



**Gate Valves Type Pressure Seal**  
**Class 1500 DN 50-450 (2" – 18")**  
 Carbon, Alloy and Stainless Steel



# Fig. VC1500PS

**Design:**

**API 600 & ISO 10434**

**ASME B16.34 and BS 1414**

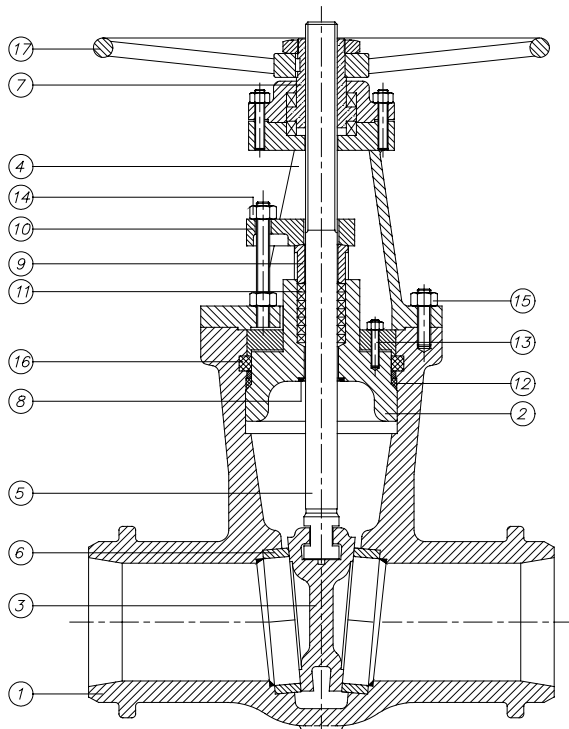




# Gate Valves Class 1500

## Type Pressure Seal

### Parts and materials



#### Trim Material

| API 600 Trim No. | Stem / Backseat | Seating Surface Body / Wedge |
|------------------|-----------------|------------------------------|
| 1                | 13% Cr          | 13% Cr                       |
| 2                | SS 304          | SS 304                       |
| 3                | SS310           | SS310                        |
| 4                | 13% Cr          | 13% Cr (Hard)                |
| 5 or 5A          | 13% Cr          | HF                           |
| 6                | 13% Cr          | 13% Cr / Cu Ni               |
| 7                | 13% Cr          | 13% Cr / 13% Cr (Hard)       |
| 8 or 8A          | 13% Cr          | HF / 13% Cr                  |
| 9                | Monel           | Monel                        |
| 10               | SS 316          | SS 316                       |
| 11 or 11A        | Monel           | HF / Monel                   |
| 12 or 12A        | SS 316          | HF / SS 316                  |
| 13               | Alloy 20        | Alloy 20                     |
| 14 or 14A        | Alloy 20        | HF / Alloy 20                |

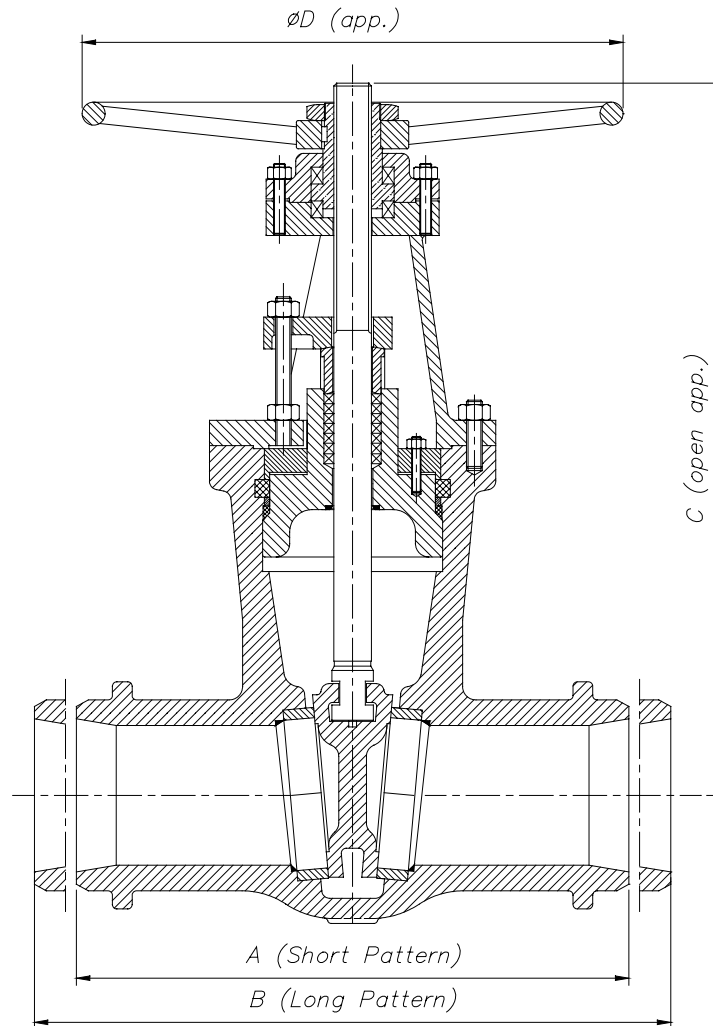
*HF: Hard Facing using Co Cr welding alloy (Stellite)*

