



**Ningjin APC  
INDUSTRIES**



**Ningjin APC Industries**



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**NINGJIN APC INDUSTRIES®**



## About Us

**AP Ningjin APC INDUSTRIES**

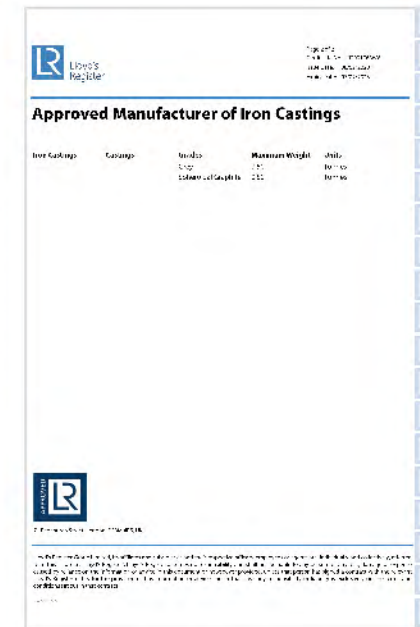
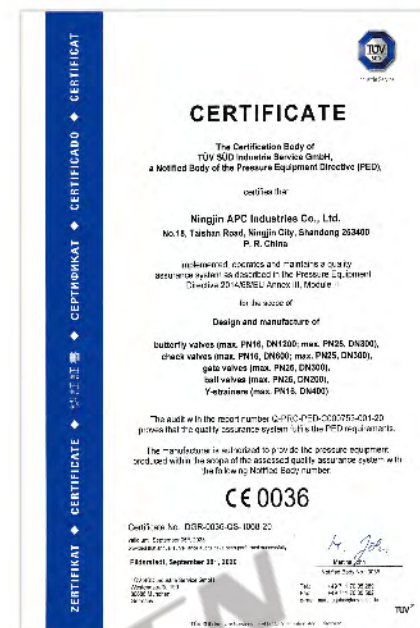
Ningjin APC Industries, a leading manufacturer specializing in development and production of Fire Protection Valves, Industrial Valves and Marine Valves in North China, was established in 1997 as well as the Valves Research Center which collects more than 30 engineers, including 10 senior engineers and 2 American experts.

APC Industries possesses its own foundry, machining workshop, coating workshop, assembling workshop and quality control system. With advanced manufacturing facilities and experience from daily production practice, we can offer our customers OEM/ODM service at competitive prices.

Under management of ISO9001:2015, APC has won many international certificates, like UL/CUL, FM, NSF61/372, VdS in Fire Protection Industry and NSF61/372, CE, PED, AD2000, ISO14001:2015, ISO45001:2018, DNV and LR for Industrial Valves and Marine Valves.

## APC Industrial Products Range

- Butterfly Valve--grooved/lug/wafer Type, Ansi/din Standard
- Gate Valve--os&y/nrs Type, Ansi/din/bs Standard
- Check Valve--wafer Check Valve& Swing Check Valve With/without Lever & Weight Ansi/din Standard
- Globe Valve--flange Connection, Ansi/din Standard
- Ball Valve--flange Connection, Din Standard
- Y Strainer--flange Connection, Ansi/din Standard
- Rubber Expansion Joint--flange/thread Connection Ansi/din Standard

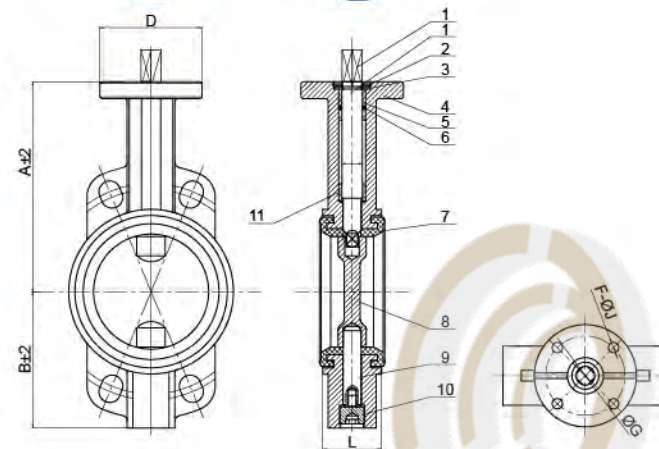


**Wafer Butterfly Valve****Model: BV-01/02****Technical Features**

- Size: DN40-DN1200 / 1.5"- 48"
- Working Pressure:
  - 16 bar (sizes DN40 to DN300)
  - 10 bar (sizes DN350 to DN1200)
  - 200psi (sizes 1.5"-12") 150psi ( sizes 14"-48")
- Design Standard: API 609
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: BS EN558-1
- Working Temperature: -20°C to 120 °C

**Valve Material List**

| NO. | Description             | Material                           |
|-----|-------------------------|------------------------------------|
| 1   | Top Shaft               | SS416/SS316                        |
| 2   | Retainer                | Spring Steel                       |
| 3   | Washer                  | Carbon Steel                       |
| 4   | Body                    | Ductile Iron / Cast Iron           |
| 5   | Bushing                 | PTFE                               |
| 6   | O-Ring                  | NBR                                |
| 7   | Seat                    | EPDM / NBR / VITON                 |
| 8   | Disc                    | Ductile Iron / CF8M / CF8 / Bronze |
| 9   | Bottom Shaft            | SS416 / SS316                      |
| 10  | Stub Screw / Stub Shaft | Carbon Steel / Ductile Iron        |
| 11  | Bushing                 | PTFE                               |

**Dimensions**

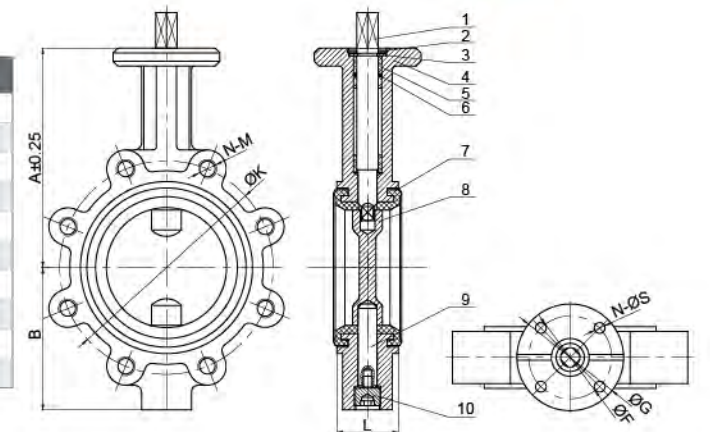
| DN   | INCH | A   | B     | L   | E   | G   | F-ØJ  | DIN PN10 |        | DIN PN16 |        | ANSI 150 |           |
|------|------|-----|-------|-----|-----|-----|-------|----------|--------|----------|--------|----------|-----------|
|      |      |     |       |     |     |     |       | ØD       | N-M    | ØD       | N-M    | ØD       | N-M       |
| 40   | 1.5" | 105 | 62    | 33  | 65  | 50  | 4-Ø7  | 110      | 4-M16  | 110      | 4-M16  | 98.4     | 4-½"-13   |
| 50   | 2"   | 161 | 65.2  | 43  | 65  | 50  | 4-Ø7  | 125      | 4-M16  | 125      | 4-M16  | 120.7    | 4-½"-11   |
| 65   | 2.5" | 160 | 76.3  | 46  | 65  | 50  | 4-Ø7  | 145      | 4-M16  | 145      | 4-M16  | 139.7    | 4-½"-11   |
| 80   | 3"   | 165 | 101   | 46  | 65  | 50  | 4-Ø7  | 160      | 8-M16  | 160      | 8-M16  | 152.4    | 4-½"-11   |
| 100  | 4"   | 185 | 115   | 52  | 90  | 70  | 4-Ø9  | 180      | 8-M16  | 180      | 8-M16  | 190.5    | 8-½"-11   |
| 125  | 5"   | 210 | 133   | 56  | 90  | 70  | 4-Ø9  | 210      | 8-M16  | 210      | 8-M16  | 215.9    | 8-¾"-10   |
| 150  | 6"   | 210 | 146   | 56  | 90  | 70  | 4-Ø9  | 240      | 8-M20  | 240      | 8-M20  | 241.3    | 8-¾"-10   |
| 200  | 8"   | 250 | 180   | 60  | 125 | 70  | 4-Ø9  | 295      | 8-M20  | 295      | 12-M20 | 298.5    | 8-¾"-10   |
| 250  | 10"  | 295 | 216   | 68  | 125 | 102 | 4-Ø12 | 350      | 12-M20 | 355      | 12-M24 | 362      | 12-¾"-9   |
| 300  | 12"  | 321 | 251   | 78  | 150 | 102 | 4-Ø9  | 400      | 12-M20 | 410      | 12-M24 | 431.8    | 12-¾"-9   |
| 350  | 14"  | 346 | 262.1 | 78  | 150 | 125 | 4-Ø12 | 460      | 16-M20 | 470      | 16-M24 | 476.3    | 12-1"-8   |
| 400  | 16"  | 375 | 292.8 | 102 | 175 | 140 | 4-Ø17 | 515      | 16-M24 | 525      | 16-M27 | 539.8    | 16-1"-8   |
| 450  | 18"  | 400 | 325   | 114 | 175 | 140 | 4-Ø17 | 565      | 20-M24 | 585      | 20-M27 | 577.9    | 16-1 ½"-7 |
| 500  | 20"  | 432 | 358   | 127 | 175 | 140 | 4-Ø17 | 620      | 20-M24 | 650      | 20-M30 | 635      | 20-1 ½"-7 |
| 600  | 24"  | 523 | 428   | 154 | 210 | 165 | 4-Ø22 | 725      | 20-M27 | 770      | 20-M27 | 749.3    | 20-1 ¼"-7 |
| 700  | 28"  | 595 | 510   | 165 | 300 | 254 | 8-Ø17 | 840      | 24-M27 | 840      | 24-M27 | 863.6    | 28-1 ¼"-7 |
| 800  | 32"  | 662 | 580   | 190 | 300 | 254 | 8-Ø17 | 950      | 24-M30 | 950      | 24-M36 | 977.9    | 28-1 ½"-6 |
| 900  | 36"  | 772 | 635   | 203 | 300 | 254 | 8-Ø17 | 1050     | 28-M30 | 1050     | 28-M36 | 1085.9   | 32-1 ½"-6 |
| 1000 | 40"  | 820 | 705   | 216 | 300 | 254 | 8-Ø17 | 1160     | 28-M33 | 1170     | 28-M39 | 1200.2   | 36-1 ½"-6 |
| 1200 | 48"  | 942 | 846   | 254 | 350 | 298 | 8-Ø22 | 1380     | 32-M36 | 1390     | 32-M45 | 1422.4   | 44-1 ½"-6 |

**Lug Butterfly Valve****Model: BV-03/04****Technical Features**

- Size: DN50-DN1200 / 2"- 48"
- Working Pressure:
  - 16 bar (sizes DN50 to DN300)
  - 10 bar (sizes DN350 to DN1200)
  - 200psi (sizes 2"-12") 150psi ( sizes 14"-48")
- Design Standard: API 609
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: BS EN558-1
- Working Temperature: -20°C to 120 °C

**Valve Material List**

| NO. | Description             | Material                           |
|-----|-------------------------|------------------------------------|
| 1   | Top Shaft               | SS416 / SS316                      |
| 2   | Retainer                | Spring Steel                       |
| 3   | Washer                  | Carbon Steel                       |
| 4   | Body                    | Ductile Iron / Cast Iron           |
| 5   | Bushing                 | PTFE                               |
| 6   | O-ring                  | NBR                                |
| 7   | Seat                    | EPDM / NBR / VITON                 |
| 8   | Disc                    | Ductile Iron / CF8M / CF8 / Bronze |
| 9   | Bottom Shaft            | SS416 / SS316                      |
| 10  | Stub Screw / Stub Shaft | Carbon Steel / Ductile Iron        |

**Dimensions**

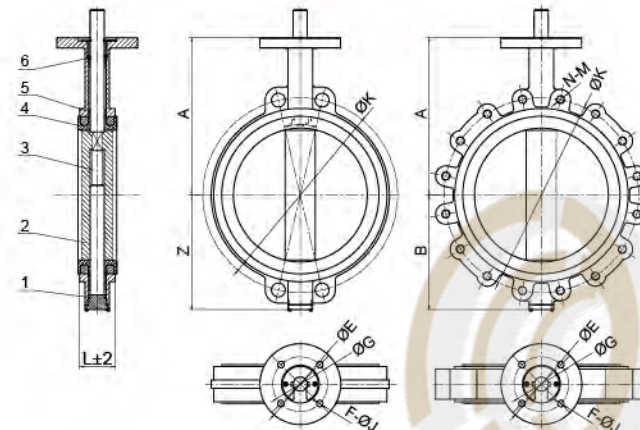
| DN   | INCH | A   | B   | L   | G   | F   | N-ØS  | DIN PN10 |        | DIN PN16 |        | ANSI 150 |           |
|------|------|-----|-----|-----|-----|-----|-------|----------|--------|----------|--------|----------|-----------|
|      |      |     |     |     |     |     |       | ØK       | N-M    | ØK       | N-M    | ØK       | N-M       |
| 50   | 2"   | 161 | 79  | 43  | 90  | 70  | 4-Ø9  | 125      | 4-M16  | 125      | 4-M16  | 120.7    | 4-½"-13   |
| 65   | 2.5" | 160 | 93  | 46  | 90  | 70  | 4-Ø9  | 145      | 4-M16  | 145      | 4-M16  | 139.7    | 4-½"-11   |
| 80   | 3"   | 165 | 103 | 46  | 90  | 70  | 4-Ø9  | 160      | 8-M16  | 160      | 8-M16  | 152.4    | 4-½"-11   |
| 100  | 4"   | 185 | 120 | 52  | 90  | 70  | 4-Ø9  | 180      | 8-M16  | 180      | 8-M16  | 190.5    | 8-½"-11   |
| 125  | 5"   | 210 | 133 | 56  | 90  | 70  | 4-Ø9  | 210      | 8-M16  | 210      | 8-M16  | 215.9    | 8-¾"-10   |
| 150  | 6"   | 210 | 158 | 56  | 125 | 70  | 4-Ø9  | 240      | 8-M20  | 240      | 8-M20  | 241.3    | 8-¾"-10   |
| 200  | 8"   | 250 | 180 | 60  | 125 | 70  | 4-Ø9  | 295      | 8-M20  | 295      | 12-M20 | 298.5    | 8-¾"-10   |
| 250  | 10"  | 295 | 216 | 68  | 125 | 102 | 4-Ø12 | 350      | 12-M20 | 355      | 12-M24 | 362      | 12-¾"-9   |
| 300  | 12"  | 321 | 251 | 78  | 150 | 102 | 4-Ø12 | 400      | 12-M20 | 410      | 12-M24 | 431.8    | 12-¾"-9   |
| 350  | 14"  | 346 | 262 | 78  | 150 | 125 | 4-Ø14 | 460      | 16-M20 | 470      | 16-M24 | 476.3    | 12-1"-8   |
| 400  | 16"  | 375 | 300 | 102 | 175 | 140 | 4-Ø17 | 515      | 16-M24 | 525      | 16-M27 | 539.8    | 16-1"-8   |
| 450  | 18"  | 400 | 333 | 114 | 175 | 140 | 4-Ø17 | 565      | 20-M24 | 585      | 20-M27 | 577.9    | 16-1 ½"-7 |
| 500  | 20"  | 432 | 366 | 127 | 175 | 140 | 4-Ø17 | 620      | 20-M24 | 650      | 20-M30 | 635      | 20-1 ½"-7 |
| 600  | 24"  | 523 | 428 | 154 | 210 | 165 | 4-Ø22 | 725      | 20-M27 | 770      | 20-M27 | 749.3    | 20-1 ¼"-7 |
| 700  | 28"  | 595 | 510 | 165 | 300 | 254 | 8-Ø17 | 840      | 24-M27 | 840      | 24-M27 |          |           |
| 800  | 32"  | 662 | 580 | 190 | 300 | 254 | 8-Ø17 | 950      | 24-M30 | 950      | 24-M36 |          |           |
| 900  | 36"  | 772 | 635 | 203 | 300 | 254 | 8-Ø17 | 1050     | 28-M30 | 1050     | 28-M36 |          |           |
| 1000 | 40"  | 820 | 705 | 216 | 300 | 254 | 8-Ø17 | 1160     | 28-M33 | 1170     | 28-M39 |          |           |
| 1200 | 48"  | 942 | 846 | 254 | 350 | 298 | 8-Ø22 | 1380     | 32-M36 | 1390     | 32-M45 |          |           |

**Lug / Wafer Butterfly Valve****Model: BV-05/06****Technical Features**

- Size: DN40-DN1200 / 1.5"-48"
- Working Pressure: DN40-DN300 / 1.5"-12": 200PSI / DN350-DN1200 / 14"-48": 150 PSI
- Design Standard: API 609
- Testing Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20 °C-120 °C
- NOTE:  
NSF61 & NSF372 approval available for 2"-12" butterfly valve  
Lug type butterfly valve is suitable for end of line service (bidirectional dead end service) to rated pressure

**Valve Material List**

| NO. | Description         | Material                 |
|-----|---------------------|--------------------------|
| 1   | Body                | Ductile Iron / Cast Iron |
| 2   | Disc                | DI / CF8 / CF8M / Bronze |
| 3   | Shaft               | SS416 / SS316            |
| 4   | Seat                | EPDM / NBR / VITON       |
| 5   | Bushing             | PTFE                     |
| 6   | Y type Sealing Ring | NBR                      |

**Dimensions**

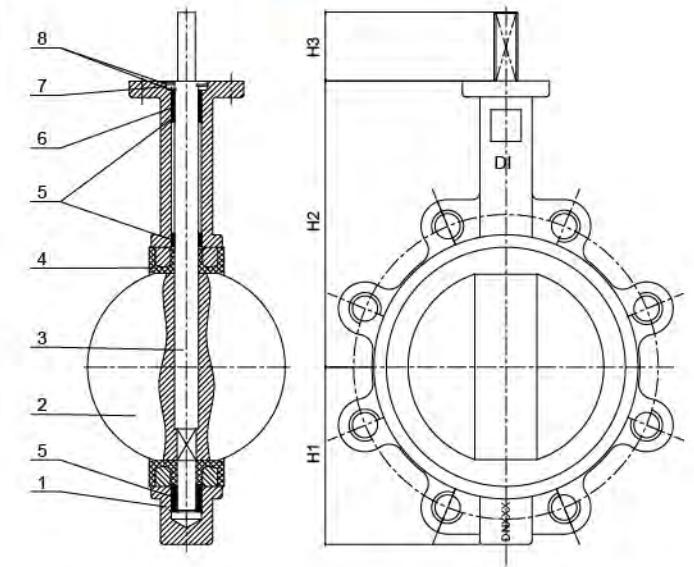
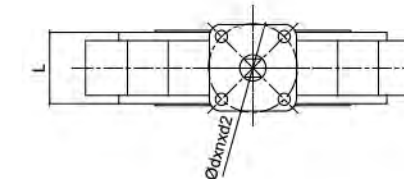
| DN   | INCH | A     | B     | L     | E   | G   | F-ØJ  | DIN PN10 |        | DIN PN16 |        | ANSI 150 |           |
|------|------|-------|-------|-------|-----|-----|-------|----------|--------|----------|--------|----------|-----------|
|      |      |       |       |       |     |     |       | ØD       | N-M    | ØD       | N-M    | ØD       | N-M       |
| 40   | 1.5" | 120   | 75    | 33    | 90  | 70  | 4-Ø9  | 110      | 4-M16  | 110      | 4-M16  | 98.4     | 4-½"-13   |
| 50   | 2"   | 162   | 82    | 42    | 90  | 70  | 4-Ø9  | 125      | 4-M16  | 125      | 4-M16  | 120.7    | 4-½"-11   |
| 65   | 2.5" | 175   | 90.5  | 44.7  | 90  | 70  | 4-Ø9  | 145      | 4-M16  | 145      | 4-M16  | 139.7    | 4-½"-11   |
| 80   | 3"   | 181   | 96.5  | 45.2  | 90  | 70  | 4-Ø9  | 160      | 8-M16  | 160      | 8-M16  | 152.4    | 4-½"-11   |
| 100  | 4"   | 200   | 114   | 52.1  | 90  | 70  | 4-Ø9  | 180      | 8-M16  | 180      | 8-M16  | 190.5    | 4-½"-11   |
| 125  | 5"   | 213   | 128   | 54.4  | 90  | 70  | 4-Ø9  | 210      | 8-M16  | 210      | 8-M16  | 215.9    | 8-¾"-10   |
| 150  | 6"   | 226   | 141   | 55.8  | 90  | 70  | 4-Ø9  | 240      | 8-M20  | 240      | 8-M20  | 241.3    | 8-¾"-10   |
| 200  | 8"   | 260   | 179   | 60.6  | 150 | 125 | 4-Ø14 | 295      | 8-M20  | 295      | 12-M20 | 298.5    | 8-¾"-10   |
| 250  | 10"  | 292   | 204   | 65.6  | 150 | 125 | 4-Ø14 | 350      | 12-M20 | 355      | 12-M24 | 362      | 12-¾"-9   |
| 300  | 12"  | 337   | 241   | 76.9  | 150 | 125 | 4-Ø14 | 400      | 12-M20 | 410      | 12-M24 | 431.8    | 12-¾"-9   |
| 350  | 14"  | 368   | 277   | 76.9  | 150 | 125 | 4-Ø14 | 460      | 16-M20 | 470      | 16-M24 | 476.3    | 12-1"-8   |
| 400  | 16"  | 400   | 337.6 | 85.7  | 150 | 125 | 4-Ø14 | 515      | 16-M24 | 525      | 16-M27 | 539.8    | 16-1"-8   |
| 450  | 18"  | 422.3 | 380   | 104.1 | 210 | 165 | 4-Ø22 | 565      | 20-M24 | 585      | 20-M27 | 577.9    | 16-1 ½"-7 |
| 500  | 20"  | 479   | 372   | 128   | 210 | 165 | 4-Ø22 | 620      | 20-M24 | 650      | 20-M30 | 635      | 20-1 ½"-7 |
| 600  | 24"  | 562   | 442   | 152   | 210 | 165 | 4-Ø22 | 725      | 20-M27 | 770      | 20-M27 | 749.3    | 20-1 ¼"-7 |
| 700  | 28"  | 595   | 510   | 165   | 300 | 254 | 8-Ø17 | 840      | 24-M27 | 840      | 24-M27 | 863.6    | 28-1 ¼"-7 |
| 800  | 32"  | 662   | 580   | 190   | 300 | 254 | 8-Ø17 | 950      | 24-M30 | 950      | 24-M36 | 977.9    | 28-1 ½"-6 |
| 900  | 36"  | 772   | 635   | 203   | 300 | 254 | 8-Ø17 | 1050     | 28-M30 | 1050     | 28-M36 | 1085.9   | 32-1 ½"-6 |
| 1000 | 40"  | 820   | 705   | 216   | 300 | 254 | 8-Ø17 | 1160     | 28-M33 | 1170     | 28-M39 | 1200.2   | 36-1 ½"-6 |
| 1200 | 48"  | 942   | 846   | 254   | 350 | 298 | 8-Ø22 | 1380     | 32-M36 | 1390     | 32-M45 | 1422.4   | 44-1 ½"-6 |

**Lug Type Butterfly Valve****Model: BV-07****Technical Features**

- Size: DN50-DN600 / 2"-24"
- Working Pressure: 2"-12": 200PSI 14"-24": 150PSI
- Design Standard: API 609
- Test Standard: API 598
- Flange Standard: ASME/ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 120°C
- Note: NSF 61 and NSF 372 approval available for 2"-12" End of Line Service (Bidirectional Dead End Service) is available to rated pressure

**Valve Material List**

| NO. | Description | Qty. | Material                               |
|-----|-------------|------|----------------------------------------|
| 1   | Body        | 1    | Ductile Iron / Cast Iron               |
| 2   | Disc        | 1    | CF8M / CF8 / Bronze / Ductile Iron+ENP |
| 3   | Shaft       | 1    | SS416 / SS316                          |
| 4   | Seat        | 1    | NBR / EPDM / VITON                     |
| 5   | Bushing     | 3    | PTFE                                   |
| 6   | O-ring      | 1    | NBR                                    |
| 7   | Gasket      | 1    | Bronze                                 |
| 8   | Retainer    | 2    | Bronze                                 |

