## CAST STEEL PRESSURE SEAL Y-PATTERN
### STOP VALVE

**DIMENSIONS DATA** — **900Lb**

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | in | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
| L(BW) | in | 13.3 | 15.4 | 17 | 18.5 | 20 | 26 | 31 | 38 | 38 | 44.5 |
| | mm | 338 | 391 | 432 | 470 | 508 | 660 | 787 | 965 | 965 | 1130 |
| H | in | 15 | 16.5 | 18.11 | 23.23 | 32.28 | 41.34 | 50 | 58.27 | 61.02 | 70.08 |
| | mm | 380 | 420 | 460 | 590 | 820 | 1050 | 1270 | 1480 | 1550 | 1780 |
| W | in | 12.2 | 12.2 | 18.11 | 18.11 | 18.11 | 24 | 24 | 24 | 24 | 24 |
| | mm | 310 | 310 | 460 | 460 | 460 | 610 | 610 | 610 | 610 | 610 |
| WT | Kg | 78 | 84 | 92 | 131 | 258 | 553 | 992 | 1603 | 1825 | 2579 |

**1500Lb**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Size | in | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 |
| | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
| L(BW) | in | 13.5 | 15.4 | 17 | 18.5 | 27.75 | 30 | 36.25 | 43 |
| | mm | 338 | 391 | 432 | 470 | 705 | 762 | 921 | 1092 |
| H | in | 15 | 16.5 | 15.16 | 15.16 | 18.5 | 26.06 | 34.76 | 58.28 |
| | mm | 355 | 370 | 385 | 385 | 470 | 662 | 883 | 1480 |
| W | in | 12.2 | 12.2 | 18.11 | 18.11 | 18.11 | 24 | 24 | 24 |
| | mm | 310 | 310 | 460 | 460 | 460 | 610 | 610 | 610 |
| WT | Kg | 83 | 95 | 115 | 148 | 362 | 759 | 1320 | 2062 |

**2500Lb**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Size | in | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 |
| | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 |
| L(BW) | in | 13.3 | 15.4 | 17 | 18.5 | 24 | 30 | 36 |
| | mm | 338 | 391 | 432 | 470 | 610 | 762 | 914 |
| H | in | 15 | 16.5 | 15.16 | 16.54 | 26.89 | 28.35 | 35.12 |
| | mm | 304 | 365 | 385 | 420 | 683 | 720 | 892 |
| W | in | 12.2 | 18.11 | 18.11 | 18.11 | 18.11 | 24 | 24 |
| | mm | 310 | 460 | 460 | 460 | 460 | 610 | 610 |
| WT | Kg | 93 | 106 | 122 | 163 | 461 | 790 | 1330 |

DBV VALVE GROUP CO., LTD.

# CHECK VALVE SERIES

# CHECK VALVE SERIES
## STEEL CHECK VALVE

### STANDARDS COMPLIANCE

Design and Manufacture: Cast steel check valve according to BS 1868, ASME B16.34 and API 6D;
Forged steel check valve according to API 602.
Inspection and Test: API 598 or API 6D.
End flange dimension: ASME B16.5（for NPS≤24）;
ASME B 16.47 series B、API 605 or ASME B16.47 series A、MSS SP-44（for NPS≥24）.
BW end dimension: ASME B16.25.
Socket-weld dimension: ASME B16.11.
Face to face and end to end: ASME B16.10.
Pressure-temperature rating : ASME B16.34.
Wall thickness dimension: API 600 and BS 1868.

### FLANGED & BUTT-WELDING ENDS SWING CHECK VALVES PRODUCT DESIGN FEATURES

Flanged & butt-welding ends swing check valves are used in pipes under pressures between Class 150~900Lb, working temperatures between29-570℃, They are used in industries include oil, chemistry, pharmaceutical, fertilizer, and power generation to prevent the backward flux of the media.

Main structural features:

1.Rational structure, reliable sealing, excellent performance, pretty appearance.

2.Co-radix alloy welded sealing surface, anti-wearing, erosion-proof, abrasion-proof, and longer use life.

3.Inside-set bolt-bearing structure reducing leakage and reliable use.

4.Under pressures 16.0Mpa,Class1500,the valve belly, self-tightening structure offers a tighter sealing for a higher medium pressure.

5.Different parts materials and different sizes for flange, butt-welding are available for sensible combination according to different working facts and customers' requirements.

### THE FEATURES OF CHECK VALVE

Bolted Bonnet;
Swing and lift disc;
Metallic seating surfaces.

### FLANGED ENDS PISTON-LIFT TYPE CHECK VALVE PRODUCTS DESIGN FEATURES

Flanged ends piston-lift type check valves are used in pipes under nominal pressures between ,Class 150~900.working temperatures between -46~550.

They are used in industries include oil, chemistry, pharmaceutical. ferilizer, and power generation to prevent the backward flux of the media. Main structural features:

1.Rational structure, reliable sealing, excellent performance, pretty appearance.

2.Co hard alloy welded sealing surface of the valve discs and seats, is wearing, erosion proof, abrasion proof and long-lived.

3.Different parts materials and different sizes for flange & gasket-welding are available for sensible combination according to different working facts and customer's requirements.

### PRODUCT PERFORMANCE SPECIFICATIION

| Pressure grade | | Class150~900 |
|---|---|---|
| Test pressure (MPa) | Shell test | 1.5×PN |
| | Sealing test | 1.1×PN |
| Working temperature | | -46℃~+570℃ |
| Working Medium | | Water,oil,natural gas,corrosive medium,etc. |



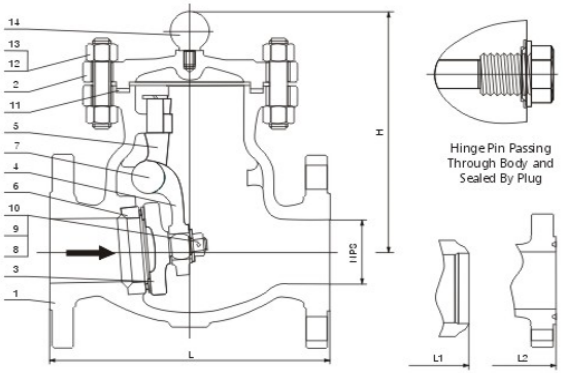
CHECK VALVE SERIES
STEEL CHECK VALVE

### DESIGN DESCRIPTION

BB, Bolted bonnet,
Swing type, Anti-rotation disc
Renewable seat rings
Non-penetrate disc shaft
Horizontal or vertical service
Flanged or butt welding ends

### APPLICABLE STANDARDS

Design standard: BS 1868 & ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Butt welding ends: ASME B16.25
Inspection and test: API 598




Class 150~ Class 600

### MATERIALS OF PARTS

| NO. | Part name | ASTM Material | | |
|---|---|---|---|---|
| 1 | Body | A216-WCB | A217-WC6 | A352-LCB |
| 2 | Bonnet | A216-WCB | A217-WC6 | A352-LCB |
| 3 | Disc[3] | A216-WCB+CR13 | A217-WC6+HF | A352-LCB+CR13 |
| 4 | Hinge | A216-WCB | A217-WC6 | A352-LCB |
| 5 | Support | A216-WCB | A217-WC6 | A352-LCB |
| 6 | Seat ring | A105+CR13 | A182-F11+HF | A350-LF2+CR13 |
| 7 | Hinge pin | A276-420 | A276-304 | A276-420 |
| 8 | Disc washer | Carbon steel | A276-304 | Carbon steel |
| 9 | Disc nut | Carbon steel | A194-4 | Carbon steel |
| 10 | Disc nut pin | 304 | 304 | 304 |
| 11 | Bonnet gasket | Spiral wound ( Graphite+304 ) | | |
| 12 | Bonnet stud | A193-B7 | A193-B16 | A320-L7 |
| 13 | Bonnet stud nut | A194-2H | A194-4 | A194-7 |
| 14 | Eyebolt[2] | Carbon steel | | |

Note: 1). Spiral wound construction, tefon optional.
2). NPS 6" & Larger.
3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

# CHECK VALVE SERIES
## CAST STEEL CHECK VALVE

### DIMENSIONS DATA — Class 150

| Size | NPS | 2 | 2.5 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 | 900 |
| L/L1 (RF/BW) | in | 8.00 | 8.50 | 9.50 | 11.50 | 14.00 | 19.50 | 24.50 | 27.50 | 31.00 | 34.00 | 38.50 | 38.50 | 51.00 | 60.00 | 77.00 |
| | mm | 203 | 216 | 241 | 292 | 356 | 495 | 622 | 699 | 787 | 864 | 978 | 978 | 1295 | 1524 | 1956 |
| L2 | in | 8.50 | 9.00 | 10.00 | 12.00 | 14.50 | 20.00 | 25.00 | 28.00 | 31.50 | 34.50 | 39.00 | 39.00 | 51.50 | - | - |
| | mm | 216 | 229 | 254 | 305 | 368 | 508 | 635 | 711 | 800 | 876 | 991 | 991 | 1308 | - | - |
| H | in | 6.10 | 6.70 | 7.09 | 8.66 | 10.55 | 12.20 | 14.57 | 16.73 | 18.70 | 20.67 | 22.83 | 24.72 | 34.72 | 38.27 | 48.00 |
| | mm | 155 | 170 | 180 | 220 | 268 | 310 | 370 | 425 | 475 | 525 | 580 | 628 | 882 | 972 | 1220 |

### Class 300

| Size | NPS | 2 | 2.5 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
| L/L1 (RF/BW) | in | 10.50 | 11.50 | 12.50 | 14.00 | 17.50 | 21.00 | 24.50 | 28.00 | 33.00 | 34.00 | 38.50 | 40.00 | 53.00 |
| | mm | 267 | 292 | 318 | 356 | 445 | 533 | 622 | 711 | 838 | 864 | 978 | 1016 | 1346 |
| L2 | in | 11.12 | 12.12 | 13.12 | 14.62 | 18.12 | 21.62 | 25.12 | 28.62 | 33.62 | 34.62 | 39.12 | 40.75 | 53.88 |
| | mm | 283 | 308 | 333 | 371 | 460 | 549 | 638 | 727 | 854 | 879 | 994 | 1035 | 1368 |
| H | in | 6.89 | 7.28 | 7.80 | 9.25 | 11.10 | 13.19 | 15.15 | 18.1 | 20.47 | 21.81 | 23.62 | 26.38 | 29.53 |
| | mm | 175 | 185 | 198 | 235 | 282 | 335 | 385 | 460 | 520 | 554 | 600 | 670 | 750 |

### Class 600

| Size | NPS | 2 | 2.5 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
| L/L1 (RF/BW) | in | 11.50 | 13.00 | 14.00 | 17.00 | 22.00 | 26.00 | 31.00 | 33.00 | 35.00 | 39.00 | 43.00 | 47.00 | 55.00 |
| | mm | 292 | 330 | 356 | 432 | 559 | 660 | 787 | 838 | 889 | 991 | 1092 | 1194 | 1397 |
| L2 | in | 11.62 | 13.12 | 14.12 | 17.12 | 22.12 | 26.12 | 31.12 | 33.12 | 35.12 | 39.12 | 43.12 | 47.25 | 55.38 |
| | mm | 295 | 333 | 359 | 435 | 262 | 663 | 790 | 841 | 892 | 994 | 1095 | 1200 | 1407 |
| H | in | 7.16 | 7.87 | 8.94 | 10.24 | 12.80 | 15.35 | 19.29 | 20.79 | 22.56 | 25.98 | 28.35 | 29.37 | 37.80 |
| | mm | 182 | 200 | 227 | 260 | 325 | 390 | 490 | 528 | 572 | 660 | 720 | 746 | 960 |

CLASS 900 and above proposed structure of self-sealing, flange connection For more information contact with the teji



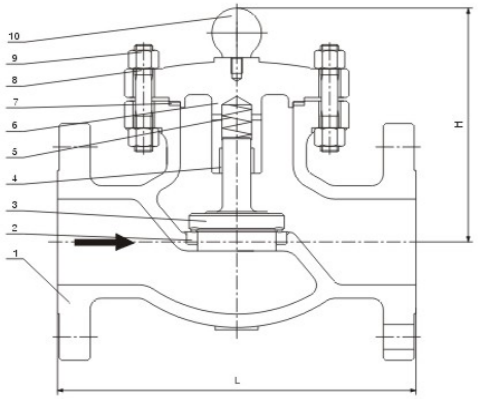
CHECK VALVE SERIES
CAST STEEL CHECK VALVE

### DESIGN DESCRIPTION

BB, Bolted bonnet
Swing type, Anti-rotation disc
Renewable seat rings
Non-penetrate disc shaft
Horizontal or vertical service
Flanged or butt welding ends

### APPLICABLE STANDARDS

Design standard: BS 1868 & ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Butt welding ends: ASME B16.25
Inspection and test: API 598




Class 150~Class 900

### MATERIALS OF PARTS

| NO. | Part name | ASTM Material | | |
|---|---|---|---|---|
| 1 | Body | A216-WCB | A217-WC6 | A352-LCB |
| 2 | Seat ring | A216-WCB/CR13 | A217-WC6+HF | A352-LCB+CR13 |
| 3 | Disc[3] | A216-WCB+CR13 | A217-WC6+HF | A352-LCB+CR13 |
| 4 | Hinge | 304 | 304 | 304 |
| 5 | Spring | 304 | 304 | 304 |
| 6 | Bonnet | A216-WCB | A217-WC6 | A352-LCB |
| 7 | Gasket | Spiral wound ( Graphite+304 ) | | |
| 8 | Bonnet gasket | A193-B7 | A193-B16 | A320-L7 |
| 9 | Bonnet stud | A194-2H | A194-4 | A194-7 |
| 10 | Eyebolt[2] | Carbon steel | | |

Note: 1). Spiral wound construction, tefon optional.
2). NPS 6" & Larger.
3). Disc and seat ( Integral with body ) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

