



## API609 Wafer Triple Offset Butterfly Valve With Metal Seat MBV-0300-12W

### Basic Information

- Place of Origin: CHINA
- Brand Name: DEYE
- Certification: ISO9001:2015 PED
- Model Number: DY-V-02
- Minimum Order Quantity: 10PCS
- Price: USD2-USD20000 each
- Packaging Details: carton box+ ply wooden cases or carton+ Pallets
- Delivery Time: 20 days for usual order, 7 days for stocked items
- Payment Terms: T/T, L/C, D/P
- Supply Ability: 1000pcs one month



### Product Specification

- Highlight: Wafer triple offset butterfly valve,  
API609 triple offset butterfly valve,  
DN15 Offset Butterfly Valve

## Product Description

**Butterfly valve** is used to shut off or modulate the flow of a fluid (isolation and regulation). API 609 Centric butterfly valves (soft seated) are preferred to gate and ball valves for low-pressure and non-critical applications as they are cheaper, lighter and easier to install. Eccentric butterfly valves (double offset and triple offset valves) with metal seats have surged in popularity and compete with globe and ball valves for some applications.

### Product Information / Product Description / Basis Information / Specification

|                    |                                                                                                                                                                                                                                                                                                                               |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| API VALVE Standard | API609 Butterfly valve<br>API600 Bolted Bonnet Steel Gate Valves for Petroleum and Natural Gas Industries<br>API602 Forged Steel valves<br>API603 Stainless steel valve<br>API6D Gate valve, Plug valve and Ball valve<br>API594 Wafer, Lug check valve<br>BS1868 check valve<br>BS1873/ /BS 5352 cast and forged Globe valve |
| Types              | Butterfly valve with wafer, Lug, flanged type<br>Butterfly valve with concentric type, double eccentric type, triple offset type                                                                                                                                                                                              |
| Size               | 1/2"-48 DN15-DN1200                                                                                                                                                                                                                                                                                                           |
| End Connection     | Flange Ends, RF, FF, RTJ, LM, BW ends, threaded ends NPT, BSPT, BSPP, Socket Welded Ends                                                                                                                                                                                                                                      |
| Pressure Range     | CL150LBS, 300LBS, 600LBS, 800LBS 900LBS, 1500LBS, 2500LBS<br>PN6 PN10 PN16 PN25 PN40. PN64 PN110, PN160, PN250, PN420                                                                                                                                                                                                         |
| Surface            | Acid pickling, Polished, Galvanized, Painting, epoxy Power Coated                                                                                                                                                                                                                                                             |