**Dimensions**

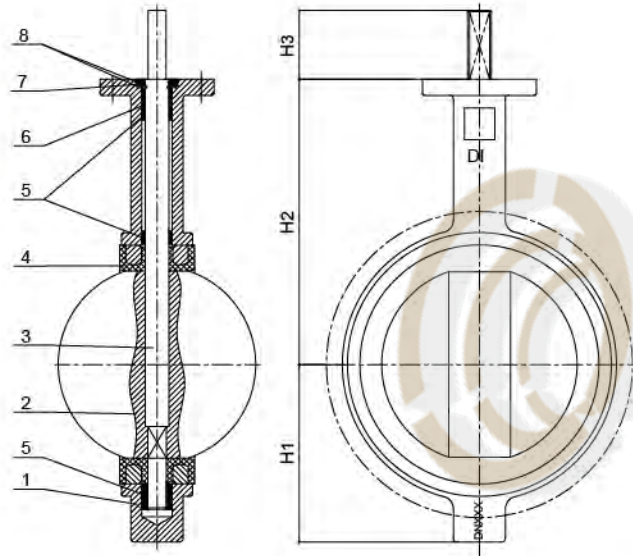
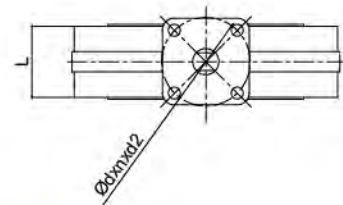
| DN  | INCH | H2  | H1  | H3 | L      | Ødxn-Ød2                | DIN PN10 |        | DIN PN16 |        | ANSI 150 |           |
|-----|------|-----|-----|----|--------|-------------------------|----------|--------|----------|--------|----------|-----------|
|     |      |     |     |    |        |                         | ØD       | N-M    | ØD       | N-M    | ØD       | N-M       |
| 50  | 2"   | 162 | 82  | 32 | 42     | Ø70*4-Ø9.5              | 125      | 4-M16  | 125      | 4-M16  | 120.5    | 4-½"-11   |
| 65  | 2.5" | 175 | 95  | 32 | 44.2   | Ø70*4-Ø9.5              | 145      | 4-M16  | 145      | 4-M16  | 139.7    | 4-½"-11   |
| 80  | 3"   | 181 | 101 | 32 | 45     | Ø70*4-Ø9.5              | 160      | 8-M16  | 160      | 8-M16  | 152.4    | 4-½"-11   |
| 100 | 4"   | 200 | 124 | 32 | 52     | Ø70*4-Ø9.5              | 180      | 8-M16  | 180      | 8-M16  | 190.5    | 4-½"-11   |
| 125 | 5"   | 213 | 136 | 32 | 54.4   | Ø70*4-Ø9.5              | 210      | 8-M16  | 210      | 8-M16  | 215.9    | 8-¾"-10   |
| 150 | 6"   | 226 | 150 | 32 | 55.75  | Ø70*4-Ø9.5              | 240      | 8-M20  | 240      | 8-M20  | 241.3    | 8-¾"-10   |
| 200 | 8"   | 260 | 181 | 45 | 60.5   | Ø125*4-Ø14.3/Ø102*4-Ø11 | 295      | 8-M20  | 295      | 12-M20 | 298.5    | 8-¾"-10   |
| 250 | 10"  | 292 | 210 | 45 | 66.5   | Ø125*4-Ø14.3/Ø102*4-Ø11 | 350      | 12-M20 | 355      | 12-M24 | 362      | 12-¾"-9   |
| 300 | 12"  | 337 | 248 | 45 | 76.9   | Ø125*4-Ø14.3            | 400      | 12-M20 | 410      | 12-M24 | 431.8    | 12-¾"-9   |
| 350 | 14"  | 368 | 267 | 45 | 76.9   | Ø125*4-Ø14.3            | 460      | 16-M20 | 470      | 16-M24 | 476.25   | 12-1"-8   |
| 400 | 16"  | 400 | 295 | 50 | 85.7   | Ø125*4-Ø14.3            | 515      | 16-M24 | 525      | 16-M27 | 539.75   | 16-1"-8   |
| 450 | 18"  | 422 | 348 | 50 | 104.12 | Ø165*4-Ø22              | 565      | 20-M24 | 585      | 20-M27 | 577.9    | 16-1 ½"-7 |
| 500 | 20"  | 479 | 357 | 60 | 128.3  | Ø165*4-Ø22              | 620      | 20-M24 | 650      | 20-M30 | 635      | 20-1 ½"-7 |
| 600 | 24"  | 562 | 445 | 70 | 151.36 | Ø165*4-Ø22              | 725      | 20-M27 | 770      | 20-M33 | 749.3    | 20-1 ¼"-7 |

**Wafer Type Butterfly Valve****Model: BV-08****Technical Features**

- Size: DN50-DN600 / 2"-24"
- Working Pressure: 2"-12": 200PSI 14"-24": 150PSI
- Design Standard: API 609
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class150 or BS EN 1092-2PN16
- Mounting Plate Standard: ISO5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 120°C
- Note: NSF 61 and NSF 372 approval available for 2"-12"

**Valve Material List**

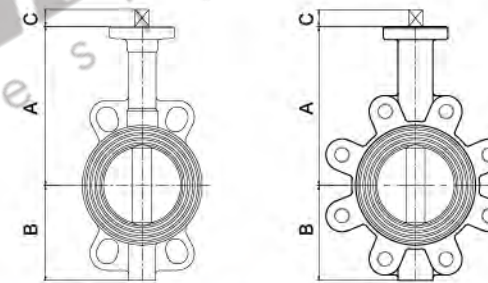
| NO. | Description | Qty. | Material                               |
|-----|-------------|------|----------------------------------------|
| 1   | Body        | 1    | Ductile Iron / Cast Iron               |
| 2   | Disc        | 1    | CF8M / CF8 / Bronze / Ductile Iron+ENP |
| 3   | Shaft       | 1    | SS416 / SS316                          |
| 4   | Seat        | 1    | NBR / EPDM / VITON                     |
| 5   | Bushing     | 3    | PTFE                                   |
| 6   | O-ring      | 1    | NBR                                    |
| 7   | Gasket      | 1    | Bronze                                 |
| 8   | Retainer    | 2    | Bronze                                 |

**Dimensions**

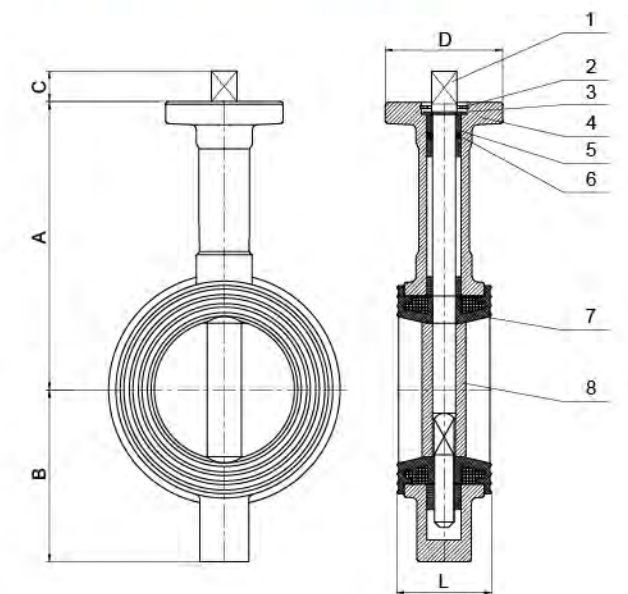
| DN  | INCH | H2  | H1  | H3 | L      | Ødxn-Ød2     | DIN PN10 |        | DIN PN16 |        | ANSI 150 |             |
|-----|------|-----|-----|----|--------|--------------|----------|--------|----------|--------|----------|-------------|
|     |      |     |     |    |        |              | ØD       | N-M    | ØD       | N-M    | ØD       | N-M         |
| 50  | 2"   | 162 | 82  | 32 | 42     | Ø70*4-Ø9.5   | 125      | 4-M16  | 125      | 4-M16  | 120.5    | 4-5/8"-11   |
| 65  | 2.5" | 175 | 95  | 32 | 44.2   | Ø70*4-Ø9.5   | 145      | 4-M16  | 145      | 4-M16  | 139.7    | 4-5/8"-11   |
| 80  | 3"   | 181 | 101 | 32 | 45     | Ø70*4-Ø9.5   | 160      | 8-M16  | 160      | 8-M16  | 152.4    | 4-5/8"-11   |
| 100 | 4"   | 200 | 124 | 32 | 52     | Ø70*4-Ø9.5   | 180      | 8-M16  | 180      | 8-M16  | 190.5    | 4-5/8"-11   |
| 125 | 5"   | 213 | 136 | 32 | 54.4   | Ø70*4-Ø9.5   | 210      | 8-M16  | 210      | 8-M16  | 215.9    | 8-3/4"-10   |
| 150 | 6"   | 226 | 149 | 32 | 55.75  | Ø70*4-Ø9.5   | 240      | 8-M20  | 240      | 8-M20  | 241.3    | 8-3/4"-10   |
| 200 | 8"   | 260 | 181 | 45 | 60.5   | Ø125*4-Ø14.3 | 295      | 8-M20  | 295      | 12-M20 | 298.5    | 8-3/4"-10   |
| 250 | 10"  | 292 | 210 | 45 | 66.5   | Ø125*4-Ø14.3 | 350      | 12-M20 | 355      | 12-M24 | 362      | 12-7/8"-9   |
| 300 | 12"  | 337 | 248 | 45 | 76.9   | Ø125*4-Ø14.3 | 400      | 12-M20 | 410      | 12-M24 | 431.8    | 12-7/8"-9   |
| 350 | 14"  | 368 | 267 | 45 | 76.9   | Ø125*4-Ø14.3 | 460      | 16-M20 | 470      | 16-M24 | 476.25   | 12-1"-8     |
| 400 | 16"  | 400 | 295 | 50 | 85.7   | Ø125*4-Ø14.3 | 515      | 16-M24 | 525      | 16-M27 | 539.75   | 16-1"-8     |
| 450 | 18"  | 422 | 348 | 50 | 104.12 | Ø165*4-Ø22   | 565      | 20-M24 | 585      | 20-M27 | 577.9    | 16-1 1/8"-7 |
| 500 | 20"  | 479 | 357 | 60 | 128.3  | Ø165*4-Ø22   | 620      | 20-M24 | 650      | 20-M30 | 635      | 20-1 1/8"-7 |
| 600 | 24"  | 562 | 445 | 70 | 151.36 | Ø165*4-Ø22   | 725      | 20-M27 | 770      | 20-M33 | 749.3    | 20-1 1/4"-7 |

**Butterfly Valve****Model: BV-09/10****Technical Features**

- Size: DN40-DN350 / 1.5"-14"
- Working Pressure: 250PSI / 1.6MPa
- Design Standard: API 609
- Testing Standard: API 598
- Flange standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate standard: ISO 5211
- Face to face standard: BS EN558-1
- Working temperature: -20°C-80°C
- Operation: Hand lever or Gearbox
- NOTE:  
DN40-DN125 DIN PN6/10/16 ANSI 150  
DN150-DN300 DIN PN10/16 ANSI 150
- Material of Hand Lever: P1 Aluminum, P2 Malleable Iron, P3 Ductile Iron

**Valve Material List**

| NO. | Description       | Material                           |
|-----|-------------------|------------------------------------|
| 1   | Stem              | SS416 / SS316                      |
| 2   | Interior Ret Ring | Spring Steel                       |
| 3   | Exterior Ret Ring | Carbon Steel                       |
| 4   | Body              | Ductile Iron                       |
| 5   | Bushing           | PTFE                               |
| 6   | O Ring            | NBR                                |
| 7   | Seat              | EPDM / NBR / VITON                 |
| 8   | Disc              | Ductile Iron / CF8M / CF8 / Bronze |

**Dimensions**

| DN  | INCH | A   | B   | C  | D   | L    | DIN PN6         |               | DIN PN10        |               | DIN PN16        |               | ANSI 150        |               |
|-----|------|-----|-----|----|-----|------|-----------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
|     |      |     |     |    |     |      | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard |
| 40  | 1.5" | 130 | 61  | 30 | 65  | 40.5 | 100             | 4-M12         | 110             | 4-M16         | 110             | 4-M16         | 98.4            | 4-1/2"-11     |
| 50  | 2"   | 137 | 77  | 30 | 65  | 48.5 | 110             | 4-M12         | 125             | 4-M16         | 125             | 4-M16         | 120.7           | 4-5/8"-11     |
| 65  | 2.5" | 143 | 87  | 30 | 65  | 52   | 130             | 4-M12         | 145             | 4-M16         | 145             | 4-M16         | 139.7           | 4-5/8"-11     |
| 80  | 3"   | 159 | 95  | 30 | 65  | 52.5 | 150             | 4-M16         | 160             | 8-M16         | 160             | 8-M16         | 152.4           | 4-5/8"-11     |
| 100 | 4"   | 183 | 107 | 30 | 90  | 57.5 | 170             | 4-M16         | 180             | 8-M16         | 180             | 8-M16         | 190.8           | 8-5/8"-11     |
| 125 | 5"   | 195 | 121 | 30 | 90  | 61   | 200             | 8-M16         | 210             | 8-M16         | 210             | 8-M16         | 215.9           | 8-3/4"-10     |
| 150 | 6"   | 219 | 144 | 30 | 90  | 62.5 |                 |               | 240             | 8-M20         | 240             | 8-M20         | 241.3           | 8-3/4"-10     |
| 200 | 8"   | 245 | 171 | 30 | 125 | 65.5 |                 |               | 295             | 8-M20         | 295             | 12-M20        | 298.5           | 8-3/4"-10     |
| 250 | 10"  | 281 | 205 | 30 | 125 | 74   |                 |               | 350             | 12-M20        | 355             | 12-M24        | 362             | 12-7/8"-9     |
| 300 | 12"  | 312 | 235 | 30 | 125 | 83   |                 |               | 400             | 12-M20        | 410             | 12-M24        | 431.8           | 12-7/8"-9     |
| 350 | 14"  | 349 | 260 | 77 | 150 | 84   |                 |               | 460             | 16-M20        | 470             | 16-M24        | 476.3           | 12-1"-8       |

## Vulcanized Butterfly Valve

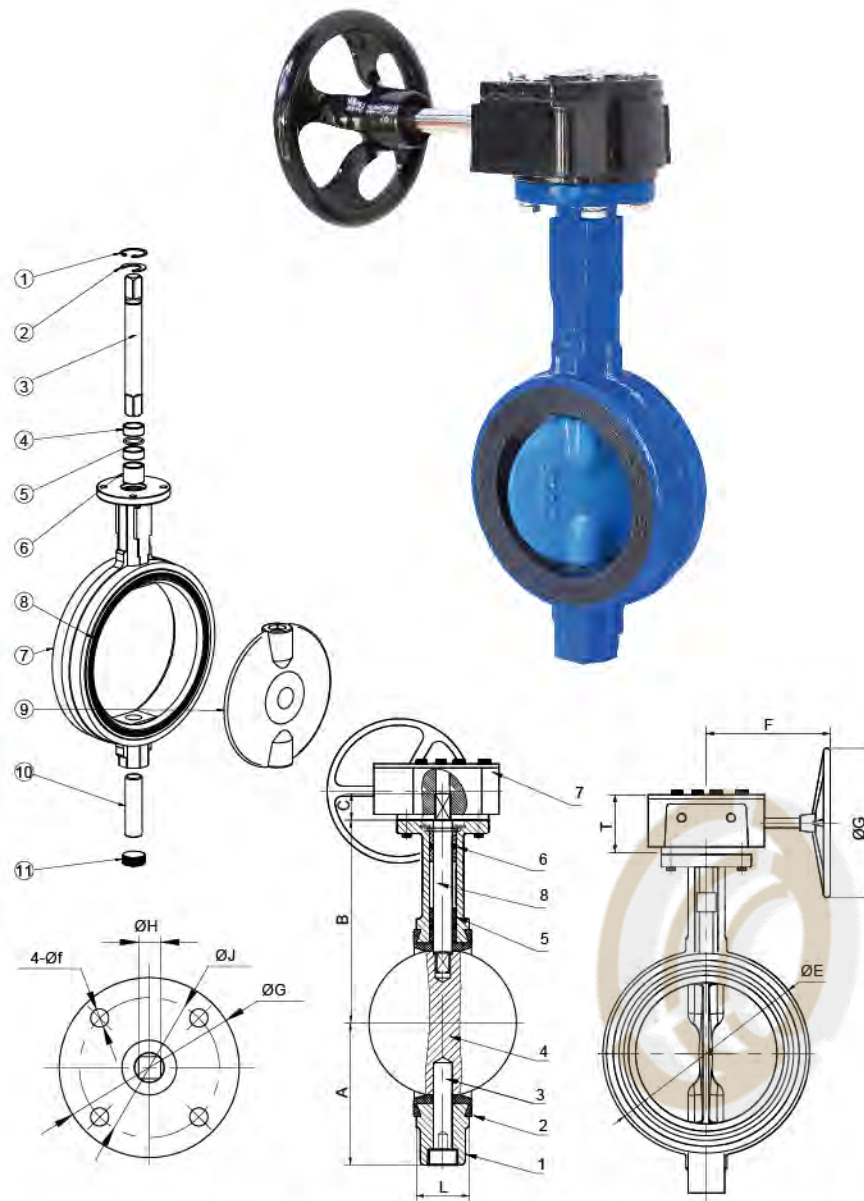
Model: BV-11

### Technical Features

- Size: DN50-DN600 / 2"-24"
- Working pressure: PN10/PN16
- Design Standard: BS5155, API609, MSS SP67
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20+120°C According to the Material

### Valve Material List

| NO. | Name        | Material                  |
|-----|-------------|---------------------------|
| 1   | Circlip     | Carbon steel              |
| 2   | Washer      | Carbon steel              |
| 3   | Upper shaft | SS416 / SS316             |
| 4   | Bushing     | PTFE                      |
| 5   | O-Ring      | EPDM / NBR                |
| 6   | Bushing     | PTFE                      |
| 7   | Body        | Ductile Iron / Cast Iron  |
| 8   | Seat        | EPDM / NBR                |
| 9   | Disc        | Ductile Iron / CF8 / CF8M |
| 10  | Lower shaft | SS416 / SS316             |
| 11  | Plug        | Carbon steel              |



### Dimensions

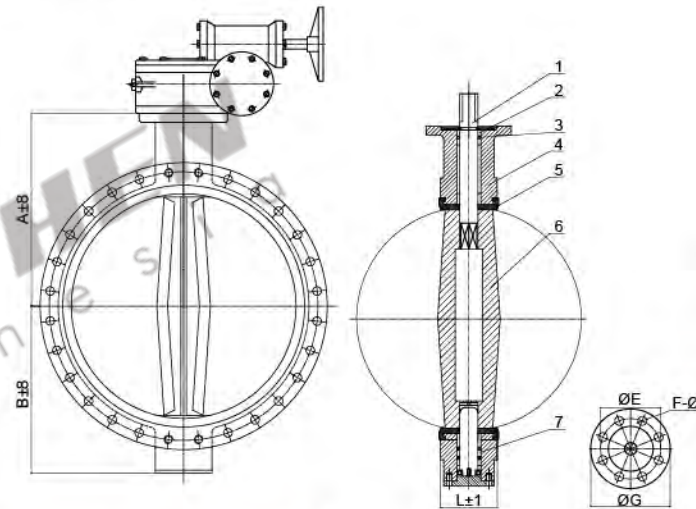
| DN  | INCH | A   | B   | C  | L   | T   | F   | ØE  | ØG  | ØJ  | 4-Øf  | HXH   |
|-----|------|-----|-----|----|-----|-----|-----|-----|-----|-----|-------|-------|
| 40  | 1.5" | 70  | 133 | 33 | 33  | 68  | 160 | 82  | 90  | 70  | 4-Ø10 | 9x9   |
| 50  | 2"   | 80  | 161 | 33 | 43  | 68  | 160 | 92  | 90  | 70  | 4-Ø10 | 9x9   |
| 65  | 2.5" | 89  | 175 | 33 | 46  | 68  | 160 | 108 | 90  | 70  | 4-Ø10 | 9x9   |
| 80  | 3"   | 95  | 181 | 33 | 46  | 68  | 160 | 125 | 90  | 70  | 4-Ø10 | 9x9   |
| 100 | 4"   | 114 | 200 | 33 | 52  | 68  | 160 | 152 | 90  | 70  | 4-Ø10 | 11x11 |
| 125 | 5"   | 127 | 213 | 33 | 56  | 68  | 160 | 172 | 90  | 70  | 4-Ø10 | 14x14 |
| 150 | 6"   | 139 | 226 | 33 | 56  | 68  | 160 | 207 | 90  | 70  | 4-Ø10 | 14x14 |
| 200 | 8"   | 175 | 260 | 37 | 60  | 72  | 227 | 260 | 125 | 102 | 4-Ø12 | 17x17 |
| 250 | 10"  | 203 | 292 | 37 | 68  | 72  | 227 | 320 | 125 | 102 | 4-Ø12 | 22x22 |
| 300 | 12"  | 242 | 337 | 37 | 78  | 75  | 227 | 370 | 125 | 102 | 4-Ø12 | 22x22 |
| 350 | 14"  | 277 | 368 | 45 | 78  | 75  | 227 | 435 | 150 | 125 | 4-Ø14 | 22x22 |
| 400 | 16"  | 313 | 400 | 51 | 102 | 105 | 270 | 508 | 150 | 125 | 4-Ø14 | 27x27 |
| 450 | 18"  | 324 | 422 | 51 | 114 | 105 | 270 | 542 | 210 | 165 | 4-Ø22 | 27x27 |
| 500 | 20"  | 372 | 479 | 64 | 127 | 150 | 169 | 592 | 210 | 165 | 4-Ø22 | 36x36 |
| 600 | 24"  | 444 | 562 | 70 | 154 | 150 | 169 | 708 | 210 | 165 | 4-Ø22 | 36x36 |

## U Type Butterfly Valve

Model: BV-12

### Technical Features

- Size: DN50-DN2000 / 2"-80"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20 to 120°C
- Operation: Handle Lever, Gear



### Dimensions

| DN   | INCH | A    | B    | L   | E   | G   | F-ØJ  | DIN PN10<br>Center Distance | Bolt Standard | DIN PN16<br>Center Distance | Bolt Standard | ANSI 150<br>Center Distance | Bolt Standard |
|------|------|------|------|-----|-----|-----|-------|-----------------------------|---------------|-----------------------------|---------------|-----------------------------|---------------|
| 50   | 2"   | 136  | 75   | 43  | 65  | 50  | 4-Ø7  | 125                         | 4-M16         | 125                         | 4-M16         | 120.7                       | 4-½"-11       |
| 65   | 2.5" | 139  | 83   | 46  | 65  | 50  | 4-Ø7  | 145                         | 4-M16         | 145                         | 4-M16         | 139.7                       | 4-½"-11       |
| 80   | 3"   | 155  | 97   | 46  | 65  | 50  | 4-Ø7  | 160                         | 8-M16         | 160                         | 8-M16         | 152.4                       | 4-½"-11       |
| 100  | 4"   | 169  | 109  | 52  | 90  | 70  | 4-Ø9  | 180                         | 8-M16         | 180                         | 8-M16         | 190.5                       | 8-½"-11       |
| 125  | 5"   | 183  | 125  | 56  | 90  | 70  | 4-Ø9  | 210                         | 8-M16         | 210                         | 8-M16         | 215.9                       | 8-¾"-10       |
| 150  | 6"   | 198  | 139  | 56  | 90  | 70  | 4-Ø9  | 240                         | 8-M20         | 240                         | 8-M20         | 241.3                       | 8-¾"-10       |
| 200  | 8"   | 235  | 172  | 60  | 125 | 102 | 4-Ø12 | 295                         | 8-M20         | 295                         | 12-M20        | 298.5                       | 8-¾"-10       |
| 250  | 10"  | 267  | 207  | 68  | 125 | 102 | 4-Ø12 | 350                         | 12-M20        | 355                         | 12-M24        | 362                         | 12-¾"-9       |
| 300  | 12"  | 305  | 238  | 78  | 125 | 102 | 4-Ø12 | 400                         | 12-M20        | 410                         | 12-M24        | 431.8                       | 12-¾"-9       |
| 350  | 14"  | 336  | 265  | 78  | 125 | 102 | 4-Ø12 | 460                         | 16-M20        | 470                         | 16-M24        | 476.3                       | 12-1"-8       |
| 400  | 16"  | 400  | 304  | 86  | 175 | 140 | 4-Ø17 | 515                         | 16-M24        | 525                         | 16-M27        | 539.8                       | 16-1"-8       |
| 450  | 18"  | 411  | 337  | 105 | 175 | 140 | 4-Ø17 | 565                         | 20-M24        | 585                         | 20-M27        | 577.9                       | 16-1 ½"-7     |
| 500  | 20"  | 460  | 368  | 127 | 175 | 140 | 4-Ø17 | 620                         | 20-M24        | 650                         | 20-M30        | 635                         | 20-1 ½"-7     |
| 600  | 24"  | 523  | 428  | 154 | 210 | 165 | 4-Ø22 | 725                         | 20-M27        | 770                         | 20-M27        | 749.3                       | 20-1 ¼"-7     |
| 700  | 28"  | 595  | 510  | 165 | 300 | 254 | 8-Ø17 | 840                         | 24-M27        | 840                         | 24-M27        | 863.6                       | 28-1 ¼"-7     |
| 800  | 32"  | 662  | 580  | 190 | 300 | 254 | 8-Ø17 | 950                         | 24-M30        | 950                         | 24-M36        | 977.9                       | 28-1 ½"-6     |
| 900  | 36"  | 772  | 635  | 203 | 300 | 254 | 8-Ø17 | 1050                        | 28-M30        | 1050                        | 28-M36        | 1085.9                      | 32-1 ½"-6     |
| 1000 | 40"  | 820  | 705  | 216 | 300 | 254 | 8-Ø17 | 1160                        | 28-M33        | 1170                        | 28-M39        | 1200.2                      | 36-1 ½"-6     |
| 1200 | 48"  | 942  | 846  | 254 | 350 | 298 | 8-Ø22 | 1380                        | 32-M36        | 1390                        | 32-M45        | 1422.4                      | 44-1 ½"-6     |
| 1400 | 56"  | 1000 | 900  | 254 | 415 | 356 | 8-Ø32 | 1590                        | 36-M39        | 1590                        | 36-M45        | 1651                        | 48-1 ¼"-5     |
| 1600 | 64"  | 1150 | 1102 | 318 | 415 | 356 | 8-Ø32 | 1820                        | 40-M45        | 1820                        | 40-M52        |                             |               |
| 1800 | 72"  | 1260 | 1156 | 356 | 475 | 406 | 8-Ø40 | 2020                        | 44-M45        | 2020                        | 44-M52        |                             |               |
| 2000 | 80"  | 1350 | 1350 | 406 | 475 | 406 | 8-Ø40 | 2230                        | 48-M45        | 2230                        | 48-M56        |                             |               |



### Valve Material List

| Item | Name    | Mat                       |
|------|---------|---------------------------|
| 1    | Shaft   | SS416 / SS316             |
| 2    | Bushing | PTFE                      |
| 3    | O-ring  | NBR                       |
| 4    | Body    | Ductile Iron / Cast Iron  |
| 5    | Seat    | EPDM / NBR / VITON        |
| 6    | Disc    | Ductile Iron / CF8M / CF8 |
| 7    | Bushing | PTFE                      |

