

**TISCO**  
Better Solutions



**ORION** STEEL VALVES  
**Swing Check Valves**  
API 594/BS 1868

Design & Technical Partner



**SWING CHECK VALVES API 594/BS 1868 - p. 59**

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100)  
900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

**TILTING DISC CHECK VALVES - TOP ENTRY BS 1868/B 16.34 - p. 66**

Class ASME 600 (PN 100) • 900 (PN 150) • 1500 (PN 250)  
2500 (PN 420)

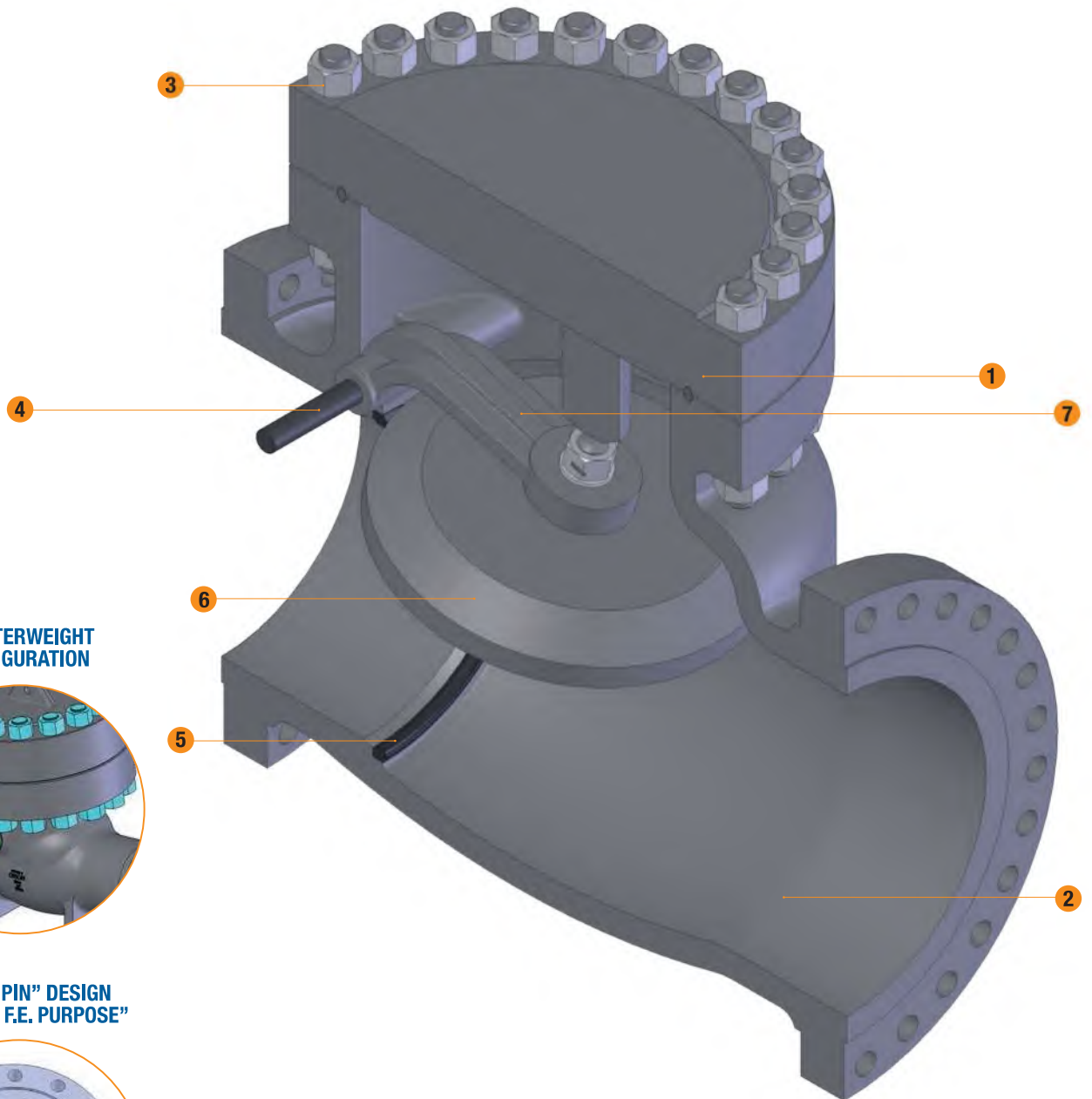
**TILTING DISC CHECK VALVES - SPLIT BODY BS 1868/B 16.34 - p. 70**

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100)

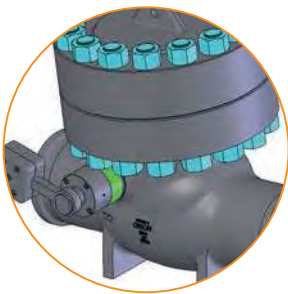
**TISCO**  
Better Solutions



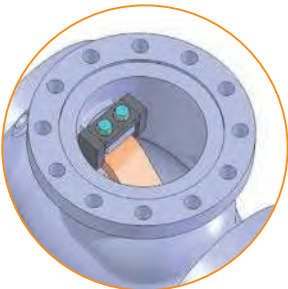
**ORION** STEEL VALVES  
**Swing Check Valves**  
API 594/BS 1868



**COUNTERWEIGHT  
CONFIGURATION**



**"INSIDE PIN" DESIGN  
FOR "LOW F.E. PURPOSE"**



## CAST STEEL, SWING TYPE DISC, RENEWABLE BODY SEAT RING, BOLTED BODY-TO-COVER CONNECTION.

### 1 COVER

The cover is in carbon or stainless steel and is also available in many other CRA. The connection sealing surfaces are raised face or ring joint to suit the valve rating.

### 2 BODY

The body is in carbon or stainless steel and is also available in many other CRA. It is carefully designed for total reliability, to keep the pressure drops to a minimum and simple maintenance. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant BS, API and ASME standards. The body-to-cover flange is circular. The sealing surface for connection to the cover is recessed in the 150 and 300 Class and ring joint for higher ratings. The body is threaded for a renewable seat and an integral over-travel stop for the disc is incorporated. Two threaded bosses are provided for the location of the hinge pin. Bosses are eventually provided for drain threaded connection.

