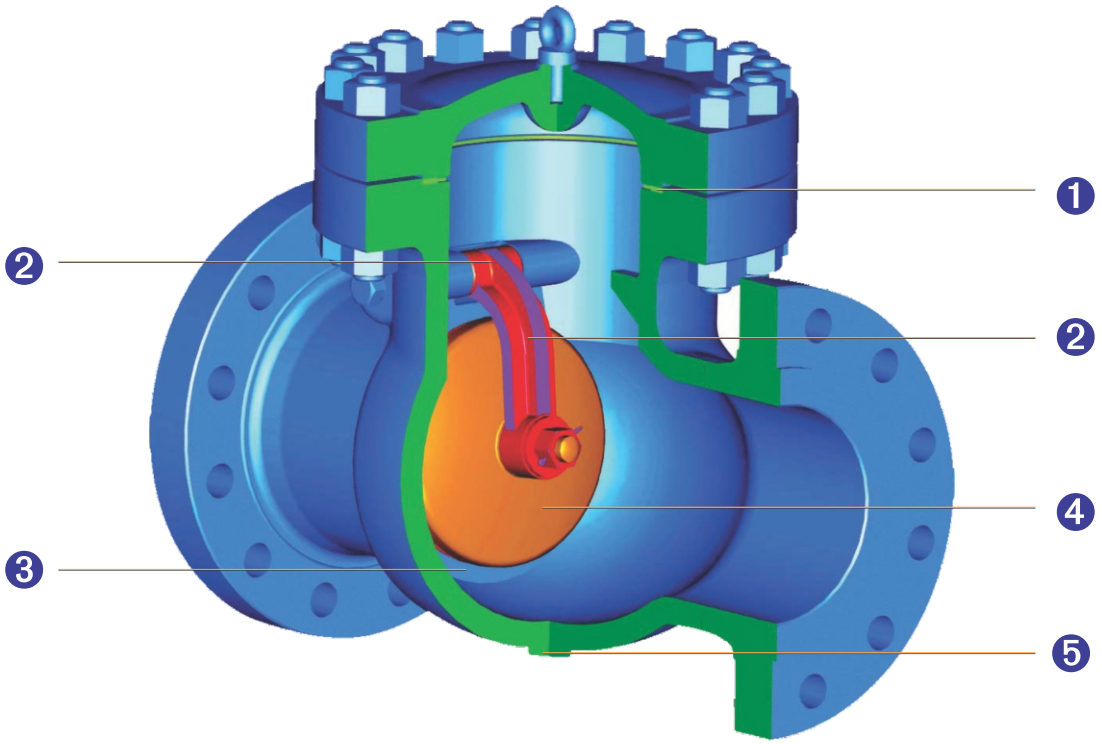
Check Valves - Pressure-seal Range

Dembla Valves manufactures a comprehensive range of Check Valves in sizes up to 30” (750 mm) and in ASME classes from 150 to 2500. The valves are offered in combination of size, pressure class, material, end-connection.

Check Valves

Variants	ASME Class	2	3	4	6	8	10	12	14	16	18	20	22	24	26	28	30	36	38	40	42
		50	80	100	150	200	250	300	350	400	450	500	550	600	650	700	750	900	950	1000	1050
Check Valve	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓											
	2500	✓	✓	✓	✓	✓	✓	✓													
Dual Plate Check Valve	150	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	300	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
	1500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							
	2500	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓							

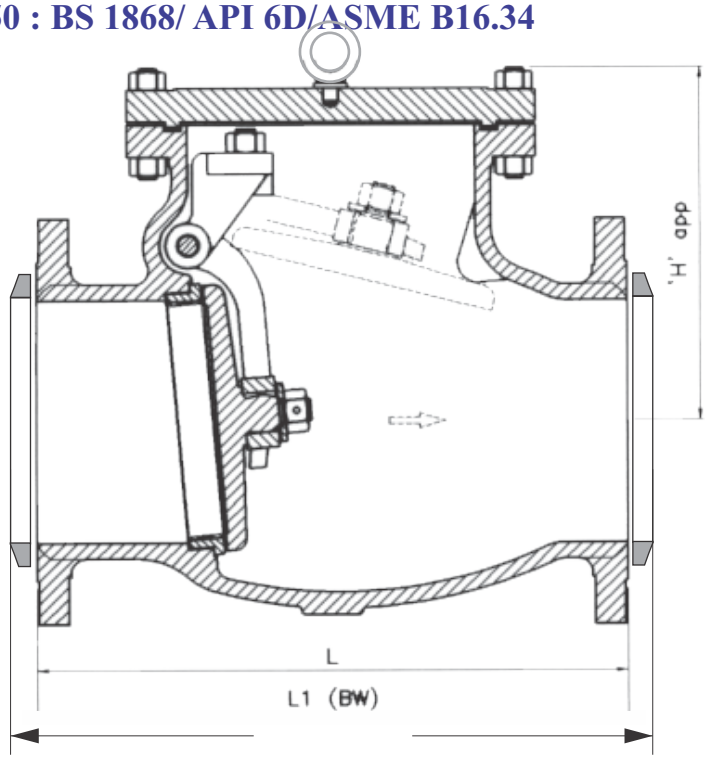
Design Features - Bolted Check Valve



1. Spiral wound gasket for 150#, 300# & 600# valves, and ring joints for valves 900 lbs & above. Ring joints are also available for 600 lb valves upon customer request.
2. A mounted hinge along with a hinge pin permit full movement of the disc.
3. Standard renewable seal welded seat with stellite 6 .
4. Standard swing disc type; used in horizontal position for liquid service applications.
5. Normal provision for a drain tapping .

BOLTED COVER

CLASS 150 : BS 1868/ API 6D/ASME B16.34



MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
DISC	CA15/ 13% Cr. FACING ON WCB	WC6 +13% Cr	CF8/ CF8M
SEAT RING	C.S. + 13% Cr. FACING	SS 304 / SS 316	(INTEGRAL)
TOP COVER	WCB/A 515 Gr. 70	WC6	CF8/ CF8M
STUD & NUT	B7 /2H	B16 /7	B8/8 & B8m/8
GASKET	SPW S.S 304/ 316 WITH GRAPHOIL		
WASHER	SS 410	SS 304	SS 304 / SS316
DISC NUT	Gr 8	Gr 8	Gr 8
HINGE PIN	SS 304		SS304 / SS316
SPILT PIN	SS 304	SS 304	SS 304 / SS316
NAME PLATE	S.S 304		
HINGE	WCB/Gr. 70	WC6/CF8	CF8/ CF8M