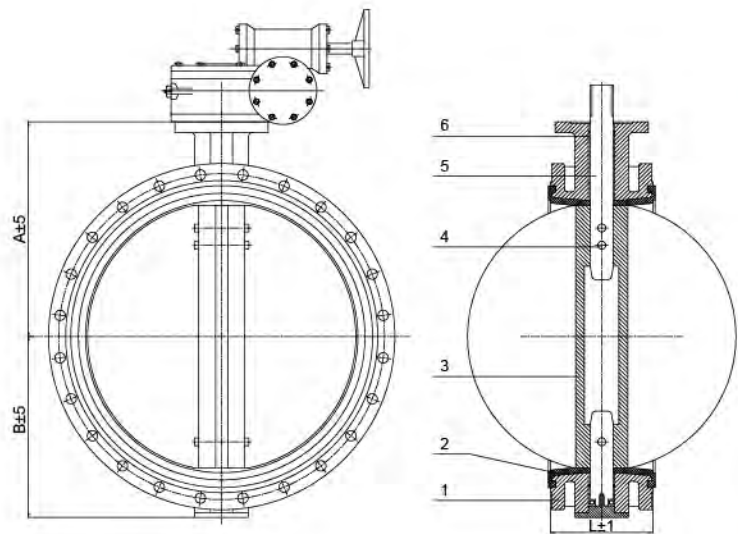
Double Flange Type Butterfly Valve

Model: BV-13

Soft Sealing Type

Technical Features

- Size: DN50-DN600 / 2"-24"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C
- Operation: Handle Lever, Gear



Valve Material List

| No. | Part Name | Material                  |
|-----|-----------|---------------------------|
| 1   | Body      | Ductile Iron / CF8 / CF8M |
| 2   | Seat      | NBR / EPDM / PTFE         |
| 3   | Disc      | Ductile Iron / CF8 / CF8M |
| 4   | Taper Pin | SS316 / SS416             |
| 5   | Stem      | SS316 / SS416             |
| 6   | Bushing   | PTEE                      |

Dimensions

| DN   | INCH | A    | B    | L   | E   | G   | F-ØJ   | DIN PN10        |               | DIN PN16        |               | ANSI 150        |               |
|------|------|------|------|-----|-----|-----|--------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
|      |      |      |      |     |     |     |        | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard |
| 50   | 2"   | 130  | 83   | 108 | 65  | 50  | 4-Ø7   | 125             | 4-M16         | 125             | 4-M16         | 120.7           | 4-5/8"-11     |
| 65   | 2.5" | 140  | 93   | 112 | 65  | 50  | 4-Ø7   | 145             | 4-M16         | 145             | 4-M16         | 139.7           | 4-5/8"-11     |
| 80   | 3"   | 149  | 100  | 114 | 65  | 50  | 4-Ø7   | 160             | 8-M16         | 160             | 8-M16         | 152.4           | 4-5/8"-11     |
| 100  | 4"   | 156  | 110  | 127 | 90  | 70  | 4-Ø9   | 180             | 8-M16         | 180             | 8-M16         | 190.5           | 8-5/8"-11     |
| 125  | 5"   | 177  | 125  | 140 | 90  | 70  | 4-Ø9   | 210             | 8-M16         | 210             | 8-M16         | 215.9           | 8-3/4"-10     |
| 150  | 6"   | 200  | 143  | 140 | 90  | 70  | 4-Ø9   | 240             | 8-M20         | 240             | 8-M20         | 241.3           | 8-3/4"-10     |
| 200  | 8"   | 225  | 170  | 152 | 125 | 102 | 4-Ø12  | 295             | 8-M20         | 295             | 12-M20        | 298.5           | 8-3/4"-10     |
| 250  | 10"  | 280  | 203  | 165 | 125 | 102 | 4-Ø12  | 350             | 12-M20        | 355             | 12-M24        | 362             | 12-7/8"-9     |
| 300  | 12"  | 309  | 230  | 178 | 125 | 102 | 4-Ø12  | 400             | 12-M20        | 410             | 12-M24        | 431.8           | 12-7/8"-9     |
| 350  | 14"  | 325  | 260  | 190 | 125 | 102 | 4-Ø12  | 460             | 16-M20        | 470             | 16-M24        | 476.3           | 12-1"-8       |
| 400  | 16"  | 371  | 290  | 216 | 175 | 140 | 4-Ø17  | 515             | 16-M24        | 525             | 16-M27        | 539.8           | 16-1"-8       |
| 450  | 18"  | 392  | 330  | 222 | 175 | 140 | 4-Ø17  | 565             | 20-M24        | 585             | 20-M27        | 577.9           | 16-1 1/8"-7   |
| 500  | 20"  | 431  | 358  | 229 | 175 | 140 | 4-Ø17  | 620             | 20-M24        | 650             | 20-M30        | 635             | 20-1 1/8"-7   |
| 600  | 24"  | 505  | 435  | 267 | 210 | 165 | 4-Ø22  | 725             | 20-M27        | 770             | 20-M27        | 749.3           | 20-1 1/4"-7   |
| 700  | 28"  | 577  | 455  | 292 | 300 | 254 | 8-Ø17  | 840             | 24-M27        | 840             | 24-M27        | 863.6           | 28-1 1/4"-7   |
| 800  | 32"  | 630  | 515  | 318 | 300 | 254 | 8-Ø17  | 950             | 24-M30        | 950             | 24-M36        | 977.9           | 28-1 1/2"-6   |
| 900  | 36"  | 693  | 563  | 330 | 300 | 254 | 8-Ø17  | 1050            | 28-M30        | 1050            | 28-M36        | 1085.9          | 32-1 1/2"-6   |
| 1000 | 40"  | 745  | 635  | 410 | 300 | 254 | 8-Ø17  | 1160            | 28-M33        | 1170            | 28-M39        | 1200.2          | 36-1 1/2"-6   |
| 1200 | 48"  | 925  | 775  | 470 | 350 | 298 | 8-Ø22  | 1380            | 32-M36        | 1390            | 32-M45        | 1422.4          | 44-1 1/2"-6   |
| 1400 | 56"  | 1040 | 919  | 530 | 415 | 356 | 8-Ø32  | 1590            | 36-M39        | 1590            | 36-M45        | 1651            | 48-1 3/4"-5   |
| 1600 | 64"  | 1150 | 1045 | 600 | 415 | 356 | 8-Ø32  | 1820            | 40-M45        | 1820            | 40-M52        |                 |               |
| 1800 | 72"  | 1200 | 1156 | 670 | 475 | 406 | 8-Ø40  | 2020            | 44-M45        | 2020            | 44-M52        |                 |               |
| 2000 | 80"  | 1363 | 1350 | 760 | 475 | 406 | 8-Ø40  | 2230            | 48-M45        | 2230            | 48-M56        |                 |               |
| 2200 | 88"  | 1550 | 1530 | 800 | 560 | 483 | 12-Ø40 | 2440            | 52-M52        | 2440            | 52-M56        |                 |               |
| 2400 | 96"  | 1650 | 1610 | 850 | 560 | 483 | 12-Ø40 | 2650            | 56-M52        | 2650            | 56-M56        |                 |               |

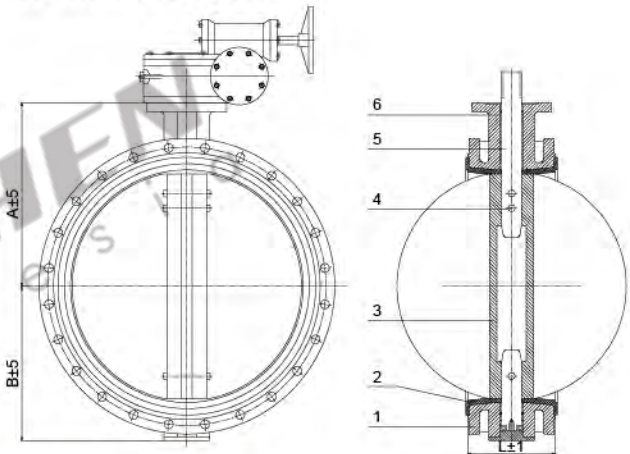
Double Flange Type Butterfly Valve

Model: BV-14

Hard Sealing Type

Technical Features

- Size: DN50-DN2400 / 2"-96"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C
- Operation: Handle Lever, Gear



Valve Material List

| No. | Part Name | Material                  |
|-----|-----------|---------------------------|
| 1   | Body      | Ductile Iron / CF8 / CF8M |
| 2   | Seat      | NBR / EPDM / PTFE         |
| 3   | Disc      | Ductile Iron / CF8 / CF8M |
| 4   | Taper Pin | SS316 / SS416             |
| 5   | Stem      | SS316 / SS416             |
| 6   | Bushing   | PTEE                      |

Dimensions

| DN   | INCH | A    | B    | L   | E   | G   | F-ØJ   | DIN PN10        |               | DIN PN16        |               | ANSI 150        |               |
|------|------|------|------|-----|-----|-----|--------|-----------------|---------------|-----------------|---------------|-----------------|---------------|
|      |      |      |      |     |     |     |        | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard |
| 50   | 2"   | 130  | 83   | 108 | 65  | 50  | 4-Ø7   | 125             | 4-M16         | 125             | 4-M16         | 120.7           | 4-5/8"-11     |
| 65   | 2.5" | 140  | 93   | 112 | 65  | 50  | 4-Ø7   | 145             | 4-M16         | 145             | 4-M16         | 139.7           | 4-5/8"-11     |
| 80   | 3"   | 149  | 100  | 114 | 65  | 50  | 4-Ø7   | 160             | 8-M16         | 160             | 8-M16         | 152.4           | 4-5/8"-11     |
| 100  | 4"   | 156  | 110  | 127 | 90  | 70  | 4-Ø9   | 180             | 8-M16         | 180             | 8-M16         | 190.5           | 8-5/8"-11     |
| 125  | 5"   | 177  | 125  | 140 | 90  | 70  | 4-Ø9   | 210             | 8-M16         | 210             | 8-M16         | 215.9           | 8-3/4"-10     |
| 150  | 6"   | 200  | 143  | 140 | 90  | 70  | 4-Ø9   | 240             | 8-M20         | 240             | 8-M20         | 241.3           | 8-3/4"-10     |
| 200  | 8"   | 225  | 170  | 152 | 125 | 102 | 4-Ø12  | 295             | 8-M20         | 295             | 12-M20        | 298.5           | 8-3/4"-10     |
| 250  | 10"  | 280  | 203  | 165 | 125 | 102 | 4-Ø12  | 350             | 12-M20        | 355             | 12-M24        | 362             | 12-7/8"-9     |
| 300  | 12"  | 309  | 230  | 178 | 125 | 102 | 4-Ø12  | 400             | 12-M20        | 410             | 12-M24        | 431.8           | 12-7/8"-9     |
| 350  | 14"  | 325  | 260  | 190 | 125 | 102 | 4-Ø12  | 460             | 16-M20        | 470             | 16-M24        | 476.3           | 12-1"-8       |
| 400  | 16"  | 371  | 290  | 216 | 175 | 140 | 4-Ø17  | 515             | 16-M24        | 525             | 16-M27        | 539.8           | 16-1"-8       |
| 450  | 18"  | 392  | 330  | 222 | 175 | 140 | 4-Ø17  | 565             | 20-M24        | 585             | 20-M27        | 577.9           | 16-1 1/8"-7   |
| 500  | 20"  | 431  | 358  | 229 | 175 | 140 | 4-Ø17  | 620             | 20-M24        | 650             | 20-M30        | 635             | 20-1 1/8"-7   |
| 600  | 24"  | 505  | 435  | 267 | 210 | 165 | 4-Ø22  | 725             | 20-M27        | 770             | 20-M27        | 749.3           | 20-1 1/4"-7   |
| 700  | 28"  | 577  | 455  | 292 | 300 | 254 | 8-Ø17  | 840             | 24-M27        | 840             | 24-M27        | 863.6           | 28-1 1/4"-7   |
| 800  | 32"  | 630  | 515  | 318 | 300 | 254 | 8-Ø17  | 950             | 24-M30        | 950             | 24-M36        | 977.9           | 28-1 1/2"-6   |
| 900  | 36"  | 693  | 563  | 330 | 300 | 254 | 8-Ø17  | 1050            | 28-M30        | 1050            | 28-M36        | 1085.9          | 32-1 1/2"-6   |
| 1000 | 40"  | 745  | 635  | 410 | 300 | 254 | 8-Ø17  | 1160            | 28-M33        | 1170            | 28-M39        | 1200.2          | 36-1 1/2"-6   |
| 1200 | 48"  | 925  | 775  | 470 | 350 | 298 | 8-Ø22  | 1380            | 32-M36        | 1390            | 32-M45        | 1422.4          | 44-1 1/2"-6   |
| 1400 | 56"  | 1040 | 919  | 530 | 415 | 356 | 8-Ø32  | 1590            | 36-M39        | 1590            | 36-M45        | 1651            | 48-1 3/4"-5   |
| 1600 | 64"  | 1150 | 1045 | 600 | 415 | 356 | 8-Ø32  | 1820            | 40-M45        | 1820            | 40-M52        |                 |               |
| 1800 | 72"  | 1200 | 1156 | 670 | 475 | 406 | 8-Ø40  | 2020            | 44-M45        | 2020            | 44-M52        |                 |               |
| 2000 | 80"  | 1363 | 1350 | 760 | 475 | 406 | 8-Ø40  | 2230            | 48-M45        | 2230            | 48-M56        |                 |               |
| 2200 | 88"  | 1550 | 1530 | 800 | 560 | 483 | 12-Ø40 | 2440            | 52-M52        | 2440            | 52-M56        |                 |               |
| 2400 | 96"  | 1650 | 1610 | 850 | 560 | 483 | 12-Ø40 | 2650            | 56-M52        | 2650            | 56-M56        |                 |               |

Split Butterfly Valve

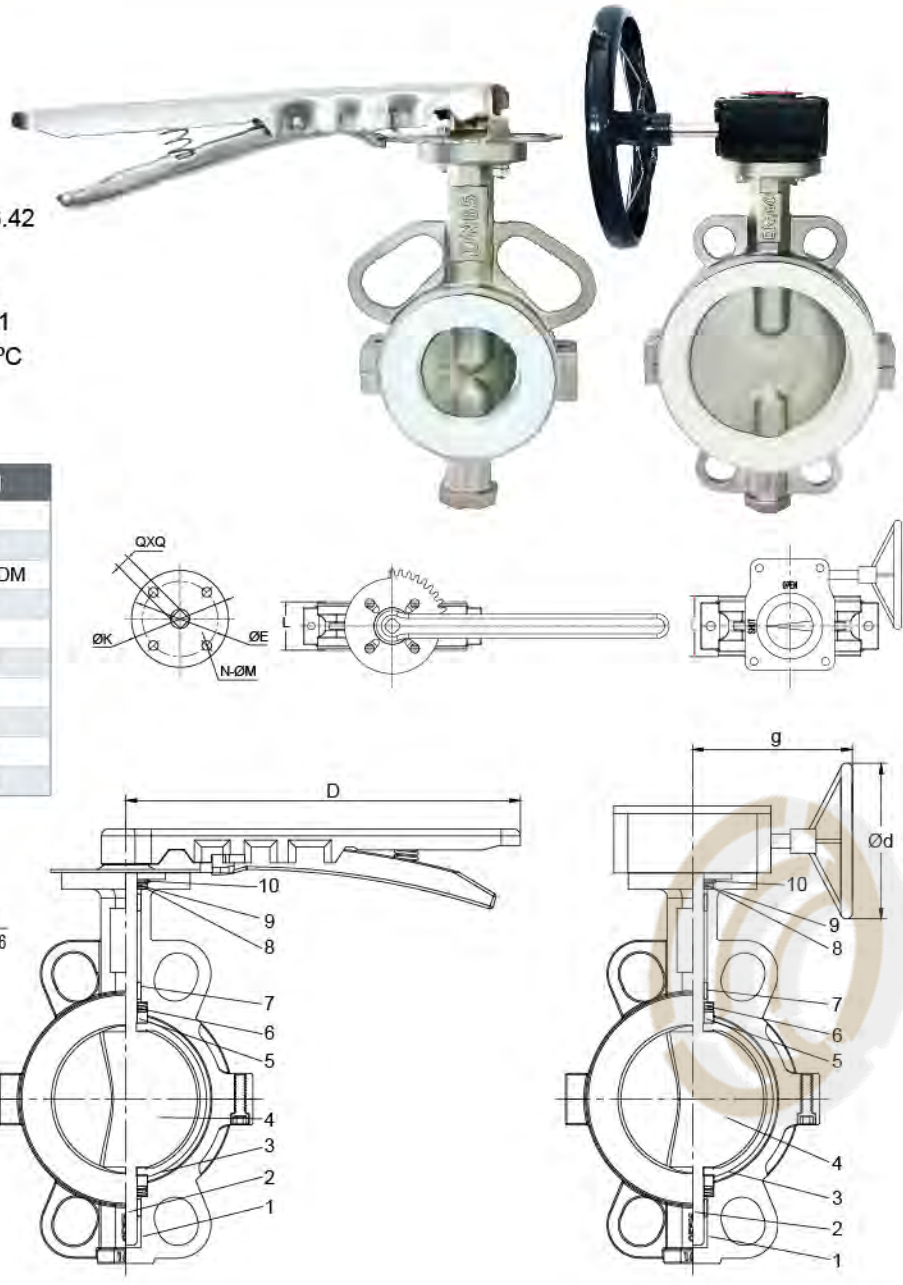
Model: BV-15

Technical Features

- Size: DN50-DN300 / 2"-12"
- Working Pressure: 10 bar
- Design Standard: API 609
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: BS EN558-1
- Working Temperature -20°C to 180 °C

Valve Material List

| NO. | Description       | Material    |
|-----|-------------------|-------------|
| 1   | Body              | CF8M        |
| 2   | Shaft             | SS316       |
| 3   | Seat              | PTFE + EPDM |
| 4   | Disc              | CF8M        |
| 5   | Pressing Sleeve   | FRP         |
| 6   | Butterfly Spring  | SS304       |
| 7   | Shaft Sleeve      | FRP         |
| 8   | Circlip for Shaft | SS304       |
| 9   | Cushion           | SS304       |
| 10  | Circlip for Hole  | SS304       |



Dimensions

| DN  | INCH | A   | B   | C   | D   | L    | H  | UPPER FLANGE |     |       | QXQ | g   | d   | DIN PN10        |               | DIN PN16        |               | ANSI 150        |               |
|-----|------|-----|-----|-----|-----|------|----|--------------|-----|-------|-----|-----|-----|-----------------|---------------|-----------------|---------------|-----------------|---------------|
|     |      |     |     |     |     |      |    | K            | E   | N-ØM  |     |     |     | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard |
| 50  | 2"   | 65  | 138 | 110 | 260 | 47   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 125             | 4-M16         | 125             | 4-M16         | 120.7           | 4-¾"-11       |
| 65  | 2.5" | 72  | 140 | 125 | 260 | 50   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 145             | 4-M16         | 145             | 4-M16         | 139.7           | 4-¾"-11       |
| 80  | 3"   | 85  | 140 | 143 | 260 | 50   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 160             | 8-M16         | 160             | 8-M16         | 152.4           | 4-¾"-11       |
| 100 | 4"   | 102 | 160 | 170 | 260 | 55.5 | 32 | 90           | 70  | 4-Ø9  | 14  |     |     | 180             | 8-M16         | 180             | 8-M16         | 190.5           | 8-¾"-11       |
| 125 | 5"   | 120 | 175 | 197 | 310 | 59   | 32 | 90           | 70  | 4-Ø9  | 14  |     |     | 210             | 8-M16         | 210             | 8-M16         | 215.9           | 8-¾"-10       |
| 150 | 6"   | 137 | 189 | 230 |     | 59   | 32 | 90           | 70  | 4-Ø9  | 14  | 119 | 200 | 240             | 8-M20         | 240             | 8-M20         | 241.3           | 8-¾"-10       |
| 200 | 8"   | 169 | 230 | 284 |     | 63   | 32 | 125          | 102 | 4-Ø12 | 17  | 223 | 220 | 295             | 8-M20         | 295             | 12-M20        | 298.5           | 8-¾"-10       |
| 250 | 10"  | 202 | 270 | 336 |     | 73   | 45 | 125          | 102 | 4-Ø12 | 22  | 223 | 300 | 350             | 12-M20        | 355             | 12-M24        | 362             | 12-¾"-9       |
| 300 | 12"  | 223 | 306 | 396 |     | 81   | 45 | 125          | 102 | 4-Ø12 | 22  | 323 | 300 | 400             | 12-M20        | 410             | 12-M24        | 431.8           | 12-¾"-9       |

Split Type Butterfly Valve

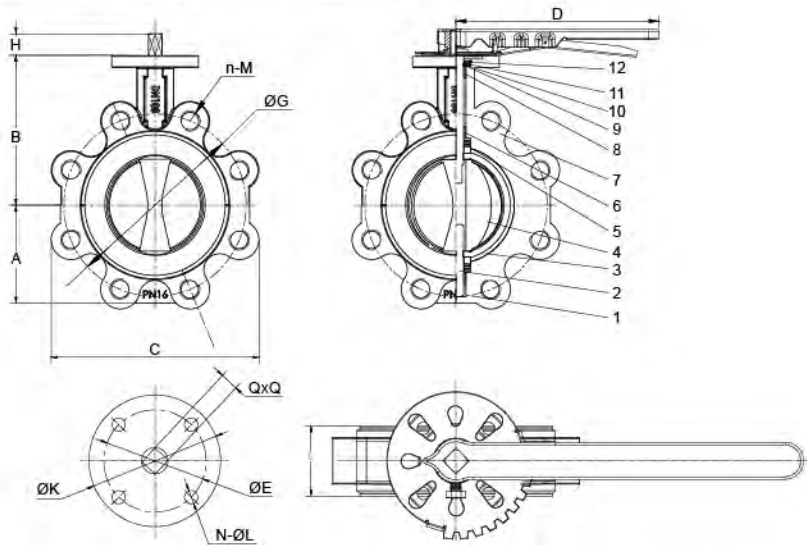
Model: BV-16

Technical Features

- Size: DN50-DN300 / 2"-12"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 100°C
- Operation: Hand Lever, Gear

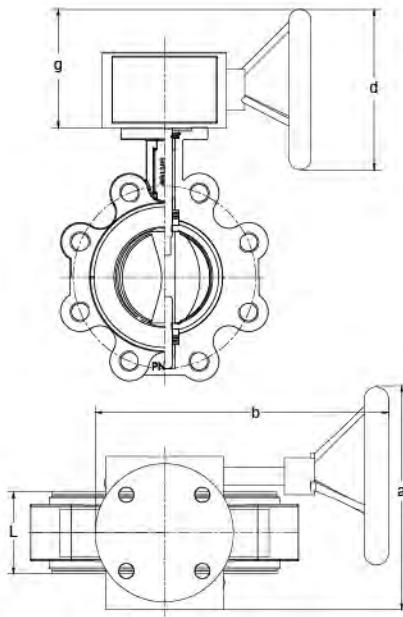
Valve Material List

| Item | Part              | Material  |
|------|-------------------|-----------|
| 1    | Body              | CF8M      |
| 2    | Shaft             | SS316     |
| 3    | Seat              | PTFE+EPDM |
| 4    | Disc              | CF8M      |
| 5    | Pressing Sleeve   | FRP       |
| 6    | Butterfly Spring  | SS304     |
| 7    | Shaft Sleeve      | FRP       |
| 8    | Circlip for Shaft | SS304     |
| 9    | Cushion           | SS304     |
| 10   | Circlip for Hole  | SS304     |



Dimensions

| DN  | INCH | A   | B   | C   | D   | L    | H  | UPPER FLANGE |     |       | QXQ | g   | d   | DIN PN10        |               | DIN PN16        |               | ANSI 150        |               |
|-----|------|-----|-----|-----|-----|------|----|--------------|-----|-------|-----|-----|-----|-----------------|---------------|-----------------|---------------|-----------------|---------------|
|     |      |     |     |     |     |      |    | K            | E   | N-ØM  |     |     |     | Center Distance | Bolt Standard | Center Distance | Bolt Standard | Center Distance | Bolt Standard |
| 50  | 2"   | 65  | 138 | 110 | 260 | 47   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 125             | 4-M16         | 125             | 4-M16         | 120.7           | 4-½"-11       |
| 65  | 2.5" | 72  | 140 | 125 | 260 | 50   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 145             | 4-M16         | 145             | 4-M16         | 139.7           | 4-½"-11       |
| 80  | 3"   | 85  | 140 | 143 | 260 | 50   | 32 | 65           | 50  | 4-Ø7  | 11  |     |     | 160             | 8-M16         | 160             | 8-M16         | 152.4           | 4-½"-11       |
| 100 | 4"   | 102 | 160 | 170 | 260 | 55.5 | 32 | 90           | 70  | 4-Ø9  | 14  |     |     | 180             | 8-M16         | 180             | 8-M16         | 190.8           | 8-½"-11       |
| 125 | 5"   | 120 | 175 | 197 | 310 | 59   | 32 | 90           | 70  | 4-Ø9  | 14  |     |     | 210             | 8-M16         | 210             | 8-M16         | 215.9           | 8-¾"-10       |
| 150 | 6"   | 137 | 189 | 230 |     | 59   | 32 | 90           | 70  | 4-Ø9  | 14  | 119 | 200 | 240             | 8-M20         | 240             | 8-M20         | 241.3           | 8-¾"-10       |
| 200 | 8"   | 169 | 230 | 284 |     | 63   | 32 | 125          | 102 | 4-Ø12 | 17  | 223 | 220 | 295             | 8-M20         | 295             | 12-M20        | 298.5           | 8-¾"-10       |
| 250 | 10"  | 202 | 270 | 336 |     | 73   | 45 | 125          | 102 | 4-Ø12 | 22  | 223 | 300 | 350             | 12-M20        | 355             | 12-M24        | 362             | 12-¾"-9       |
| 300 | 12"  | 223 | 306 | 396 |     | 81   | 45 | 125          | 102 | 4-Ø12 | 22  | 323 | 300 | 400             | 12-M20        | 410             | 12-M24        | 431.8           | 12-¾"-9       |