### 3 COVER BOLTING

Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard.

### 4 HINGE PIN

The hinge pin is part of the trim, in forged stainless steel and is machined from ground bar. The hinge pin is locked in the body with two threaded NPT plugs. The pin can be removed for maintenance of the valve.

### 5 SEAT RING

Welded-in-seat ring are supplied as a standard. The rings are part of the trim of the valve. For threaded solution, the outer diameter is threaded and its bore is notched for easy installation and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

### 6 DISC

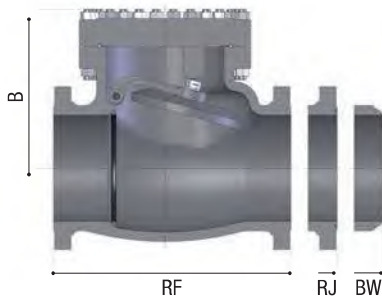
The disc is part of the trim and is in forged or cast steel. On the back face there is a threaded spigot for the connection to the hinge arm by a nut and cotter pin. The seating surface is ground and lapped.

### 7 HINGE

The hinge is made by forged steel and in cast steel.

### INSTALLATION REMARKS

Swing check valves are best fit for horizontal pipeline installation. Special cases can be evaluated and developed upon request. For small valve sizes, a vertical installation (only with upward flow) is still possible, but for heavier weights of discs chattering issues can occur. Dampers or counterweight shall be then provided.



### Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 150 - ALL SIZES

RT 150: RF - RAISED FACE • BW - WELDING ENDS

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF-BW                   | 203 | 216 | 241 | 292 | 356 | 495 | 622 | 699 | 787 |
| B                       | 162 | 167 | 187 | 207 | 255 | 304 | 352 | 375 | 399 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
| FLANGED                 | 19  | 23  | 33  | 46  | 90  | 133 | 229 | 333 | 370 |
| BW                      | 14  | 16  | 23  | 36  | 75  | 114 | 203 | 294 | 303 |

| SIZE                    | 16" | 18" | 20" | 22"   | 24"    | 26"   | 28"     | 30"   | 34"   |
|-------------------------|-----|-----|-----|-------|--------|-------|---------|-------|-------|
| RF-BW                   | 864 | 978 | 978 | 1.067 | 1.295  | 1.295 | 1.448   | 1.524 | 1.651 |
| B                       | 422 | 471 | 520 | 569   | 617    | 666   | 715     | 764   | 862   |
| Approximate WEIGHT (Kg) |     |     |     |       |        |       |         |       |       |
| FLANGED                 | 488 | 622 | 800 | 962   | 1363,5 | 1765  | 2.166,5 | 2.568 | 3.371 |
| BW                      | 419 | 552 | 709 | 852   | 1183,5 | 1515  | 1.846,5 | 2.178 | 2.841 |

| SIZE                    | 36"   | 42"   | 48"     | 50"   | 54"   | 60"   | 66"   |
|-------------------------|-------|-------|---------|-------|-------|-------|-------|
| RF-BW                   | 1.956 | 2.083 | 1.956   | 2.359 | 2.537 | 2.802 | 3.068 |
| B                       | 911   | 1057  | 1.204   | 1.253 | 1.350 | 1.497 | 1.643 |
| Approximate WEIGHT (Kg) |       |       |         |       |       |       |       |
| FLANGED                 | 3773  | 4.977 | 6.181,5 | 6.583 | 7.386 | 8.591 | /     |
| BW                      | 3173  | 4.167 | 5.161,5 | 5.493 | 6.156 | 7.150 | 8.145 |

### Class ASME 300 (PN 50)

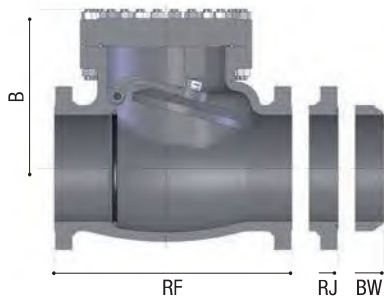
FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

RT 300: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF-BW                   | 267 | 292 | 318 | 356 | 445 | 533 | 622 | 711 | 838 |
| RJ                      | 283 | 308 | 14  | 372 | 460 | 549 | 638 | 727 | 854 |
| B                       | 167 | 179 | 190 | 213 | 260 | 306 | 352 | 399 | 445 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
| FLANGED                 | 24  | 34  | 44  | 65  | 135 | 198 | 333 | 473 | 573 |
| BW                      | 18  | 25  | 32  | 46  | 105 | 160 | 276 | 388 | 459 |

| SIZE                    | 16" | 18" | 20"   | 22"   | 24"   | 26"   | 30"   | 36"   | 42"   |
|-------------------------|-----|-----|-------|-------|-------|-------|-------|-------|-------|
| RF-BW                   | 864 | 977 | 1.016 | 1.118 | 1.346 | 1.346 | 1.594 | 2.083 | 2.198 |
| RJ                      | 880 | 994 | 1.035 | 1.140 | 1.369 | 1.371 | 1.622 | 2.108 | /     |
| B                       | 491 | 538 | 584   | 741   | 761   | 781   | 821   | 881   | 941   |
| Approximate WEIGHT (Kg) |     |     |       |       |       |       |       |       |       |
| FLANGED                 | 744 | 983 | 1.171 | 1.511 | 1.850 | 2.190 | 2.869 | 3.887 | 4.906 |
| BW                      | 601 | 794 | 951   | 1.244 | 1.537 | 1.830 | 2.416 | 3.295 | 4.174 |

| SIZE                    | 48"   | 50"   | 54"   | 60"   |
|-------------------------|-------|-------|-------|-------|
| RF-BW                   | 2.493 | 2.591 | 2.788 | 3.082 |
| RJ                      | /     | /     | /     | /     |
| B                       | 1.001 | 1.021 | 1.061 | 1.121 |
| Approximate WEIGHT (Kg) |       |       |       |       |
| FLANGED                 | 5.924 | 6.264 | 6.943 | 7.961 |
| BW                      | 5.053 | 5.346 | 5.932 | 6.811 |