1) SEAL WELDING SEAT RING
2) LIFTING EYE BOLT 8"NB AND ABOVE.
3) DISC & SEAT STELLITING OPTIONAL

Type of Ends

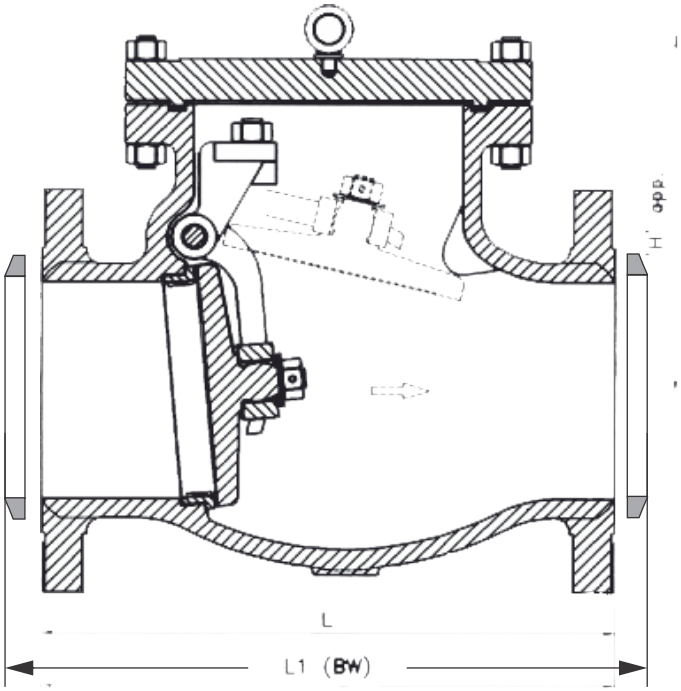
- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld

DIMENSION TABLE

VALVE SIZE	in	2	2.5	3	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	550	600	650	700	750	900
L		8.0	8.5	9.5	11.5	14.0	16.0	19.5	24.5	27.5	31.0	34.0	38.5	38.5	42.0	51.0	51.0	57.0	60.0	77.0
		203	216	241	292	330	356	495	622	698	787	864	978	978	1067	1295	1295	1448	1524	1956
L1		8.0	8.5	9.5	11.5	14.0	16.0	19.5	24.5	27.5	31.0	36.0	38.5	38.5	42.0	51.0	51.0	57.0	60.0	77
		203	216	241	292	330	356	495	622	698	787	864	978	978	1067	1295	1295	1448	1524	1956
H app		145	165	170	205	225	255	300	340	485	465	595	545	600	695	750	775	800	825	1349
Wt.Kg app(F/E)		18	25	32	52	56	92	136	220	345	485	570	770	1055	1255	1325	1500	1650	1865	3950

BOLTED COVER

CLASS 300 : BS 1868/ API 6D/ASME B16.34



MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
DISC	CA15/13% Cr. FACING ON WCB	WC6 +13% Cr Facing	CF8/ CF8M
SEAT RING	C.S. + 13% Cr. FACING	SS 304 / SS 316	INTEGRAL
TOP COVER	WCB	WC6	CF8/ CF8M
STUD & NUT	B7 / 2H	B16 /4	B8 / 8M
GASKET	SPW S S 304 / 316 WITH GRAPHOIL		
WASHER	T 410	SS 304	SS 316
DISC NUT	Gr 8		
HINGE PIN	T 410	SS 304	SS 316
SPILT PIN	T 304	SS 304	SS 316
NAME PLATE	SS 304		
HINGE	WCB/Gr. 70	WC6/CF8	CF8 / CF8M

1) SEAL WELDING SEAT RING
2) LIFTING EYE BOLT 8"NB AND ABOVE.
3) DISC & SEAT STELLITING OPTIONAL

Type of Ends

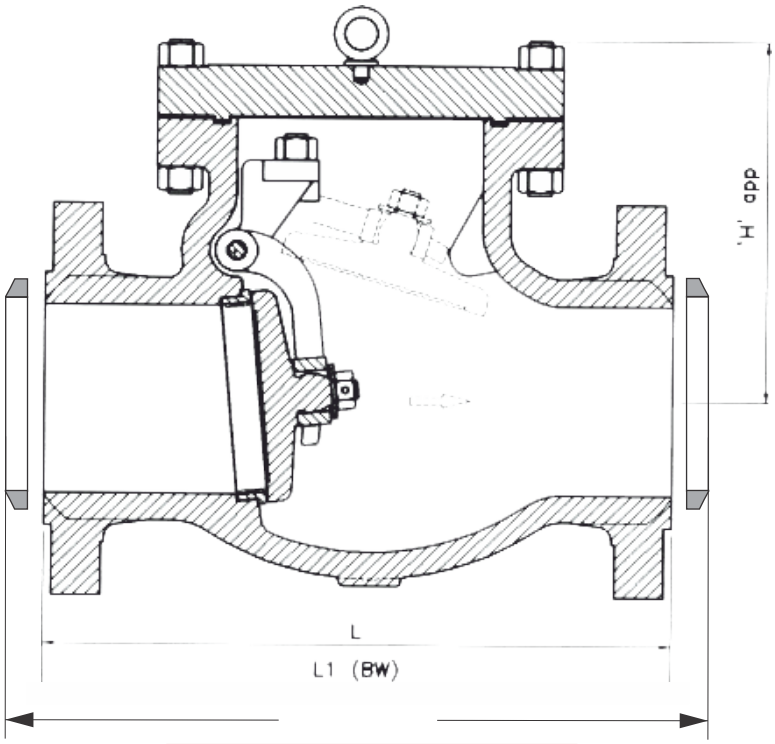
- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld

DIMENSION TABLE

VALVE SIZE	in	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24	26	28	30	36
	mm	50	6.5	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750	900
L		10.5	11.5	12.5	14.0	15.7	17.5	21.0	24.5	28.0	33.0	34.0	38.5	40.0	53.0	53.0	59.0	62.34	82
		267	292	318	356	400	444	533	622	711	838	864	978	1016	1346	1346	1499	1594	2083
L1		10.5	11.5	12.5	14.0	15.7	17.5	21.0	24.5	28.0	33.0	34.0	38.5	40.0	53	53	59	62.30	82
		267	292	318	356	400	444	533	622	711	838	864	978	1016	1346	1346	1499	1594	2083
H app		155	215	185	220	245	275	300	375	430	520	560	686	610	940	1051	1149	1270	1540
Wt.Kg app(F/E)		25	40	60	80	105	130	215	345	470	685	998	1050	1220	2200	2500	2800	3400	5000

BOLTED COVER

CLASS 600 : BS 1868/ API 6D/ASME B16.34



MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8/ CF8M
DISC	CA15/ 13% Cr. FACING ON WCB	WC6 +13% Cr Facing	CF8/ CF8M
SEAT RING	C.S. + 13% Cr. FACING		WCB / SS 304
	SS 304 / SS 316		INTEGRAL
TOP COVER	WCB	WC6	CF8/ CF8M
STUD & NUT	B7/ 2H	B16 /4	B8 / 8M
GASKET	SPW S.S 304/ 316 WITH GRAPHOIL		
WASHER	SS 410	SS 304	SS 316
DISC NUT	Gr 8		
HINGE PIN	Gr 8	Gr 8	Gr 8
SPILT PIN	SS 304	SS 304	SS 316
NAME PLATE	S.S 304		
HINGE	WCB/Gr. 70	WC6/CF8	CF8/ CF8M

