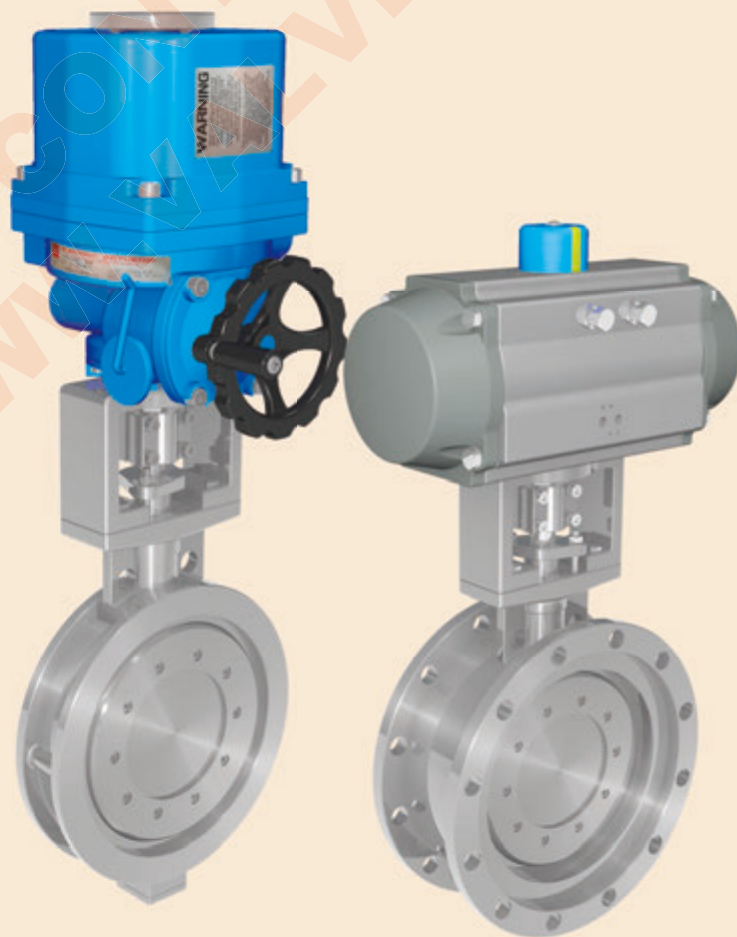


LAPAR

LPB12 Series

Triple Eccentric Metal-seat
Butterfly Valve



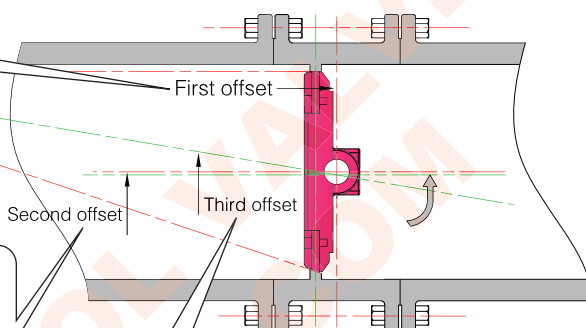


LPB12, three eccentric metal sealing butterfly valve, adopts three eccentric structure which decreases friction efficiently between seat and disc during opening and closing process; The body and seat are continuum parts. The seat and disc can be overlaid with heat-resisting and wear-resistant materials, which can be used in high-temperature and high-pressure medium.

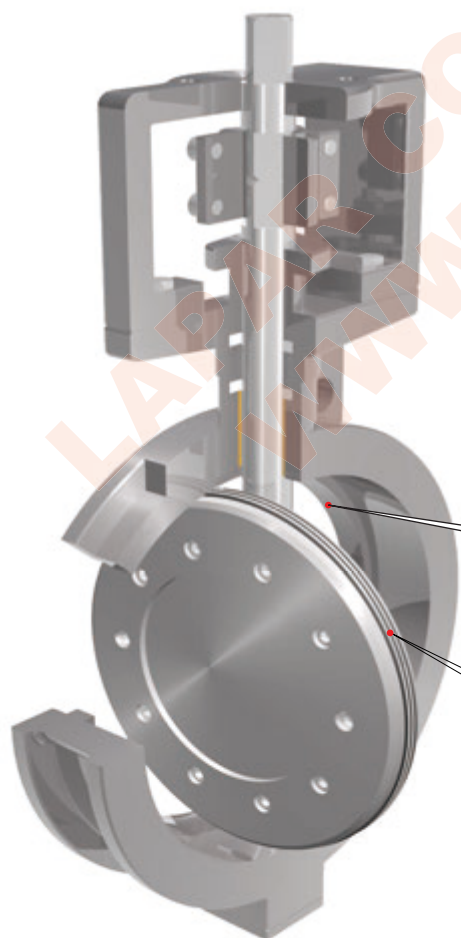
Design Feature

The first eccentric is the stem deviating from the valve plate edge, to ensure that the sealing surface is not interrupted by stem.

