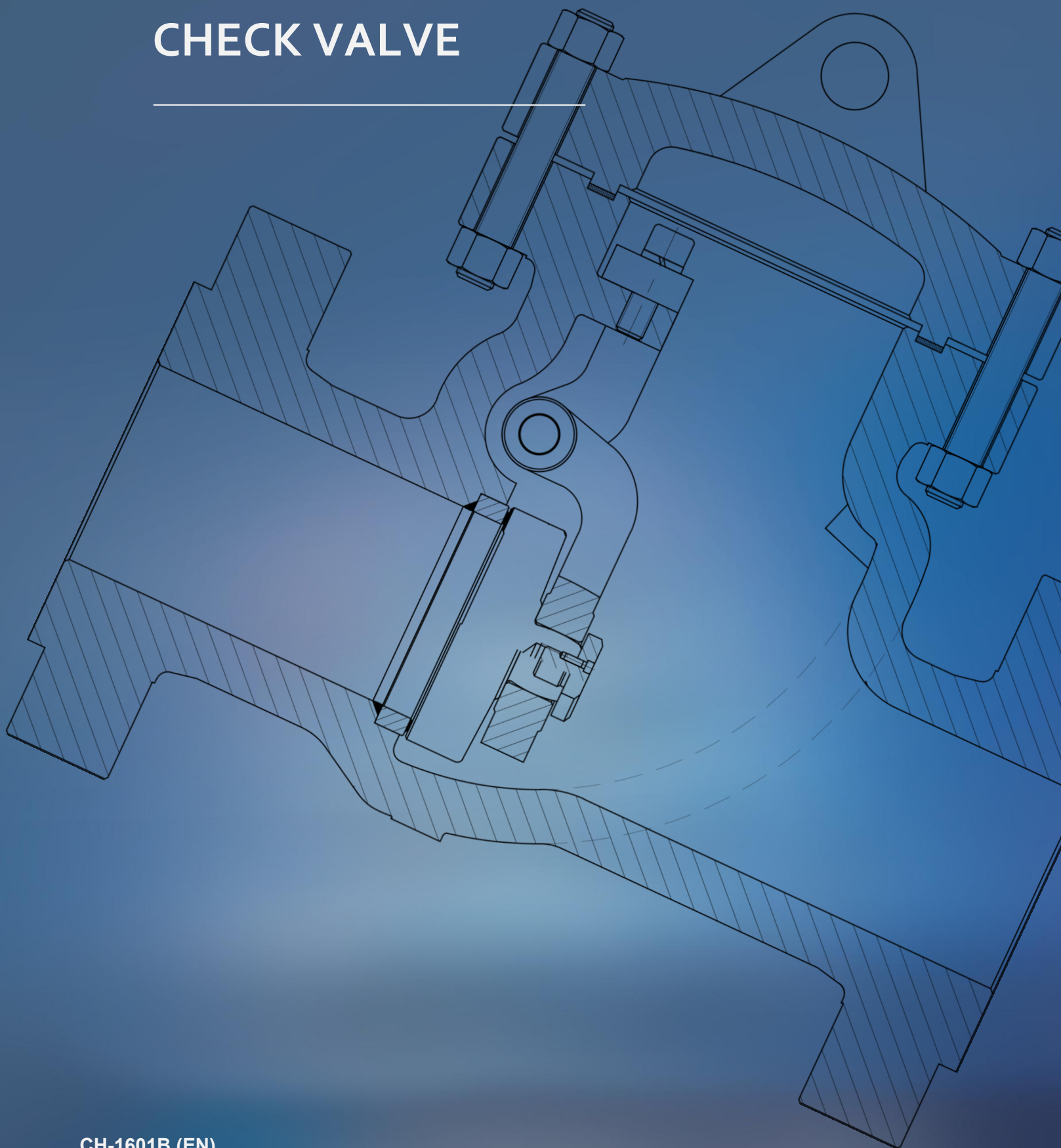


# CHECK VALVE

---



## 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.



| TABLE OF INDEX                                            | PAGE  |
|-----------------------------------------------------------|-------|
| Introduction, <i>Features</i>                             | 3     |
| Scope of Products,                                        | 4     |
| <b>Overview Swing Type</b>                                | 5     |
| Dimensions and Weights, Swing Type, (Bolt Cover)          | 6     |
| <i>Class 150 (PN 20)</i>                                  | 6     |
| <i>Class 300 (PN 50)</i>                                  | 7     |
| <i>Class 600 (PN 100)</i>                                 | 8     |
| <i>Class 900 (PN 150)</i>                                 | 9     |
| <i>Class 1500 (PN 250)</i>                                | 10    |
| Dimensions and Weights, Swing Type, (Pressure Seal Cover) | 11    |
| <i>Class 1500/2500 (PN 250/420)</i>                       | 11    |
| <b>Overview Dual Plate Type</b>                           | 12    |
| Dimensions and Weights                                    | 13    |
| <i>Class 150/300 (PN 20/50)</i>                           | 13    |
| <i>Class 600/900 (PN 100/150)</i>                         | 14    |
| <i>Class 1500/2500 (PN 250/420)</i>                       | 15    |
| Valve Figure Number, <i>How To Order</i>                  | 16-17 |

This page is intentionally left blank.

