



**Swing Check Valves Type Bolted Cover**  
**Class 900 DN 50-200 (2" – 8")**  
 Carbon, Alloy and Stainless Steel



# Fig. VR900BC

**Design:**  
**BS 1868 & API 6D**  
**ASME B16.34**

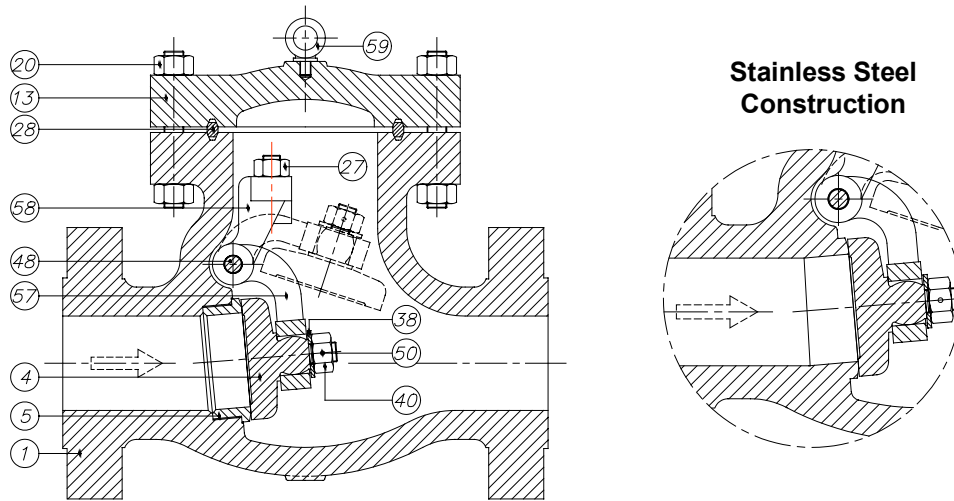




# Swing Check Valves Class 900

## Type Bolted Cover

### Parts and materials



#### Trim Material

| API 600<br>Trim No. | Stem / Backseat | Seating Surface<br>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              |
| 4    | Disc               | A 105 + ER 410             | A 182 Gr.F304                | A 182 Gr.F6a              | A 182 Gr.F316              |
| 5    | Seat Ring          | A 105 + Stellite           | A 182 Gr.F304                | A 182 Gr.F6a + Stellite   | ----                       |
| 13   | Cover              | A 216 Gr.WCB / A 515 Gr.70 | A 352 Gr.LCB / A 182 Gr.F304 | A 217 Gr.C5               | A 351 Gr.CF8M              |
| 20   | Cover 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  |
| 27   | Bracket Stud & Nut | A 193 Gr.B8 / A 194 Gr.8   | A 193 Gr.B8 / A 194 Gr.8     | A 193 Gr.B8 / A 194 Gr.8  | A 193 Gr.B8M / A 194 Gr.8M |
| 28   | Gasket             | S.S. 304                   | S.S. 304                     | S.S. 304                  | S.S. 316                   |
| 38   | Washer             | AISI 410                   | AISI 304                     | AISI 410                  | AISI 316                   |
| 40   | Disc Nut           | AISI 304                   | AISI 304                     | AISI 304                  | AISI 316                   |
| 48   | Hinge Pin *        | A 182 Gr.F6a               | A 182 Gr.F304                | A 182 Gr.F6a              | A 182 Gr.F316              |
| 50   | Split Pin          | AISI 304                   | AISI 304                     | AISI 304                  | AISI 316                   |
| 57   | Hinge              | A 216 Gr.WCB / A 515 Gr.70 | A 352 Gr.LCB                 | A 217 Gr.C5               | A 351 Gr.CF8M              |
| 58   | Hinge Bracket      | A 216 Gr.WCB / A 515 Gr.70 | A 352 Gr.LCB                 | A 217 Gr.C5               | A 351 Gr.CF8M              |
| 59   | Lifting Hook       | A 105                      | A 105                        | A 105                     | A 105                      |