1) SEAL WELDING SEAT RING
2) LIFTING EYE BOLT 6"NB AND ABOVE.
3) DISC & SEAT STELLITING OPTIONAL

Type of Ends

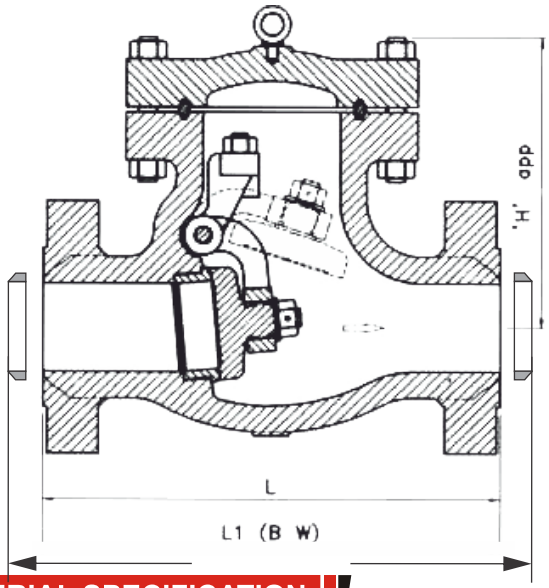
- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld

DIMENSION TABLE

VALVE SIZE	in	2	2.5	3	4	5	6	8	10	12	14	16	18	20	24	26	28	30
	mm	50	65	80	100	125	150	200	250	300	350	400	450	500	600	650	700	750
L		11.5	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	57.0	63.0	65.0
		292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651
L1		11.5	13.0	14.0	17.0	20.0	22.0	26.0	31.0	33.0	35.0	39.0	43.0	47.0	55.0	57.0	63.0	65.0
		292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397	1448	1600	1651
H app		160	260	230	280	290	330	360	475	555	580	665	895	975	1100	1200	1400	1400
Wt.Kg app(F/E)		29	55	65	115	145	250	405	620	815	970	1215	1800	2000	3000	3500	4100	5000

BOLTED COVER

CLASS 900/1500/2500 : BS 1868/ API 6D/ASME B16.34



MATERIAL SPECIFICATION

PARTS	MATERIAL		
BODY	WCB	WC6	CF8 / CF8M
DISC 1	A 515--70/13%CR.FACING ON WCB+ STELLITED	Wc6 + STELLITED	CF8 / CF8M
SEAT RING 1	C.S. + 13% Cr. FACING	SS304 + STELLITED	SS 304 / SS 316 + STELLITED
TOP COVER	WCB	WC6	Cf8 / CF8M
STUD & NUT	B7 / 2H	B16/4	B8 / 8M
BRACKET STUD & NUT	B8/8		
GASKET	SPW S.S 304/ 316 WITH GRAPHOIL		
WASHER	SS 410	SS 304	SS 316
DISC NUT		GR. 8	GR. 8
HINGE PIN	SS 410	SS 304	SS 316
SPLIT PIN	SS 304	SS 304	SS 316
NAME PLATE	S.S 304		
HINGE	WCB/Gr--70	WC6/CF8	CF8/CF8M
HINGE BRACKET	WCB/Gr--70	WC6/CF8	CF8/CF8M

1) SEAL WELDING
2) LIFTING EYE BOLT 4"NB AND ABOVE
3) DISC & SEAT STELLITING OPTIONAL

Type of Ends

- Flanged Raised Face
- Flanged Ring Type Joint
- Buttweld

DIMENSION TABLE 900 CLASS

VALVE SIZE	in	2	3	4	6	8	10	12	14	16	18	20	24	26	28	30
	mm	50	80	100	150	200	250	300	350	400	450	500	600	650	700	750
L		14.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0	65.0	69.0	73.0
		368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854
L1		14.5	15.0	18.0	24.0	29.0	33.0	38.0	40.5	44.5	48.0	52.0	61.0	65.0	69.0	73.0
		368	381	457	610	737	838	965	1029	1130	1219	1321	1549	1651	1753	1854
H app		220	280	350	450	525	600	675	750	825	925	1050	1200	1270	1400	1570
Wt.Kg app(F/E)		70	110	200	380	650	1150	1450	1750	2420	3250	3900	5600	6500	7700	8900

