# Design Features

• **3Z Rising stem ball valve(RSV)** has mechanism to enable dual action and gets sealing by the acting of tilting & tu rn. Generally, it has low torque prominently compared to other ball valves. So, the size of actuator is to be small and our customer can adjust it if there is some leakage in using. Basically 3Z Rising stem ball valve is perfect in sealing. It is easy to exchange seat because of top entry type, based on the field situation, and it has long life cycle as there is no friction and abrasion.

## Availability

- Flow lines
- Gas metering
- Oil metering
- Low temperature service
- High temperature service
- Steam service
- Hydrocarbon service
- Emergency Blow Down service
- Sand slurry service
- Lethal service


# Design Features

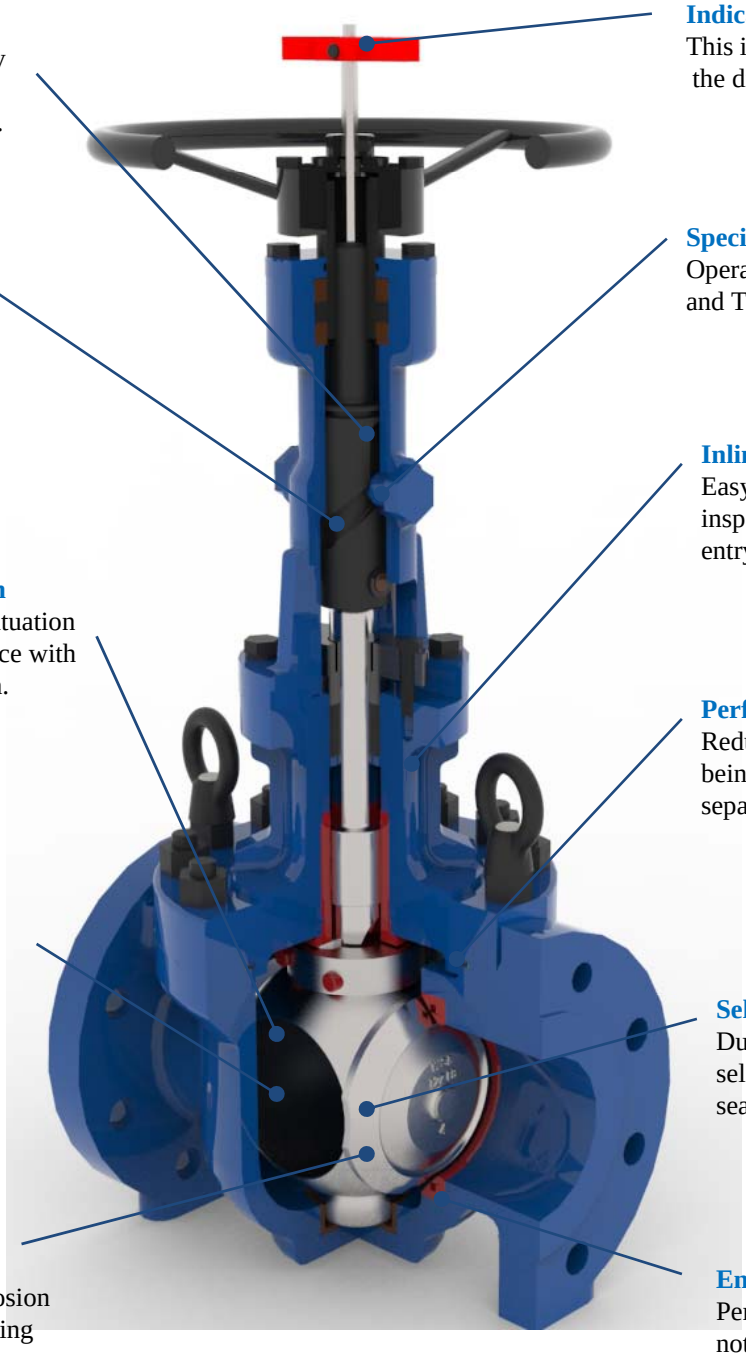
**Low Torque**
Low operation torque by enabling the dual action with special mechanism.

**Non-Slam**
Not occurring the situation of slam as special mechanism induces stem to do linear action.

**No Thermal Expansion**
No thermal expansion situation as there is no closed space with the single seating design.

**Optimum Flow**
Enabling full bore or reduced bore products and having high Cv numerical value.

**Corrosion & Erosion Resistance Material**
Strong corrosion and erosion to be applied on the seating part of core.



**Indicator**
This indicates the direction of the plug.

**Special Mechanism**
Operating after divided Tilting and Turn action clearly.

**Inline Maintenance**
Easy seat exchange and line inspection/cleaning with the top entry type.

**Perfect Friction Free**
Reducing the seat abrasion by being rotated after core is separated from seat completely.

**Self Cleaning**
During core is open or close, self cleaning is performed for seat.

**Energized Sealing**
Perfect sealing mechanically, not using spring or other assistive devices.

# How the 3Z Rising Stem Ball Valve Works

The core and seat ring contacts directly and seated as metal-to-metal. To prevent the surfaces from galling or abrading, the valve is designed to operate in the following steps:

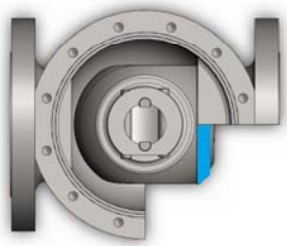
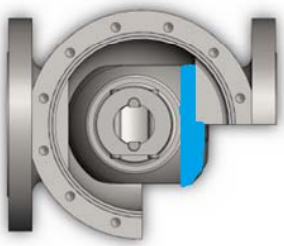
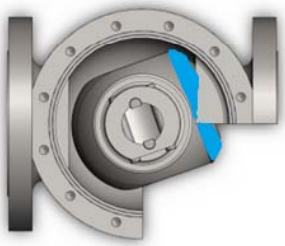
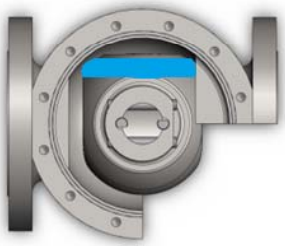
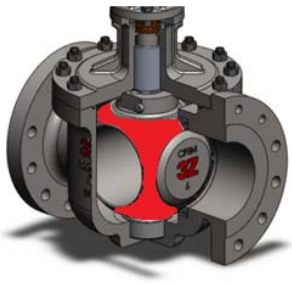
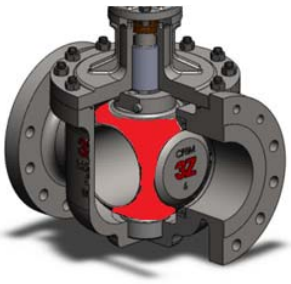
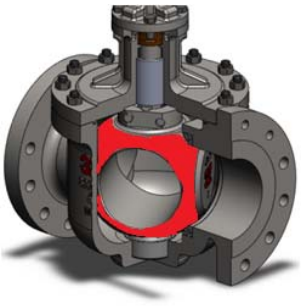
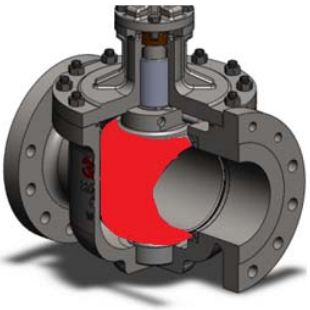
**1. Close position**
Perfect sealing in core and seat by the working of cam mechanism after stem's falling.