*Item 5 only in Carbon Steel and Alloy Steel construction*

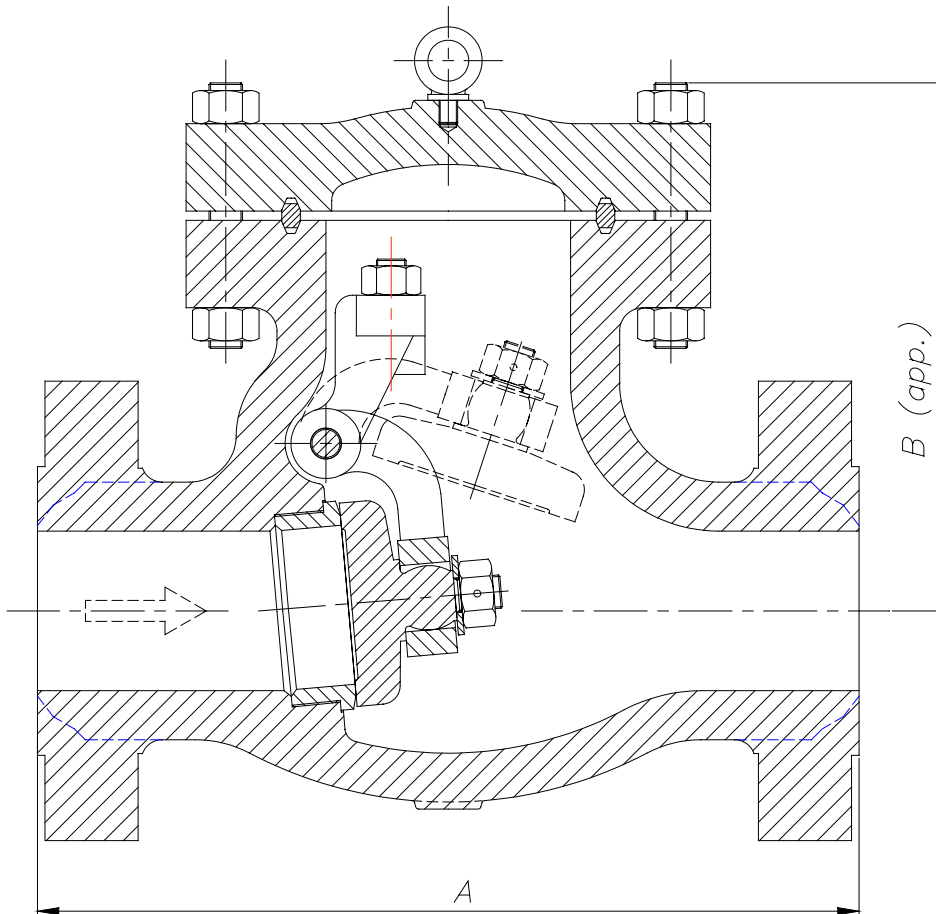
*\* It's also manufactured with Hinge Pin passing through Body with Plug*



# Swing Check Valves Class 900

## Type Bolted Cover

### Dimensions



| DN       | A (RF/BW) | B   | WEIGHT |
|----------|-----------|-----|--------|
| 50 (2")  | 368       | 220 | 65     |
| 65 (2½") | 419       | 255 | 75     |
| 80 (3")  | 381       | 280 | 82     |
| 100 (4") | 457       | 350 | 125    |
| 125 (5") | 559       | 405 | 250    |
| 150 (6") | 610       | 450 | 350    |
| 200 (8") | 737       | 525 | 480    |

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



# Swing Check Valves Class 900

## Type Bolted Cover

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

| GENERAL CHARACTERISTICS       |                                 | Fig. VR900BC    |            |           |  |
|-------------------------------|---------------------------------|-----------------|------------|-----------|--|
| <b>DESIGN STANDARDS</b>       |                                 |                 |            |           |  |
| Valves design                 | BS 1868 & API 6D                | ASME B16.34     | MSS SP- 42 |           |  |
| 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 |  |
| Butt weld 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")  | 100 | 125 (5") | 800  |
| 65 (2½") | 175 | 150 (6") | 1100 |
| 80 (3")  | 240 | 200 (8") | 2000 |
| 100 (4") | 460 |          |      |

#### 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  | 153,0           | 143,7           | 155,0          | 148,8            |
| 95         | 139,5           | 135,7           | 154,0          | 128,2            |
| 150        | 135,7           | 131,9           | 148,1          | 115,8            |
| 205        | 130,9           | 127,5           | 145,7          | 106,1            |
| 260        | 123,7           | 120,2           | 137,5          | 98,9             |
| 315        | 113,0           | 110,2           | 125,1          | 93,4             |
| 345        | 110,9           | 108,2           | 121,6          | 91,6             |
| 375        | 110,2           |                 | 117,5          | 89,9             |
| 400        | 104,0           |                 | 109,2          | 88,2             |
| 425        | 85,1            |                 | 105,1          | 87,2             |
| 450        | 55,5            |                 | 99,9           | 86,5             |
| 485        | 35,5            |                 | 76,5           | 85,8             |
| 510        | 21,4            |                 | 56,8           | 79,9             |
| 540        | 10,7            |                 | 41,0           | 72,3             |
| 565        |                 |                 | 29,6 *         | 71,0 *           |
| 595        |                 |                 | 20,7 *         | 63,0 *           |
| 620        |                 |                 | 12,7 *         | 48,9 *           |
| 650        |                 |                 | 7,2 *          | 38,2 *           |
| 675        |                 |                 |                | 30,3 *           |
| 705        |                 |                 |                | 24,1 *           |
| 735        |                 |                 |                | 20,0 *           |
| 760        |                 |                 |                | 15,5 *           |
| 790        |                 |                 |                | 12,1 *           |
| 815        |                 |                 |                | 8,6 *            |

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