### Material List Grade

| Main Ingredients                        | Standards       |              |         |         |                 |              |         |          |
|-----------------------------------------|-----------------|--------------|---------|---------|-----------------|--------------|---------|----------|
|                                         | Castings        |              |         |         | Bar or Forgings |              |         |          |
|                                         | ASTM            | DIN (W.-Nr.) | UNS-No. | JIS     | ASTM            | DIN (W.-Nr.) | UNS-No. | JIS      |
| <b>Martensitic Stainless Steel</b>      |                 |              |         |         |                 |              |         |          |
| 13Cr-4Ni-0.8Mo                          | A743 CA6NM      | 1.4313       | J91540  | SCS6    | A276 S41500     | 1.4313       | S41500  |          |
| <b>Austenitic Stainless Steel</b>       |                 |              |         |         |                 |              |         |          |
| 18Cr-8Ni                                | A351 CF8        | 1.4308       | J92600  | SCS1 3A | A276 304        | 1.4301       | S30400  | SUS 304  |
| 18Cr-8Ni-LS <sup>(1)</sup>              | A351 CF3        | 1.4306       | J92500  | SCS1 9A | A276 304L       | 1.4306       | S30403  | SUS 304L |
| 18Cr-8Ni-LC <sup>(2)</sup>              | A351 CF3M       | 1.4404       | J92800  | SCS1 6A | A276 316L       | 1.4404       | S31603  | SUS 316L |
| 18Cr-9Ni-2Mo                            | A351 CF8M       | 1.4408       | J92900  | SCS1 4A | A276 316        | 1.4401       | S31600  | SUS 316  |
| 18Cr-9Ni-2Mo-LS <sup>(1)</sup>          | A351 CF3M       | 1.4404       | J92800  | SCS1 6A | A276 316L       | 1.4404       | S31603  | SUS 316L |
| 18Cr-9Ni-2Mo-LC <sup>(2)</sup>          | A351 CF8C       | 1.4552       | J92710  | SCS2 1  | A276 347        | 1.455        | S34700  | SUS 347  |
| 18Cr-10Ni-Nb                            | A351 CF8C       | 1.4552       | J92710  | SCS2 1  | A276 347        | 1.455        | S34700  | SUS 347  |
| 18Cr-12Ni-3.5Mo                         | A351 CG8M       |              | J93000  |         | A276 317        | 1.4449       | S31700  | SUS 317  |
| 18Cr-12Ni-3.5Mo-LC <sup>(2)</sup>       | A351 CG3M       |              | J92999  |         | A276 317L       | 1.4438       | S31703  | SUS 317L |
| 18Cr-13Ni-4.5Si                         |                 |              |         |         |                 |              |         |          |
| 21Cr-29Ni-2.5Mo-3.5Cu                   | A351 CN7M       | 1.4536       | J95150  | SCS2 3  | A473 N08020     | 2.466        | N08020  |          |
| 21Cr-29Ni-2.7Mo-3.2Cu-LC <sup>(2)</sup> | A990 CN3MCu     |              |         |         |                 |              |         |          |
| 25Cr-20N                                | A351 CK20       |              | J94202  | SCS1 8  | A276 310S       | 1.4845       | S31008  | SUS 310S |
| 33Ni-20Cr-45Fe-Nbi                      | A351 CT15C      | 1.4859       | N28820  |         | B408 N08800     | 1.4876       | N08800  | NCF800   |
| <b>Super Austenitic Stainless Steel</b> |                 |              |         |         |                 |              |         |          |
| 21Cr-24Ni-6.5Mo-N                       | A351 CN3MN      |              |         |         | B691 N08367     |              | N08367  | SUS 836L |
| 25Cr-24Ni-6.5Mo-N                       | A351 CN3MN mod. |              |         |         |                 |              |         |          |
| 20Cr-18Ni-6.5Mo-N-Cu                    | A351 CK3MCuN    |              | J93254  |         | A276 S31254     |              | S31254  |          |

| Duplex Stainless Steel       |                        |            |        |                   |                  |        |        |               |
|------------------------------|------------------------|------------|--------|-------------------|------------------|--------|--------|---------------|
| 22Cr-5Ni-3Mo-N               | A995 Gr.4A<br>CD3MN    |            | J92205 |                   | A276<br>UNS32205 | 1.4462 | S32205 | SUS<br>329J3L |
| 25Cr-5Ni-Mo-Cu               | A890 Gr.1A<br>CD4MCu   |            | J93370 |                   | A790<br>UNS31260 |        | S31260 |               |
| Super Duplex Stainless Steel |                        |            |        |                   |                  |        |        |               |
| 25Cr-7Ni-3Mo-N               |                        |            |        | SCS1<br>0         | A479<br>S32750   | 1.446  | S32750 | SUS<br>329J4L |
| 28Cr-7Ni-4Mo-N               |                        |            |        | SCS1<br>0<br>mod. |                  |        |        |               |
| 25Cr-7Ni-3Mo-<br>Cu-N-W      | A890 Gr.6A<br>CD3MWCuN | 1.446<br>8 | J93380 |                   | A479<br>S32750   | 1.446  | S32750 |               |
| 25Cr-7Ni-4Mo-N               | A890 Gr.5A<br>CE3MN    |            | J93404 |                   | A479<br>S32750   | 1.446  | S32750 |               |

High Temperature Material CF8, 304, 304H CF8M, 316, 316H CK-20, 310, 310H WC4, WC5, F2, WC6, F11C1.2, F12C1.2, WC9, F22C1.3, C5, F5, WC4, WC5, F2, WC6, F11C1.2, F12C1.2, WC9, F22C1.3, C5, F5

Low Temperature Material A352 LCB, LCC, LC1 LC2, LC3, LC4, CF8M, CF8, CF3M  
Alloy Material: Bronze, IN Conoy, DUPLEX SS, Alloy 20, Hastelloy C 276, Hastelloy B