### Class ASME 600 (PN 100)

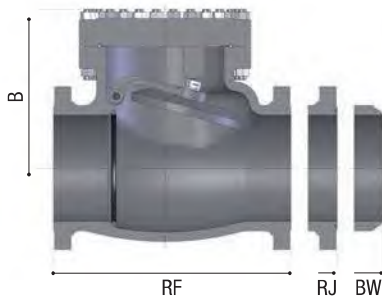
FIGURE NUMBERS - CLASS ASME 600 - ALL SIZES

RT 600: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 5"  | 6"  | 8"  | 10" | 12" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF-BW                   | 292 | 330 | 356 | 432 | 508 | 559 | 660 | 787 | 838 |
| RJ                      | 295 | 333 | 359 | 435 | 511 | 562 | 664 | 791 | 841 |
| B                       | 175 | 188 | 200 | 224 | 273 | 321 | 370 | 419 | 467 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
| FLANGED                 | 33  | 48  | 58  | 88  | 138 | 187 | 318 | 520 | 721 |
| BW                      | 23  | 38  | 47  | 64  | 101 | 138 | 252 | 404 | 590 |

| SIZE                    | 14"   | 16"   | 18"   | 20"   | 24"   | 36"   | 40"    | 46"    | 50"    |
|-------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
| RF-BW                   | 889   | 991   | 1.092 | 1.194 | 1.397 | 2.083 | 2.286  | 2.540  | 2.756  |
| RJ                      | 892   | 994   | 1.095 | 1.200 | 1.406 | 2.099 | /      | /      | /      |
| B                       | 515   | 563   | 611   | 659   | 755   | 1.043 | 1.139  | 1.283  | 1.379  |
| Approximate WEIGHT (Kg) |       |       |       |       |       |       |        |        |        |
| FLANGED                 | 1.074 | 1.216 | 1.590 | 1.963 | 3.800 | 9.310 | /      | /      | /      |
| BW                      | 919   | 975   | 1.284 | 1.593 | 3.310 | 8.460 | 10.177 | 12.752 | 14.469 |

| SIZE                    | 54"    | 60"    |
|-------------------------|--------|--------|
| RF-BW                   | 2.959  | 3.263  |
| RJ                      | /      | /      |
| B                       | 1.475  | 1.619  |
| Approximate WEIGHT (Kg) |        |        |
| FLANGED                 | /      | /      |
| BW                      | 16.185 | 18.761 |



### Class ASME 900 (PN 150)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

RT 900: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 5"    | 6"  | 8"  | 10" | 12"   |
|-------------------------|-----|-----|-----|-----|-------|-----|-----|-----|-------|
| RF-BW                   | 368 | 419 | 381 | 457 | 559   | 610 | 737 | 838 | 965   |
| RJ                      | 372 | 422 | 384 | 460 | 562   | 613 | 740 | 841 | 968   |
| B                       | 235 | 252 | 267 | 300 | 366   | 431 | 495 | 561 | 628   |
| Approximate WEIGHT (Kg) |     |     |     |     |       |     |     |     |       |
| FLANGED                 | 65  | 110 | 84  | 143 | 206   | 269 | 507 | 740 | 1.470 |
| BW                      | 49  | 86  | 64  | 120 | 156,5 | 193 | 403 | 306 | 1.280 |

| SIZE                    | 14"   | 16"   | 20"   | 24"   | 30"   | 36"    | 40"    | 42"    | 46"    |
|-------------------------|-------|-------|-------|-------|-------|--------|--------|--------|--------|
| RF-BW                   | 1.029 | 1.130 | 1.321 | 1.549 | 1.930 | 2.233  | 2.451  | 2.560  | 2.779  |
| RJ                      | 1.038 | 1.140 | 1.334 | 1.569 | /     | /      | /      | /      | /      |
| B                       | 679   | 730   | 832   | 934   | 1.087 | 1.240  | 1.342  | 1.393  | 1.495  |
| Approximate WEIGHT (Kg) |       |       |       |       |       |        |        |        |        |
| FLANGED                 | 1.890 | 2.300 | 3.331 | 5.471 | /     | /      | /      | /      | /      |
| BW                      | 1.665 | 1.975 | 2.912 | 4.894 | 6.721 | 13.864 | 18.626 | 21.007 | 25.769 |

| SIZE                    | 48"    |
|-------------------------|--------|
| RF-BW                   | 2.888  |
| RJ                      | /      |
| B                       | 1.546  |
| Approximate WEIGHT (Kg) |        |
| FLANGED                 | /      |
| BW                      | 28.150 |

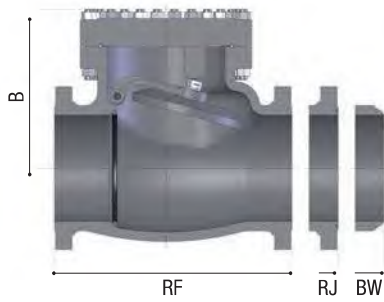
### Class ASME 1500 (PN 250)

FIGURE NUMBERS - CLASS ASME 1500 - ALL SIZES

RT 1500: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 5"  | 6"  | 8"  | 10"   | 12"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-------|-------|
| RF-BW                   | 368 | 419 | 470 | 546 | 673 | 705 | 832 | 991   | 1.130 |
| RJ                      | 372 | 422 | 473 | 549 | 676 | 711 | 841 | 1.000 | 1.146 |
| B                       | 223 | 256 | 288 | 353 | 418 | 483 | 550 | 646   | 741   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |       |       |
| FLANGED                 | 65  | 110 | 124 | 225 | 276 | 480 | 871 | 1.640 | 2.080 |
| BW                      | 49  | 86  | 98  | 188 | 222 | 412 | 723 | 1.390 | 1.713 |

| SIZE                    | 14"   | 16"   | 18"   | 20"   | 24"   | 30"    | 36"    | 42"    |
|-------------------------|-------|-------|-------|-------|-------|--------|--------|--------|
| RF-BW                   | 1.257 | 1.384 | 1.537 | 1.664 | 1.943 | 2.378  | 2.800  | 3.222  |
| RJ                      | 1.276 | 1.407 | 1.559 | 1.686 | 1.972 | /      | /      | /      |
| B                       | 837   | 933   | 1.028 | 1.124 | 1.315 | 1.602  | 1.889  | 2.176  |
| Approximate WEIGHT (Kg) |       |       |       |       |       |        |        |        |
| FLANGED                 | 2.815 | 3.705 | 5.310 | 6.690 | 9.260 | /      | /      | /      |
| BW                      | 2.265 | 3.020 | 4.490 | 5.490 | 7.533 | 10.597 | 13.661 | 16.725 |