The stem locates on the side of valve body, which is the second eccentric. The disc rotates which looks like cam movement during the disc removes from valve seat. When the valve is closed completely, the movement change from cam into line. In the whole process, the disc edge never touches the valve seat.



The third eccentric is composed by two cones which come from the center of rotation axis and valve center line. Two offset cones make the disc break away from valve seat more easily, and the design of overlapping cones makes the disc break away from valve seat quickly in the process of opening. The disc only contacts the seat when being closed, which eliminates mutual interference.



Body sealing surface: It could be processed on the body directly, and the surface could be covered alloy material and higher hardness material, such as tungsten carbide.

Disc sealing surface: It has two kinds of seal structure, multi-layer seal and full metal seal. The multi-layer seal is divided into graphite seal and PTFE seal. The full metal seal includes metal to metal seal and high strength surfacing materials seal. We can make the appropriate choice according to different condition.



LPB12— Triple Eccentric Metal-seat Butterfly Valve



| Code | Actuator | Action | Air Fail Position | Control | Structure | Body | Sealing | Disc | Connection DN | PN |
|--------|--------------------------------|------------------------|--------------------------|----------------------|--------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| LPB12- | 1 Pneumatic | D Double-acting | 1 Normally Open | A On-off | 4 Three Eccentric | A 316L | R BODY | A 316L | 1 Flange | 1 Flange |
| | 2 Pneumatic & Handwheel | S Single-acting | 2 Normally Closed | B Control | 0 Others | B 316 | S STL | E 316 | 2 Wafer | 2 Wafer |
| | 3 Electric DC24V | 0 Others | 3 Flexible | C Intelligent | | C 304 | 0 Others | C 304 | | |
| | 4 Electric AC220V | | 4 Held | 0 Others | | I 304L | | I 304L | | |
| | 5 Electric AC380V | | 0 Others | | | D WCB | | D WCB | | |
| | 7 Handle | | | | | 0 Others | | 0 Others | | |
| | 8 Turbine | | | | | | | | | |
| | 0 Others | | | | | | | | | |

Parameter

Design Standard:

Valve body is designed to meet IEC60534-3-1-2001 and GB/T 12221-2005 API609.

Upper Flange Standard:

Valve mounting flange shall be per ISO 5211.

Flange Standard:

LPB12: JB/T79.1-94、JB/T79.4-94、HG20616-97、ANSI B16.5、ANSI B16.47.

Pressure Rating:

The highest pressure: Class600/6.3Mpa

Temperature range: -196°C ~ 538°C

Shell Testing:

The shell strength is designed to meet ASME B16.34 and GB/T9092-1999.

Leak Standard:

Leak standard: ANSI B16.104

Main Feature:

1. Medium can flow through the body directly for little resistance and high flow capacity.
2. The body and upper cover could be made of carbon steel, austenitic stainless steel or special alloy material.
3. The sulfur-free flexible v-graphite is heat resisting, we shall ensure the service life of packing is long-term without maintenance by increasing pre-pressure on spring gasket.
4. The self-sealing packing structure is tested 100,000 times (full travel) to ensure zero leakage and constant friction. When the stem moves at low friction state, we can get the long-term steady precision of control valve.
5. The seat adopts multi-level structure, the sealing surface is composed of metal and special non-metal materials to ensure zero leakage.
6. The shaft center deviates from the valve center bi-directionally. The asymmetric design sealing surface allows the disc to revolve in 0-90° freely.