# CHECK VALVE SERIES
## CAST STEEL LIFT CHECK VALVE

### DIMENSIONS DATA — Class 150

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | NPS | 1/2 | 3/4 | 1 | 11/4 | 11/2 | 2 | 21/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| | DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| L | RF | 108 | 117 | 127 | 140 | 165 | 203 | 216 | 241 | 292 | 356 | 406 | 495 | 622 | 699 |
| | BW | 108 | 117 | 127 | 140 | 165 | 203 | 216 | 241 | 292 | 356 | 406 | 495 | 622 | 699 |
| d | in | 13 | 19 | 25 | 32 | 38 | 51 | 64 | 76 | 102 | 127 | 152 | 203 | 254 | 305 |
| H | mm | 76 | 76 | 98 | 102 | 115 | 140 | 162 | 168 | 194 | 210 | 226 | 250 | 275 | 332 |

### Class 300

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | NPS | 1/2 | 3/4 | 1 | 11/4 | 11/2 | 2 | 21/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| | DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| L | RF | 152 | 178 | 203 | 216 | 229 | 267 | 292 | 318 | 356 | 400 | 445 | 559 | 622 | 711 |
| | BW | 152 | 178 | 203 | 216 | 229 | 267 | 292 | 318 | 356 | 400 | 445 | 559 | 622 | 711 |
| d | in | 13 | 19 | 25 | 32 | 38 | 51 | 64 | 76 | 102 | 127 | 152 | 203 | 254 | 305 |
| H | mm | 78 | 82 | 102 | 106 | 118 | 140 | 164 | 178 | 195 | 223 | 245 | 280 | 336 | 380 |

### Class 600

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Size | NPS | 2 | 21/2 | 3 | 4 | 5 | 6 | 8 |
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
| L | RF | 292 | 330 | 356 | 432 | 508 | 559 | 660 |
| | BW | 292 | 330 | 356 | 432 | 508 | 559 | 660 |
| d | in | 51 | 64 | 76 | 102 | 127 | 152 | 200 |
| H | mm | 152 | 167 | 178 | 215 | 240 | 279 | 328 |

### Class 900

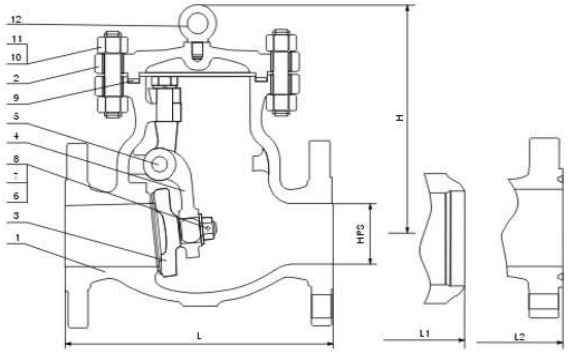
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Size | NPS | 2 | 21/2 | 3 | 4 | 5 | 6 | 8 |
| | DN | 50 | 65 | 80 | 100 | 125 | 150 | 200 |
| L | RF | 368 | 419 | 381 | 457 | 559 | 610 | 737 |
| | BW | 368 | 419 | 381 | 457 | 559 | 610 | 737 |
| d | in | 47 | 57 | 73 | 98 | 121 | 146 | 190 |
| H | mm | 180 | 200 | 235 | 270 | 300 | 350 | 400 |



# CHECK VALVE SERIES
## CAST STAINLESS STEEL SWING CHECK VALVE(API603)

### DESIGN DESCRIPTION

BB, Bolted bonnet
Swing type, anti-rotation disc
Seat rings integral with body
Non-renetrate disc shaft
Horizontal or vertical service
Flanged or butt welding ends




150~ 600Lb

### APPLICABLE STANDARDS

Design and Manufacture: API 6D
Pressure-temperature ratings: ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Butt welding ends: ASME B16.25
Inspection and test: API 598

### MATERIALS OF PARTS

| NO. | Part name | ASTM Material | | |
|---|---|---|---|---|
| | | 18Cr-18Ni | 18Cr-9Ni-2Mo | 17Cr-9Ni-2Mo |
| 1 | Body | A351-CF8 | A351-CF8M | A351-CF3M |
| 2 | Bonnet | A351-CF8 | A351-CF8M | A351-CF3M |
| 3 | Disc | A351-CF8 | A351-CF8M | A351-CF3M |
| 4 | Hinge | A351-CF8 | A351-CF8M | A351-CF3M |
| 5 | Hinge pin | A276-304 | A276-316 | A276-316L |
| 6 | Disc washer | A276-304 | A276-316 | A276-316L |
| 7 | Disc nut | A193-B8 | A193-B8M | A193-B8M |
| 8 | Disc nut pin | A276-304 | A276-316 | A276-316L |
| 9 | Bonnet gasket[1] | Graphite+304 | Graphite+316 | Graphite+316L |
| 10 | Bonnet stud | A193-B8 | A193-B8M | A193-B8M |
| 11 | Bonnet stud nut | A194-8 | A194-8M | A194-8M |
| 12 | Eyebolt[2] | A194-8 | A194-8 | A194-8 |

Note: 1). Spiral wound construction, tefon optional.
2). NPS 6" & Larger.
3). Disc and seat (Integral with body) may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

# CHECK VALVE SERIES
## CAST STAINLESS STEEL SWING CHECK VALVE(API603)

### DIMENSIONS DATA — 150Lb

| Size | | 1/2 | 3/4 | 1 | 11/2 | 2 | 21/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | 15 | 20 | 25 | 40 | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 40 | 450 | 500 | 600 | 650 |
| L/L1 (RF/BW) | in | 4.25 | 4.62 | 5.00 | 6.50 | 8.00 | 8.50 | 9.50 | 11.50 | 14.00 | 19.50 | 24.50 | 27.50 | 31.00 | 34.00 | 38.50 | 38.50 | 51.00 | - |
| | mm | 108 | 117 | 127 | 165 | 203 | 216 | 241 | 292 | 356 | 495 | 622 | 699 | 787 | 864 | 978 | 978 | 1295 | - |
| L2 (RTJ) | in | - | - | - | - | 8.50 | 9.00 | 10.00 | 12.00 | 14.50 | 20.00 | 25.00 | 28.00 | 31.50 | 34.50 | 39.00 | 39.00 | 21.50 | - |
| | mm | - | - | - | - | 216 | 229 | 254 | 305 | 368 | 508 | 635 | 711 | 800 | 876 | 991 | 991 | 1308 | - |
| H (Open) | in | 3.12 | 3.38 | 3.88 | 4.38 | 6.00 | 6.50 | 6.88 | 8.00 | 11.50 | 13.88 | 15.38 | 17.00 | 18.75 | 20.62 | 22.88 | 24.62 | 24.75 | - |
| | mm | 80 | 85 | 100 | 110 | 152 | 165 | 175 | 204 | 293 | 353 | 390 | 432 | 475 | 525 | 582 | 627 | 883 | - |
| WT (Kg) | BW | 2.5 | 3.5 | 5 | 7.5 | 14 | 20 | 25 | 40 | 71 | 118 | 177 | 263 | 353 | 542 | 632 | 855 | 970 | - |
| | RF/RTJ | 2 | 3 | 3.5 | 5.5 | 10 | 12 | 17 | 29 | 57 | 96 | 143 | 227 | 295 | 468 | 552 | 755 | 831 | - |

### 300Lb

| Size | | 1/2 | 3/4 | 1 | 11/2 | 2 | 21/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | 15 | 20 | 25 | 40 | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 40 | 450 | 500 | 600 | 650 |
| L/L1 (RF/BW) | in | 6.00 | 7.00 | 8.00 | 9.00 | 10.50 | 11.50 | 12.50 | 14.00 | 17.50 | 21.00 | 24.50 | 28.00 | 33.00 | 34.00 | 38.50 | 40.00 | 53.00 | - |
| | mm | 152 | 178 | 203 | 229 | 267 | 292 | 318 | 356 | 445 | 533 | 622 | 711 | 838 | 864 | 978 | 1016 | 1346 | - |
| L2 (RTJ) | in | - | - | - | - | 11.12 | 12.12 | 13.12 | 14.62 | 18.12 | 21.62 | 25.12 | 28.62 | 33.62 | 34.62 | 39.12 | 40.75 | 53.88 | - |
| | mm | - | - | - | - | 283 | 308 | 333 | 371 | 460 | 549 | 638 | 727 | 854 | 879 | 994 | 1035 | 1368 | - |
| H (Open) | in | 3.12 | 3.38 | 3.88 | 4.38 | 6.00 | 6.50 | 6.88 | 8.00 | 11.50 | 13.88 | 15.38 | 17.00 | 18.75 | 20.62 | 22.88 | 24.62 | 34.75 | - |
| | mm | 80 | 85 | 100 | 110 | 152 | 165 | 175 | 204 | 293 | 353 | 390 | 432 | 475 | 525 | 582 | 627 | 883 | - |
| WT (Kg) | BW | 3 | 4 | 6 | 10 | 16 | 23 | 29 | 46 | 82 | 136 | 204 | 302 | 405 | 625 | 730 | 985 | 1115 | - |
| | RF/RTJ | 2.5 | 3.5 | 5 | 7 | 11 | 13 | 18 | 31 | 61 | 103 | 155 | 245 | 315 | 503 | 593 | 812 | 895 | - |

### 600Lb

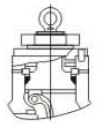
| Size | | 1/2 | 3/4 | 1 | 11/2 | 2 | 21/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | mm | 15 | 20 | 25 | 40 | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 40 | 450 | 500 | 600 | 650 |
| L/L1 (RF/BW) | in | 6.50 | 7.50 | 8.50 | 9.50 | 11.50 | 13.00 | 14.00 | 17.00 | 22.00 | 26.00 | 31.00 | 33.00 | 35.00 | 39.00 | 43.00 | 47.00 | 55.00 | - |
| | mm | 165 | 190 | 216 | 241 | 292 | 330 | 356 | 432 | 559 | 660 | 787 | 838 | 889 | 991 | 1092 | 1194 | 1397 | - |
| L2 (RTJ) | in | - | - | - | - | 11.62 | 13.12 | 14.12 | 17.12 | 22.12 | 26.12 | 31.12 | 33.12 | 35.12 | 39.12 | 43.12 | 47.25 | 55.38 | - |
| | mm | - | - | - | - | 295 | 333 | 359 | 435 | 562 | 664 | 791 | 841 | 892 | 994 | 1095 | 1200 | 1407 | - |
| H (Open) | in | 3.38 | 3.50 | 4.50 | 5.50 | 7.50 | 8.00 | 8.75 | 10.00 | 14.50 | 17.50 | 19.25 | 21.38 | 23.38 | 25.75 | 28.75 | 31.00 | 43.50 | - |
| | mm | 85 | 90 | 115 | 140 | 190 | 205 | 222 | 255 | 368 | 445 | 490 | 540 | 595 | 655 | 730 | 785 | 1105 | - |
| WT (Kg) | BW | 5.5 | 7.5 | 12 | 18 | 24 | 35 | 44 | 70 | 125 | 207 | 310 | 460 | 615 | 945 | 1105 | 1495 | 1695 | - |
| | RF/RTJ | 4 | 6 | 8 | 12.5 | 16 | 19 | 26 | 44 | 87 | 147 | 220 | 350 | 452 | 720 | 845 | 1160 | 1280 | - |

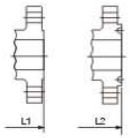


# CHECK VALVE SERIES
## CAST STEEL SWING CHECK VALVE (PRESSURE SEAL)

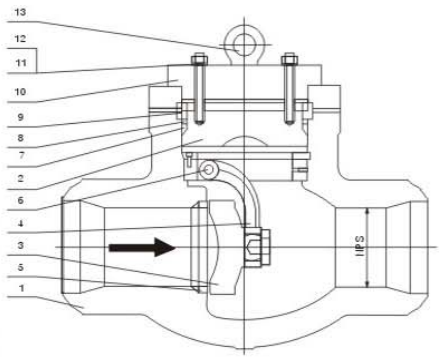
### DESIGN DESCRIPTION

PSB, Pressure seal bonnet
Flexible wedge, fully guided
Choice of solid or split wedge
Renewable seat rings
Forged-head stem
Rising stem and non-rising handwheel
Flanged or butt welding ends
Available with BG(Bevel Gear) operator




RF End RTJ End




Class 900~Class 2500

### APPLICABLE STANDARDS

Design standard: BS 1868 & ASME B16.34
Face to face: ASME B16.10
End flanges: ASME B16.5
Inspection and test: API 598

### MATERIALS OF PARTS

| NO. | Part name | ASTM Material | | |
|---|---|---|---|---|
| 1 | Body | A216-WCB | A217-WC6 | A351-CF3M |
| 2 | Bonnet/cap | A216-WCB | A217-WC6 | A351-CF3M |
| 3 | Disc | A105+HF | A182-F11+HF | A351-CF8M+HF |
| 4 | Hinge | A216-WCB | A217-WC6 | A351-CF8M |
| 5 | Seat ring | A105+HF | A182-F11+HF | A240-316+HF |
| 6 | Hinge pin | A276-420 | A276-304 | A276-316 |
| 7 | Bonnet gasket[1] | Steel ring | A304SS Ring | A316SS Ring |
| 8 | Adapter ring | Carbon steel | A276-420 | A276-316 |
| 9 | Retainer | Carbon steel | A276-420 | A276-316 |
| 10 | Bonnet clamp | Carbon steel | Alloy steel | Stainless steel |
| 11 | Bonnet stud | A193-B7 | A193-B7 | A193-B8M |
| 12 | Bonnet stud nut | A194-2H | A194-2H | A194-8M |
| 13 | Eyebolt | Carbon steel | | |

Note: 1). Graphite optional
2). Disc and seat ring may either be solid facing material or a base material equal to or better than the body/bonnet material with facing as shown.