#### Technical Pressure Test

|                                                                                                            |                       |                                 |                                                       |                                      |                         |
|------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------|-------------------------------------------------------|--------------------------------------|-------------------------|
| Shell Test                                                                                                 | 1.5xworking pressure  |                                 |                                                       |                                      |                         |
| Seal Test                                                                                                  | 1.1x Working Pressure |                                 |                                                       |                                      |                         |
| air test for seal                                                                                          | 0.6Mpa by air         |                                 |                                                       |                                      |                         |
| Valve Size                                                                                                 |                       | Minimum Test Duration (Seconds) |                                                       |                                      |                         |
| DN                                                                                                         | NPS                   | Shell ,<br>タ                    | Backseat (for<br>Valves with<br>Backseat<br>Featu_re) | Closure<br>Check Valves<br>(API 594) | Closure Other<br>Valves |
| ≤50                                                                                                        | ≤ 2"                  | 15                              | 15                                                    | 60                                   | 15                      |
| 65 to 150                                                                                                  | 2 1/2" to 6"          | 60                              | 60                                                    | 60                                   | 60                      |
| 200 to 300                                                                                                 | 8"-12"                | 120                             | 60                                                    | 120                                  | 120                     |
| ≥350                                                                                                       | ≥14"                  | 300                             | 60                                                    | 120                                  | 120                     |
| a The test duration is the period of inspection aft the valve is fully prepared and is unde full pressure. |                       |                                 |                                                       |                                      |                         |

| Maximum allowable Leakage Rates for Closure Test |      |                                      |                                     |                                   |                            |                    |                     |
|--------------------------------------------------|------|--------------------------------------|-------------------------------------|-----------------------------------|----------------------------|--------------------|---------------------|
| Valve Size                                       |      | All<br>Resilient<br>Seated<br>Valves | Metal Seated Valves<br>Except Check |                                   | Metal Seated Check Valves  |                    |                     |
| DN<br>(mm)                                       | NPS  |                                      | Liquid Test<br>(drops/<br>minute)   | Gas. Test<br>(bubbles/<br>minute) | Liquid<br>Test<br>(cc/min) | Gas Test<br>(m3/h) | Gas Test<br>(ft3/h) |
| ≤50                                              | ≤2   | 0                                    | 0                                   | 0                                 | 6                          | 0.08               | 3                   |
| 65                                               | 21/2 | 0                                    | 5                                   | 10                                | 7.5                        | 0.11               | 3.75                |
| 80                                               | 3    | 0                                    | 6                                   | 12                                | 9                          | 0.13               | 4.5                 |
| 100                                              | 4    | 0                                    | 8                                   | 16                                | 12                         | 0.17               | 6                   |
| 125                                              | 5    | 0                                    | 10                                  | 20                                | 15                         | 0.21               | 7.5                 |
| 150                                              | 6    | 0                                    | 12                                  | 24                                | 18                         | 0.25               | 9                   |
| 200                                              | 8    | 0                                    | 16                                  | 32                                | 24                         | 0.34               | 12                  |
| 250                                              | 10   | 0                                    | 20                                  | 40                                | 30                         | 0.42               | 15                  |
| 300                                              | 12   | 0                                    | 24                                  | 48                                | 36                         | 0.5                | 18                  |
| 350                                              | 14   | 0                                    | 28                                  | 56                                | 42                         | 0.59               | 21                  |
| 400                                              | 16   | 0                                    | 32                                  | 64                                | 48                         | 0.67               | 24                  |
| 450                                              | 18   | 0                                    | 36                                  | 72                                | 54                         | 0.76               | 27                  |
| 500                                              | 20   | 0                                    | 40                                  | 80                                | 60                         | 0.84               | 30                  |
| 600                                              | 24   | 0                                    | 48                                  | 96                                | 72                         | 1.01               | 36                  |
| 650                                              | 26   | 0                                    | 52                                  | 104                               | 78                         | 1.09               | 39                  |
| 700                                              | 28   | 0                                    | 56                                  | 112                               | 84                         | 1.18               | 42                  |
| 750                                              | 30   | 0                                    | 60                                  | 120                               | 90                         | 1.26               | 45                  |
| 800                                              | 32   | 0                                    | 64                                  | 128                               | 96                         | 1.34               | 48                  |
| 900                                              | 36   | 0                                    | 72                                  | 144                               | 108                        | 1.51               | 54                  |
| 1000                                             | 40   | 0                                    | 80                                  | 160                               | 120                        | 1.68               | 60                  |
| 1050                                             | 42   | 0                                    | 84                                  | 168                               | 126                        | 1.76               | 63                  |
| 1200                                             | 48   | 0                                    | 96                                  | 192                               | 144                        | 2.02               | 72                  |

a For the liquid test, 1 ml is considered equivalent to 16 drops.

b There shall be no leakage for the minimum specified test duration . For liquid test, 0 drops means no visible leakage per minimum specified test duration. For gas test, 0 bubbles means less than 1 bubble per minimum specified test duration.