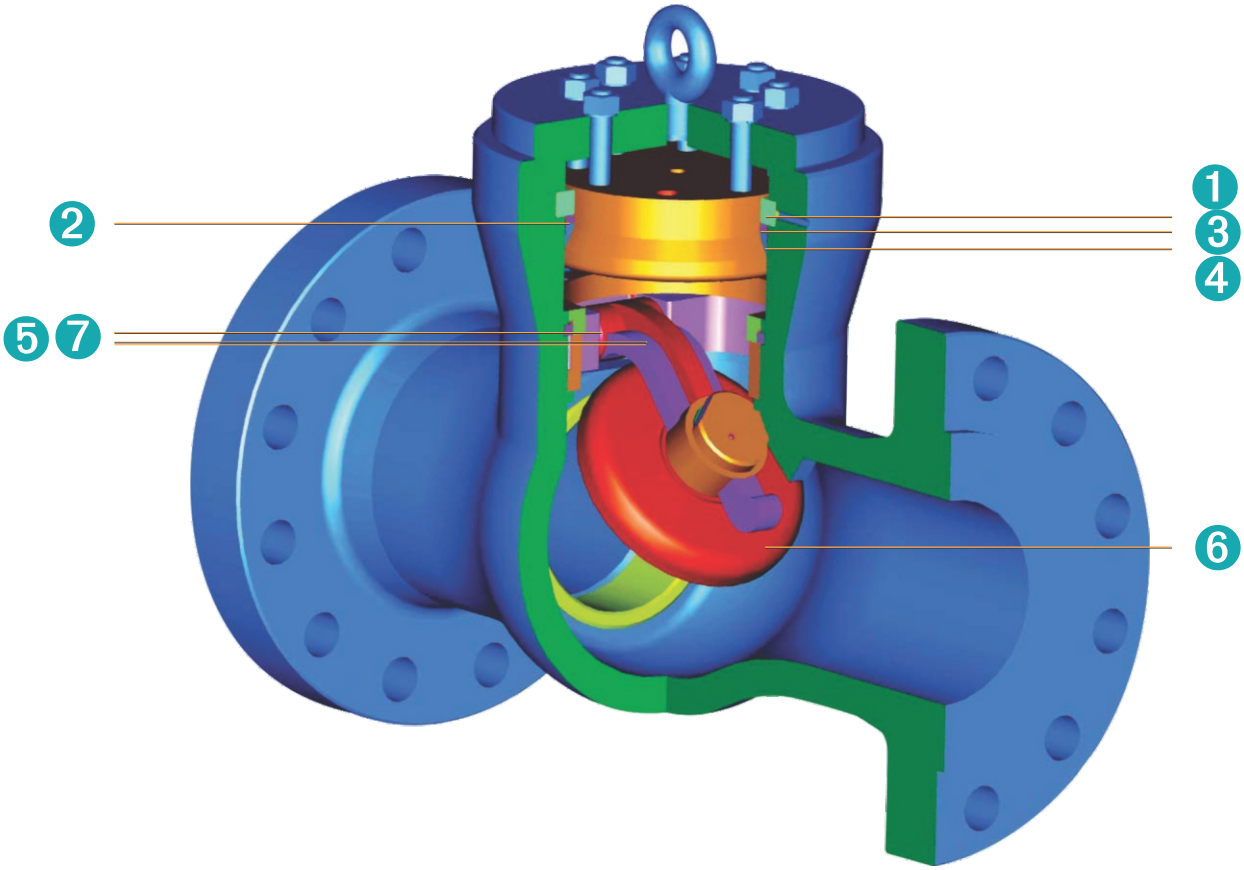
DIMENSION TABLE 1500 CLASS

VALVE SIZE	in	2	3	4	6	8	10	12	14	16	18	20
	mm	50	80	100	150	200	250	300	350	400	450	500
L		14.5	18.5	21.5	27.8	32.7	39.0	44.5	49.5	54.5	60.5	65.5
		368	470	546	705	832	991	1130	1257	1384	1537	1664
L1		14.5	18.5	21.5	27.8	32.7	39.0	44.5	49.5	54.5	60.5	65.5
		368	470	546	705	832	991	1130	1257	1384	1537	1664
H app		220	280	370	450	600	660	750	950	1000	1100	1300
Wt.Kg app(F/E)		75	115	300	695	1100	1700	2500	3400	4500	6900	7900

DIMENSION TABLE 2500 CLASS

VALVE SIZE	in	2	3	4	6	8	10	12
	mm	50	80	100	150	200	250	360
L		17.8	22.8	26.5	36.0	40.3	50.0	56.0
		451	578	673	914	1022	1270	1422
L1		17.8	22.8	26.5	36.0	40.3	50.00	56.0
		451	578	673	914	1022	1270	1422
H app		305	390	415	565	640	850	1000
Wt.Kg app(F/E)		150	350	650	1456	2500	3900	5300

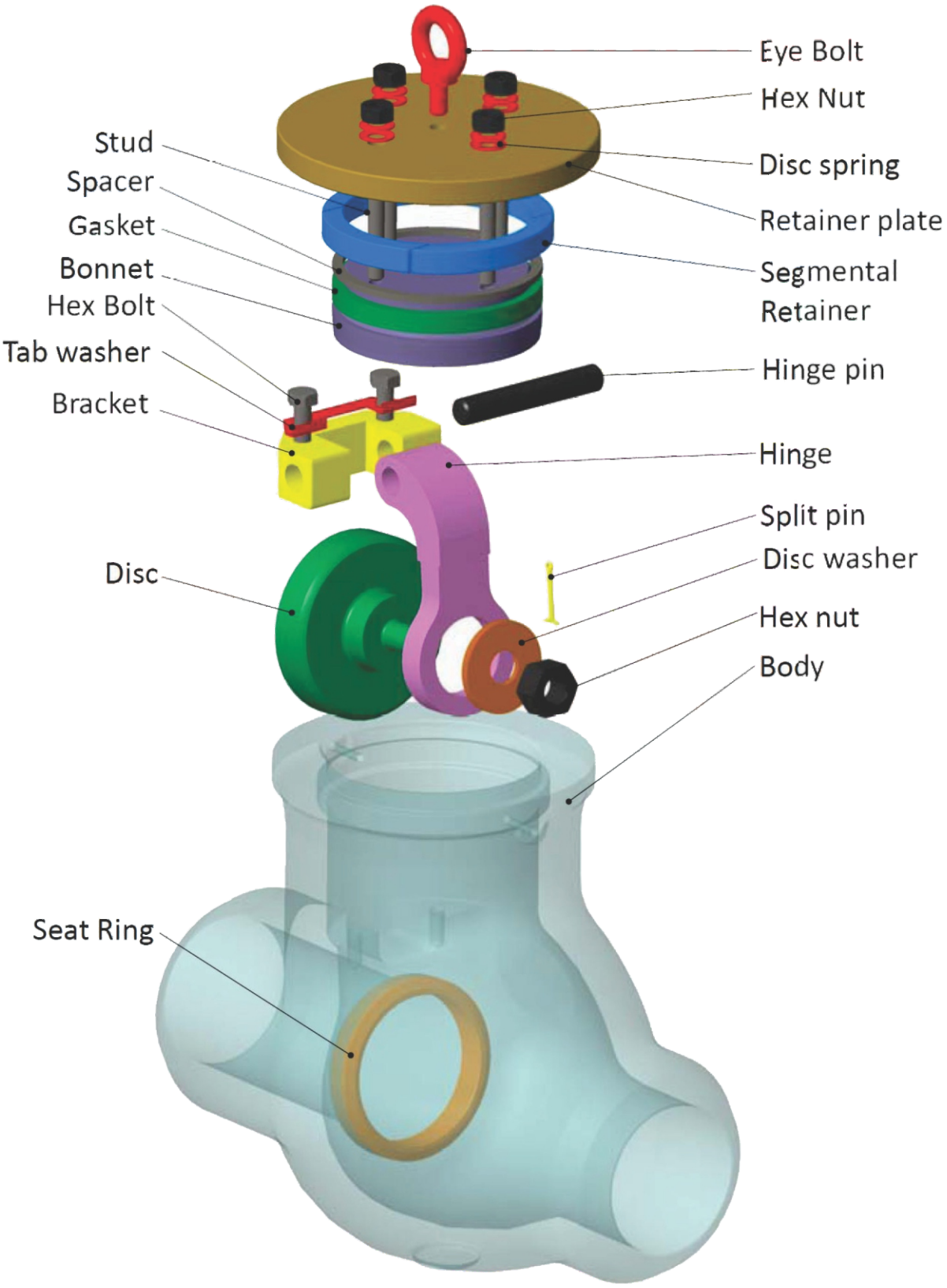
Design Features - Pressure Seal Check Valve



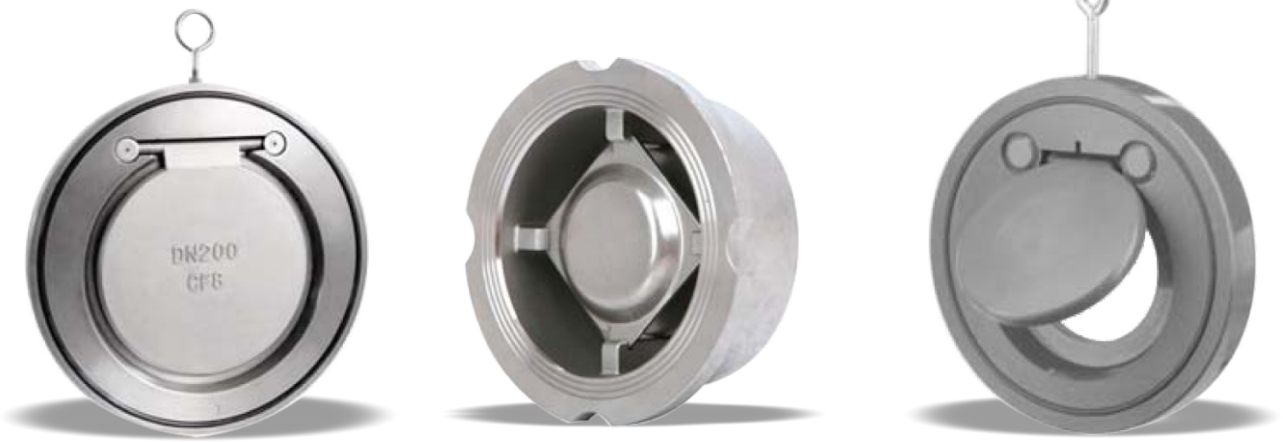
1. Segmented thrust rings absorb the thrust applied by the internal pressure
2. Thrust rings provide surface bearing and prevent deformation of the gaskets
3. Soft steel gasket seal provides a large contact area for perfect sealing
4. Stainless steel in lay to ensure soundness and corrosion resistance in the critical body sealing zone for carbon and alloy steel valves
5. No pressure boundary intrustion hinge pin design
6. Standard swing disc type used in the horizontal position for liquid service applications
7. Hinge and pin designs permit full movement of the disc