**2. Tilting**
As stem is rising, core becomes tilting and then core gets separated from seat.

**3. Rotating**
Core is turned by rotating of stem in order to be perfect open position of port.

**4. Open position**
Core becomes open completely after stem has rotated.

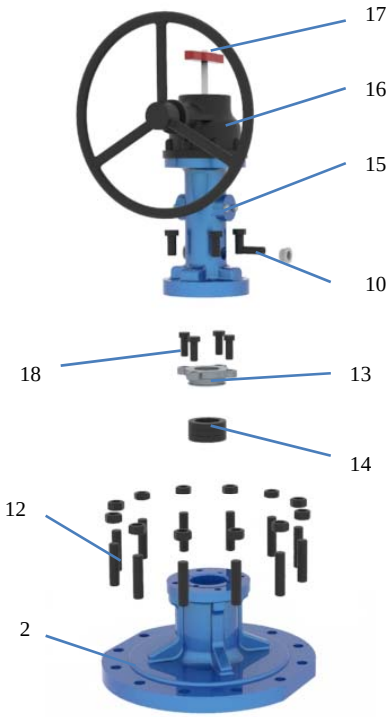
3Z developed a unique special mechanism. The 3Z mechanism provides low torque and smooth, frictionless operation. This mechanism is provided as a standard in 3Z rising stem ball Valves.

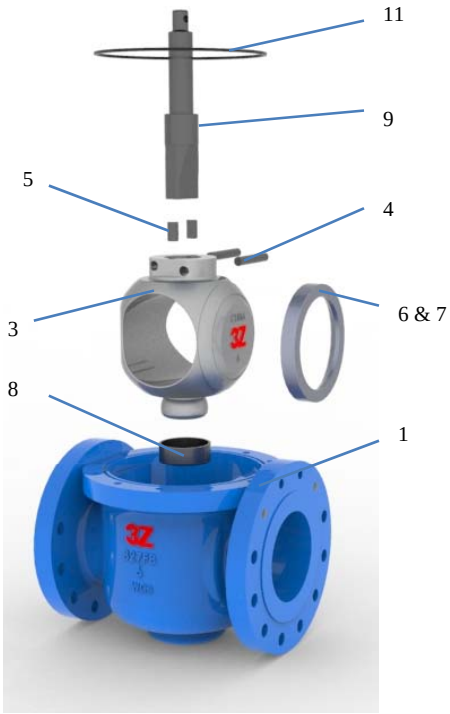
| | | | |
|---|---|---|---|
|  |  |  |  |
| **CLOSE** | **TILTING** | **ROTATING** | **OPEN** |
|  |  |  |  |

# Parts and Materials

### Construction Materials:

A variety of materials are available such as carbon steel, stainless steel, duplex stainless steel and special alloys. Materials are subject to change without notice .Other materials and combinations are also available.




## Sample Construction of Material

### Carbon Steel (PTFE)

| No | Parts | Specification |
|---|---|---|
| 1 | Body | ASTM A216 WCC |
| 2 | Cover | ASTM A216 WCC |
| 3 | Core | ASTM A216 WCC |
| 4 | Core pin | 410SS |
| 5 | Support pin | 410SS |
| 6 | Seat ring | AISI 304 |
| 7 | Seat | PTFE |
| 8 | Bushing | 17-4PH |
| 9 | Stem | 17-4PH |
| 10 | Stem pin | A322 4140 |
| 11 | Gasket | GRAPHITE + 316 |
| 12 | Bolt | ASTM A193 B7 |
| 13 | Gland | A890 1B CD4MCuN |
| 14 | Gland packing | Graphite |
| 15 | Mechanism | - |
| 16 | Gear operator | Ductile iron |
| 17 | Indicator | AISI 1020 |
| 17 | Gland Bolt | ASTM A193 B7 |

### 316 Stainless (PTFE)

| No | Specification |
|---|---|
| 1 | ASTM A351 CF8M |
| 2 | ASTM A351 CF8M |
| 3 | ASTM A351 CF8M |
| 4 | 410SS |
| 5 | 410SS |
| 6 | AISI 316 |
| 7 | PTFE |
| 8 | 17-4PH |
| 9 | 17-4PH |
| 10 | A322 4140 |
| 11 | GRAPHITE + 316 |
| 12 | ASTM A193 B7 |
| 13 | A890 1B CD4MCuN |
| 14 | Graphite |
| 15 | - |
| 16 | Ductile iron |
| 17 | AISI 1020 |
| 18 | ASTM A193 B8 |

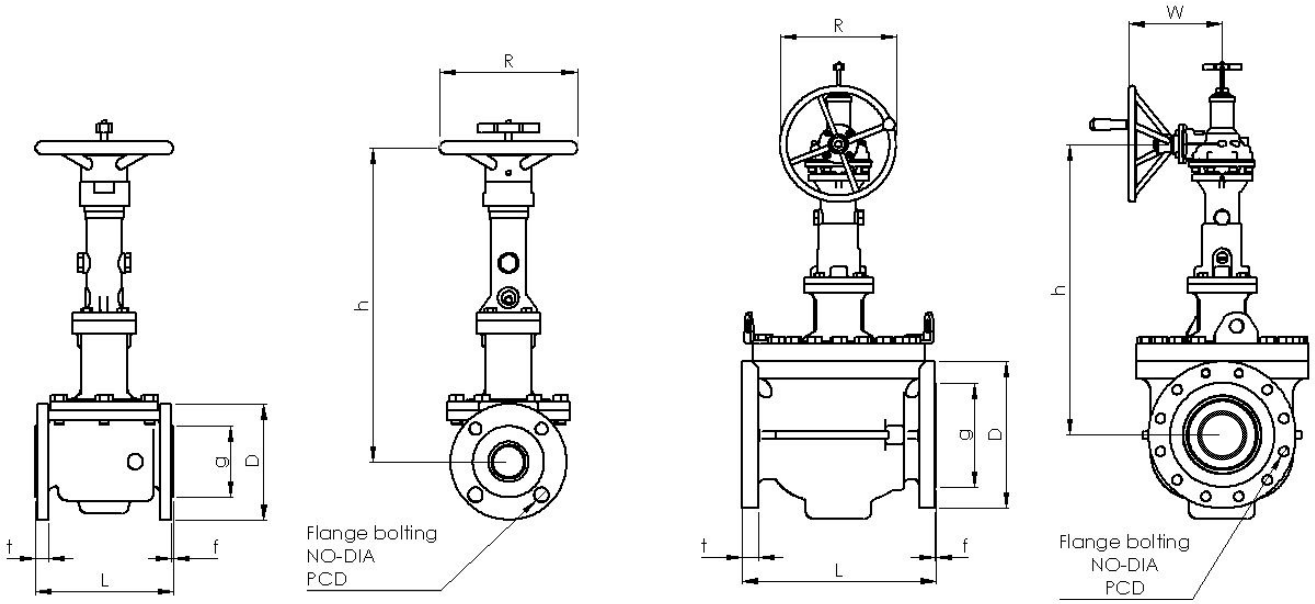
### High temperature

| No | Specification |
|---|---|
| 1 | ASTM A217 C12 |
| 2 | ASTM A217 C12 |
| 3 | ASTM A217 C12 |
| 4 | 410SS |
| 5 | 410SS |
| 6 | ASTM A182 F9 |
| 7 | ASTM A182 F9 |
| 8 | 17-4PH |
| 9 | 17-4PH |
| 10 | A322 4140 |
| 11 | GRAPHITE + 316 |
| 12 | ASTM A193 B16 |
| 13 | A890 1B CD4MCuN |
| 14 | Graphite |
| 15 | - |
| 16 | Ductile iron |
| 17 | AISI 1020 |
| 18 | ASTM A193 B16 |