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

### DIMENSIONS DATA — Class 900

| Size | NPS | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
| L/L1 (RF/BW) | in | 14.50 | 16.50 | 15.00 | 18.00 | 24.00 | 29.00 | 33.00 | 38.00 |
| | mm | 368 | 419 | 381 | 457 | 610 | 737 | 838 | 965 |
| L2 (RTJ) | in | 14.62 | 16.62 | 15.12 | 18.12 | 24.12 | 29.12 | 33.12 | 38.12 |
| | mm | 371 | 422 | 384 | 460 | 613 | 740 | 841 | 968 |
| H | in | 11.65 | 11.81 | 11.81 | 12.87 | 17.36 | 19.76 | 26.14 | 30.51 |
| | mm | 296 | 300 | 300 | 327 | 441 | 502 | 664 | 775 |

### Class 1500

| Size | NPS | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
| L/L1 (RF/BW) | in | 14.50 | 16.50 | 18.50 | 21.50 | 27.75 | 32.75 | 39.00 | 44.50 |
| | mm | 368 | 419 | 470 | 546 | 705 | 832 | 991 | 1130 |
| L2 (RTJ) | in | 14.62 | 16.62 | 18.62 | 21.62 | 28.00 | 33.13 | 39.38 | 45.12 |
| | mm | 371 | 422 | 473 | 549 | 711 | 841 | 1000 | 1146 |
| H | in | 11.65 | 11.81 | 13.43 | 16.22 | 20.12 | 26.77 | 29.76 | 33.74 |
| | mm | 296 | 300 | 341 | 412 | 511 | 680 | 756 | 857 |

### Class 2500

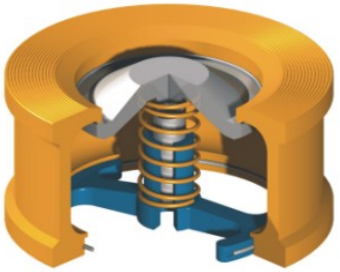
| Size | NPS | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 |
|---|---|---|---|---|---|---|---|---|---|
| | DN | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 |
| L/L1 (RF/BW) | in | 17.75 | 20.00 | 22.75 | 26.50 | 36.00 | 40.25 | 50.00 | 56.00 |
| | mm | 451 | 508 | 578 | 673 | 914 | 1022 | 1270 | 1422 |
| L2 (RTJ) | in | 17.87 | 20.25 | 23.00 | 26.88 | 36.50 | 40.87 | 50.88 | 56.88 |
| | mm | 454 | 514 | 584 | 683 | 927 | 1038 | 1292 | 1445 |
| H | in | 16.38 | 16.50 | 17.36 | 18.86 | 20.12 | 27.99 | 33.50 | 39.37 |
| | mm | 416 | 419 | 441 | 479 | 511 | 711 | 851 | 1000 |



# CHECK VALVE SERIES
## WAFER TYPE CHECK VALVE

### STANDARDS COMPLIANCE

Design and Manufacture: API 594, API 6D
Face to face: API 594、API 6D、DIN 3202
Flanged connection: 2"~24" to ANSI B16.5 ,
26"~36" to MSS-SP-44 to API 605 on request
Test and inspection: API 598
Pressure-tempeature Ratings: ASME B 16.34 DIN 2401



Single disclift type

### PRODUCT INTRODUCTION

The wafer flange clamped butterfly check valve is an energy-saving product. It is manufactured based on the foreign advanced technology and in accordance with relative international standards. This product Is featured by excellent retaining performance, high safety and reliability and low flow resistance. It is suitable for systems in the industries of petrochemical, food processing, medicine, textile, paper-making Water supply, drainage, metallurgy, energy. and light industry, etc, used as a check valve in one way.

### FEATUTES

1. Small in size, light in weight, compact in structure, easy in main tenance.
2. Two torsion springs are used excerting on each of the pair valve plates, which close the plates quickly and automatically.
3. The quick-close action prevents the medium from flowing back and eliminates water-hammer effect.
4. This valve is short in length, so that it is rigid and easy to mount.
5. It is easy to install on pipeline which is laid horizontally or vertically.
6. This valve is tightly sealed without leakage under the pressure water test.
7. Safe and reliable in operation, high interference-resistance.
8. The connection dimensions of flanges accord with the standards of GB4216-84 GB4216.5-84.
9. The face to face dimensions are in accordance with ISO5752-82. The stem of the valve should be perpendicular to the horizontal level when the valve is mounted on horizontal pipeline. For vertical installation the direction of flow should be downward.

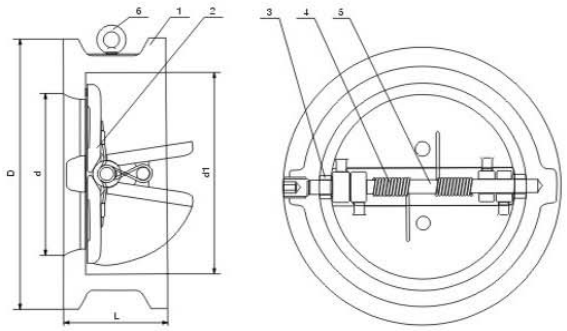
# CHECK VALVE SERIES
## BUTTERFLY DUAL-PLATE CAST STEEL CHECK VALVE

### APPLICABLE STANDARDS

Design and Manufacture: API 594/API 6D
Design and Manufacture: ISO 14313
Pressure-temperature ratings: ASME B 16.34
Face to face: ASME B 16.10
End flanges: ASME B16.5
Inspection and test: API 598/API 6D

### DESIGN DESCRIPTION

One piece body
Butterfly swing type
Dual-plate disc, long-pattern
Renewable split disc
Horizontal or vertical service
Wafer ends
Available with flanged ends




150Lb~ 900Lb

### MATERIALS OF PARTS

| NO. | Part name | ASTM Material | | |
|---|---|---|---|---|
| | | Carbon steel | 18Cr-9Ni-2Mo | Carbon steel |
| 1 | Body | A216-WCB | A351-CF8M | A352-LCB |
| 2 | Plate | A216-WCB+CR13 | A351-CF8M+HF | A352-LCB+CR13 |
| 3 | Stop pin | A276-420 | A276-304 | A276-420 |
| 4 | Back spring | A313-304 | A313-316 | A313-304 |
| 5 | Hinge pin | A276-420 | A276-304 | A276-420 |
| 6 | Eyebolt [1] | | Carbon steel | |

Note: 1). NPS8" & Large;



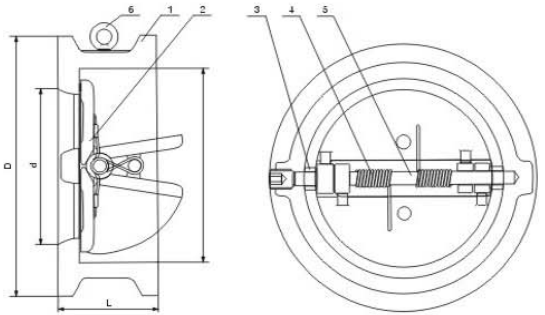
# CHECK VALVE SERIES
## DUAL-PLATE CAST STEEL CHECK VALVE

### APPLICABLE STANDARDS

Design and Manufacture: API 594/API 6D
Design and Manufacture: ISO 14313
Pressure and temperature: ASME B 16.34
Face to face: ASME B 16.10
End flanges: ASME B16.5
Inspection and test: API 598/API 6D

### DESIGN DESCRIPTION

One piece body
Butterfly swing type
Dual-plate disc, long-pattern
Renewable split disc
Horizontal or vertical service
Wafer ends
Available with flanged ends




150Lb~ 300Lb

### DIMENSIONS DATA

150Lb

| Size | | in | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 |
| L | | in | 2.38 | 2.62 | 2.88 | 2.88 | 3.88 | 5.00 | 5.75 | 7.12 | 7.25 | 7.50 | 8.00 | 8.62 | 8.75 |
| | | mm | 60 | 67 | 73 | 73 | 98 | 127 | 146 | 181 | 184 | 191 | 203 | 219 | 222 |
| D | | in | 4.00 | 4.88 | 5.38 | 6.75 | 8.62 | 10.88 | 13.25 | 16.00 | 19.62 | 20.12 | 21.50 | 23.75 | 28.12 |
| | | mm | 103 | 122 | 135 | 173 | 220 | 277 | 337 | 407 | 448 | 512 | 547 | 604 | 715 |
| d | | in | 2.00 | 2.50 | 3.25 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 13.75 | 15.75 | 17.75 | 19.75 | 23.62 |
| | | mm | 51 | 65 | 80 | 102 | 152 | 203 | 254 | 305 | 350 | 400 | 450 | 500 | 600 |
| d1 | | in | 2.25 | 2.88 | 3.50 | 4.25 | 6.25 | 8.26 | 10.50 | 12.12 | 14.00 | 16.00 | 18.00 | 19.88 | 23.75 |
| | | mm | 56 | 73 | 88 | 108 | 160 | 210 | 266 | 310 | 356 | 405 | 455 | 505 | 605 |
| WT | | Kg | 2 | 3 | 4 | 6 | 13 | 25 | 39 | 54 | 80 | 117 | 138 | 163 | 331 |

300Lb

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L | in | 2.38 | 2.62 | 2.88 | 2.88 | 3.88 | 5.00 | 5.75 | 7.12 | 8.75 | 9.12 | 10.38 | 11.50 | 12.50 |
| | mm | 60 | 67 | 73 | 73 | 98 | 127 | 146 | 181 | 222 | 232 | 264 | 292 | 318 |
| D | in | 4.25 | 5.00 | 5.75 | 7.00 | 9.88 | 12.00 | 14.12 | 16.50 | 19.00 | 21.12 | 23.38 | 25.62 | 30.38 |
| | mm | 110 | 128 | 147 | 179 | 249 | 305 | 359 | 420 | 483 | 537 | 594 | 652 | 772 |
| d | in | 2.00 | 2.50 | 3.00 | 4.00 | 6.00 | 8.00 | 10.00 | 12.00 | 14.00 | 16.00 | 18.00 | 20.00 | 24.00 |
| | mm | 51 | 65 | 80 | 102 | 152 | 203 | 254 | 305 | 350 | 400 | 450 | 500 | 600 |
| d1 | in | 2.25 | 288 | 3.50 | 4.25 | 6.38 | 8.25 | 10.50 | 12.25 | 14.00 | 16.00 | 18.00 | 20.00 | 24.00 |
| | mm | 58 | 73 | 88 | 108 | 160 | 210 | 266 | 310 | 355 | 405 | 455 | 505 | 608 |
| WT | Kg | 3 | 4 | 6 | 8 | 18 | 31 | 51 | 77 | 117 | 190 | 200 | 265 | 410 |

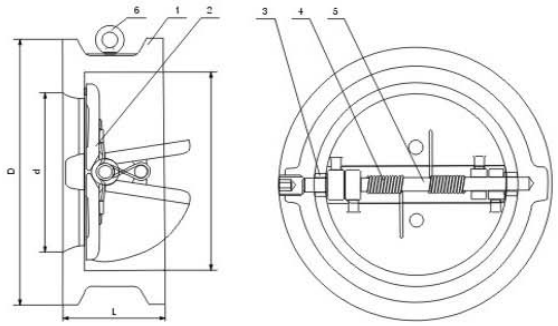
# CHECK VALVE SERIES
## BUTTERFLY DUAL-PLATE CAST STEEL CHECK VALVE

### APPLICABLE STANDARDS

Steel check valves: API 594/API 6D
Steel check valves: ISO 14313
Steel valves: ASME B 16.34
Face to face: ASME B 16.10
End flanges: ASME B16.5
Inspection and test: API 598/API 6D

### DESIGN DESCRIPTION

One piece body
Butterfly swing type
Dual-plate disc, long-pattern
Renewable split disc
Horizontal or vertical service
Wafer ends
Available with flanged ends




600Lb~900Lb

### DIMENSIONS DATA — 600Lb

| Size | | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | in | 2 | 2 1/2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 |
| | mm | 50 | 65 | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 |
| L | in | 2.38 | 2.62 | 2.88 | 3.12 | 5.38 | 6.50 | 8.38 | 9.00 | 10.75 | 12.00 |
| | mm | 60 | 67 | 73 | 79 | 137 | 165 | 213 | 229 | 273 | 305 |
| D | in | 4.38 | 5.00 | 5.75 | 7.50 | 10.38 | 12.50 | 15.62 | 17.88 | 19.25 | 22.12 |
| | mm | 11 | 128 | 147 | 191 | 264 | 318 | 398 | 455 | 490 | 562 |
| d | in | 2.00 | 2.50 | 3.00 | 4.00 | 6.00 | 7.88 | 9.88 | 12.00 | 13.25 | 15.25 |
| | mm | 51 | 65 | 80 | 102 | 152 | 200 | 250 | 305 | 337 | 387 |
| d1 | in | 2.25 | 2.88 | 3.50 | 4.25 | 6.38 | 8.38 | 10.50 | 12.25 | 14.00 | 15.75 |
| | mm | 58 | 73 | 88 | 108 | 162 | 212 | 266 | 312 | 355 | 400 |
| WT | Kg | 4 | 5 | 8 | 11 | 26 | 55 | 95 | 140 | 223 | 360 |

### 900Lb

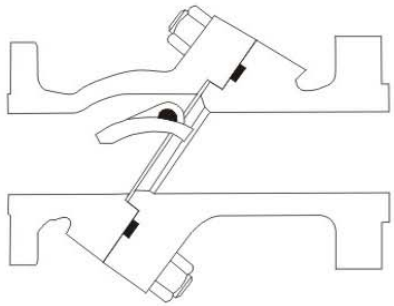
| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| L | in | 2.75 | 3.25 | 3.25 | 4.00 | 6.25 | 8.12 | 9.50 | 11.50 | - | - |
| | mm | 70 | 83 | 83 | 102 | 159 | 206 | 241 | 292 | - | - |
| D | in | 5.50 | 6.38 | 6.50 | 8.00 | 11.25 | 14.00 | 17.00 | 19.50 | - | - |
| | mm | 140 | 162 | 165 | 204 | 286 | 356 | 432 | 495 | - | - |
| d | in | 2.00 | 2.50 | 3.00 | 4.00 | 6.00 | 7.88 | 9.88 | 12.00 | - | - |
| | mm | 51 | 65 | 80 | 102 | 152 | 200 | 250 | 305 | - | - |
| d1 | in | 2.25 | 2.88 | 3.50 | 4.25 | 6.38 | 8.38 | 10.50 | 12.25 | - | - |
| | mm | 58 | 73 | 88 | 108 | 162 | 212 | 266 | 312 | - | - |
| WT | Kg | 8 | 11 | 14 | 20 | 42 | 84 | 145 | 220 | - | - |