## DOUBLE VS. TRIPLE ECCENTRIC BUTTERFLY VALVE

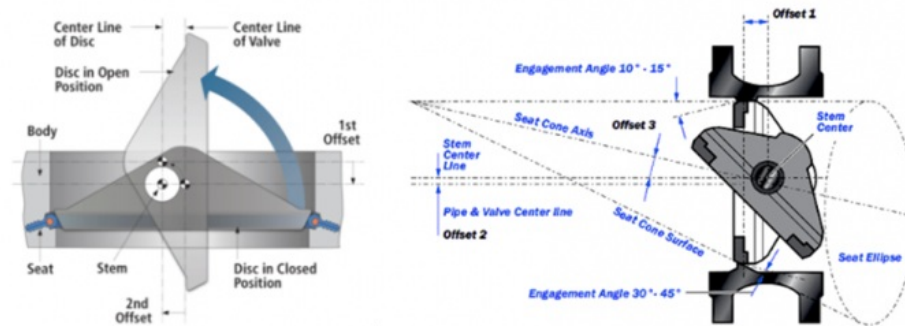
### DOUBLE ECCENTRIC BUTTERFLY VALVE

Double eccentric butterfly valves find large application in underground water supply applications and compete with gate valves (especially in larger bore sizes) due to the fact that they are lighter, cheaper and minimize the excavation works.

### TRIPLE ECCENTRIC BUTTERFLY VALVE

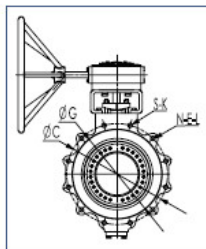
Triple offset butterfly valves are built with high-grade materials like stainless steel and duplex/super duplex steel and compete with ball valves in mission-critical applications with remarkable corrosion and high temperature/pressure. Triple offset butterfly valves are the most sophisticated type and are gaining market share in the latest years.

The images show the design difference between a double and a triple eccentric butterfly valve (respectively at the left and right side of the diagram).

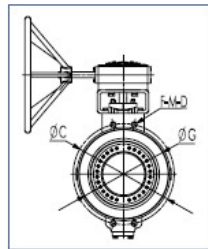


## Engineering Data

### End Connection Dimensions



Lug



Wafer

| Wafer | Lug |                                   |
|-------|-----|-----------------------------------|
| G     | G   | Raised Face Facing Diameter       |
| C     | C   | Bolting Circle Diameter           |
| N     | N   | Total Flange Bolt Holes Quantity  |
| F     | S   | Special Bolt Holes Quantity       |
| M     | E   | Standard Bolt Hole/Thread Callout |
| D     | L   | Effective Thread/Hole Depth       |
| K     |     | Shortened Thread Depth            |

### Class 150 (Lug and Wafer)

| Size |     | G     |     | C     |       | F | M            | D            |      | N  | E            | L           |      | S    | K    |      |
|------|-----|-------|-----|-------|-------|---|--------------|--------------|------|----|--------------|-------------|------|------|------|------|
| inch | mm  | inch  | mm  | inch  | mm    |   |              | inch         | mm   |    |              | inch        | mm   |      | inch | mm   |
| 3"   | 80  | 5.00  | 127 | 6.00  | 152.5 |   | NONE         |              |      | 4  | 3/4-11UNC-2B | full thread | NONE | NONE | NONE |      |
| 4"   | 100 | 6.18  | 157 | 7.50  | 190.5 | 4 | Φ19          | through hole |      | 8  | 3/4-11UNC-2B | full thread | NONE | NONE | NONE |      |
| 6"   | 150 | 8.50  | 216 | 9.51  | 241.5 | 4 | Φ21          | through hole |      | 8  | 3/4-10UNC-2B | full thread | NONE | NONE | NONE |      |
| 8"   | 200 | 10.63 | 270 | 11.75 | 298.5 | 4 | Φ22          | through hole |      | 8  | 3/4-10UNC-2B | full thread | NONE | NONE | NONE |      |
| 10"  | 250 | 12.76 | 324 | 14.25 | 362   | 4 | Φ25          | through hole |      | 12 | 1/2-9UNC-2B  | full thread | NONE | NONE | NONE |      |
| 12"  | 300 | 15.00 | 381 | 17.01 | 432   | 4 | Φ25          | through hole |      | 12 | 1/2-9UNC-2B  | 1.30        | 33   | NONE | NONE | NONE |
| 14"  | 350 | 16.26 | 413 | 18.74 | 476   | 4 | Φ29          | through hole |      | 12 | 1-8UNC-2B    | 1.30        | 33   | NONE | NONE | NONE |
| 16"  | 400 | 18.50 | 470 | 21.24 | 539.5 | 4 | 1-8UNC-2B    |              | 0.67 | 17 | 1-8UNC-2B    | 1.50        | 38   | 4    | 0.67 | 17   |
| 18"  | 450 | 20.98 | 533 | 22.76 | 578   | 4 | 1-1/2-8UN-2B |              | 0.79 | 20 | 1-1/2-8UN-2B | 1.50        | 38   | 4    | 0.79 | 20   |
| 20"  | 500 | 22.99 | 584 | 25.00 | 635   | 4 | 1-1/2-8UN-2B |              | 0.79 | 20 | 1-1/2-8UN-2B | 1.69        | 43   | 4    | 0.79 | 20   |
| 24"  | 600 | 27.24 | 692 | 29.51 | 749.5 | 4 | 1-1/2-8UN-2B |              | 0.87 | 22 | 1-1/2-8UN-2B | 1.89        | 48   | 4    | 0.87 | 22   |