- If additional materials are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 150

Figure No. 127 - Class 150 / Size 2” - 24” / Reduced Bore / Raised Face Flange




Unit: mm

| Size (Flange x Core) | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 x 1.5 | 178 | 150 | 120.7 | 4 | 19 | 92.1 | 14.3 | 2 | 360 | 250 | - |
| 3 x 2 | 203 | 190 | 152.4 | 4 | 19 | 127 | 17.5 | 2 | 365 | 250 | - |
| 4 x 3 | 229 | 230 | 190.5 | 8 | 19 | 157.2 | 22.3 | 2 | 440 | 250 | - |
| 6 x 4 | 394 | 280 | 241.3 | 8 | 22 | 215.9 | 23.9 | 2 | 520 | 300 | - |
| 8 x 6 | 457 | 345 | 298.5 | 8 | 22 | 269.9 | 27 | 2 | 630 | 400 | - |
| 10 x 8 | 533 | 405 | 362 | 12 | 25 | 323.8 | 28.6 | 2 | 750 | 500 | - |
| 12 x 10 | *762 | 485 | 431.8 | 12 | 25 | 381 | 30.2 | 2 | 910 | 630 | 270 |
| 14 x 12 | *826 | 535 | 476.3 | 12 | 29 | 412.8 | 33.4 | 2 | 1,010 | 630 | 270 |
| 16 x 12 | *902 | 595 | 539.8 | 16 | 29 | 469.9 | 35 | 2 | 1,010 | 630 | 270 |
| 18 x 16 | *915 | 635 | 577.9 | 16 | 32 | 533.4 | 38.1 | 2 | 1,200 | 800 | 360 |
| 20 x 16 | *1,092 | 700 | 635 | 20 | 32 | 584.2 | 41.3 | 2 | 1,200 | 800 | 360 |
| 24 x 20 | *1,170 | 815 | 749.3 | 20 | 35 | 692.2 | 46.1 | 2 | 1,700 | 800 | 390 |

*** Approx Weight(kg) and flow characteristics**

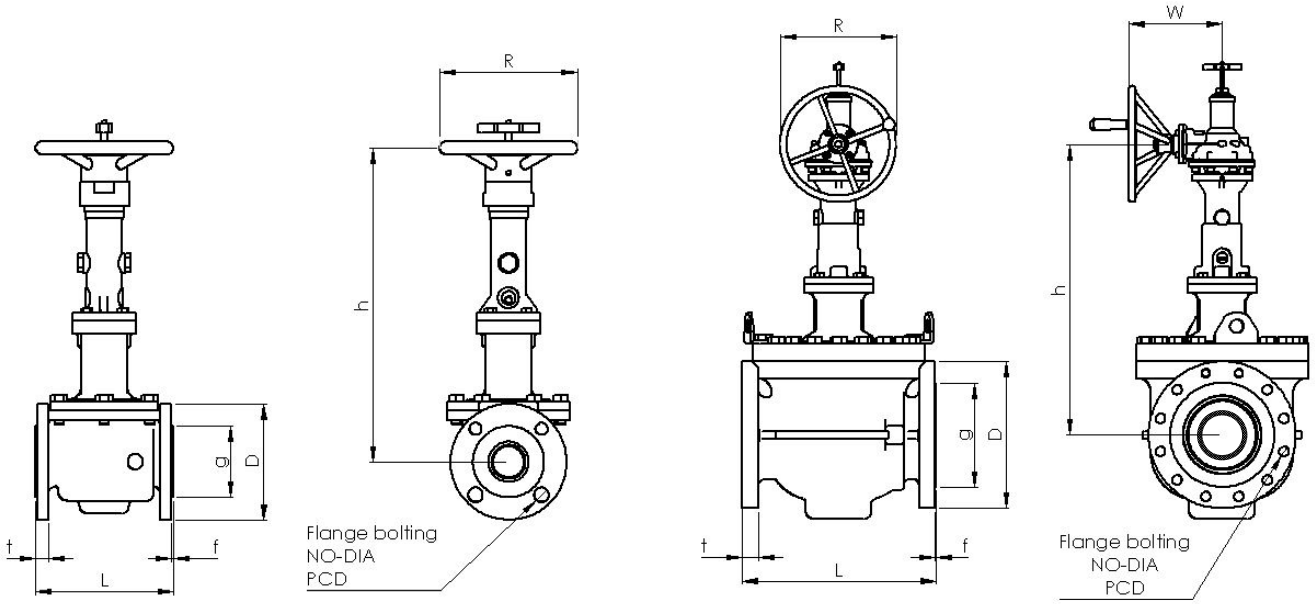
| Size | 2 x 1.5 | 3 x 2 | 4 x 3 | 6 x 4 | 8 x 6 | 10 x 8 | 12 x 10 | 14 x 12 | 16 x 12 | 18 x 16 | 20 x 16 | 24 x 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 30 | 35 | 55 | 90 | 190 | 320 | 590 | 920 | 1,050 | 1,600 | 1,800 | 2,700 |
| CV | 120 | 130 | 370 | 500 | 1,600 | 3,700 | 8,100 | 18,000 | 9,000 | 24,000 | 14,000 | 25,000 |

* Manufacturing Standard

- 2”~ 10”(Handle Operated) / 12”~24”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 300

Figure No. 327 - Class 300 / Size 2” - 24” / Reduced Bore / Raised Face Flange




Unit: mm

| Size (Flange x Core) | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 x 1.5 | 216 | 165 | 127.0 | 8 | 19 | 92.1 | 20.7 | 2 | 300 | 250 | - |
| 3 x 2 | 283 | 210 | 168.3 | 8 | 22 | 127.0 | 27.0 | 2 | 365 | 250 | - |
| 4 x 3 | 305 | 255 | 200.0 | 8 | 22 | 157.2 | 30.2 | 2 | 440 | 250 | - |
| 6 x 4 | 403 | 320 | 269.9 | 12 | 22 | 215.9 | 35.0 | 2 | 520 | 300 | - |
| 8 x 6 | 502 | 380 | 330.2 | 12 | 25 | 269.9 | 39.7 | 2 | 630 | 400 | 210 |
| 10 x 8 | 568 | 445 | 387.4 | 16 | 29 | 323.8 | 46.1 | 2 | 750 | 500 | 250 |
| 12 x 10 | *762 | 520 | 450.8 | 16 | 32 | 381.0 | 49.3 | 2 | 920 | 630 | 270 |
| 14 x 12 | *826 | 585 | 514.4 | 20 | 32 | 412.8 | 52.4 | 2 | 1,010 | 710 | 290 |
| 16 x 12 | *902 | 650 | 571.5 | 20 | 35 | 469.9 | 55.6 | 2 | 1,010 | 710 | 290 |
| 18 x 16 | *915 | 710 | 628.6 | 24 | 35 | 533.4 | 58.8 | 2 | 1,300 | 800 | 360 |
| 20 x 16 | *1,092 | 775 | 685.8 | 24 | 35 | 584.2 | 62.0 | 2 | 1,300 | 800 | 360 |
| 24 x 20 | 1,143 | 915 | 812.8 | 24 | 41 | 692.2 | 68.3 | 2 | 1,800 | 800 | 430 |

