

brands you trust.

Double Offset Butterfly Valve



WENZHOU SHIELD VALVE IND. CO. LTD



With over 20 years, SHIELD Valve Corporation has continuously produced quality valves for industrial and commercial applications, including oil refining, chemical processing, power, commercial and military shipbuilding, pulp and paper, mining and pharmaceutical processes. And today, SHIELD Corp. is one of the premier quarter-turn butterfly valve manufacturers in China.

SHIELD'S Valves are designed, manufactured and tested to meet and exceed all applicable specifications to which they are constructed. Our goal is simply to furnish high quality valve products at prices competitive in the global marketplace and deliveries to meet the challenges required in today's business environment.

With global operations in over 40 countries, SHIELD has developed a fully integrated and innovative product line which of size range from1/2"—120"(DN15-3000); and pressure rating from 150LB-900LB with kinds of materials. These products are engineered to meet the needs and expectations of our customers. We have years of experience working on special requirements: electric, hydraulic or pneumatic automation, emergency shut-off valves, soft seats and discs, by-pass valve installations and cryogenic extensions, which all fully comply with ASTM, ANSI, API, BS, DIN and JIS standards.



















we are a real manufacturer who may offer you the benefits below:

- To offer optimal valve solution; cut cost for you;
- valve consultation, offering technical support;
- Offer precision machining and OEM service;
- Test and inspect each of them; control the exact lead time;
- To install actuators and each parts;

Experience and business

- Process valves over 10 years;
- Good exporting business in European, Arabica world U.S.A and Japan;
- 24 hours post service and problem-solving;
- Log-term guarantee period.





DOUBLE OFFSET

The specialist for hydraulic power

Designed to provide cost effective, reliable control, easily maintained valves for use in low-pressure applications, the double offset with soft seat valve was developed.

The soft seal option provides excellent sealing capabilities in both directions which delivers excellent shut-off against applications. pressure applied in the recommended flow direction for both liquid and gas.

Optimized structure

Heavy-duty solid body construction provides rigid support;

Robust parts for trouble free service and low maintenance costs;

Field-replaceable seat located in valve body, away from flow, provides bubble tight shut off;

Available with low noise and anti-cavitation options;

Low friction bearings provide maximum radial support;

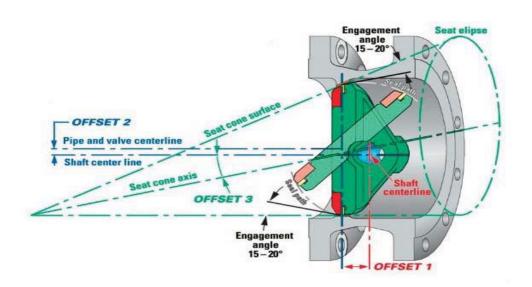
Bi-directional seal.





DESIGN FEATURES:

- •GOOD FLOW REGULATING FUNCTION AND SEALING PERFORMANCE.
- DIFFERENT SEAT DESIGNS SATISFY VARIOUS SERVICE CONDITIONS.
- •THE DISC CAN MOVE AWAY FROM THE SEAT FAST WHEN OPENING TO REDUCE THE FRICTION, AND THEN PROLONG THE VALVE LIFE.
- •SEALING PRINCIPLE: TWO OFFSET DESIGNS I.E. THE OFFSET BETWEEN THE STEM'S ROTATION AXIS AND THE CENTERLINE OF VALVE BODY; AND THE OFFSET BETWEEN THE STEM'S ROTATION AXIS AND THE CENTERLINE OF VALVE SEAT RING. THE RUBBER SEAT IS SQUEEZED BY THE DISC'S OUTER EDGE SLOWLY AND GRADUALLY DURING ROTATION, WHICH FURTHER PRODUCED ELASTIC DEFORMATION, TO ENSURE THE VALVE CLOSURE WITH THE TIGHT SEALING RESULT.





DESIGN FEATURE

- Designed in accordance with ASME B 16.34 or other customer requirements.
- Fire safe design

STANDARD OPTION

FACE TO FACE DIMENSIONS

WAFER AND LUG TYPE

• API 609 Table 2./ MSS-SP-68 Table 1 Class 150 & 300 : 3"~ 24" Class 600 : 3"~ 12" • ISO 5752 Table 5 Class 150 & 300 : 28"~ 48" Class 600 : 14"~ 24"

DOUBLE FLANGE

• ISO 5752 Table 4, BS 5155 Table 6 (short)

Class 150 & 300 : 3"~ 24"

ISO 5752 Table 4, BS 5155 Table 6 (long)

Class 600: 3"~12"

• ISO 5752 Table 4, BS 5155 Table 6 (short) Class 150 & 300 : 28"~ 80"