### Class ASME 2500 (PN 420)

FIGURE NUMBERS - CLASS ASME 2500 - ALL SIZES

RT 2500: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 3"  | 4"  | 6"    | 8"    | 10"   | 12"   | 16"   | 18"   |
|-------------------------|-----|-----|-----|-------|-------|-------|-------|-------|-------|
| RF-BW                   | 451 | 578 | 673 | 914   | 1.022 | 1.270 | 1.422 | 1.826 | 2.019 |
| RJ                      | 454 | 584 | 683 | 927   | 1.038 | 1.292 | 1.445 | /     | /     |
| B                       | 381 | 413 | 445 | 597   | 723   | 849   | 967   | 1.203 | 1.321 |
| Approximate WEIGHT (Kg) |     |     |     |       |       |       |       |       |       |
| FLANGED                 | 91  | 280 | 477 | 1.068 | 1.477 | 2.890 | 4.302 | /     | /     |
| BW                      | 63  | 205 | 395 | 855   | 1.175 | 2.242 | 3.309 | 5.443 | 6.510 |

| SIZE                    | 20"   | 24"   |
|-------------------------|-------|-------|
| RF-BW                   | 2.211 | 2.596 |
| RJ                      | /     | /     |
| B                       | 1.439 | 1.675 |
| Approximate WEIGHT (Kg) |       |       |
| FLANGED                 | /     | /     |
| BW                      | 7.577 | 9.711 |

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

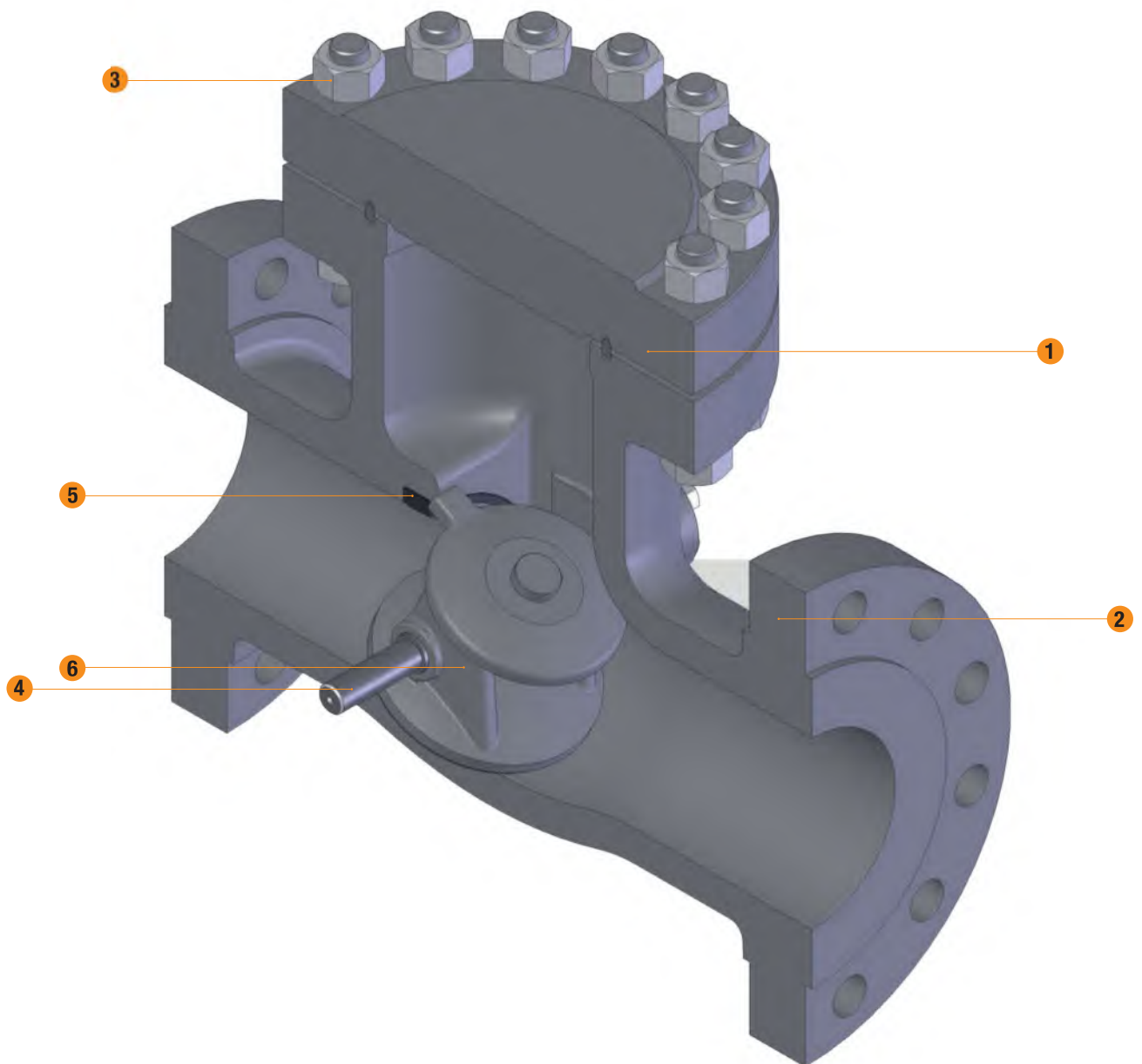
Dimensions and weight may change from above values without notice.



