FBV INC.
Engineered Solutions

CHECK VALVE

CH-1601B (EN)

ABOUT US

FBV Inc. is an ISO 9001 certified company specializing in manufacturing industrial valves including ball valves, gate valves, globe valves, check valves, plug valves and butterfly valves in carbon steel, stainless steel, duplex stainless and alloy materials. Our products conform to the latest industry standards in accordance to ANSI, ASME and API.

FBV today has over 600,000 square feet of manufacturing facilities. Through its conviction to provide only the finest quality products and services to match the need of our customers, FBV has now established itself as a serious player in the valve business.

FBV INC has sold worldwide in North America, Europe, South America, South Asia, Africa and the Middle East. We consider product quality and customer satisfaction as our highest priority. We look forward to new customer relationships by providing value, quality, customer service, honesty, integrity and the commitment to maintain product consistency with each and every order.

MISSION STATEMENT

We at FBV, Inc. commit to taking ACTION:

- Adopt the latest technology to take the product quality to the next level;
- Consistently provide on-time services to our customers;
- Train and develop talented people with strong work ethics to deliver effective performance;
- Improve and enhance engineering designs to ensure product performance;
- Optimize management systems and increase productivity;
- Never forget our customers and employee needs.

Engineered Solutions®

CHECK VALVE

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CHECK VALVE

Swing Check Valve

Swing check valve is provided with single disc. With the force of medium, the disc will automatically open or close around the fixed pin shaft. When the media stops the flow, the disc will be closed under its own force; No manual intervention is involved in the whole process.

FBV swing check valve offers simple structure, less parts, convenient maintenance and repair and low failure rate. The full open disc design is applied to provide a larger opening flow area after disc opening, small fluid resistance and large valve flow coefficient.

Counter weight or damp structure can be applied to reduce the impact of water hammer while disc opening.

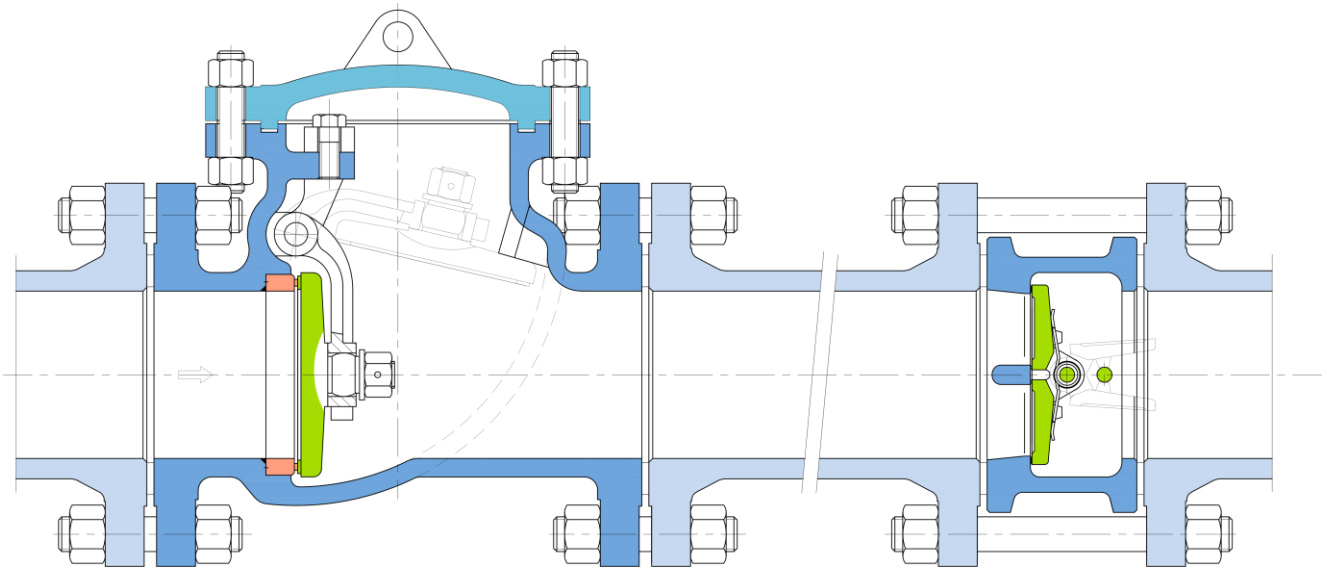
INTRODUCTION

Check valve is installed on the pipeline to prevent the media reverse flow and ensure one-way flow of media channels only.

Dual Wafer Check Valve

Dual wafer check valve has dual disc. Under the force of medium, the disc is rotated around the same shaft pin, and it closes automatically with the force of spring while the medium stops flow.

FBV dual wafer check valve offers easy assembly and maintenance as well as quick open and close. Single disc wafer, dual wafer, axial flow, quick opening and slow closing action with damping check are available based on different request of service.



SCOPE OF PRODUCTS

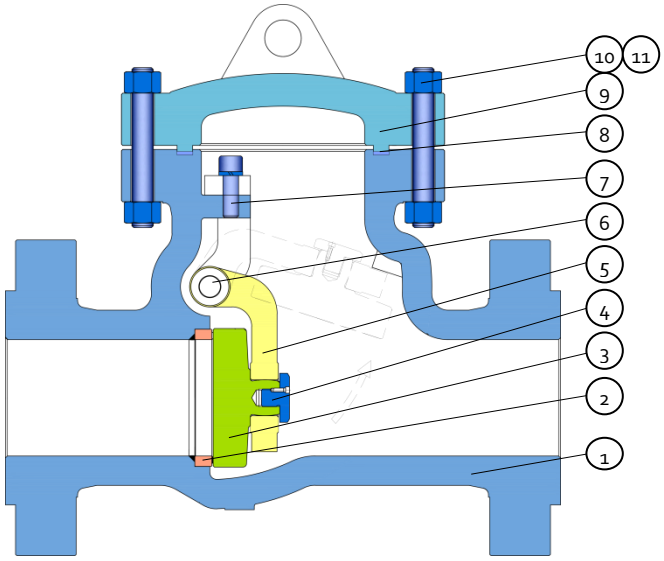
Legends: **A** – Swing Type
B – Dual Plate Type
C – Lift Type

Size in/mm	Class 150 PN 20	Class 300 PN 50	Class 600 PN 100	Class 900 PN 150	Class 1500 PN 250	Class 2500 PN 420
2 *50*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
2 1/2 *65*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
3 *80*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
4 *100*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
6 *150*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
8 *200*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
10 *250*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
12 *300*	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C	A,B,C
14 *350*	A,B,C	A,B,C	A,B,C	A,B,C		
16 *400*	A,B,C	A,B,C	A,B,C	A,B,C		
18 *450*	A,B,C	A,B,C	A,B,C	A,B		
20 *500*	A,B,C	A,B,C	A,B,C	A,B		
22 *550*	A,B,C	A,B,C	A,B,C	A,B		
24 *600*	A,B,C	A,B,C	A,B,C	A,B		
26 *650*	A,B	A,B	A,B	A,B		
28 *700*	A,B	A,B	A,B	A,B		
30 *750*	A,B	A,B	A,B			
32 *800*	A,B	A,B	A,B			
34 *850*	A,B	A,B	A,B			
36 *900*	A,B	A,B	A,B			
38 950	B	B	B			
40 1000	B	B	B			
42 1050	B	B	B			
48 1200	B	B	B			
56 1400	B	B	B			
60 1500	B	B	B			

1. The sizes listed above are normal diameters. Contact our sales representative if any other dimensions are requested.

CHECK VALVE

OVERVIEW (Swing Type)