Others:

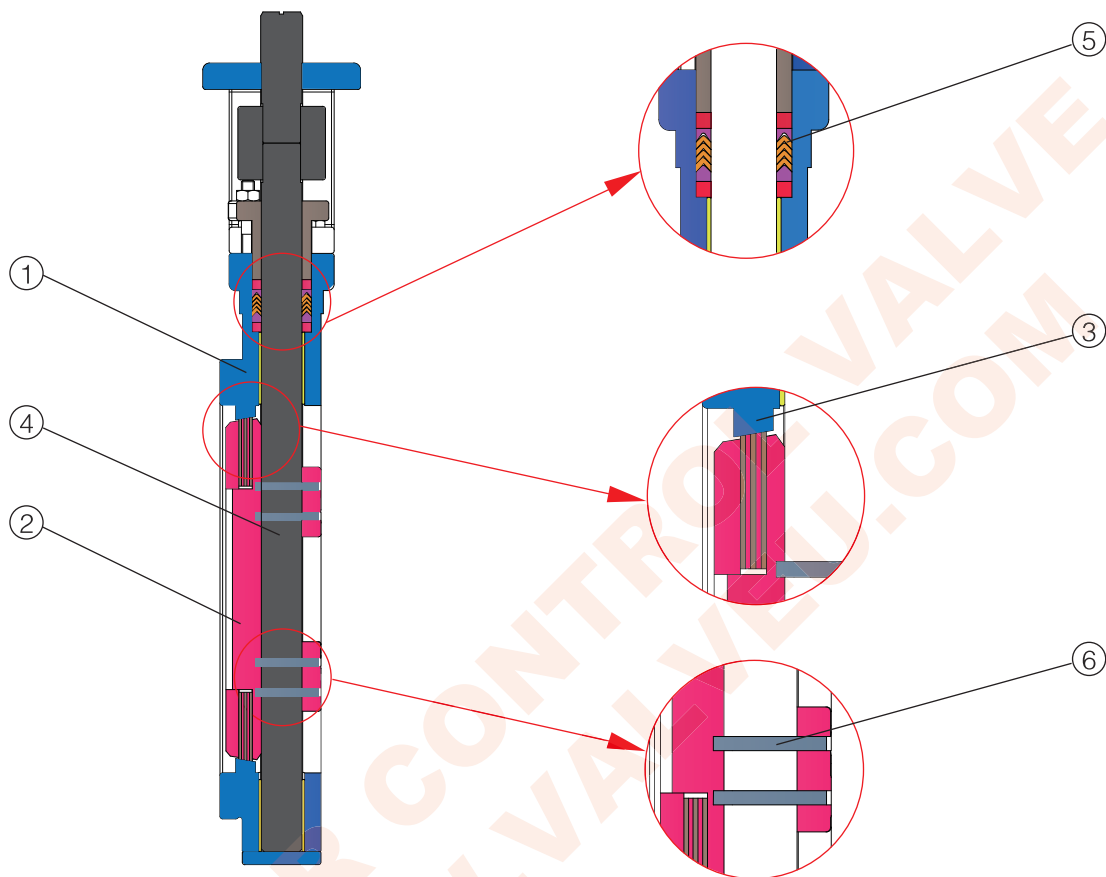
According to customer requirements.



LPB12- Triple Eccentric Metal-seat Butterfly Valve



DN80-1200 Material



| No. | Part | Material | Specification |
|-----|---------|-----------------|--|
| 1 | Body | Stainless Steel | ASTM A351 Gr.CF3 ASTM A351 Gr.CF3M ASTM A351 Gr.CF8 ASTM A351 Gr.CF8M |
| | | Carbon Steel | ASTM A216 |
| 2 | Disc | Stainless Steel | ASTM A351 Gr.CF3 ASTM A351 Gr.CF3M ASTM A351 Gr.CF8 ASTM A351 Gr.CF8M |
| | | Carbon Steel | ASTM A216 |
| 3 | Seat | Stainless Steel | ASTM A351 Gr.CF3 ASTM A351 Gr.CF3M ASTM A351 Gr.CF8 ASTM A351 Gr.CF8M |
| | | Carbon Steel | ASTM A216 |
| | | Stellite | |
| 4 | Stem | Stainless Steel | ASTM A276 Gr.420 ASTM A276 Gr.CF8 ASTM A276 Gr.CF8M ASTM A276 Gr.CF3M |
| | | | |
| | | | |
| | | | |
| 5 | Packing | PTFE | |
| | | RTFE | |
| | | PPL | |
| | | Graphite | |
| 6 | Pin | Stainless Steel | |