*** Approx Weight(kg) and flow characteristics**

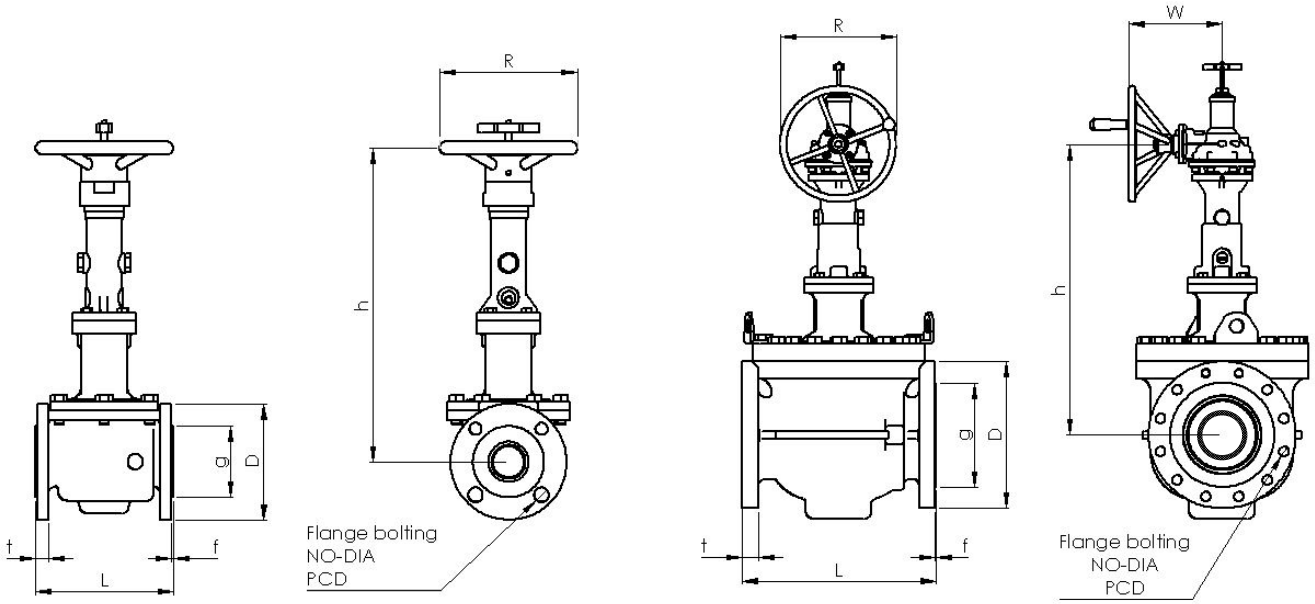
| Size | 2 x 1.5 | 3 x 2 | 4 x 3 | 6 x 4 | 8 x 6 | 10 x 8 | 12 x 10 | 14 x 12 | 16 x 12 | 18 x 16 | 20 x 16 | 24 x 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 35 | 40 | 60 | 100 | 210 | 350 | 630 | 950 | 1,100 | 1,700 | 1,900 | 3,100 |
| CV | 130 | 160 | 500 | 510 | 1,700 | 4,000 | 8,100 | 18,000 | 9,000 | 24,000 | 14,000 | 25,000 |

* Manufacturing Standard

- 2”~ 6”(Handle Operated) / 8”~24”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 600

Figure No. 627 - Class 600 / Size 2” - 24” / Reduced Bore / Raised Face Flange




Unit: mm

| Size (Flange x Core) | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 x 1.5 | 292 | 165 | 127.0 | 8 | 19 | 92.1 | 25.4 | 7 | 350 | 250 | - |
| 3 x 2 | 356 | 210 | 168.3 | 8 | 22 | 127.0 | 31.8 | 7 | 380 | 300 | - |
| 4 x 3 | 432 | 275 | 215.9 | 8 | 25 | 157.2 | 38.1 | 7 | 450 | 300 | - |
| 6 x 4 | 559 | 355 | 292.1 | 12 | 29 | 215.9 | 47.7 | 7 | 550 | 400 | - |
| 8 x 6 | 660 | 420 | 349.2 | 12 | 32 | 269.9 | 55.6 | 7 | 660 | 500 | 250 |
| 10 x 8 | 787 | 510 | 431.8 | 16 | 35 | 323.8 | 63.5 | 7 | 820 | 630 | 270 |
| 12 x 10 | 838 | 560 | 489.0 | 20 | 35 | 381.0 | 66.7 | 7 | 1,000 | 630 | 270 |
| 14 x 12 | 889 | 605 | 527.0 | 20 | 38 | 412.8 | 69.9 | 7 | 1,150 | 800 | 360 |
| 16 x 12 | 991 | 685 | 603.2 | 20 | 41 | 469.9 | 76.2 | 7 | 1,150 | 800 | 360 |
| 18 x 16 | 1,092 | 745 | 654.0 | 20 | 45 | 533.4 | 82.6 | 7 | 1,400 | 900 | 390 |
| 20 x 16 | 1,194 | 815 | 723.9 | 24 | 45 | 584.2 | 88.9 | 7 | 1,400 | 900 | 390 |
| 24 x 20 | 1,397 | 940 | 838.2 | 24 | 51 | 692.2 | 101.6 | 7 | 1,900 | 900 | 430 |

*** Approx Weight(kg) and flow characteristics**

| Size | 2 x 1.5 | 3 x 2 | 4 x 3 | 6 x 4 | 8 x 6 | 10 x 8 | 12 x 10 | 14 x 12 | 16 x 12 | 18 x 16 | 20 x 16 | 24 x 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 50 | 75 | 90 | 170 | 300 | 520 | 900 | 1,300 | 1,600 | 2,000 | 2,100 | 3,900 |
| CV | 140 | 170 | 550 | 650 | 2,000 | 4,700 | 8,600 | 19,000 | 9,300 | 27,000 | 15,000 | 28,000 |

