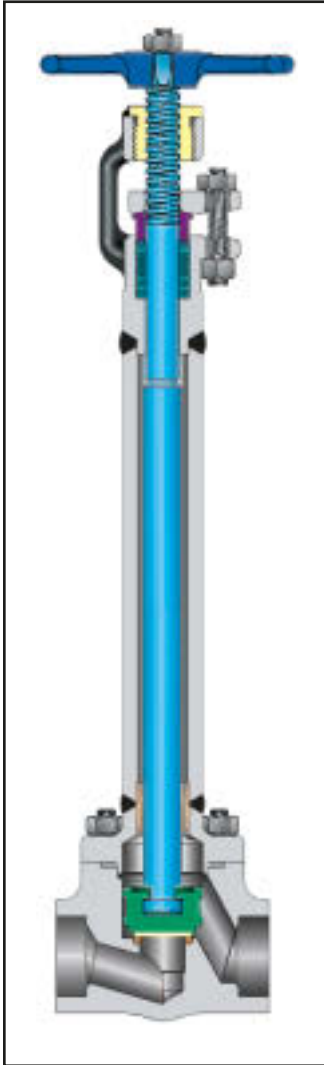




# FORGED AND CAST CRYOGENIC, GLOBE VALVES IN AUSTENITIC STAINLESS STEEL

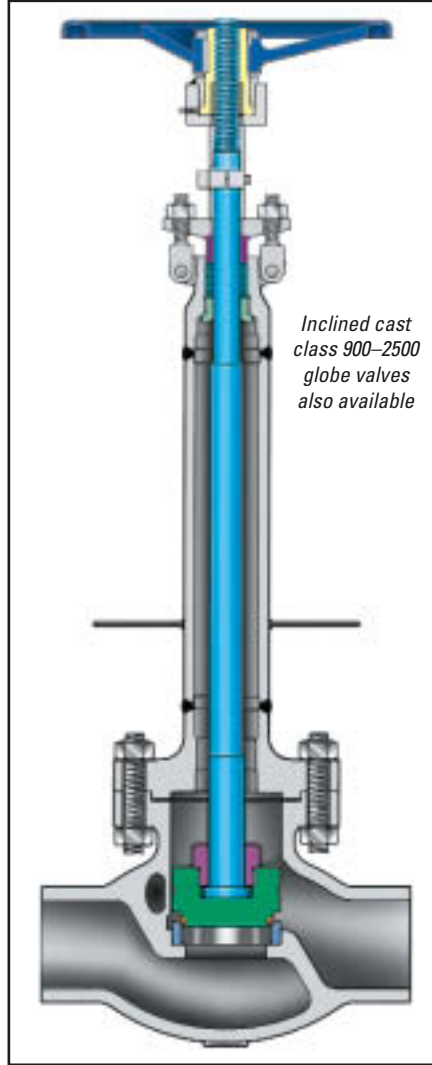
FORGED ¼–2" (8–50 mm) ASME CLASSES 150–2500,  
CAST 2–16" (50–400 mm) ASME CLASSES 150–2500

SHOWN CLASS 600



FORGED ¼–2" ASME Class 150–2500

SHOWN CLASS 300



Cast 2–16" ASME Class 150–600

Forged 2–8" ASME Class 900–2500

## STANDARD MATERIALS

| PART                        | TYPE               |                        |
|-----------------------------|--------------------|------------------------|
|                             | FORGED             | CAST                   |
| Body <sup>(1)</sup>         | F 316              | CF8M                   |
| Seat <sup>(1)(2)</sup>      | Integral Stellite  | Stellite 6 faced F 316 |
| Bonnet <sup>(1)</sup>       | F 316              | CF8M                   |
| Stem <sup>(1)(3)</sup>      | SS 316             |                        |
| Packing ring <sup>(1)</sup> | RTFE and graphite  |                        |
| Gland stud                  | F 316, B8M         |                        |
| Gland nut                   | Gr. 8M             |                        |
| Packing flange              | SS                 |                        |
| Gland bushing               | SS                 |                        |
| Bonnet stud                 | B8M                |                        |
| Bonnet nut                  | Gr. 8M             |                        |
| Hinge pin                   | N/A                | SS                     |
| Gasket <sup>(1)</sup>       | Spiral SS/graphite |                        |
| Stem nut                    | Ni-resist type DZC |                        |
| Handwheel nut               | Gr. 2M             |                        |
| Handwheel <sup>(1)</sup>    | Malleable iron     |                        |
| Backseat <sup>(1)(3)</sup>  | Integral           | SS 316                 |
| Disc nut                    | N/A                | SS 304 or 316          |
| Disc                        | Stellite 6         | CF8M or F 316          |

(1) Other materials available. (2) Stellite. (3) Hardened.