STANDARDS

Design & Manufacture	BS 1868,ASMEB16.34 API 6D
Face-to-face	ASME B16.10
End Dimension	ASME B16.5 (RF, RTJ), ASME B16.47 (RF,RTJ) MSS SP-44 (NPS 22 Only) ASME B16.25 (BW)
Test & inspection	API 598, API 6D, ISO 5208

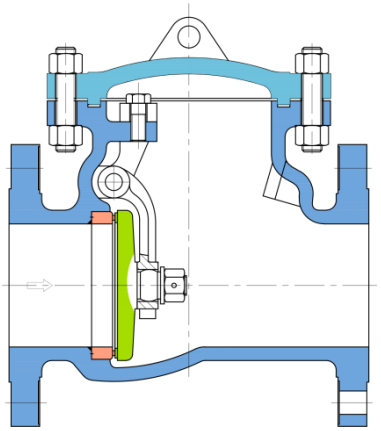
TYPICAL MATERIALS

Body, Cover, Disc	(Casting)A216 WCB,A217 WC6, WC9, A351 CF3, CF8, CF3M, CF8M, A995 4A, 5A, A352 LCB, LCC, LC2, Monel, Inconel, Hastelloy
Seal Surface	13Cr/SS304/SS316/STL, HNBR,FKM

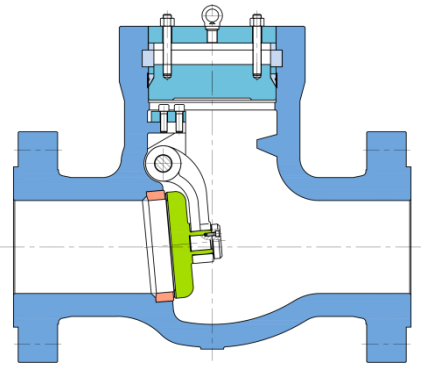
Part List

1 Body	7 Screw
2 Seat Ring	8 Gasket
3 Disc	9 Cover
4 Disc Nut	10 Nut
5 Hinge	11 Stud
6 Pin	

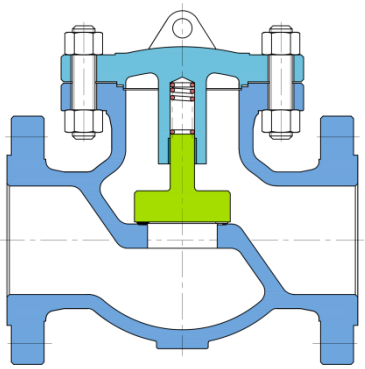
Typical Check Valve



Bolted Cover Swing Check Valve

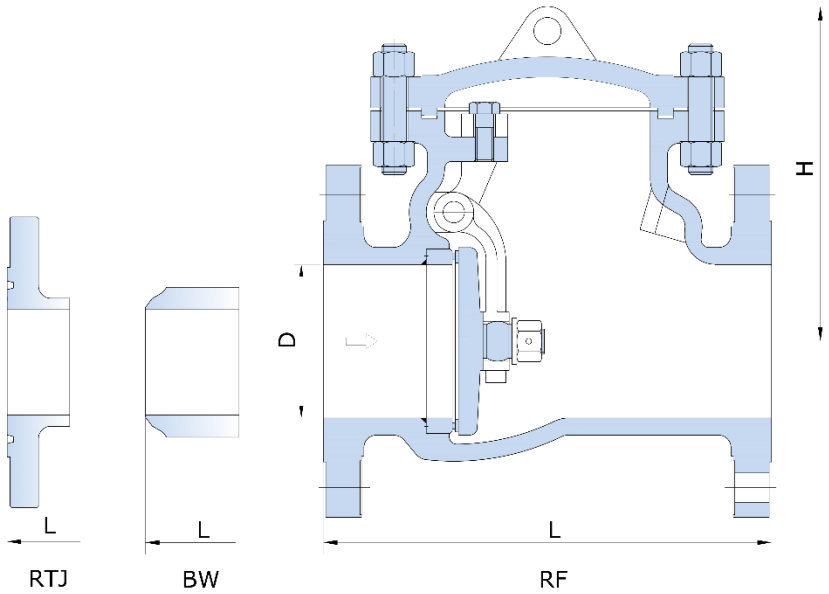


Pressure Seal Cover Swing Check Valve



Bolted Cover Lift Check Valve

DIMENSIONS AND WEIGHTS (Swing Type) *ASME CLASS 150 (PN 20)*



ASME CLASS 150 (PN 20)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	2 *51*	*8* *203*	*8.5* *216*	*8* *203*	*5.5* *140*	*37* *17*
2 ½ *65*	2 ½ *64*	*8.5* *216*	*9* *229*	*8.5* *216*	*6.3* *160*	*44* *20*
3 *80*	3 *80*	*9.5* *241*	*10* *254*	*9.5* *241*	*7.1* *180*	*53* *24*
4 *100*	4 *102*	*11.5* *292*	*12* *305*	*11.5* *292*	*8.27* *210*	*84* *38*
6 *150*	6 *152*	*14* *356*	*14.5* *368*	*14* *356*	*11.42* *290*	*198* *90*
8 *200*	8 *203*	*19.5* *495*	*20* *508*	*19.5* *495*	*14.17* *360*	*286* *130*
10 *250*	10 *252*	*24.5* *622*	*25* *635*	*24.5* *622*	*15.75* *400*	*430* *195*
12 *300*	12 *305*	*27.48* *698*	*28* *711*	*27.48* *698*	*18.11* *460*	*661* *300*
14 *350*	14 *337*	*31* *787*	*31.5* *800*	*31* *787*	*20.47* *520*	*804* *365*
16 *400*	15.24 *387*	*34* *864*	*34.5* *876*	*34* *864*	*24.41* *620*	*1178* *535*
18 *450*	17.24 *438*	*38.5* *978*	*39* *991*	*38.5* *978*	*27.17* *690*	*1652* *750*
20 *500*	19.25 *489*	*38.5* *978*	*39* *991*	*38.5* *978*	*28.35* *720*	*1949* *885*
24 *600*	23.22 *590*	*51* *1295*	*51.5* *1308*	*51* *1295*	*29.13* *740*	*2533* *1150*
28 *700*	27.24 *692*	*57* *1448*	-	*57* *1448*	*33.46* *850*	*3822* *1735*
30 *750*	29.25 *743*	*60* *1524*	-	*60* *1524*	*39.37* *1000*	*4515* *2050*
36 *900*	35.23 *895*	*77* *1956*	-	*77* *1956*	*44.88* *1140*	*4626* *2100*

The dimension and weights are for reference only and subject to change without notice.

1.For more size or dimensional information, please contact our sales representative.

