WELCO VALVE

Cast Steel & Pressure Seal Globe Valves

www.cnvalveco.com
**Design**

The cast steel globe valves are designed and manufactured to provide maximum service life and dependability. All globe valves are full ported and meet the design requirements of American Petroleum Institute standard API 600 & 6D, BS EN 13709 and generally conform to American Society of Mechanical Engineers standard ASME B16.34. Valves are available in a complete range of body/bonnet materials and trims.

**Available Modifications for Cast Globe Valves**
- Trim changes
- End connection modifications
- Packing and gasket changes
- Operator mounting
- Handwheel extensions

**Ranger of Materials**

Standard body/bonnet materials include nine grades of carbon, low alloy and stainless steel, for special applications they can be supplied in other grades of alloy and stainless steel, there’s a full range of trim materials to match any service option. Packing and gasket materials are available for a full range of service conditions.

**Operation**

Large handwheels for easy operation. Also available with gearing, motor actuators, pneumatic or hydraulic actuators for more difficult services.

**Live Load Packing**

In services requiring frequent cycling or with high pressure/temperature variations, live loading extends the service life between maintenance periods packing gland adjustments. Belleville spring are employed to provide constant packing gland stress.

**Yoke sleeve**

Furnished in aluminum bronze to reduce operating torque. Most size furnished with ball bearing yoke sleeves.

**Lantern Ring And Double Packing Set**

Lantern ring with leak-off fitting connection and double packing stack is optionally available for critical services.

**Body-to-Bonnet Joint**

A male and female joint or tongue and groove joint is used 150Lb to 600Lb valves, ring joint is used in the body to bonnet connection in 900Lb and higher rated valves.

**Disc**

Plug disc is stem guided on all size. Disc has a differential angle front the seat to provide a line contact for maximum sealing. The bottom of v-port disc is fulled by the body seal ring for maximum disc stability in throttling applications, the soft teflon ring is excellent for lower temperature service where tight shut off required.
Cast Steel Globe Valve 150Lb/300Lb

Applicable Standards:
- CAST GLOBE VALVES BS EN 13709/API 600
- STEEL VALVES ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TESTING, API 598

Design descriptions:
- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC, CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- IMPACT HANDWHEEL FOR 10” & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Materials of parts

<table>
<thead>
<tr>
<th>No</th>
<th>Part Name</th>
<th>Carbon Steel</th>
<th>ASTM Materials</th>
<th>Carbon Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>A216-WCB</td>
<td>A217-WCB</td>
<td>A352-LCB</td>
</tr>
<tr>
<td>2</td>
<td>Bonnet</td>
<td>A216-WCB</td>
<td>A217-WCB</td>
<td>A352-LCB</td>
</tr>
<tr>
<td>3</td>
<td>Disc</td>
<td>A105+CR13</td>
<td>A182-F11+HF</td>
<td>A350-LF2+CR13</td>
</tr>
<tr>
<td>4</td>
<td>Stem</td>
<td>A182-316a</td>
<td>CR-MO-V</td>
<td>A182-316a</td>
</tr>
<tr>
<td>5</td>
<td>Seat Ring</td>
<td>A105-HF</td>
<td>A182-F11+HF</td>
<td>A350-LF2+HF</td>
</tr>
<tr>
<td>6</td>
<td>Stem Backseat</td>
<td>A276-420</td>
<td>A276-304</td>
<td>A276-420</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet Gasket</td>
<td>Steel Ring</td>
<td>304SS Ring</td>
<td>Steel Ring</td>
</tr>
<tr>
<td>8</td>
<td>Bonnet Stud</td>
<td>A193-57</td>
<td>A193-57</td>
<td>A193-57</td>
</tr>
<tr>
<td>9</td>
<td>Bonnet Stud Nut</td>
<td>A194-2H</td>
<td>A194-7</td>
<td>A194-4</td>
</tr>
<tr>
<td>10</td>
<td>Packing</td>
<td></td>
<td></td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>11</td>
<td>Gland</td>
<td>A276-420</td>
<td>A276-304</td>
<td>A276-420</td>
</tr>
<tr>
<td>12</td>
<td>Gland Flange</td>
<td>A216-WCB</td>
<td>A217-WCB</td>
<td>A352-LCB</td>
</tr>
<tr>
<td>13</td>
<td>Eyebolt Pin</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>14</td>
<td>Eyebolt</td>
<td>Carbon Steel</td>
<td>A193-57</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>15</td>
<td>Eyebolt Nut</td>
<td>Carbon Steel</td>
<td>A194-2H</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>16</td>
<td>Yokesleeve</td>
<td>Aluminum-Bronze™</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Handwheel</td>
<td>Malleable Iron</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1) Ductile Ni-resist 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.