# CHECK VALVE SERIES
## TILTING DISC CHECK VALVE

### TILTING DISC CHECK VALVE PRODUCT LINE

| Size | | pressure(class) | | | | |
|---|---|---|---|---|---|---|
| DN | NPS | 150 | 300 | 600 | 900 | 1500 |
| 50 | 2 | * | * | * | * | * |
| 65 | 2-1/2 | * | * | * | * | * |
| 80 | 3 | * | * | * | * | * |
| 100 | 4 | * | * | * | * | * |
| 125 | 5 | * | * | * | * | * |
| 150 | 6 | * | * | * | * | * |
| 200 | 8 | * | * | * | * | * |
| 250 | 10 | * | * | * | * | * |
| 300 | 12 | * | * | * | * | |
| 350 | 14 | * | * | * | * | |
| 400 | 16 | * | * | * | * | |
| 450 | 18 | * | * | * | * | |
| 500 | 20 | * | * | * | | |
| 600 | 24 | * | * | * | | |
| 650 | 26 | * | * | * | | |
| 700 | 28 | * | * | * | | |
| 750 | 30 | * | * | * | | |
| 900 | 36 | * | * | | | |



Type of end connection referred to Appendix I

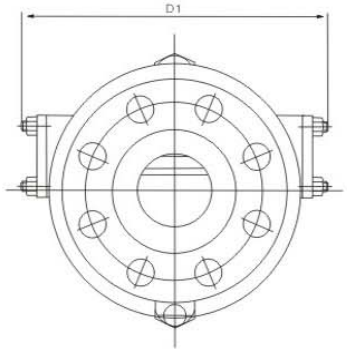
### MATERIAL LIST OF TILTING DISC CHECK VALVE — ASTMSTANDARD MATERIAL

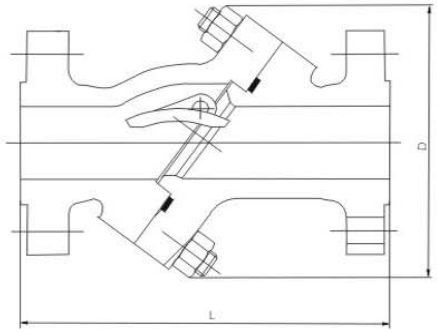
| No | Part Name | Carbon Steel | Stainless Steel | Alloy Steel |
|---|---|---|---|---|
| 1 | Body | A216WCB | A351CF8 | A217WCB |
| 2 | Body | A216WCB | A351CF8 | A217WCB |
| 3 | Disc | A351CF8 | A351CF8 | A351CF8 |
| 4 | Pin | A182 F6a | A182 F304 | A182 F304 |
| 5 | Stud | A193 B7 | A193 B8 | A193 B7 |
| 6 | Nut | A194 2H | A194 8 | A194 4 |
| 7 | Gasket | | SS304 Graphite+SS304 | |
| 8 | Bearing Cap | A105 | A182 F304 | A182 F304 |
| 9 | Gasket | Carbon Steel | Stainless Steel | Stainless Steel |
| 10 | Stud | A193 B7 | A193 B8 | A193 B7 |
| 11 | Nut | A194 2H | A194 8 | A194 4 |
| 12 | Connection pin | ANSI1020 | A182 F304 | A182 F304 |

### TECHNICAL SPECIFICATION

| | | | | | | |
|---|---|---|---|---|---|---|
| Design Standard | | API6D、API594 | | | | |
| Pressure-Temperature Rating | | ASME B16.34 | | | | |
| Face-Face | | API6D、API594 | | | | |
| Flange Ends | | ASME B16.5 、ASME B16.47 | | | | |
| Inspection&Test | | API598、API6D | | | | |
| NominalPressure(CLASS) | | 150 | 300 | 600 | 900 | 1500 |
| Test Pressure (MPa) | Shell Test | 2.93 | 7.55 | 10.0 | 15.0 | 37.5 |
| | High Pressure Seal Test | 2.07 | 5.52 | 7.31 | 11.03 | 27.5 |
| | Low Pressure Seal Test | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Applicable Temperature | | -196℃~550℃ Different raw material for different working temperature | | | | |
| Applicable Medium | | Water、oil、gas and other causticity medium(Different raw material for different medium) | | | | |

## CHECK VALVE SERIES
### TILTING DISC CHECK VALVE




### DIMENSIONS DATA — 150Lb

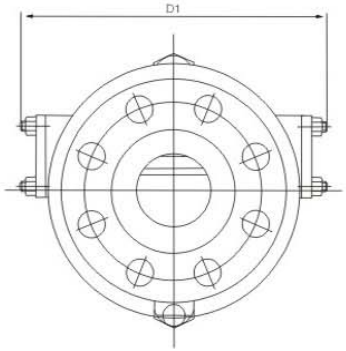
| Size | | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | mm | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 | 900 |
| Valve Main Dimension | RF | 203 | 216 | 241 | 292 | 330 | 356 | 495 | 622 | 698 | 787 | 762 | 838 | 826 | 965 | 1257 | 1511 |
| | BW | 203 | 216 | 241 | 292 | 330 | 356 | 495 | 622 | 698 | 787 | 762 | 838 | 826 | 965 | 1257 | 1511 |
| | D | 186 | 217 | 217 | 251 | 286 | - | 403 | 476 | 543 | 570 | 633 | 705 | 778 | 910 | 1105 | 1270 |
| | D1 | - | - | - | 337 | 397 | - | 527 | 635 | 705 | 724 | 864 | 908 | 988 | 1133 | 1365 | 1530 |
| Weight (kg) | WRF | 17 | 23 | 27 | 46 | 63 | - | 133 | 221 | 313 | 373 | 485 | 651 | 828 | 1310 | 2173 | 3082 |
| | WBW | 10 | 17 | 19 | 34 | 49 | - | 109 | 181 | 259 | 313 | 401 | 550 | 798 | 1027 | 1826 | 2610 |
| CV | | - | - | 710 | 1,300 | - | 3,100 | 5,720 | 8,940 | 13,350 | 16,275 | 21,560 | 28,720 | 35,760 | 52,165 | 86,235 | 129,500 |

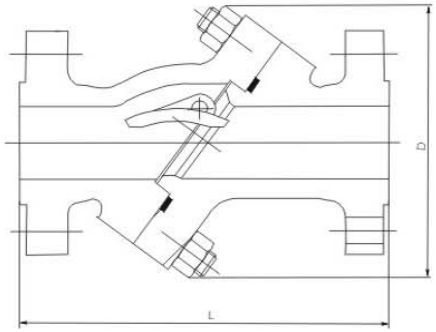
### 300Lb

| Size | | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 | 36 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | mm | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 | 900 |
| Valve Main Dimension | RF | 267 | 292 | 318 | 356 | 400 | 444 | 622 | 533 | 711 | 762 | 838 | 914 | 991 | 1143 | 1372 | 1524 |
| | BW | 267 | 292 | 318 | 356 | 400 | 444 | 622 | 533 | 711 | 762 | 838 | 914 | 991 | 1143 | 1372 | 1524 |
| | D | 205 | 241 | 241 | 273 | 317 | - | 432 | 514 | 610 | 632 | 706 | 781 | 826 | 953 | 1130 | 1432 |
| | D1 | - | - | - | 362 | 416 | - | 559 | 638 | 756 | 768 | 914 | 1003 | 1035 | 1149 | 1365 | 1727 |
| Weight (kg) | WRF | 26 | 39 | 41 | 76 | 98 | - | 207 | 304 | 467 | 565 | 769 | 989 | 1201 | 1846 | 2812 | 5676 |
| | WBW | 17 | 26 | 27 | 48 | 75 | - | 153 | 236 | 379 | 481 | 576 | 764 | 869 | 1266 | 2110 | 4536 |
| CV | | - | - | 710 | 1,300 | - | 3,100 | 5,720 | 8,940 | 13,350 | 16,275 | 21,560 | 28,720 | 35,760 | 52,165 | 86,235 | 129,500 |



## CHECK VALVE SERIES
### TILTING DISC CHECK VALVE




### DIMENSIONS DATA — 300Lb

| Size | | 2 | 2-1/2 | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 24 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | mm | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 500 | 600 | 750 |
| Valve Main Dimension | RF | 292 | 330 | 356 | 432 | 508 | 559 | 660 | 787 | 838 | 889 | 991 | 1092 | 1194 | 1397 | 1499 |
| | BW | 292 | 330 | 356 | 432 | 508 | 559 | 660 | 787 | 838 | 889 | 991 | 1092 | 1194 | 1397 | 1499 |
| | D | 231 | 254 | 254 | 327 | 368 | 406 | 486 | 562 | 656 | 695 | 756 | 870 | 953 | 111 | 1235 |
| | D1 | - | - | - | 406 | 489 | 514 | 597 | 699 | 794 | 841 | 917 | 1085 | 1165 | 1352 | 1524 |
| Weight (kg) | WRF | 31 | 50 | 52 | 101 | 148 | 196 | 329 | 469 | 667 | 830 | 1157 | 1619 | 2180 | 3061 | 3941 |
| | WBW | 27 | 32 | 39 | 74 | 121 | 134 | 197 | 372 | 479 | 606 | 891 | 1310 | 1830 | 2654 | 3499 |
| CV | | - | - | 710 | 1,300 | - | 3,100 | 5,720 | 8,940 | 13,350 | 16,275 | 21,560 | 28,720 | 35,760 | 52,165 | 86,235 |

### 900Lb~ 1500Lb

| | | 900Lb | | | | | | | | | 1500Lb | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Size | in | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 2 | 2-1/2 | 3 | 4 | 6 | 8 | 10 |
| | mm | 80 | 100 | 150 | 200 | 250 | 300 | 350 | 400 | 450 | 50 | 65 | 80 | 100 | 150 | 200 | 250 |
| Valve Main Dimension | RF | 381 | 457 | 610 | 737 | 838 | 965 | 1029 | 1130 | 1219 | 368 | 419 | 470 | 546 | 705 | 832 | 991 |
| | BW | 381 | 457 | 610 | 737 | 838 | 965 | 1029 | 1130 | 1219 | 368 | 419 | 470 | 546 | 705 | 832 | 991 |
| | D | 279 | 311 | 365 | 416 | 508 | 622 | 700 | 784 | 927 | 311 | 311 | 311 | 375 | 470 | 565 | 724 |
| | D1 | 406 | 470 | 565 | 603 | 718 | 884 | 879 | 1070 | 1143 | 435 | 435 | 435 | 540 | 603 | 768 | 972 |
| Weight (kg) | WRF | 80 | 124 | 199 | 274 | 476 | 803 | 1095 | - | - | 81 | 100 | 102 | 195 | 435 | 771 | 1066 |
| | WBW | 49 | 74 | 130 | 210 | 345 | 653 | 730 | 912 | 1025 | 70 | 75 | 82 | 122 | 363 | 553 | 850 |
| CV | | 710 | 1,300 | 3,100 | 5,720 | 8,940 | 13,350 | 16,275 | 21,560 | 28,720 | - | - | 600 | 1,070 | 2,500 | 4,370 | 6,850 |

DBV VALVE GROUP CO., LTD.

# API BELLOWS VALVE SERIES



## API BELLOWS VALVE SERIES
### BELLOWS SEAL VALVE

## APPLICATIONS

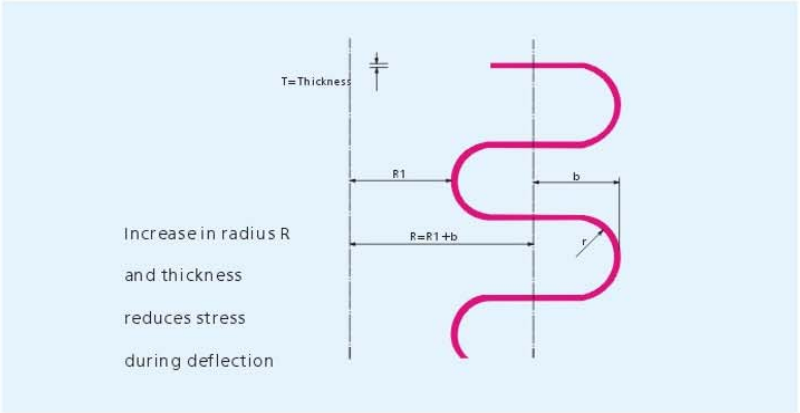
Reliability and total containment of toxic and aggressive fluids are achieved with bellows sealed stem and seal-welded body-bonnet joint.
Operators, the public and the environment are protected from packing and gasket leakage.
Maintenance-free service for 2000 to 10000 cycles.
Ideal for steam, which is difficult to contain and where loss of energy is very costly.
Bellows sealed valves are currently used in difficult and toxic services for the following fluids.

| | | |
|---|---|---|
| Acrylonitrile | Ethyl mercaptan | Potassium(liquid) |
| Heat transfer oils/media | Hydrogen | Titanium tetrachloride |
| Caustic solutions | Hydrofluoric acid(HF) | Toluene |
| Ammonia | Freon | Phosgene |
| Benzene | Hydrogen bromide | Sodium(liquid) |
| Argon | Helium | Steam |
| Carbon dioxide | Hydrogen chloride | Vinyl chloride |
| Chlorine | Nitrogen | Sulfuric acid |
| Dowthem | Hydrogen | |

Also for sour gas and oil, cryogenic and vacuum service.

## OVERALL DESIGN FEATURES

No torsion of bellows
Non-rotating stem prevents torsion of bellows and ensures long cycle life on all valves.
Two secondary stem seals
1)、Backseat ( stem bevel ) protects from line pressure when open.
2)、Stem packing
Low torque due to non-rotating stem, central grease fitting for lubrication of stem nut and for high-pressure valves, stem thrust bearing.
Long cycle life bellows
Designed for and successfully tested in high pressure/temperature applications.
Hermetically sealed. Body-bonnet welds provide a hermetically-enclosed vessel in most designs.
In-line servicing. Stem-bellows assembly can easily be removed and replaced on valves with bolted bonnet.
On seal-welded valves, removal and replacement of weld are necessary. Special power tools are available for cutting seal weld.



# API BELLOWS VALVE SERIES
## BELLOWS SEAL VALVE

### DESIGN PARAMETERS

Feature a formed mutiply bellows welded to the stem and to the bottom of the bonnet, creating a hermetic seal or impermeable in stainless steel. Inconel, hastelloy C and Monel for virtually all corrosive chemical applications.