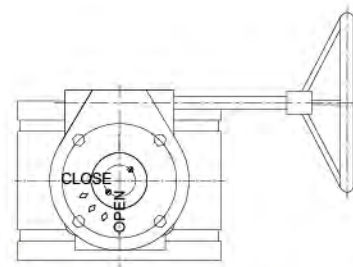


## Groove Type Butterfly Valve

**Model: BV-17/18**

### Technical Features

- Sizes: DN50-DN300 / 2"-12"
- Working Pressure: 300PSI
- Design Standard: ANSI / AWWA C606 or Metric Standard  
Clear Waterway design
- Testing Standard: UL 1091&ULC / ORD-C1091&FM1112
- Mounting Plate Standard: ISO 5211
- Working Temperature: -20°C-120°C
- Note: NSF61 & NSF372 approval available for 2"-12" butterfly valve



### Valve Material List

| NO. | Description             | Material            |
|-----|-------------------------|---------------------|
| 1   | Upper Shaft Sealing Nut | WCB                 |
| 2   | Shaft Seal              | EPDM                |
| 3   | Body                    | Ductile Iron        |
| 4   | Upper Shaft             | 416 Stainless Steel |
| 5   | Disc+Rubber Seat        | Ductile Iron+EPDM   |
| 6   | Lower Shaft             | 416 Stainless Steel |
| 7   | Lower Shaft Sealing Nut | WCB                 |
| 8   | Stem Bushing            | PTFE / C95400       |
| 9   | O-Ring                  | EPDM                |
| 10  | Gear box                |                     |

### Dimensions

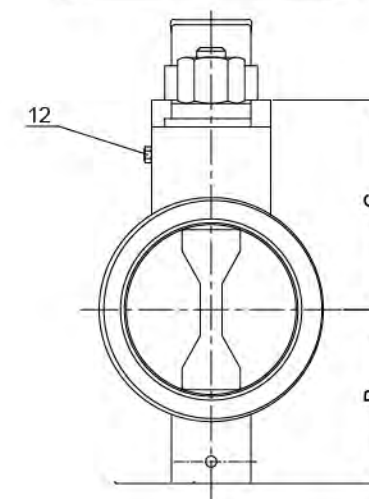
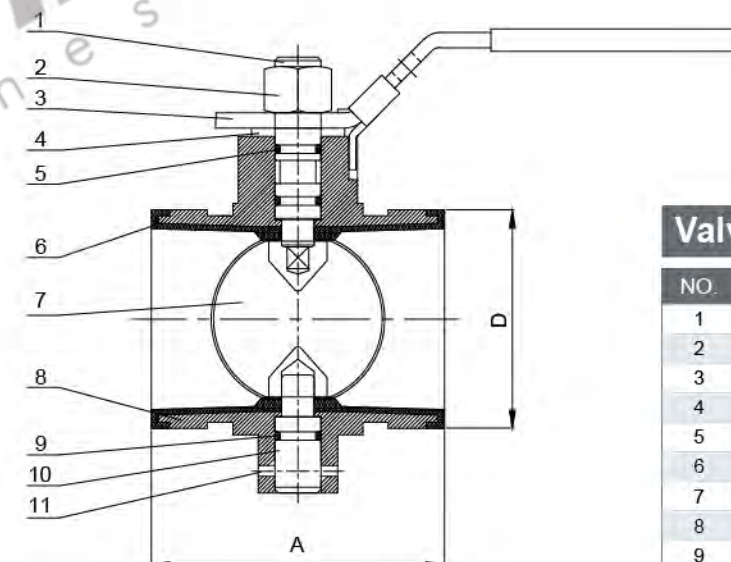
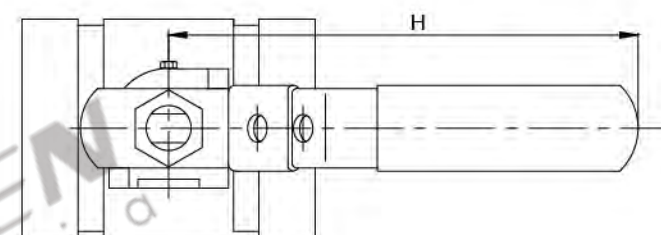
| DN  | INCH | A   | B   | C  | D              | E              | F    | G    | H  | K   | J   | P   | M   | N  | d  | L            |
|-----|------|-----|-----|----|----------------|----------------|------|------|----|-----|-----|-----|-----|----|----|--------------|
| 50  | 2"   | 110 | 85  | 32 | 60.3           | 57.15          | 15.9 | 7.9  | 65 | 151 | 152 | 90  | 70  | 9  | 10 | 81<br>88     |
| 65  | 2.5" | 125 | 95  | 32 | 73<br>76.1     | 69.1<br>72.3   | 15.9 | 7.9  | 65 | 151 | 152 | 90  | 70  | 9  | 10 | 96.4         |
| 80  | 3"   | 140 | 100 | 32 | 88.9           | 84.9           | 15.9 | 7.9  | 65 | 151 | 152 | 90  | 70  | 9  | 11 | 97           |
| 100 | 4"   | 160 | 100 | 32 | 114.3          | 110.1          | 15.9 | 9.5  | 65 | 151 | 152 | 90  | 70  | 9  | 14 | 115.1        |
| 125 | 5"   | 170 | 125 | 32 | 139.7<br>141.3 | 135.5<br>137   | 15.9 | 9.5  | 65 | 151 | 152 | 90  | 70  | 9  | 14 | 132.4<br>148 |
| 150 | 6"   | 190 | 140 | 32 | 165.1<br>168.3 | 160.9<br>164   | 15.9 | 9.5  | 65 | 146 | 200 | 90  | 70  | 9  | 16 | 132.4<br>148 |
| 200 | 8"   | 230 | 175 | 32 | 219.1<br>216.3 | 214.4<br>211.6 | 19   | 11.1 | 77 | 233 | 290 | 125 | 102 | 12 | 19 | 133<br>147.4 |
| 250 | 10"  | 260 | 200 | 45 | 267.4<br>273   | 262.6<br>268.3 | 19   | 12.7 | 77 | 233 | 290 | 125 | 102 | 12 | 22 | 159          |
| 300 | 12"  | 300 | 240 | 45 | 318.5<br>323.8 | 312.9<br>318.3 | 19   | 12.7 | 77 | 226 | 290 | 150 | 125 | 14 | 26 | 165          |

## Grooved Butterfly Valve

**Model: BV-19**

### Technical Features

- Size: DN50-DN200 / 2"-8"
- Working Pressure: 200PSI / 1.6MPa
- Design Standard: AWWA C606
- Testing Standard: API 598
- Flange standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Face to face standard: BS EN558-1
- Working temperature: -20°C-80°C



### Valve Material List

| NO. | Description      | Material                       |
|-----|------------------|--------------------------------|
| 1   | Upper Shaft      | SS316 / SS416                  |
| 2   | Lock Nut         | Carbon Steel                   |
| 3   | Hand lever       | Carbon Steel                   |
| 4   | Cushion          | PDEF                           |
| 5   | O Ring           | NBR                            |
| 6   | Rubber of Body   | NBR / EPDM                     |
| 7   | Disc             | CF8M                           |
| 8   | Body             | Ductile Iron                   |
| 9   | O Ring           | NBR                            |
| 10  | Lower Shaft      | SS316 / SS416                  |
| 11  | Pin              | Carbon steel                   |
| 12  | Flat End Set Nut | Carbon steel / Stainless Steel |

### Dimensions

| DN  | INCH | A   | B   | C   | D     | H   |
|-----|------|-----|-----|-----|-------|-----|
| 50  | 2"   | 81  | 48  | 57  | 60.3  | 140 |
| 65  | 2.5" | 97  | 54  | 67  | 73    | 190 |
| 80  | 3"   | 97  | 62  | 75  | 88.9  | 190 |
| 100 | 4"   | 116 | 76  | 107 | 114.3 | 274 |
| 150 | 6"   | 140 | 104 | 116 | 168.3 | 274 |
| 200 | 8"   | 133 | 140 | 168 | 219   | 274 |

Hand Lever

Model: HL

Gear Box

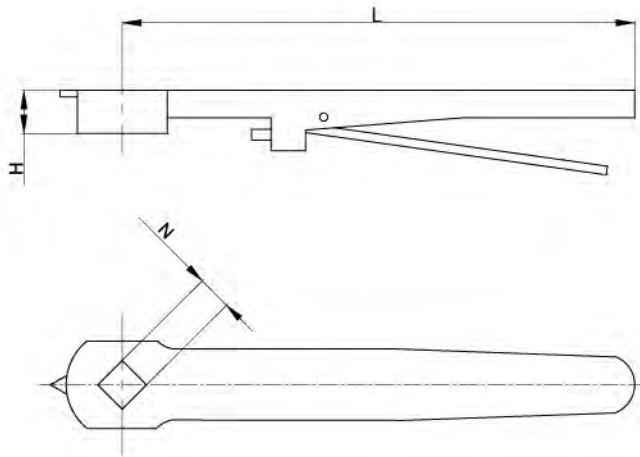
Model: GB

Model: HL01

Malleable Cast Iron Handle



| INCH   | L   | H  | Material                                                                    |
|--------|-----|----|-----------------------------------------------------------------------------|
| 1.5-6" | 265 | 26 | Connection according to customers requirements(Square Hole\Double D\Keyway) |
| 8-12"  | 298 | 26 |                                                                             |
|        | 353 | 30 |                                                                             |

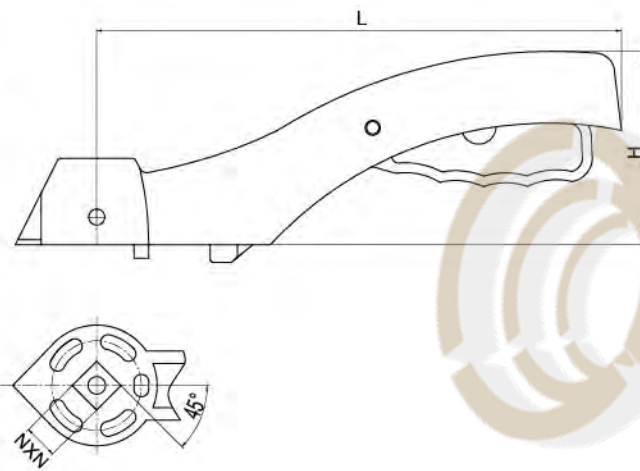


Model: HL02

Aluminum Alloy Handle



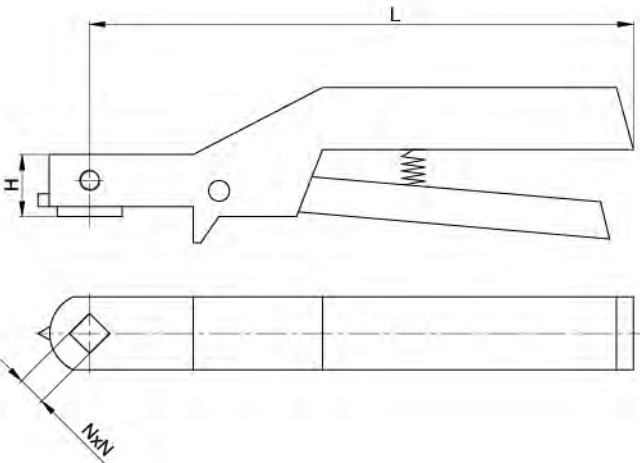
| INCH | L   | N  | H    | Application Actuator mounting plate |
|------|-----|----|------|-------------------------------------|
| 2-3" | 170 | 11 | 63.5 | F05                                 |
| 4-6" | 216 | 14 | 78.5 | F07                                 |
|      | 216 | 14 | 78.5 | F07                                 |



Model: HL03



| INCH   | L   | H  | Material                                                                    |
|--------|-----|----|-----------------------------------------------------------------------------|
| 1.5-3" | 265 | 26 | Connection according to customers requirements(Square Hole\Double D\Keyway) |
| 4-6"   | 298 | 26 |                                                                             |
| 8-12"  | 353 | 30 |                                                                             |

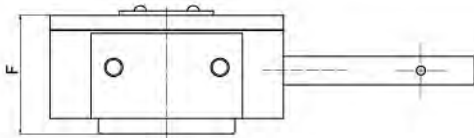
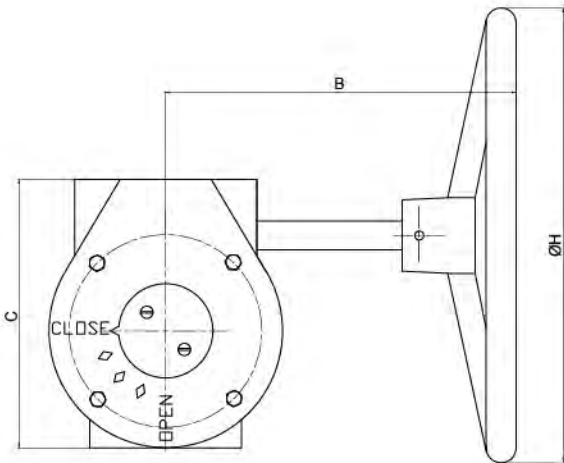


Model: HL01

Common Gear Box

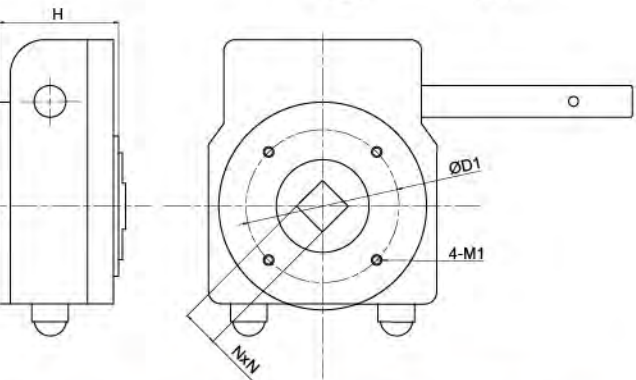
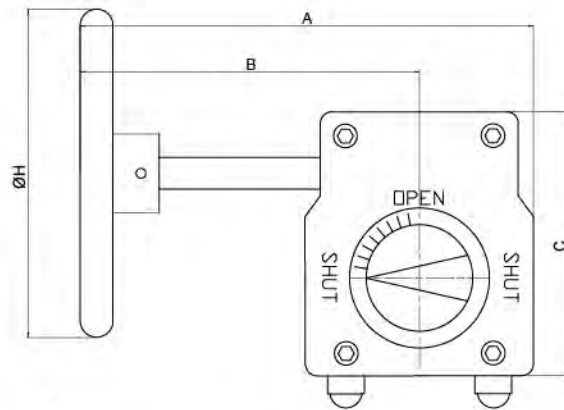


| Transfr Ratio | Torque (N·M) | B   | C   | F   | ØH  | ØD1 | 4-M1  | ØD2 | 4-M2 |
|---------------|--------------|-----|-----|-----|-----|-----|-------|-----|------|
| 24: 1         | 300          | 121 | 127 | 65  | 200 | 70  | 4-M8  | 50  | 4-M6 |
| 30: 1         | 750          | 240 | 176 | 77  | 290 | 102 | 4-M10 | 70  | 4-M8 |
| 50: 1         | 1200         | 256 | 195 | 77  | 290 | 102 | 4-M10 |     |      |
| 80: 1         | 2000         | 306 | 285 | 110 | 290 | 140 | 4-M16 |     |      |
| 300: 1        | 4000         | 350 | 313 | 143 | 290 | 165 | 4-M20 |     |      |



Model: HL02

Aluminum Alloy Gear Box



| Transfr Ratio | Torque(N·M) | A   | B   | C   | H  | ØH  | ØD1 | 4-M1  | N     |
|---------------|-------------|-----|-----|-----|----|-----|-----|-------|-------|
| 3DⅢ-10 40:1   | 150         | 148 | 108 | 98  | 48 | 120 | 50  | 4-M6  | 14x14 |
| 3DⅢ-15 37:1   | 250         | 169 | 119 | 115 | 55 | 200 | 70  | 4-M8  | 14x14 |
| 3DⅢ-50 45:1   | 750         | 296 | 223 | 155 | 71 | 220 | 102 | 4-M10 | 17x17 |
| 3DⅢ-120 40:1  | 1200        | 410 | 323 | 212 | 80 | 300 | 102 | 4-M10 | 22x22 |

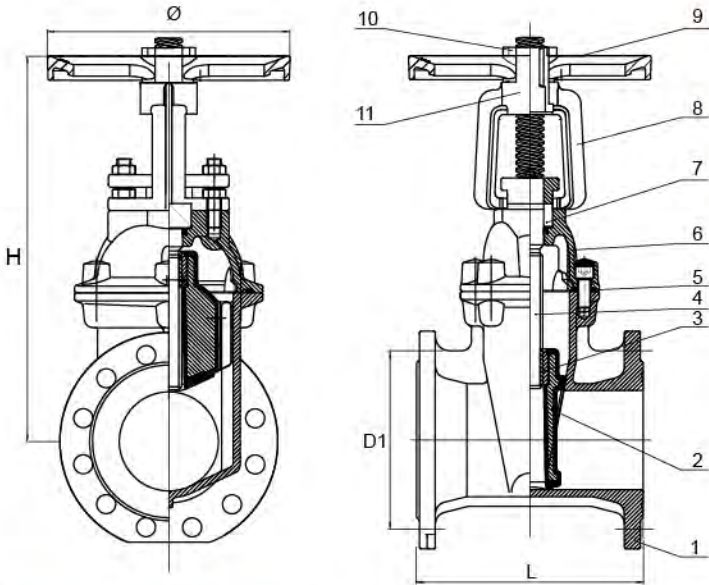
OSY Gate Valves

Model: GV-01

Flange Type

Technical Features

- Size: DN50-DN1000 / 2"-40"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C



Valve Material List

| Item | Name         | Material          |
|------|--------------|-------------------|
| 1    | Body         | Ductile Iron      |
| 2    | Disc         | Ductile Iron+EPDM |
| 3    | Nuts         | Brass             |
| 4    | Stem         | SS416             |
| 5    | Sealing Shim | EPDM              |
| 6    | Bonnet       | Ductile Iron      |
| 7    | Filler       | Brass             |
| 8    | Support      | Graphite          |
| 9    | Hand Wheel   | Ductile Iron      |
| 10   | Lock Nut     | Ductile Iron      |
| 11   | Screw        | Brass             |

Dimensions

| DN   | INCH | H    | L   | Ø   | DIN PN10         |      | DIN PN16 |      | ANSI 150 |        |             |
|------|------|------|-----|-----|------------------|------|----------|------|----------|--------|-------------|
|      |      |      |     |     | ØD1              | N-M  | ØD1      | N-M  | ØD1      | N-M    |             |
| 50   | 2"   | 290  | 150 | 178 | 158              | 125  | 4-M16    | 125  | 4-M16    | 120.7  | 4-5/8"-11   |
| 65   | 2.5" | 325  | 170 | 190 | 158              | 145  | 4-M16    | 145  | 4-M16    | 139.7  | 4-5/8"-11   |
| 80   | 3"   | 365  | 180 | 203 | 203              | 160  | 8-M16    | 160  | 8-M16    | 152.4  | 4-5/8"-11   |
| 100  | 4"   | 425  | 190 | 229 | 203              | 180  | 8-M16    | 180  | 8-M16    | 190.5  | 8-5/8"-11   |
| 125  | 5"   | 510  | 200 | 254 | 275              | 210  | 8-M16    | 210  | 8-M16    | 215.9  | 8-3/4"-10   |
| 150  | 6"   | 580  | 210 | 267 | 275              | 240  | 8-M20    | 240  | 8-M20    | 241.3  | 8-3/4"-10   |
| 200  | 8"   | 740  | 230 | 292 | 325              | 295  | 8-M20    | 295  | 12-M20   | 298.5  | 8-3/4"-10   |
| 250  | 10"  | 895  | 250 | 330 | 395              | 350  | 12-M20   | 355  | 12-M24   | 362    | 12-7/8"-9   |
| 300  | 12"  | 1055 | 270 | 356 | 395              | 400  | 12-M20   | 410  | 12-M24   | 431.8  | 12-7/8"-9   |
| 350  | 14"  | 1170 | 290 | 381 | 470              | 460  | 16-M20   | 470  | 16-M24   | 476.3  | 12-1"-8     |
| 400  | 16"  | 1350 | 310 | 406 | 470              | 515  | 16-M24   | 525  | 16-M27   | 539.8  | 16-1"-8     |
| 450  | 18"  | 1510 | 330 | 432 | 530              | 565  | 20-M24   | 585  | 20-M27   | 577.9  | 16-1 1/8"-7 |
| 500  | 20"  | 1740 | 350 | 457 | 630              | 620  | 20-M24   | 650  | 20-M30   | 635    | 20-1 1/8"-7 |
| 600  | 24"  | 1860 | 390 | 508 | 630              | 725  | 20-M27   | 770  | 20-M27   | 749.3  | 20-1 1/4"-7 |
| 700  | 28"  |      | 430 | 610 | Actuating Device | 840  | 24-M27   | 840  | 24-M27   | 863.6  | 28-1 1/4"-7 |
| 800  | 32"  |      | 470 | 660 | Actuating Device | 950  | 24-M30   | 950  | 24-M36   | 977.9  | 28-1 1/2"-6 |
| 900  | 36"  |      | 510 | 711 | Actuating Device | 1050 | 28-M30   | 1050 | 28-M36   | 1085.9 | 32-1 1/2"-6 |
| 1000 | 40"  |      | 550 | 811 | Actuating Device | 1160 | 28-M33   | 1170 | 28-M39   | 1200.2 | 36-1 1/2"-6 |

NRS Gate Valves

Model: GV-02

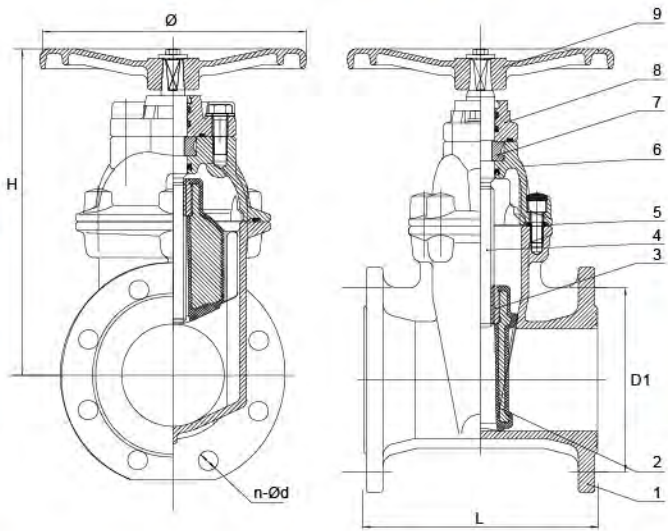
Technical Features

- Size: DN50-DN1000 / 2"-40"
- Working pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C
- Operation: Hand wheel, Gear, Expansion Rod



Valve Material List

| Item | Name         | Material          |
|------|--------------|-------------------|
| 1    | Body         | Ductile Iron      |
| 2    | Disc         | Ductile Iron+EPDM |
| 3    | Nuts         | Brass             |
| 4    | Stem         | SS416             |
| 5    | Sealing Shim | EPDM              |
| 6    | Bonnet       | Ductile Iron      |
| 7    | Snap Ring    | Brass             |
| 8    | Gland        | Ductile Iron      |
| 9    | Hand Wheel   | Ductile Iron      |



Dimensions

| DN   | INCH | H    | L   | Ø   | DIN PN10         |      | DIN PN16 |      | ANSI 150 |        |             |
|------|------|------|-----|-----|------------------|------|----------|------|----------|--------|-------------|
|      |      |      |     |     | ØD1              | N-M  | ØD1      | N-M  | ØD1      | N-M    |             |
| 50   | 2"   | 235  | 150 | 178 | 158              | 125  | 4-M16    | 125  | 4-M16    | 120.7  | 4-5/8"-11   |
| 65   | 2.5" | 265  | 170 | 190 | 158              | 145  | 4-M16    | 145  | 4-M16    | 139.7  | 4-5/8"-11   |
| 80   | 3"   | 290  | 180 | 203 | 203              | 160  | 8-M16    | 160  | 8-M16    | 152.4  | 4-5/8"-11   |
| 100  | 4"   | 320  | 190 | 229 | 203              | 180  | 8-M16    | 180  | 8-M16    | 190.5  | 8-5/8"-11   |
| 125  | 5"   | 380  | 200 | 254 | 275              | 210  | 8-M16    | 210  | 8-M16    | 215.9  | 8-3/4"-10   |
| 150  | 6"   | 460  | 210 | 267 | 275              | 240  | 8-M20    | 240  | 8-M20    | 241.3  | 8-3/4"-10   |
| 200  | 8"   | 520  | 230 | 292 | 325              | 295  | 8-M20    | 295  | 12-M20   | 298.5  | 8-3/4"-10   |
| 250  | 10"  | 630  | 250 | 330 | 395              | 350  | 12-M20   | 355  | 12-M24   | 362    | 12-7/8"-9   |
| 300  | 12"  | 720  | 270 | 356 | 395              | 400  | 12-M20   | 410  | 12-M24   | 431.8  | 12-7/8"-9   |
| 350  | 14"  | 800  | 290 | 381 | 470              | 460  | 16-M20   | 470  | 16-M24   | 476.3  | 12-1"-8     |
| 400  | 16"  | 850  | 310 | 406 | 470              | 515  | 16-M24   | 525  | 16-M27   | 539.8  | 16-1"-8     |
| 450  | 18"  | 1000 | 330 | 432 | 530              | 565  | 20-M24   | 585  | 20-M27   | 577.9  | 16-1 1/8"-7 |
| 500  | 20"  | 1200 | 350 | 457 | 630              | 620  | 20-M24   | 650  | 20-M30   | 635    | 20-1 1/8"-7 |
| 600  | 24"  | 1350 | 390 | 508 | 630              | 725  | 20-M27   | 770  | 20-M27   | 749.3  | 20-1 1/4"-7 |
| 700  | 28"  |      | 430 | 610 | Actuating Device | 840  | 24-M27   | 840  | 24-M27   | 863.6  | 28-1 1/4"-7 |
| 800  | 32"  |      | 470 | 660 | Actuating Device | 950  | 24-M30   | 950  | 24-M36   | 977.9  | 28-1 1/2"-6 |
| 900  | 36"  |      | 510 | 711 | Actuating Device | 1050 | 28-M30   | 1050 | 28-M36   | 1085.9 | 32-1 1/2"-6 |
| 1000 | 40"  |      | 550 | 811 | Actuating Device | 1160 | 28-M33   | 1170 | 28-M39   | 1200.2 | 36-1 1/2"-6 |