ISO 5752 Table 4, BS 5155 Table 6 (long)

Class 150 & 300 : 3"~ 80" Class 600 : 14"~24"

• ASME B16.10

Class 150 & 300 : 3"~ 24" Class 600 : 3"~24"

BUTT WELDING

• ISO 5752 Table 4, BS 5155 Table 6(long)

Class 150 & 300 : 3"~ 80" Class 600 : 3"~24"

END FLANGE

• ASME B16.5 : Class 150, 300,600

JIS B2210 : 10K. 16K, 20K, 30K, 40K

DIN, ISO PN10, PN16, PN20, PN25, PN40

• ASME B16.47 series A : Class 150, 300 MSS-SP-44 : Class 150, 300, 600 BS 3293 : Class 150, 300

OPERATING

• MAUNAL WORM GEAR

• ELECTRIC, PNEUMATIC & HYDRAULIC ACTUATOR LOCK LEVER

MOUNTING FLANGE

• ISO 5211

TESTING

• API 598

• MSS-SP-61, ANSI B16.104



BODY

- The valve body shall be one piece cast or fabrication.
- The body can be supplied with different types of materials in wafer, lug, or flanged and butt welding end connections to satisfy all installation requirements.

BODY SEAT

- The valve seat shall be integrated with the body.
- The valve seat is designed for inclined cone to ensure non-jamming, bi-directional shutoff, and zero leakage.

DISC

- The valve disc shall be the same material as the valve body. It is supported by rubber or PTFE seal ring, which is kept in place by seat retainer ring bolted to the disc and can be replaced easily.
- The spiral wound gasket shall be provided between seal ring and disc.

SEAL RING

- The seal ring shall be resilient rubber material, such as EPDM, NBR or PTFE, RPTFE and etc.
- The surface contacting between seal ring and body seat is an inclined cone type and the inclined angle generates a slight wedging effect.
- With a seat retainer ring bolted to the disc, the seal ring is fixed to disc not too tightly to be replaced easily.

STEM

- \bullet The stem shall be stainless steel and one piece & two piece construction.
- The stem shall be fixed to the disc by pin or in combination of pin and key. It can be protected by internal thrust bush and bush bearing.
- The thrust bush and bush bearing shall be provided to locate the valve disc in a proper position.
- The retainer ring shall be installed to avoid blowing out the stem.

PACKING

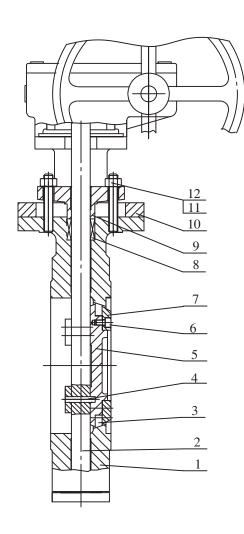
- The packing shall be consist of two braided rings in the top and bottom of valve and three die formed rings in the middle.
- The lantern ring may be provided as required by customer.

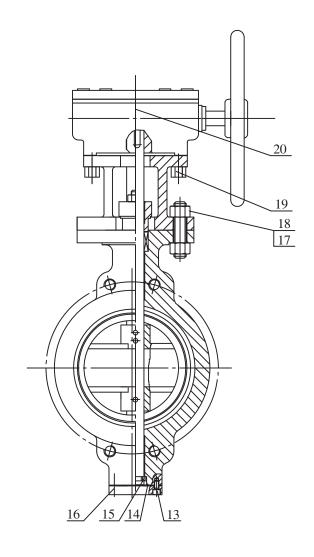
ACTUATORS

- All valves shall be self-locking manual gear operation type which is served as standard.
- Electric, pneumatic or hydraulic actuator may be provided as required by customer.



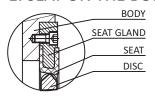
PARTIXINAME AND MATERIAL



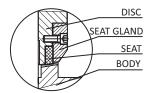


TYPES OF SEAT:

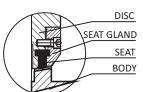
1. SEAT ON THE BODY



2. SEAT ON THE DISC



3. T-SHAPED SEAT





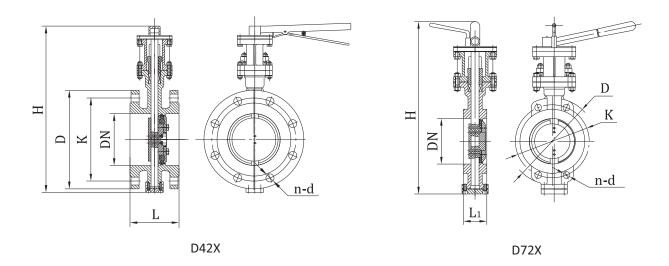
STANDARD MATERIAL LIST

| ITEM | PART NAME ITEM | STANDARD | LOW TEMPERATURE | STAINLESS STEEL |
|------|----------------------|---------------------|------------------------|-----------------|
| 1 | BODY | ASTM A216 WCB | ASTM A352 LCC | ASTM A351 CF8M |
| 2 | STEM | ASTM A182 F6 | AISI 4140 / 4340 | ASTM A182 F316 |
| 3 | SEAT | | PTFE / RUBBER | |
| 4 | PIN | ASTM A276 410 | ASTM A276 304 | ASTM A276 316 |
| 5 | DISC | ASTM A216 WCB | ASTM A352 LCC | ASTM A351 CF8M |
| 6 | SCREW | CARBON STEEL | STAINLESS STEEL | STAINLESS STEEL |
| 7 | SEAT GLAND | CARBON STEEL | STAINLESS STEEL | STAINLESS STEEL |
| 8 | PACKING | | GRAPHITE / PTFE | |
| 9 | GLAND FLANGE | ASTM A216 WCB | ASTM A216 WCB | ASTM A351 CF8 |
| 10 | YOKE | ASTM A216 WCB | ASTM A216 WCB | ASTM A351 CF8 |
| 11 | GLAND NUT | ASTM A194 2H/2HM | ASTM A194 7/7M | ASTM A194 8M |
| 12 | EYEBOLT | ASTM A193 B7/B7M | ASTM A320 L7/L7M | ASTM A193 B8M |
| 13 | COVER BOLT | ASTM A193 B7/B7M | ASTM A320 L7/L7M | ASTM A193 B8M |
| 14 | GASKET | | SS304 / SS316+GRAPHITE | |
| 15 | SPLINT COLLAR | CARBON STEEL | STAINLESS STEEL | 316 SS |
| 16 | COVER | ASTM A216 WCB | ASTM A352 LCC | ASTM A351 CF8M |
| 17 | YOKE BOLT | ASTM A193 B7 / B7M | ASTM A193 B7/B7M | ASTM A193 B8 |
| 18 | YOKE NUT | ASTM A194 2H / 2HM | ASTM A194 2H/2HM | ASTM A194 8 |
| 19 | BOLT | CARBON STEEL | CARBON STEEL | CARBON STEEL |
| 20 | GEAR | | ASSEMBLY | |
| | SEALING FACE OVERLAY | API TRIMS AVAILABLE | | |

GEAR OPERATOR ELECTRICAL OPERATOR PNEUMATIC OPERATOR HYDRAULIC OPERATOR ETC. ARE AVAILABLE NOTE: OTHER MATERIALS ARE AVAILABLE UPON REQUEST.



Dimension and connection size 1



D42X-25、150 LB D72X-25、150LB

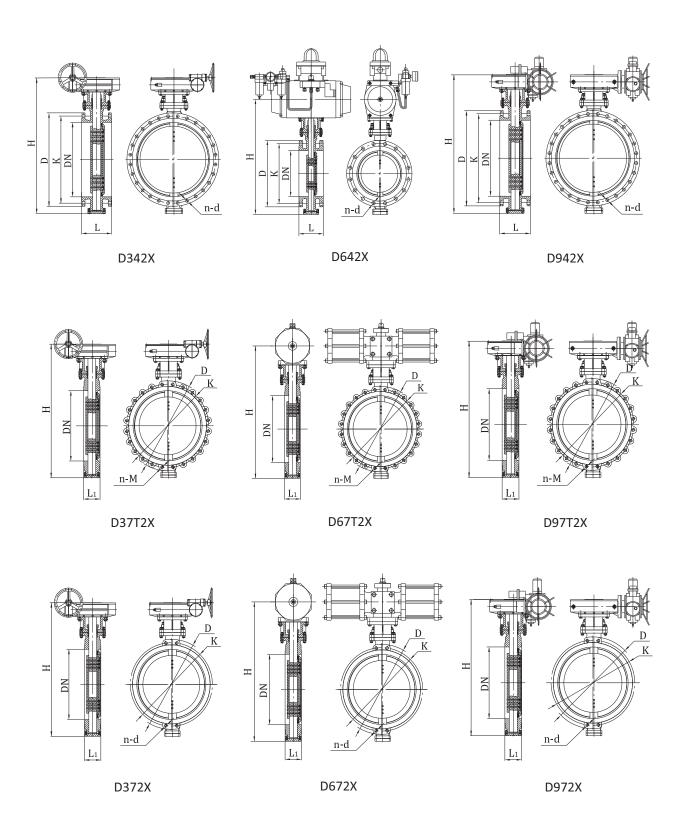
| Siz | z e | DI | MENSI | O N | | 125LB、150 | LB | | 2.5M | Pa |
|-----|-------|-----|-------|-----|-----|-----------|--------|-----|------|-------|
| DN | NPS | L | L 1 | Н | D | K | n-d | D | K | n-d |
| 50 | 2 | 108 | 43 | 380 | 150 | 120.7 | 4-Ф18 | 165 | 125 | 4-Ф18 |
| 65 | 2 1/2 | 112 | 46 | 420 | 180 | 139.7 | 4-Ф18 | 185 | 145 | 8-Ф18 |
| 80 | 3 | 114 | 49 | 465 | 190 | 152.4 | 4-Ф18 | 200 | 160 | 8-Ф18 |
| 100 | 4 | 127 | 56 | 515 | 230 | 190.5 | 8-Ф18 | 235 | 190 | 8-Ф22 |
| 125 | 5 | 140 | 64 | 550 | 255 | 215.9 | 8-Ф22 | 270 | 220 | 8-Ф26 |
| 150 | 6 | 140 | 70 | 585 | 280 | 241.3 | 8-Ф22 | 300 | 250 | 8-Ф26 |
| 200 | 8 | 152 | 71 | 725 | 345 | 298.5 | 8-Ф22 | | | |
| 250 | 10 | 165 | 76 | 780 | 405 | 362 | 12-Ф26 | | | |