| Item | Description       | Material                  |                           |                           |                           |
|------|-------------------|---------------------------|---------------------------|---------------------------|---------------------------|
|      |                   | Carbon Steel              | Carbon Steel (Low Temp.)  | Alloy Steel               | Stainless Steel           |
| 1    | Body              | A 216 Gr.WCB              | A 352 Gr.LCB              | A 217 Gr.C5               | A 351 Gr.CF8M             |
| 2    | Bonnet            | A 216 Gr.WCB              | A 352 Gr.LCB              | A 217 Gr.C5               | A 351 Gr.CF8M             |
| 3    | Gate              | A 216 Gr.WCB + Stellite   | A 352 Gr.LCB + Stellite   | A 217 Gr.C5 + Stellite    | A 351 Gr.CF8M + Stellite  |
| 4    | Yoke              | A 216 Gr.WCB              | A 352 Gr.LCB              | A 217 Gr.C5               | A 351 Gr.CF8M             |
| 5    | Stem              | A 182 Gr.F6a              | A 182 Gr.F304             | A 182 Gr.F6a              | A 182 Gr.F316             |
| 6    | Seat Ring         | A 105 + Stellite          | A 182 Gr.F304 + Stellite  | A 182 Gr.F6a + Stellite   | A 182 Gr.F316 + Stellite  |
| 7    | Stem Nut          | B 148 / A 439 Gr.D2       | B 148 / A 439 Gr.D2       | B 148 / A 439 Gr.D2       | B 148 / A 439 Gr.D2       |
| 8    | Backseat          | Stellite                  | Stellite                  | Stellite                  | Stellite                  |
| 9    | Gland             | A 105                     | A 105                     | A 182 Gr.F6a              | A 182 Gr.F316             |
| 10   | Gland Flanged     | A 105                     | A 105                     | A 105                     | A 182 Gr.F304             |
| 11   | Stem Packing      | Graphited                 | Graphited                 | Graphited                 | Graphited                 |
| 12   | Gasket            | A 182 Gr.F304             | A 182 Gr.F304             | A 182 Gr.F304             | A 182 Gr.F316             |
| 13   | Bonnet Bolt & Nut | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H |
| 14   | Bolt & Nut        | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H |
| 15   | Yoke Bolt & Nut   | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H | A 193 Gr.B7 / A 194 Gr.2H |
| 16   | Segmental Ring    | A 515 Gr.70               | A 182 Gr.F304             | A 182 Gr.F304             | A 182 Gr.F316             |
| 17   | Handwheel         | Carbon Steel              | Carbon Steel              | Carbon Steel              | Carbon Steel              |

*Item 6 and 8 only in Carbon Steel and Alloy Steel construction*



# Gate Valves Class 1500 Type Pressure Seal Dimensions



| DN        | A    | B    | C    | ØD   | WEIGHT |
|-----------|------|------|------|------|--------|
| 50 (2")   | 216  | 368  | 545  | 250  | 55     |
| 65 (2½")  | 254  | 419  | 590  | 350  | 72     |
| 80 (3")   | 305  | 470  | 625  | 350  | 85     |
| 100 (4")  | 406  | 546  | 900  | 400  | 160    |
| 125 (5")  | 483  | 673  | 995  | 500  | 310    |
| 150 (6")  | 559  | 705  | 1085 | 600  | 440    |
| 200 (8")  | 711  | 832  | 1290 | 680  | 760    |
| 250 (10") | 864  | 991  | 1420 | 910  | 1050   |
| 300 (12") | 991  | 1130 | 1580 | 965  | 1350   |
| 350 (14") | 1067 | 1257 | 2100 | 1015 | 1890   |
| 400 (16") | 1194 | 1384 | 2457 | 1065 | 2830   |
| 450 (18") | 1346 | 1537 | 2910 | 1065 | 3910   |

(\*) Dimensions in mm and weight in kg.