Dimensional datas

<table>
<thead>
<tr>
<th>NPS</th>
<th>DN</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>50</td>
<td>8.00</td>
<td>203</td>
<td>8.00</td>
<td>203</td>
<td>15.00</td>
</tr>
<tr>
<td>2.5</td>
<td>50</td>
<td>8.50</td>
<td>216</td>
<td>8.50</td>
<td>216</td>
<td>21.00</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>9.50</td>
<td>241</td>
<td>9.50</td>
<td>241</td>
<td>17.50</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>11.50</td>
<td>292</td>
<td>11.50</td>
<td>292</td>
<td>20.36</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>16.00</td>
<td>406</td>
<td>16.00</td>
<td>406</td>
<td>22.00</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>19.50</td>
<td>495</td>
<td>19.50</td>
<td>495</td>
<td>24.25</td>
</tr>
<tr>
<td>10</td>
<td>250</td>
<td>27.50</td>
<td>688</td>
<td>27.50</td>
<td>688</td>
<td>35.88</td>
</tr>
<tr>
<td>12</td>
<td>300</td>
<td>37.50</td>
<td>945</td>
<td>37.50</td>
<td>945</td>
<td>45.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NPS</th>
<th>DN</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>350</td>
<td>37.50</td>
<td>945</td>
<td>37.50</td>
<td>945</td>
<td>45.00</td>
</tr>
<tr>
<td>16</td>
<td>400</td>
<td>37.50</td>
<td>945</td>
<td>37.50</td>
<td>945</td>
<td>45.00</td>
</tr>
</tbody>
</table>

Dimensions in mm

Materials of parts

- Body: A216-WCB, A217-WCB, A352-LCB
- Bonnet: A216-WCB, A217-WCB, A352-LCB
- Stem: A182-316a, CR-MO-V, A182-316a
- Seat Ring: A105-HF, A182-F11+HF, A350-LF2+HF
- Stem Backseat: A276-420, A276-304, A276-420
- Bonnet Gasket: Steel Ring, 304SS Ring, Steel Ring
- Packing: Graphite
- Gland: A276-420, A276-304, A276-420
- Eyebolt Pin: Carbon Steel, A276-420, Carbon Steel
- Eyebolt: Carbon Steel, A193-57, Carbon Steel
- Eyebolt Nut: Carbon Steel, A194-2H, Carbon Steel
- Yokesleeve: Aluminum-Bronze™
- Handwheel: Malleable Iron

Note: 1) Ductile Ni-resist 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.
Design descriptions:

- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC, CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- IMPACT HANDWHEEL FOR 10” & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Applicable Standards:

- STEEL GLOBE VALVES BS EN 13709/API 600
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Materials of parts