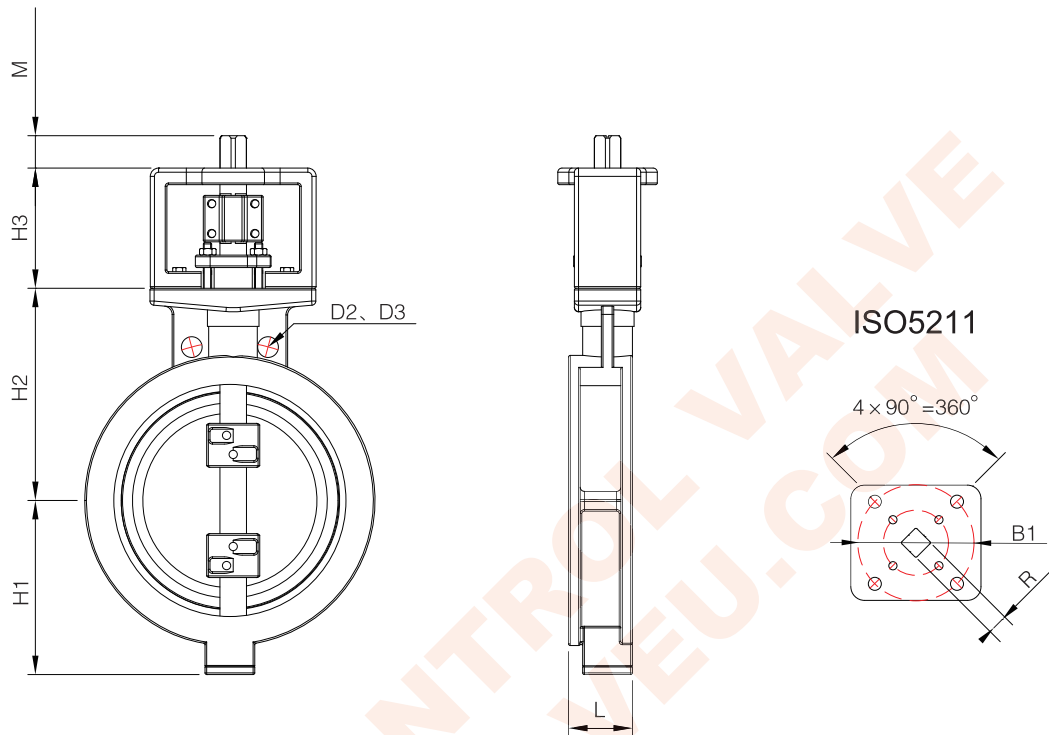


LPB12-

Triple Eccentric Metal-seat Butterfly Valve



Wafer Size: DN80–1200



PN10/16/ANSI 150LB

Unit:mm

| SIZE | L | D2 | D3 | H1 | H2 | H3 | M | R | B1 | ISO5211 | |
|--------|-----|-----|------|--------|-----|-----|-----|----|----|---------|-----|
| DN80 | 3" | 64 | 160 | 152.4 | 122 | 147 | 145 | 17 | 17 | 70 | F07 |
| DN100 | 4" | 64 | 180 | 190.5 | 132 | 162 | 145 | 17 | 17 | 70 | F07 |
| DN125 | 5" | 64 | 210 | 215.9 | 145 | 152 | 145 | 17 | 17 | 70 | F07 |
| DN150 | 6" | 70 | 240 | 241.3 | 159 | 172 | 145 | 22 | 22 | 70 | F07 |
| DN200 | 8" | 71 | 295 | 298.5 | 198 | 208 | 145 | 22 | 22 | 102 | F10 |
| DN250 | 10" | 76 | 355 | 362.0 | 224 | 255 | 145 | 26 | 26 | 102 | F10 |
| DN300 | 12" | 83 | 410 | 431.8 | 259 | 275 | 145 | 26 | 26 | 102 | F10 |
| DN350 | 14" | 92 | 470 | 476.3 | 304 | 318 | 165 | 32 | 32 | 125 | F12 |
| DN400 | 16" | 102 | 525 | 539.8 | 325 | 340 | 165 | 32 | 32 | 125 | F12 |
| DN450 | 18" | 114 | 585 | 577.9 | 364 | 380 | 165 | 38 | 38 | 140 | F14 |
| DN500 | 20" | 127 | 650 | 635.0 | 394 | 420 | 165 | 38 | 38 | 140 | F14 |
| DN600 | 24" | 154 | 770 | 749.3 | 449 | 485 | 165 | 54 | 54 | 165 | F16 |
| DN700 | 28" | 165 | 840 | 863.6 | 490 | 510 | 200 | 54 | 54 | 165 | F16 |
| DN800 | 32" | 190 | 950 | 977.9 | 545 | 580 | 200 | - | - | 254 | F25 |
| DN900 | 36" | 203 | 1050 | 1085.9 | 603 | 652 | 200 | - | - | 254 | F25 |
| DN1000 | 40" | 216 | 1170 | 1200.2 | 675 | 720 | 200 | - | - | 298 | F30 |
| DN1200 | 48" | 254 | 1390 | 1422.4 | 870 | 880 | 200 | - | - | 298 | F30 |