(4) For eye bolts Gr.B, for studs B7 is used.

(5) For eye bolts F316, for studs B8M or 630 is used.

- **Stem** with precision Acme threads and burnished finish.
- **Gland** has two-piece construction for easy alignment.
- **Yoke bushing.** Ni-resist, renewable in-line, non-rotating yoke bushing, rotating stem (as shown).

The following valves are supplied with a rotating stem nut, non-rotating stem and two thrust bearings:

**Class 150:** 12" (300 mm) and up,

**Class 300:** 8" (200 mm) and up,

**Class 600:** 6" (150 mm) and up.

- **Impactor handwheels.** Globe and stop check valves require higher closing torques than gate valves with the same seat diameter and pressure class. The most economical mechanism for tight shutoff is the impactor handwheel. Two lugs cast under the wheelstrike simultaneous blows and give 3–10 times the closing force of standard handwheels. Impactor handwheels are supplied at manufacturer's option unless specified by customer.

## DESIGN FEATURES FOR CAST STEEL:

- **Seat face** Stellite, ground and lapped to a mirror finish. Conical seat machined to 8 RMS.
- **Flat disc.** Floating stem-disc engagement, hardfaced with Stellite 6 or Monel, ground and lapped with seat.
- **Tapered disc.** Body-guided disc, hardfaced with Stellite 6 or Monel, ground and lapped with seat.
- **Body and bonnet.** Castings are precision machined. One-piece bonnet for better alignment, fewer parts.
- **Stuffing box** finish to 63 AARH or better.
- **Body and bonnet joint** accurately machined. Fully enclosed gasket. Gasket materials on page 3.

**SMALL FORGED BOLTED BONNET GLOBE DIMENSIONS\***

\* Add height of extension to C, D.

