

**BS 1873,  
ASME B16.34 & MSS SP-42**



| Item | Description       | Material of construction* |                           |                           |                               |
|------|-------------------|---------------------------|---------------------------|---------------------------|-------------------------------|
|      |                   | 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                 |
| 4    | Disc              | A 105 + ER 410            | A 182 Gr.F304             | A 217 Gr.C5 + ER 410      | A 351 Gr.CF8M                 |
| 5    | Seat Ring         | A 105 + Stellite          | A 182 Gr.F304             | A 182 Gr.F6a + Stellite   | ----                          |
| 6    | Backseat          | A 182 Gr.F6a              | A 182 Gr.F304             | A 182 Gr.F6a              | ----                          |
| 7    | Stem              | A 182 Gr.F6a              | A 182 Gr.F304             | A 182 Gr.F6a              | A 182 Gr.F316                 |
| 8    | Gland             | A 105                     | A 105                     | A 182 Gr. F6a             | A 182 Gr.F316                 |
| 9    | Gland Flange      | A 105                     | A 105                     | A 105                     | A 182 Gr.F304                 |
| 11   | 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           |
| 12   | Disc Nut          | A 182 Gr.F6a              | A 182 Gr.F304             | A 182 Gr.F6a              | A 182 Gr.F316                 |
| 18   | Handw heel        | Carbon Steel              | Carbon Steel              | Carbon Steel              | Carbon Steel                  |
| 19   | Handw heel Nut    | Steel                     | Steel                     | Steel                     | Steel                         |
| 20   | 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 (3) |
| 21   | Eye 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     |
| 28   | Gasket            | S.S. 304 / Graphite       | S.S. 304 / Graphite       | S.S. 304 / Graphite       | S.S. 316 / Graphite           |
| 29   | Stem Packing      | Graphite                  | Graphite                  | Graphite                  | Graphite                      |
| 37   | Thrust Washer     | A 182 Gr.F6a              | A 182 Gr.F304             | A 182 Gr.F6a              | A 182 Gr.F316                 |
| 38   | Washer            | Steel                     | Steel                     | Steel                     | Steel                         |
| 42   | Grub Screw        | A 193 Gr.B7               | A 193 Gr.B7               | A 193 Gr.B7               | A 193 Gr.B7                   |
| 45   | Lock Nut          | Steel                     | Steel                     | A 182 Gr.F6a              | A 182 Gr.F316                 |