### INTRODUCTION

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



### 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.

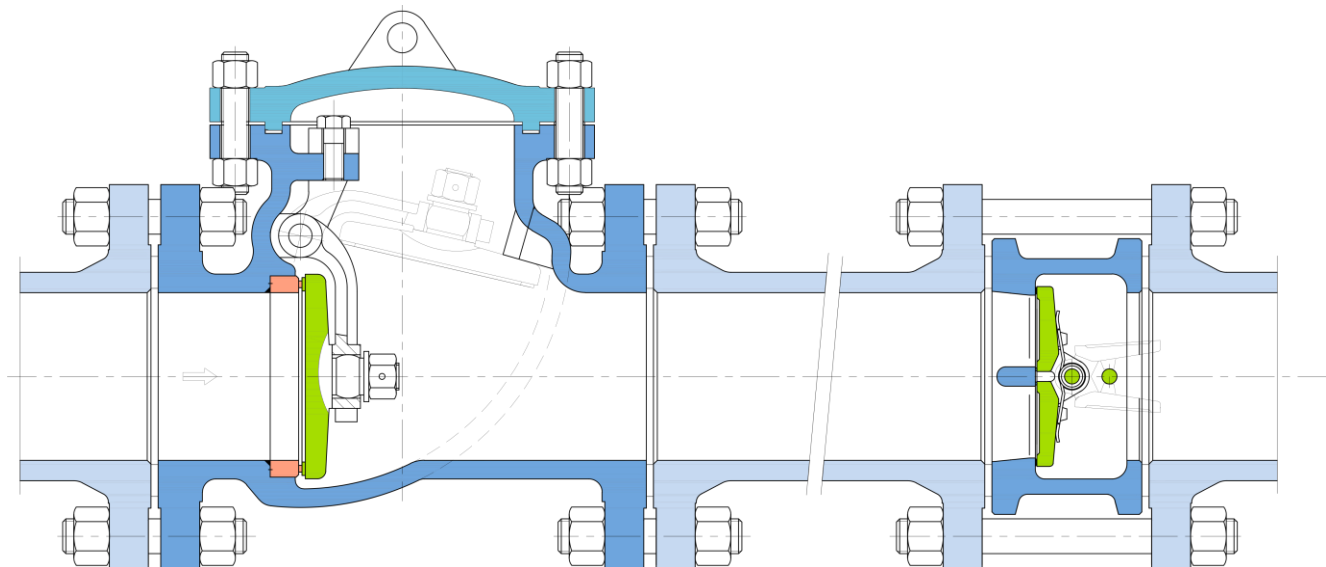
FBV swing check valve offers simple structure, less parts, convenient maintenance and repair and low failure rate. The full open disc design is applied to provide a larger opening flow area after disc opening, small fluid resistance and large valve flow coefficient.

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

### 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.



# CHECK VALVE

## SCOPE OF PRODUCTS

**Legends:** A – Swing Type

B – Dual Plate Type

C – Lift Type

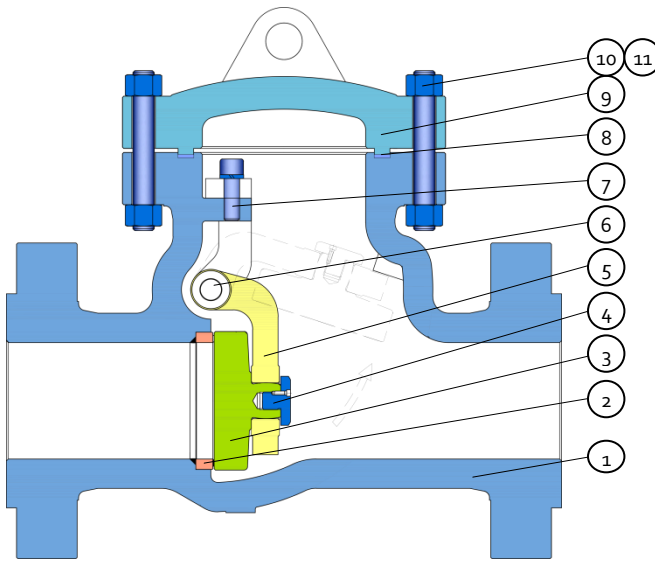
D – Not Usually Required

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

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, ASME B16.34<br>API 6D                                                                |
| Face-to-face         | ASME B16.10                                                                                   |
| End Dimension        | ASME B16.5 (RF, RTJ),<br>ASME B16.47 (RF, RTJ)<br>MSS SP-44 (NPS 22 Only)<br>ASME B16.25 (BW) |
| Test & inspection    | API 598, API 6D, ISO 5208                                                                     |

### TYPICAL MATERIALS

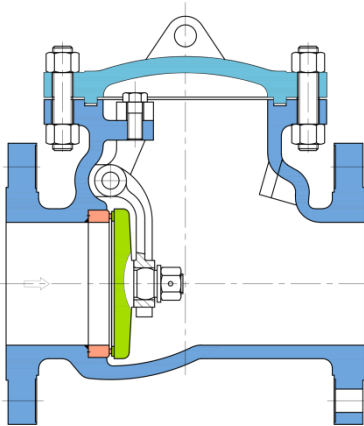
|        |                                                               |
|--------|---------------------------------------------------------------|
| Body,  | (Casting) A216 WCB, A217 WC6, WC9,                            |
| Cover, | A351 CF3, CF8, CF3M, CF8M,                                    |
| Disc   | A995 4A, 5A, A352 LCB, LCC, LC2,<br>Monel, Inconel, Hastelloy |

|              |                                 |
|--------------|---------------------------------|
| Seal Surface | 13Cr/SS304/SS316/STL, HNBR, FKM |
|--------------|---------------------------------|