<table>
<thead>
<tr>
<th>No</th>
<th>Part Name</th>
<th>Carbon Steel</th>
<th>ASTM Materials</th>
<th>Carbon Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>A216-WCB</td>
<td>A217-WC6</td>
<td>A352-LCB</td>
</tr>
<tr>
<td>2</td>
<td>Bonnet</td>
<td>A216-WCB</td>
<td>A217-WC6</td>
<td>A352-LCB</td>
</tr>
<tr>
<td>3</td>
<td>Disc</td>
<td>A105+Cr13</td>
<td>A182–F11+HF</td>
<td>A350–LF2+Cr13</td>
</tr>
<tr>
<td>4</td>
<td>Stem</td>
<td>A182–F6a</td>
<td>Cr–Mo–V</td>
<td>A182–F6a</td>
</tr>
<tr>
<td>6</td>
<td>Stem Backseat</td>
<td>A276–420</td>
<td>A276–304</td>
<td>A276–420</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet Gasket</td>
<td>SteelRing</td>
<td>304SS Ring</td>
<td>Steel Ring</td>
</tr>
<tr>
<td>8</td>
<td>Bonnet Stud</td>
<td>A193–B7</td>
<td>A193–B16</td>
<td>A320–L7</td>
</tr>
<tr>
<td>9</td>
<td>Bonnet Stud Nut</td>
<td>A194–2H</td>
<td>A194–7</td>
<td>A194–4</td>
</tr>
<tr>
<td>10</td>
<td>Packing</td>
<td></td>
<td>Graphite</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Gland</td>
<td>A276–420</td>
<td>A276–304</td>
<td>A276–420</td>
</tr>
<tr>
<td>12</td>
<td>Gland Flange</td>
<td>A216–WCB</td>
<td>A217–WCB</td>
<td>A352–LCB</td>
</tr>
<tr>
<td>13</td>
<td>Eyebolt Pin</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>14</td>
<td>Eyebolt</td>
<td>Carbon Steel</td>
<td>A193–B7</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>15</td>
<td>Eyebolt Nut</td>
<td>Carbon Steel</td>
<td>A194–2H</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>16</td>
<td>Yokesleeve</td>
<td>Aluminum–Bronze™</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Handwheel</td>
<td>Malleable Iron</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1) Ductile Ni-resist 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.

Dimensional datas

<table>
<thead>
<tr>
<th>NPS</th>
<th>DN</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT(kg)</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT(kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>50</td>
<td>11.50 292</td>
<td>11.62 295</td>
<td>17.50 445</td>
<td>10</td>
<td>240</td>
<td>35</td>
<td>27</td>
<td>14.50 368</td>
<td>14.62 371</td>
<td>22.00 560</td>
</tr>
<tr>
<td>2½</td>
<td>65</td>
<td>13.00 330</td>
<td>13.12 333</td>
<td>19.75 502</td>
<td>11</td>
<td>280</td>
<td>50</td>
<td>34</td>
<td>16.50 419</td>
<td>16.62 422</td>
<td>23.25 590</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>14.00 356</td>
<td>14.12 359</td>
<td>21.00 533</td>
<td>13</td>
<td>320</td>
<td>60</td>
<td>42</td>
<td>15.00 381</td>
<td>15.12 384</td>
<td>25.25 640</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>17.00 432</td>
<td>17.12 435</td>
<td>24.50 622</td>
<td>16</td>
<td>400</td>
<td>110</td>
<td>84</td>
<td>18.00 457</td>
<td>18.12 460</td>
<td>31.88 810</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>22.00 559</td>
<td>22.12 562</td>
<td>29.50 750</td>
<td>18</td>
<td>450</td>
<td>230</td>
<td>192</td>
<td>24.00 610</td>
<td>24.12 613</td>
<td>41.38 1050</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>26.00 660</td>
<td>26.12 663</td>
<td>36.50 927</td>
<td>20</td>
<td>500</td>
<td>410</td>
<td>350</td>
<td>29.00 737</td>
<td>29.12 740</td>
<td>53.50 1360</td>
</tr>
<tr>
<td>10</td>
<td>250</td>
<td>31.00 787</td>
<td>31.12 790</td>
<td>44.88 1140</td>
<td>24</td>
<td>600</td>
<td>770</td>
<td>680</td>
<td>33.00 838</td>
<td>33.12 841</td>
<td>61.88 1570</td>
</tr>
<tr>
<td>12</td>
<td>300</td>
<td>33.00 838</td>
<td>33.12 841</td>
<td>53.12 1350</td>
<td>24</td>
<td>600</td>
<td>1140</td>
<td>1030</td>
<td>–</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>