D42X-6、10、16 D72X-6、10、16

| S 1 2 | Z E | DIN | Л E N S I | ON | | ≤0.6N | 1Pa | | 1.0MPa | a | | 1.6MPa | 1 |
|-------|-------|-----|-----------|-----|-----|-------|--------|-----|--------|--------|-----|--------|--------|
| DN | NPS | L | L 1 | Н | D | К | n-d | D | К | n-d | D | К | n-d |
| 50 | 2 | 108 | 43 | 380 | 140 | 110 | 4-Ф14 | 165 | 125 | 4-Ф18 | 165 | 125 | 4-Ф18 |
| 65 | 2 1/2 | 112 | 46 | 420 | 160 | 130 | 4-Ф14 | 185 | 145 | 4-Ф18 | 185 | 145 | 4-Ф18 |
| 80 | 3 | 114 | 49 | 465 | 190 | 150 | 4-Ф18 | 200 | 160 | 8-Ф18 | 200 | 160 | 8-Ф18 |
| 100 | 4 | 127 | 56 | 515 | 210 | 170 | 4-Ф18 | 220 | 180 | 8-Ф18 | 220 | 180 | 8-Ф18 |
| 125 | 5 | 140 | 64 | 550 | 240 | 200 | 8-Ф18 | 250 | 210 | 8-Ф18 | 250 | 210 | 8-Ф18 |
| 150 | 6 | 140 | 70 | 585 | 265 | 225 | 8-Ф18 | 285 | 240 | 8-Ф22 | 285 | 240 | 8-Ф22 |
| 200 | 8 | 152 | 71 | 725 | 320 | 280 | 8-Ф18 | 340 | 295 | 8-Ф22 | 340 | 295 | 12-Ф22 |
| 250 | 10 | 165 | 76 | 780 | 375 | 335 | 12-Ф18 | 395 | 350 | 12-Ф22 | 405 | 355 | 12-Ф26 |



Dimension and connection size 2







D3 (6, 9) 42X-25, 150LB D3 (6, 9) 7T2X-25, 150LB D3 (6, 9) 72X-25, 150LB

| SI | Z E | DII | MENS | ION | | 125LB | 150LB | | | 2.5 | 5MPa | |
|-----|-----|-----|------|------|-----|-------|--------|----------------------------------|-----|-----|--------|--------|
| DN | NPS | L | L 1 | Н | D | K | n-d | n-M | D | K | n-d | n-M |
| 100 | 4 | 127 | 56 | 515 | 230 | 190.5 | 8-Ф18 | 8-5/8 | 235 | 190 | 8-Ф22 | 8-M20 |
| 125 | 5 | 140 | 64 | 550 | 255 | 215.9 | 8-Ф22 | 8- 3/4 | 270 | 220 | 8-Ф26 | 8-M24 |
| 150 | 6 | 140 | 70 | 585 | 280 | 241.3 | 8-Ф22 | 8- 3/4 | 300 | 250 | 8-Ф26 | 8-M24 |
| 200 | 8 | 152 | 71 | 725 | 345 | 298.5 | 8-Ф22 | 8-3/4 | 360 | 310 | 12-Ф26 | 12-M24 |
| 250 | 10 | 165 | 76 | 780 | 405 | 362 | 12-Ф26 | 12-7/8 | 425 | 370 | 12-Ф30 | 12-M27 |
| 300 | 12 | 178 | 83 | 850 | 485 | 431.8 | 12-Ф26 | 12-7/8 | 485 | 430 | 16-Ф30 | 16-M27 |
| 350 | 14 | 190 | 92 | 920 | 535 | 476.3 | 12-Ф30 | 12-1 | 555 | 490 | 16-Ф33 | 16-M30 |
| 400 | 16 | 216 | 102 | 965 | 595 | 539.8 | 16-Ф30 | 16-1 | 620 | 550 | 16-Ф36 | 16-M33 |
| 450 | 18 | 222 | 114 | 1035 | 635 | 577.9 | 16-Ф33 | 16-1 ¹ / ₈ | 670 | 600 | 20-Ф36 | 20-M33 |
| 500 | 20 | 229 | 127 | 1240 | 700 | 635 | 20-Ф33 | 20-1 ¹ / ₈ | 730 | 660 | 20-Ф36 | 20-M33 |
| 600 | 24 | 267 | 154 | 1370 | 815 | 749.3 | 20-Ф36 | 20-1 ¹ / ₄ | 845 | 770 | 20-Ф39 | 20-M36 |