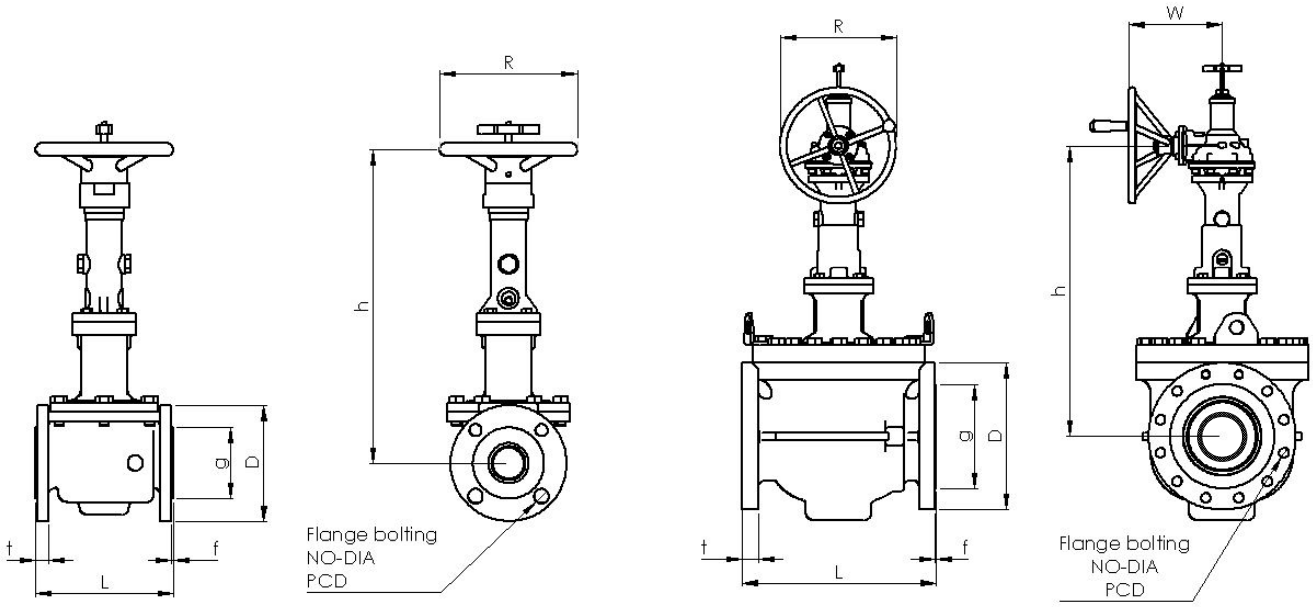
* Manufacturing Standard

- 2”~ 6”(Handle Operated) / 8”~24”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 900/1500

Figure No. 927 - Class 900 / Size 3” - 18” / Reduced Bore / Raised Face Flange

Figure No. 1527 - Class 1500 / Size 3” - 12” / Reduced Bore / Raised Face Flange




Unit: mm

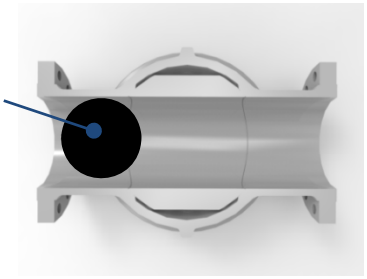
| Class | Size (Flange x Core) | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900 | 3 x 2 | 381 | 240 | 190.5 | 8 | 25 | 127.0 | 39.1 | 7 | 390 | 300 | - |
| | 4 x 3 | 457 | 290 | 235 | 8 | 32 | 157.2 | 44.5 | 7 | 460 | 400 | - |
| | 6 x 4 | 610 | 380 | 317.5 | 12 | 32 | 215.9 | 55.6 | 7 | 600 | 500 | 250 |
| | 8 x 6 | 737 | 470 | 393.7 | 12 | 38 | 269.9 | 63.5 | 7 | 710 | 630 | 270 |
| | 10 x 8 | 838 | 545 | 469.9 | 16 | 38 | 323.8 | 69.9 | 7 | 870 | 710 | 290 |
| | 12 x 10 | 965 | 610 | 533.4 | 20 | 38 | 381.0 | 79.4 | 7 | 1,100 | 800 | 360 |
| | 14 x 12 | 1,029 | 640 | 558.8 | 20 | 41 | 412.8 | 85.8 | 7 | 1,300 | 900 | 390 |
| | 16 x 12 | 1,130 | 705 | 616.0 | 20 | 44 | 469.9 | 88.9 | 7 | 1,300 | 900 | 390 |
| | 18 x 16 | 1,219 | 785 | 685.8 | 20 | 51 | 533.4 | 101.6 | 7 | 1,600 | 900 | 430 |
| 1500 | 3 x 2 | 470 | 265 | 203.2 | 8 | 32 | 127.0 | 47.8 | 7 | 400 | 300 | - |
| | 4 x 3 | 546 | 310 | 241.3 | 8 | 35 | 157.2 | 53.8 | 7 | 480 | 500 | - |
| | 6 x 4 | 705 | 395 | 317.5 | 12 | 38 | 215.9 | 82.6 | 7 | 650 | 500 | 250 |
| | 8 x 6 | 832 | 485 | 393.7 | 12 | 44 | 269.9 | 91.9 | 7 | 750 | 630 | 270 |
| | 10 x 8 | 991 | 585 | 482.6 | 12 | 51 | 323.8 | 108.0 | 7 | 920 | 710 | 290 |
| | 12 x 10 | 1,130 | 675 | 571.5 | 16 | 54 | 381.0 | 124.0 | 7 | 1,200 | 900 | 390 |

* Manufacturing Standard

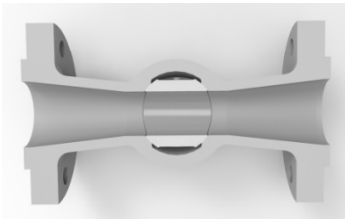
- 3”~ 4”(Handle Operated) / 6”~18”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# Full Port Rising Stem Ball Valves

**Feature:** There is no diminished flow with the full bore port, and also easy to pigging. For application such as high viscosity condensable media, high efficiency is demonstrated with full bore port.