## Groove Gate Valves

## Model: GV-03

## Class 125 Outside Screw &amp; Yoke Gate Valve

## Model: GV-04

## OSY and NRS Type

## Technical Features

- Size: DN50-DN300 / 2"-12"
- Working Pressure: 300PSI / 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C

## Valve Material List

| Item | Name                  | Material          | Qty. |
|------|-----------------------|-------------------|------|
| 1    | Body                  | Ductile Iron      | 1    |
| 2    | Disc                  | Ductile Iron      | 1    |
| 3    | Connecting Part       | Bronze            | 1    |
| 4    | Sealing Pad           | EPDM              | 1    |
| 5    | Stem                  | SS304             | 1    |
| 6    | Yoke                  | Ductile Iron      | 1    |
| 7    | Bolt                  | Carbon Steel      | 2    |
| 8    | Gland                 | Ductile Iron      | 1    |
| 9    | Nut                   | Carbon Steel      | 2    |
| 10   | Rotating Nut          | C95400, ASTM B148 | 1    |
| 11   | Handwheel             | Carbon Steel      | 1    |
| 12   | Lock Nut              | Carbon Steel      | 1    |
| 13   | Countersunk Head Bolt | Carbon Steel      | N    |
| 14   | Cylinder Pin          | SS304             | 1    |

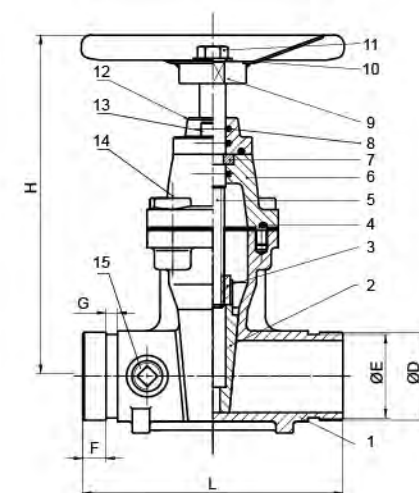
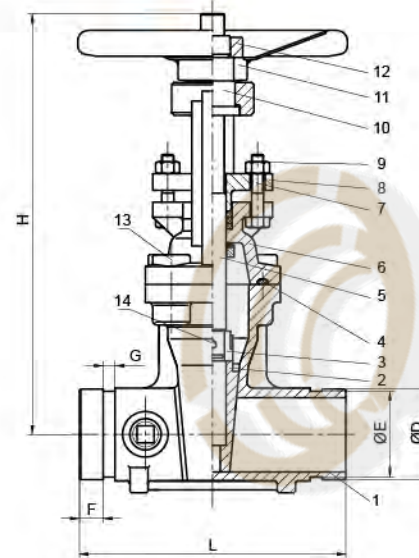
## Dimensions

## NRS Type

| DN  | INCH | L   | H   | ØD    | ØE    | F    | G    |
|-----|------|-----|-----|-------|-------|------|------|
| 50  | 2"   | 178 | 265 | 60.3  | 57.15 | 15.9 | 7.9  |
| 65  | 2.5" | 190 | 289 | 76.1  | 72.3  | 15.9 | 7.9  |
| 80  | 3"   | 203 | 326 | 88.9  | 84.9  | 15.9 | 7.9  |
| 100 | 4"   | 229 | 355 | 114.3 | 110.1 | 15.9 | 9.5  |
| 125 | 5"   | 254 | 410 | 141.3 | 137   | 15.9 | 9.5  |
| 150 | 6"   | 267 | 455 | 168.3 | 163.9 | 15.9 | 9.5  |
| 200 | 8"   | 292 | 558 | 219.1 | 214.4 | 19   | 11.1 |
| 250 | 10"  | 330 | 648 | 273   | 268.3 | 19   | 12.7 |
| 300 | 12"  | 356 | 745 | 323.9 | 318.3 | 19   | 12.7 |

## OSY Type

| DN  | INCH | L   | H    | ØD    | ØE    | F    | G    |
|-----|------|-----|------|-------|-------|------|------|
| 50  | 2"   | 178 | 313  | 60.3  | 57.15 | 15.9 | 7.9  |
| 65  | 2.5" | 190 | 340  | 76.1  | 72.3  | 15.9 | 7.9  |
| 80  | 3"   | 203 | 387  | 88.9  | 84.9  | 15.9 | 7.9  |
| 100 | 4"   | 229 | 440  | 114.3 | 110.1 | 15.9 | 9.5  |
| 125 | 5"   | 254 | 546  | 141.3 | 137   | 15.9 | 9.5  |
| 150 | 6"   | 267 | 607  | 168.3 | 163.9 | 15.9 | 9.5  |
| 200 | 8"   | 292 | 786  | 219.1 | 214.4 | 19   | 11.1 |
| 250 | 10"  | 330 | 946  | 273   | 268.3 | 19   | 12.7 |
| 300 | 12"  | 356 | 1110 | 323.9 | 318.3 | 19   | 12.7 |



## Technical Features

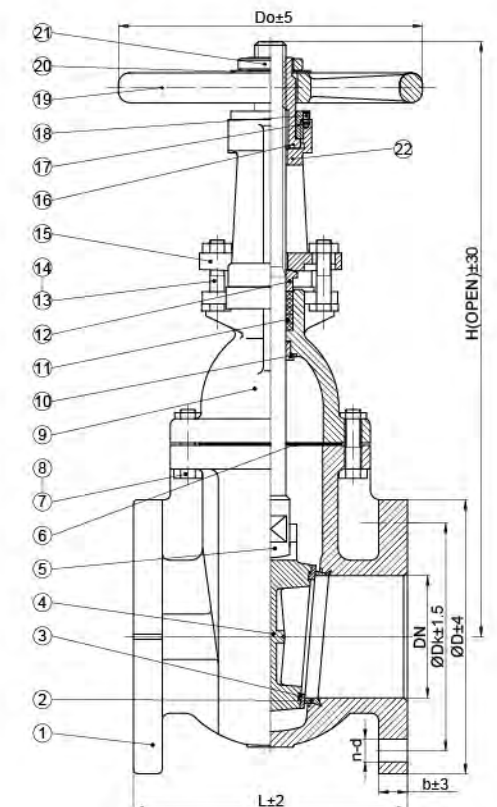
- Size: DN50-DN900 / 2"-36"
- Working Pressure: Class 125
- Design Standard: MSS SP-70
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-24"

## Valve Material List

| NO. | Part                 | Material                     |
|-----|----------------------|------------------------------|
| 1   | Body                 | Ductile Iron / Cast Iron     |
| 2   | Seat Rings           | Bronze                       |
| 3   | Wedge Face Rings     | Bronze                       |
| 4   | Disc                 | Ductile Iron / Cast Iron     |
| 5   | Stem                 | Brass                        |
| 6   | Body Gasket          | Stainless steel spiral-wound |
| 7   | Bolts                | Steel                        |
| 8   | Nuts                 | Steel                        |
| 9   | Bonnet               | Ductile Iron / Cast Iron     |
| 10  | Back Seat Bushing    | Brass                        |
| 11  | Packing              | Graphite                     |
| 12  | Packing Gland        | Brass                        |
| 13  | Gland Follower Bolts | Steel                        |
| 14  | Gland Follower Nuts  | Steel                        |
| 15  | Gland Follower       | Ductile Iron                 |
| 16  | Yoke Bushing         | Bronze                       |
| 17  | Yoke Bushing Nut     | Ductile Iron / Cast Iron     |
| 18  | Screw                | Steel                        |
| 19  | Handwheel            | Ductile Iron / Cast Iron     |
| 20  | Identification Plate | Aluminium                    |
| 21  | Handwheel Nut        | Ductile Iron                 |
| 22  | Yoke                 | Ductile Iron / Cast Iron     |

## Dimensions

| DN  | INCH | L     | D     | b    | ANSI 150<br>Dk | n-d   | Do  | H    |
|-----|------|-------|-------|------|----------------|-------|-----|------|
| 50  | 2"   | 178   | 152   | 15.9 | 121            | 4-19  | 178 | 380  |
| 65  | 2.5" | 190.5 | 178   | 17.5 | 140            | 4-19  | 178 | 430  |
| 80  | 3"   | 203.2 | 190   | 19.1 | 152.5          | 4-19  | 200 | 485  |
| 100 | 4"   | 228.6 | 228.6 | 23.5 | 190.5          | 8-19  | 254 | 615  |
| 125 | 5"   | 254   | 254   | 23.8 | 215.9          | 8-22  | 300 | 700  |
| 150 | 6"   | 266.7 | 279.4 | 25.4 | 241.3          | 8-22  | 300 | 835  |
| 200 | 8"   | 292   | 343   | 28.6 | 298.5          | 8-22  | 348 | 1010 |
| 250 | 10"  | 330   | 406   | 30.2 | 362            | 12-25 | 400 | 1220 |
| 300 | 12"  | 356   | 483   | 31.8 | 432            | 12-25 | 457 | 1435 |
| 350 | 14"  | 381   | 533   | 35   | 476            | 12-29 | 508 | 1655 |
| 400 | 16"  | 406   | 597   | 36.6 | 540            | 16-29 | 558 | 1825 |
| 450 | 18"  | 432   | 635   | 39.7 | 578            | 16-32 | 610 | 2020 |
| 500 | 20"  | 457   | 699   | 42.9 | 635            | 20-32 | 640 | 2290 |
| 600 | 24"  | 508   | 813   | 47.6 | 749            | 20-35 | 762 | 3360 |
| 750 | 30"  | 610   | 984   | 54   | 914            | 28-35 | 813 | 3665 |
| 900 | 36"  | 711   | 1168  | 60.3 | 1086           | 32-42 | 813 | 3920 |



**CLASS250, Outside Screw&Yoke, Gate Valve****Model: GV-05****Class 125 Non-Rising Stem Gate Valve****Model: GV-06****Technical Features**

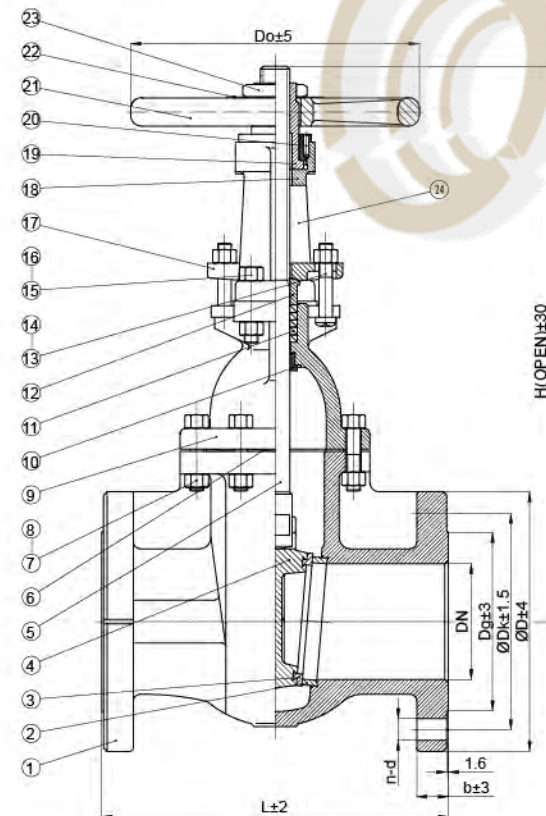
- Size: DN50-DN600 / 2"-24"
- Working Pressure: Class 250
- Design Standard: MSS SP-70
- Test Standard: API 598
- Flange Standard: ASME B16.2(250LB)
- Face to Face Standard: ASME B16.10(250LB)
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-12"

**Valve Material List**

| NO. | Part                 | Material     |
|-----|----------------------|--------------|
| 1   | Body                 | Cast Iron    |
| 2   | Seat Rings           | Cast Bronze  |
| 3   | Wedge Face Rings     | Cast Bronze  |
| 4   | Wedge                | Cast Iron    |
| 5   | Stem                 | Brass        |
| 6   | Body Gasket          | Graphite     |
| 7   | Bolts                | Steel        |
| 8   | Nuts                 | Steel        |
| 9   | Bonnet               | Cast Iron    |
| 10  | Back Seat Bushing    | Cast Brass   |
| 11  | Packing              | Graphite     |
| 12  | Packing Gland        | Cast Brass   |
| 13  | Gland Follower Bolts | Steel        |
| 14  | Gland Follower Nuts  | Steel        |
| 15  | Bolts                | Steel        |
| 16  | Nuts                 | Steel        |
| 17  | Gland Follower       | Ductile Iron |
| 18  | Yoke Bushing         | Cast Bronze  |
| 19  | Yoke Bushing Nut     | Cast Iron    |
| 20  | Screw                | Steel        |
| 21  | Handwheel            | Cast Iron    |
| 22  | Identification Plate | Aluminium    |
| 23  | Handwheel Nut        | Ductile Iron |
| 24  | Yoke                 | Cast Iron    |

**Dimensions**

| DN  | INCH | L   | Dg    | D   | b    | ANSI 300<br>Dk | 300<br>n-d | Do  | H    |
|-----|------|-----|-------|-----|------|----------------|------------|-----|------|
| 50  | 2"   | 216 | 106.5 | 165 | 22.3 | 127            | 8-19       | 178 | 380  |
| 65  | 2.5" | 241 | 125.5 | 191 | 25.4 | 149            | 8-22       | 178 | 430  |
| 80  | 3"   | 282 | 144.5 | 210 | 28.6 | 168            | 8-22       | 200 | 485  |
| 100 | 4"   | 305 | 176.5 | 254 | 31.8 | 200            | 8-22       | 254 | 615  |
| 125 | 5"   | 381 | 211.5 | 279 | 35   | 235            | 8-22       | 300 | 700  |
| 150 | 6"   | 403 | 246.5 | 318 | 36.6 | 270            | 12-22      | 300 | 835  |
| 200 | 8"   | 419 | 303.5 | 381 | 41.3 | 330            | 12-25      | 348 | 1010 |
| 250 | 10"  | 457 | 357.5 | 445 | 47.6 | 387            | 16-29      | 400 | 1220 |
| 300 | 12"  | 502 | 418   | 521 | 50.8 | 451            | 16-32      | 457 | 1435 |
| 350 | 14"  | 572 | 481.5 | 584 | 54   | 514            | 20-32      | 508 | 1655 |
| 400 | 16"  | 610 | 535   | 648 | 57.3 | 572            | 20-35      | 558 | 1825 |
| 450 | 18"  | 660 | 592.5 | 711 | 60.4 | 629            | 24-35      | 610 | 2020 |
| 500 | 20"  | 711 | 649.5 | 775 | 63.5 | 686            | 24-35      | 640 | 2290 |
| 600 | 24"  | 787 | 768.5 | 914 | 69.9 | 813            | 24-41      | 762 | 3360 |

**Technical Features**

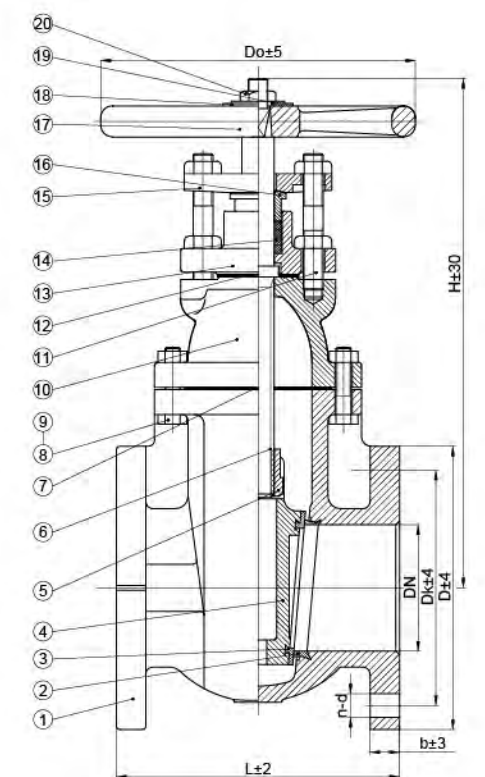
- Size: DN50-DN900 / 2"-36"
- Working Pressure: Class 125
- Design Standard: MSS SP-70
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-24"

**Valve Material List**

| NO. | Description          | Material                     |
|-----|----------------------|------------------------------|
| 1   | Body                 | Ductile Iron / Cast Iron     |
| 2   | Seat Rings           | Bronze                       |
| 3   | Wedge Face Rings     | Bronze                       |
| 4   | Disc                 | Ductile Iron / Cast Iron     |
| 5   | Wedge Nut            | Brass                        |
| 6   | Stem                 | Brass                        |
| 7   | Body Gasket          | Stainless steel spiral-wound |
| 8   | Bolts                | Steel                        |
| 9   | Nuts                 | Steel                        |
| 10  | Bonnet               | Ductile Iron / Cast Iron     |
| 11  | Gland Follower Bolts | Steel                        |
| 12  | Suffing Box Gasket   | Graphite                     |
| 13  | Suffing Box          | Ductile Iron / Cast Iron     |
| 14  | Packing              | Graphite                     |
| 15  | Gland Follower       | Ductile Iron                 |
| 16  | Packing Gland        | Brass                        |
| 17  | Handwheel            | Ductile Iron / Cast Iron     |
| 18  | Identification Plate | Aluminum                     |
| 19  | Washer               | Steel                        |
| 20  | Handwheel Nut        | Steel                        |

**Dimensions**

| DN  | INCH | L     | D     | b    | ANSI 150<br>Dk | 150<br>n-d | Do  | H    |
|-----|------|-------|-------|------|----------------|------------|-----|------|
| 50  | 2"   | 178   | 152   | 15.9 | 121            | 4-19       | 178 | 289  |
| 65  | 2.5" | 190.5 | 178   | 17.5 | 140            | 4-19       | 178 | 323  |
| 80  | 3"   | 203.2 | 190   | 19.1 | 152.5          | 4-19       | 200 | 338  |
| 100 | 4"   | 228.6 | 228.6 | 23.5 | 190.5          | 8-19       | 254 | 411  |
| 125 | 5"   | 254   | 254   | 23.8 | 215.9          | 8-22       | 300 | 503  |
| 150 | 6"   | 266.7 | 279.4 | 25.4 | 241.3          | 8-22       | 300 | 558  |
| 200 | 8"   | 292   | 343   | 28.6 | 298.5          | 8-22       | 348 | 650  |
| 250 | 10"  | 330   | 406   | 30.2 | 362            | 12-25      | 400 | 770  |
| 300 | 12"  | 356   | 483   | 31.8 | 432            | 12-25      | 457 | 861  |
| 350 | 14"  | 381   | 533   | 35   | 476            | 12-29      | 508 | 991  |
| 400 | 16"  | 406   | 597   | 36.6 | 540            | 16-29      | 558 | 1058 |
| 450 | 18"  | 432   | 635   | 39.7 | 578            | 16-32      | 610 | 1206 |
| 500 | 20"  | 457   | 699   | 42.9 | 635            | 20-32      | 640 | 1276 |
| 600 | 24"  | 508   | 813   | 47.6 | 749            | 20-35      | 762 | 1466 |
| 750 | 30"  | 610   | 984   | 54   | 914            | 28-35      | 813 | 1845 |
| 900 | 36"  | 711   | 1168  | 60.3 | 1086           | 32-42      | 813 | 2124 |



## Class 250 NRS Flanged Gate Valve

Model: GV-07

## Class250, Swing Check Valve

Model: CV-01

## Technical Features

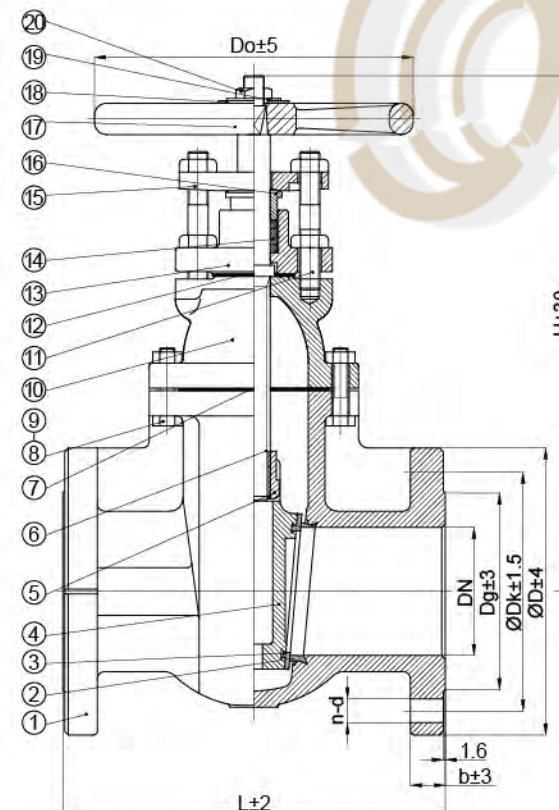
- Size: DN50-DN600 / 2"-24"
- Working Pressure: Class 250
- Design Standard: MSS SP-70
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 / BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-12"

## Valve Material List

| NO. | Description          | Material                     |
|-----|----------------------|------------------------------|
| 1   | Body                 | Cast Iron / Ductile Iron     |
| 2   | Seat Rings           | Bronze                       |
| 3   | Disc Face Rings      | Bronze                       |
| 4   | Disc                 | Cast Iron / Ductile Iron     |
| 5   | Disc Nut             | Brass                        |
| 6   | Stem                 | Brass                        |
| 7   | Body Gasket          | Stainless Steel Spiral wound |
| 8   | Bolts                | Steel                        |
| 9   | Nuts                 | Steel                        |
| 10  | Bonnet               | Cast Iron / Ductile Iron     |
| 11  | Gland Follower Bolts | Steel                        |
| 12  | Stuffing Box Gasket  | Graphite                     |
| 13  | Stuffing Box         | Cast Iron                    |
| 14  | Packing              | Graphite                     |
| 15  | Gland Follower       | Ductile Iron                 |
| 16  | Packing Gland        | Brass                        |
| 17  | Handwheel            | Cast Iron / Ductile Iron     |
| 18  | Identification Plate | Aluminium                    |
| 19  | Washer               | Steel                        |
| 20  | Handwheel Nut        | Steel                        |

## Dimensions

| DN  | INCH | L   | Dg    | D   | b    | ANSI 300<br>Dk | n-d   | Do  | H    |
|-----|------|-----|-------|-----|------|----------------|-------|-----|------|
| 50  | 2"   | 216 | 106.5 | 165 | 22.3 | 127            | 8-19  | 178 | 289  |
| 65  | 2.5" | 241 | 125.5 | 191 | 25.4 | 149            | 8-22  | 178 | 323  |
| 80  | 3"   | 282 | 144.5 | 210 | 28.6 | 168            | 8-22  | 200 | 338  |
| 100 | 4"   | 305 | 176.5 | 254 | 31.8 | 200            | 8-22  | 254 | 411  |
| 125 | 5"   | 381 | 211.5 | 279 | 35   | 235            | 8-22  | 300 | 503  |
| 150 | 6"   | 403 | 246.5 | 318 | 36.6 | 270            | 12-22 | 300 | 558  |
| 200 | 8"   | 419 | 303.5 | 381 | 41.3 | 330            | 12-25 | 348 | 650  |
| 250 | 10"  | 457 | 357.5 | 445 | 47.6 | 387            | 16-29 | 400 | 770  |
| 300 | 12"  | 502 | 418   | 521 | 50.8 | 451            | 16-32 | 457 | 861  |
| 350 | 14"  | 572 | 481.5 | 584 | 54   | 514            | 20-32 | 508 | 991  |
| 400 | 16"  | 610 | 535   | 648 | 57.3 | 572            | 20-35 | 558 | 1058 |
| 450 | 18"  | 660 | 592.5 | 711 | 60.4 | 629            | 24-35 | 610 | 1206 |
| 500 | 20"  | 711 | 649.5 | 775 | 63.5 | 686            | 24-35 | 640 | 1276 |
| 600 | 24"  | 787 | 768.5 | 914 | 69.9 | 813            | 24-41 | 762 | 1466 |



## Technical Features

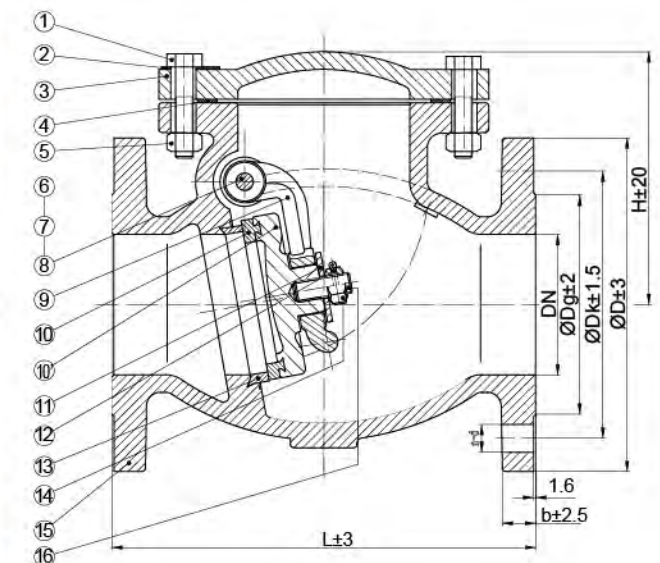
- Size: DN50-DN300 / 2"-12"
- Working Pressure: Class 250
- Design Standard: MSS SP-71
- Test Standard: API 598
- Flange Standard: ASME B16.2(250LB)
- Face to Face Standard: ASME B16.10(250LB)
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-12"