PARTS ILLUSTRATOR

PRESSURE SEAL BONNET



SINGLE PLATE CHECK VALVE



FEATURES

- Very simple in construction, compact, light-weight, sturdy & rugged
- Can operate e?ectively in both vertical and horizontal pipe lines
- Soft seated valves come in two variants ? O ring seated and PTFE / RPTFE seated
- Wafer type end connections as standard ? other types can be provided on request
- Long life and trouble-free operation
- Easier to handle, pack and transport as compared to other valves

SPECIFICATIONS

Codes & Standards

General design & mfg	API 6D / ASME B 16.34
Face to face dimensions	API 6D / ASME B 16.10
Inspection & testing	API 598
Flange drilling	Wafer Design ASME B16.5

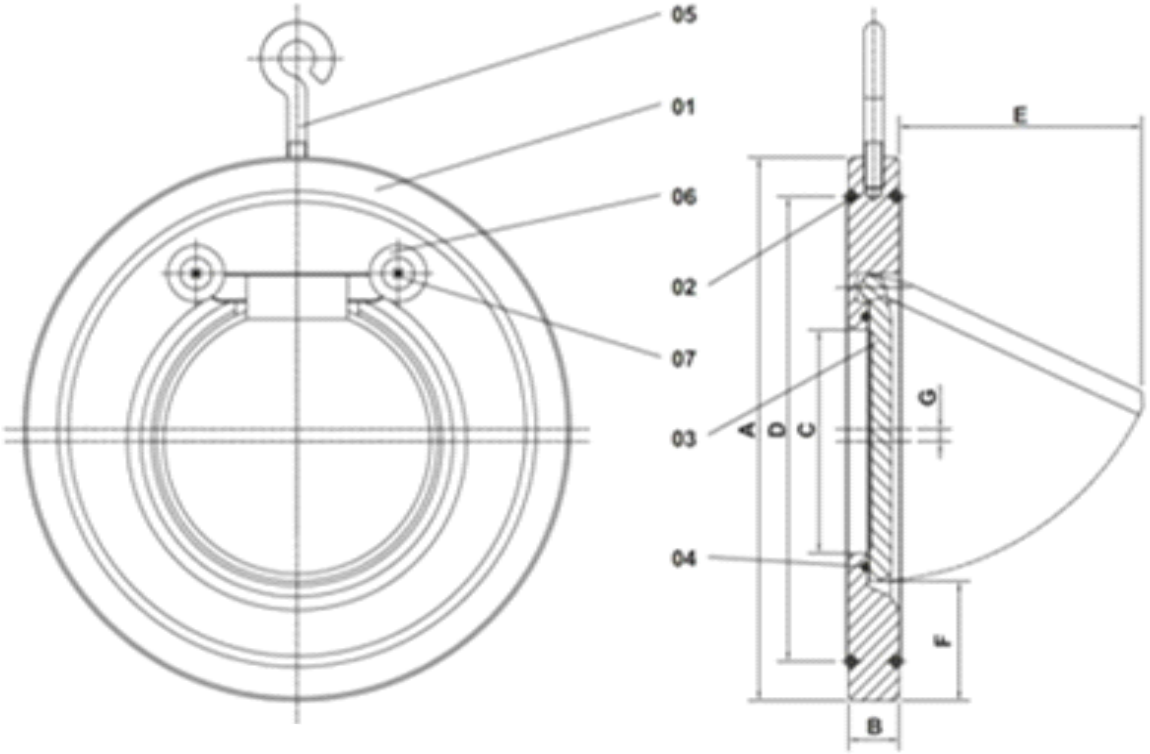
Technical Speci?cations

Valve type	Self Acting Non Return Valve
Description	Single Plate Wafer type Check Valve
Body type	Short pattern wafer type
Model variants	Check Valve with rubber O ring on seat and face sealing
	Check Valve with PTFE seat and serrated faces
Size range	DN 25 to DN 600
Pressure rating	Up to PN 16
Operating temp. range	-25° C to 200° C (depending on seat MOC)
Seat leakage	Zero leak (tight shut o?)

Standard Material of Construction ?MOC?

Body & Disc	WCB / CF8 / CF8M / CF3 / CF3M
Seat variants	EPDM / Viton / Nitrile / Neoprene / Silicon
	PTFE / RPTFE

SINGLE PLATE CHECK VALVE



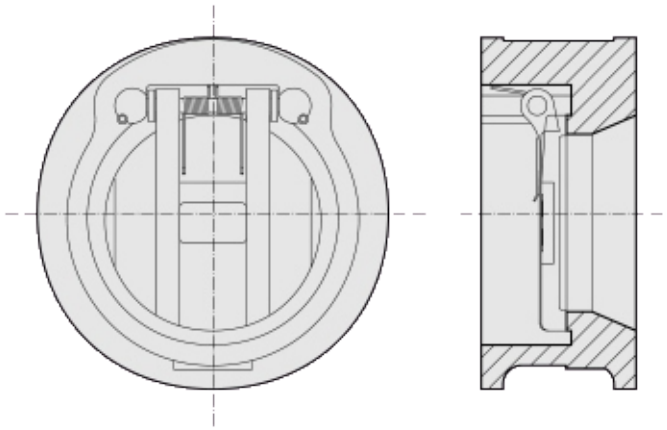
DN	A	B	C	D	E	F	G
32	85	15	18	57	20.5	26	2
40	95	16	22	69.35	26	28.5	1.5
50	109	14	32	82.8	38	28.8	3.2
65	129	14	40	105.8	46	31	3.5
80	144	14	54	115.8	56	32.5	3.5
100	164	18	70	143.3	75	31	6
125	194.5	18	92	170.3	96	35.25	7.5
150	220	20	112	194.3	113	35.5	8
200	275	22	154	252.3	151	38.5	11
250	330	26	192	308.3	195	41	12.5
300	380	32	227	359.3	229	41	20
350	440	38	266	411	253.7	55	16
400	491	44	310	462	291	55.5	19
450	541	52	350	515	325	61	19
500	596	58	400	545	545	58	545
600	698	62	486	655	446	60	28

SINGLE PLATE CHECK VALVE

Wafer Type

Performance Standard

_ANSI B16.5[1.5" up to 24"]- Flange Dimension
_API 6D- Face to Face Dimension
_API 598-Testing, Allowable leakage rate
_ANSI B16.34- Wall Thickness