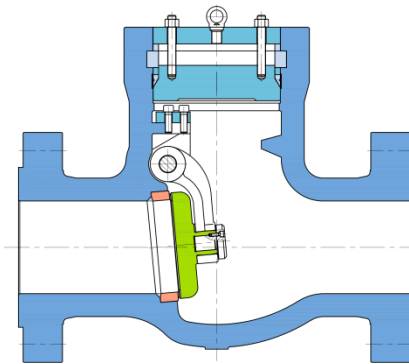
### Part List

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

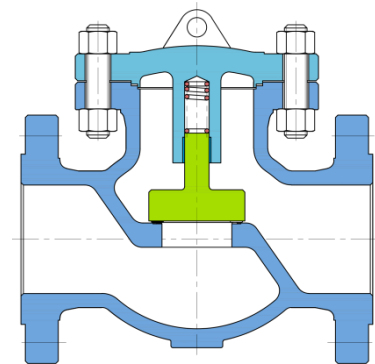
### Typical Check Valve



Bolted Cover Swing Check Valve



Pressure Seal Cover Swing Check Valve

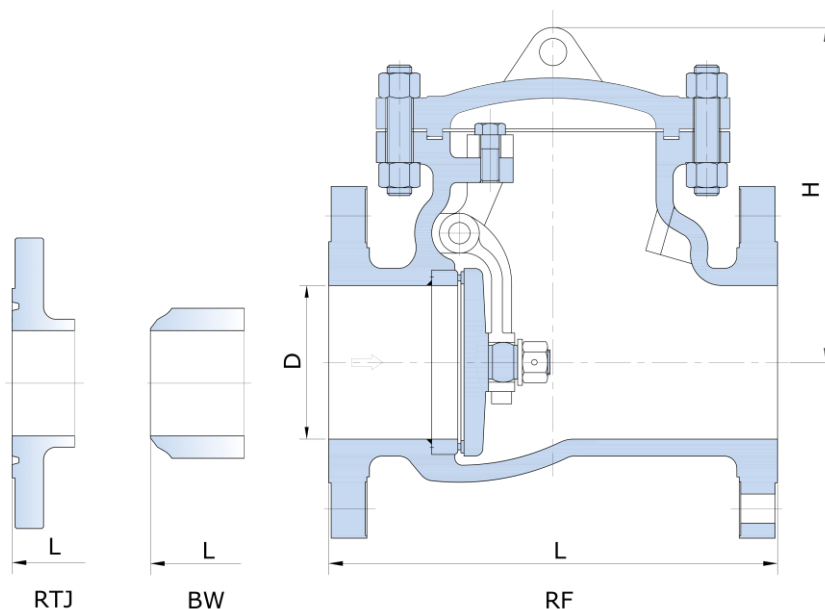


Bolted Cover Lift Check Valve

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Swing Type)

ASME CLASS 150 (PN 20)



### ASME CLASS 150 (PN 20)

| Size<br>in/mm | D     | L     |      |       | H     | Weight (lb/kg) |
|---------------|-------|-------|------|-------|-------|----------------|
|               |       | RF    | RTJ  | BW    |       | RF/RTJ         |
| 2             | 2     | 8     | 8.5  | 8     | 5.5   | 37             |
| 50            | 51    | 203   | 216  | 203   | 140   | 17             |
| 2 1/2         | 2 1/2 | 8.5   | 9    | 8.5   | 6.3   | 44             |
| 65            | 64    | 216   | 229  | 216   | 160   | 20             |
| 3             | 3     | 9.5   | 10   | 9.5   | 7.1   | 53             |
| 80            | 80    | 241   | 254  | 241   | 180   | 24             |
| 4             | 4     | 11.5  | 12   | 11.5  | 8.27  | 84             |
| 100           | 102   | 292   | 305  | 292   | 210   | 38             |
| 6             | 6     | 14    | 14.5 | 14    | 11.42 | 198            |
| 150           | 152   | 356   | 368  | 356   | 290   | 90             |
| 8             | 8     | 19.5  | 20   | 19.5  | 14.17 | 286            |
| 200           | 203   | 495   | 508  | 495   | 360   | 130            |
| 10            | 10    | 24.5  | 25   | 24.5  | 15.75 | 430            |
| 250           | 252   | 622   | 635  | 622   | 400   | 195            |
| 12            | 12    | 27.48 | 28   | 27.48 | 18.11 | 661            |
| 300           | 305   | 698   | 711  | 698   | 460   | 300            |
| 14            | 14    | 31    | 31.5 | 31    | 20.47 | 804            |
| 350           | 337   | 787   | 800  | 787   | 520   | 365            |
| 16            | 15.24 | 34    | 34.5 | 34    | 24.41 | 1178           |
| 400           | 387   | 864   | 876  | 864   | 620   | 535            |
| 18            | 17.24 | 38.5  | 39   | 38.5  | 27.17 | 1652           |
| 450           | 438   | 978   | 991  | 978   | 690   | 750            |
| 20            | 19.25 | 38.5  | 39   | 38.5  | 28.35 | 1949           |
| 500           | 489   | 978   | 991  | 978   | 720   | 885            |
| 24            | 23.22 | 51    | 51.5 | 51    | 29.13 | 2533           |
| 600           | 590   | 1295  | 1308 | 1295  | 740   | 1150           |
| 28            | 27.24 | 57    | -    | 57    | 33.46 | 3822           |
| 700           | 692   | 1448  | -    | 1448  | 850   | 1735           |
| 30            | 29.25 | 60    | -    | 60    | 39.37 | 4515           |
| 750           | 743   | 1524  | -    | 1524  | 1000  | 2050           |
| 36            | 35.23 | 77    | -    | 77    | 44.88 | 4626           |
| 900           | 895   | 1956  | -    | 1956  | 1140  | 2100           |