PN40/ANSI 300/600LB

Unit:mm

| SIZE | L | D2 | D3 | H1 | H2 | H3 | M | R | B1 | ISO5211 | |
|-------|-----|-----|-----|-------|-----|-----|-----|----|----|---------|-----|
| DN100 | 4" | 64 | 180 | 200 | 132 | 162 | 145 | 17 | 17 | 70 | F07 |
| DN150 | 6" | 76 | 240 | 270 | 159 | 172 | 145 | 22 | 22 | 70 | F07 |
| DN200 | 8" | 89 | 295 | 330 | 198 | 208 | 145 | 26 | 26 | 102 | F10 |
| DN250 | 10" | 114 | 355 | 387.5 | 224 | 255 | 145 | 32 | 32 | 102 | F10 |
| DN300 | 12" | 114 | 410 | 451 | 259 | 275 | 145 | 32 | 32 | 102 | F10 |
| DN350 | 14" | 127 | 470 | 514.5 | 304 | 318 | 165 | 38 | 38 | 125 | F12 |
| DN400 | 16" | 140 | 525 | 571.5 | 325 | 340 | 165 | 52 | 52 | 125 | F12 |
| DN450 | 18" | 152 | 585 | 628.5 | 364 | 380 | 165 | 52 | 52 | 140 | F14 |
| DN500 | 20" | 152 | 650 | 686 | 394 | 420 | 165 | 54 | 54 | 140 | F14 |
| DN600 | 24" | 178 | 770 | 813 | 449 | 485 | 165 | 60 | 60 | 165 | F16 |

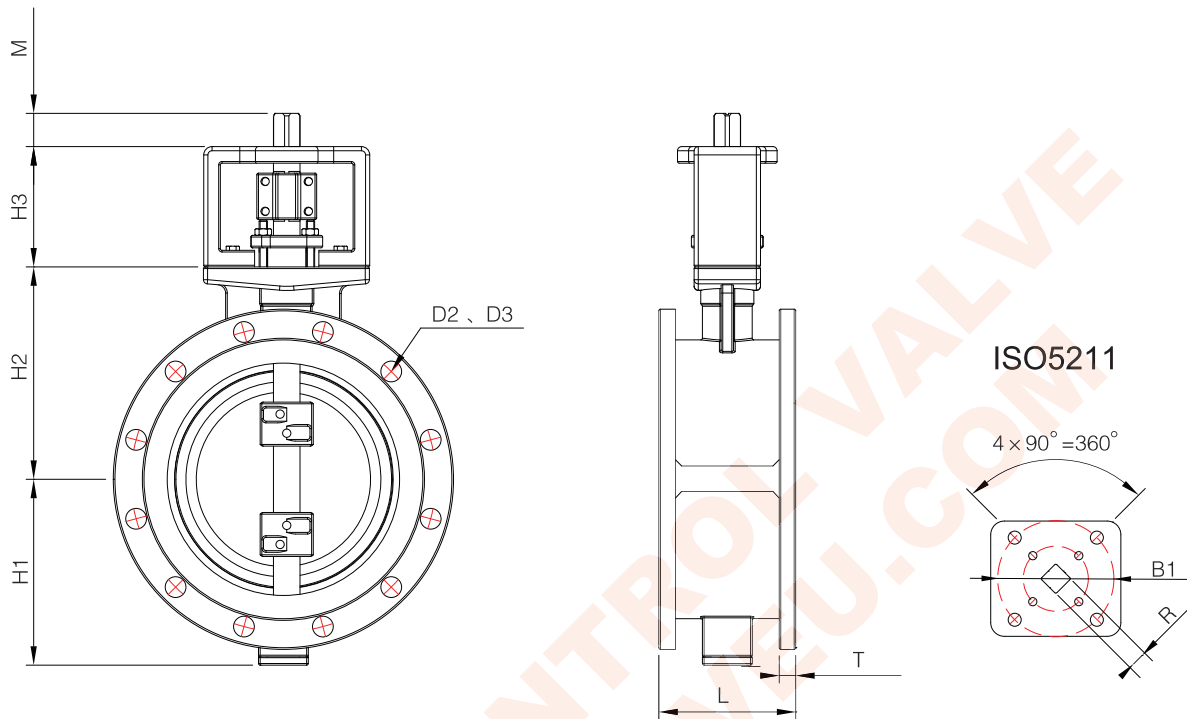
Note: D2 is designed to meet GB9113.1
D3 is designed to meet ANSI 150 B16.5