ORION STEEL VALVES

# Tilting Disk Check Valve - Top Entry

BS 1868/B 16.34





---

## CAST STEEL, BALANCED DISC, RENEWABLE BODY SEAT RING, BOLTED BODY-TO-COVER CONNECTION.

---

**1 COVER**

The cover is in carbon or stainless steel and is also available in many other CRA materials. The connection sealing surfaces are raised face or ring joint to suit the valve rating.

**2 BODY**

The body is in carbon or stainless steel and is also available in many other CRA. It is carefully designed for total reliability, to keep the pressure drops to a minimum and simple maintenance. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant BS, API and ASME standards. The body-to-cover flange is circular. The sealing surface for connection to the cover is recessed in the 150 and 300 Class and ring joint for higher ratings. The body is threaded for a renewable seat and an integral over-travel stop for the disc is incorporated. Two threaded or flanged hubs are provided sideways for the location of the hinge pins. Bosses are eventually provided for drain connections.

**3 COVER BOLTING**

Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard.

**4 HINGE PIN**

The disc pins are part of the trim. They are in forged stainless steel machined from ground bar. The disc pins are centred in position with two flanges and they can be easily removed for maintenance of the valve.

**5 SEAT RING**

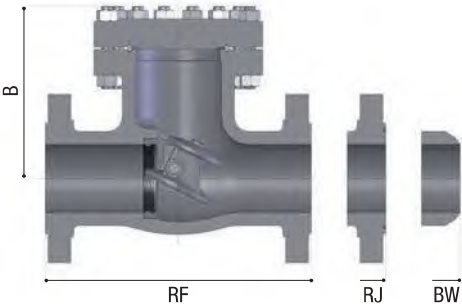
The ring is part of the trim of the valve, and is supplied as welded-in as a standard. In case the outer diameter is threaded and its bore is notched to easy installation and dismantling. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

**6 DISC**

The tilting disc is part of the trim. The disc's balanced design allows to keep it in the open position by a minimum fluid flow and lets this one to return to closed position quickly, before flow reversal starts, and so far not causing a sudden water hammer effect (non slam effect). The conical seating surface is ground and lapped.

**INSTALLATION REMARKS**

Tilting disc check valves (top entry) are best fit for horizontal pipeline installation, thus they can be used even in vertical piping with upward flow.  
Check anyway with ORION if the valve is suitable for the desired installed position.



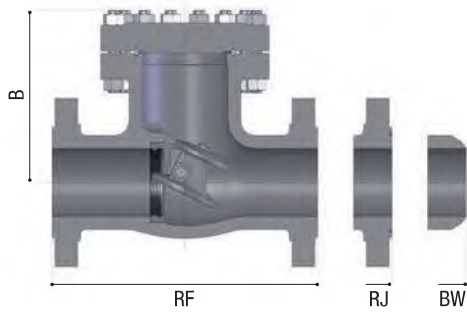
Class ASME 600 (PN 100)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

TR 600: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" | 16"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| RF-BW                   | 292 | 356 | 432 | 559 | 660 | 787 | 838 | 889 | 991   |
| RJ                      | 295 | 359 | 435 | 562 | 663 | 790 | 841 | 892 | 994   |
| B                       | 245 | 302 | 359 | 472 | 491 | 550 | 609 | 654 | 726   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |       |
| FLANGED                 | 55  | 72  | 123 | 259 | 433 | 606 | 780 | 959 | 1.320 |
| BW                      | 42  | 55  | 104 | 219 | 366 | 513 | 660 | 812 | 1.279 |

| SIZE                    | 20"   |
|-------------------------|-------|
| RF-BW                   | 1.194 |
| RJ                      | 1.200 |
| B                       | 869   |
| Approximate WEIGHT (Kg) |       |
| FLANGED                 | 1.074 |
| BW                      | 919   |



### Class ASME 900 (PN 150)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

TR 900: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 3"  | 4"  | 6"  | 8"  | 10"   | 12"   | 14"   | 16"   |
|-------------------------|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| RF-BW                   | 368 | 381 | 457 | 610 | 737 | 838   | 965   | 1.029 | 1.130 |
| RJ                      | 372 | 384 | 460 | 613 | 740 | 841   | 968   | 1.038 | 1.140 |
| B                       | 249 | 307 | 365 | 481 | 500 | 560   | 620   | 666   | 739   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |       |       |       |       |
| FLANGED                 | 94  | 122 | 208 | 440 | 735 | 1.029 | 1.324 | 1.628 | 2.566 |
| BW                      | 71  | 93  | 176 | 372 | 622 | 871   | 1.120 | 1.377 | 2.171 |

| SIZE                    | 20"   | 24"   |
|-------------------------|-------|-------|
| RF-BW                   | 1.321 | 1.549 |
| RJ                      | 1.334 | 1.569 |
| B                       | 885   | 1.092 |
| Approximate WEIGHT (Kg) |       |       |
| FLANGED                 | 1.890 | 2.300 |
| BW                      | 1.665 | 1.975 |