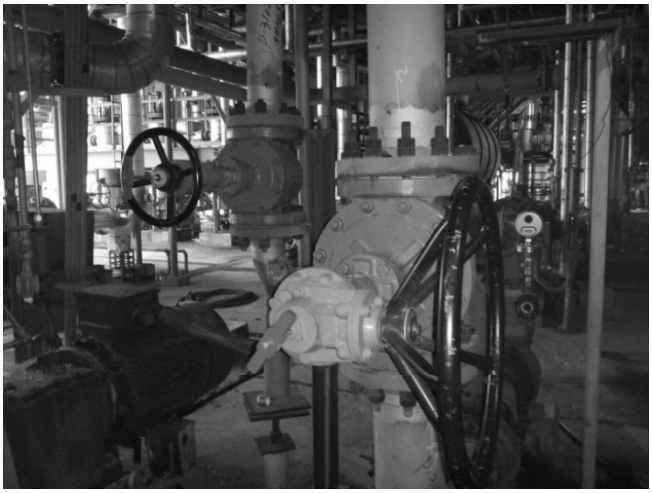



100% Full bore



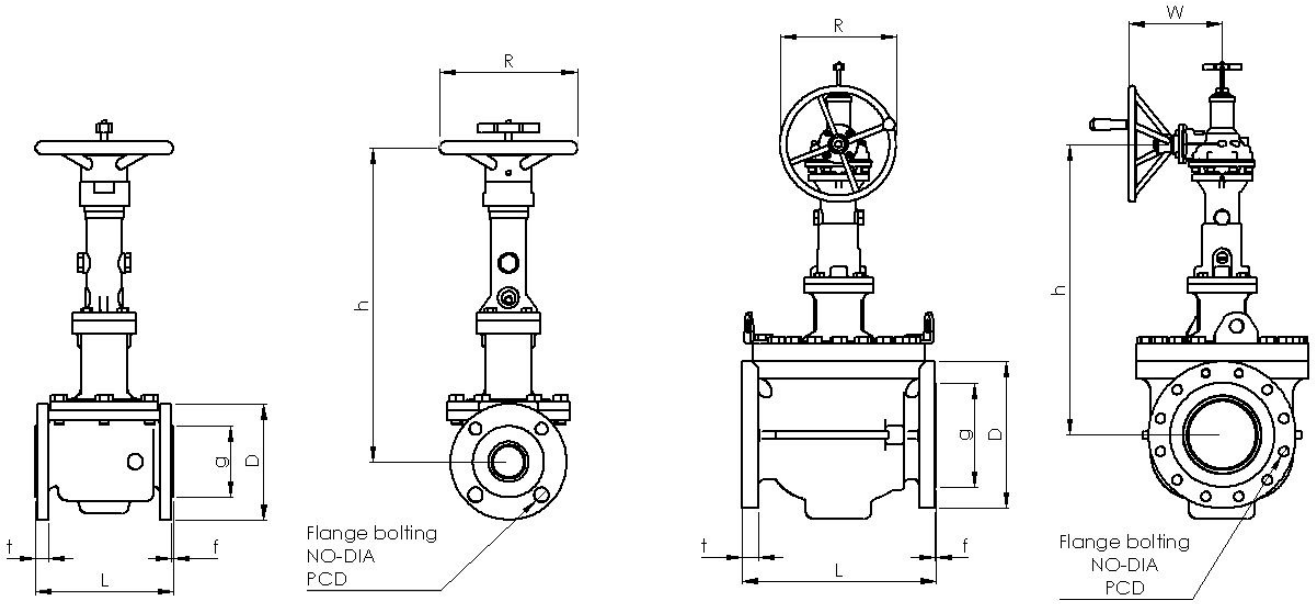
Reduced bore

**3Z rising stem full bore valves** are designed to meet the requirement to minimize pressure drop in chemical plant, such as hydrocarbons, ammonia, ethylene etc... within high or low temperature range.



# **Standard Type Dimensions** – Class 150

Figure No. 127 FB - Class 150 / Size 1.5” - 20” / Full Bore / Raised Face Flange




Unit: mm

| Size | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | *241 | 125 | 98.4 | 4 | 16 | 73 | 12.7 | 2 | 360 | 250 | - |
| 2 | 178 | 150 | 120.7 | 4 | 19 | 92.1 | 14.3 | 2 | 365 | 250 | - |
| 3 | 203 | 190 | 152.4 | 4 | 19 | 127 | 17.5 | 2 | 440 | 250 | - |
| 4 | *305 | 230 | 190.5 | 8 | 19 | 157.2 | 22.3 | 2 | 520 | 300 | - |
| 6 | *403 | 280 | 241.3 | 8 | 22 | 215.9 | 23.9 | 2 | 630 | 400 | - |
| 8 | 457 | 345 | 298.5 | 8 | 22 | 269.9 | 27 | 2 | 750 | 500 | - |
| 10 | *673 | 405 | 362 | 12 | 25 | 323.8 | 28.6 | 2 | 910 | 630 | 270 |
| 12 | *762 | 485 | 431.8 | 12 | 25 | 381 | 30.2 | 2 | 1,010 | 630 | 270 |
| 14 | *826 | 535 | 476.3 | 12 | 29 | 412.8 | 33.4 | 2 | 1,100 | 710 | 290 |
| 16 | *902 | 595 | 539.8 | 16 | 29 | 469.9 | 35 | 2 | 1,200 | 800 | 360 |
| 18 | *1,092 | 635 | 577.9 | 16 | 32 | 533.4 | 38.1 | 2 | 1,400 | 800 | 360 |
| 20 | *1,194 | 700 | 635 | 20 | 32 | 584.2 | 41.3 | 2 | 1,700 | 800 | 390 |

*** Approx Weight(kg) and flow characteristics**

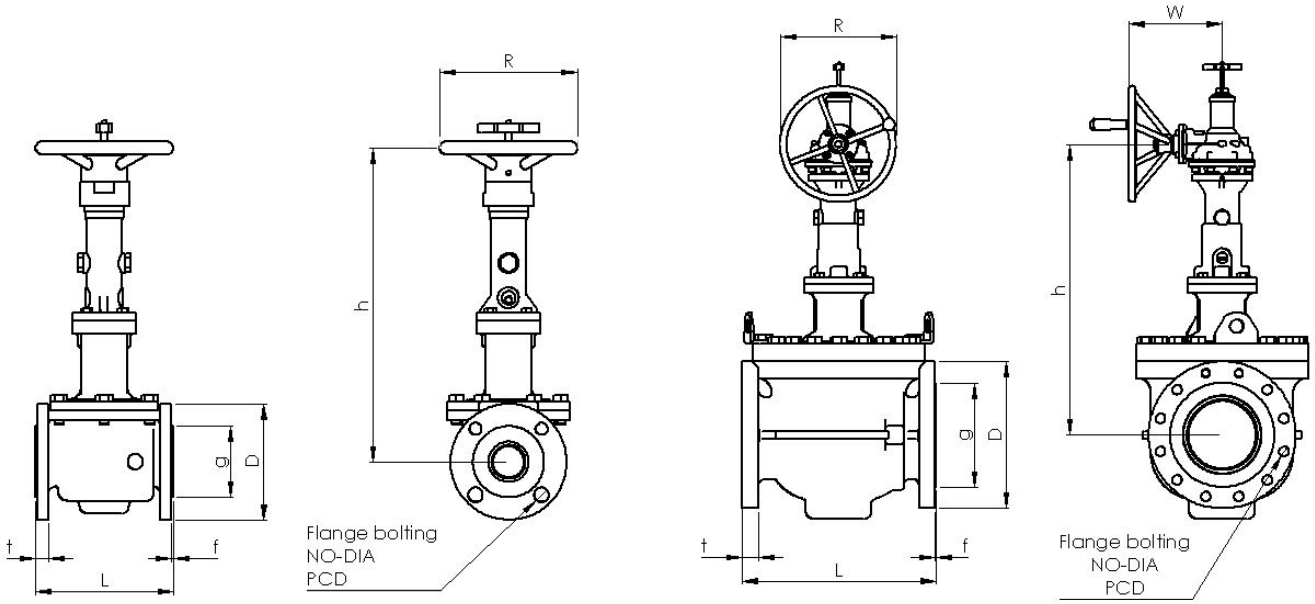
| Size | 1.5 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 25 | 30 | 45 | 80 | 160 | 270 | 480 | 680 | 900 | 1,300 | 1,700 | 2,400 |
| CV | 290 | 520 | 1,100 | 2,100 | 5,000 | 9,000 | 14,000 | 21,000 | 28,000 | 35,000 | 47,000 | 59,000 |

* Manufacturing Standard

- 1.5”~ 8”(Handle Operated) / 10”~20”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 300