D3 (6, 9) 42X-10, 16 D3 (6, 9) 7T2X-10, 16 D3 (6, 9) 72X-10, 16

| SI | ZE | DI | MENSIC | ON | | 1. | .0MPa | | | 1 | 6 MPa | |
|------|-----|-----|--------|------|------|------|--------|--------|------|------|--------|--------|
| DN | NPS | L | L1 | Н | D | K | n-d | n-M | D | K | n-d | n-M |
| 100 | 4 | 127 | 56 | 515 | 220 | 180 | 8-Ф18 | 8-M16 | 220 | 180 | 8-Ф18 | 8-M16 |
| 125 | 5 | 140 | 64 | 550 | 250 | 210 | 8-Ф18 | 8-M16 | 250 | 210 | 8-Ф18 | 8-M16 |
| 150 | 6 | 140 | 70 | 585 | 285 | 240 | 8-Ф22 | 8-M16 | 285 | 240 | 8-Ф22 | 8-M20 |
| 200 | 8 | 152 | 71 | 725 | 340 | 295 | 8-Ф22 | 8-M20 | 340 | 295 | 12-Ф22 | 12-M20 |
| 250 | 10 | 165 | 76 | 780 | 395 | 350 | 12-Ф22 | 12-M20 | 405 | 355 | 12-Ф26 | 12-M24 |
| 300 | 12 | 178 | 83 | 850 | 445 | 400 | 12-Ф22 | 12-M20 | 460 | 410 | 12-Ф26 | 12-M24 |
| 350 | 14 | 190 | 92 | 920 | 505 | 460 | 16-Ф22 | 16-M20 | 520 | 470 | 16-Ф26 | 16-M24 |
| 400 | 16 | 216 | 102 | 965 | 565 | 515 | 16-Ф26 | 16-M24 | 580 | 525 | 16-Ф30 | 16-M27 |
| 450 | 18 | 222 | 114 | 1035 | 615 | 565 | 20-Ф26 | 20-M24 | 640 | 585 | 20-Ф30 | 20-M27 |
| 500 | 20 | 229 | 127 | 1240 | 670 | 620 | 20-Ф26 | 20-M24 | 715 | 650 | 20-Ф33 | 20-M30 |
| 600 | 24 | 267 | 154 | 1370 | 780 | 725 | 20-Ф30 | 20-M27 | 840 | 770 | 20-Ф36 | 20-M33 |
| 700 | 28 | 292 | 165 | 1490 | 895 | 840 | 24-Ф30 | 24-M27 | 910 | 840 | 24-Ф36 | 24-M33 |
| 800 | 32 | 318 | 190 | 1605 | 1015 | 950 | 24-Ф33 | 24-M30 | 1025 | 950 | 24-Ф39 | 24-M36 |
| 900 | 36 | 330 | 203 | 1705 | 1115 | 1050 | 28-Ф33 | 28-M30 | 1125 | 1050 | 28-Ф39 | 28-M36 |
| 1000 | 40 | 410 | 216 | 1820 | 1230 | 1160 | 28-Ф36 | 28-M33 | 1255 | 1170 | 28-Ф42 | 28-M39 |
| 1100 | 44 | 410 | 216 | 1920 | 1330 | 1260 | 32-Ф36 | 32-M33 | 1355 | 1270 | 32-Ф42 | 32-M39 |
| 1200 | 48 | 470 | 254 | 2200 | 1455 | 1380 | 32-Ф39 | 32-M36 | 1485 | 1390 | 32-Ф48 | 32-M45 |
| 1400 | 56 | 530 | 279 | 2340 | 1675 | 1590 | 36-Ф42 | 36-M39 | 1685 | 1590 | 36-Ф48 | 36-M45 |
| 1500 | 60 | 530 | 279 | 2450 | 1775 | 1690 | 40-Ф42 | 40-M39 | 1785 | 1690 | 40-Ф48 | 40-M45 |
| 1600 | 64 | 600 | 318 | 2620 | 1915 | 1820 | 40-Ф48 | 40-M45 | 1930 | 1820 | 40-Ф56 | 40-M52 |
| 1800 | 72 | 670 | 356 | 2910 | 2115 | 2020 | 44-Ф48 | 44-M45 | 2130 | 2020 | 44-Ф56 | 44-M52 |
| 2000 | 80 | 760 | 406 | 3110 | 2325 | 2230 | 48-Ф48 | 48-M45 | 2345 | 2230 | 48-Ф62 | 48-M56 |