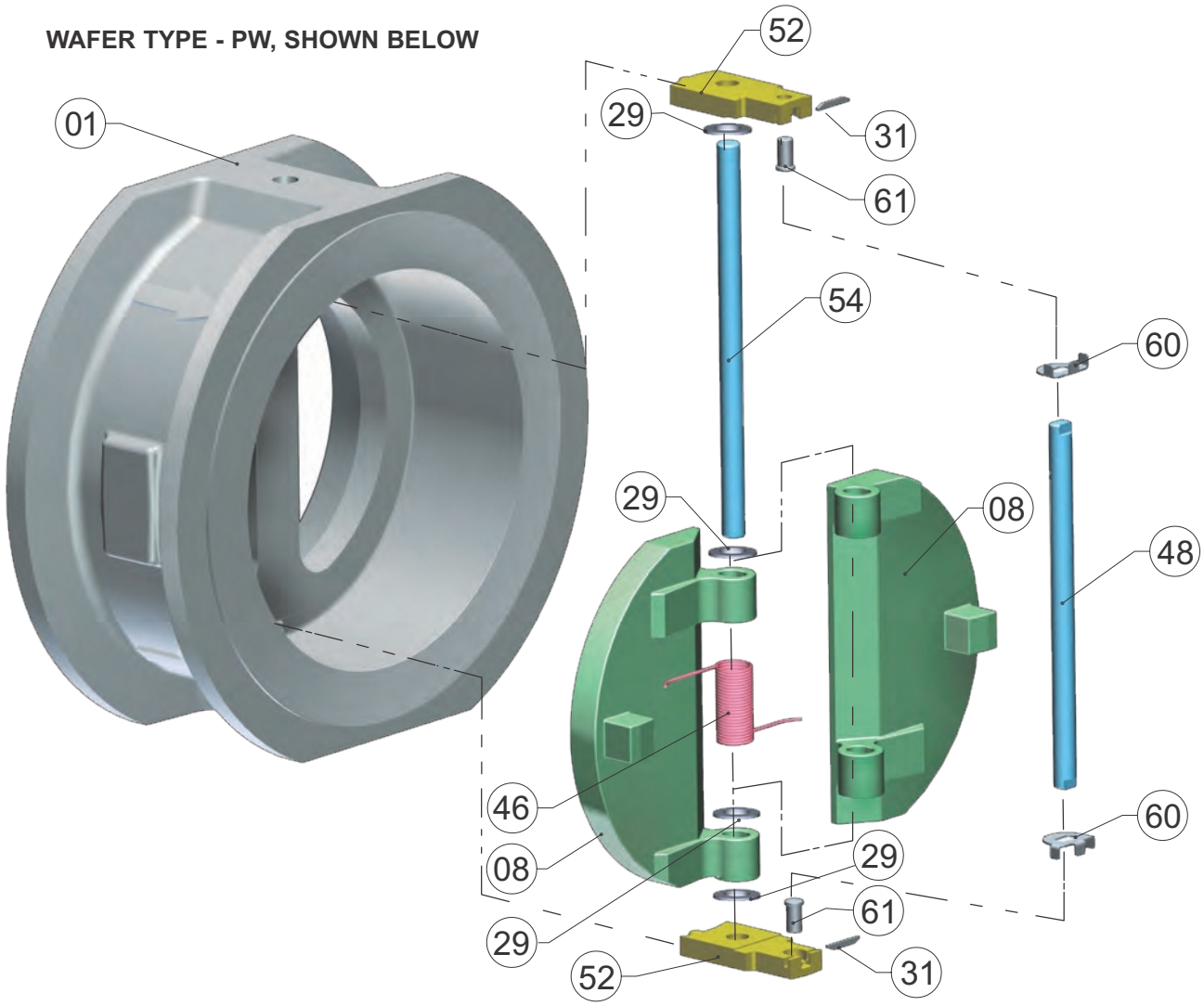
Retainerless Design

S&W unique Design doesn't have any holes bored through the body wall being different from many competitors. This unique design prohibits shell leakage originally and functions perfectly in large size of valves and high rating valve's application.

Valve's components		
SP01	BODY	×1
SP02	DISC	×1
SP03	INSERT	×1
SP04	HINGE PIN	×1
SP05	SPRING	×2
SP06	WASHER	×2
SP07	SET SCREW	×2 to 4

DUAL PLATE CHECK VALVE - EXPLODED VIEW AND PARTS LIST

WAFER TYPE - PW, SHOWN BELOW



Valve profile is subject to change without notice

TYPICAL BODY, DISC, HOLDER AND PIN MATERIALS

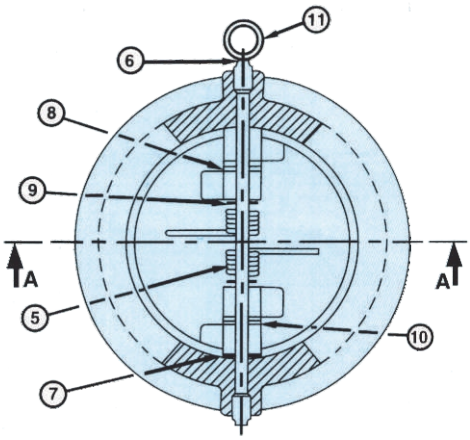
DESCRIPTION		CARBON STEEL		ALLOY STEEL				STAINLESS STEEL				BAR STOCK	
				1¼ CR ½ Mo	2¼ CR-1 Mo	5 CR	9 CR-1Mo	13 CR	316	316L	304	13 CR	SS
ASTM DESIG		A216 WCB	A352 LCC	A217 WC6	A217 WC9	A217 C5	A217 C12	A217 CA15	A351 CF8M	A351 CF3M	A351 CF8	A479 410	A 479 316
Composition %	Carbon	0.25	0.25	0.20	0.18	0.20	0.20	0.15	0.08	0.03	0.08	0.15	0.08
	Manganese	1.00	1.20	0.50-0.80	0.40-0.70	0.40-0.70	0.35-0.65	1.00	1.50	1.50	1.50	1.00	2.00
	Phosphorus	0.04	0.04	0.04	0.40	0.04	0.04	0.04	0.04	0.04	0.04	0.040	0.045
	Sulphur	0.045	0.045	0.045	0.045	0.045	0.045	0.040	0.040	0.040	0.040	0.030	0.030
	Silicon	0.60	0.60	0.60	0.60	0.75	1.00	1.50	1.50	1.50	2.00	1.00	1.00
	Nickel	0.50	0.50	0.50	0.50	0.50	0.50	1.00	9.00-12.00	9.00-13.00	8.00-11.00	—	10.00-14.00
	Chromium	0.50	0.50	1.00-1.50	2.00-2.75	4.00-6.50	8.00-10.00	11.5-14.0	18.00-21.00	17.00-21.00	18.00-21.00	11.50-13.50	16.00-18.00
	Molybdenum	0.20	0.20	0.45-0.65	0.90-1.20	0.45-0.65	0.90-1.20	0.50	2.0-3.00	2.0-3.00	0.50	–	2.00-3.00
	Copper	0.30	0.30	0.50	—	0.50	0.50	—	—	—	—	–	
Heat treat.		Anneal	Quench & temper	Temper	Temper	Temper	Temper	Solution anneal				Class 2	Sol. Ann.
Tensile psi min.		70,000	70,000-95,000	70,000-90,000	70,000-90,000	90,000-115,000	90,000-115,000	90,000-115,000	70,000	70,000	70,000	110,000	75,000
Yield psi min.		36,000	40,000	40,000	40,000	60,000	60,000	65,000	30,000	30,000	30,000	85,000	30,000
Elong. % min.		22	22	20	20	18	18	18	30	30	35	15	30
R. area % min.		35	35	35	35	35	35	30	—	—	—	45	40
Hardness HB		187 max.	200 max.	207 max.	207 max.	241 max.	241 max.	327-381	—	187 max.	—	269 max.	–