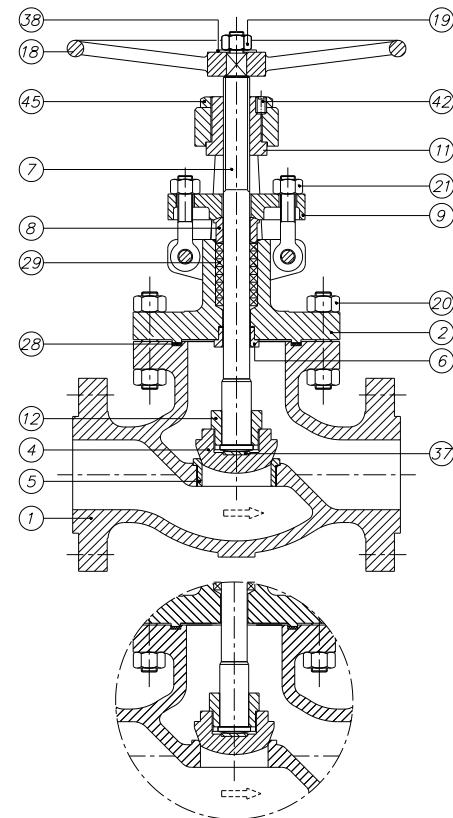
(3) Zinc coating

\* Standard constructions with Trim 8, 2 and 10, other options are available

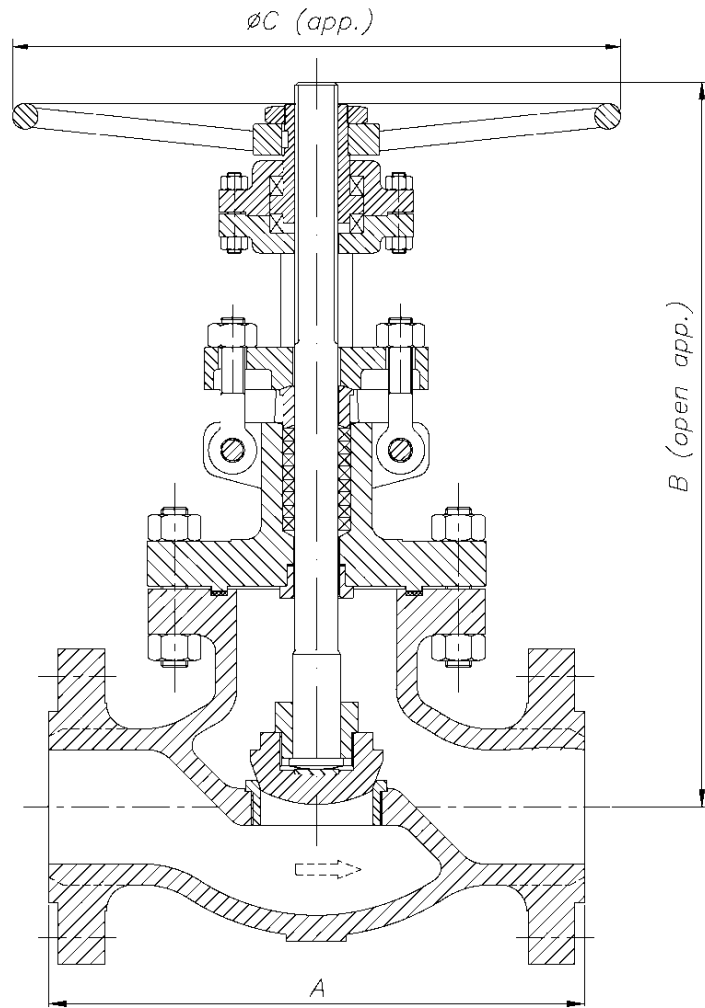
| API 600 Trim No. | Nominal Trim           | Stem Backseat (1) | Seating Surface Body/Wedge   |
|------------------|------------------------|-------------------|------------------------------|
| 1                | F6                     | 13Cr              | 13Cr                         |
| 2                | 304                    | 18Cr-8Ni          | 18Cr-8Ni                     |
| 3                | F310                   | 25Cr-20Ni         | 25Cr-20Ni                    |
| 4                | Hard F6                | 13Cr              | Hard 13Cr                    |
| 5                | Hardfaced              | 13Cr              | Co-Cr A (2)                  |
| 5A               | Hardfaced              | 13Cr              | Ni-Cr                        |
| 6                | F6 and Cu-Ni           | 13Cr              | 13Cr and Cu-Ni               |
| 7                | F6 and Hard F6         | 13Cr              | 13Cr and Hard 13Cr           |
| 8                | F6 and Hardfaced       | 13Cr              | 13Cr and Co-Cr A (2)         |
| 8A               | F6 and Hardfaced       | 13Cr              | 13Cr and Ni-Cr               |
| 9                | Monel                  | Ni-Cu Alloy       | Ni-Cu Alloy                  |
| 10               | 316                    | 18Cr-8Ni-Mo       | 18Cr-8Ni-Mo                  |
| 11               | Monel and Hardfaced    | Ni-Cu Alloy       | Ni-Cu Alloy and Trim 5 or 5A |
| 12               | 316 and Hardfaced      | 18Cr-8Ni-Mo       | 18Cr-8Ni-Mo and Trim 5 or 5A |
| 13               | Alloy 20               | 19Cr-29Ni         | 19Cr-29Ni                    |
| 14               | Alloy 20 and Hardfaced | 19Cr-29Ni         | 19Cr-29Ni and Trim 5 or 5A   |
| 15               | Hardfaced              | 18Cr-8Ni          | Co-Cr A (2)                  |
| 16               | Hardfaced              | 18Cr-8Ni-Mo       | Co-Cr A (2)                  |
| 17               | Hardfaced              | 18Cr-10Ni-Cb      | Co-Cr A (2)                  |
| 18               | Hardfaced              | 19Cr-29Ni         | Co-Cr A (2)                  |