D3 (6, 9) 42X-2.5, 6 D3 (6, 9) 7T2X-2.5, 6 D3 (6, 9) 72X-2.5, 6

| SIZ | ĽE | DI | MENSIC | ON | | \leq | 0.25MPa | | | 0. | 6MPa | |
|------|-----|------|--------|------|------|-------------|---------|--------|------|------|--------|--------|
| DN | NPS | L | L1 | Н | D | K | n-d | n-M | D | K | n-d | n-M |
| 150 | 6 | 140 | 70 | 585 | 265 | 225 | 8-Ф18 | 8-M16 | 265 | 225 | 8-Ф18 | 8-M16 |
| 200 | 8 | 152 | 71 | 725 | 320 | 280 | 8-Ф18 | 8-M16 | 320 | 280 | 8-Ф18 | 8-M16 |
| 250 | 10 | 165 | 76 | 780 | 375 | 335 | 12-Ф18 | 12-M16 | 375 | 335 | 12-Ф18 | 12-M16 |
| 300 | 12 | 178 | 83 | 850 | 440 | 395 | 12-Ф22 | 12-M20 | 440 | 395 | 12-Ф22 | 12-M20 |
| 350 | 14 | 190 | 92 | 920 | 490 | 445 | 12-Ф22 | 12-M20 | 490 | 445 | 12-Ф22 | 12-M20 |
| 400 | 16 | 216 | 102 | 965 | 540 | 495 | 16-Ф22 | 16-M20 | 540 | 495 | 16-Ф22 | 16-M20 |
| 450 | 18 | 222 | 114 | 1035 | 595 | 550 | 16-Ф22 | 16-M20 | 595 | 550 | 16-Ф22 | 16-M20 |
| 500 | 20 | 229 | 127 | 1240 | 645 | 600 | 20-Ф22 | 20-M20 | 645 | 600 | 20-Ф22 | 20-M20 |
| 600 | 24 | 267 | 154 | 1350 | 755 | 705 | 20-Ф26 | 20-M24 | 755 | 705 | 20-Ф26 | 20-M24 |
| 700 | 28 | 292 | 165 | 1470 | 860 | 810 | 24-Ф26 | 24-M27 | 860 | 810 | 24-Ф26 | 24-M24 |
| 800 | 32 | 318 | 190 | 1570 | 975 | 920 | 24-Ф30 | 24-M27 | 975 | 920 | 24-Ф30 | 24-M27 |
| 900 | 36 | 330 | 203 | 1675 | 1075 | 1020 | 24-Ф30 | 24-M27 | 1075 | 1020 | 24-Ф30 | 24-M27 |
| 1000 | 40 | 410 | 216 | 1780 | 1175 | 1120 | 28-Ф30 | 28-M27 | 1175 | 1120 | 28-Ф30 | 28-M27 |
| 1100 | 44 | 410 | 216 | 1890 | 1275 | 1220 | 32-Ф30 | 32-M27 | 1275 | 1220 | 32-Ф30 | 32-M27 |
| 1200 | 48 | 470 | 254 | 2120 | 1375 | 1320 | 32-Ф30 | 32-M27 | 1405 | 1340 | 32-Ф33 | 32-M30 |
| 1400 | 56 | 530 | 279 | 2260 | 1575 | 1520 | 36-Ф30 | 36-M27 | 1630 | 1560 | 36-Ф36 | 36-M30 |
| 1500 | 60 | 530 | 279 | 2370 | 1675 | 1620 | 40-Ф30 | 40-M27 | 1730 | 1660 | 40-Ф36 | 40-M30 |
| 1600 | 64 | 600 | 318 | 2540 | 1790 | 1730 | 40-Ф30 | 40-M27 | 1830 | 1760 | 40-Ф36 | 40-M30 |
| 1800 | 72 | 670 | 356 | 2820 | 1990 | 1930 | 44-Ф30 | 44-M27 | 2045 | 1970 | 44-Ф39 | 44-M36 |
| 2000 | 80 | 760 | 406 | 3020 | 2190 | 2130 | 48-Ф30 | 48-M27 | 2265 | 2180 | 48-Ф42 | 48-M39 |
| 2200 | 88 | 800 | | 3350 | 2405 | 2340 | 52-Ф33 | 52-M30 | 2475 | 2390 | 52-Ф42 | 52-M39 |
| 2400 | 96 | 850 | | 3580 | 2605 | 2540 | 56-Ф33 | 56-M30 | 2685 | 2600 | 56-Ф42 | 56-M39 |
| 2600 | 104 | 900 | | 3820 | 2805 | 2740 | 60-Ф33 | 60-M30 | 2905 | 2810 | 60-Ф48 | 60-M45 |
| 2800 | 112 | 950 | | 4095 | 3030 | 2960 | 64-Ф36 | 64-M33 | 3115 | 3020 | 64-Ф48 | 64-M45 |
| 3000 | 120 | 1000 | | 4360 | 3230 | 3160 | 68-Ф36 | 68-M33 | 3315 | 3220 | 68-Ф48 | 68-M45 |