ANSI Class600Lb

<table>
<thead>
<tr>
<th>NPS</th>
<th>DN</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT(kg)</th>
<th>L/L1 (RF/BW)</th>
<th>L2 (RTJ)</th>
<th>H (open)</th>
<th>D0</th>
<th>WT(kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>250</td>
<td>31.00 787</td>
<td>31.12 790</td>
<td>44.88 1140</td>
<td>24</td>
<td>600</td>
<td>770</td>
<td>680</td>
<td>33.00 838</td>
<td>33.12 841</td>
<td>61.88 1570</td>
</tr>
</tbody>
</table>

ANSI Class900Lb
Materials of parts

<table>
<thead>
<tr>
<th>No</th>
<th>Part Name</th>
<th>Carbon Steel</th>
<th>ASTM Materials 1%/Cr-%/Mo</th>
<th>Carbon Steel</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>A216-WCB</td>
<td>A217-WC6</td>
<td>A350-08</td>
</tr>
<tr>
<td>2</td>
<td>Bonnet</td>
<td>A216-WCB</td>
<td>A217-WC6</td>
<td>A350-08</td>
</tr>
<tr>
<td>3</td>
<td>Disc</td>
<td>A105+Cr13</td>
<td>A182-F11+HF</td>
<td>A350-08</td>
</tr>
<tr>
<td>4</td>
<td>Stem</td>
<td>A182-F6a</td>
<td>CR-Mo-V</td>
<td>A182-F6a</td>
</tr>
<tr>
<td>5</td>
<td>Seat Ring</td>
<td>A105+Cr13</td>
<td>A182-F11+HF</td>
<td>A350-08</td>
</tr>
<tr>
<td>6</td>
<td>Stem Backseat</td>
<td>A276-420</td>
<td>A276-304</td>
<td>A276-420</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet Gasket</td>
<td>SteelRing</td>
<td>304SS Ring</td>
<td>Steel Ring</td>
</tr>
<tr>
<td>8</td>
<td>Bonnet Stud</td>
<td>A193-B7</td>
<td>A193-B16</td>
<td>A320-L7</td>
</tr>
<tr>
<td>9</td>
<td>Bonnet Stud Nut</td>
<td>A194-2H</td>
<td>A194-7</td>
<td>A194-4</td>
</tr>
<tr>
<td>10</td>
<td>Packing</td>
<td>Graphite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Gland</td>
<td>A276-420</td>
<td>A276-304</td>
<td>A276-420</td>
</tr>
<tr>
<td>12</td>
<td>Gland Flange</td>
<td>A216-WCB</td>
<td>A217-WC6</td>
<td>A350-08</td>
</tr>
<tr>
<td>13</td>
<td>Eyebolt Pin</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>14</td>
<td>Eyebolt</td>
<td>Carbon Steel</td>
<td>A193-B7</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>15</td>
<td>Eyebolt Nut</td>
<td>Carbon Steel</td>
<td>A194-4</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>16</td>
<td>Yokesleeve</td>
<td>Aluminum-Bronze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Handwheel</td>
<td>Malleable Iron</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Design descriptions:
- STRAIGHT PATTERN BODY DESIGN
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- YOKE INTEGRAL WITH BONNET
- RISING STEM AND HANDWHEEL
- LOOSE DISC CHOICE OF PLUG OR BALL
- RENEWABLE SEAT RING
- IMPACT HANDWHEEL FOR 10" & ABOVE
- HORIZONTAL SERVICE
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Applicable Standards:
- STEEL GLOBE VALVES BS EN 13709/API 600
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES, ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Dimensional datas