### Class 300 (Lug and Wafer)

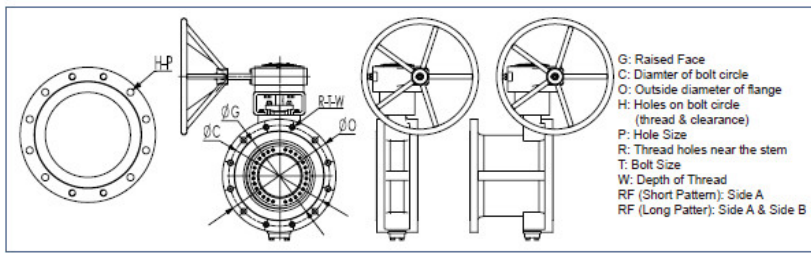
| Size |     | G     |     | C     |       | F | M            | D            |      | N  | E            | L           |      | S    | K    |    |
|------|-----|-------|-----|-------|-------|---|--------------|--------------|------|----|--------------|-------------|------|------|------|----|
| inch | mm  | inch  | mm  | inch  | mm    |   |              | inch         | mm   |    |              | inch        | mm   |      | inch | mm |
| 3"   | 80  | 5.00  | 127 | 6.63  | 168.5 | 4 | 3/4-10UNC-2B |              | 0.51 | 13 | 3/4-10UNC-2B | full thread |      | 4    | 0.51 | 13 |
| 4"   | 100 | 6.18  | 157 | 7.87  | 200   | 2 | Φ22          | through hole |      | 8  | 3/4-10UNC-2B | full thread | NONE | NONE | NONE |    |
| 6"   | 150 | 8.50  | 216 | 10.63 | 270   | 4 | Φ22          | through hole |      | 12 | 3/4-10UNC-2B | full thread | NONE | NONE | NONE |    |
| 8"   | 200 | 10.63 | 270 | 12.99 | 330   | 4 | Φ25          | through hole |      | 12 | 1/2-9UNC-2B  | full thread | NONE | NONE | NONE |    |
| 10"  | 250 | 12.76 | 324 | 15.26 | 387.5 | 4 | 1-8UNC-2B    |              | 0.67 | 17 | 1-8UNC-2B    | full thread |      | 4    | 0.67 | 17 |
| 12"  | 300 | 15.00 | 381 | 17.76 | 451   | 4 | 1-1/2-8UN-2B |              | 0.79 | 20 | 1-1/2-8UN-2B | full thread |      | 4    | 0.79 | 20 |
| 14"  | 350 | 16.26 | 413 | 20.26 | 514.5 | 4 | 1-1/2-8UN-2B |              | 0.79 | 20 | 1-1/2-8UN-2B | 1.69        | 43   | 4    | 0.79 | 20 |
| 16"  | 400 | 18.50 | 470 | 22.50 | 571.5 | 4 | 1-1/2-8UN-2B |              | 0.87 | 22 | 1-1/2-8UN-2B | 1.89        | 48   | 4    | 0.87 | 22 |
| 18"  | 450 | 21.02 | 534 | 24.76 | 629   | 4 | 1-1/2-8UN-2B |              | 0.87 | 22 | 1-1/2-8UN-2B | 1.89        | 48   | 4    | 0.87 | 22 |
| 20"  | 500 | 22.99 | 584 | 27.01 | 686   | 4 | 1-1/2-8UN-2B |              | 0.87 | 22 | 1-1/2-8UN-2B | 1.89        | 48   | 4    | 0.87 | 22 |
| 24"  | 600 | 27.24 | 692 | 32.01 | 813   | 4 | 1-1/2-8UN-2B |              | 0.98 | 25 | 1-1/2-8UN-2B | 2.24        | 57   | 4    | 0.98 | 25 |