LPB12- Triple Eccentric Metal-seat Butterfly Valve



Flange Size: DN80–1200



PN10/16/ANSI 150LB

Unit:mm

| SIZE | L | D2 | D3 | H1 | H2 | H3 | T | M | R | B1 | ISO5211 |
|--------|-----|-----|------|--------|-----|-----|----|----|----|-----|---------|
| DN80 | 3" | 114 | 160 | 152.4 | 122 | 147 | 20 | 17 | 17 | 70 | F07 |
| DN100 | 4" | 127 | 180 | 190.5 | 132 | 162 | 22 | 17 | 17 | 70 | F07 |
| DN125 | 5" | 140 | 210 | 215.9 | 145 | 152 | 22 | 17 | 17 | 70 | F07 |
| DN150 | 6" | 140 | 240 | 241.3 | 159 | 172 | 24 | 22 | 22 | 70 | F07 |
| DN200 | 8" | 152 | 295 | 298.5 | 198 | 208 | 24 | 22 | 22 | 102 | F10 |
| DN250 | 10" | 165 | 355 | 362.0 | 224 | 255 | 26 | 26 | 26 | 102 | F10 |
| DN300 | 12" | 178 | 410 | 431.8 | 259 | 275 | 28 | 26 | 26 | 102 | F10 |
| DN350 | 14" | 190 | 470 | 476.3 | 304 | 318 | 30 | 32 | 32 | 125 | F12 |
| DN400 | 16" | 216 | 525 | 539.8 | 325 | 340 | 32 | 32 | 32 | 125 | F12 |
| DN450 | 18" | 222 | 585 | 577.9 | 364 | 380 | 40 | 38 | 38 | 140 | F14 |
| DN500 | 20" | 229 | 650 | 635.0 | 394 | 420 | 44 | 38 | 38 | 140 | F14 |
| DN600 | 24" | 267 | 770 | 749.3 | 449 | 485 | 54 | 54 | 54 | 165 | F16 |
| DN700 | 28" | 292 | 840 | 863.6 | 490 | 510 | 40 | 54 | 54 | 165 | F16 |
| DN800 | 32" | 318 | 950 | 977.9 | 545 | 580 | 42 | - | - | 254 | F25 |
| DN900 | 36" | 330 | 1050 | 1085.9 | 603 | 652 | 44 | - | - | 254 | F25 |
| DN1000 | 40" | 410 | 1170 | 1200.2 | 675 | 720 | 46 | - | - | 298 | F30 |
| DN1200 | 48" | 470 | 1390 | 1422.4 | 870 | 880 | 52 | - | - | 298 | F30 |

PN40/ANSI 300/600LB

Unit:mm

| SIZE | L | D2 | D3 | H1 | H2 | H3 | T | M | R | B1 | ISO5211 |
|-------|-----|-----|-----|-------|-----|-----|----|----|----|-----|---------|
| DN100 | 4" | 190 | 180 | 190.5 | 132 | 162 | 24 | 17 | 17 | 70 | F07 |
| DN150 | 6" | 210 | 240 | 241.3 | 159 | 172 | 28 | 22 | 22 | 70 | F07 |
| DN200 | 8" | 230 | 295 | 298.5 | 198 | 208 | 34 | 26 | 26 | 102 | F10 |
| DN250 | 10" | 250 | 355 | 362.0 | 224 | 255 | 38 | 32 | 32 | 102 | F10 |
| DN300 | 12" | 270 | 410 | 431.8 | 259 | 275 | 42 | 32 | 32 | 102 | F10 |
| DN350 | 14" | 290 | 470 | 476.3 | 304 | 318 | 46 | 38 | 38 | 125 | F12 |
| DN400 | 16" | 310 | 525 | 539.8 | 325 | 340 | 50 | 52 | 52 | 125 | F12 |
| DN450 | 18" | 330 | 585 | 577.9 | 364 | 380 | 57 | 52 | 52 | 140 | F14 |
| DN500 | 20" | 350 | 650 | 635.0 | 394 | 420 | 57 | 54 | 54 | 140 | F14 |
| DN600 | 24" | 390 | 770 | 749.3 | 449 | 485 | 72 | 60 | 60 | 165 | F16 |

Note: D2 is designed to meet GB9113.1

D3 is designed to meet ANSI 150 B16.5