<table>
<thead>
<tr>
<th>NPS</th>
<th>ANSI Class1500Lb</th>
<th>ANSI Class2500Lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>L/L1 (RF/BW)</td>
<td>L2 (RTJ)</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>14.50</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>17.75</td>
</tr>
<tr>
<td>2½</td>
<td>65</td>
<td>16.50</td>
</tr>
<tr>
<td>3</td>
<td>80</td>
<td>18.50</td>
</tr>
<tr>
<td></td>
<td>80</td>
<td>22.75</td>
</tr>
<tr>
<td>4</td>
<td>100</td>
<td>21.50</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>26.50</td>
</tr>
<tr>
<td>6</td>
<td>150</td>
<td>27.75</td>
</tr>
<tr>
<td></td>
<td>150</td>
<td>36.00</td>
</tr>
<tr>
<td>8</td>
<td>200</td>
<td>32.75</td>
</tr>
<tr>
<td></td>
<td>200</td>
<td></td>
</tr>
</tbody>
</table>
Applicable Standards:
- STEEL GLOBE VALVES, BS EN 13709/API 600
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES ASME B16.5
- BUTTWELDING ENDS ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:
- PSB, PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Materials of parts

<table>
<thead>
<tr>
<th>No</th>
<th>Part Name</th>
<th>Carbon Steel</th>
<th>ASTM Materials 1(\frac{3}{4})Cr-(\frac{3}{4})Mo</th>
<th>18Cr-9Ni-2Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>A216–WCB</td>
<td>A217–W06</td>
<td>A351–CF8M</td>
</tr>
<tr>
<td>2</td>
<td>Yoke</td>
<td>A216–WCB</td>
<td>A217–W06</td>
<td>A351–CF8M</td>
</tr>
<tr>
<td>3</td>
<td>Disc</td>
<td>A216–WCB+HF</td>
<td>A217–W06+HF</td>
<td>A351–CF8M+HF</td>
</tr>
<tr>
<td>4</td>
<td>Stem</td>
<td>A182–F6a</td>
<td>CR–MO–V</td>
<td>A182–316</td>
</tr>
<tr>
<td>5</td>
<td>Seal Ring</td>
<td>A105</td>
<td>A182–F11</td>
<td>A240–316+HF</td>
</tr>
<tr>
<td>6</td>
<td>Bonnet</td>
<td>A105+HF</td>
<td>Steel Ring</td>
<td>304SS Ring</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet Gasket</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>A276–316</td>
</tr>
<tr>
<td>8</td>
<td>Adapter Ring</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>A276–316</td>
</tr>
<tr>
<td>9</td>
<td>Retainer</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>A276–316</td>
</tr>
<tr>
<td>10</td>
<td>Yoke Cap</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>Stainless Steel</td>
</tr>
<tr>
<td>11</td>
<td>Bonnet Stud</td>
<td>A193–B7</td>
<td>A193–B16</td>
<td>A193–B8M</td>
</tr>
<tr>
<td>13</td>
<td>Packing</td>
<td>Graphite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Gland</td>
<td>A276–420</td>
<td>A276–304</td>
<td>A276–316L</td>
</tr>
<tr>
<td>15</td>
<td>Gland Flange</td>
<td>A216–WCB</td>
<td>A217–W06</td>
<td>A351–CF8M</td>
</tr>
<tr>
<td>16</td>
<td>Eyebolt Pin</td>
<td>Carbon Steel</td>
<td>A276–420</td>
<td>A276–316</td>
</tr>
<tr>
<td>17</td>
<td>Eyebolt</td>
<td>Carbon Steel</td>
<td>A193–B7</td>
<td>A193–B8</td>
</tr>
<tr>
<td>18</td>
<td>Eyebolt Nut</td>
<td>Carbon Steel</td>
<td>A194–2H</td>
<td>A194–8</td>
</tr>
<tr>
<td>19</td>
<td>Grease Fitting</td>
<td>Brass+Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Yokesleeve</td>
<td>Aluminum–Bronze()</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Yokesleeve Jam Nut</td>
<td>Carbon Steel</td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Handwheel</td>
<td>Malleable Iron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Handwheel Nut</td>
<td>Carbon Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: 1)Graphite optional
2)Ductile Ni-resist optional
3)Wedge 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.