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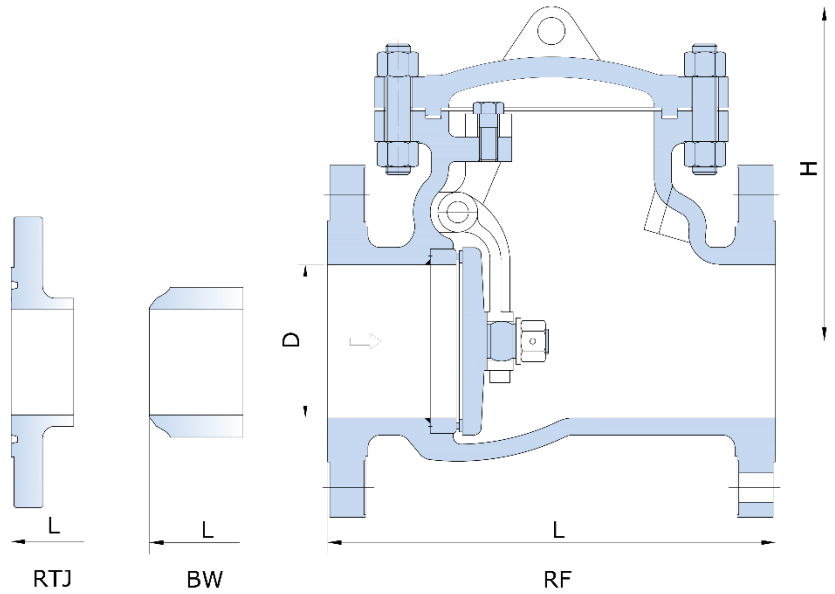
DIMENSIONS AND WEIGHTS (Swing Type) *ASME CLASS 300 (PN 50)*



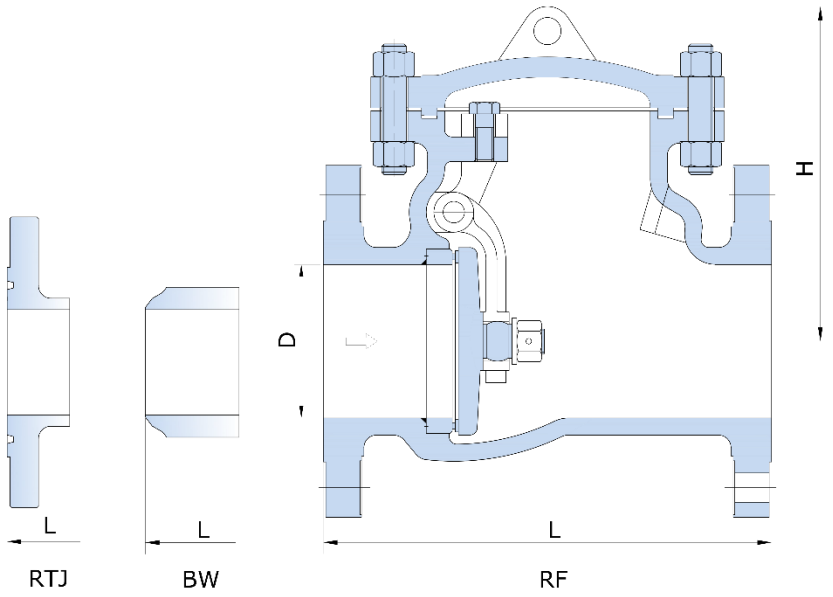
ASME CLASS 300 (PN 50)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	2 *51*	*10.5* *267*	*11.14* *283*	*10.5* *267*	*6.1* *155*	*51* *23*
2 ½ *65*	2 ½ *64*	*11.5* *292*	*12.13* *308*	*11.5* *292*	*7.09* *180*	*81* *37*
3 *80*	3 *80*	*12.52* *318*	*13.15* *334*	*12.52* *318*	*7.87* *200*	*101* *46*
4 *100*	4 *102*	*14* *356*	*14.65* *372*	*14* *356*	*8.66* *220*	*156* *71*
6 *150*	6 *152*	*17.5* *444*	*18.11* *460*	*17.5* *444*	*12.4* *315*	*256* *116*
8 *200*	8 *203*	*21* *533*	*21.61* *549*	*21* *533*	*15.16* *385*	*445* *202*
10 *250*	10 *252*	*24.5* *622*	*25.12* *638*	*24.5* *622*	*16.93* *430*	*652* *296*
12 *300*	12 *305*	*28* *711*	*28.62* *727*	*28* *711*	*19.29* *490*	*943* *428*
14 *350*	14 *337*	*33* *838*	*33.62* *854*	*33* *838*	*21.65* *550*	*1284* *583*
16 *400*	15.24 *387*	*34* *864*	*34.65* *880*	*34* *864*	*24.61* *625*	*1661* *754*
18 *450*	17 *432*	*38.5* *978*	*39.13* *994*	*38.5* *978*	*26.38* *670*	*2059* *935*
20 *500*	19 *483*	*40* *1016*	*40.75* *1035*	*40* *1016*	*29.13* *740*	*2544* *1155*
24 *600*	23 *584*	*53* *1346*	*53.86* *1368*	*53* *1346*	*31.89* *810*	*3101* *1408*
28 *700*	27 *686*	*59* *1499*	*60* *1524*	*59* *1499*	*34.25* *870*	*3789* *1720*
32 *800*	29 *737*	*62.76* *1594*	*63.74* *1619*	*62.76* *1594*	*38.98* *990*	*4141* *1880*
36 *900*	35 *889*	*82* *2083*	*82.64* *2099*	*82* *2083*	*45.67* *1160*	*2846* *2200*

The dimension and weights are for reference only and subject to change without notice.

1. For more size or dimensional information, please contact our sales representative.

DIMENSIONS AND WEIGHTS (Swing Type) *ASME CLASS 600 (PN 100)*



ASME CLASS 600 (PN 100)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	2 *51*	*11.5* *292*	*11.61* *295*	*11.5* *292*	*6.7* *170*	*57* *26*
2 ½ *65*	2 ½ *64*	*13* *330*	*13.11* *333*	*13* *330*	*7.4* *188*	*70* *32*
3 *80*	3 *80*	*14* *356*	*14.13* *359*	*14* *356*	*9.37* *238*	*108* *49*
4 *100*	4 *102*	*17* *432*	*17.13* *435*	*17* *432*	*11.42* *290*	*189* *86*
6 *150*	6 *152*	*22* *559*	*22.13* *562*	*22* *559*	*14* *355*	*555* *252*
8 *200*	*7.87* *200*	*26* *660*	*26.10* *663*	*26* *660*	*16.34* *415*	*945* *429*
10 *250*	*9.76* *248*	*31* *787*	*31.1* *790*	*31* *787*	*18.82* *478*	*1227* *557*
12 *300*	*11.77* *299*	*33* *838*	*33.11* *841*	*33* *838*	*21.26* *540*	*1467* *670*
14 *350*	*12.87* *327*	*35* *889*	*35.12* *892*	*35* *889*	*22.83* *580*	*2079* *944*
16 *400*	*14.76* *375*	*39* *991*	*39.13* *994*	*39* *991*	*26.38* *670*	*2863* *1300*
18 *450*	*16.5* *419*	*43* *1092*	*43.11* *1095*	*43* *1092*	*30.94* *786*	*3877* *1760*
20 *500*	*18.27* *464*	*47* *1194*	*47.24* *1200*	*47* *1194*	*33.27* *845*	*4846* *2200*
24 *600*	22 *559*	*55* *1397*	*55.39* *1407*	*55* *1397*	*37* *940*	*6308* *2864*
28 *700*	*25.51* *648*	*63* *1600*	*63.5* *1613*	*63* *1600*	*41.34* *1050*	*7048* *3200*
32 *800*	29 *737*	*70* *1778*	*70.63* *1794*	*70* *1778*	*45.67* *1160*	*8238* *3740*
36 *900*	*32.64* *829*	*82* *2083*	*82.64* *2099*	*82* *2083*	*50* *1270*	*9912* *4500*

The dimension and weights are for reference only and subject to change without notice.