# Gate Valves Class 1500

## Type Pressure Seal

### General Characteristics, Cv, P&T Rating

| GENERAL CHARACTERISTICS       |                                 | Fig. VC1500PS   |           |           |
|-------------------------------|---------------------------------|-----------------|-----------|-----------|
| <b>DESIGN STANDARDS</b>       |                                 |                 |           |           |
| Valves design                 | API 600 & ISO 10434             | ASME B16.34     | BS 1414   |           |
| End to End Dimensions         | ASME B16.10 & ISO 5752          |                 |           |           |
| Flanged Dimensions            | ASME B16.5 & ISO 7005-1 Part. 1 | ASME B16.47     | BS 3293   | MSS SP-44 |
| Buttweld Dimensions           | ASME B16.25                     |                 |           |           |
| Visual Inspection             | MSS SP- 55                      |                 |           |           |
| Marking                       | MSS SP-25 & ISO 5209            |                 |           |           |
| <b>TESTS AND CERTIFICATES</b> |                                 |                 |           |           |
| Pressure testing              | API 598 & ISO 5208              | BS 6755 Part. 1 | MSS SP-61 |           |

#### Cv Values in U.S. Gallons/min.

| DN       | Cv   | DN        | Cv    |
|----------|------|-----------|-------|
| 50 (2")  | 225  | 200 (8")  | 3000  |
| 65 (2½") | 350  | 250 (10") | 4750  |
| 80 (3")  | 480  | 300 (12") | 6500  |
| 100 (4") | 750  | 350 (14") | 8500  |
| 125 (5") | 1250 | 400 (16") | 10200 |
| 150 (6") | 1700 | 450 (18") | 13500 |

#### Pressure-Temperature (STANDARD CLASS According to ASME B16.34)

| Temp<br>°C | MATERIAL        |                 |                |                  |
|------------|-----------------|-----------------|----------------|------------------|
|            | A216 WCB<br>Bar | A352 LCB<br>Bar | A217 C5<br>Bar | A351 CF8M<br>Bar |
| -29 to 38  | 255,3           | 239,1           | 258,4          | 248,0            |
| 95         | 232,5           | 226,0           | 256,7          | 213,2            |
| 150        | 226,0           | 219,8           | 246,7          | 192,6            |
| 205        | 218,4           | 212,6           | 243,2          | 177,1            |
| 260        | 206,4           | 200,5           | 229,1          | 164,7            |
| 315        | 188,4           | 183,6           | 208,4          | 155,4            |
| 345        | 185,0           | 180,2           | 202,6          | 153,0            |
| 375        | 183,6           |                 | 195,7          | 149,5            |
| 400        | 173,6           |                 | 181,9          | 147,1            |
| 425        | 141,9           |                 | 175,0          | 145,4            |
| 450        | 92,3            |                 | 166,4          | 144,0            |
| 485        | 59,3            |                 | 127,5          | 143,0            |
| 510        | 35,5            |                 | 94,4           | 133,0            |
| 540        | 17,9            |                 | 68,6           | 120,6            |
| 565        |                 |                 | 49,6 *         | 118,5 *          |
| 595        |                 |                 | 34,1 *         | 105,1 *          |
| 620        |                 |                 | 21,4 *         | 81,6 *           |
| 650        |                 |                 | 11,7 *         | 63,7 *           |
| 675        |                 |                 |                | 50,6 *           |
| 705        |                 |                 |                | 40,3 *           |
| 735        |                 |                 |                | 33,1 *           |
| 760        |                 |                 |                | 26,2 *           |
| 790        |                 |                 |                | 20,0 *           |
| 815        |                 |                 |                | 14,1 *           |

\* FOR WELD END VALVES ONLY. FLANGED END RATINGS TERMINATE AT 540°C