### Class 600 (Lug and Wafer)

| Size |     | G     |     | C     |     | F | M            | D    |    | N  | E            | L           |    | S    | K    |    |
|------|-----|-------|-----|-------|-----|---|--------------|------|----|----|--------------|-------------|----|------|------|----|
| inch | mm  | inch  | mm  | inch  | mm  |   |              | inch | mm |    |              | inch        | mm |      | inch | mm |
| 4"   | 100 | 6.18  | 157 | 8.50  | 216 | 4 | 3/4-9UNC-2B  | 0.59 | 15 | 4  | 3/4-9UNC-2B  | full thread | 4  | 0.59 | 15   |    |
| 6"   | 150 | 8.50  | 216 | 11.50 | 292 | 4 | 1-8UNC-2B    | 0.67 | 17 | 8  | 1-8UNC-2B    | full thread | 4  | 0.67 | 17   |    |
| 8"   | 200 | 10.63 | 270 | 13.74 | 349 | 4 | 1-1/2-8UN-2B | 0.79 | 20 | 8  | 1-1/2-8UN-2B | full thread | 4  | 0.79 | 20   |    |
| 10"  | 250 | 12.76 | 324 | 17.01 | 432 | 4 | 1-1/4-8UN-2B | 0.87 | 22 | 12 | 1-1/4-8UN-2B | 1.89        | 48 | 4    | 0.87 | 22 |
| 12"  | 300 | 15.00 | 381 | 19.25 | 489 | 4 | 1-1/4-8UN-2B | 0.87 | 22 | 16 | 1-1/4-8UN-2B | 1.89        | 48 | 4    | 0.87 | 22 |
| 14"  | 350 | 16.26 | 413 | 20.75 | 527 | 4 | 1-3/8-8UN-2B | 0.94 | 24 | 16 | 1-3/8-8UN-2B | 1.77        | 45 | 4    | 0.94 | 24 |
| 16"  | 400 | 18.50 | 470 | 23.74 | 603 | 4 | 1-1/2-8UN-2B | 0.98 | 25 | 16 | 1-1/2-8UN-2B | 2.24        | 57 | 4    | 0.98 | 25 |
| 18"  | 450 | 20.98 | 533 | 25.75 | 654 | 4 | 1-5/8-8UN-2B | 1.06 | 27 | 16 | 1-5/8-8UN-2B | 2.44        | 62 | 4    | 1.06 | 27 |
| 20"  | 500 | 22.99 | 584 | 28.50 | 724 | 4 | 1-5/8-8UN-2B | 1.06 | 27 | 20 | 1-5/8-8UN-2B | 2.44        | 62 | 4    | 1.06 | 27 |
| 24"  | 600 | 27.24 | 692 | 32.99 | 838 | 4 | 1-7/8-8UN-2B | 1.26 | 32 | 20 | 1-7/8-8UN-2B | 2.83        | 72 | 4    | 1.26 | 32 |