Dimensional datas

<table>
<thead>
<tr>
<th>NPS DN</th>
<th>ANSI Class 900Lb</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>50</td>
</tr>
<tr>
<td>L1(BW)</td>
<td>8.50</td>
</tr>
<tr>
<td></td>
<td>216</td>
</tr>
<tr>
<td>L(RF)</td>
<td>14.50</td>
</tr>
<tr>
<td></td>
<td>368</td>
</tr>
<tr>
<td>L2(RTF)</td>
<td>14.62</td>
</tr>
<tr>
<td></td>
<td>371</td>
</tr>
<tr>
<td>H(open)</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>557</td>
</tr>
<tr>
<td>D0</td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>400</td>
</tr>
<tr>
<td>Wt(kg)</td>
<td>46</td>
</tr>
<tr>
<td></td>
<td>75</td>
</tr>
</tbody>
</table>
Applicable Standards:

- STEEL GLOBE VALVES, BS EN 13709/API 600
- STEEL VALVES, ASME B16.34
- FACE TO FACE, ASME B16.10
- END FLANGES ASME B16.5
- BUTTWELDING ENDS, ASME B16.25
- INSPECTION AND TEST, API 598

Design descriptions:

- PSB, PRESSURE SEAL BONNET
- OS&Y, OUTSIDE SCREW AND YOKE
- BB, BOLTED BONNET
- RENEWABLE SEAT RINGS
- RISING STEAM AND HANDWHEEL
- FLANGED OR BUTTWELDING ENDS
- AVAILABLE WITH BG OPERATOR

Materials of parts

<table>
<thead>
<tr>
<th>No</th>
<th>Part Name</th>
<th>Carbon Steel</th>
<th>ASTM Materials 1Cr-1/2Mo</th>
<th>18Cr-9Ni-2Mo</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
<td>A216-WCB</td>
<td>A217-W06</td>
<td>A351-CF8M</td>
</tr>
<tr>
<td>2</td>
<td>Yoke</td>
<td>A216-WCB</td>
<td>A217-W06</td>
<td>A351-CF8M</td>
</tr>
<tr>
<td>3</td>
<td>Disc</td>
<td>A216-WCB+HF</td>
<td>A217-W06+HF</td>
<td>A351-CF8M+HF</td>
</tr>
<tr>
<td>4</td>
<td>Stem</td>
<td>A182-86a</td>
<td>CR-Mo-V</td>
<td>A182-316</td>
</tr>
<tr>
<td>5</td>
<td>Seat Ring</td>
<td>A105+HF</td>
<td>A182-F11+HF</td>
<td>A240-316+HF</td>
</tr>
<tr>
<td>6</td>
<td>Bonnet</td>
<td>A105</td>
<td>A182-F11</td>
<td>A240-316</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet Gasket 1)</td>
<td>Steel Ring</td>
<td>304SS Ring</td>
<td>316SS Ring</td>
</tr>
<tr>
<td>8</td>
<td>Adapter Ring</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>A276-316</td>
</tr>
<tr>
<td>9</td>
<td>Retainer</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>A276-316</td>
</tr>
<tr>
<td>10</td>
<td>Yoke Cap</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>A276-316</td>
</tr>
<tr>
<td>12</td>
<td>Bonnet Stud Nut</td>
<td>A194-2H</td>
<td>A194-7</td>
<td>A194-8M</td>
</tr>
<tr>
<td>13</td>
<td>Packing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Gland</td>
<td>A276-420</td>
<td>A276-304</td>
<td>A276-316</td>
</tr>
<tr>
<td>15</td>
<td>Gland Flange</td>
<td>A216-WCB</td>
<td>A217-W06</td>
<td>A351-CF8M</td>
</tr>
<tr>
<td>16</td>
<td>Eyebolt Pin</td>
<td>Carbon Steel</td>
<td>A276-420</td>
<td>A276-316</td>
</tr>
<tr>
<td>17</td>
<td>Eyebolt</td>
<td>Carbon Steel</td>
<td>A190-B7</td>
<td>A193-B8</td>
</tr>
<tr>
<td>18</td>
<td>Eyebolt Nut</td>
<td>Carbon Steel</td>
<td>A194-2H</td>
<td>A194-8</td>
</tr>
<tr>
<td>19</td>
<td>Grease Fitting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Yokesleeve</td>
<td>Aluminum-Bronze 2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>Yokesleeve Jam Nut</td>
<td>Carbon Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Handwheel</td>
<td>Malleable Iron</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>Handwheel Nut</td>
<td>Carbon Steel</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