(1) and small internal parts that normally contact the service fluid

(2) Trademark material Stellite 6



**Stainless Steel Construction**



| DN        | A (RF/BW) | B    | ØC  | WEIGHT |
|-----------|-----------|------|-----|--------|
| 50 (2")   | 203       | 341  | 200 | 22     |
| 65 (2½")  | 216       | 367  | 250 | 29     |
| 80 (3")   | 241       | 375  | 250 | 40     |
| 100 (4")  | 292       | 483  | 300 | 64     |
| 125 (5")  | 356       | 537  | 300 | 77     |
| 150 (6")  | 406       | 517  | 350 | 105    |
| 200 (8")  | 495       | 590  | 400 | 154    |
| 250 (10") | 622       | 754  | 450 | 288    |
| 300 (12") | 698       | 941  | 640 | 507    |
| 350 (14") | 787       | 1085 | 640 | 520    |
| 400 (16") | 914       | 1250 | 460 | 810    |

(\* Dimensions in mm and weight in kg  
For other sizes consult to the technical department.

| DESIGN STANDARDS       |             |                  |            |           |
|------------------------|-------------|------------------|------------|-----------|
| Valves design          | BS 1873     | ASME B16.34      | MSS SP-42  |           |
| End to End Dimensions  | ASME B16.10 | ISO 5752         |            |           |
| Flanged Dimensions     | ASME B16.5  | ISO 7005- Pat. 1 | BS 3293    | MSS SP-44 |
| Buttweld Dimensions    | ASME B16.25 |                  |            |           |
| Visual Inspection      | MSS SP- 55  |                  |            |           |
| Marking                | MASS SP-25  | ISO 5209         |            |           |
| TESTS AND CERTIFICATES |             |                  |            |           |
| Pressure testing       | API 598     | ISO 5208         | EN 12266-1 | MSS SP-61 |
| Others                 |             |                  | CE         |           |

| Cv VALUES IN US Gallons/min |     |           |      |
|-----------------------------|-----|-----------|------|
| DN                          | Cv  | DN        | Cv   |
| 50 (2")                     | 55  | 200 (8")  | 790  |
| 65 (2½")                    | 80  | 250 (10") | 1250 |
| 80 (3")                     | 105 | 300 (12") | 1900 |
| 100 (4")                    | 190 | 350 (14") | 2350 |
| 125 (5")                    | 305 | 400 (16") | 3300 |
| 150 (6")                    | 425 |           |      |

| PRESSURE - TEMPERATURE (Standard Class According to ASME B16.34) |          |          |         |                |
|--|----------|----------|---------|----------------|
| Temp   | MATERIAL |          |         |                |
|  | A216 WCB | A352 LCB | A217 C5 | A351 CF8M (**) |
| °C   | Bar      | Bar      | Bar     | Bar            |
| -29 to 38  | 19,6     | 18,3     | 20,0    | 18,9           |
| 95   | 17,9     | 17,2     | 17,9    | 16,2           |
| 150  | 15,8     | 15,8     | 15,8    | 14,8           |
| 205  | 13,8     | 13,8     | 13,8    | 13,4           |
| 260  | 11,7     | 11,7     | 11,7    | 11,7           |
| 315  | 9,6      | 9,6      | 9,6     | 9,6            |
| 345  | 8,6      | 8,6      | 8,6     | 8,6            |
| 375  | 7,6      |          | 7,6     | 7,6            |
| 400  | 6,5      |          | 6,5     | 6,5            |
| 425  | 5,5      |          | 5,5     | 5,5            |
| 450  | 4,5      |          | 4,5     | 4,5            |
| 485  | 3,4      |          | 3,4     | 3,4            |
| 510  | 2,4      |          | 2,4     | 2,4            |
| 540  | 1,4      |          | 1,4     | 1,4            |
| 565  |          |          | 1,4 *   | 1,4 *          |
| 595  |          |          | 1,4 *   | 1,4 *          |
| 620  |          |          | 1,4 *   | 1,4 *          |
| 650  |          |          | 1,4 *   | 1,4 *          |
| 675  |          |          |         | 1,4 *          |
| 705  |          |          |         | 1,4 *          |
| 735  |          |          |         | 1,4 *          |
| 760  |          |          |         | 1,4 *          |
| 790  |          |          |         | 1,4 *          |
| 815  |          |          |         | 1,4 *          |

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

\*\* A351 CF8M at temperatures over 538°C (1000°F) to be used only if Carbon contents is 0,04% or higher.