## Valve Material List

| NO. | Part                 | Material        |
|-----|----------------------|-----------------|
| 1   | Bolts                | Steel           |
| 2   | Identification Plate | Aluminium       |
| 3   | Bonnet               | Cast Iron       |
| 4   | Body Gasket          | Graphite        |
| 5   | Nuts                 | Steel           |
| 6   | Side Plug            | Brass           |
| 7   | Gasket               | Fiber           |
| 8   | Hanger Pin           | Brass           |
| 9   | Hanger               | Ductile Iron    |
| 10  | Disc Ring            | Cast Bronze     |
| 10' | Disc                 | Cast Iron       |
| 11  | Washer               | Steel           |
| 12  | Split Pin            | Stainless Steel |
| 13  | Seat Ring            | Cast Bronze     |
| 14  | Disc Nut             | Steel           |
| 15  | Body                 | Cast Iron       |
| 16  | Stud Bolt            | Steel           |

## Dimensions

| DN  | INCH | L     | Dg    | D   | b    | ANSI 300<br>Dk | n-d   | H   |
|-----|------|-------|-------|-----|------|----------------|-------|-----|
| 50  | 2"   | 267   | 106.5 | 165 | 22.3 | 127            | 8-19  | 113 |
| 65  | 2.5" | 292   | 125.5 | 191 | 25.4 | 149.2          | 8-22  | 133 |
| 80  | 3"   | 317.5 | 144.5 | 210 | 28.6 | 168.3          | 8-22  | 144 |
| 100 | 4"   | 356   | 176.5 | 254 | 31.8 | 200            | 8-22  | 168 |
| 125 | 5"   | 400   | 211.5 | 279 | 35   | 235            | 8-22  | 198 |
| 150 | 6"   | 444.5 | 246.5 | 318 | 36.6 | 269.9          | 12-22 | 217 |
| 200 | 8"   | 533   | 303.5 | 381 | 41.3 | 330.2          | 12-25 | 261 |
| 250 | 10"  | 622   | 357.5 | 445 | 47.6 | 387.4          | 16-29 | 287 |
| 300 | 12"  | 711   | 418   | 521 | 50.8 | 450.8          | 16-32 | 319 |



## Class 125 Flanged Swing Check Valve

Model: CV-02

### Technical Features

- Size: DN40-DN900 / 1.5"-36"
- Working Pressure: Class 125
- Design Standard: MSS SP-71
- Test Standard: API 598
- Flange Standard: Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 / BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-24"

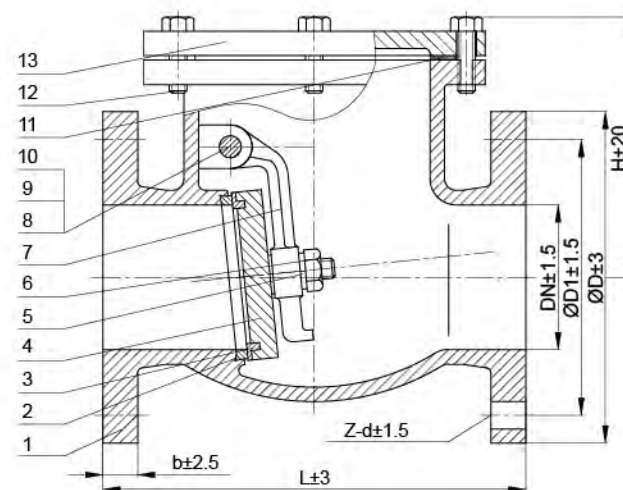


### Valve Material List

| NO. | Description    | Material                       |
|-----|----------------|--------------------------------|
| 1   | Body           | Cast Iron / Ductile Iron       |
| 2   | Body Seat Ring | Brass                          |
| 3   | Disc Seat Ring | Brass                          |
| 4   | Disc           | Ductile Iron                   |
| 5   | Washer         | Carbon Steel                   |
| 6   | Locking Nut    | Carbon Steel / Stainless Steel |
| 7   | Arm            | Ductile Iron                   |
| 8   | Hing Pin       | Stainless Steel                |
| 9   | Plug           | Carbon Steel / Stainless Steel |
| 10  | Gasket         | TFL / NBR                      |
| 11  | Gasket         | NBR / Graphite                 |
| 12  | Bolt           | Carbon Steel / Stainless Steel |
| 13  | Bonnet         | Ductile Iron                   |

### Dimensions

| DN  | INCH | ØD    | L     | b    | ØD1    | Z-Ød    | H     |
|-----|------|-------|-------|------|--------|---------|-------|
| 40  | 1.5" | 127   | 165   | 15   | 98.4   | 4-16    | 120   |
| 50  | 2"   | 152   | 203.2 | 16   | 120.7  | 4-19    | 137   |
| 65  | 2.5" | 178   | 216   | 17.5 | 139.7  | 4-19    | 143   |
| 80  | 3"   | 191   | 241   | 19   | 152.4  | 4-19    | 154   |
| 100 | 4"   | 229   | 292   | 24   | 190.5  | 8-19    | 171   |
| 125 | 5"   | 254   | 330.2 | 24   | 215.9  | 8-22    | 204   |
| 150 | 6"   | 279.4 | 355.6 | 25.5 | 241.3  | 8-22    | 219   |
| 200 | 8"   | 343   | 495   | 30   | 298.5  | 8-22    | 258.9 |
| 250 | 10"  | 406   | 622   | 30   | 362    | 12-25.4 | 291   |
| 300 | 12"  | 483   | 698.5 | 32   | 431.8  | 12-25.4 | 326   |
| 350 | 14"  | 533   | 787   | 35   | 476.3  | 12-28.6 | 362   |
| 400 | 16"  | 597   | 914   | 37   | 539.8  | 16-28.6 | 389   |
| 450 | 18"  | 635   | 1016  | 39.7 | 577.9  | 16-32   | 450   |
| 500 | 20"  | 699   | 1016  | 43   | 635    | 20-32   | 518   |
| 600 | 24"  | 813   | 1219  | 48   | 749.5  | 20-35   | 617   |
| 750 | 30"  | 984   | 1422  | 54   | 914.5  | 28-35   | 763   |
| 900 | 36"  | 1168  | 1600  | 60.5 | 1085.9 | 32-41   | 960   |



## Class125, Swing Check Valve with Lever and Weight

Model: CV-03

### Technical Features

- Size: DN40-DN900 / 1.5"-36"
- Working Pressure: Class 125
- Design Standard: MSS SP-71
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-12"

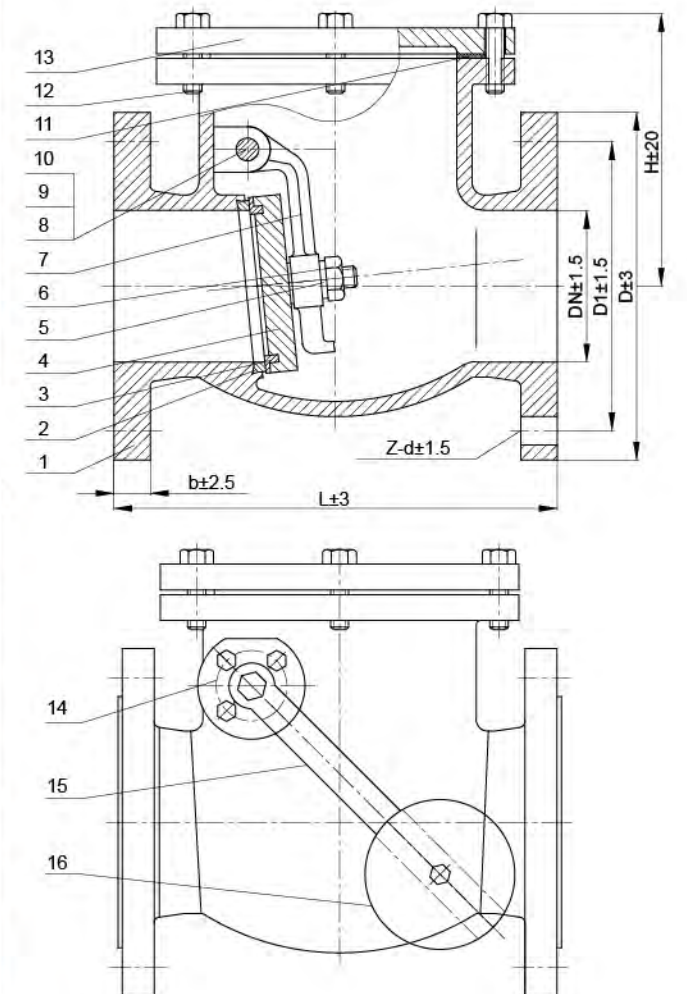


### Valve Material List

| NO. | Part           | Material                 |
|-----|----------------|--------------------------|
| 1   | Body           | Ductile Iron / Cast Iron |
| 2   | Body Seat Ring | Brass                    |
| 3   | Disc Seat Ring | Brass                    |
| 4   | Disc           | Ductile Iron             |
| 5   | Washer         | Carbon Steel             |
| 6   | Locking Nut    | Carbon Steel             |
| 7   | Arm            | Ductile Iron             |
| 8   | Hing Pin       | Stainless Steel          |
| 9   | Plug           | Carbon Steel             |
| 10  | Gasket         | TFL                      |
| 11  | Gasket         | NBR                      |
| 12  | Bolt           | Carbon Steel             |
| 13  | Bonnet         | Ductile Iron             |
| 14  | Gland          | Ductile Iron             |
| 15  | Hammer         | Ductile Iron             |
| 16  | Hinge          | Ductile Iron / Cast Iron |

### Dimensions

| DN  | INCH | ØD    | L     | b    | ANSI 150<br>ØD1 | Z-Ød    | H     |
|-----|------|-------|-------|------|-----------------|---------|-------|
| 40  | 1.5" | 127   | 165   | 15   | 98.4            | 4-16    | 120   |
| 50  | 2"   | 152   | 203.2 | 16   | 120.7           | 4-19    | 137   |
| 65  | 2.5" | 178   | 216   | 17.5 | 139.7           | 4-19    | 143   |
| 80  | 3"   | 191   | 241   | 19   | 152.4           | 4-19    | 154   |
| 100 | 4"   | 229   | 292   | 24   | 190.5           | 8-19    | 171   |
| 125 | 5"   | 254   | 330.2 | 24   | 215.9           | 8-22    | 204   |
| 150 | 6"   | 279.4 | 355.6 | 25.5 | 241.3           | 8-22    | 219   |
| 200 | 8"   | 343   | 495   | 30   | 298.5           | 8-22    | 258.9 |
| 250 | 10"  | 406   | 622   | 30   | 362             | 12-25.4 | 291   |
| 300 | 12"  | 483   | 698.5 | 32   | 431.8           | 12-25.4 | 326   |
| 350 | 14"  | 533   | 787   | 35   | 476.3           | 12-28.6 | 362   |
| 400 | 16"  | 597   | 914   | 37   | 539.8           | 16-28.6 | 389   |
| 450 | 18"  | 635   | 1016  | 39.7 | 577.9           | 16-32   | 533   |
| 500 | 20"  | 699   | 1016  | 43   | 635             | 20-32   | 536   |
| 600 | 24"  | 813   | 1219  | 48   | 749.5           | 20-35   | 617   |
| 750 | 30"  | 984   | 1422  | 54   | 914.5           | 28-35   | 767   |
| 900 | 36"  | 1168  | 1956  | 60.5 | 1086            | 32-41   | 963   |



## Swing Flange Check Valves

Model: CV-04

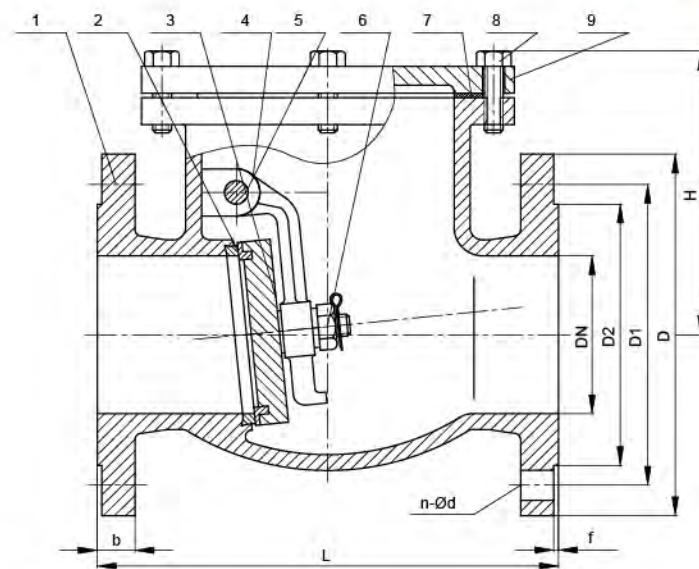
## Ball Type Check Valves

Model: BCV

## With Lock Type / Without Lock Type

## Technical Features

- Size: DN40-DN600 / 1.5"-24"
- Working Pressure: 200PSI / 300PSI / PN10 / PN16 / PN25
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 200°C



## Valve Material List

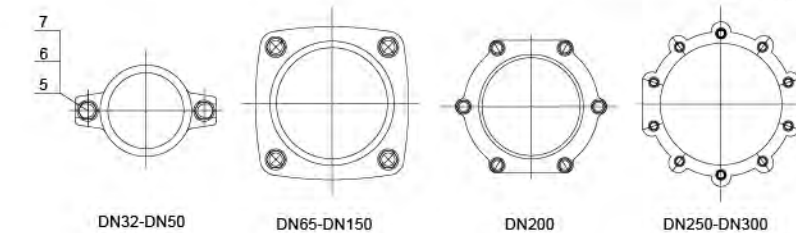
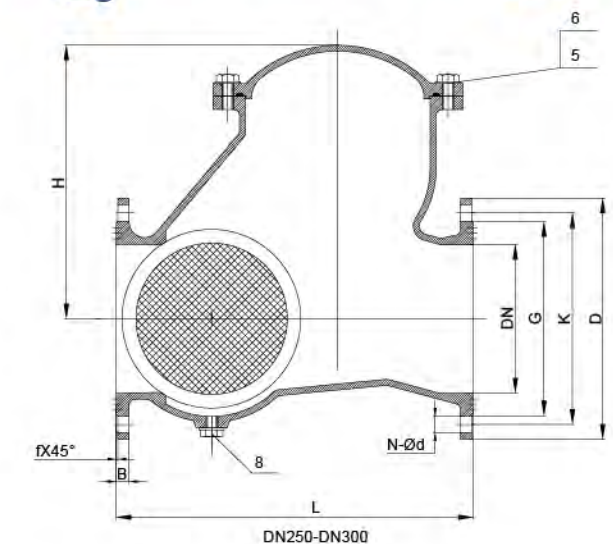
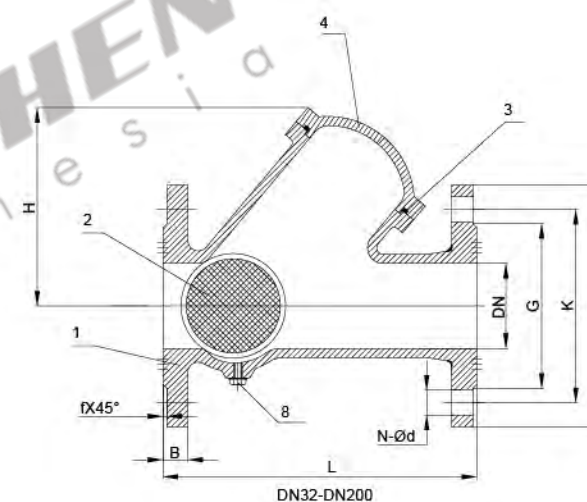
| NO. | Part Name   | Material             |
|-----|-------------|----------------------|
| 1   | Body        | Ductile Iron         |
| 2   | Seat        | Brass                |
| 3   | Cover       | Ductile Iron         |
| 4   | Hanger      | Ductile Iron         |
| 5   | Pin         | SS420 / SS316        |
| 6   | Nut / Peg   | Carbon Steel / SS304 |
| 7   | Gasket      | Graphite             |
| 8   | Bolt/Washer | Carbon Steel         |
| 9   | Bonnet      | Cast Iron            |

## Dimensions

| DN  | INCH | L    | D   | D1  | D2  | H   | b    | f | n-Ød  |
|-----|------|------|-----|-----|-----|-----|------|---|-------|
| 40  | 1.5" | 180  | 150 | 110 | 88  | 114 | 19   | 3 | 4-19  |
| 50  | 2"   | 200  | 165 | 125 | 102 | 127 | 19   | 3 | 4-19  |
| 65  | 2.5" | 240  | 185 | 145 | 122 | 137 | 19   | 3 | 4-19  |
| 80  | 3"   | 260  | 200 | 160 | 138 | 150 | 19   | 3 | 8-19  |
| 100 | 4"   | 300  | 220 | 180 | 158 | 164 | 19   | 3 | 8-19  |
| 125 | 5"   | 350  | 250 | 210 | 188 | 185 | 19   | 3 | 8-19  |
| 150 | 6"   | 400  | 285 | 240 | 212 | 205 | 19   | 3 | 8-23  |
| 200 | 8"   | 500  | 340 | 295 | 268 | 249 | 22   | 3 | 12-23 |
| 250 | 10"  | 600  | 405 | 355 | 319 | 305 | 22   | 3 | 12-28 |
| 300 | 12"  | 700  | 460 | 410 | 370 | 412 | 24.5 | 4 | 12-28 |
| 350 | 14"  | 800  | 520 | 470 | 415 | 445 | 26.5 | 4 | 16-28 |
| 400 | 16"  | 900  | 580 | 525 | 465 | 505 | 28   | 4 | 16-31 |
| 450 | 18"  | 1000 | 640 | 585 | 520 | 695 | 30   | 4 | 20-31 |
| 500 | 20"  | 1100 | 715 | 650 | 570 | 750 | 31.5 | 4 | 20-34 |
| 600 | 24"  | 1300 | 840 | 770 | 670 | 850 | 36   | 4 | 20-37 |

## Technical Features

- Size: DN50-DN300 / 2"-12"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C



## Valve Material List

| No. | Name   | Qty | Material          |
|-----|--------|-----|-------------------|
| 1   | Body   | 1   | Ductile Iron      |
| 2   | Ball   | 1   | Ductile Iron+EPDM |
| 3   | O Ring | 1   | NBR               |
| 4   | Bonnet | 1   | Ductile Iron      |
| 5   | Gasket |     | Stainless Steel   |
| 6   | Screw  |     | Stainless Steel   |
| 7   | Nut    |     | Stainless Steel   |
| 8   | Plug   | 1   | SS304             |

## Dimensions

| DN  | INCH | L   | D   | K     | G     | N-Ød   | B    | f | H   |
|-----|------|-----|-----|-------|-------|--------|------|---|-----|
| 50  | 2"   | 200 | 152 | 120.6 | 97.7  | 4-Ø19  | 16   | 3 | 116 |
| 65  | 2.5" | 240 | 178 | 139.7 | 116.7 | 4-Ø19  | 17.5 | 3 | 151 |
| 80  | 3"   | 260 | 191 | 152.4 | 129.4 | 4-Ø19  | 19   | 3 | 169 |
| 100 | 4"   | 300 | 229 | 190.5 | 167.5 | 8-Ø19  | 24   | 3 | 196 |
| 125 | 5"   | 350 | 254 | 215.9 | 189.9 | 8-Ø22  | 24   | 3 | 228 |
| 150 | 6"   | 400 | 279 | 241.5 | 215.3 | 8-Ø22  | 25.5 | 3 | 262 |
| 200 | 8"   | 500 | 343 | 298.4 | 272.5 | 8-Ø22  | 29   | 3 | 354 |
| 250 | 10"  | 600 | 406 | 361.9 | 332.9 | 12-Ø25 | 30.5 | 3 | 460 |
| 300 | 12"  | 700 | 483 | 431.8 | 402.8 | 12-Ø25 | 32   | 3 | 528 |

## American Standard Check Valve

Model: CV-05

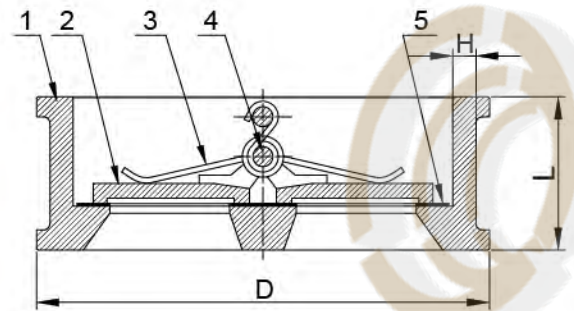
## Technical Features

- Size: DN50-DN600 / 2"-24"
- Working Pressure: 200PSI
- Design Standard: API 594
- Testing Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150
- Face to Face Standard: BS EN558-1
- Working Temperature: -20°C to 120°C
- NOTE:  
NSF61 & NSF372 approvals are available for 2"-12" check valve



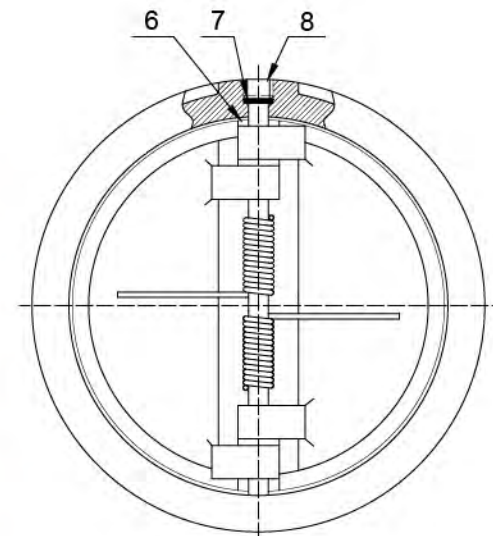
## Valve Material List

| NO. | Description | Material                       |
|-----|-------------|--------------------------------|
| 1   | Body        | Cast Iron / Cast Iron          |
| 2   | Disc        | DI / CF8 / CF8M / Bronze       |
| 3   | Spring      | Stainless Steel                |
| 4   | Shaft       | SS416 / SS316                  |
| 5   | Seat        | EPDM / NBR / VITON             |
| 6   | Washer      | PTFE / NYLON                   |
| 7   | Sealing     | NBR                            |
| 8   | Screw       | Stainless Steel / Carbon Steel |



## Dimensions

| DN  | INCH | D   | L   | ANSI150 |             |
|-----|------|-----|-----|---------|-------------|
| 50  | 2"   | 102 | 54  | 120.7   | 4-5/8"-11   |
| 65  | 2.5" | 121 | 60  | 139.7   | 4-5/8"-11   |
| 80  | 3"   | 133 | 67  | 152.4   | 4-5/8"-11   |
| 100 | 4"   | 172 | 67  | 190.8   | 8-5/8"-11   |
| 125 | 5"   | 191 | 83  | 215.9   | 8-3/4"-10   |
| 150 | 6"   | 216 | 95  | 241.3   | 8-3/4"-10   |
| 200 | 8"   | 280 | 127 | 298.5   | 8-3/4"-10   |
| 250 | 10"  | 337 | 140 | 362     | 12-7/8"-9   |
| 300 | 12"  | 406 | 181 | 431.8   | 12-7/8"-9   |
| 350 | 14"  | 451 | 184 | 476.3   | 12-1"-8     |
| 400 | 16"  | 511 | 191 | 539.8   | 16-1"-8     |
| 450 | 18"  | 546 | 203 | 577.9   | 16-1 1/8"-7 |
| 500 | 20"  | 603 | 213 | 635     | 20-1 1/8"-7 |
| 600 | 24"  | 711 | 222 | 749.3   | 20-1 1/4"-7 |

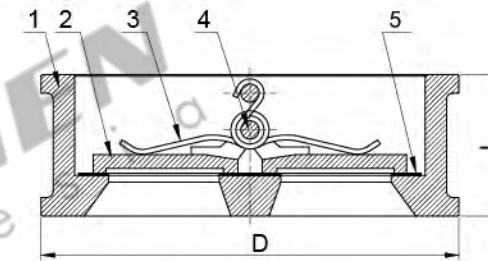


## German Standard Check Valve

Model: CV-06

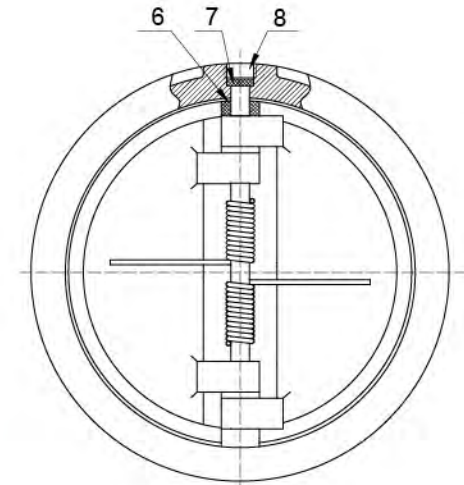
## Technical Features

- Size: DN50-DN900 / 2"-36"
- Working Pressure: PN6 / PN10 / PN16
- Design Standard: API 594
- Testing Standard: API 598
- Flange Standard: DIN2501 PN6 / PN10/PN16
- Face to Face Standard: DIN3202 K3 (EN558-1 Row 16)
- Working Temperature: 0°C to 80°C



## Valve Material List

| NO. | Description | Material                           |
|-----|-------------|------------------------------------|
| 1   | Body        | Ductile Iron / CF8 / CF8M / Bronze |
| 2   | Disc        | Ductile Iron / CF8 / CF8M / Bronze |
| 3   | Spring      | Stainless Steel                    |
| 4   | Shaft       | SS416 / SS316                      |
| 5   | Seat        | EPDM / NBR                         |
| 6   | Washer      | PTFE / NYLON                       |
| 7   | Sealing     | NBR                                |
| 8   | Screw       | Stainless Steel / Carbon Steel     |