1) Graphite optional
2) Ductile Ni-resist optional
3) Wedge 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.

Dimensional datas

<table>
<thead>
<tr>
<th>NPS DN</th>
<th>2</th>
<th>2 1/2</th>
<th>3</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>2</th>
<th>2 1/2</th>
<th>3</th>
<th>4</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>50</td>
<td>65</td>
<td>80</td>
<td>100</td>
<td>150</td>
</tr>
<tr>
<td>L1 (BW)</td>
<td>8.50</td>
<td>10.00</td>
<td>12.00</td>
<td>16.00</td>
<td>22.00</td>
<td>28.00</td>
<td>11.00</td>
<td>13.00</td>
<td>14.50</td>
<td>18.00</td>
<td>24.00</td>
</tr>
<tr>
<td></td>
<td>216</td>
<td>254</td>
<td>305</td>
<td>406</td>
<td>559</td>
<td>711</td>
<td>279</td>
<td>330</td>
<td>368</td>
<td>457</td>
<td>610</td>
</tr>
<tr>
<td>L (RF)</td>
<td>14.50</td>
<td>16.50</td>
<td>18.50</td>
<td>21.50</td>
<td>27.75</td>
<td>32.75</td>
<td>17.75</td>
<td>20.00</td>
<td>22.75</td>
<td>26.50</td>
<td>36.00</td>
</tr>
<tr>
<td></td>
<td>368</td>
<td>419</td>
<td>470</td>
<td>546</td>
<td>705</td>
<td>832</td>
<td>451</td>
<td>508</td>
<td>578</td>
<td>673</td>
<td>914</td>
</tr>
<tr>
<td></td>
<td>371</td>
<td>422</td>
<td>473</td>
<td>549</td>
<td>711</td>
<td>842</td>
<td>454</td>
<td>514</td>
<td>584</td>
<td>683</td>
<td>927</td>
</tr>
<tr>
<td>H (open)</td>
<td>22</td>
<td>22</td>
<td>24.38</td>
<td>30</td>
<td>44.62</td>
<td>54.75</td>
<td>23.38</td>
<td>23.38</td>
<td>28</td>
<td>32.25</td>
<td>49.62</td>
</tr>
<tr>
<td></td>
<td>557</td>
<td>557</td>
<td>620</td>
<td>760</td>
<td>1135</td>
<td>1390</td>
<td>596</td>
<td>595</td>
<td>710</td>
<td>820</td>
<td>1260</td>
</tr>
<tr>
<td>D0</td>
<td>16</td>
<td>18</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td>36</td>
<td>16</td>
<td>20</td>
<td>24</td>
<td>28</td>
<td>36</td>
</tr>
<tr>
<td></td>
<td>400</td>
<td>450</td>
<td>500</td>
<td>600</td>
<td>700</td>
<td>900</td>
<td>400</td>
<td>500</td>
<td>600</td>
<td>700</td>
<td>900</td>
</tr>
<tr>
<td>Wt(kg)</td>
<td>57</td>
<td>65</td>
<td>90</td>
<td>190</td>
<td>450</td>
<td>730</td>
<td>65</td>
<td>78</td>
<td>125</td>
<td>155</td>
<td>480</td>
</tr>
</tbody>
</table>

ANSI Class 1500Lb

ANSI Class 2500Lb

in

in

mm

BW