## Engineering Data

### End Connection Dimensions



RF

### Class 150 (RF)

| Size |     | G     |     | C     |       | O     |     | R | T            | W    |    | H  | P   |
|------|-----|-------|-----|-------|-------|-------|-----|---|--------------|------|----|----|-----|
| inch | mm  | inch  | mm  | inch  | mm    | inch  | mm  |   |              | inch | mm |    |     |
| 3"   | 80  | 5.00  | 127 | 6.00  | 152.5 | 7.48  | 190 |   |              |      |    | 4  | Φ19 |
| 4"   | 100 | 6.18  | 157 | 7.50  | 190.5 | 9.02  | 229 | 4 | 3/4-10UNC-2B | 0.79 | 20 | 4  | Φ19 |
| 6"   | 150 | 8.50  | 216 | 9.51  | 241.5 | 10.98 | 279 | 4 | 3/4-10UNC-2B | 0.94 | 24 | 4  | Φ22 |
| 8"   | 200 | 10.63 | 270 | 11.75 | 298.5 | 13.58 | 345 | 4 | 1/2-9UNC-2B  | 0.94 | 24 | 4  | Φ22 |
| 10"  | 250 | 12.76 | 324 | 14.25 | 362   | 15.98 | 406 | 4 | 1-8UNC-2B    | 1.10 | 28 | 8  | Φ25 |
| 12"  | 300 | 15.00 | 381 | 17.01 | 432   | 19.02 | 483 | 4 | 1-1/2-8UN-2B | 1.26 | 32 | 8  | Φ25 |
| 14"  | 350 | 16.26 | 413 | 18.74 | 476   | 21.06 | 535 | 4 | 1-1/4-8UN-2B | 1.26 | 32 | 8  | Φ29 |
| 16"  | 400 | 18.50 | 470 | 21.24 | 539.5 | 23.50 | 597 | 4 | 1-1/4-8UN-2B | 1.57 | 40 | 12 | Φ29 |
| 18"  | 450 | 20.98 | 533 | 22.76 | 578   | 25.00 | 635 | 4 | 1-1/4-8UN-2B | 1.42 | 36 | 12 | Φ32 |
| 20"  | 500 | 22.99 | 584 | 25.00 | 635   | 27.48 | 698 | 4 | 1-1/4-8UN-2B | 1.42 | 36 | 16 | Φ32 |
| 24"  | 600 | 27.24 | 692 | 29.51 | 749.5 | 32.01 | 813 | 4 | 1-1/2-8UN-2B | 1.57 | 40 | 16 | Φ35 |

### Class 300 (RF)

| Size |     | G     |     | C     |       | O     |     | R | T            | W    |    | H  | P   |
|------|-----|-------|-----|-------|-------|-------|-----|---|--------------|------|----|----|-----|
| inch | mm  | inch  | mm  | inch  | mm    | inch  | mm  |   |              | inch | mm |    |     |
| 3"   | 80  | 5.00  | 127 | 6.63  | 168.5 | 8.27  | 210 | 4 | 3/4-10UNC-2B | 0.94 | 24 | 4  | Φ22 |
| 4"   | 100 | 6.18  | 157 | 7.87  | 200   | 10.00 | 254 | 4 | 3/4-10UNC-2B | 0.94 | 24 | 4  | Φ22 |
| 6"   | 150 | 8.50  | 216 | 10.63 | 270   | 12.60 | 320 | 4 | 3/4-10UNC-2B | 0.94 | 24 | 8  | Φ22 |
| 8"   | 200 | 10.63 | 270 | 12.99 | 330   | 14.96 | 380 | 4 | 1/2-9UNC-2B  | 1.06 | 27 | 8  | Φ25 |
| 10"  | 250 | 12.76 | 324 | 15.26 | 387.5 | 17.52 | 445 | 4 | 1-8UNC-2B    | 1.18 | 30 | 12 | Φ29 |
| 12"  | 300 | 15.00 | 381 | 17.76 | 451   | 20.51 | 521 | 4 | 1-1/4-8UN-2B | 1.42 | 36 | 12 | Φ32 |
| 14"  | 350 | 16.26 | 413 | 20.26 | 514.5 | 23.03 | 585 | 4 | 1-1/4-8UN-2B | 1.34 | 34 | 16 | Φ32 |
| 16"  | 400 | 18.50 | 470 | 22.50 | 571.5 | 25.51 | 648 | 4 | 1-1/4-8UN-2B | 1.57 | 40 | 16 | Φ35 |
| 18"  | 450 | 21.02 | 534 | 24.76 | 629   | 27.99 | 711 | 4 | 1-1/4-8UN-2B | 1.57 | 40 | 20 | Φ35 |
| 20"  | 500 | 22.99 | 584 | 27.01 | 686   | 30.51 | 775 | 6 | 1-1/4-8UN-2B | 1.57 | 40 | 18 | Φ35 |
| 24"  | 600 | 27.24 | 692 | 32.01 | 813   | 36.02 | 915 | 6 | 1-1/2-8UN-2B | 1.89 | 48 | 18 | Φ41 |