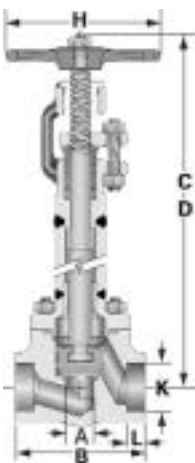
| Size<br>in<br>mm | A<br>Port  |            | B<br>End to End |             | C<br>Center-Top<br>Closed |             | D<br>Center-Top<br>Open |             | H<br>Handwheel |           | K<br>Socket<br>Weld<br>Bore | L<br>Socket<br>Weld<br>Depth | Flanged Valves<br>Face to Face |              |              |              |
|------------------|------------|------------|-----------------|-------------|---------------------------|-------------|-------------------------|-------------|----------------|-----------|-----------------------------|------------------------------|--------------------------------|--------------|--------------|--------------|
|                  | 800        | 1500       | 800             | 1500        | 800                       | 1500        | 800                     | 1500        | 800            | 1500      |                             |                              | 150                            | 300          | 600          | 1500         |
| 1/4<br>8         | 0.31<br>8  | 0.45<br>11 | 2.88<br>73      | 4.00<br>102 | 4.5<br>114                | 7.4<br>188  | 4.8<br>122              | 7.9<br>201  | 2.5<br>64      | 6<br>152  | 0.555<br>14.10              | 0.38<br>10                   | 4.00<br>102                    | 6.00<br>152  | 6.50<br>165  | 8.50<br>216  |
| 3/8<br>10        | 0.31<br>8  | 0.45<br>11 | 2.88<br>73      | 4.00<br>102 | 4.5<br>114                | 7.4<br>188  | 4.8<br>122              | 7.9<br>201  | 2.5<br>64      | 6<br>152  | 0.690<br>17.53              | 0.38<br>10                   | 4.00<br>102                    | 6.00<br>152  | 6.50<br>165  | 8.50<br>216  |
| 1/2<br>15        | 0.31<br>8  | 0.45<br>11 | 2.88<br>73      | 4.00<br>102 | 4.5<br>114                | 7.4<br>188  | 4.8<br>122              | 7.9<br>201  | 2.5<br>64      | 6<br>152  | 0.855<br>21.72              | 0.38<br>10                   | 4.25<br>108                    | 6.00<br>152  | 6.50<br>165  | 8.50<br>216  |
| 3/4<br>20        | 0.50<br>13 | 0.63<br>16 | 3.25<br>83      | 5.00<br>127 | 6.6<br>168                | 7.7<br>196  | 7.1<br>180              | 8.1<br>206  | 4.0<br>102     | 6<br>152  | 1.065<br>27.05              | 0.50<br>13                   | 4.62<br>117                    | 7.00<br>178  | 7.50<br>190  | 9.00<br>229  |
| 1<br>25          | 0.75<br>19 | 1.00<br>25 | 3.50<br>89      | 6.00<br>152 | 6.7<br>170                | 9.4<br>239  | 7.3<br>185              | 10.2<br>259 | 4.0<br>102     | 8<br>203  | 1.330<br>33.78              | 0.50<br>13                   | 5.00<br>127                    | 8.00<br>203  | 8.50<br>215  | 10.00<br>254 |
| 1 1/4<br>32      | 1.25<br>32 | 1.31<br>33 | 5.00<br>127     | 7.00<br>178 | 8.1<br>206                | 10.3<br>262 | 8.7<br>221              | 11.0<br>279 | 6.0<br>152     | 8<br>203  | 1.675<br>42.55              | 0.50<br>13                   | 5.50<br>140                    | 8.50<br>216  | 9.00<br>229  | 11.00<br>279 |
| 1 1/2<br>40      | 1.25<br>32 | 1.31<br>33 | 5.00<br>127     | 7.00<br>178 | 8.1<br>206                | 10.3<br>262 | 8.7<br>221              | 11.0<br>279 | 6.0<br>152     | 8<br>203  | 1.915<br>48.64              | 0.50<br>13                   | 6.50<br>165                    | 9.00<br>229  | 9.50<br>241  | 12.00<br>305 |
| 2<br>50          | 1.50<br>38 | 1.75<br>44 | 8.00<br>203     | 9.00<br>229 | 10.9<br>277               | 11.1<br>282 | 11.2<br>285             | 12.3<br>312 | 8.0<br>203     | 12<br>305 | 2.406<br>61.11              | 0.63<br>16                   | 8.00<br>203                    | 10.50<br>266 | 11.50<br>292 | 14.50<br>368 |

**CAST STEEL GLOBE VALVE DIMENSIONS\***

\* Add height of extension 12–18" to B, C.