### CYCLE LIFE

Axial movement of the bellows is limited to a maximum of 20~25% of the free length, depending on pressure/temperature and Desired life cycle.

Bellows are designed for:

10000cycles ( or per desired life cycle ) for 1/2~2" ( 15~50mm ) class 800 globe valves;

5000 cycles ( or per desired life cycle ) for 1/2~2" ( 15~50mm ) Y-pattern ASME Class 1500~2500 valves.

3000 cycles for 1/2~2" ( 15~50mm ) gate valves. Larger valves, sizes 21/2"~12" ( 65~300mm ) are offered with

3000 life cycles for globe valves, and 2000 cycles for gate valves.

Proper stem guiding eliminates torsion of bellows.

The bellows stroke is 50% in tension and 50% in compression.

Stroke limitation for ling bellows. To accommodate long lift for larger gate valves, two or three bellows are joined and each takes over part of the lift.

### BELLOWS SEAL STEEL GATE, GLOBE

| Valve type | Pressure rating (b) | Size ( in. mm ) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1/2<br>15 | 3/4<br>20 | 1<br>25 | 11/2<br>40 | 2<br>50 | 21/2<br>65 | 3<br>80 | 4<br>100 | 6<br>150 | 8<br>200 | 10<br>250 | 12<br>300 |
| Gate | 150 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 300 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 600 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 800 | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | 900 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 1500 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Globe | 150 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 300 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 600 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 800 | ✓ | ✓ | ✓ | ✓ | ✓ | | | | | | | |
| | 900 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | 1500 | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | |



API BELLOWS VALVE SERIES
BELLOWS SEAL VALVE

### HOW TO ORDER

When ordering please use TEJI figure numbers to ensure correct and prompt processing of your order. Buyers are recommended to specify detail description for special order:

| 10 | WZ | 6 | R | G | 11 | C | |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

### 1. Valve Size: 1"-2"

### 2. Valve Types:

| Valve type | Bellows seal gate | Bellows seal globe | Bellows seal pressure seal bonnet globe | Bellows seal welded bonnet gate | Bellows seal welded bonnet globe |
|---|---|---|---|---|---|
| Code | WZ | WJ | WJP | WZW | WJW |

### 3. Rating:

| Class | 150Lb | 300Lb | 600Lb | 800Lb | 900Lb | 1500Lb |
|---|---|---|---|---|---|---|
| Code | 1 | 3 | 6 | 8 | 9 | 15 |

### 4. Connection End

| Connection | Flat flange | Raised flange | Ring joint flange | Butt-weld end | Socket-weld end | Female thread |
|---|---|---|---|---|---|---|
| Code | L | F | R | W | S | C |

### 5. Operator

| Operator | Gear box | Electric motor | Chain wheel | Pneumatic actuator |
|---|---|---|---|---|
| Code | G | E | C | P |

* If handwheel operator is required, this column will be left blank.

### 6. Trim Material

| Trim No. | Seat ring or surface | Wedge/disc or surface | Stem |
|---|---|---|---|
| 11 | 13Cr | 13Cr | ASTM A182 Gr.F6a |
| 88 | 18Cr-8Ni | 18Cr-8Ni | ASTM A182 Gr.F304 |
| 28 | HF | 18Cr-8Ni | ASTM A182 Gr.F304 |
| 22 | HF | HF | ASTM A182 Gr.F6a |
| 21 | HF | 13Cr | ASTM A182 Gr.F6a |
| 44 | NiCu alloy | NiCu alloy | Monel K500 |
| 99 | 18Cr-8Ni-Mo | 18Cr-8Ni-Mo | ASTM A182 Gr.F316 |
| 29 | HF | 18Cr-8Ni-Mo | ASTM A182 Gr.F316 |
| 66 | 19Cr-29Ni | 19Cr-29Ni | ASTM B473 |
| 26 | HF | 19Cr-29Ni | ASTM B473 |

### 7. Shell Material

| Material | WCB | A105 | LCB | LF2 | CF8 | F304 | CF8M | F316 | CF3 | F304L | CF3M | F316 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Code | C | | F | | P | | R | | S | | L | |

### 8. Special Code

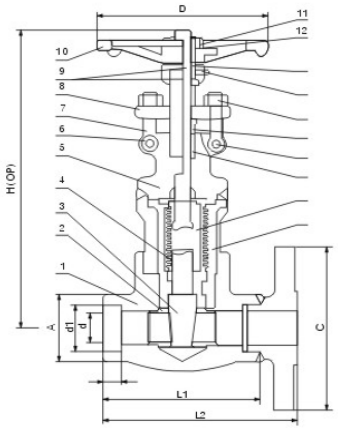
| Symbol | Description | Symbol | Description |
|---|---|---|---|
| YP | Y-Pattern | R | Reduce bore |

# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL WELDED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles ).
   Designed for high pressure
   Temperature service
2. Two secondary stem seals:
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces.
   Seats hard faced with stellite 6
   and wedge is solid stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to
   monitor performance
5. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: ASME B16.10
   f: End-to-end dimension: MFR. STD.
   g: Inspection and test: API 598.




### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | ASTM A105 |
| 2 | Seat ring | Type 410SS |
| 3 | Wedge | Type 420 SS |
| 4 | Stem | ASTM A182 F6a |
| 5 | Bonnet | ASTM A105 |
| 6 | Split pin | Carbon steel |
| 7 | Gland bolt | Type 410 SS |
| 8 | Gland flange | Carbon steel |
| 9 | Thrust collar | Type 410 SS |
| 10 | Handwheel | Malleable iron |

| No. | Parts | Material |
|---|---|---|
| 11 | Handle nut | Carbon steel |
| 12 | Name plate | Aluminum |
| 13 | Stem nut | Aluminum bronze |
| 14 | Grease fitting | Copper alloy |
| 15 | Nut | Carbon steel |
| 16 | Gland bushing | Type 410 SS |
| 17 | Pin | Type 410 SS |
| 18 | Packing | Graphite |
| 19 | Bellows assy.[h] | Type 321 S. S. |
| 20 | Extension | ASTM A105 |

### SOCKET WELD/THREADED GATE VALVE

| Size | | d | | A | | d1 | | h | | L1 | | | | h(OP) | | | | D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 150~800Lb | | 1500Lb | | 150~800Lb | | 1500Lb | | 150~800Lb | | 1500Lb | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.39 | 10 | 1.34 | 34 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 3.5 | 89 | 7.2 | 183 | 13 | 330 | 3.94 | 100 | 3.94 | 100 |
| 3/4" | 20 | 0.5 | 13 | 1.57 | 40 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 3.78 | 96 | 11.25 | 286 | 13.5 | 343 | 3.94 | 100 | 3.94 | 100 |
| 1" | 25 | 0.71 | 18 | 1.93 | 49 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 5.12 | 130 | 12.56 | 319 | 17 | 431 | 4.92 | 125 | 4.92 | 125 |
| 11/2" | 40 | 1.25 | 32 | 2.56 | 65 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 5.43 | 138 | 15.5 | 393 | 22.63 | 575 | 6.3 | 160 | 7.9 | 200 |
| 2" | 50 | 1.5 | 38 | 3.07 | 78 | 2.406 | 61.1 | 0.63 | 16 | 5.91 | 150 | 8.82 | 224 | 17.81 | 452 | 25.94 | 659 | 7.09 | 180 | 9.8 | 250 |

### FLANGED GATE VALVE

| Size | | 150Lb | | | | | | | | | | | 300Lb | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT | d | | L2 | | C | | D | | H | | WT |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) |
| 1/2" | 15 | 0.39 | 10 | 4.25 | 108 | 3.5 | 89 | 4 | 100 | 7.2 | 183 | 4.1 | 0.39 | 10 | 5.5 | 140 | 3.75 | 95 | 4 | 100 | 7.2 | 183 | 5.2 |
| 3/4" | 20 | 0.5 | 13 | 4.62 | 117 | 3.88 | 98 | 5 | 125 | 11.25 | 286 | 5 | 0.5 | 13 | 6 | 152 | 4.62 | 117 | 5 | 125 | 11.25 | 286 | 6.9 |
| 1" | 25 | 0.71 | 18 | 5 | 127 | 4.25 | 108 | 6.5 | 165 | 11.56 | 319 | 6.9 | 0.71 | 18 | 6.5 | 165 | 4.88 | 124 | 6.5 | 165 | 11.56 | 319 | 8.7 |
| 11/2" | 40 | 1.25 | 32 | 6.5 | 165 | 5 | 127 | 7 | 180 | 15.5 | 393 | 12.1 | 1.25 | 32 | 7.5 | 170 | 6.12 | 155 | 7 | 180 | 15.5 | 393 | 15.5 |
| 2" | 50 | 1.5 | 38 | 7 | 178 | 6 | 152 | 7.9 | 200 | 17.81 | 452 | 18.5 | 1.5 | 38 | 8.5 | 216 | 6.5 | 165 | 7.9 | 200 | 17.81 | 452 | 22.1 |

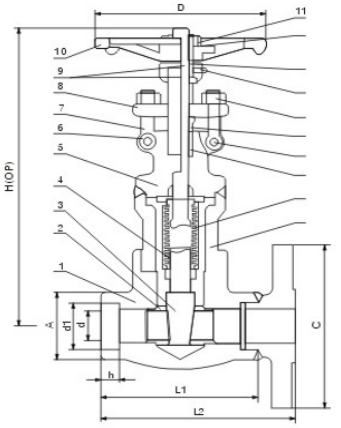


# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL WELDED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles ).
   Designed for high pressure
   Temperature service
2. Two secondary stem seals:
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces.
   Seats hard faced with stelite 6
   and wedge is solid stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to
   monitor performance
5. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: ASME B16.10
   f: End-to-end dimension: MFR. STD.
   g: Inspection and test: API 598.




### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | ASTM A105 |
| 2 | Seat ring | Type 410SS |
| 3 | Wedge | Type 420 SS |
| 4 | Stem | ASTM A182 F6a |
| 5 | Bonnet | ASTM A105 |
| 6 | Split pin | Carbon steel |
| 7 | Gland bolt | Type 410 SS |
| 8 | Gland flange | Carbon steel |
| 9 | Thrust collar | Type 410 SS |
| 10 | Handwheel | Malleable iron |

| No. | Parts | Material |
|---|---|---|
| 11 | Handle nut | Carbon steel |
| 12 | Name plate | Aluminum |
| 13 | Stem nut | Aluminum bronze |
| 14 | Grease fitting | Copper alloy |
| 15 | Nut | Carbon steel |
| 16 | Gland bushing | Type 410 SS |
| 17 | Pin | Type 410 SS |
| 18 | Packing | Graphite |
| 19 | Bellows assy.[h] | Type 321 S. S. |
| 20 | Extension | ASTM A105 |

### SOCKET WELD/THREADED GATE VALVES

| Size | | d | | A | | d1 | | h | | L1 | | | | h(OP) | | | | D | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | 150~800Lb | | 1500Lb | | 150~800Lb | | 1500Lb | | 150~800Lb | | 1500Lb | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.39 | 10 | 1.34 | 34 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 3.5 | 89 | 7.2 | 183 | 13 | 330 | 3.94 | 100 | 3.94 | 100 |
| 3/4" | 20 | 0.5 | 13 | 1.57 | 40 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 3.78 | 96 | 11.25 | 286 | 13.5 | 343 | 3.94 | 100 | 3.94 | 100 |
| 1" | 25 | 0.71 | 18 | 1.93 | 49 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 5.12 | 130 | 12.56 | 319 | 17 | 431 | 4.92 | 125 | 4.92 | 125 |
| 11/2" | 40 | 1.25 | 32 | 2.56 | 65 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 5.43 | 138 | 15.5 | 393 | 22.63 | 575 | 6.3 | 160 | 7.9 | 200 |
| 2" | 50 | 1.5 | 38 | 3.07 | 78 | 2.406 | 61.1 | 0.63 | 16 | 5.91 | 150 | 8.82 | 224 | 17.81 | 452 | 25.94 | 659 | 7.09 | 180 | 9.8 | 250 |

### FLANGED GATE VALVES

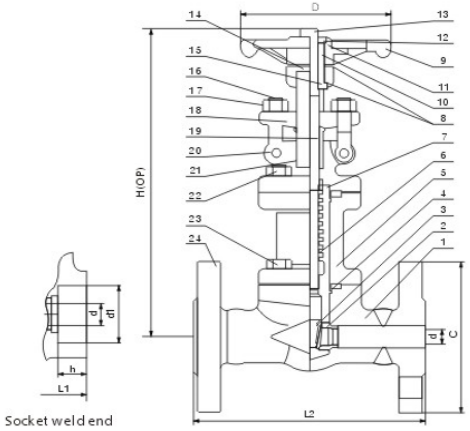
| Size | | 600Lb | | | | | | | | | | | 1500Lb | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT | d | | L2 | | C | | D | | H | | WT |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) |
| 1/2" | 15 | 0.39 | 10 | 6.5 | 165 | 3.75 | 95 | 4 | 100 | 7.2 | 183 | 5.5 | 0.39 | 10 | 8.5 | 216 | 4.75 | 121 | 5 | 125 | 13.5 | 343 | 8.9 |
| 3/4" | 20 | 0.5 | 13 | 7.5 | 190 | 4.62 | 118 | 5 | 125 | 11.25 | 286 | 7.6 | 0.5 | 13 | 9.0 | 229 | 5.12 | 130 | 5 | 125 | 13.5 | 343 | 11.2 |
| 1" | 25 | 0.71 | 18 | 8.5 | 216 | 4.88 | 124 | 6.5 | 165 | 11.56 | 319 | 9.7 | 0.71 | 18 | 10.0 | 254 | 5.88 | 149 | 6.5 | 160 | 13.5 | 343 | 14.1 |
| 11/2" | 40 | 1.25 | 32 | 9.5 | 241 | 6.12 | 156 | 7 | 180 | 15.5 | 393 | 16.3 | 1.25 | 32 | 12.0 | 305 | 7.00 | 178 | 7 | 180 | 22.63 | 575 | 22.1 |
| 2" | 50 | 1.5 | 38 | 11.5 | 292 | 6.5 | 165 | 7.9 | 200 | 17.81 | 452 | 23.6 | 1.5 | 38 | 14.5 | 368 | 8.5 | 216 | 7.9 | 200 | 22.94 | 659 | 33.6 |

# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL BOLTED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles ).
   Designed for high pressure
   Temperature service
2. Secondary stem seals:
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces.
   Seats hard faced with stellite 6
   and wedge is solid stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to
   monitor performance
5. Bolted body-bonnet
   for fast serviceability
6. Improved body-bonnet joint
   Fully-encased, spiral wound graphite
   -filled Gr. 316 ( stainless ) gasket
7. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: ASME B16.10
   f. End-to-end dimension: MFR. STD.
   g. Inspection and test: API 598




### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | ASTM A105 |
| 2 | Seat | ASTM A105 +STL |
| 3 | Wedge | ASTM A105 +ER410 |
| 4 | Gasket | Graphite+316 |
| 5 | Bonnet | ASTM A105 |
| 6 | Bellows assy.[1] | Type 321 S. S |
| 7 | Connection | ASTM A182 F316 |
| 8 | Thrust collar | Type 410SS |
| 9 | Handwheel | Malleable iron |
| 10 | Nameplate | Aluminum |
| 11 | Lock nut | ASTM A29 1035 |
| 12 | Screw | ASTM A29 1035 |

| No. | Parts | Material |
|---|---|---|
| 13 | Stem | ASTM A182 F6a |
| 14 | Yoke | ASTM A105 |
| 15 | Stem nut | Aluminum bronze |
| 16 | Bolt | ASTM A193 B7 |
| 17 | Nut | ASTM A194 2H |
| 18 | Gland flange | ASTM A216 WCB |
| 19 | Gland | ASTM A216 410 |
| 20 | Pin | ASTM A29 1045 |
| 21 | Packing | Graphite |
| 22 | Bolt | ASTM A193 B7 |
| 23 | Bolt | ASTM A193 B7 |
| 24 | Flange | ASTM A105 |

### SOCKET WELD/THREADED GATE VALVE

| Size | | d | | d1 | | h | | L1(150~800Lb) | | D(150~800Lb) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.39 | 10 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 3.94 | 100 |
| 3/4" | 20 | 0.5 | 13 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 3.94 | 100 |
| 1" | 25 | 0.71 | 18 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 4.92 | 125 |
| 11/2" | 40 | 1.25 | 32 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 6.3 | 160 |
| 2" | 50 | 1.5 | 38 | 2.406 | 61 | 0.63 | 16 | 5.91 | 150 | 7.09 | 180 |

### FLANGED GATE VALVE

| Size | | 150Lb | | | | | | | | | | | | 300Lb | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT | | d | | L2 | | C | | D | | H | | WT | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) | | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) | |
| 1/2" | 15 | 0.39 | 10 | 4.25 | 108 | 3.5 | 89 | 4 | 100 | 7.2 | 183 | 4.1 | | 0.39 | 10 | 5.5 | 140 | 3.75 | 95 | 4 | 100 | 7.2 | 183 | 5.2 | |
| 3/4" | 20 | 0.5 | 13 | 4.62 | 117 | 3.88 | 98 | 5 | 125 | 11.25 | 286 | 5 | | 0.5 | 13 | 6 | 152 | 4.62 | 117 | 5 | 125 | 11.25 | 286 | 6.9 | |
| 1" | 25 | 0.71 | 18 | 5 | 127 | 4.25 | 108 | 6.5 | 165 | 11.56 | 319 | 6.9 | | 0.71 | 18 | 6.5 | 165 | 4.88 | 124 | 6.5 | 165 | 11.56 | 319 | 8.7 | |
| 11/2" | 40 | 1.25 | 32 | 6.5 | 165 | 5 | 127 | 7 | 180 | 15.5 | 393 | 12.1 | | 1.25 | 32 | 7.5 | 190 | 6.12 | 155 | 7 | 180 | 15.5 | 393 | 15.5 | |
| 2" | 50 | 1.5 | 38 | 7 | 178 | 6 | 152 | 7.9 | 200 | 17.81 | 452 | 18.5 | | 1.5 | 38 | 8.5 | 216 | 6.5 | 165 | 7.9 | 200 | 17.81 | 452 | 22.1 | |

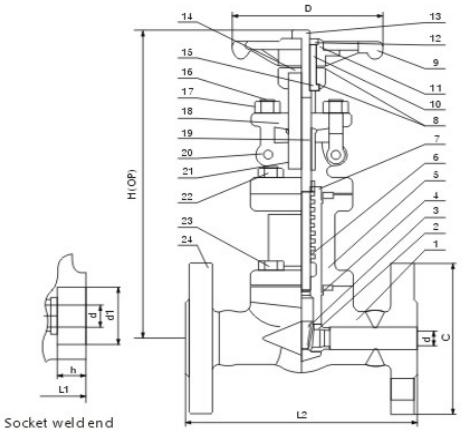


# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL BOLTED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles ).
   Designed for high pressure
   Temperature service
2. Secondary stem seals:
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces.
   Seats hard faced with stelite 6
   and wedge is solid stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to
   monitor performance
5. Bolted body-bonnet
   for fast serviceability
6. Improved body-bonnet joint
   Fully-encased, spiral wound graphite
   -filled Gr. 316 ( stainless ) gasket
7. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: ASME B16.10
   f. End-to-end dimension: MFR. STD.
   g. Inspection and test: API 598




### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | ASTM A105 |
| 2 | Seat | ASTM A105 +STL |
| 3 | Wedge | ASTM A105 +ER410 |
| 4 | Gasket | Graphite+316 |
| 5 | Bonnet | ASTM A105 |
| 6 | Bellows assy.[1] | Type 321 S. S |
| 7 | Connection | ASTM A182 F316 |
| 8 | Thrust collar | Type 410SS |
| 9 | Handwheel | Malleable iron |
| 10 | Nameplate | Aluminum |
| 11 | Lock nut | ASTM A29 1035 |
| 12 | Screw | ASTM A29 1035 |

| No. | Parts | Material |
|---|---|---|
| 13 | Stem | ASTM A182 F6a |
| 14 | Yoke | ASTM A105 |
| 15 | Stem nut | Aluminum bronze |
| 16 | Bolt | ASTM A193 B7 |
| 17 | Nut | ASTM A194 2H |
| 18 | Gland flange | ASTM A216 WCB |
| 19 | Gland | ASTM A216 410 |
| 20 | Pin | ASTM A29 1045 |
| 21 | Packing | Graphite |
| 22 | Bolt | ASTM A193 B7 |
| 23 | Bolt | ASTM A193 B7 |
| 24 | Flange | ASTM A105 |

### SOCKET WELD/THREADED GATE VALVE

| Size | | d | | d1 | | h | | L1(150~800Lb) | | D(150~800Lb) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.39 | 10 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 3.94 | 100 |
| 3/4" | 20 | 0.5 | 13 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 3.94 | 100 |
| 1" | 25 | 0.71 | 18 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 4.92 | 125 |
| 11/2" | 40 | 1.25 | 32 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 6.3 | 160 |
| 2" | 50 | 1.5 | 38 | 2.406 | 61 | 0.63 | 16 | 5.91 | 150 | 7.09 | 180 |

### FLANGED GATE VALVE

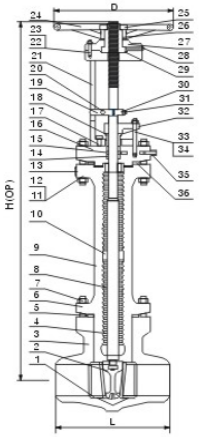
| Size | | 600Lb | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) |
| 1/2" | 15 | 0.39 | 10 | 6.5 | 165 | 3.75 | 95 | 4 | 100 | 7.2 | 183 | 5.5 |
| 3/4" | 20 | 0.5 | 13 | 7.5 | 191 | 4.62 | 118 | 5 | 125 | 11.25 | 286 | 7.6 |
| 1" | 25 | 0.71 | 18 | 8.5 | 216 | 4.88 | 124 | 6.5 | 165 | 11.56 | 319 | 9.7 |
| 11/2" | 40 | 1.25 | 32 | 9.5 | 241 | 6.12 | 156 | 7 | 180 | 15.5 | 393 | 16.3 |
| 2" | 50 | 1.5 | 38 | 11.5 | 292 | 6.5 | 165 | 7.9 | 200 | 17.81 | 452 | 23.6 |

# API BELLOWS VALVE SERIES

## FORGED STEEL BELLOWS SEAL BOLTED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 2000 cycles ).
   Designed for high pressure
   Temperature service
2. Two secondary stem seals:
   a. Backseat in open position
   b. Graphite packing
3. Seating faces hard faced
   with stelite 6, ground and lapped
4. Bellows monitoring port
   (optional), A plug can be connected with the space
   above the bellows to monitor performance
5. Non-rotating stem
   Prevents torsion of bellows
6. Forged for higher safety
   Increased toughness, strength and fatigue resistance
7. Two-part bellows
8. Low torque
   a. Non-rotating stem prevents torsion of bellows
   b. Stem nut thrust bearings
   c. Central lubrication
9. Technical data
   a. Basic design: API 600 & MSS SP-117
   b. Butt weld ends: ASME B16.25
   c. End-to-end dimension: ASME B16.10
   d. Inspection and test: API 598




All standard valves are available in A105, A182 Gr. F304 & Gr.F316
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Seat ring | A105+STL |
| 2 | Wedge | Type 420 SS |
| 3 | Body(1) | A105 |
| 4 | Stem | A182 F6a |
| 5 | Gasket | Graphite+316 |
| 6 | Bolt | A193 B7 |
| 7 | Nut | A194 2H |
| 8 | Bellows assy | Type 321 S. S[h] |
| 9 | Body[a] | A105 |
| 10 | Connection | Stainless steel |
| 11 | Bolt | A193 B7 |
| 12 | Nut | A194 2H |
| 13 | Nameplate | S. S. |
| 14 | Packing | Graphite |
| 15 | Lantern | Type 410 SS |
| 16 | Bonnet | A105 |
| 17 | Joint bolt | Carbon steel |
| 18 | Gland | Type 410 SS |

| No. | Parts | Material |
|---|---|---|
| 19 | Guide plate[a] | Carbon steel |
| 20 | Nut | Carbon steel |
| 21 | Yoke | Carbon steel |
| 22 | Bolt | Carbon steel |
| 23 | Nut | Carbon steel |
| 24 | Handwheel | Malleable iron |
| 25 | Handle nut | Carbon steel |
| 26 | Stem nut | Aluminum bronze |
| 27 | Cover | Carbon steel |
| 28 | Grease fitting | Carbon steel |
| 29 | Thrust collar | Copper alloy |
| 30 | Guide plate[a] | Carbon steel |
| 31 | Nut | Carbon steel |
| 32 | Gland flange | Carbon steel |
| 33 | Bolt | A193 B7 |
| 34 | Nut | A194 2H |
| 35 | Plug pipe | Stainless steel |
| 36 | Gasket | Graphite+316 |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

| Size | | 600Lb | | | | | | 900Lb | | | | | | 1500Lb | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H(OP) | | D | | L | | H(OP) | | D | | L | | H(OP) | | D | | L | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 2" | 50 | 25 | 635 | 8.8 | 224 | 7.00 | 178 | 30 | 762 | 8.8 | 224 | 8.50 | 216 | 36 | 914 | 9.84 | 250 | 8.50 | 216 |
| 21/2" | 65 | 35 | 89 | 9.84 | 250 | 8.50 | 216 | 42 | 1067 | 9.84 | 250 | 10 | 254 | 50 | 1270 | 12.4 | 315 | 10 | 254 |
| 3" | 80 | 47 | 1194 | 11.0 | 280 | 10 | 254 | 56 | 1422 | 11.0 | 280 | 12 | 305 | 67 | 1702 | 12.4 | 315 | 12 | 305 |
| 4" | 100 | 57 | 1448 | 12.4 | 315 | 12 | 305 | 68 | 1727 | 12.4 | 315 | 14 | 356 | 81 | 2057 | 14.0 | 355 | 16 | 406 |
| 6" | 150 | 67 | 1702 | 16 | 450 | 18 | 457 | 80 | 2032 | 16 | 450 | 20 | 508 | 96 | 2438 | 20 | 500 | 22 | 559 |

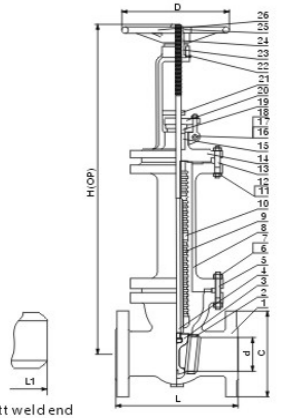


# API BELLOWS VALVE SERIES

## CAST STEEL BELLOWS SEAL BOLTED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 2000 cycles )
   in Gr. 321 ( stainless )
2. Bolted body-bonnet
   for fast service ability: Hermetically-sealed bonnet
   available for Class 300Lb & 600Lb
3. Superior seating faces
   Seats & wedge hard faced with stelite 6
4. Improved body-bonnet joint
   Graphite reinforced with SS Graphite gasket for class 150Lb
5. Two or three section bellows
6. Two secondary stem seals
   a. Backseat in open position
   b. Graphite packing
7. Non-rotating stem
   Prevents torsion of bellows
8. Technical date
   a. Basic design: API 600 & MSS SP-117
   b. Butt weld ends to ASME B16.25
   c. Flange ends to ASME B16.5
   d. Face-to-face dimension: ASME B16.10
   e. End-to-end dimension: ASME B16.10
   f. Inspection and test: API 598




Butt weld end

All standard valves are available in A316 Gr. WCB, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request

### TYPICAL A216 WCB VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A216 WCB |
| 2 | Seat ring | A105+STL |
| 3 | Wedge | A216 WCB+ER410 |
| 4 | Stem | A182 F6a |
| 5 | Gasket | Graphite+316 |
| 6 | Bolt | A193 B7 |
| 7 | Nut | A194 2H |
| 8 | Bonnet | A216 WCB |
| 9 | Bellows assy[h] | Type 321 S. S |
| 10 | Connection | S. S. |
| 11 | Bolt | A193 B7 |
| 12 | Nut | A194 2H |
| 13 | Gasket | Graphite+316 |

| No. | Parts | Material |
|---|---|---|
| 14 | Yoke | A316 WCB |
| 15 | Packing | Graphite+S. S. |
| 16 | Pin | C. S. |
| 17 | Eyebolt | A193 B7 |
| 18 | Nut | A194 2H |
| 19 | Gland | A276 410 |
| 20 | Gland flange | A216 WCB |
| 21 | Guiding rod | C. S. |
| 22 | Lubricator | C. S. |
| 23 | Nut | C. S. |
| 24 | Stem nut | Aluminum bronze |
| 25 | Nut | C. S. |
| 26 | Handwheel | Malleable iron |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