NOTE: 1.THE VAULE "H" ONLY FOR REFERENCE。 2.THE OTHER DIMENSION AND SIZE COULD BE CUSTOMIIZED。 3. SERIES 'A' AND SERIES 'B' OF CLASS FLANGE IS SPECIFIED WHEN THE VALVE SIZE IS OVER 24", PLEASE INDICATE WHICH ONE YOU NEED WHEN ORDER ISSUED.



Material Pressure Temperature Ratings

| Co | omponent | Material | Temperature range (°F) | 100 C C C C C C C C C C C C C C C C C C | ting at 100 (psig) CL300 | | Note |
|--------|----------|--|------------------------|---|--------------------------------|------------|----------|
| BODY & | STANDARD | WCB - ASTM A216 (carbon steel) | -20 to 800 | 285 | 740 | 1480 | (1) |
| DISC | | CF8M - ASTM A351 (316SST) | -425 to 1500 | 275 | 720 | 1440 | (3)(4) |
| | OPTIONAL | LCB - ASTM A352 (carbon steel low temp.) | -50 to 650 | 265 | 695 | 1390 | |
| | | LCC - ASTM A352 (carbon steel low temp.) | -50 to 650 | 290 | 750 | 1500 | |
| | 1 | LC3 - ASTM A352 (carbon steel low temp.) | -150 to 650 | 290 | 750 | 1500 | |
| | | WC6 - ASTM A217 (Cr-Mo steel) | -20 to 1050 | 290 | 750 | 1500 | (2)(3) |
| | | WC9 - ASTM A217 (Cr-Mo steel) | -20 to 1100 | 290 | 750 | 1500 | (2)(3) |
| | 1 | CF8 - ASTM A351 (304SST) | -425 to 1500 | 275 | 720 | 1440 | (3)(4) |
| | | CF8C - ASTM A35 (347SST) | -325 to 1500 | 275 | 720 | 1440 | (3)(4) |
| | | CG8M - ASTM A351 (317 SST) | -425 to 1000 | 275 | 720 | 1440 | (3) |
| | | CN7M - ASTM A351 (ALLOY 20) | -325 to 600 | 230 | 600 | 1200 | (5) |
| | | CD4MCu - ASTM A351 (Duplex) | -425 to 600 | 290 | 750 | 1500 | |
| | | CZ100 - ASTM A494 (Nickel) | -325 to 600 | 140 | 360 | 720 | (6) |
| | 1 | CY40 - ASTM A494 (Inconel 600) | -325 to 1200 | 290 | 750 | 1500 | (6)(3) |
| | | M30C - ASTM A494 (Monel 400) | -325 to 900 | 230 | 600 | 1200 | (6) |
| | | CW12MW - ASTM A494 (Hastelloy C) | -325 to 1000 | 230 | 600 | 1200 | (5) |
| | | C95500 - ASTM B148 (Ni-Al-Bz) | -425 to 600 | Contact | Tricentric S | Sales Rep. | |
| | | GRADE 3 TITANIUM | -75 to 600 | Contact | Tricentric S | Sales Rep. | |
| SEAT | STANDARD | Integral cast on stainless and exotic | per body material | | | | |
| | OPTIONAL | ALLOY 6 | -425 to 1500 | | | | |
| | | ALLOY 21 | -425 to 800 | | CASIA* | | |
| | | INCOLLOY 825 | -20 to 1200 | | | | |
| HAFT | STANDARD | S17400 (17.4 PH DH1150) - Full Rated | -325 to 850 | | | | (7) |
| | OPTIONAL | 316SST- Reduced Rated | -425 to 600 | | | | (8) (11) |
| | | ALLOY 20 - Reduced Rated | -325 to 800 | | | | (8) (11) |
| | | INCONEL 600 - Reduced Rated | -325 to 900 | | | | (8) (11) |
| | | INCONEL 625 - Reduced Rated | -325 to 1200 | | | | (8) (11) |
| | 1 | MONEL K500 - Full Rated | -325 to 900 | | | | (11) |
| | | INCONEL 718/750 - Full Rated | -20 to 1500 | | | | (11) |
| | | Stainless or Exotic equal to body grade | per body material | 1912/1910/19 | | | (8) (11) |