### Class ASME 1500 (PN 250)

FIGURE NUMBERS - CLASS ASME 1500 - ALL SIZES

TR 1500: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

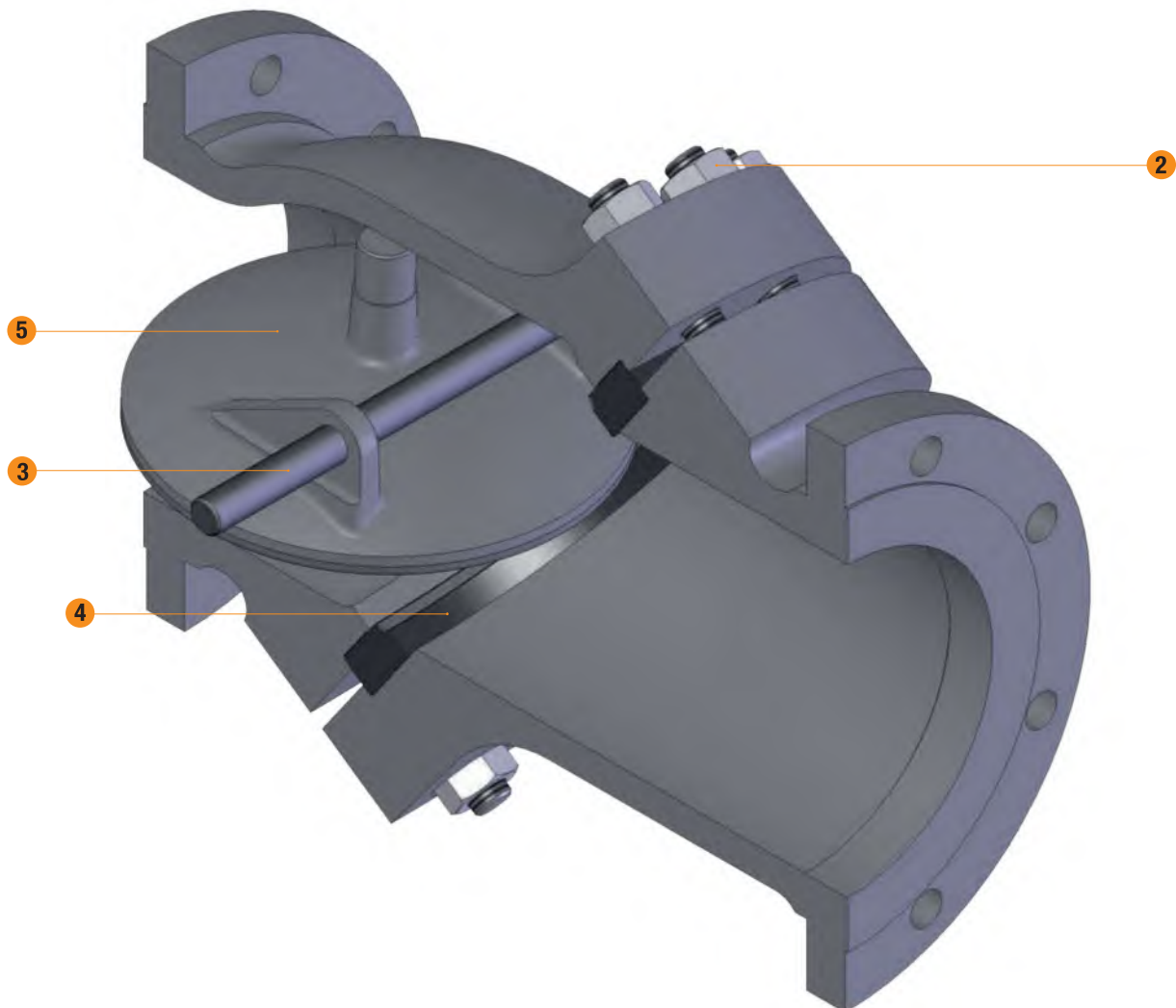
| SIZE                    | 2"  | 3"  | 4"  | 6"  | 8"  | 10"   | 12"   | 14"   | 16"   |
|-------------------------|-----|-----|-----|-----|-----|-------|-------|-------|-------|
| RF-BW                   | 368 | 470 | 546 | 705 | 832 | 991   | 1.130 | 1.257 | 1.384 |
| RJ                      | 372 | 473 | 549 | 711 | 841 | 1.000 | 1.146 | 1.276 | 1.407 |
| B                       | 227 | 296 | 365 | 486 | 608 | 730   | 852   | 974   | 1.096 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |       |       |       |       |
| FLANGED                 | 111 | 144 | 245 | 518 | 865 | 1.572 | 1.558 | 1.916 | 3.020 |
| BW                      | 84  | 110 | 207 | 438 | 732 | 1.025 | 1.318 | 1.621 | 2.555 |

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

ORION STEEL VALVES  
**Tilting Disk Check Valve - Split Body**  
BS 1868/B 16.34



CAST STEEL, TWO PIECES BODY, RENEWABLE SEAT RING, BALANCED DISC.  
THIS VALVE TYPE IS RECOMMENDED WHEN CHECK VALVES OPERATE AT LOW DIFFERENTIAL PRESSURE  
OR WHEN IT IS NECESSARY TO REDUCE PRESSURE DROP AND TO AVOID THE SLAMMING PROBLEM  
AND REDUCE THE WEAR OF MOVING PARTS.

**1 BODY**

The body is in carbon or stainless steel and is also available in many other CRA. It is carefully designed for total reliability, to keep the pressure drops to a minimum and simple maintenance. The body shall be two-piece, consisting of an entrance and a discharge section bolted together at an angle with the pipeline. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant BS, API and ASME standards. Two threaded bosses are incorporated to ensure correct alignment of the hinge disc.

**2 BODY BOLTING**

Bonnet studs and nuts are manufactured from alloy steel to the relevant ASTM standard.

**3 DISC PINS**

The disc pins are part of the trim. They are in forged stainless steel machined from ground bar. The two disc pins are centred in position with two flanges and they can be easily removed for maintenance of the valve.

**4 SEAT RING**

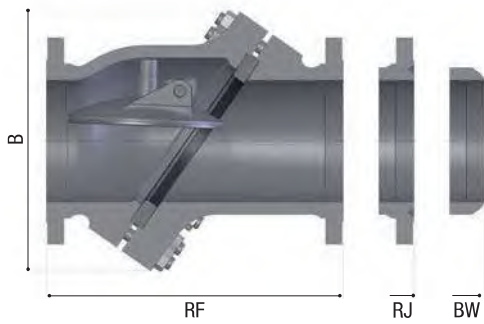
The rings are part of the trim of the valve. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

**5 DISC**

The disc is part of the trim and it is in forged steel or cast steel. The disc is balanced so that as flow decreases, it will pivot towards its closed position, closing before reverse flow actually commences. The seating surface is ground and lapped.

**INSTALLATION REMARKS**

Tilting disc check valve (top entry) is best fit for horizontal pipeline installation, it can be used even in vertical piping with flow up. Check anyway with ORION if the valve is suitable for the desired installed position.



### Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 150 - ALL SIZES

TT 150: RF - RAISED FACE • BW - WELDING ENDS

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 5"   | 6"  | 8"  | 10" | 12" |
|-------------------------|-----|-----|-----|-----|------|-----|-----|-----|-----|
| RF-BW                   | 203 | 216 | 241 | 292 | 330  | 356 | 495 | 622 | 699 |
| B                       | 84  | 95  | 105 | 126 | 143  | 159 | 196 | 232 | 269 |
| Approximate WEIGHT (Kg) |     |     |     |     |      |     |     |     |     |
| FLANGED                 | 14  | 19  | 23  | 36  | 49,5 | 63  | 163 | 230 | 300 |
| BW                      | 9   | 11  | 13  | 26  | 37   | 48  | 142 | 204 | 261 |

| SIZE                    | 14" | 16" | 18" | 20"   | 24"   | 28"   | 30"   | 32"   |
|-------------------------|-----|-----|-----|-------|-------|-------|-------|-------|
| RF-BW                   | 787 | 864 | 978 | 978   | 1.050 | 1.257 | 1.257 | 1.524 |
| B                       | 302 | 334 | 367 | 400   | 465   | 518   | 544   | 570   |
| Approximate WEIGHT (Kg) |     |     |     |       |       |       |       |       |
| FLANGED                 | 534 | 696 | 858 | 1.020 | 1.200 | 2.100 | 2.280 | 1.955 |
| BW                      | 469 | 622 | 776 | 929   | 1.071 | 1.825 | 1.995 | 1.635 |

### Class ASME 300 (PN 50)

FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

TT 300: RF - RAISED FACE • BW - WELDING ENDS • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 5"  | 6"  | 8"  | 10" | 12" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| RF-BW                   | 267 | 292 | 318 | 356 | 400 | 445 | 533 | 622 | 711 |
| RJ                      | 283 | 308 | 333 | 372 | 416 | 460 | 549 | 638 | 727 |
| B                       | 107 | 119 | 130 | 153 | 158 | 162 | 201 | 240 | 280 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
| FLANGED                 | 18  | 28  | 38  | 60  | 78  | 96  | 173 | 250 | 392 |
| BW                      | 12  | 19  | 26  | 41  | 54  | 66  | 130 | 193 | 306 |

| SIZE                    | 14" | 16" | 18" | 20"   | 24"   |
|-------------------------|-----|-----|-----|-------|-------|
| RF-BW                   | 838 | 921 | 978 | 1.016 | 1.260 |
| RJ                      | 854 | 936 | 966 | 999   | 1.282 |
| B                       | 345 | 380 | 415 | 450   | 520   |
| Approximate WEIGHT (Kg) |     |     |     |       |       |
| FLANGED                 | 685 | 670 | 975 | 1.208 | 1.785 |
| BW                      | 555 | 527 | 800 | 988   | 1.472 |

72

**TISCO**  
Better Solutions

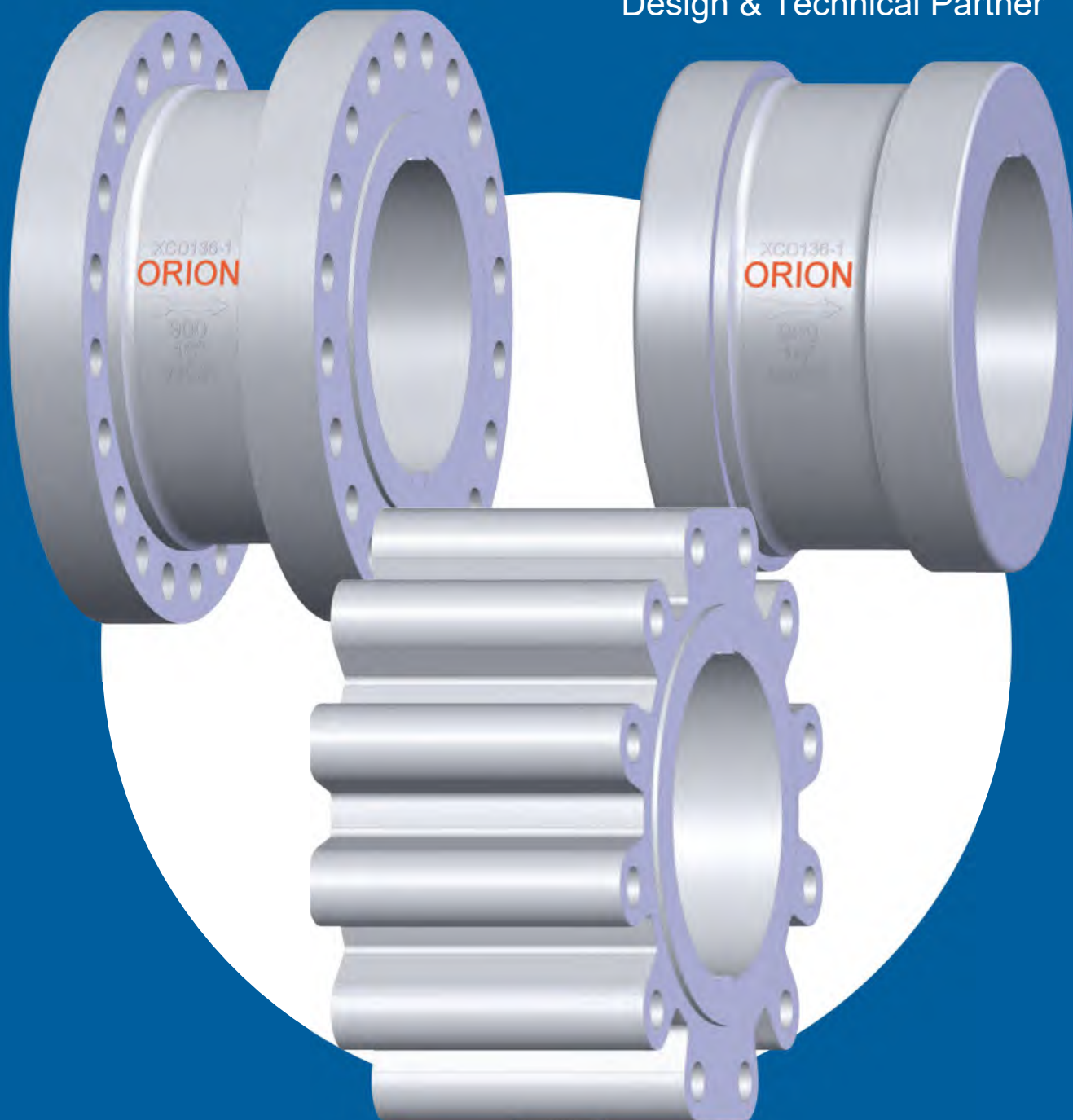


**ORION** STEEL VALVES

# Dual Plate Check Valves

API 594

Design & Technical Partner



DUAL PLATE

## **DUAL PLATE WAFER CHECK VALVES API 594 - p. 84**

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100)  
900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