| SIZE<br>in<br>mm | ASME 150 (PN 20) |                  |                  |              |                               | ASME 300 (PN 50) |                  |                  |              |                               | ASME 600 (PN 100) |                  |                  |             |                               |
|------------------|------------------|------------------|------------------|--------------|-------------------------------|------------------|------------------|------------------|--------------|-------------------------------|-------------------|------------------|------------------|-------------|-------------------------------|
|                  | A                | B <sup>(1)</sup> | C <sup>(1)</sup> | D            | E                             | A                | B <sup>(1)</sup> | C <sup>(1)</sup> | D            | E                             | A                 | B <sup>(1)</sup> | C <sup>(1)</sup> | D           | E                             |
| 2<br>50          | 8.00<br>203      | 15.00<br>381     | 19.00<br>483     | 2.00<br>51   | 8.00<br>203.2                 | 10.50<br>267     | 15.00<br>381     | 19.00<br>483     | 2.00<br>51   | 8.00<br>203                   | 11.50<br>292      | 15.00<br>381     | 19.43<br>494     | 2.00<br>51  | 10.00<br>254                  |
| 2 1/2<br>65      | 8.50<br>216      | 15.44<br>392     | 19.00<br>483     | 2.50<br>64   | 10.00<br>254                  | 11.50<br>292     | 15.44<br>392     | 20.00<br>508     | 2.50<br>64   | 10.00<br>254                  | 13.00<br>330      | 17.37<br>441     | 22.12<br>562     | 2.50<br>64  | 10.00<br>254                  |
| 3<br>80          | 9.50<br>241      | 16.88<br>429     | 21.00<br>533     | 3.00<br>76   | 10.00<br>254                  | 12.50<br>318     | 16.88<br>429     | 22.00<br>559     | 3.00<br>76   | 10.00<br>254                  | 14.00<br>356      | 19.37<br>492     | 24.81<br>630     | 3.00<br>76  | 14.00<br>356                  |
| 4<br>100         | 11.50<br>292     | 19.31<br>491     | 24.00<br>610     | 4.00<br>102  | 14.00<br>356                  | 14.00<br>356     | 19.31<br>491     | 25.00<br>635     | 4.00<br>102  | 14.00<br>356                  | 17.00<br>432      | 23.00<br>584     | 28.62<br>727     | 4.00<br>102 | 24.00<br>610                  |
| 6<br>150         | 16.00<br>406     | 23.56<br>598     | 30.00<br>762     | 6.00<br>152  | 24.00<br>610                  | 17.50<br>445     | 23.56<br>598     | 31.00<br>787     | 6.00<br>152  | 24.00<br>610                  | 22.00<br>559      | 31.50<br>800     | 38.12<br>968     | 6.00<br>152 | 30.00<br>762                  |
| 8<br>200         | 19.50<br>495     | 25.75<br>654     | 34.00<br>864     | 8.00<br>203  | 24.00<br>610                  | 22.00<br>559     | 35.88<br>911     | 44.00<br>1118    | 8.00<br>203  | 18.00 <sup>(2/3)</sup><br>457 | 26.00<br>660      | 42.50<br>1080    | 47.00<br>1194    | 7.88<br>200 | 24.00 <sup>(2/3)</sup><br>610 |
| 10<br>250        | 24.50<br>622     | 35.13<br>892     | 44.00<br>1118    | 10.00<br>254 | 30.00<br>762                  | 24.50<br>622     | 39.81<br>1011    | 50.00<br>1270    | 10.00<br>254 | 18.00 <sup>(2/3)</sup><br>457 | –                 | –                | –                | –           | –                             |
| 12<br>300        | 27.50<br>699     | 40.87<br>1038    | 52.00<br>1321    | 12.00<br>305 | 30.00<br>762                  | 28.00<br>711     | 44.06<br>1119    | 58.00<br>1473    | 12.00<br>305 | 30.00 <sup>(2/3)</sup><br>762 | –                 | –                | –                | –           | –                             |
| 14<br>350        | 31.00<br>787     | 53.31<br>1354    | 68.00<br>1727    | 13.25<br>337 | 24.00 <sup>(2/3)</sup><br>610 | 33.00<br>838     | 53.31<br>1354    | 68.00<br>1727    | 13.25<br>337 | 36.00 <sup>(2/3)</sup><br>914 | –                 | –                | –                | –           | –                             |
| 16<br>400        | 36.00<br>914     | 57.32<br>1456    | 70.00<br>1778    | 15.25<br>387 | 30.00 <sup>(2/3)</sup><br>762 | 34.00<br>863     | 57.32<br>1456    | 70.00<br>1778    | 15.25<br>387 | 36.00 <sup>(2/3)</sup><br>914 | –                 | –                | –                | –           | –                             |

(1) Height does not include actuators. (2) Impactor handwheel. (3) Gear actuator is optional.

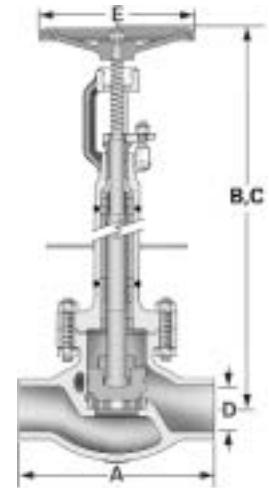


**FORGED**

Inclined cast Class 900–2500 globe valves also available

**DESIGN SPECIFICATIONS**

| ITEM   | APPLICABLE SPECIFICATION |
|--|--------------------------|
| Wall thickness and general valve design                  | API 600, BS 1873         |
| Pressure–Temperature rating                              | ASME B16.34              |
| Face-to-face dimensions for butt weld and flanged valves | ASME B16.10              |
| Flange design  | ASME B16.5               |
| Butt welding design                                      | ASME B16.25              |
| Cryogenic valves   | BS 1873                  |



**CAST**