DUAL PLATE CHECK VALVE - Wafer Flanged Type

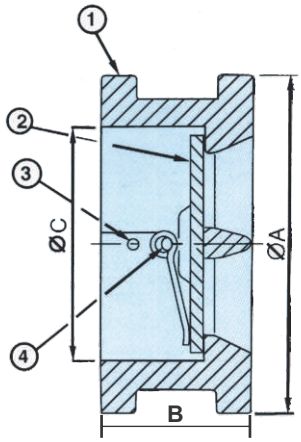
SIZE UPTO 2000 mm (80”), PRESSURE RATING UPTO 2500 CLASS

PART LIST

Item No.	PART NAME
1	Body
2	Plate
3	Stop Pin
4	Hinge Pin
5	Spring *
6	Retailer
7	Body Bearing
8	Plate Bearing
9	Spring Bearing
10	Sleeve #
11	Eyebolt **



ELEVATION



SECTION A-A

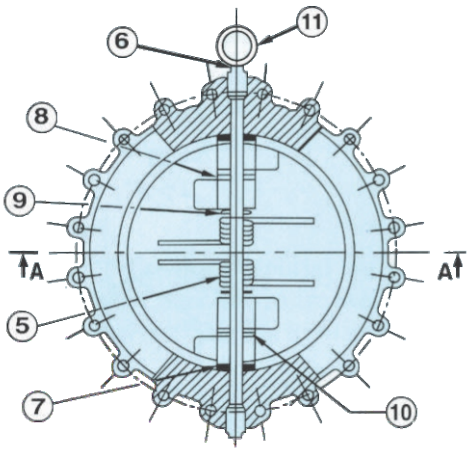
Note :
* Single Spring upto 125mm (5”)
# Sleeve provided only for 450mm (18”) and above (independent suspension).
** Eyebolt provided only for 200mm (8”) and above.

ADVANCE DUAL PLATE CHECK VALVE

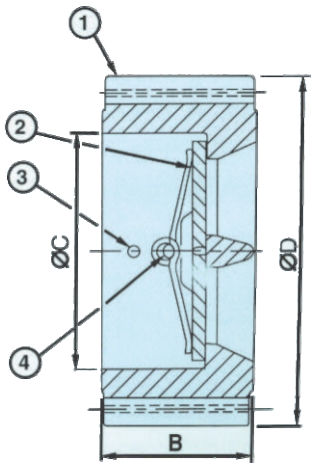
PRESSURE RATING UTPO 2500 CLASS

PART LIST

Item No.	PART NAME
1	Body
2	Plate
3	Stop Pin
4	Hinge Pin
5	Spring *
6	Retailer
7	Body Bearing
8	Plate Bearing
9	Spring Bearing
10	Sleeve #
11	Eyebolt **



ELEVATION



SECTION A-A

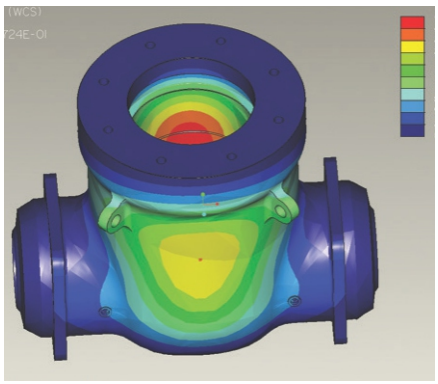
Note :
1. Dimension “D” to suit customer flange specification.
2. Other dimensions and part description, refer model AV-WP-11 (Fig.1) and table 1.
3. For sizes 300 mm (12”) and above model AV-WP-31 is recommended.
4. Solid Lugs are available on request.

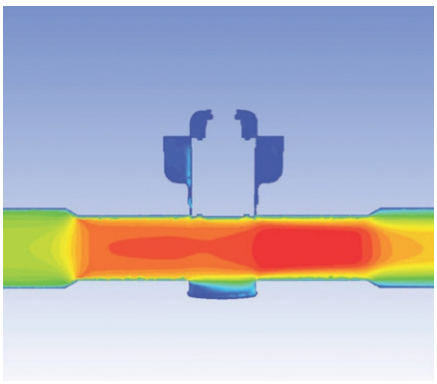
CV FLOW COEFFICIENT (USGPM)

CHECK VALVE						
VALVE SIZES		CV FLOW COEFFICIENTS (USGPM)				
NPS	DN	150#	300#	600#	900#	1500#
2	50	95	95	95	80	80
2.1/2	65	150	150	150	200	185
3	80	220	220	220	200	185
4	100	410	410	410	380	330
6	150	950	950	950	875	750
8	200	1750	1750	1750	1325	1325
10	250	2800	2800	2800	2400	2103
12	300	4,100	4,100	4,100	-	-
14	350	6,200	6,200	5,900	-	-
16	400	8,400	8,400	7,800	-	-
18	450	11,000	11,000	9,900	-	-
20	500	13,500	13,500	12,000	-	-
24	600	20,000	20,000	18,000	-	-
26	650	23,000	-	21,150	-	-
28	700	28,000	28,000	-	-	-
30	750	33,000	-	-	-	-
32	800	36,245	-	-	-	-
34	850	-	41,330	-	-	-
36	900	48,000	-	-	-	-
38	950	-	-	-	-	-
40	1000	-	-	-	-	-
42	1050	-	-	-	-	-
44	1100	-	-	-	-	-
46	1150	-	-	-	-	-
48	1200	-	-	-	-	-
50	1250	-	-	-	-	-
54	1350	-	-	-	-	-
56	1400	-	-	-	-	-
60	1500	-	-	-	-	-
64	1600	-	-	-	-	-
66	1650	-	-	-	-	-

R&D

Designs for Dembla Gate, Globe & Check Valves are created in a 3D environment using state-of-the-art design and analysis software. Finite Element Analysis (FEA) and Computational Fluid Dynamics (CFD) are extensively used to fine-tune product designs.





In-house Qualification Test Facilities:

- High Pressure Gas Test
- Endurance & Cycle Test
- Pipe end load Test
- Vaccum Test
- Fire Safe Test
- Fugitive Emission Test
- Tat Test

The integrity of seat and pressure were established at ambient condition, at elevated temperature and pressure as well as at re-ambient condition.