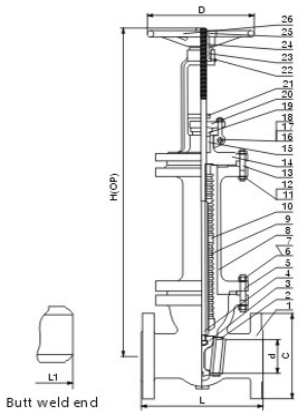
| Size | | d | 150Lb | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | L | | L1 | | C | | H(OP) | | Lift | | D | |
| in | mm | | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 2" | 50 | 50 | 7.00 | 178 | 8.50 | 216 | 6.00 | 152 | 31.27 | 794 | 2.35 | 59 | 8.0 | 200 |
| 21/2" | 65 | 63 | 7.50 | 190 | 9.50 | 241 | 7.00 | 178 | 33.93 | 862 | 2.78 | 70 | 8.0 | 200 |
| 3" | 80 | 76 | 8.00 | 203 | 11.12 | 282 | 7.50 | 191 | 35.37 | 898 | 3.54 | 90 | 8.8 | 224 |
| 4" | 100 | 100 | 9.00 | 229 | 12.00 | 305 | 9.00 | 229 | 40.37 | 1025 | 4.37 | 111 | 10.0 | 250 |
| 6" | 150 | 150 | 10.50 | 267 | 15.88 | 403 | 11.00 | 279 | 58.87 | 1495 | 6.61 | 168 | 12.4 | 315 |
| 8" | 200 | 200 | 11.50 | 292 | 16.50 | 419 | 13.50 | 343 | 67.75 | 1721 | 8.50 | 216 | 14.0 | 355 |
| 10" | 250 | 250 | 13.00 | 330 | 18.00 | 457 | 16.00 | 406 | 81.31 | 2065 | 10.47 | 266 | 16.0 | 400 |
| 12" | 300 | 300 | 14.00 | 356 | 19.75 | 502 | 19.00 | 483 | 93.03 | 2363 | 12.5 | 318 | 18 | 450 |

# API BELLOWS VALVE SERIES

## CAST STEEL BELLOWS SEAL BOLTED BONNET GATE VALVE

### FEATURES

1. Long cycle life bellows ( 2000 cycles )
   in Gr. 321 ( stainless )
2. Bolted body-bonnet
   for fast service ability: Hermetically-sealed bonnet
   available for Class 300Lb & 600Lb
3. Superior seating faces
   Seats & wedge hard faced with stelite 6
4. Improved body-bonnet joint
   Graphite reinforced with SS Graphite gasket for class 150Lb
5. Two or three section bellows
6. Two secondary stem seals
   a. Backseat in open position
   b. Graphite packing
7. Non-rotating stem
   Prevents torsion of bellows
8. Technical date
   a. Basic design: API 600 & MSS SP-117
   b. Butt weld ends to ASME B16.25
   c. Flange ends to ASME B16.5
   d. Face-to-face dimension: ASME B16.10
   e. End-to-end dimension: ASME B16.10
   f. Inspection and test: API 598




All standard valves are available in A316 Gr. WCB, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr. CF8M
Optional body, trim and bellows material available on request

### TYPICAL A216 WCB VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A216 WCB |
| 2 | Seat ring | A105+STL |
| 3 | Wedge | A216 WCB+ER410 |
| 4 | Stem | A182 F6a |
| 5 | Gasket | Graphite+316 |
| 6 | Bolt | A193 B7 |
| 7 | Nut | A194 2H |
| 8 | Bonnet | A216 WCB |
| 9 | Bellows assy.[1] | Type 321 S. S |
| 10 | Connection | S. S. |
| 11 | Bolt | A193 B7 |
| 12 | Nut | A194 2H |
| 13 | Gasket | Graphite+316 |

| No. | Parts | Material |
|---|---|---|
| 14 | Yoke | A316 WCB |
| 15 | Packing | Graphite+S. S. |
| 16 | Pin | C. S. |
| 17 | Eyebolt | A193 B7 |
| 18 | Nut | A194 2H |
| 19 | Gland | A276 410 |
| 20 | Gland flange | A216 WCB |
| 21 | Guiding rod | C. S. |
| 22 | Lubricator | C. S. |
| 23 | Nut | C. S. |
| 24 | Stem nut | Aluminum bronze |
| 25 | Nut | C. S. |
| 26 | Handwheel | Malleable iron |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

| Size | | d | | 300Lb | | | | | | | | 600Lb | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | L=L1 | | C | | H(OP) | | D | | L=L1 | | C | | H(OP) | | D | |
| in | mm | | | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 2" | 50 | 50 | | 8.5 | 216 | 6.50 | 165 | 31.25 | 794 | 8.0 | 200 | 11.50 | 292 | 6.50 | 165 | 36.38 | 924 | 8.8 | 224 |
| 21/2" | 65 | 63 | | 9.5 | 241 | 7.50 | 191 | 33.38 | 848 | 8.0 | 200 | 13.00 | 330 | 7.50 | 191 | 38.75 | 984 | 10.0 | 250 |
| 3" | 80 | 76 | | 11.13 | 283 | 8.25 | 210 | 34.37 | 873 | 8.8 | 224 | 14.00 | 356 | 8.25 | 210 | 39.75 | 1010 | 11.0 | 280 |
| 4" | 100 | 100 | | 12.00 | 305 | 10.00 | 254 | 39.87 | 1013 | 10.0 | 250 | 17.00 | 432 | 10.75 | 273 | 46.81 | 1189 | 12.4 | 315 |
| 6" | 150 | 150 | | 15.88 | 403 | 12.50 | 318 | 58.50 | 1486 | 14.0 | 355 | 22.00 | 559 | 14.00 | 356 | 63.44 | 1611 | 16 | 450 |
| 8" | 200 | 200 | | 16.50 | 419 | 15.00 | 381 | 68.19 | 1732 | 16.0 | 400 | 26.00 | 660 | 16.50 | 419 | 82.75 | 2102 | 20 | 500 |
| 10" | 250 | 250 | | 18.00 | 457 | 17.50 | 445 | 80.75 | 2051 | 18.0 | 450 | 31.00 | 787 | 20.00 | 508 | 100.25 | 2546 | 24 | 630 |
| 12" | 300 | 300 | | 19.75 | 502 | 20.50 | 521 | 91.12 | 2314 | 20 | 500 | 33.00 | 838 | 22.00 | 559 | 116.75 | 2966 | 28 | 710 |

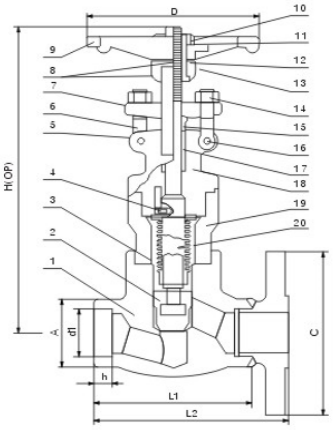


# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL WELDED BONNET GLOBE VALVE

### FEATURES

1. Long cycle life bellows ( 10000 cycles )
   Designed for high pressure/
   Temperature service
2. Two secondary stem seals
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces
   Seats hard faced with stelite 6 and
   wedge is soild stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to monitor
   performance
5. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: MFR. STD.
   f. End-to-end dimension: MFR. STD.
   g. Inspection and test: API 598




All standard valves available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A105 |
| 2 | Disc | Type 420 SS |
| 3 | Stem | Type 410 SS |
| 4 | Guide pin | Caron steel |
| 5 | Split pin | Type 410 SS |
| 6 | Gland bolt | Type 410 SS |
| 7 | Gland flange | Carbon steel |
| 8 | Thrust collar | Type 410 SS |
| 9 | Handwheel | Malleable iron |
| 10 | Hand nut | Carbon steel |

| No. | Parts | Material |
|---|---|---|
| 11 | Name plate | Aluminum |
| 12 | Stem nut | Aluminum bronze |
| 13 | Grease fitting | Copper alloy |
| 14 | Hex nut | Carbon steel |
| 15 | Gland bushing | Type 410 SS |
| 16 | Pin | Type 410 SS |
| 17 | Packing | Graphite |
| 18 | Bonnet | A105 |
| 19 | Extension | A105 |
| 20 | Bellows assy.[1] | Type 321 S. S. |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

| Size | | d | | A | | d1 | | h | | L1 | | H(OP) | | D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.31 | 8 | 1.34 | 34 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 7.0 | 178 | 2.4 | 60 |
| 3/4" | 20 | 0.5 | 13 | 1.57 | 40 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 9.0 | 229 | 3.5 | 90 |
| 1" | 25 | 0.75 | 19 | 1.93 | 49 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 10.1 | 257 | 3.5 | 90 |
| 11/2" | 40 | 1.25 | 32 | 2.56 | 65 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 12.3 | 313 | 6.0 | 150 |
| 2" | 50 | 1.38 | 35 | 3.07 | 78 | 2.406 | 61 | 0.63 | 16 | 5.91 | 150 | 14.7 | 373 | 6.0 | 150 |

### DIMENSIONS

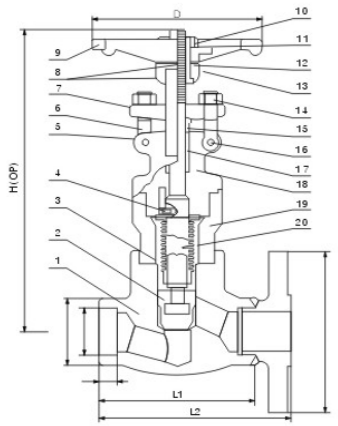
| Size | | 150Lb | | | | | | | | | | | 300Lb | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT | d | | L2 | | C | | D | | H | | WT |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) |
| 1/2" | 15 | 0.31 | 8 | 4.25 | 108 | 3.5 | 89 | 2.5 | 64 | 7.0 | 178 | 3.9 | 0.31 | 8 | 5.5 | 140 | 3.75 | 95 | 2.5 | 64 | 7.0 | 178 | 4.8 |
| 3/4" | 20 | 0.5 | 13 | 4.62 | 117 | 3.88 | 98 | 3.5 | 89 | 9.0 | 229 | 4.5 | 0.5 | 13 | 6 | 152 | 4.62 | 117 | 3.5 | 89 | 9.0 | 229 | 6.4 |
| 1" | 25 | 0.75 | 19 | 5 | 127 | 4.25 | 108 | 3.5 | 89 | 10.10 | 257 | 8.2 | 0.75 | 19 | 6.5 | 165 | 4.88 | 124 | 3.5 | 89 | 10.10 | 257 | 10 |
| 11/2" | 40 | 1.25 | 32 | 6.5 | 165 | 5 | 127 | 6.0 | 152 | 12.31 | 313 | 10 | 1.25 | 32 | 7.5 | 190 | 6.12 | 156 | 6.0 | 152 | 12.31 | 313 | 13.6 |
| 2" | 50 | 1.38 | 35 | 8 | 203 | 6 | 152 | 6.0 | 152 | 14.69 | 373 | 18.6 | 1.38 | 35 | 8.5 | 216 | 6.5 | 165 | 6.0 | 152 | 14.69 | 373 | 22.3 |

# API BELLOWS VALVE SERIES

## COMPACT FORGED STEEL BELLOWS SEAL WELDED BONNET GLOBE VALVE

### FEATURES

1. Long cycle life bellows ( 10000 cycles)
   Designed for high pressure/
   Temperature service
2. Two secondary stem seals
   a. Backseat in open position
   b. Graphite packing
3. Superior seating faces
   Seats hard faced with stelite 6 and
   wedge is soild stellite 6
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space
   above the bellows to monitor
   performance
5. Technical data
   a. Basic design: API 602 & MSS SP-117
   b. Socket weld ends to ASME B16.11
   c. Threaded ends to ASME B1.20.1
   d. Flange ends to ASME B16.5
   e. Face-to-face dimension: MFR. STD.
   f. End-to-end dimension: MFR. STD.
   g. Inspection and test: API 598




All standard valves are available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A105 |
| 2 | Disc | Type 420 SS |
| 3 | Stem | Type 410 SS |
| 4 | Guide pin | Caron steel |
| 5 | Split pin | Type 410 SS |
| 6 | Gland bolt | Type 410 SS |
| 7 | Gland flange | Carbon steel |
| 8 | Thrust collar | Type 410 SS |
| 9 | Handwheel | Malleable iron |
| 10 | Hand nut | Carbon steel |

| No. | Parts | Material |
|---|---|---|
| 11 | Name plate | Aluminum |
| 12 | Stem nut | Aluminum bronze |
| 13 | Grease fitting | Copper alloy |
| 14 | Hex nut | Carbon steel |
| 15 | Gland bushing | Type 410 SS |
| 16 | Pin | Type 410 SS |
| 17 | Packing | Graphite |
| 18 | Bonnet | A105 |
| 19 | Extension | A105 |
| 20 | Bellows assy. [1] | Type 321 S. S. |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

| Size | | d | | A | | d1 | | h | | L1 | | H(OP) | | D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 1/2" | 15 | 0.31 | 8 | 1.34 | 34 | 0.855 | 21.7 | 0.39 | 10 | 3.23 | 82 | 7.0 | 178 | 2.4 | 60 |
| 3/4" | 20 | 0.5 | 13 | 1.57 | 40 | 1.065 | 27 | 0.51 | 13 | 3.54 | 90 | 9.0 | 229 | 3.5 | 90 |
| 1" | 25 | 0.75 | 19 | 1.93 | 49 | 1.33 | 33.8 | 0.51 | 13 | 3.62 | 92 | 10.1 | 257 | 3.5 | 90 |
| 11/2" | 40 | 1.25 | 32 | 2.56 | 65 | 1.915 | 48.6 | 0.51 | 13 | 5.12 | 130 | 12.3 | 313 | 6.0 | 150 |
| 2" | 50 | 1.38 | 35 | 3.07 | 78 | 2.406 | 61 | 0.63 | 16 | 5.91 | 150 | 14.7 | 373 | 6.0 | 150 |