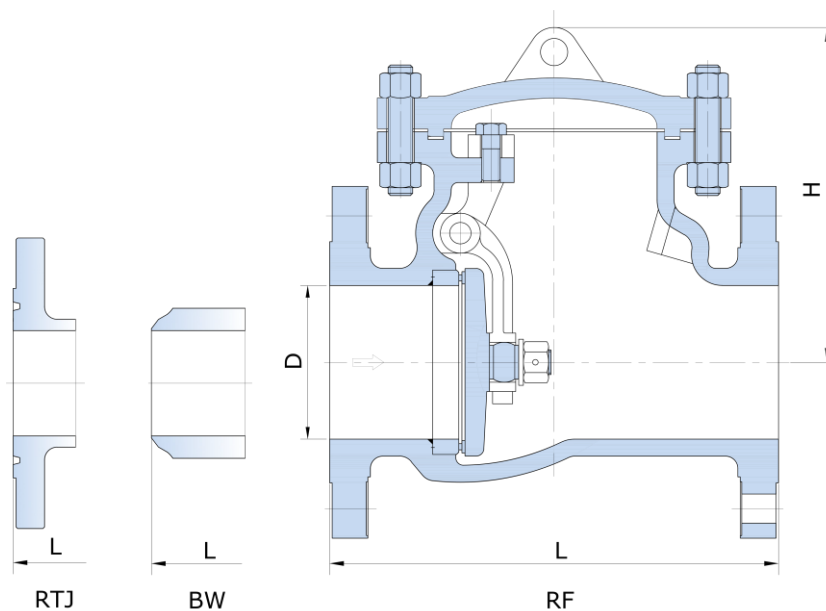
The dimension and weights are for reference only and subject to change without notice.

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

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Swing Type)

ASME CLASS 300 (PN 50)



### ASME CLASS 300 (PN 50)

| Size<br>in/mm | D     | L     |       |       | H     | Weight (lb/kg) |
|---------------|-------|-------|-------|-------|-------|----------------|
|               |       | RF    | RTJ   | BW    |       | RF/RTJ         |
| 2             | 2     | 10.5  | 11.14 | 10.5  | 6.1   | 51             |
| 50            | 51    | 267   | 283   | 267   | 155   | 23             |
| 2 1/2         | 2 1/2 | 11.5  | 12.13 | 11.5  | 7.09  | 81             |
| 65            | 64    | 292   | 308   | 292   | 180   | 37             |
| 3             | 3     | 12.52 | 13.15 | 12.52 | 7.87  | 101            |
| 80            | 80    | 318   | 334   | 318   | 200   | 46             |
| 4             | 4     | 14    | 14.65 | 14    | 8.66  | 156            |
| 100           | 102   | 356   | 372   | 356   | 220   | 71             |
| 6             | 6     | 17.5  | 18.11 | 17.5  | 12.4  | 256            |
| 150           | 152   | 444   | 460   | 444   | 315   | 116            |
| 8             | 8     | 21    | 21.61 | 21    | 15.16 | 445            |
| 200           | 203   | 533   | 549   | 533   | 385   | 202            |
| 10            | 10    | 24.5  | 25.12 | 24.5  | 16.93 | 652            |
| 250           | 252   | 622   | 638   | 622   | 430   | 296            |
| 12            | 12    | 28    | 28.62 | 28    | 19.29 | 943            |
| 300           | 305   | 711   | 727   | 711   | 490   | 428            |
| 14            | 14    | 33    | 33.62 | 33    | 21.65 | 1284           |
| 350           | 337   | 838   | 854   | 838   | 550   | 583            |
| 16            | 15.24 | 34    | 34.65 | 34    | 24.61 | 1661           |
| 400           | 387   | 864   | 880   | 864   | 625   | 754            |
| 18            | 17    | 38.5  | 39.13 | 38.5  | 26.38 | 2059           |
| 450           | 432   | 978   | 994   | 978   | 670   | 935            |
| 20            | 19    | 40    | 40.75 | 40    | 29.13 | 2544           |
| 500           | 483   | 1016  | 1035  | 1016  | 740   | 1155           |
| 24            | 23    | 53    | 53.86 | 53    | 31.89 | 3101           |
| 600           | 584   | 1346  | 1368  | 1346  | 810   | 1408           |
| 28            | 27    | 59    | 60    | 59    | 34.25 | 3789           |
| 700           | 686   | 1499  | 1524  | 1499  | 870   | 1720           |
| 32            | 29    | 62.76 | 63.74 | 62.76 | 38.98 | 4141           |
| 800           | 737   | 1594  | 1619  | 1594  | 990   | 1880           |
| 36            | 35    | 82    | 82.64 | 82    | 45.67 | 2846           |
| 900           | 889   | 2083  | 2099  | 2083  | 1160  | 2200           |