### Class 600 (RF)

| Size |     | G     |     | C     |     | O     |     | R | T            | W    |    | H  | P   |
|------|-----|-------|-----|-------|-----|-------|-----|---|--------------|------|----|----|-----|
| inch | mm  | inch  | mm  | inch  | mm  | inch  | mm  |   |              | inch | mm |    |     |
| 4"   | 100 | 6.18  | 157 | 8.50  | 216 | 10.75 | 273 | 4 | 3/4-9UNC-2B  | 1.10 | 28 | 4  | Φ25 |
| 6"   | 150 | 8.50  | 216 | 11.50 | 292 | 14.02 | 356 | 4 | 1-8UNC-2B    | 1.26 | 32 | 8  | Φ29 |
| 8"   | 200 | 10.63 | 270 | 13.74 | 349 | 16.50 | 419 | 4 | 1-1/2-8UN-2B | 1.42 | 36 | 8  | Φ32 |
| 10"  | 250 | 12.76 | 324 | 17.01 | 432 | 20.00 | 508 | 4 | 1-1/4-8UN-2B | 1.57 | 40 | 12 | Φ35 |
| 12"  | 300 | 15.00 | 381 | 19.25 | 489 | 22.01 | 559 | 4 | 1-1/4-8UN-2B | 1.57 | 40 | 16 | Φ35 |
| 14"  | 350 | 16.26 | 413 | 20.75 | 527 | 23.82 | 605 | 4 | 1-3/8-8UN-2B | 1.89 | 48 | 16 | Φ38 |
| 16"  | 400 | 18.50 | 470 | 23.74 | 603 | 26.97 | 685 | 4 | 1-1/2-8UN-2B | 1.81 | 46 | 16 | Φ41 |
| 18"  | 450 | 20.98 | 533 | 25.75 | 654 | 29.33 | 745 | 4 | 1-5/8-8UN-2B | 2.05 | 52 | 16 | Φ45 |
| 20"  | 500 | 22.99 | 584 | 28.50 | 724 | 32.01 | 813 | 6 | 1-5/8-8UN-2B | 2.83 | 72 | 18 | Φ45 |
| 24"  | 600 | 27.24 | 692 | 32.99 | 838 | 37.01 | 940 | 4 | 1-7/8-8UN-2B | 2.28 | 58 | 20 | Φ51 |

### Application:

Valve is a universal component industrial product that is widely used in many industries, such as petroleum, petrochemical, chemical, metallurgy, power, water conservancy, urban construction, machinery, coal, food, Sea water, Oil Refining, environment, energy.

**Reference Standard:**

API 600: cast carbon and alloy valves  
API 603: stainless steel valves  
API 602/BS 5352: forged valves  
API 6D: slab and through conduit valves for pipelines  
API 598 and BS EN 12266-1: valves testing  
ASME B16.10: face to face dimensions for valves  
ASME B16.5 and ASME B16.47: flanged connections  
ASME B16.25: butt weld connections design  
ASME B16.34: Pressure ratings pressure and temperature ratings by material grade  
ISO 7-1:1994, Pipe threads where pressure-tight joints are made on the threads — Part 1: Dimensions, tolerances and designation.  
ISO 4200:1991, Plain end steel tubes, welded and seamless — Dimensions.  
ISO 5208:1993, Industrial valves — Pressure testing of valves.  
ISO 5209:1977, General purpose industrial valves — Marking.  
ISO 5210:1991, Industrial valves — multi-turn valve actuator attachments.  
ISO 5752: — 1), Metal valves for use in flanged pipe systems — Face-to-face and center-to-face dimensions.  
ISO 6708:1995, Pipework components — Definition and selection of DN (nominal size) .  
ISO 7005-1:1992, Metallic flanges — Part 1: Steel flanges.  
ISO 7268:1983, Pipe components — Definition of nominal pressure.  
ASME B1.1:1989, Unified inch screw threads (UN and UNR thread form) .  
ASME B1.5:1988 (R1994), Acme screw threads.  
ASME B1.8:1988 (R1994), Stub Acme screw threads.  
ASME B1.12:1987 (R1992), Screw threads — Class 5 interference — Fit thread.  
ASME B1.20.1:1983 (R1992), Pipe threads, general purpose (inch) .  
ASME B16.5:1996, Pipe flanges and flanged fittings.  
ASME B16.34:1996, Valves — Flanged, threaded and welding end.  
ASME B18.2.2:1987 (R1993), Square and hex nuts (inch series) .  
ASTM A193:1996, Specification for alloy steel and stainless-steel bolting materials for high-temperature service.  
ASTM A194:1996, Specification for carbon and alloy steel nuts for bolts for high-pressure and high-temperature service.  
ASTM A307:1994, Specification for carbon steel bolts and studs, 60 000 psi tensile strength.  
MSS SP-55:1985 (R1990), Quality standard for steel castings, visual surface examination.  
1) To be published. (Revision of ISO 5752:1982)

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