1. For more size or dimensional information, please contact our sales representative.

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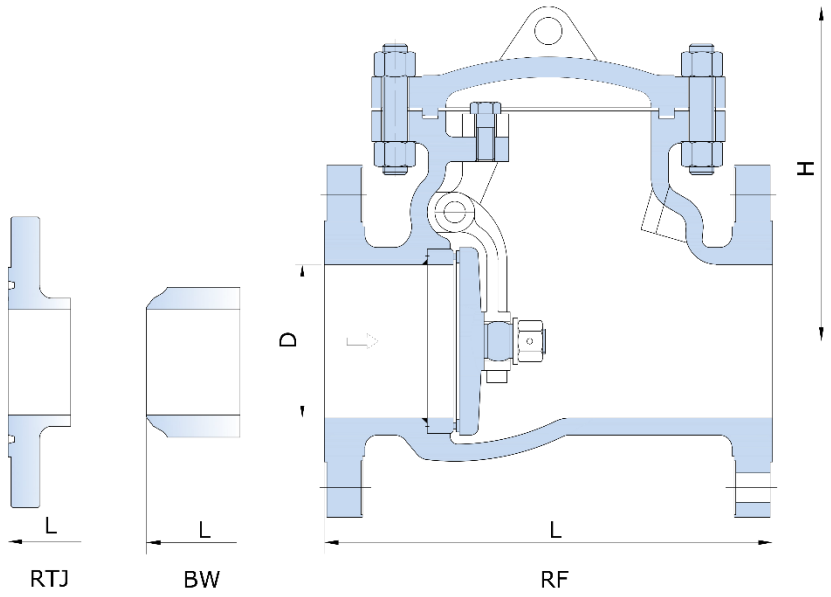
DIMENSIONS AND WEIGHTS (Swing Type) *ASME CLASS 900 (PN 150)*



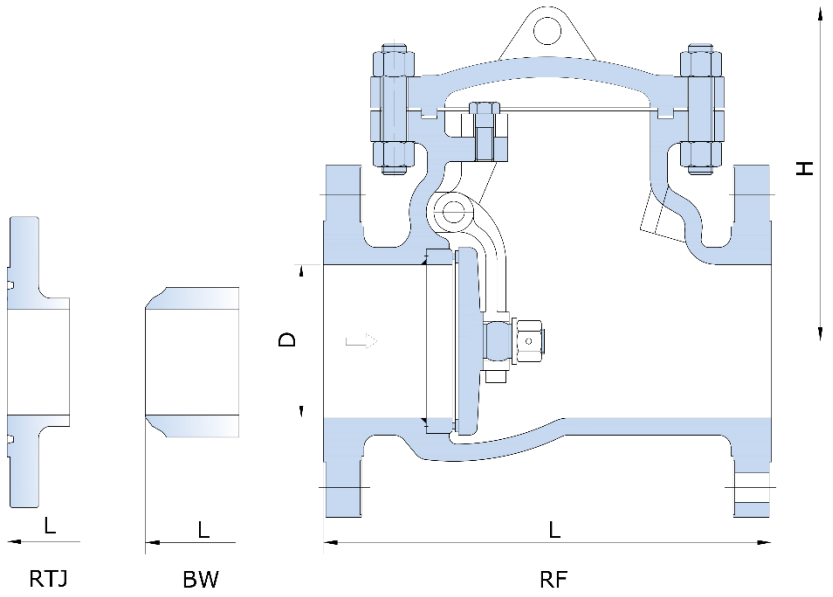
ASME CLASS 900 (PN 150)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2	1.89	14.5	14.61	14.5	7.87	121
50	*48*	*368*	*371*	*368*	*200*	*55*
2 ½	2.24	16.5	16.61	16.5	10.24	165
65	*57*	*419*	*422*	*419*	*260*	*75*
3	2.87	15	15.12	15	11.22	220
80	*73*	*381*	*384*	*381*	*285*	*100*
4	3.86	18	18.11	18	12.6	308
100	*98*	*457*	*460*	*457*	*320*	*140*
6	5.75	24	24.13	24	16.54	643
150	*146*	*610*	*613*	*610*	*420*	*292*
8	7.52	29	29.13	29	20.47	1211
200	*191*	*737*	*740*	*737*	*520*	*550*
10	9.37	33	33.11	33	21.26	1542
250	*238*	*838*	*841*	*838*	*540*	*700*
12	11.1	38	38.11	38	23.23	1905
300	*282*	*965*	*968*	*965*	*590*	*865*
14	12.24	40.51	40.91	40.51	25.2	2753
350	*311*	*1029*	*1039*	*1029*	*640*	*1250*
16	14	44.5	44.88	44.5	27.56	3855
400	*356*	*1130*	*1140*	*1130*	*700*	*1750*
18	15.75	48	48.5	48	29.53	4515
450	*400*	*1219*	*1232*	*1219*	*750*	*2050*
20	17.52	52	52.52	52	31.89	5396
500	*445*	*1321*	*1334*	*1321*	*810*	*2450*
24	21	61	61.73	61	38.58	6057
600	*533*	*1549*	*1568*	*1549*	*980*	*2750*

The dimension and weights are for reference only and subject to change without notice.

1. For more size or dimensional information, please contact our sales representative.

DIMENSIONS AND WEIGHTS (Swing Type) — *ASME CLASS 1500 (PN 250)*



ASME CLASS 1500 (PN 250)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	1.89 *48*	14.5 *368*	14.61 *371*	14.5 *368*	7.87 *200*	143 *65*
2 ½ *65*	2.24 *57*	16.5 *419*	16.61 *422*	16.5 *419*	10.63 *270*	176 *80*
3 *80*	2.76 *70*	18.5 *470*	18.62 *473*	18.5 *470*	11 *280*	264 *120*
4 *100*	3.58 *91*	21.5 *546*	21.61 *549*	21.5 *546*	13.78 *350*	419 *190*
6 *150*	5.35 *136*	27.76 *705*	28 *711*	27.76 *705*	18.5 *470*	1057 *480*
8 *200*	7 *178*	32.76 *832*	33.15 *842*	32.76 *832*	22.05 *560*	1674 *760*
10 *250*	8.74 *222*	39 *991*	39.41 *1001*	39 *991*	25.6 *650*	2313 *1050*
12 *300*	10.35 *263*	44.5 *1130*	45.12 *1146*	44.5 *1130*	28.74 *730*	3172 *1440*
14 *350*	11.38 *289*	49.5 *1257*	50.24 *1276*	49.5 *1257*	33.07 *840*	3833 *1740*
16 *400*	13 *330*	54.5 *1384*	55.35 *1406*	54.5 *1384*	37 *940*	5374 *2440*
18 *450*	14.6 *371*	60.5 *1537*	61.38 *1559*	60.5 *1537*	41.34 *1050*	7048 *3200*
20 *500*	16.38 *416*	65.5 *1664*	66.38 *1686*	65.5 *1664*	45.67 *1160*	8370 *3800*
24 *600*	19.6 *498*	76.5 *1943*	77.6 *1971*	76.5 *1943*	50 *1270*	9471 *4300*

The dimension and weights are for reference only and subject to change without notice.