### DIMENSIONS

| Size | | 600Lb | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | | L2 | | C | | D | | H | | WT |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | (kg) |
| 1/2" | 15 | 0.31 | 8 | 6.5 | 165 | 3.75 | 95 | 2.5 | 64 | 7.2 | 183 | 4.8 |
| 3/4" | 20 | 0.5 | 13 | 7.5 | 190 | 4.62 | 118 | 3.5 | 89 | 11.25 | 286 | 6.8 |
| 1" | 25 | 0.75 | 19 | 8.5 | 216 | 4.88 | 124 | 3.5 | 89 | 11.56 | 319 | 10.4 |
| 11/2" | 40 | 1.25 | 32 | 9.5 | 241 | 6.12 | 156 | 6.0 | 152 | 15.5 | 393 | 14.2 |
| 2" | 50 | 1.38 | 35 | 11.5 | 292 | 6.5 | 165 | 6.0 | 152 | 17.81 | 452 | 23.1 |

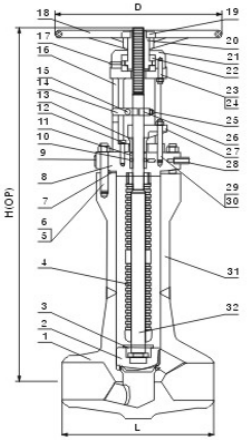


# API BELLOWS VALVE SERIES

## FORGED STEEL BELLOWS SEAL BOLTED BONNET GLOBE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles)
   Designed for high pressure/
   Temperature service
2. Two secondary stem seals
   a. Backseat in open position
   b. Graphite packing
3. Guide disc. Seat and disc hard faced
   with stelite 6, ground and lapped
4. Bellows monitoring port
   ( optional ). A plug can be connected
   with the space above the bellows to
   monitor performance.
5. Non-rotating stem
   Prevents torsion of bellows
6. Forged for higher safety
   Increased toughness, strength and fatigue resistance
7. Two or three section bellows
8. Low torque
   a. Non-rotating stem prevents torsion
      of bellows
   b. Stem nut thrust bearings
   c. Central lubrication
9. Technical date
   a. Basic design: API 600 & MSS SP-117
   b. Butt weld ends to ASME B16.25
   c. End-to-end dimension: ASME B16.10
   d. Inspection and test: API 598




All standard valves are available in A105, A182 Gr.F304 & Gr.F316.
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body(1) | A105+STL |
| 2 | Disc | A105+STL |
| 3 | Lock nut | Stainless steel |
| 4 | Bellows assy | Type321 S. S[1] |
| 5 | Bolt | A193 B7 |
| 6 | Nut | A194 2H |
| 7 | Gasket | Graphite+316 |
| 8 | Bonnet | A105 |
| 9 | Nameplate | S .S. |
| 10 | Packing | Graphite |
| 11 | Lantern | Type 410 SS |
| 12 | Joint bolt | Carbon steel |
| 13 | Gland | Type 410 SS |
| 14 | Guide plate[1] | Carbon steel |
| 15 | Nut | Carbon steel |
| 16 | Yoke | Carbon steel |

| No. | Parts | Material |
|---|---|---|
| 17 | Grease fitting | Carbon steel |
| 18 | Handwheel | Malleable iron |
| 19 | Handle nut | Carbon steel |
| 20 | Stem nut | Aluminum bronze |
| 21 | Bearing cover | Carbon steel |
| 22 | Thrust bearing | Assembly |
| 23 | Stud | Carbon steel |
| 24 | Nut | Carbon steel |
| 25 | Nut | Carbon steel |
| 26 | Guide plate[1] | Carbon steel |
| 24 | Gland flange | Carbon steel |
| 28 | Plug pipe | Stainless steel |
| 29 | Bolt | A193 B7 |
| 30 | Nut | A194 2H |
| 31 | Body[2] | A105 |
| 32 | Stem | A182 F6a |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS

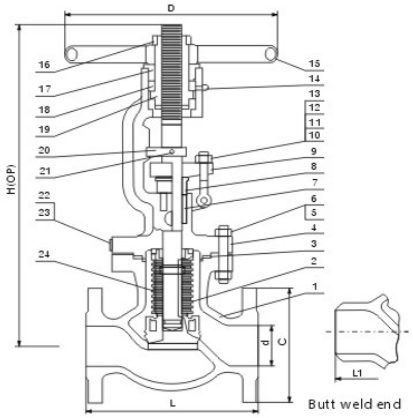
| Size | | 600Lb | | | | | | 900Lb | | | | | | 1500Lb | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | H(OP) | | L | | D | | H(OP) | | L | | D | | H(OP) | | L | | D | |
| in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm | in | mm |
| 21/2" | 65 | 22 | 559 | 8.50 | 216 | 12.38 | 315 | 26 | 660 | 10.00 | 254 | 14.0 | 355 | 29 | 737 | 10.00 | 254 | 15.75 | 400 |
| 3" | 80 | 23 | 584 | 10 | 254 | 14.0 | 355 | 28 | 711 | 12 | 305 | 15.75 | 400 | 31 | 787 | 12 | 305 | 17.75 | 450 |
| 4" | 100 | 31 | 787 | 12 | 305 | 17.75 | 450 | 35 | 889 | 14 | 356 | 17.75 | 450 | 38 | 965 | 16 | 406 | 24.81 | 630 |
| 6" | 150 | 41 | 1041 | 20 | 508 | 22.06 | 560 | 47 | 1194 | 20 | 508 | 24.81 | 630 | 51 | 1295 | 22 | 559 | 27.94 | 710 |

# API BELLOWS VALVE SERIES

## CAST STEEL BELLOWS SEAL BOLTED BONNET GLOBE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles )
2. Two secondary stem seals:
   Graphite packing; Back seat in open position
3. Superior seating faces
   Seats and disc hard faced with stelite 6
4. Bellows monitoring port
   (optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet
   For fast service ability fully enclosed, spiral wound graphite-filled Gr. 316 ( stainless ) gaskets
6. Non-rotating stem prevents torsion of bellows
7. Technical data
   a. Basic design: API 600& MSS SP-117
   b. Butt weld ends to ASME B16.25
   c. Flange ends to ASME B16.5
   d. Face-to-face dimension: ASME B16.10
   e. End-to-end dimension: ASME B16.10
   f. Inspection and test: API 598




All standard valves are available in A216 Gr. WCM, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr.CF8M
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A216 WCB |
| 2 | Stem | A182 F6a |
| 3 | Gasket | Graphite/316 SS |
| 4 | Bonnet | A216 WCB |
| 5 | Bolt | A193 B7 |
| 6 | Nut | A194 2H |
| 7 | Packing | Graphite |
| 8 | Gland bushing | Type 410 SS |
| 9 | Gland flange | A216 WCB |
| 10 | Nut | Carbon steel |
| 11 | Gland bolt | Carbon steel |
| 12 | Pin | Carbon steel |

| No. | Parts | Material |
|---|---|---|
| 13 | Split pin | Carbon steel |
| 14 | Grease fitting | Carbon steel |
| 15 | Handwheel | Malleable iron |
| 16 | Handle nut | Carbon steel |
| 17 | Yoke cap | Carbon steel |
| 18 | Thrust bearing | Assembly |
| 19 | Stem nut | Aluminum bronze |
| 20 | Guide plate | Carbon steel |
| 21 | Pin | Carbon steel |
| 22 | Rivet | Bronze |
| 23 | Nameplate | S. S. |
| 24 | Bellows assy.[1] | Type 321 S.S |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS AND WEIGHTS

| Size | | 150Lb | | | | | | | | | | | | 300Lb | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | L | | L1 | | C | | D | | H(OP) | | FL WT (kg) | BW WT (kg) | d | L=L1 | | C | | D | | H(OP) | | FL WT (kg) | BW WT (kg) |
| in | mm | | in | mm | in | mm | in | mm | in | mm | in | mm | | | | in | mm | in | mm | in | mm | in | mm | | |
| 2" | 50 | 50 | 8.00 | 203 | 8.00 | 203 | 6.00 | 152 | 7.88 | 200 | 15 | 381 | 27.6 | 22 | 50 | 10.5 | 267 | 6.50 | 165 | 7.88 | 200 | 15 | 381 | 42.2 | 34.3 |
| 21/2" | 65 | 64 | 8.50 | 216 | 8.50 | 216 | 7.00 | 178 | 8.82 | 224 | 15.35 | 375 | 31.8 | 25 | 64 | 11.5 | 292 | 7.50 | 191 | 8.82 | 224 | 15.35 | 375 | 47.6 | 38.6 |
| 3" | 80 | 76 | 9.50 | 241 | 9.50 | 241 | 7.50 | 191 | 9.88 | 250 | 17.9 | 455 | 40.8 | 36.3 | 76 | 12.5 | 318 | 8.25 | 210 | 9.88 | 250 | 17.9 | 455 | 54.5 | 40.8 |
| 4" | 100 | 100 | 11.50 | 292 | 11.50 | 292 | 9.00 | 229 | 9.88 | 250 | 22.2 | 564 | 68 | 54.5 | 100 | 14.0 | 356 | 10.00 | 254 | 9.88 | 250 | 22.2 | 564 | 81.6 | 68.5 |
| 6" | 150 | 150 | 16.00 | 406 | 16.00 | 406 | 11.00 | 279 | 14.0 | 355 | 25.2 | 640 | 118 | 111.2 | 150 | 17.5 | 444 | 12.50 | 318 | 14.0 | 355 | 25.2 | 640 | 154.2 | 122.5 |
| 8" | 200 | 200 | 19.50 | 495 | 19.50 | 495 | 13.50 | 343 | 15.88 | 400 | 30.5 | 775 | 195 | 182 | 200 | 22.0 | 559 | 15.00 | 381 | 15.88 | 400 | 33.6 | 854 | 258.5 | 204.2 |

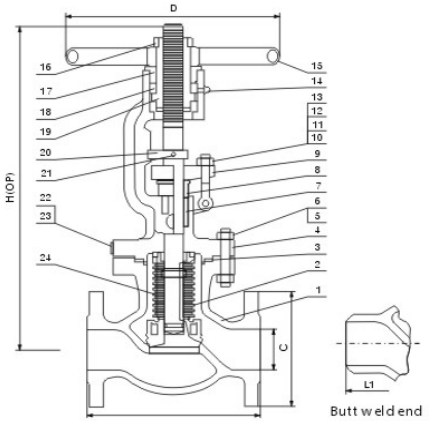


# API BELLOWS VALVE SERIES

## CAST STEEL BELLOWS SEAL BOLTED BONNET GLOBE VALVE

### FEATURES

1. Long cycle life bellows ( 3000 cycles )
2. Two secondary stem seals:
   Graphite packing; Back seat in open position
3. Superior seating faces
   Seats and disc hard faced with stelite 6
4. Bellows monitoring port
   (optional). A plug can be connected with the space above the bellows to monitor performance
5. Bolted body-bonnet
   For fast service ability fully enclosed, spiral wound graphite-filled Gr. 316 ( stainless ) gaskets
6. Non-rotating stem prevents torsion of bellows
7. Technical data
   a. Basic design: API 600& MSS SP-117
   b. Butt weld ends to ASME B16.25
   c. Flange ends to ASME B16.5
   d. Face-to-face dimension: ASME B16.10
   e. End-to-end dimension: ASME B16.10
   f. Inspection and test: API 598




All standard valves are available in A216 Gr. WCM, A352 Gr. LCB, A351 Gr. CF8 and A351 Gr.CF8M
Optional body, trim and bellows material available on request

### TYPICAL A105 VALVE PARTS LIST

| No. | Parts | Material |
|---|---|---|
| 1 | Body | A216 WCB |
| 2 | Stem | A182 F6a |
| 3 | Gasket | Graphite/316 SS |
| 4 | Bonnet | A216 WCB |
| 5 | Bolt | A193 B7 |
| 6 | Nut | A194 2H |
| 7 | Packing | Graphite |
| 8 | Gland bushing | Type 410 SS |
| 9 | Gland flange | A216 WCB |
| 10 | Nut | Carbon steel |
| 11 | Gland bolt | Carbon steel |
| 12 | Pin | Carbon steel |

| No. | Parts | Material |
|---|---|---|
| 13 | Split pin | Carbon steel |
| 14 | Grease fitting | Carbon steel |
| 15 | Handwheel | Malleable iron |
| 16 | Handle nut | Carbon steel |
| 17 | Yoke cap | Carbon steel |
| 18 | Thrust bearing | Assembly |
| 19 | Stem nut | Aluminum bronze |
| 20 | Guide plate | Carbon steel |
| 21 | Pin | Carbon steel |
| 22 | Rivet | Bronze |
| 23 | Nameplate | S. S. |
| 24 | Bellows assy.[1] | Type 321 S.S |

(1) Hastelloy C and Inconel 625 also available

### DIMENSIONS AND WEIGHTS

| Size | | 300Lb | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | d | L=L1 | | C | | D | | H(OP) | | FL | BW |
| in | mm | | in | mm | in | mm | in | mm | in | mm | WT(kg) | WT (kg) |
| 2" | 50 | 50 | 11.50 | 292 | 6.50 | 165 | 9.88 | 250 | 18.2 | 462 | 53 | 42.3 |
| 21/2" | 65 | 64 | 13.00 | 330 | 7.50 | 191 | 12.38 | 315 | 19.5 | 495 | 57 | 46.3 |
| 3" | 80 | 76 | 14.00 | 356 | 8.25 | 210 | 14.0 | 355 | 25.1 | 638 | 65.4 | 49 |
| 4" | 100 | 100 | 17.00 | 432 | 10.75 | 273 | 17.75 | 450 | 28.8 | 732 | 98 | 82 |
| 6" | 150 | 150 | 22.00 | 559 | 14.00 | 356 | 22.06 | 560 | 40.5 | 1029 | 185 | 147 |
| 8" | 200 | 200 | 26.00 | 660 | 16.50 | 419 | 24.81 | 630 | 53.6 | 1361 | 310 | 245 |