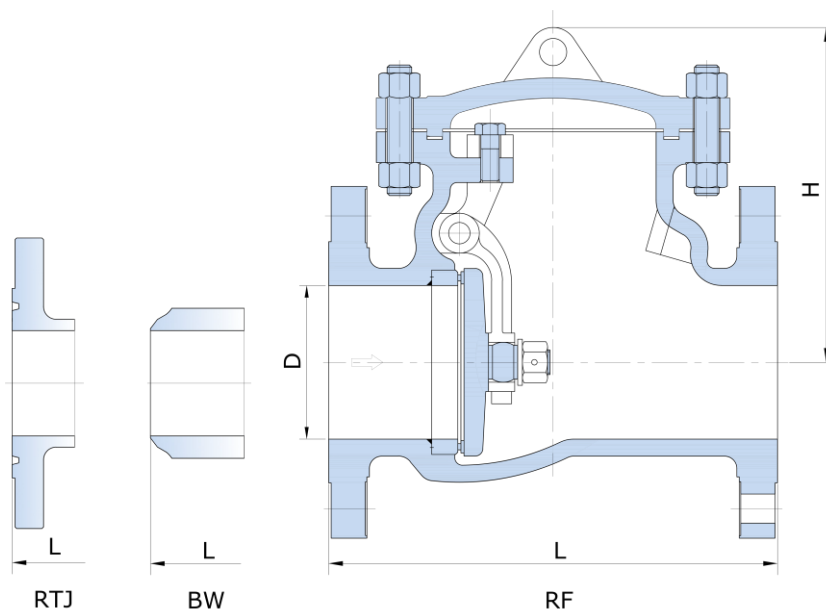
The dimension and weights are for reference only and subject to change without notice.

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

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Swing Type)

ASME CLASS 600 (PN 100)



### ASME CLASS 600 (PN 100)

| Size<br>in/mm | D     | L    |       |      | H     | Weight (lb/kg) |
|---------------|-------|------|-------|------|-------|----------------|
|               |       | RF   | RTJ   | BW   |       | RF/RTJ         |
| 2             | 2     | 11.5 | 11.61 | 11.5 | 6.7   | 57             |
| 50            | 51    | 292  | 295   | 292  | 170   | 26             |
| 2 1/2         | 2 1/2 | 13   | 13.11 | 13   | 7.4   | 70             |
| 65            | 64    | 330  | 333   | 330  | 188   | 32             |
| 3             | 3     | 14   | 14.13 | 14   | 9.37  | 108            |
| 80            | 80    | 356  | 359   | 356  | 238   | 49             |
| 4             | 4     | 17   | 17.13 | 17   | 11.42 | 189            |
| 100           | 102   | 432  | 435   | 432  | 290   | 86             |
| 6             | 6     | 22   | 22.13 | 22   | 14    | 555            |
| 150           | 152   | 559  | 562   | 559  | 355   | 252            |
| 8             | 7.87  | 26   | 26.10 | 26   | 16.34 | 945            |
| 200           | 200   | 660  | 663   | 660  | 415   | 429            |
| 10            | 9.76  | 31   | 31.1  | 31   | 18.82 | 1227           |
| 250           | 248   | 787  | 790   | 787  | 478   | 557            |
| 12            | 11.77 | 33   | 33.11 | 33   | 21.26 | 1467           |
| 300           | 299   | 838  | 841   | 838  | 540   | 670            |
| 14            | 12.87 | 35   | 35.12 | 35   | 22.83 | 2079           |
| 350           | 327   | 889  | 892   | 889  | 580   | 944            |
| 16            | 14.76 | 39   | 39.13 | 39   | 26.38 | 2863           |
| 400           | 375   | 991  | 994   | 991  | 670   | 1300           |
| 18            | 16.5  | 43   | 43.11 | 43   | 30.94 | 3877           |
| 450           | 419   | 1092 | 1095  | 1092 | 786   | 1760           |
| 20            | 18.27 | 47   | 47.24 | 47   | 33.27 | 4846           |
| 500           | 464   | 1194 | 1200  | 1194 | 845   | 2200           |
| 24            | 22    | 55   | 55.39 | 55   | 37    | 6308           |
| 600           | 559   | 1397 | 1407  | 1397 | 940   | 2864           |
| 28            | 25.51 | 63   | 63.5  | 63   | 41.34 | 7048           |
| 700           | 648   | 1600 | 1613  | 1600 | 1050  | 3200           |
| 32            | 29    | 70   | 70.63 | 70   | 45.67 | 8238           |
| 800           | 737   | 1778 | 1794  | 1778 | 1160  | 3740           |
| 36            | 32.64 | 82   | 82.64 | 82   | 50    | 9912           |
| 900           | 829   | 2083 | 2099  | 2083 | 1270  | 4500           |

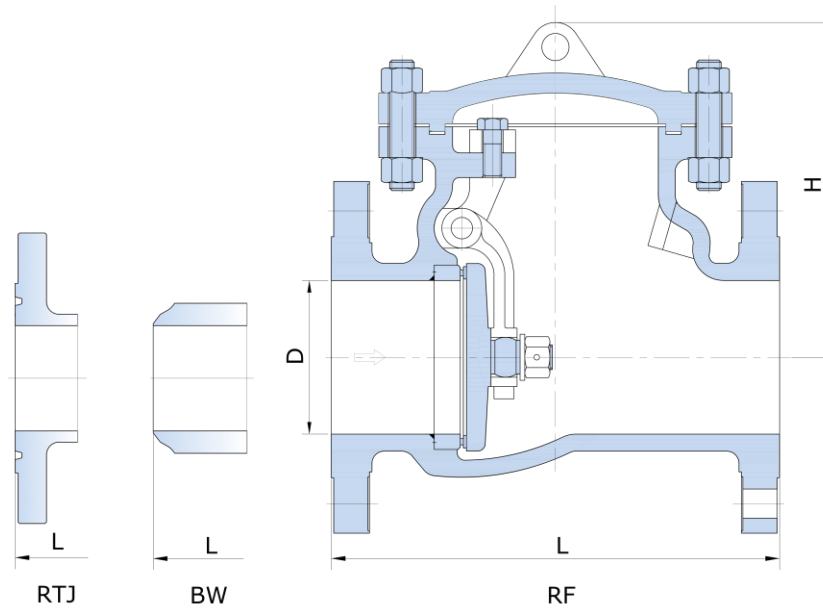
The dimension and weights are for reference only and subject to change without notice.