1. For more size or dimensional information, please contact our sales representative.

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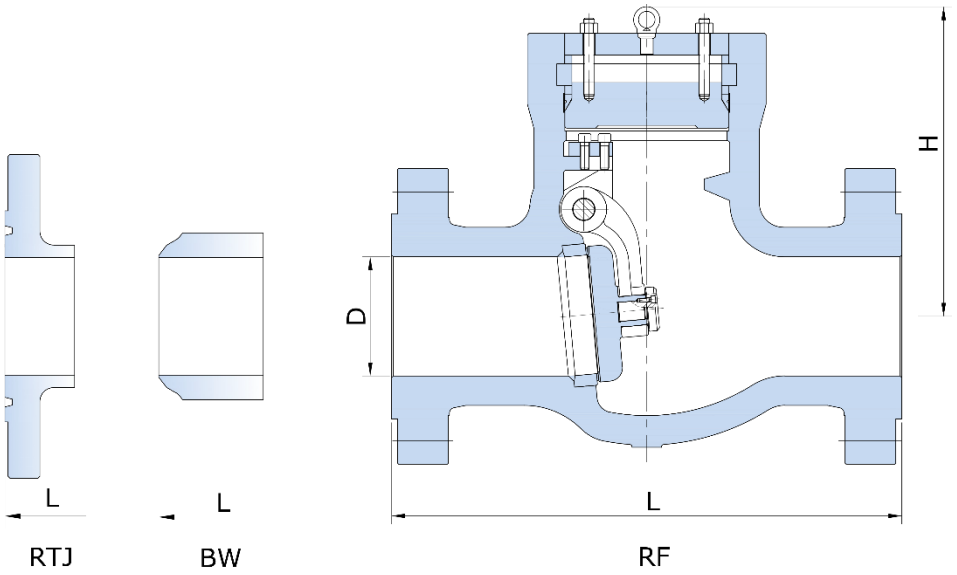
DIMENSIONS AND WEIGHTS (Pressure Seal) — *ASME CLASS 1500/2500 (PN 250/420)*



ASME CLASS 1500 (PN 250)

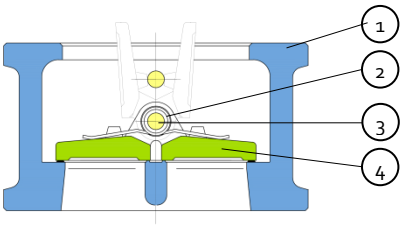
Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	1.89 *48*	*14.5* *368*	*14.61* *371*	*8.5* *216*	*9.65* *245*	*62* *28*
2 ½ *65*	2.24 *57*	*16.5* *419*	*16.61* *422*	*10* *254*	*10.24* *260*	*79* *36*
3 *80*	2.76 *70*	*18.5* *470*	*18.62* *473*	*12* *305*	*11.81* *300*	*110* *50*
4 *100*	3.58 *91*	*21.5* *546*	*21.61* *549*	*16* *406*	*13.39* *340*	*176* *80*
6 *150*	5.35 *136*	*27.76* *705*	*28* *711*	*19* *483*	*16.93* *430*	*639* *290*
8 *200*	7 *178*	*32.76* *832*	*33.15* *842*	*28* *711*	*20.87* *530*	*1079* *490*
10 *250*	8.74 *222*	*39* *991*	*39.41* *1001*	*34* *864*	*22.44* *570*	*1652* *750*
12 *300*	10.35 *263*	*44.5* *1130*	*45.12* *1146*	*39* *991*	*25.2* *640*	*2423* *1100*
14 *350*	11.38 *289*	*49.5* *1257*	*50.24* *1276*	*42* *1067*	*27.56* *700*	*3084* *1400*
16 *400*	13 *330*	*54.5* *1384*	*55.35* *1406*	*47* *1194*	*30.31* *770*	*3524* *1600*

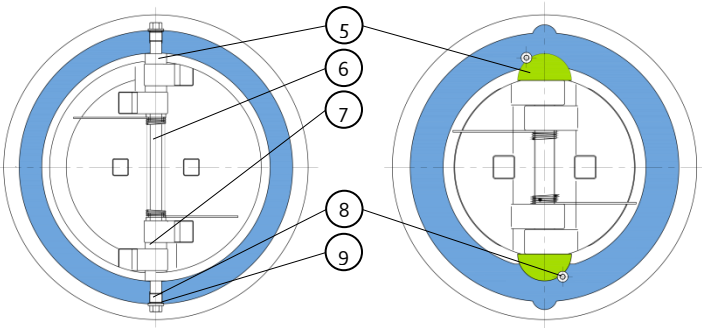
ASME CLASS 2500 (PN 420)

Size *in/mm*	D	L			H	Weight *(lb/kg)*
		RF	RTJ	BW		RF/RTJ
2 *50*	1.5 *38*	*17.76* *451*	*17.87* *454*	*11* *279*	*9.84* *250*	*132* *60*
2 ½ *65*	1.89 *48*	*20* *508*	*20.24* *514*	*13* *330*	*11* *280*	*187* *85*
3 *80*	2.24 *57*	*22.76* *578*	*23* *584*	*14.5* *368*	*11.81* *300*	*220* *100*
4 *100*	2.87 *73*	*26.5* *673*	*26.89* *683*	*18* *457*	*13.58* *345*	*363* *165*
6 *150*	4.37 *111*	*35.98* *914*	*36.5* *927*	*24* *610*	*17.32* *440*	*1013* *460*
8 *200*	5.75 *146*	*40.24* *1022*	*40.87* *1038*	*30* *762*	*21.06* *535*	*1982* *900*
10 *250*	7.24 *184*	*50* *1270*	*54.8* *1392*	*36* *914*	*22.83* *580*	*2863* *1300*
12 *300*	8.62 *219*	*55.98* *1422*	*56.89* *1445*	*10.94* *1040*	*26* *660*	*3965* *1800*

CHECK VALVE

OVERVIEW (Wafer Type)





External Pin Structure

Internal Pin Structure

Part List

1. Body
2. Spring Seat
3. Spring
4. Disc
5. End Retainer
6. Pin
7. Middle Retainer
8. Screw
9. Washer

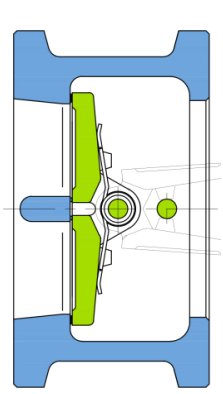
STANDARDS

Design & Manufacture	API 594 ,ASME B16.34 API 6D
Face-to-face	API 594, ASME B16.10
End Dimension	ASME B16.5 (RF) ASME B16.47 (RF) MSS SP-44 (NPS 22 Only)
Test & inspection	API 598, API 6D, ISO 5208

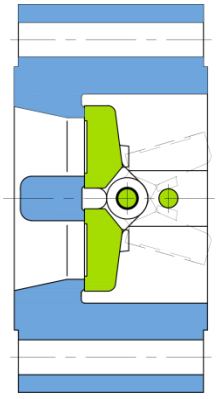
TYPICAL MATERIALS

Body,Disc	A216 WCB, WCC, A217 WC6,WC9 A351 CF_3, CF8, CF_3M, CF8M, A995 4A, 5A,Monel, Inconel, Hastelloy
Seat	FKM, HNBR, EPDM,
Pin	A276 410, 304, 316,
Spring	Inconel x750