Figure No. 327 FB - Class 300 / Size 1.5” - 20” / Full Bore / Raised Face Flange




Unit: mm

| Size | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | *241 | 155 | 114.3 | 4 | 22 | 73 | 19.1 | 2 | 300 | 250 | - |
| 2 | 216 | 165 | 127.0 | 8 | 19 | 92.1 | 20.7 | 2 | 365 | 250 | - |
| 3 | 283 | 210 | 168.3 | 8 | 22 | 127.0 | 27.0 | 2 | 440 | 250 | - |
| 4 | 305 | 255 | 200.0 | 8 | 22 | 157.2 | 30.2 | 2 | 520 | 300 | - |
| 6 | 403 | 320 | 269.9 | 12 | 22 | 215.9 | 35.0 | 2 | 630 | 400 | 210 |
| 8 | 502 | 380 | 330.2 | 12 | 25 | 269.9 | 39.7 | 2 | 750 | 500 | 250 |
| 10 | *673 | 445 | 387.4 | 16 | 29 | 323.8 | 46.1 | 2 | 920 | 630 | 270 |
| 12 | *762 | 520 | 450.8 | 16 | 32 | 381.0 | 49.3 | 2 | 1,010 | 710 | 290 |
| 14 | *826 | 585 | 514.4 | 20 | 32 | 412.8 | 52.4 | 2 | 1,150 | 800 | 360 |
| 16 | *902 | 650 | 571.5 | 20 | 35 | 469.9 | 55.6 | 2 | 1,300 | 800 | 360 |
| 18 | *1,092 | 710 | 628.6 | 24 | 35 | 533.4 | 58.8 | 2 | 1,480 | 800 | 390 |
| 20 | *1,194 | 775 | 685.8 | 24 | 35 | 584.2 | 62.0 | 2 | 1,800 | 800 | 430 |

*** Approx Weight(kg) and flow characteristics**

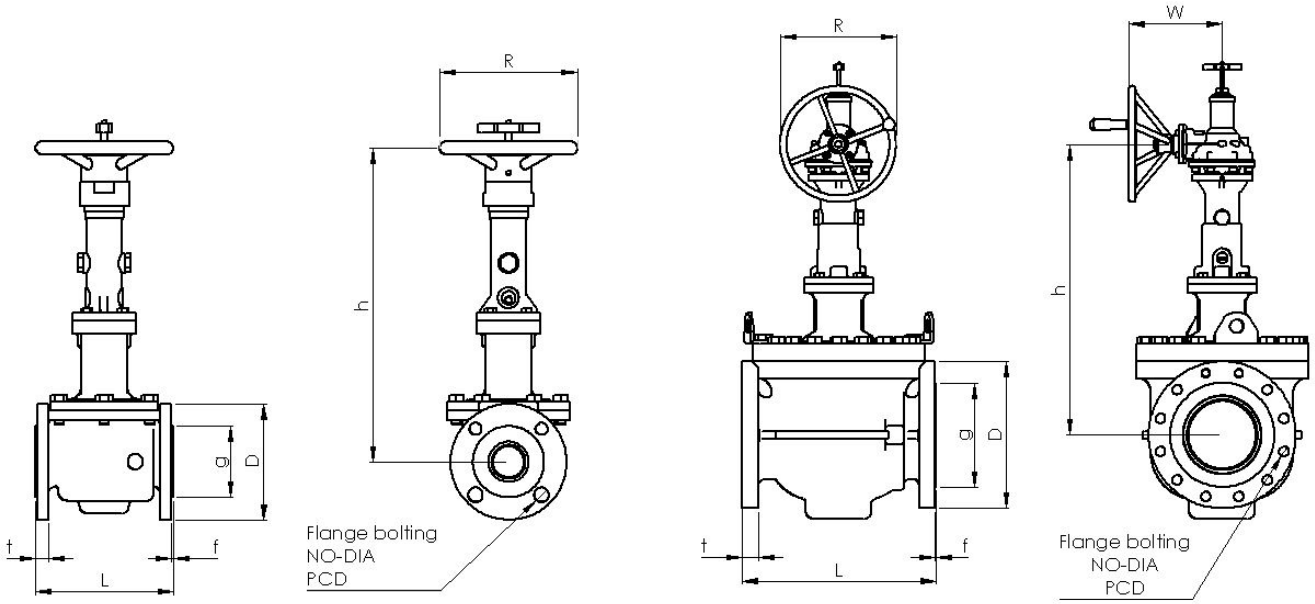
| Size | 1.5 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 30 | 35 | 50 | 85 | 180 | 300 | 530 | 750 | 980 | 1,400 | 1,900 | 2,600 |
| CV | 290 | 520 | 1,100 | 2,100 | 5,000 | 9,000 | 14,000 | 21,000 | 28,000 | 35,000 | 47,000 | 59,000 |

* Manufacturing Standard

- 1.5”~ 4”(Handle Operated) / 6”~20”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 600

Figure No. 627 FB - Class 600 / Size 1.5” - 20” / Full Bore / Raised Face Flange




Unit: mm

| Size | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | *241 | 155 | 114.3 | 4 | 22 | 73 | 22.3 | 7 | 350 | 250 | - |
| 2 | 292 | 165 | 127.0 | 8 | 19 | 92.1 | 25.4 | 7 | 380 | 300 | - |
| 3 | 356 | 210 | 168.3 | 8 | 22 | 127.0 | 31.8 | 7 | 450 | 300 | - |
| 4 | 432 | 275 | 215.9 | 8 | 25 | 157.2 | 38.1 | 7 | 550 | 400 | - |
| 6 | 559 | 355 | 292.1 | 12 | 29 | 215.9 | 47.7 | 7 | 660 | 500 | 250 |
| 8 | 660 | 420 | 349.2 | 12 | 32 | 269.9 | 55.6 | 7 | 820 | 630 | 270 |
| 10 | 787 | 510 | 431.8 | 16 | 35 | 323.8 | 63.5 | 7 | 1,000 | 630 | 270 |
| 12 | 838 | 560 | 489.0 | 20 | 35 | 381.0 | 66.7 | 7 | 1,150 | 800 | 360 |
| 14 | 889 | 605 | 527.0 | 20 | 38 | 412.8 | 69.9 | 7 | 1,250 | 900 | 390 |
| 16 | 991 | 685 | 603.2 | 20 | 41 | 469.9 | 76.2 | 7 | 1,400 | 900 | 390 |
| 18 | 1,092 | 745 | 654.0 | 20 | 45 | 533.4 | 82.6 | 7 | 1,600 | 900 | 430 |
| 20 | 1,194 | 815 | 723.9 | 24 | 45 | 584.2 | 88.9 | 7 | 1,900 | 900 | 430 |

*** Approx Weight(kg) and flow characteristics**

| Size | 1.5 | 2 | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 16 | 18 | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Weight | 40 | 50 | 70 | 120 | 260 | 440 | 770 | 1,100 | 1,400 | 1,800 | 2,800 | 3,700 |
| CV | 290 | 520 | 1,100 | 2,100 | 5,000 | 9,000 | 14,000 | 21,000 | 27,000 | 34,000 | 46,000 | 58,000 |