| Co | mponent | Material | Temperature range (°F) | Maximum body pressure rating at 100 °F (psig) CL150 CL300 CL600 | Note |
|---------------|---------------------|-------------------------------|------------------------|--|------|
| SEAL STACK | STANDARD | EPDM | -113 to 302 | | (9) |
| STACK | OPTIONAL | NBR | -104 to 250 | | |
| | 1 | PTFE/RPTFE | -140 to 500 | | |
| | | Viton | -68 to 480 | | |
| | | Silicon | -113 to 480 | 3475 | (9) |
| | | CR | -113 to 250 | | |
| | | IIR | -120 to 250 | | (9) |
| BEARING | STANDARD | CL150 - Graphite | -400 to 1700 | | (10) |
| | WAFER & LUG | CL300 and CL600 - Nitronic 60 | -325 to 1500 | | |
| | OPTIONAL | Graphite (CL150 and CL300) | -400 to 1700 | | (10) |
| | STANDARD FLANGED | Nitronic 60 (CL600) | -325 to 1500 | | |
| | OPTIONAL | PTFE composition | -425 to 325 | | (8) |
| | | Stellite #6 | -425 to 1500 | | |
| | | Bronze | -425 to 600 | | (8) |
| | | Ceramic composition | -20 to 2500 | | (8) |
| PACKING | STANDARD | J.C. 387I and Grafoil | -400 to 1200 | 1,13,14,000,00 | (9) |
| | OPTIONAL | PTFE Chevron | -425 to 450 | | |
| | | PTFE Braided | -425 to 450 | | |

Note:

- 1. Per ASME B16.34 Permissible but not recommended for prolonged use above 800° F.
- 2. Per ASME B16.34 Use normalized and tempered material only.
- 3. Per ASME B16.34 Use of a flanged valve in CL150 ANSI above $1000^{\circ}F$ not recommended.
- 4. Per ASME B16.34 At temperatures over 1000° F, use only when the carbon content is 0.04% or higher.
- 5. Per ASME B16.34 Use solution annealed material only.
- 6. Per ASME B16.34 Use annealed material only.
- 7. Long exposure above 600°F may cause embrittlement.
- 8. Use of this material may result in a reduced differential pressure rating. Contact sales representative.
- 9. Upper temperature limit reduced to 850°F in oxidizing media
- 10. Upper temperature limit reduced to 850°F in oxidizing atmosphere.
- 11. Upper temperature limit is specified as a general guide based on code, specification and minimum torsional seating requirements. Use of material above this limit may violate these requirements. Contact a Weir sales or engineering representative for specific application material evaluation.



Flow Coefficent (Cv)

| ANSI CLASS/BAR | 3" | 4" | 6" | 8" | 10" | 12" | 14" | 16" | 18" | 20" | 24" | 30" | 36" | 40" | 42" | 46" | 48" | 54" | 60" |
|-------------------|-----|-----|-----|-------|-------|-------|-------|-------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|---------|
| 150/16 | 188 | 343 | 868 | 1678 | 2500 | 3510 | 5,515 | 8,440 | 11,285 | 14,092 | 20,587 | 33,700 | 50,470 | 64,000 | 71,100 | 87,300 | 95,740 | 120,750 | 147,000 |
| 300/40 | 188 | 343 | 868 | 1,678 | 2,500 | 3,510 | 4,942 | 7,596 | 10,394 | 12,965 | 18,962 | 29,600 | 42,700 | | 58,100 | | | | |
| 600/100 | | | 744 | 1,450 | 2,125 | 2,730 | 4,217 | 6,487 | 8,874 | 11,071 | 16,188 | | | | | | | | |

Typical Flow Characteristics

For control applications a wide variety of actuators and accessories can be provided. At moderate pressure drop conditions, turndown approaching 100 to 1 can be achieved because of the camming action of the disc opening. The disc lifts off the seat very quickly and an equal percentage control curve is produced between 15° to 75°.