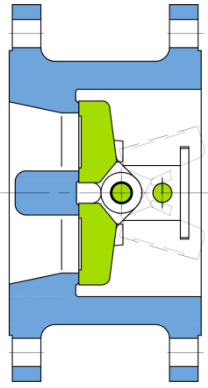
Typical Wafer Check Valve



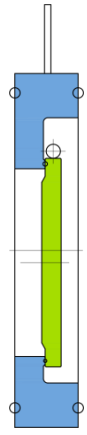
Wafer Type,
Dual Plate



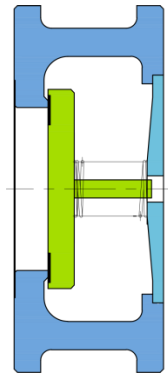
Lug Type,
Dual Plate



Flanged Type,
Dual Plate



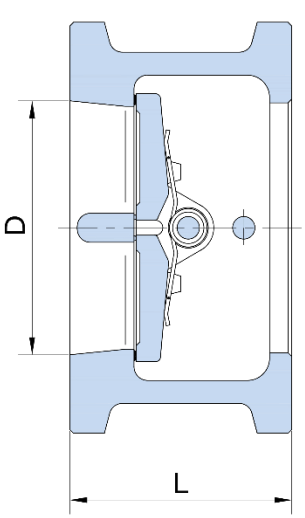
Wafer Type,
Single Plate



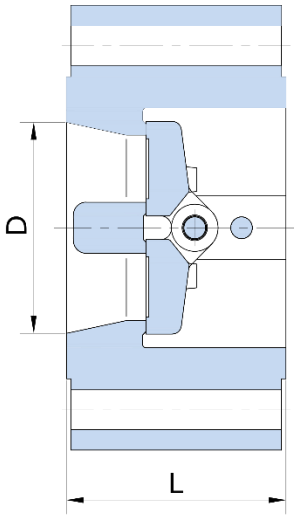
Wafer Type,
Lift Type

Engineered Solutions

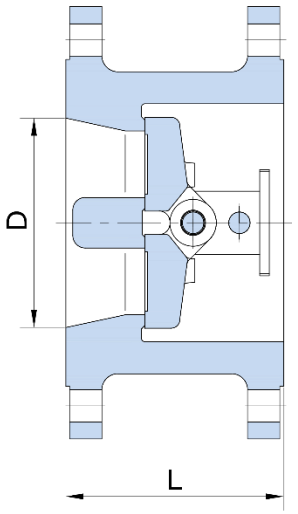
DIMENSIONS AND WEIGHTS (Wafer Type) *ASME CLASS 150 /300(PN 20/50)*



Wafer



Lug



RF

ASME CLASS 150 (PN 20)

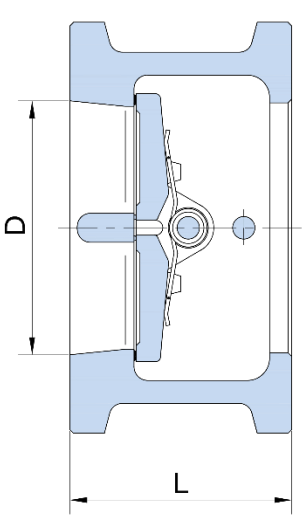
Size *in/mm*	D	L	Weight *(lb/kg)*
		WAFER / LUG	WAFER
2 *50*	2 *50*	*2.36* *60*	*4* *2*
2 ½ *65*	2 ½ *65*	*2.64* *67*	*7* *3*
3 *80*	3 *80*	*2.87* *73*	*9* *4*
4 *100*	4 *100*	*2.87* *73*	*11* *5*
6 *150*	6 *150*	*3.86* *98*	*29* *13*
8 *200*	8 *200*	*5* *127*	*55* *25*
10 *250*	10 *250*	*5.75* *146*	*86* *39*
12 *300*	12 *300*	*7.13* *181*	*119* *54*
14 *350*	14 *350*	*7.24* *184*	*176* *80*
16 *400*	16 *400*	*7.52* *191*	*258* *117*
18 *450*	18 *450*	*8* *203*	*359* *163*
20 *500*	20 *500*	*8.62* *219*	*729* *331*
24 *600*	24 *600*	*8.74* *222*	*837* *380*
28 *700*	28 *700*	*12* *305*	*969* *440*
30 *750*	30 *750*	*12* *305*	*1189* *540*
36 *900*	36 *900*	*14.5* *368*	*1872* *850*
40 *1000*	40 *1000*	*17* *432*	*2533* *1150*
48 *1200*	48 *1200*	*20.63* *524*	*3524* *1600*

ASME CLASS 300 (PN 50)

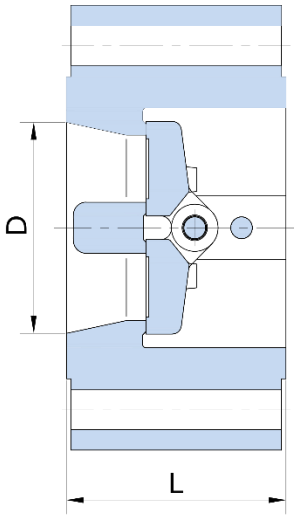
Size *in/mm*	D	L	Weight *(lb/kg)*
		WAFER / LUG	WAFER
2 *50*	2 *50*	*2.36* *60*	*7* *3*
2 ½ *65*	2 ½ *65*	*2.64* *67*	*9* *4*
3 *80*	3 *80*	*2.87* *73*	*13* *6*
4 *100*	4 *100*	*2.87* *73*	*18* *8*
6 *150*	6 *150*	*3.86* *98*	*40* *18*
8 *200*	8 *200*	*5* *127*	*84* *38*
10 *250*	10 *250*	*5.75* *146*	*112* *51*
12 *300*	12 *300*	*7.13* *181*	*170* *77*
14 *350*	14 *350*	*8.74* *222*	*258* *117*
16 *400*	16 *400*	*9.13* *232*	*419* *190*
18 *450*	18 *450*	*10.39* *264*	*441* *200*
20 *500*	20 *500*	*11.5* *292*	*584* *265*
24 *600*	24 *600*	*12.5* *318*	*903* *410*
28 *700*	28 *700*	*12* *305*	*1145* *520*
30 *750*	30 *750*	*14.5* *368*	*1278* *580*
36 *900*	36 *900*	*19* *483*	*1960* *890*
40 *1000*	40 *1000*	*22.36* *568*	*2621* *1190*
48 *1200*	48 *1200*	*24.76* *629*	*3744* *1700*

(1)**The dimension and weights are for reference only and subject to change without notice.**
(2)For more dimensional information, please contact our sales representative.

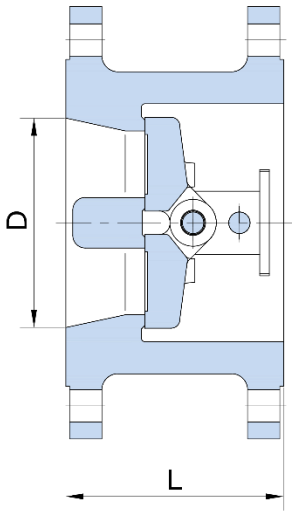
DIMENSIONS AND WEIGHTS (Wafer Type) — *ASME CLASS 600 /900 (PN 100/150)*



Wafer



Lug



RF

ASME CLASS 600 (PN 100)

Size *in/mm*	D	L	Weight *(lb/kg)*
		WAFER / LUG	WAFER
2 *50*	2 *50*	*2.36* *60*	*9* *4*
2 ½ *65*	2 ½ *65*	*2.64* *67*	*11* *5*
3 *80*	3 *80*	*2.87* *73*	*18* *8*
4 *100*	4 *100*	*3.11* *79*	*24* *11*
6 *150*	6 *150*	*5.35* *136*	*57* *26*
8 *200*	8 *200*	*6.5* *165*	*121* *55*
10 *250*	10 *250*	*8.39* *213*	*209* *95*
12 *300*	12 *300*	*9* *229*	*308* *140*
14 *350*	14 *350*	*10.75* *273*	*491* *223*
16 *400*	16 *400*	*12* *305*	*793* *360*
18 *450*	18 *450*	*14.25* *362*	*870* *395*
20 *500*	20 *500*	*14.5* *368*	*1141* *518*
24 *600*	24 *600*	*17.24* *438*	*1841* *836*
30 *750*	30 *750*	*19.88* *505*	*2423* *1100*
36 *900*	36 *900*	*27.6* *701*	*3524* *1600*