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

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Swing Type)

ASME CLASS 900 (PN 150)



### ASME CLASS 900 (PN 150)

| Size<br>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 1/2         | 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           |

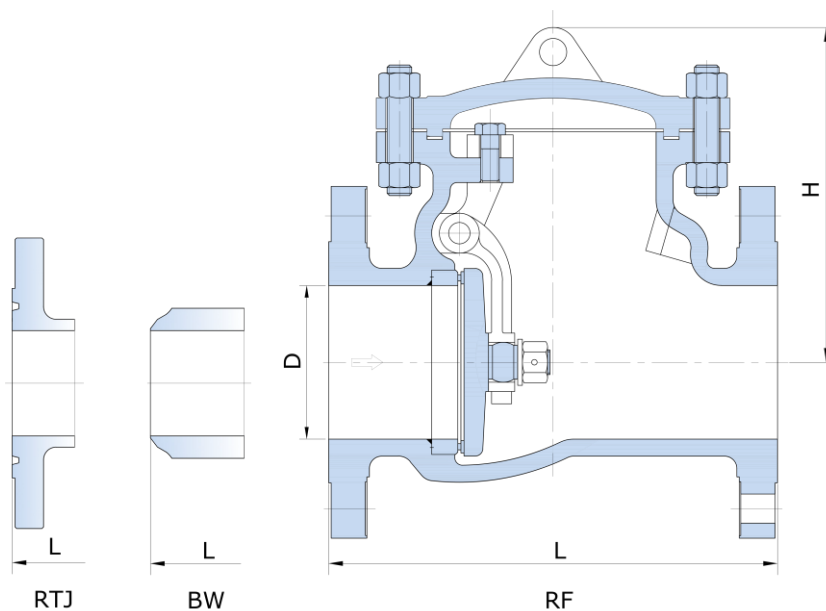
The dimension and weights are for reference only and subject to change without notice.

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

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Swing Type)

ASME CLASS 1500 (PN 250)



### ASME CLASS 1500 (PN 250)

| Size<br>in/mm | D     | L     |       |       | H     | Weight (lb/kg) |
|---------------|-------|-------|-------|-------|-------|----------------|
|               |       | RF    | RTJ   | BW    |       | RF/RTJ         |
| 2             | 1.89  | 14.5  | 14.61 | 14.5  | 7.87  | 143            |
| 50            | 48    | 368   | 371   | 368   | 200   | 65             |
| 2 1/2         | 2.24  | 16.5  | 16.61 | 16.5  | 10.63 | 176            |
| 65            | 57    | 419   | 422   | 419   | 270   | 80             |
| 3             | 2.76  | 18.5  | 18.62 | 18.5  | 11    | 264            |
| 80            | 70    | 470   | 473   | 470   | 280   | 120            |
| 4             | 3.58  | 21.5  | 21.61 | 21.5  | 13.78 | 419            |
| 100           | 91    | 546   | 549   | 546   | 350   | 190            |
| 6             | 5.35  | 27.76 | 28    | 27.76 | 18.5  | 1057           |
| 150           | 136   | 705   | 711   | 705   | 470   | 480            |
| 8             | 7     | 32.76 | 33.15 | 32.76 | 22.05 | 1674           |
| 200           | 178   | 832   | 842   | 832   | 560   | 760            |
| 10            | 8.74  | 39    | 39.41 | 39    | 25.6  | 2313           |
| 250           | 222   | 991   | 1001  | 991   | 650   | 1050           |
| 12            | 10.35 | 44.5  | 45.12 | 44.5  | 28.74 | 3172           |
| 300           | 263   | 1130  | 1146  | 1130  | 730   | 1440           |
| 14            | 11.38 | 49.5  | 50.24 | 49.5  | 33.07 | 3833           |
| 350           | 289   | 1257  | 1276  | 1257  | 840   | 1740           |
| 16            | 13    | 54.5  | 55.35 | 54.5  | 37    | 5374           |
| 400           | 330   | 1384  | 1406  | 1384  | 940   | 2440           |
| 18            | 14.6  | 60.5  | 61.38 | 60.5  | 41.34 | 7048           |
| 450           | 371   | 1537  | 1559  | 1537  | 1050  | 3200           |
| 20            | 16.38 | 65.5  | 66.38 | 65.5  | 45.67 | 8370           |
| 500           | 416   | 1664  | 1686  | 1664  | 1160  | 3800           |
| 24            | 19.6  | 76.5  | 77.6  | 76.5  | 50    | 9471           |
| 600           | 498   | 1943  | 1971  | 1943  | 1270  | 4300           |