How to order cast steel check valves

Type of connection	Size of connection	Pressure rating	Check Valve	Body/bonnet style	Body material	Trim material
A	B	C	D	E	F	G
F	1 0	0	0 1	4 C	0 2	J Y

The figure numbers shown on this key are designed to cover essential features of Dembla valves. Please use figure numbers to ensure prompt and accurate processing of your order. A detailed description must accompany any special orders.

A TYPE OF CONNECTION

A	Special	D	DIN Flanged	P	Flanged B16.47 series B (API605)
B	Butt weld	E	Welded studs (butt weld)	R	Flanged ring joint
C	Combination	F	Flanged B16.5 (B16.47 series A)	U	Undrilled flanges

B SIZE OF CONNECTION

Customers have the choice of specifying valve size as part of the valve figure number (**B**) using the numbers below, or indicating valve size separately.
Sizes shown in NPS (DN)

EXAMPLES:
F10-0064C-02JY (valve size is part of figure number)
3 (80) F-0064C-02JY (valve size is shown separately)

08	2 (50)	**14**	6 (150)	**21**	18 (450)	**30**	30 (750)	**42**	42 (1050)	**56**	56 (1400)
09	2½ (65)	**15**	8 (200)	**22**	20 (500)	**32**	32 (800)	**44**	44 (1100)	**60**	60 (1500)
10	3 (80)	**16**	10 (250)	**23**	22 (550)	**34**	34 (850)	**46**	46 (1150)	**64**	64 (1600)
11	3½ (90)	**18**	12 (300)	**24**	24 (600)	**36**	36 (900)	**48**	48 (1200)	**99**	Special
12	4 (100)	**19**	14 (350)	**26**	26 (650)	**38**	38 (950)	**50**	50 (1250)		
13	5 (125)	**20**	16 (400)	**28**	28 (700)	**40**	40 (1000)	**54**	54 (1350)		

C PRESSURE RATING

0	150	**1**	300	**2**	600	**3**	1500	**7**	900	**8**	2500

D VALVE TYPE

01	Check Valve

E BODY/BONNET STYLE

4	Vertical	**A**	Special
		C	Bolted bonnet (cast)
		E	Extended bonnet (cryogenic)
		V	Cast bolted bonnet bellows seal

F BODY MATERIAL(1)

01	Special	**09**	C12	**19**	Monel M35	**31**	LCC
02	WCB	**11**	CF8	**23**	Alloy 20	**34**	C12A (F91)
03	WC1	**12**	CF3	**25**	LCB	**38**	LC1
04	C5	**13**	CF8M	**27**	LC3	**39**	LC2
05	WC6	**14**	CF3M	**28**	CG8M	**46**	GS-C25N
06	WC9	**15**	CF8C	**29**	CG3M		

(1) Pressure-containing valve components which may include body, bonnet, cover and body end.

Note: CoCr alloy as used throughout this catalog refers to cobalt chrome hardfacing alloys as supplied by Kennametal Stellite™, and other approved manufacturers.

For a more detailed list of available trims, contact the factory

G TRIM (standard trims)

Code		Wedge/disc surface(2)	Seat surface(2)	Stem	API Number	Bellows(3) (if applicable)
PS	Standadrd	CoCr alloy(4)	CoCr alloy(4)	316	16	316TI/321
PY		CF8M or 316	CoCr alloy(4)	316	12	316TI/321
JS		CoCr alloy(4)	CoCr alloy(4)	13 Cr (410)(5)	5	316TI/321
JY		13 Cr (410 or CA15)	CoCr alloy(4)	13 Cr (410)	8	
VA	NACE service	13 Cr (410 or CA15) HRC 22 max.	CoCr alloy(4)	13 Cr 410 HRC 22 max.	8	
VB		CF8M	CoCr alloy(4)	316	12	316TI/321
VC		Monel	CoCr alloy(4)	Monel	11	Hastelloy C
VD		CoCr alloy(3	CoCr alloy(3	630 (H1150M)	5(8)	
VE		CoCr alloy(4)	CoCr alloy(4)	13 Cr 410 HRC 22 max.	5	
VF		CoCr alloy(4)	CoCr alloy(4)	Same as body		
VG		CoCr alloy(4)	CoCr alloy(4)	316	16	
VV		CF8M	CoCr alloy(4)	316	12	
VU		Monel	Monel	Monel	9	
VY		CoCr alloy(4)	CoCr alloy(4)	XM-19	16(9)	
AS		CoCr alloy(4)	CoCr alloy(4)	321	16(10)	316TI/321
AY		CF8C/F321	CoCr alloy(4)	321	12(10)	316TI/321
CC		Alloy 20	Alloy 20	Alloy 20	13	
ES		CoCr alloy(4)	CoCr alloy(4)	347	16(10)	
EY		CF8C/F347	CoCr alloy(4)	347	12(10)	
HC		Hastelloy C	CoCr alloy(4)	Hastelloy C		Hastelloy C
HP		HF-acid trim	HF-acid trim	HF-acid trim		
PF		CF8M or 316 w/ Teflon insert(6)	CoCr alloy(4)	316	12	
PH		CoCr alloy(4)	CoCr alloy(4)	316	16	Hastelloy C
PV		CoCr alloy(4)	CoCr alloy(4)	316	16	Inconel 625
PU		CF8M	316	316	10	
JF		13Cr (410 or CA15) w/ Teflon insert(6)	CoCr alloy(4)	13 Cr (410)	8	
JH		CoCr alloy(4)	CoCr alloy(4)	13 Cr (410)(5)	5	Hastelloy C
JN		CoCr alloy(4)	CoCr alloy(4)	13 Cr (410)(5)	5	Inconel 625
US		CoCr alloy(4)	CoCr alloy(4)	Monel		
UU		Monel	Monel	Monel	9	
UY		Monel	CoCr alloy(4)	Monel	11	

(2) Base material is either the same as the body or solid trim at manufacturer's option.
(3) Bellows material shown as standard, Inconel can be used in lieu of 321 and Hastelloy C in lieu of Inconel, where design and/or pressure class applicable.
(4) CoCr alloy refers to cobalt-chrome alloys in Grade 6 (e.g. AWS CoCr-A, UNS 30006 & 30106) or Grade 21 (e.g. AWS CoCr-E, UNS 30021). Use of Grade 6 or 21 is at dEMBLA's option.
(5) 616HT manufacturer's standard. (F91 and C12A only).
(6) Inserts may be in seat or wedge at manufacturer's option.
(7) Valves with "NACE" figure numbers will meet the material requirements of NACE MRO103 and MRO175/ISO 15156. It is the equipment user's responsibility to ensure that the materials are suitable for the intended service.
(8) 630 SS is a Precipitation - Hardenable Stainless Steel (Also referred to as 17-4 PH stainless steel) Has superior Mechanical properties and adequate corrosion resistance when compared to 410 SS.
(9) XM-19 is an austenitic stainless steel known for its superior mechanical properties and corrosion resistance compared to 316 SS.
(10) An austenitic stainless steel which has comparable mechanical properties and corrosion resistance compared to 316.

Dembla

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