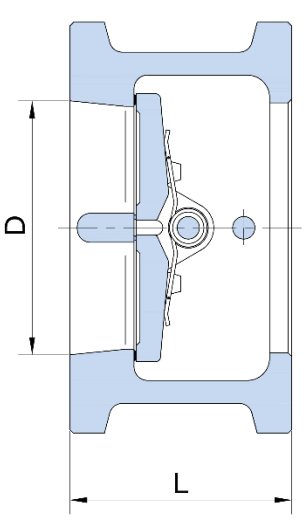
ASME CLASS 900 (PN 150)

Size *in/mm*	D	L	Weight *(lb/kg)*
		WAFER / LUG	WAFER
2 *50*	2 *50*	*2.76* *70*	*18* *8*
2 ½ *65*	2 ½ *65*	*3.27* *83*	*24* *11*
3 *80*	3 *80*	*3.27* *83*	*31* *14*
4 *100*	4 *100*	*4* *102*	*44* *20*
6 *150*	6 *150*	*6.26* *159*	*93* *42*
8 *200*	8 *200*	*8.11* *206*	*185* *84*
10 *250*	10 *250*	*9.5* *241*	*319* *145*
12 *300*	12 *300*	*11.5* *292*	*485* *220*
14 *350*	14 *350*	*14* *356*	*770* *350*
16 *400*	16 *400*	*15.12* *384*	*1035* *470*
18 *450*	18 *450*	*17.76* *451*	*1333* *605*
20 *500*	20 *500*	*17.76* *451*	*1806* *820*
24 *600*	24 *600*	*19.5* *495*	*2313* *1050*

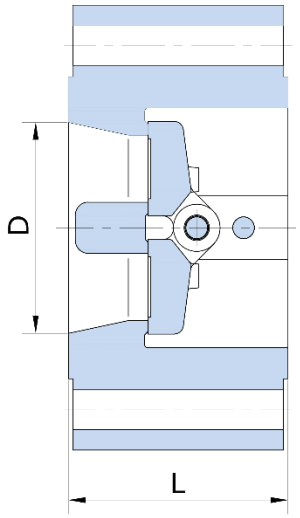
(1)**The dimension and weights are for reference only and subject to change without notice.**
(2)For more dimensional information, contact one of our representatives.

Engineered Solutions

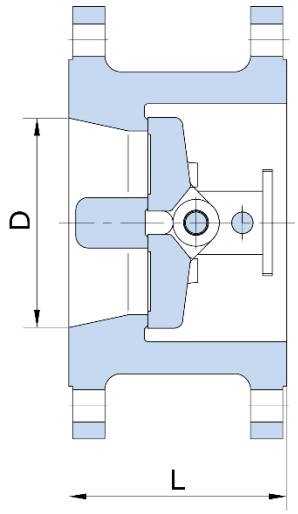
DIMENSIONS AND WEIGHTS (Wafer Type) *ASME CLASS 1500 /2500 (PN 250/420)*



Wafer



Lug



RF

ASME CLASS 1500 (PN 250)

Size *in/mm*	D	L WAFER / LUG	Weight *(lb/kg)* WAFER
2	1.89	2.76	18
50	*48*	*70*	*8*
2 ½	2.24	3.27	24
65	*57*	*83*	*11*
3	2.76	3.27	42
80	*70*	*83*	*19*
4	3.58	4	57
100	*91*	*102*	*26*
6	5.35	6.26	150
150	*136*	*159*	*68*
8	7	8.11	286
200	*178*	*206*	*130*
10	8.74	9.76	463
250	*222*	*248*	*210*
12	10.35	11.5	837
300	*263*	*305*	*380*
14	11.38	14	1211
350	*289*	*356*	*550*
16	13	15.12	1388
400	*330*	*384*	*630*
18	14.6	18.43	1652
450	*371*	*468*	*750*
20	16.38	21	1652
500	*416*	*533*	*970*
24	19.6	22	2599
600	*498*	*559*	*1180*

ASME CLASS 2500 (PN 420)

Size *in/mm*	D	L WAFER / LUG	Weight *(lb/kg)* WAFER
2	1.5	2.76	20
50	*38*	*70*	*9*
2 ½	1.89	3.27	26
65	*48*	*83*	*12*
3	2.24	3.39	46
80	*57*	*86*	*21*
4	2.87	4.13	62
100	*73*	*105*	*28*
6	4.37	6.26	154
150	*111*	*159*	*70*
8	5.75	8.11	308
200	*146*	*206*	*140*
10	7.24	10	474
250	*184*	*254*	*215*
12	8.62	12	881
300	*219*	*305*	*400*

(1)**The dimension and weights are for reference only and subject to change without notice.**
(2)For more dimensional information, please contact our sales representative.

CHECK VALVE

VALVE FIGURE NUMBER — *HOW TO ORDER*

	Nominal Size	Valve Type	Pressure Rating	End Conn.	Construct-ion	Body Material	Trim Material	Seat	O-ring	Operation Mode
	A	B	C	D	E	F	G	H	I	J
e.g.	1 6	C H	3	W	1	C 4	0 1	N	0	X

is a NPS 16 Class 300, Check Valve, Wafer Type, A216 WCB body, 13Cr Trim, Nonrenewable Seat, No O-ring, No Operation.

A Nominal Size

00	Modified	**02**	2 (DN 50)	**07**	8 RB	**19**	20 RB	**31**	32 RB
F1	3/8 (DN 10)	**R2**	2 RB	**08**	8 (DN 200)	**20**	20 (DN 500)	**32**	32 (DN 800)
F2	1/2 (DN 15)	**F6**	2 ½ (DN 65)	**09**	10 RB	**21**	22 RB	**33**	34 RB
0R	1/2 RB	**3R**	2 ½ RB	**10**	10 (DN 250)	**22**	22 (DN 550)	**34**	34 (DN 850)
F3	3/4 (DN 20)	**03**	3 (DN 80)	**11**	12 RB	**23**	24 RB	**35**	36 RB
R0	3/4 RB	**R3**	3 RB	**12**	12 (DN 300	**24**	24 (DN 600)	**36**	36 (DN 900)
01	1 (DN 25)	**04**	4 (DN 100)	**13**	14 RB	**25**	26 RB	**37**	38 RB
R1	1 RB	**R4**	4 RB	**14**	14 (DN 350)	**26**	26 (DN 650)	**38**	38 (DN 950)
F4	1 ¼ (DN 32)	**05**	5 (DN 125)	**15**	16 RB	**27**	28 RB	**39**	40 RB
1R	1 ¼ RB	**R5**	5 RB	**16**	16 (DN 400)	**28**	28 (DN 700)	**40**	40 (DN 1000)
F5	1 ½ (DN 40)	**06**	6 (DN 150)	**17**	18 RB	**29**	30 RB	**41**	42 RB
2R	1 ½ RB	**R6**	6 RB	**18**	18 (DN 450)	**30**	30 (DN 750)	...	More as such

B Valve Type

CH	Check Valve

C Pressure Rating

0	Modified	**7**	Class 2500
1	Class 150	**9**	Class 900
3	Class 300	**8**	Class 800
5	Class 1500	**2**	Class 125
6	Class 600	**4**	Class 400