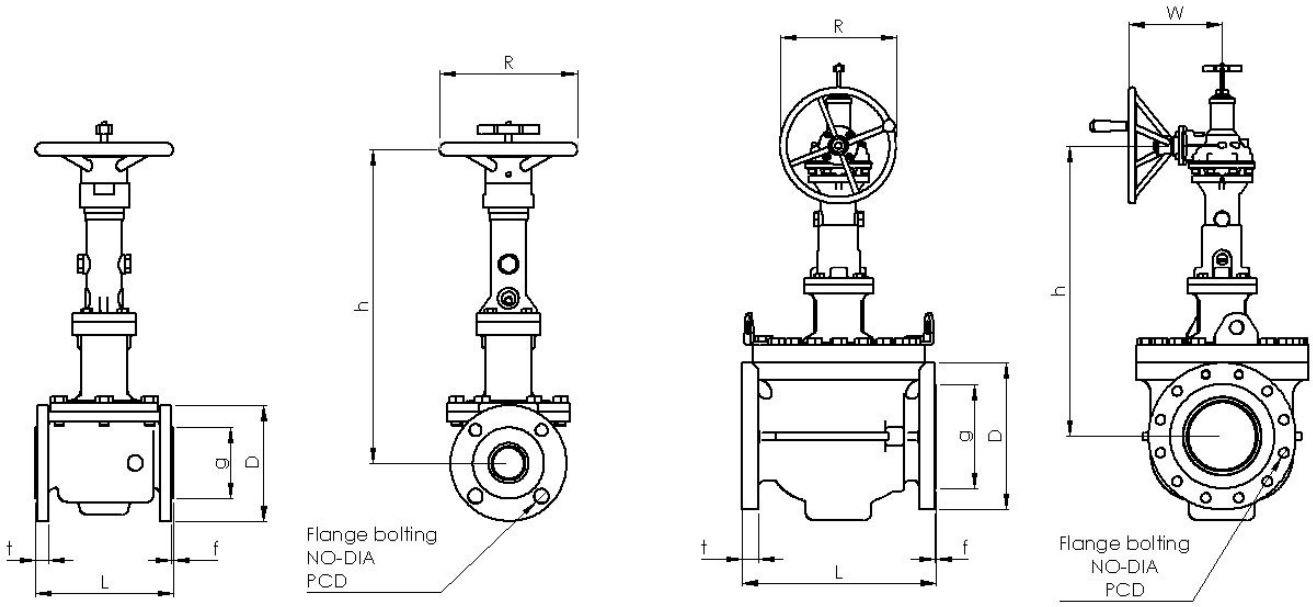
* Manufacturing Standard

- 1.5”~ 4”(Handle Operated) / 6”~20”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# **Standard Type Dimensions** – Class 900/1500

Figure No. 927 FB - Class 900 / Size 2” - 16” / Full Bore / Raised Face Flange

Figure No. 1527 FB - Class 1500 / Size 2” - 10” / Full Bore / Raised Face Flange




Unit: mm

| Class | Size | L | D | PCD | NO | DIA | g | t | f | h | R | W |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 900 | 2 | 368 | 215 | 165.1 | 8 | 25 | 92.1 | 38.1 | 7 | 390 | 300 | - |
| | 3 | 381 | 240 | 190.5 | 8 | 25 | 127.0 | 39.1 | 7 | 460 | 400 | - |
| | 4 | 457 | 290 | 235 | 8 | 32 | 157.2 | 44.5 | 7 | 600 | 500 | 250 |
| | 6 | 610 | 380 | 317.5 | 12 | 32 | 215.9 | 55.6 | 7 | 710 | 630 | 270 |
| | 8 | 737 | 470 | 393.7 | 12 | 38 | 269.9 | 63.5 | 7 | 870 | 710 | 290 |
| | 10 | 838 | 545 | 469.9 | 16 | 38 | 323.8 | 69.9 | 7 | 1,100 | 800 | 360 |
| | 12 | 965 | 610 | 533.4 | 20 | 38 | 381.0 | 79.4 | 7 | 1,300 | 900 | 390 |
| | 14 | 1,029 | 640 | 558.8 | 20 | 41 | 412.8 | 85.8 | 7 | 1,400 | 900 | 390 |
| | 16 | 1,130 | 705 | 616.0 | 20 | 44 | 469.9 | 88.9 | 7 | 1,600 | 900 | 430 |
| 1500 | 2 | 368 | 215 | 165.1 | 8 | 25 | 92.1 | 38.1 | 7 | 400 | 300 | - |
| | 3 | 470 | 265 | 203.2 | 8 | 32 | 127.0 | 47.8 | 7 | 480 | 500 | - |
| | 4 | 546 | 310 | 241.3 | 8 | 35 | 157.2 | 53.8 | 7 | 650 | 500 | 250 |
| | 6 | 705 | 395 | 317.5 | 12 | 38 | 215.9 | 82.6 | 7 | 750 | 630 | 270 |
| | 8 | 832 | 485 | 393.7 | 12 | 44 | 269.9 | 91.9 | 7 | 920 | 710 | 290 |
| | 10 | 991 | 585 | 482.6 | 12 | 51 | 323.8 | 108.0 | 7 | 1,200 | 900 | 390 |

* Manufacturing Standard

- 2”~ 3”(Handle Operated) / 4”~16”(Gear Operated)
- If additional classes and sizes are required, please consult the factory when ordering.

# How to Order

**FIG**
127: Class 150 2-way Reduced bore Rising stem ball valve
327: Class 300 2-way Reduced bore Rising stem ball valve
627: Class 600 2-way Reduced bore Rising stem ball valve
927: Class 900 2-way Reduced bore Rising stem ball valve
1527: Class 1500 2-way Reduced bore Rising stem ball valve
127 FB: Class 150 2-way Full bore Rising stem ball valve
327 FB: Class 300 2-way Full bore Rising stem ball valve
627 FB: Class 600 2-way Full bore Rising stem ball valve
927 FB: Class 900 2-way Full bore Rising stem ball valve
1527 FB: Class 1500 2-way Full bore Rising stem ball valve

**BODY**
WCB: A216 WCB
WCC: A216 WCC
CF8 A351 CF8M
CF3M: A351 CF3M
LCB: A352 LCB

**OVERLAY**
NICKEL
STELLITE
ENP

**CODE**
ANSI / JIS / DIN

**LONG STEM**
L100: Long Stem 100mm
L150: Long Stem 150mm
L2000: Long Stem 2000mm

**127 - DIN - RTJ - WR - L100 - LD - NACE - WCB - CORE - OVERLAY - SEAT**

**END CONNECTION**
RF: Raised Face
RTJ: Ring Type Joint
FF: Flat Face
LTF: Large Tongue Face
LMF: Large Male Face
LFF: Large Female Face
BW: Butt Weld
SW: Socket Weld
SC: Screw

**OPERATOR**
WR: Wrench
GR: Worm Gear
BA: Bare Stem
AOV: Air Operated Valve
MOV: Motor Operated Valve

**LOCKING DEVICE**
LD: Locking Device

**SERVICE**
NACE: NACE MR0175/0103
LOW TEMPERATURE

**CORE**
WCB: A216 WCB + ENP
WCC: A216 WCC + ENP
LCB: A352 LCB + ENP
CF8: A351 CF8
CF3M: A351 CF3M

**SEAT**
PTFE
PCTFE
PEEK
NYLON
METAL

- If additional information is required, please consult the factory when ordering.