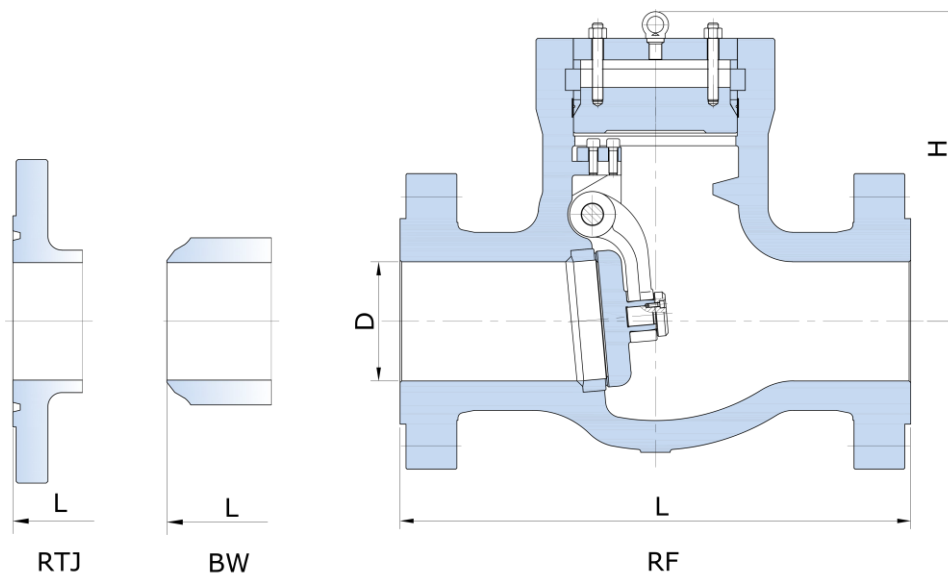
The dimension and weights are for reference only and subject to change without notice.

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

# CHECK VALVE

## DIMENSIONS AND WEIGHTS (Pressure Seal)

ASME CLASS 1500/2500 (PN 250/420)



### ASME CLASS 1500 (PN 250)

| Size<br>in/mm | D     | L     |       |      | H     | Weight (lb/kg) |
|---------------|-------|-------|-------|------|-------|----------------|
|               |       | RF    | RTJ   | BW   |       | RF/RTJ         |
| 2             | 1.89  | 14.5  | 14.61 | 8.5  | 9.65  | 62             |
| 50            | 48    | 368   | 371   | 216  | 245   | 28             |
| 2 1/2         | 2.24  | 16.5  | 16.61 | 10   | 10.24 | 79             |
| 65            | 57    | 419   | 422   | 254  | 260   | 36             |
| 3             | 2.76  | 18.5  | 18.62 | 12   | 11.81 | 110            |
| 80            | 70    | 470   | 473   | 305  | 300   | 50             |
| 4             | 3.58  | 21.5  | 21.61 | 16   | 13.39 | 176            |
| 100           | 91    | 546   | 549   | 406  | 340   | 80             |
| 6             | 5.35  | 27.76 | 28    | 19   | 16.93 | 639            |
| 150           | 136   | 705   | 711   | 483  | 430   | 290            |
| 8             | 7     | 32.76 | 33.15 | 28   | 20.87 | 1079           |
| 200           | 178   | 832   | 842   | 711  | 530   | 490            |
| 10            | 8.74  | 39    | 39.41 | 34   | 22.44 | 1652           |
| 250           | 222   | 991   | 1001  | 864  | 570   | 750            |
| 12            | 10.35 | 44.5  | 45.12 | 39   | 25.2  | 2423           |
| 300           | 263   | 1130  | 1146  | 991  | 640   | 1100           |
| 14            | 11.38 | 49.5  | 50.24 | 42   | 27.56 | 3084           |
| 350           | 289   | 1257  | 1276  | 1067 | 700   | 1400           |
| 16            | 13    | 54.5  | 55.35 | 47   | 30.31 | 3524           |
| 400           | 330   | 1384  | 1406  | 1194 | 770   | 1600           |

### ASME CLASS 2500 (PN 420)

| Size<br>in/mm | D    | L     |       |       | H     | Weight (lb/kg) |
|---------------|------|-------|-------|-------|-------|----------------|
|               |      | RF    | RTJ   | BW    |       | RF/RTJ         |
| 2             | 1.5  | 17.76 | 17.87 | 11    | 9.84  | 132            |
| 50            | 38   | 451   | 454   | 279   | 250   | 60             |
| 2 1/2         | 1.89 | 20    | 20.24 | 13    | 11    | 187            |
| 65            | 48   | 508   | 514   | 330   | 280   | 85             |
| 3             | 2.24 | 22.76 | 23    | 14.5  | 11.81 | 220            |
| 80            | 57   | 578   | 584   | 368   | 300   | 100            |
| 4             | 2.87 | 26.5  | 26.89 | 18    | 13.58 | 363            |
| 100           | 73   | 673   | 683   | 457   | 345   | 165            |
| 6             | 4.37 | 35.98 | 36.5  | 24    | 17.32 | 1013           |
| 150           | 111  | 914   | 927   | 610   | 440   | 460            |
| 8             | 5.75 | 40.24 | 40.87 | 30    | 21.06 | 1982           |
| 200           | 146  | 1022  | 1038  | 762   | 535   | 900            |
| 10            | 7.24 | 50    | 54.8  | 36    | 22.83 | 2863           |
| 250           | 184  | 1270  | 1392  | 914   | 580   | 1300           |
| 12            | 8.62 | 55.98 | 56.89 | 10.94 | 26    | 3965           |
| 300           | 219  | 1422  | 1445  | 1040  | 660   | 1800           |