D End Connection

X	Other	**B**	Butt-Weld (BW)
R	RF Flanged	**S**	Socket-Weld (SW)
J	RTJ Flanged	**W**	Wafer
F	FF Flanged	**L**	Lug
T	FNPT	**N**	SW x FNPT

E Construction

1 Swing, Bolted Cover	**5** Lift Type, Welded Cover	**9** Axial flow disc	**C** Y-pattern, Lift type, Pressure seal
2 Swing, Welded Cover	**6** Single Plate, Wafer	**A** Y-pattern, Lift type, Bolted Bonnet	**D** Titled Disc, Bolted Cover
3 Swing, Pressure Seal	**7** Dual Plate	**B** Y-pattern, Lift type, Bolted Bonnet	**E** Titled Disc, Pressure Seal
4 Lift Type, Bolted Cover	**8** Lift Type, Pressure Seal		

F Body Material

X0	Other	**E7**	A182 F91	**S6**	A351 CF8M	**A1**	B564 No4400(Monel 400)
C1	A105N	**E8**	A217 C12A	**S7**	A182 F316L	**A2**	A494 M-35-1
C2	A216 WCA	**L1**	A350 LF1	**S8**	A351 CF3M	**A3**	B865 No5500(Monel K500)
C4	A216 WCB	**L2**	A352 LCA	**S9**	A182 F347	**A4**	B462 No8020(Alloy 20)
C6	A216 WCC	**L3**	A350 LF2	**S0**	A351 C F8C	**A5**	A351 CN7M(Cast Alloy 20)
M1	A182 F1	**L4**	A352 LC2	**SA**	A182 F317	**A6**	A990 CN3MCU(Cast Alloy 20)
M2	A217 WC1	**L5**	A350 LF3	**SB**	A182 F321	**A7**	B462 N10276 (Hastelloy C276)
M3	A182 F2	**L6**	A352 LC3	**SC**	A182 F304H	**A8**	A494 CW12MW(Cast Hastelloy Alloy C276)
M4	A217 WC4	**L7**	A350 LF5	**SD**	A351 CF10	**B1**	B564 No6625 (Alloy Inconel 625)
M5	A182 F12 CL 2	**L8**	A352 LCB	**SE**	A182 F316H	**B2**	A494 CW6MC(Cast Inconel Alloy 625)
M6	A217 WC5	**L9**	A350 LF6	**SF**	A351 CF10M	**B3**	B564 No8825 (Alloy Inconel 825)
M7	A182 F11 CL 2	**LA**	A350 LF9	**SG**	A182 F304(L) Dual	**B4**	A494 CW5MCUC(Cast Inconel Alloy 825)
M8	A217 WC6	**LB**	A352 LC9	**SH**	A182 F316(L) Dual	**H1**	B62 C83600 Composition Bronze Casting
M9	A182 F22 CL 3	**LD**	A352 LCC	**D1**	A182 F51	**H2**	B148 C95400 Al-Bronze Casting
M0	A217 WC9	**S1**	A182 F304	**D2**	A995 4A	**H3**	B148 C95800 Al-Bronze Casting
E1	A182 F5	**S2**	A351 CF8	**D3**	A182 F53	**H4**	B150 C63000 Al-Bronze Rod, Bar
E2	A217 C5	**S3**	A182 F304L	**D4**	A995 5A	**H5**	B150 C63200 Al-Bronze Rod, Bar
E5	A182 F9	**S4**	A351 CF3	**D5**	A182 F55	**F1**	A395 65-45-15 Ductile Iron
E6	A217 C12	**S5**	A182 F316	**D6**	A995 6A	**F2**	A536 65-45-12 Ductile Iron

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CHECK VALVE

	Nominal Size	Valve Type	Pressure Rating	End Conn.	Construct-ion	Body Material	Trim Material	Seat	O-ring	Operation Mode
	A	B	C	D	E	F	G	H	I	J
e.g.	16	CH	3	W	1	C4	01	N	0	X

is a NPS 16 Class 300, Check Valve, Wafer Type, A216 WCB body, 13Cr Trim, Nonrenewable Seat, No O-ring, No Operation.

G Trim Material

00 Other	**09** Monel/Monel/Monel	**18** Stellite 6/Stellite 6/Alloy 20	**43** 304/Stellite 6/304
01 13Cr/13Cr/410	**10** 316/316/316	**20** 304L /304L /304L	**44** Inconel 625/Inconel 625/Inconel 625
02 304/304/304	**0A** Stellite 6/13Cr/410	**21** 316L /316L /316L	**45** 317/317/317
03 310/310/310	**0B** Stellite 6/316/316	**22** UNS 32100/UNS 32100/F321	**46** 321/321/321
04 Hard 13Cr/Hard 13Cr/410	**11** Monel/Stellite 6/Monel	**23** UNS S32760/UNS S32760/F55	**47** 347/347/347
05 Stellite 6/Stellite 6/410	**12** 316/Stellite 6/316	**24** UNS S31803/UNS S31803/F51	**48** 304H/304H/304H（ASTM A479）
5A Ni-Cr/Ni-Cr/410	**13** Alloy 20/Alloy 20 /Alloy 20	**25** UNS S32750/UNS S32750/F53	**49** 316H/316H/316H（ASTM A479）
06 13Cr/Cu-Ni/410	**14** Alloy 20/Stellite 6/Alloy 20	**32** 316L /Stellite 6/316L	**50** 304(L) Dual/304(L) Dual/304(L) Dual
07 13Cr/Hard 13Cr /410	**15** Stellite 6/Stellite 6/304	**33** Stellite 6/Stellite 6/316L	**51** 316(L) Dual/316(L) Dual/316(L) Dual
08 13Cr/Stellite 6/410	**16** Stellite 6/Stellite 6/316	**34** 304L /Stellite 6/304L	
8A 13Cr/Ni-Cr/410	**17** Stellite 6/Stellite 6/347	**35** Stellite 6/Stellite 6/304L	

H Seat

H	HNBR
E	EPDM
V	VITON
B	BUNA
R	Renewable Metal
N	Non Renewable Metal

I O-Ring

0	No O-ring
1	FKM(Viton)
2	TEFLONW(PTFE)
3	HNBR
4	NBR
5	Other
6	EPDM

J Operation

X	No Operation

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HOW THE FIGURE NUMBER SYSTEM WORKS

Introduction. Figure number system uses a code consisting 14 digits of letters and numbers to represent the specification of a valve of certain specification. Among 14 digits, they are separated into 10 groups identified by letters from A to J. Each group represents a parameter of a valve, together they contain almost all the essential parameters of the valve.

Uses. Using the figure number system to generate a code is easy. Under each group, the code is shown on the left while on the right is the meaning of the code. Start by selecting a code from group A, through group J. If the specification of the valve is not listed, select the code for "Other ". The total length of the figure number shall be exactly 14 digits.

Cautions. It is advised that you have as detailed the specification as possible to generate a figure number, which means eliminating "Other". If you don't have enough specification or information about the valve you are ordering, or you're not sure how to use the system to generate a figure number, contact one of our sales representatives for help.

Note: FBV reserves the right to make any modifications without notice.

Offshore

Pipeline

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Onshore

Refinery

IMPORTANT NOTICE

- All dimensions in inches not listed in standards are converted from millimeters. Weights in lbs (pounds) are converted from kilograms.
- Data listed in the catalog, including dimensions, weights, specifications and other valve related data are intended to provide general information and guidance only.
- FBV Inc. assumes no responsibility for errors or inadequacy relevant to any information provided in this catalog. Any information provided in this catalog is subject to change without notice.

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