## Dimensions

| DN  | INCH | D   |      |      | L   | DIN PN6 |        | DIN PN10 |        | DIN PN16 |        |
|-----|------|-----|------|------|-----|---------|--------|----------|--------|----------|--------|
|     |      | PN6 | PN10 | PN16 |     | ØD      | n-M    | ØD       | n-M    | ØD       | n-M    |
| 50  | 2"   | 96  | 107  |      | 43  | 110     | 4-M12  | 125      | 4-M16  | 125      | 4-M16  |
| 65  | 2.5" | 116 | 127  |      | 46  | 130     | 4-M12  | 145      | 4-M16  | 145      | 4-M16  |
| 80  | 3"   | 132 | 142  |      | 64  | 150     | 4-M16  | 160      | 8-M16  | 160      | 8-M16  |
| 100 | 4"   | 152 | 162  |      | 64  | 170     | 4-M16  | 180      | 8-M16  | 180      | 8-M16  |
| 125 | 5"   | 182 | 192  |      | 70  | 200     | 8-M16  | 210      | 8-M16  | 210      | 8-M16  |
| 150 | 6"   | 207 | 218  |      | 76  | 225     | 8-M16  | 240      | 8-M20  | 240      | 8-M20  |
| 200 | 8"   | 262 | 273  |      | 89  | 280     | 8-M16  | 295      | 8-M20  | 295      | 12-M20 |
| 250 | 10"  | 317 | 328  |      | 114 | 335     | 12-M16 | 350      | 12-M20 | 355      | 12-M24 |
| 300 | 12"  | 373 | 378  | 383  | 114 | 395     | 12-M20 | 400      | 12-M20 | 410      | 12-M24 |
| 350 | 14"  | 423 | 438  | 444  | 127 | 445     | 12-M20 | 460      | 16-M20 | 470      | 16-M24 |
| 400 | 16"  | 473 | 489  | 495  | 140 | 495     | 16-M20 | 515      | 16-M24 | 525      | 16-M27 |
| 450 | 18"  | 528 | 539  | 555  | 152 | 550     | 16-M20 | 565      | 20-M24 | 585      | 20-M27 |
| 500 | 20"  | 578 | 594  | 617  | 152 | 600     | 20-M20 | 620      | 20-M24 | 650      | 20-M30 |
| 600 | 24"  | 679 | 695  | 734  | 178 | 705     | 20-M24 | 725      | 20-M27 | 770      | 20-M27 |
| 700 | 28"  | 784 | 807  | 802  | 229 | 810     | 24-M24 | 840      | 24-M27 | 840      | 24-M27 |
| 800 | 32"  | 890 | 917  | 912  | 241 | 920     | 24-M27 | 950      | 24-M30 | 950      | 24-M36 |
| 900 | 36"  | 990 | 1014 | 1012 | 241 | 1020    | 24-M27 | 1050     | 28-M30 | 1050     | 28-M36 |

## Rubber Coated Chcek Valve

Model: CV-07

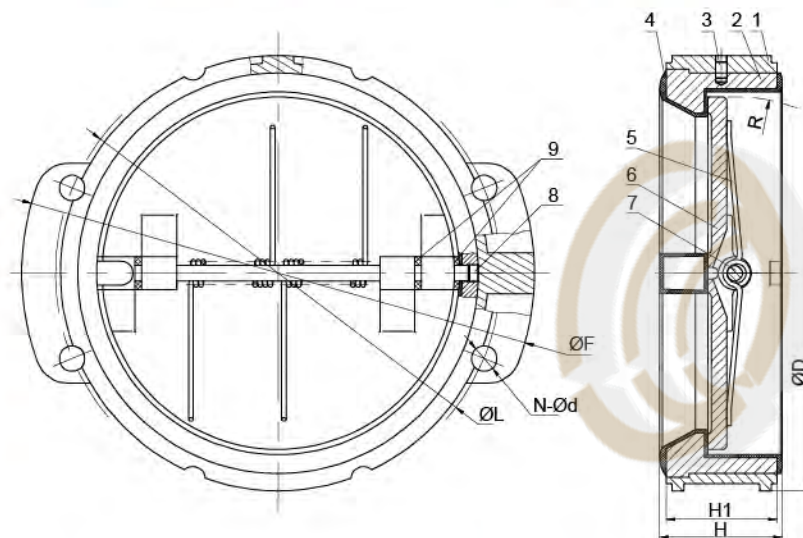
### Technical Features

- Size: DN50-DN600 / 2"-24"
- Working Pressure: DN50-DN200 1.6Mpa, DN250-DN600 1.0Mpa
- Design Standards: API594
- Testing Standards: API598
- Flange Standards: BS EN 1092-2
- Testing Pressure: DN50-DN200 1.6Mpa, DN250-DN600 1.0Mpa
- Working Temperature: -20°C to 80°C



### Valve Material List

| NO. | Name           | Material           |
|-----|----------------|--------------------|
| 1   | Alignment Body | Ductile Iron       |
| 2   | Insert Body    | Ductile Iron       |
| 3   | Set Screw      | Carbon Steel       |
| 4   | Liner          | EPDM / NBR / VITON |
| 5   | Springs        | Monel / SS316      |
| 6   | Plate          | Bronze / CF8M      |
| 7   | Shaft          | Monel / SS316      |
| 8   | Shaft Plug     | SS316              |
| 9   | Washer         | TEFLON             |



### Dimensions

| DN  | INCH | H     | H1    | F   | R   | D   | L   | PN10<br>N | d  | L   | PN16<br>N | d  |
|-----|------|-------|-------|-----|-----|-----|-----|-----------|----|-----|-----------|----|
| 50  | 2"   | 54    | 50    | 165 | 29  | 101 | 125 | 4         | 19 | 125 | 4         | 19 |
| 65  | 2.5" | 54    | 50    | 185 | 36  | 120 | 145 | 4         | 19 | 145 | 4         | 19 |
| 80  | 3"   | 54    | 50    | 200 | 43  | 131 | 160 | 8         | 19 | 160 | 8         | 19 |
| 100 | 4"   | 63.5  | 60    | 234 | 53  | 171 | 180 | 8         | 19 | 180 | 8         | 19 |
| 125 | 5"   | 66.7  | 63    | 270 | 66  | 193 | 210 | 8         | 19 | 210 | 8         | 19 |
| 150 | 6"   | 79.4  | 76    | 304 | 79  | 222 | 240 | 8         | 23 | 240 | 8         | 23 |
| 200 | 8"   | 98.4  | 95    | 367 | 104 | 268 | 295 | 8         | 23 | 295 | 12        | 23 |
| 250 | 10"  | 101.6 | 98    | 428 | 127 | 335 | 350 | 12        | 23 |     |           |    |
| 300 | 12"  | 130.2 | 126   | 497 | 148 | 403 | 400 | 12        | 23 |     |           |    |
| 350 | 14"  | 181   | 178   | 570 | 172 | 430 | 460 | 16        | 23 |     |           |    |
| 400 | 16"  | 162   | 159   | 635 | 197 | 511 | 515 | 28        | 28 |     |           |    |
| 450 | 18"  | 184.2 | 180.5 | 640 | 218 | 546 | 565 | 20        | 28 |     |           |    |
| 500 | 20"  | 215.9 | 212.5 | 700 | 241 | 597 | 620 | 20        | 28 |     |           |    |
| 600 | 24"  | 215.9 | 212.5 | 820 | 295 | 714 | 725 | 20        | 30 |     |           |    |

## Class 125 Outside Screw & Yoke Globe Valve

Model: GLV-01

### Technical Features

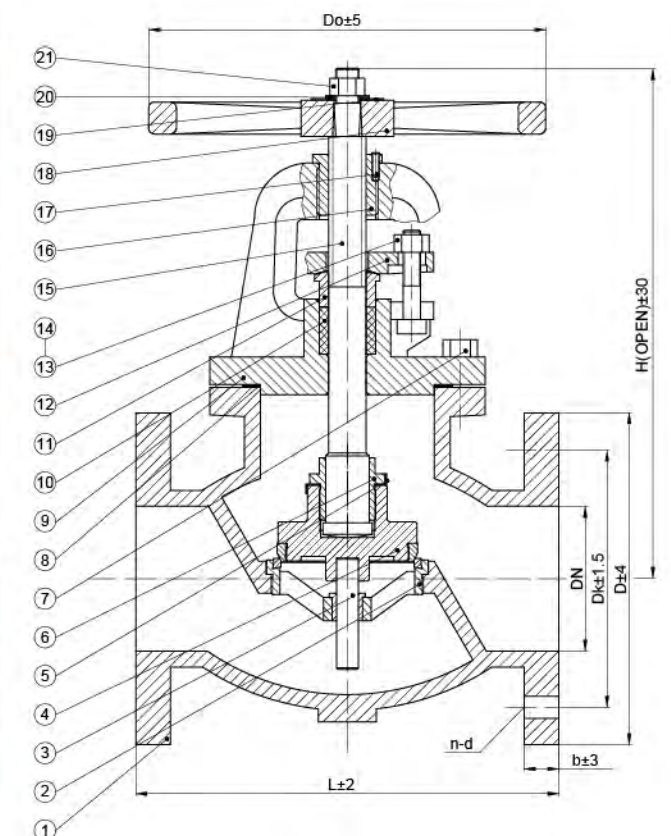
- Size: DN40-DN900 / 2"-12"
- Working Pressure: Class 125
- Design Standard: MSS SP-85
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-10"

### Valve Material List

| NO. | Part                 | Material                     |
|-----|----------------------|------------------------------|
| 1   | Body                 | Ductile Iron / Cast Iron     |
| 2   | Seat Rings           | Bronze                       |
| 3   | Reaction Member      | Brass                        |
| 4   | Disc                 | Bronze                       |
| 5   | Gasket               | Brass                        |
| 6   | Swivel Nut           | Brass                        |
| 7   | Bolts                | Steel                        |
| 8   | Body Gasket          | Stainless Steel Spiral-wound |
| 9   | Bonnet               | Ductile Iron / Cast Iron     |
| 10  | Packing              | Graphite                     |
| 11  | Packing Gland        | Brass                        |
| 12  | Gland Follower       | Ductile Iron                 |
| 13  | Gland Follower Bolts | Steel                        |
| 14  | Gland Follower Nuts  | Steel                        |
| 15  | Stem                 | Brass                        |
| 16  | Yoke Bushing         | Bronze                       |
| 17  | Screw                | Steel                        |
| 18  | Handwheel            | Ductile Iron / Cast Iron     |
| 19  | Identification Plate | Aluminium                    |
| 20  | Washer               | Steel                        |
| 21  | Handwheel Nut        | Ductile Iron                 |

### Dimensions

| DN  | INCH | L     | D     | b    | Do  | ANSI 150<br>Dk | n-d   | H   |
|-----|------|-------|-------|------|-----|----------------|-------|-----|
| 50  | 2"   | 203   | 152   | 15.9 | 178 | 120.7          | 4-19  | 295 |
| 65  | 2.5" | 216   | 178   | 18   | 178 | 139.7          | 4-19  | 330 |
| 80  | 3"   | 241.3 | 191   | 19   | 200 | 152.4          | 4-19  | 365 |
| 100 | 4"   | 292   | 229   | 24   | 254 | 190.5          | 8-19  | 400 |
| 125 | 5"   | 330   | 254   | 23.8 | 300 | 215.9          | 8-22  | 450 |
| 150 | 6"   | 356   | 279.4 | 25   | 300 | 241.3          | 8-22  | 525 |
| 200 | 8"   | 495.3 | 343   | 28.6 | 348 | 298.5          | 8-22  | 595 |
| 250 | 10"  | 622   | 406   | 30.2 | 400 | 362            | 12-15 | 685 |
| 300 | 12"  | 698.5 | 488   | 31.8 | 457 | 431.8          | 12-25 | 830 |



Class 250 Flanged Globe Valve

Model: GLV-02

Ball Valve

Model: BLV-01/02

Technical Features

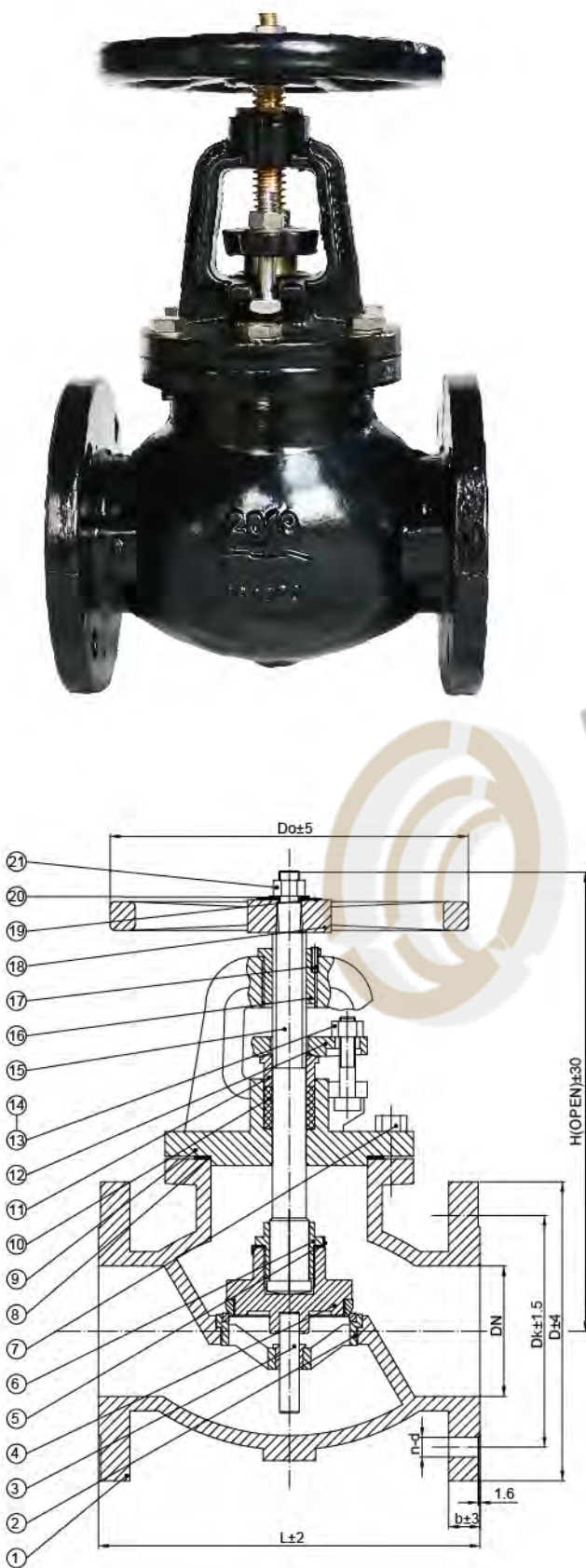
- Size: DN50-DN300 / 2"-12"
- Working Pressure: Class 250
- Design Standard: MSS SP-85
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 / BS EN558-1
- Working Temperature: -20°C to 180°C
- Note: NSF 61 and NSF 372 approval available for 2"-8"

Valve Material List

| NO. | Description          | Material                     |
|-----|----------------------|------------------------------|
| 1   | Body                 | Cast Iron / Ductile Iron     |
| 2   | Seat Ring            | Bronze                       |
| 3   | Guid Pin             | Brass                        |
| 4   | Disc                 | Bronze                       |
| 5   | Gasket               | Brass                        |
| 6   | Swivel Nut           | Brass                        |
| 7   | Bolts                | Steel                        |
| 8   | Body Gasket          | Stainless Steel Spiral-wound |
| 9   | Bonnet               | Cast Iron / Ductile Iron     |
| 10  | Packing              | Graphite                     |
| 11  | Packing Gland        | Brass                        |
| 12  | Gland Follower       | Ductile Iron                 |
| 13  | Gland Follower bolts | Steel                        |
| 14  | Gland Follower Nuts  | Steel                        |
| 15  | Stem                 | Brass                        |
| 16  | Yoke Bushing         | Bronze                       |
| 17  | Screw                | Steel                        |
| 18  | Handwheel            | Cast Iron / Ductile Iron     |
| 19  | Identification Plate | Aluminium                    |
| 20  | Washer               | Steel                        |
| 21  | Handwheel Nut        | Ductile Iron                 |

Dimensions

| DN  | INCH | L     | D   | b    | Do  | ANSI 300<br>Do | n-d     | H   |
|-----|------|-------|-----|------|-----|----------------|---------|-----|
| 50  | 2"   | 267   | 165 | 22.3 | 178 | 127            | 8-19    | 280 |
| 65  | 2.5" | 292   | 191 | 25.4 | 178 | 149.2          | 8-22.2  | 318 |
| 80  | 3"   | 317.5 | 210 | 28.6 | 200 | 168.3          | 8-22.2  | 326 |
| 100 | 4"   | 356   | 254 | 31.8 | 254 | 200            | 8-22.2  | 400 |
| 125 | 5"   | 400   | 279 | 35   | 300 | 235            | 8-22.2  | 450 |
| 150 | 6"   | 444.5 | 318 | 38.6 | 300 | 269.9          | 12-22.2 | 505 |
| 200 | 8"   | 533   | 381 | 41.3 | 348 | 330.2          | 12-25.4 | 582 |
| 250 | 10"  | 622   | 445 | 47.6 | 400 | 387.4          | 16-28.6 | 685 |
| 300 | 12"  | 711   | 521 | 50.8 | 457 | 450.8          | 16-31.8 | 830 |



Technical Features

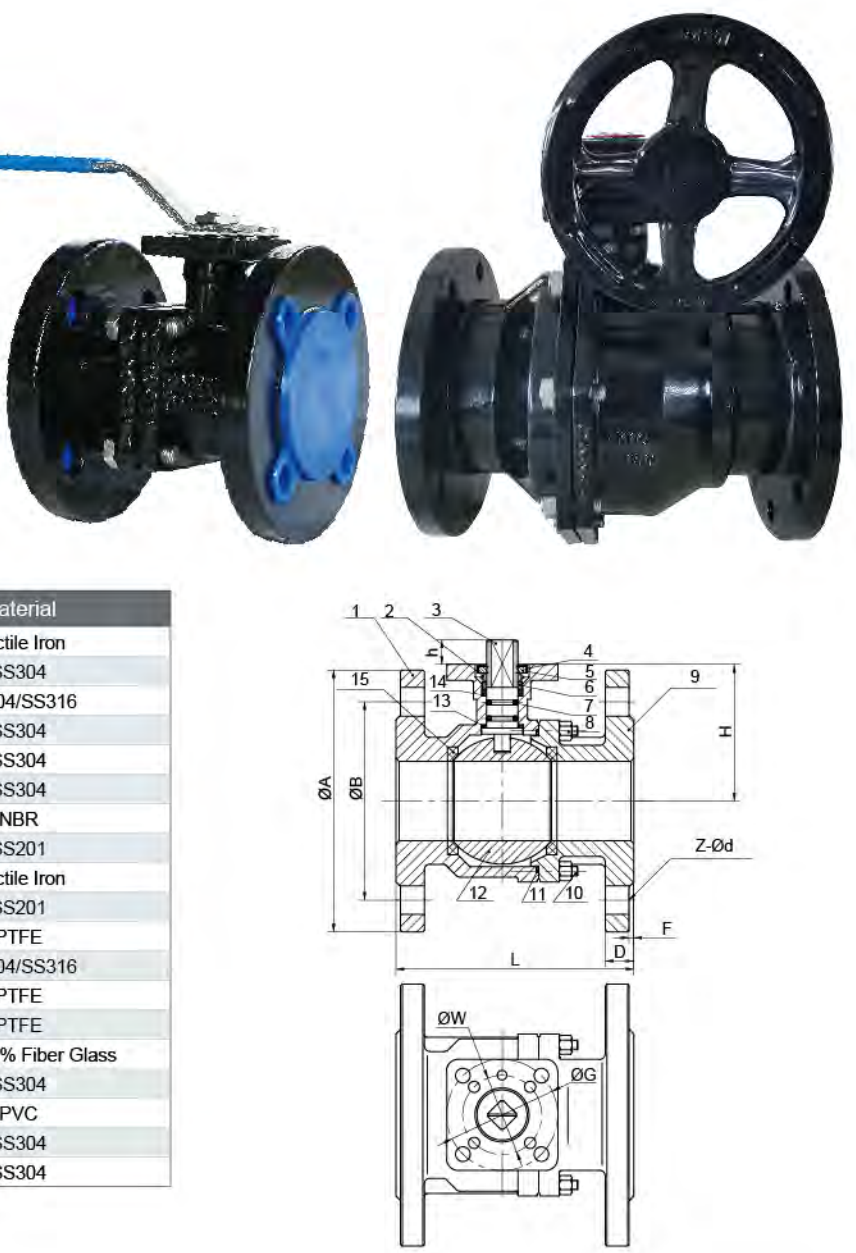
- Size: DN15-DN200 / 0.5"-8"
- Working Pressure: 16 bar
- Design Standard: API 608 / MSS-SP-72
- Test Standard: API 598
- Flange Standard: ASME / ANSI B16.42 Class 150 or BS EN 1092-2 PN16
- Mounting Plate Standard: ISO 5211
- Face to Face Standard: BS EN558-1
- Working Temperature: -20°C to 180°C

Valve Material List

| NO. | Description       | Material             |
|-----|-------------------|----------------------|
| 1   | Body              | Ductile Iron         |
| 2   | Butterfly Washer  | SS304                |
| 3   | Mid- Stem         | SS304/SS316          |
| 4   | Stop Plate        | SS304                |
| 5   | Locking Nut       | SS304                |
| 6   | Gland Ring        | SS304                |
| 7   | O-Ring            | NBR                  |
| 8   | Nut               | SS201                |
| 9   | Cap               | Ductile Iron         |
| 10  | Stud Bolt         | SS201                |
| 11  | Upper Gasket      | PTFE                 |
| 12  | Ball              | SS304/SS316          |
| 13  | Lower Gasket      | PTFE                 |
| 14  | Mid-Gasket        | PTFE                 |
| 15  | Ball-Seating      | PTFE+15% Fiber Glass |
| 16  | Stop Bolt         | SS304                |
| 17  | Handlever Bushing | PVC                  |
| 18  | Nut               | SS304                |
| 19  | Nut               | SS304                |

Dimensions

| DN  | INCH  | ØA  | PN16<br>ØB | Z-Ød  | ØA  | Class150<br>ØB | Z-Ød | L   | H   | h    | D  | F | ØW  | ØG  |
|-----|-------|-----|------------|-------|-----|----------------|------|-----|-----|------|----|---|-----|-----|
| 15  | 0.5"  | 95  | 65         | 4-14  | 90  | 60.3           | 4-16 | 115 | 50  | 9.5  | 14 | 2 | F03 | F04 |
| 20  | 0.75" | 105 | 75         | 4-14  | 100 | 69.9           | 4-16 | 120 | 55  | 9.5  | 14 | 2 | F03 | F04 |
| 25  | 1"    | 115 | 85         | 4-14  | 110 | 79.4           | 4-16 | 125 | 60  | 11.5 | 16 | 2 | F04 | F05 |
| 32  | 1.25" | 140 | 100        | 4-18  | 115 | 88.9           | 4-16 | 130 | 74  | 11.5 | 17 | 2 | F04 | F05 |
| 40  | 1.5"  | 150 | 110        | 4-18  | 125 | 98.4           | 4-16 | 140 | 78  | 15.5 | 18 | 3 | F05 | F07 |
| 50  | 2"    | 165 | 125        | 4-18  | 150 | 120.7          | 4-19 | 150 | 86  | 15.5 | 18 | 3 | F05 | F07 |
| 65  | 2.5"  | 185 | 145        | 4-18  | 180 | 139.7          | 4-19 | 170 | 98  | 18.5 | 20 | 3 | F07 | F10 |
| 80  | 3"    | 200 | 160        | 8-18  | 190 | 152.4          | 4-19 | 180 | 114 | 18.5 | 20 | 3 | F07 | F10 |
| 100 | 4"    | 220 | 180        | 8-18  | 220 | 190.5          | 8-19 | 190 | 136 | 18.5 | 20 | 3 | F07 | F10 |
| 125 | 5"    | 250 | 210        | 8-18  | 250 | 215.9          | 8-22 | 200 | 165 | 18.5 | 20 | 3 | F07 | F10 |
| 150 | 6"    | 285 | 240        | 8-22  | 280 | 241.3          | 8-22 | 210 | 190 | 23   | 20 | 3 | F10 | F12 |
| 200 | 8"    | 340 | 295        | 12-22 | 340 | 298.5          | 8-22 | 400 | 229 | 25   | 23 | 3 | F12 | F14 |