# CHECK VALVE

## VALVE FIGURE NUMBER

## HOW TO ORDER

| Nominal Size | Valve Type | Pressure Rating | End Conn. | Construction | 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 Special       | 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 1/2 (DN 65) | 09 10 RB       | 21 22 RB       | 33 34 RB         |
| 0R 1/2 RB        | 3R 2 1/2 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 1/4 (DN 32) | 05 5 (DN 125)    | 15 16 RB       | 27 28 RB       | 39 40 RB         |
| 1R 1 1/4 RB      | R5 5 RB          | 16 16 (DN 400) | 28 28 (DN 700) | 40 40 (DN 1000)  |
| F5 1 1/2 (DN 40) | 06 6 (DN 150)    | 17 18 RB       | 29 30 RB       | 41 42 RB         |
| 2R 1 1/2 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 Special    |
| 1 Class 150  |
| 3 Class 300  |
| 5 Class 1500 |
| 6 Class 600  |

### D End Connection

|                   |               |                    |
|-------------------|---------------|--------------------|
| 7 Class 2500      | X Special     | B Butt-Weld (BW)   |
| 9 Class 900       | R RF Flanged  | S Socket-Weld (SW) |
| 8 Class 800       | J RTJ Flanged | W Wafer            |
| 2 Class 125(PN16) | F FF Flanged  | L Lug              |
| 4 Class 400(PN64) | T Threaded    |                    |

### E Construction

|                            |
|----------------------------|
| 1 Swing, Bolt Cover        |
| 2 Swing, Welded Cover      |
| 3 Swing, Pressure Seal     |
| 4 Lift Type, Bolt Cover    |
| 5 Lift Type, Welded Cover  |
| 6 Single Plate, Wafer      |
| 7 Dual Plate               |
| 8 Lift Type, Pressure Seal |

### F Body Material

|                  |                  |               |               |
|------------------|------------------|---------------|---------------|
| X0 Special       | M9 A182 F22 CL 3 | L5 A350 LF3   | S6 A351 CF8M  |
| C1 A105          | M0 A217 WC9      | L6 A352 LC3   | S7 A182 F316L |
| C2 A216 WCA      | E1 A182 F5       | L7 A350 LF5   | S8 A351 CF3M  |
| C4 A216 WCB      | E2 A217 C5       | L8 A352 LCB   | S9 A182 F347  |
| C6 A216 WCC      | E4 A217 C6       | L9 A350 LF6   | S0 A351 C F8C |
| M1 A182 F1       | E5 A182 F9       | LA A350 LF9   | D1 A182 F51   |
| M2 A217 WC1      | E6 A217 C12      | LB A352 LC9   | D2 A995 4A    |
| M3 A182 F2       | E7 A182 F91      | LD A352 LCC   | D3 A182 F53   |
| M4 A217 WC4      | E8 A217 C12A     | S1 A182 F304  | D4 A995 5A    |
| M5 A182 F12 CL 2 | L1 A350 LF1      | S2 A351 CF8   | D5 A182 F55   |
| M6 A217 WC5      | L2 A352 LCA      | S3 A182 F304L | D6 A995 6A    |
| M7 A182 F11 CL 2 | L3 A350 LF2      | S4 A351 CF3   |               |
| M8 A217 WC6      | L4 A352 LC2      | S5 A182 F316  |               |

### G Trim Material

|                             |                                |                                 |                             |
|-----------------------------|--------------------------------|---------------------------------|-----------------------------|
| 00 Special                  | 08 13Cr/Stellite /13Cr         | 16 Stellite /Stellite /316      | 25 F53 /F53 /F53            |
| 01 13Cr/13Cr/13Cr           | 09 Monel/Monel /Monel          | 17 Stellite /Stellite /347      | 32 316L /Stellite /316L     |
| 02 304/304/304              | 10 316/316/316                 | 18 Stellite /Stellite /Alloy 20 | 33 Stellite /Stellite /316L |
| 03 310/310/310              | 11 Monel/Stellite/Monel        | 20 304L /304L /304L             | 34 304L /Stellite /304L     |
| 04 Hard 13Cr/Hard 13Cr/13Cr | 12 316/Stellite/316            | 21 316L /316L /316L             | 35 Stellite /Stellite /304L |
| 05 Stellite /Stellite/13Cr  | 13 Alloy 20/Alloy 20 /Alloy 20 | 22 321 /321 /321                |                             |
| 06 13Cr/Cu-Ni/13Cr          | 14 Alloy 20/Stellite /Alloy 20 | 23 F55 /F55 /F55                |                             |
| 07 13Cr/Hard 13Cr /13Cr     | 15 Stellite /Stellite /304     | 24 F51/F51 /F51                 |                             |

# CHECK VALVE

| Nominal Size | Valve Type | Pressure Rating | End Conn. | Construction | 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    | o      | X              |

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

| H Seat                | I O-Ring  | J Operation    |
|-----------------------|-----------|----------------|
| H HNBR                | o None    | X No Operation |
| E EPDM                | 1 Viton   |                |
| V VITON               | 2 Teflon  |                |
| B BUNA                | 3 HNBR    |                |
| R Renewable Metal     | 4 NBR     |                |
| N Non Renewable Metal | 5 Special |                |
|                       | 6 EPDM    |                |

## 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 "Special ". 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 "Specials". 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



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.



2121 Brittmoore Rd Suite 4000  
Houston, TX 77043 USA

**T** 832-203-5459  
**F** 832-203-5461

**E** [sales@fbvalve.com](mailto:sales@fbvalve.com)

**[www.fbvalve.com](http://www.fbvalve.com)**

©FBV Inc. All rights reserved.