Stainless Steel Ball Valve

Model: BLV-03

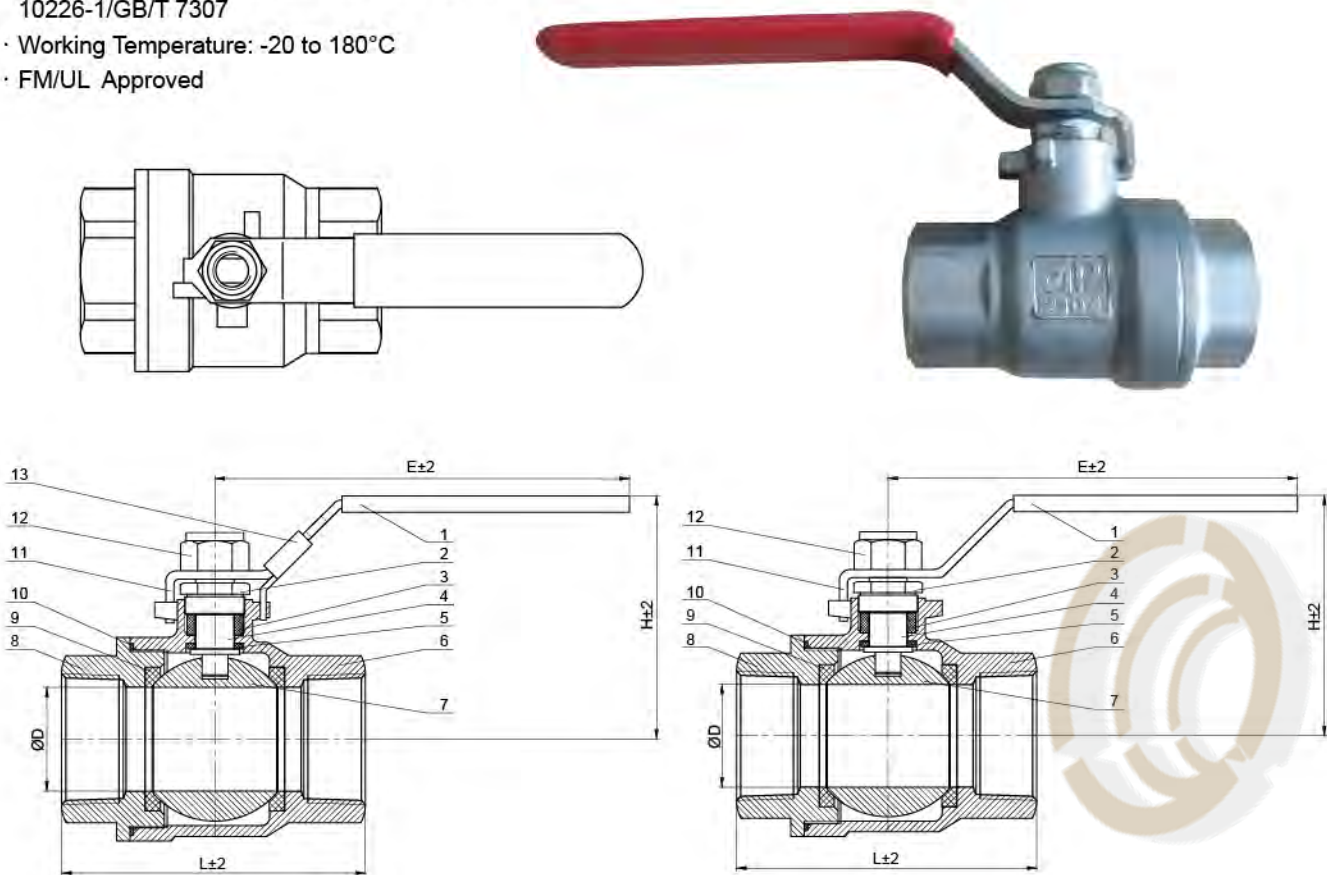
Y-strainer

Model: YS-01

With Lock Type / Without Lock Type

Technical Features

- Size: DN15-DN50 / 0.5"-2"
- Working Pressure: 200PSI / 300PSI / PN10 / PN16
- Design Standard: API608
- Test Standard: API598
- Connection Standard: ASME B1.20.1 / BS EN 10226-1/GB/T 7307
- Working Temperature: -20 to 180°C
- FM/UL Approved



Valve Material List

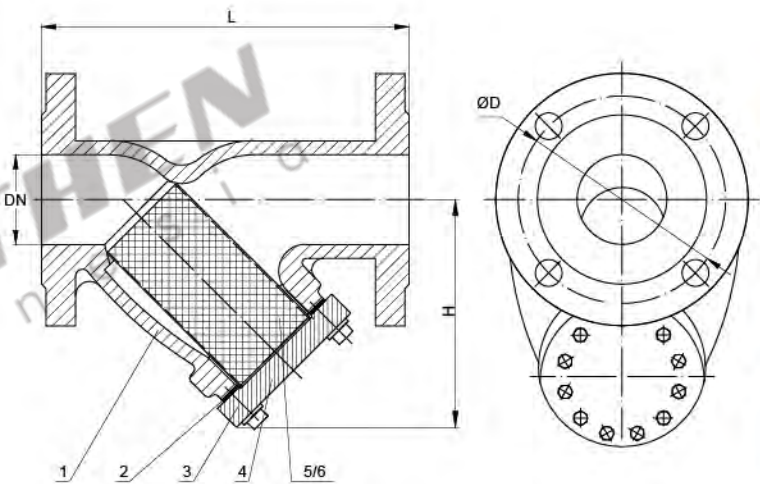
| NO. | Name          | Qty | Material                         |
|-----|---------------|-----|----------------------------------|
| 1   | Handle sleeve | 1   | PVC                              |
| 2   | Gland         | 1   | S20100 / S30400 / S31600         |
| 3   | Packing       | 1   | PTFE                             |
| 4   | Stem          | 1   | S20100 / S30400 / S31600         |
| 5   | Thrust washer | 1   | PTFE                             |
| 6   | Body          | 1   | CF8 / CF8M                       |
| 7   | Ball          | 1   | CF8 / CF8M                       |
| 8   | End cap       | 1   | CF8 / CF8M                       |
| 9   | Seat          | 2   | PTFE                             |
| 10  | Gasket        | 1   | PTFE                             |
| 11  | Handle(lock)  | 1   | S20100 / S30400 / S31600 / Steel |
| 12  | Nut           | 1   | S20100 / S30400 / S31600         |
| 13  | Lock Block    | 1   | S20100 / S30400 / S31600 / Steel |

Dimensions

| DN | INCH  | D  | L    | E   | H  |
|----|-------|----|------|-----|----|
| 15 | 0.5"  | 15 | 64.5 | 100 | 58 |
| 20 | 0.75" | 20 | 77   | 100 | 62 |
| 25 | 1"    | 25 | 85   | 126 | 68 |
| 32 | 1.25" | 32 | 100  | 126 | 75 |
| 40 | 1.5"  | 38 | 111  | 150 | 89 |
| 50 | 2"    | 50 | 124  | 150 | 97 |

Technical Features

- Size: DN15-DN600 / 0.5"-24"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: -10 to 80°C



Valve Material List

| No. | Part Name   | Material                 |
|-----|-------------|--------------------------|
| 1   | Body        | Cast Iron / Ductile Iron |
| 2   | Body Gasket | Graphite or PTFE         |
| 3   | Cover       | Cast Iron / Ductile Iron |
| 4   | Bolts       | Steel                    |
| 5   | Plug        | Stainless Steel          |
| 6   | Screen      | Stainless Steel          |

Dimensions

| DN  | INCH  | L    | Dg  | H   | ØD  | DIN PN10 Bolt Standard | ØD  | DIN PN16 Bolt Standard | ØD    | ANSI 150 Bolt Standard |
|-----|-------|------|-----|-----|-----|------------------------|-----|------------------------|-------|------------------------|
| 15  | 0.5"  | 130  | 46  | 75  | 65  | 4-M12                  | 65  | 4-M12                  | 70    | 4-½"-13                |
| 20  | 0.75" | 150  | 56  | 75  | 75  | 4-M12                  | 75  | 4-M12                  | 79.5  | 4-½"-13                |
| 25  | 1"    | 160  | 65  | 88  | 85  | 4-M12                  | 85  | 4-M12                  | 89    | 4-½"-13                |
| 32  | 1.25" | 180  | 76  | 88  | 100 | 4-M16                  | 100 | 4-M16                  | 98.4  | 4-½"-13                |
| 40  | 1.5"  | 200  | 84  | 100 | 110 | 4-M16                  | 110 | 4-M16                  | 120.7 | 4-½"-13                |
| 50  | 2"    | 230  | 99  | 113 | 125 | 4-M16                  | 125 | 4-M16                  | 139.7 | 4-½"-11                |
| 65  | 2.5"  | 290  | 118 | 130 | 145 | 4-M16                  | 145 | 4-M16                  | 152.4 | 4-½"-11                |
| 80  | 3"    | 310  | 132 | 157 | 160 | 8-M16                  | 160 | 8-M16                  | 190.5 | 8-¾"-11                |
| 100 | 4"    | 350  | 156 | 187 | 180 | 8-M16                  | 180 | 8-M16                  | 215.9 | 8-¾"-10                |
| 125 | 5"    | 400  | 184 | 219 | 210 | 8-M16                  | 210 | 8-M16                  | 241.3 | 8-¾"-10                |
| 150 | 6"    | 480  | 211 | 278 | 240 | 8-M20                  | 240 | 8-M20                  | 298.5 | 8-¾"-10                |
| 200 | 8"    | 600  | 266 | 349 | 295 | 8-M20                  | 295 | 12-M20                 | 362   | 12-¾"-9                |
| 250 | 10"   | 730  | 319 | 435 | 350 | 12-M20                 | 355 | 12-M24                 | 431.8 | 12-¾"-9                |
| 300 | 12"   | 850  | 370 | 520 | 400 | 12-M20                 | 410 | 16-M24                 | 476.3 | 16-1"-8                |
| 350 | 14"   | 980  | 415 | 520 | 460 | 16-M20                 | 470 | 16-M24                 | 539.8 | 16-1"-8                |
| 400 | 16"   | 1100 | 465 | 580 | 515 | 16-M24                 | 525 | 20-M27                 | 577.9 | 20-1 ¼"-7              |
| 450 | 18"   | 1200 | 520 | 640 | 565 | 20-M24                 | 585 | 20-M27                 | 635   | 20-1 ¼"-7              |
| 500 | 20"   | 1250 | 570 | 615 | 620 | 20-M24                 | 650 | 20-M30                 | 749.3 | 20-1 ¼"-7              |
| 600 | 24"   | 1450 | 670 | 840 | 725 | 20-M27                 | 770 | 20-M27                 |       |                        |

Single Ball Flexible Rubber Joint

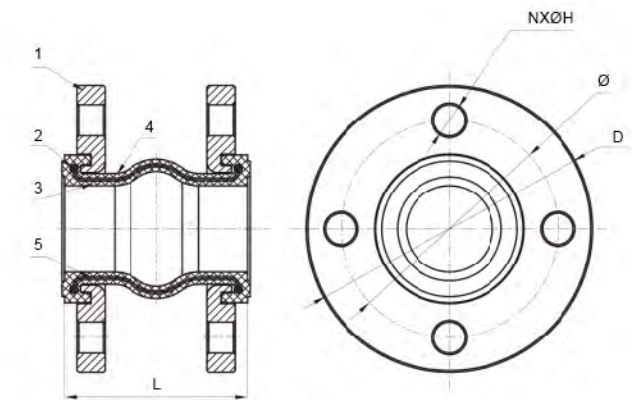
Model: RJ-01

Double Sphere Rubber Joint

Model: RJ-02

Technical Features

- Size: DN50-DN600 / 2"-24"
- Working Pressure: 200PSI / PN10 / PN16
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: 0 to 80°C



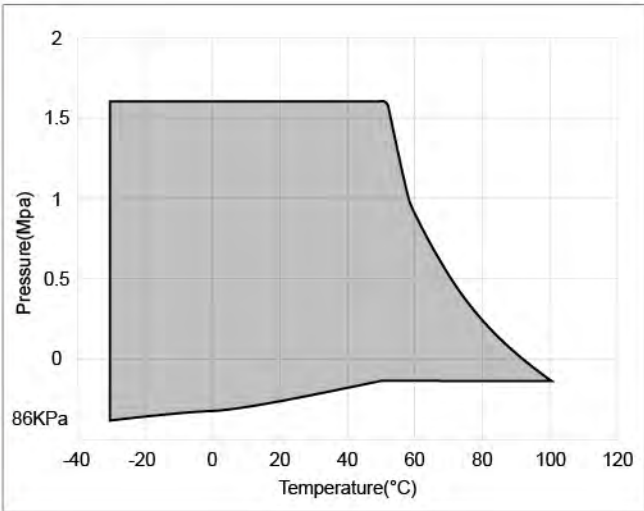
Valve Material List

| Part No. | Part               | Standard Specification  |
|----------|--------------------|-------------------------|
| 1        | Flange             | Galvanized Carbon Steel |
| 2        | Reinforcing Ring   | Carbon Steel            |
| 3        | Rubber (Inner)     | EPDM                    |
| 4        | Rubber (Outer)     | EPDM                    |
| 5        | Reinforcing Fabric | Nylon Fabric            |

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

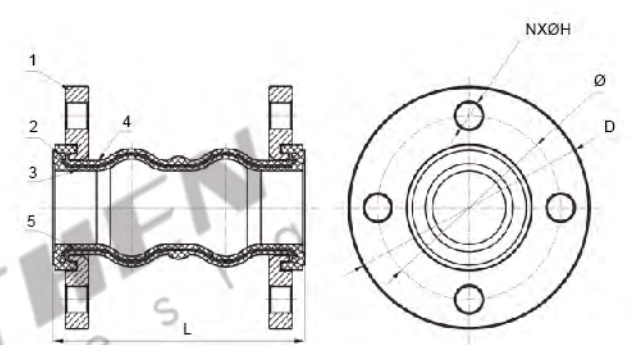
Dimensions

| DN  | INCH  | Neutral Length(mm) |     |     |       | Axial(mm)  |             | Transverse Movement(mm) | Angular Deflection Deg. |
|-----|-------|--------------------|-----|-----|-------|------------|-------------|-------------------------|-------------------------|
|     |       | L                  | D   | Ø   | N-ØH  | Elongation | Compression |                         |                         |
| 32  | 1.25" | 95                 | 140 | 100 | 4X18  | 6          | 10          | 10                      | 25                      |
| 40  | 1.5"  | 95                 | 150 | 110 | 4X18  | 6          | 10          | 10                      | 25                      |
| 50  | 2"    | 105                | 165 | 125 | 4X18  | 6          | 10          | 10                      | 25                      |
| 65  | 2.5"  | 115                | 185 | 145 | 8X18  | 8          | 15          | 12                      | 25                      |
| 80  | 3"    | 135                | 200 | 160 | 8X18  | 8          | 15          | 12                      | 25                      |
| 100 | 4"    | 150                | 220 | 180 | 8X18  | 12         | 20          | 16                      | 15                      |
| 125 | 5"    | 165                | 250 | 210 | 8X18  | 12         | 20          | 16                      | 15                      |
| 150 | 6"    | 180                | 285 | 240 | 8X22  | 12         | 20          | 16                      | 15                      |
| 200 | 8"    | 210                | 340 | 295 | 12X22 | 12         | 20          | 16                      | 15                      |
| 250 | 10"   | 230                | 405 | 355 | 12X26 | 14         | 30          | 25                      | 8                       |
| 300 | 12"   | 230                | 460 | 410 | 12X26 | 14         | 30          | 25                      | 8                       |
| 350 | 14"   | 265                | 520 | 470 | 12X26 | 14         | 30          | 25                      | 8                       |
| 400 | 16"   | 265                | 580 | 525 | 16X30 | 14         | 30          | 25                      | 8                       |
| 450 | 18"   | 265                | 640 | 585 | 20X30 | 14         | 30          | 25                      | 8                       |
| 500 | 20"   | 265                | 715 | 650 | 20X33 | 14         | 30          | 25                      | 8                       |
| 600 | 24"   | 265                | 840 | 770 | 20X36 | 14         | 30          | 25                      | 8                       |



Technical Features

- Size: DN32-DN350/ 1.25"-14"
- Working Pressure: 200PSI/PN10/PN16
- Flange Standard: ASME / ANSI B16.1 Class 125 or 16.42 Class 150 or BS EN 1092-2 PN16
- Face to Face Standard: ASME B16.10 or BS EN558-1
- Working Temperature: 0 to 80°C



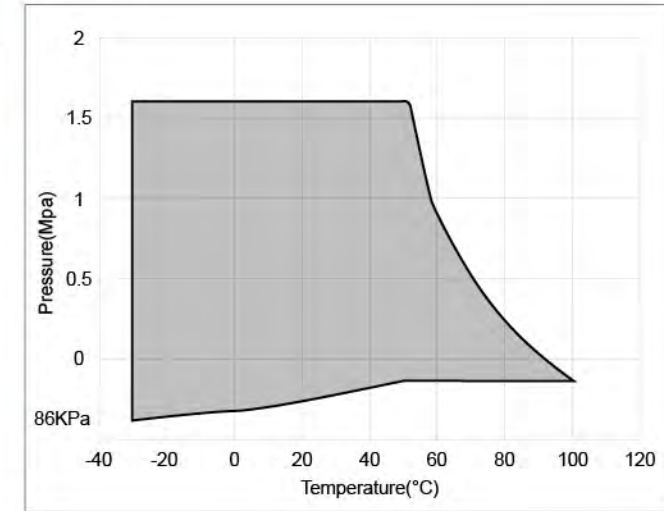
Valve Material List

| Part No. | Part               | Standard Specification  |
|----------|--------------------|-------------------------|
| 1        | Flange             | Galvanized Carbon Steel |
| 2        | Reinforcing Ring   | Carbon Steel            |
| 3        | Rubber (Inner)     | EPDM                    |
| 4        | Rubber (Outer)     | EPDM                    |
| 5        | Reinforcing Fabric | Nylon Fabric            |

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

Dimensions

| DN  | INCH  | Neutral Length(mm) |     |     |       | Axial(mm)  |             | Transverse Movement(mm) | Angular Deflection Deg. |
|-----|-------|--------------------|-----|-----|-------|------------|-------------|-------------------------|-------------------------|
|     |       | L                  | D   | Ø   | N-ØH  | Elongation | Compression |                         |                         |
| 32  | 1.25" | 175                | 140 | 100 | 4X18  | 30         | 45          | 45                      | 45                      |
| 40  | 1.5"  | 175                | 150 | 110 | 4X18  | 30         | 45          | 45                      | 45                      |
| 50  | 2"    | 175                | 165 | 125 | 4X18  | 30         | 45          | 45                      | 45                      |
| 65  | 2.5"  | 175                | 185 | 145 | 8X18  | 30         | 45          | 45                      | 45                      |
| 80  | 3"    | 175                | 200 | 160 | 8X18  | 35         | 50          | 40                      | 30                      |
| 100 | 4"    | 225                | 220 | 180 | 8X18  | 35         | 50          | 40                      | 30                      |
| 125 | 5"    | 225                | 250 | 210 | 8X18  | 35         | 50          | 40                      | 30                      |
| 150 | 6"    | 225                | 285 | 240 | 8X22  | 35         | 60          | 35                      | 15                      |
| 200 | 8"    | 325                | 340 | 295 | 12X22 | 35         | 60          | 35                      | 15                      |
| 250 | 10"   | 325                | 405 | 355 | 12X26 | 35         | 60          | 35                      | 15                      |
| 300 | 12"   | 325                | 460 | 410 | 12X26 | 35         | 60          | 35                      | 15                      |
| 350 | 14"   | 350                | 520 | 470 | 12X26 | 35         | 60          | 35                      | 15                      |



Thread-connection Rubber Joint

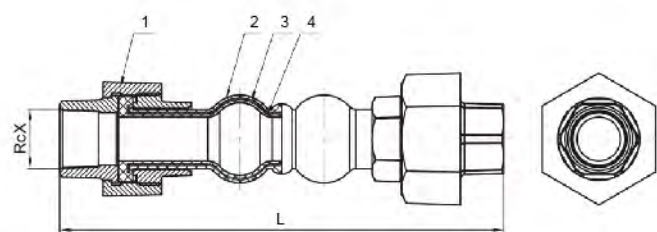
Model: RJ-03

Strainer

Model: S02

Technical Features

- Size: DN15-DN80/ 0.5"-3"
- Working pressure: 200PSI / PN10 / PN16
- Thread Standard: ISO 7-1
- Working Temperature: 0 to 80°C
- Vacuum Capacity: 500 MMHG



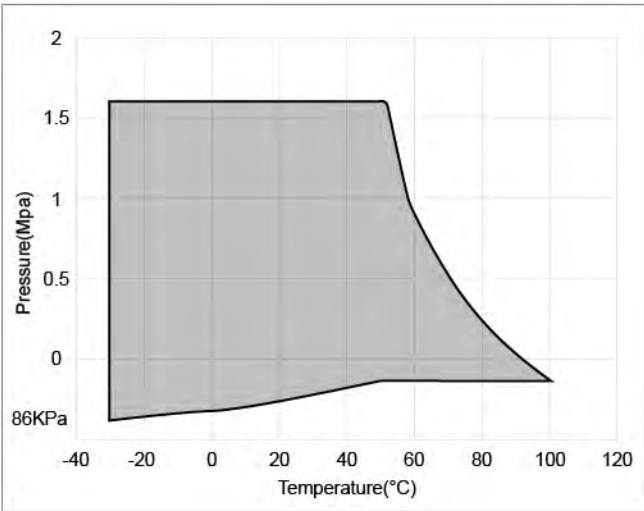
Valve Material List

| Part No. | Part               | Standard Specification |
|----------|--------------------|------------------------|
| 1        | Union              | Malleable iron         |
| 2        | Rubber (Outer)     | EPDM                   |
| 3        | Reinforcing Fabric | Nylon Fabric           |
| 4        | Rubber (Inner)     | EPDM                   |

Note: For special material request other than standard specification, please indicate clearly on the inquiry or order list.

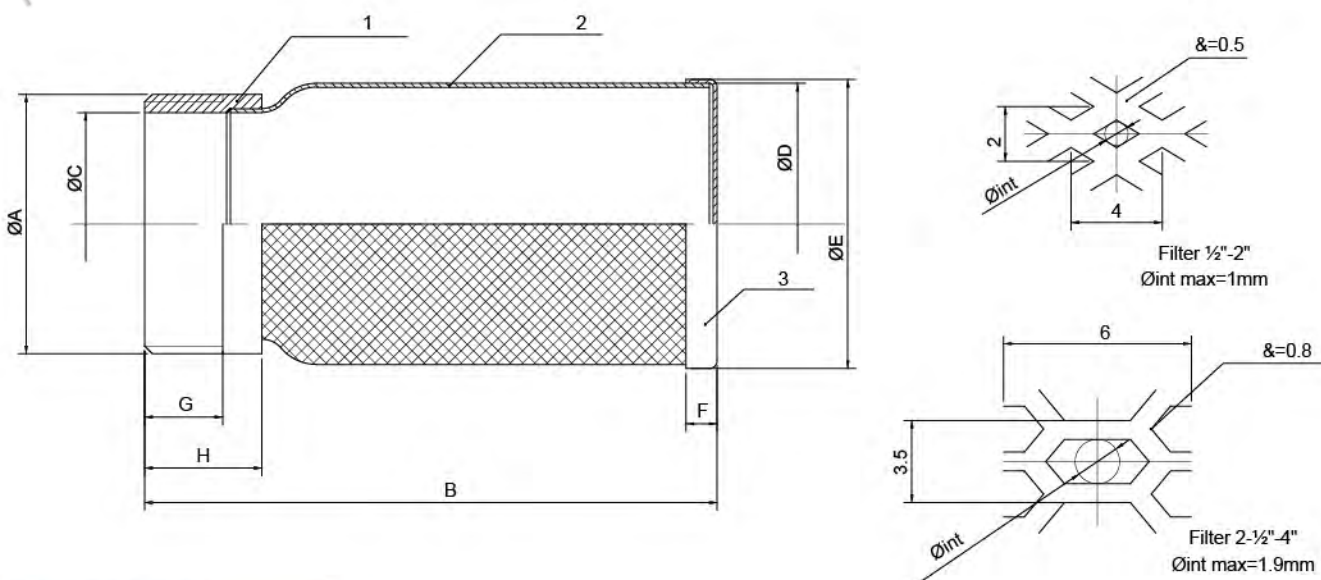
Dimensions

| DN | INCH  | Neutral Length(mm)<br>L | Thread<br>Rc X | Axial(mm)<br>Elongation | Compersion | Transverse<br>Movement(mm) | Angular<br>Deflection Deg. |
|----|-------|-------------------------|----------------|-------------------------|------------|----------------------------|----------------------------|
| 15 | 0.5"  | 200                     | Rc 1/2         | 6                       | 22         | 22                         | 40                         |
| 20 | 0.75" | 200                     | Rc 3/4         | 6                       | 22         | 22                         | 40                         |
| 25 | 1"    | 200                     | Rc 1           | 6                       | 22         | 22                         | 40                         |
| 32 | 1.25" | 200                     | Rc 1 1/4       | 6                       | 22         | 22                         | 40                         |
| 40 | 1.5"  | 200                     | Rc 1 1/2       | 6                       | 22         | 22                         | 40                         |
| 50 | 2"    | 200                     | Rc 2           | 6                       | 22         | 22                         | 40                         |
| 65 | 2.5"  | 240                     | Rc 2 1/2       | 6                       | 22         | 22                         | 40                         |
| 80 | 3"    | 240                     | Rc 3           | 6                       | 22         | 22                         | 40                         |



Technical Features

- Size: DN15-DN100 / 0.5"-4"
- Working Pressure: 200PSI / PN10 / PN16
- Test Standard: API598
- Working Temperature: -10 to 200°C



Dimensions

| DN  | INCH  | B    | C    | D    | E    | F   | G  | H  | WEIGHT(gr) |
|-----|-------|------|------|------|------|-----|----|----|------------|
| 15  | 0.5"  | 56.5 | 17   | 22   | 23   | 4   | 10 | 15 | 16         |
| 20  | 0.75" | 62.5 | 22   | 28   | 29   | 4   | 10 | 15 | 22         |
| 25  | 1"    | 70   | 28.5 | 36   | 37   | 4   | 10 | 15 | 34         |
| 32  | 1.25" | 80   | 36.5 | 43   | 44   | 5   | 14 | 20 | 54         |
| 40  | 1.5"  | 90   | 42.5 | 48   | 49   | 5   | 14 | 20 | 64         |
| 50  | 2"    | 100  | 54.5 | 61   | 62   | 5.5 | 14 | 20 | 96         |
| 65  | 2.5"  | 115  | 70   | 79.5 | 80.5 | 5.5 | 16 | 25 | 136        |
| 80  | 3"    | 125  | 82   | 92   | 93   | 6   | 16 | 25 | 156        |
| 100 | 4"    | 145  | 107  | 116  | 117  | 6   | 16 | 25 | 202        |