## **DUAL PLATE LUG CHECK VALVES API 594 - p. 88**

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100)  
900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

## **DOUBLE FLANGED CHECK VALVES API 594 - p. 92**

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100)  
900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

## **SPECIAL FEATURES - p. 95**

## **INSTALLATION RECOMMENDATION - p. 96**

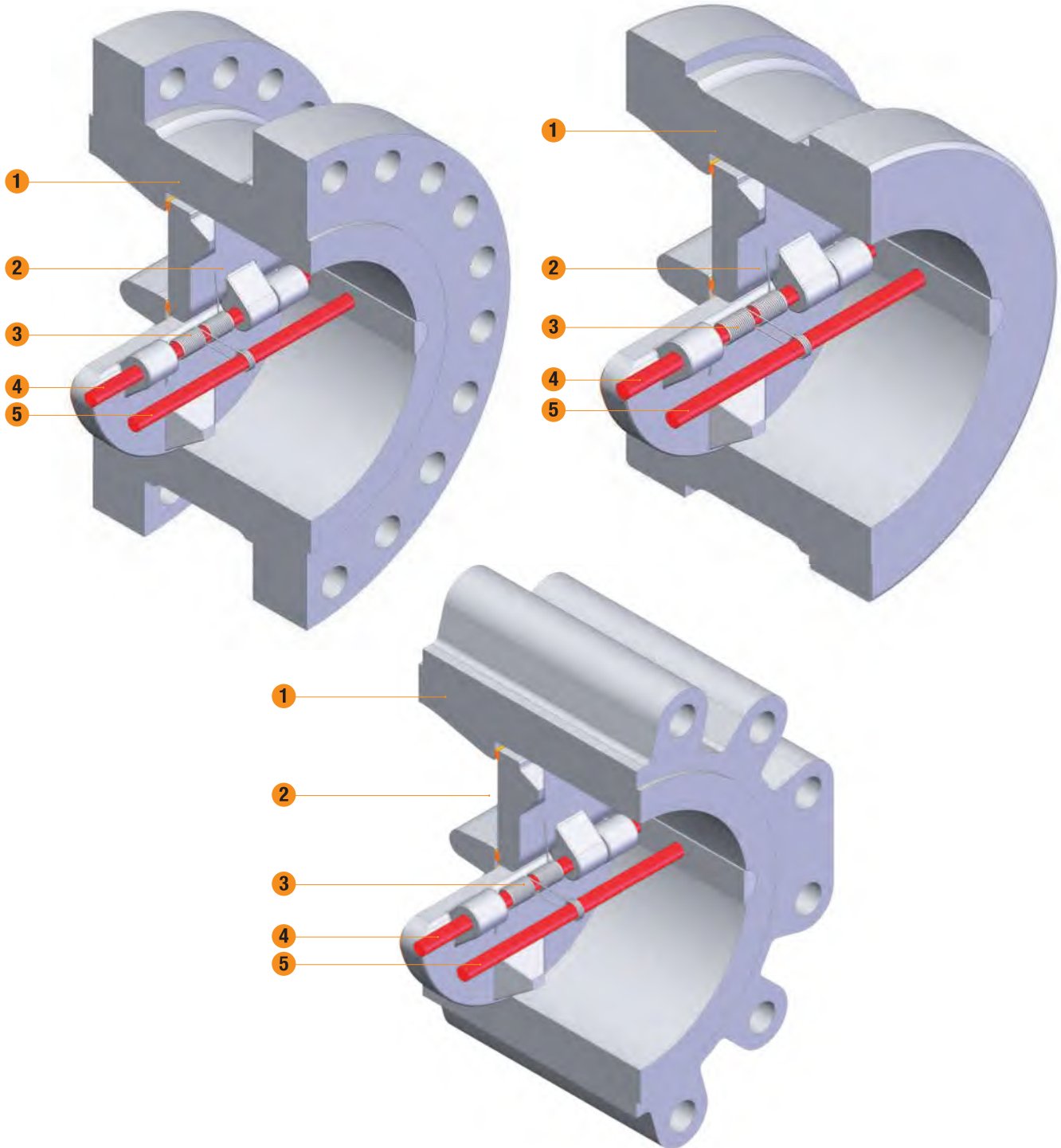




ORION STEEL VALVES

# Dual Plate Check Valves

RETAINERLESS DESIGN ACCORDING TO API 594



**1 BODY**

The body is realized in cast or forged steel, carefully designed in order to minimize the pressure drop. The basic dimensions, wall thickness, face to face and flanges, comply with the relevant API and ASME standards. Two guides are incorporated to ensure correct alignment of the hinge pin. The integral seat is part of trim. Special attention is given to the seating surface which is ground and lapped, for a perfectly tight seal. The total absence of through-body drills (retainerless design) avoids any possible accidental leakage from the system.

**2 DISC**

The disc is in cast or forged steel. The attachment to the hinge pin allows the rotation and a small translation along the flow. The seating surface is ground and lapped. An integral over-travel stop for the discs is incorporated.

**3 SPRING**

Torsion spring, available in various material, according to the desired service.

**4 HINGE PIN**

The hinge pin is part of the trim, in forged stainless steel and is machined from ground bar. The hinge pin is held in position in the body with two supports. The pin can be easily removed for valve maintenance. For correct valve functioning it shall be always installed in vertical position, when used in horizontal pipeline.

**5 STOP PIN**

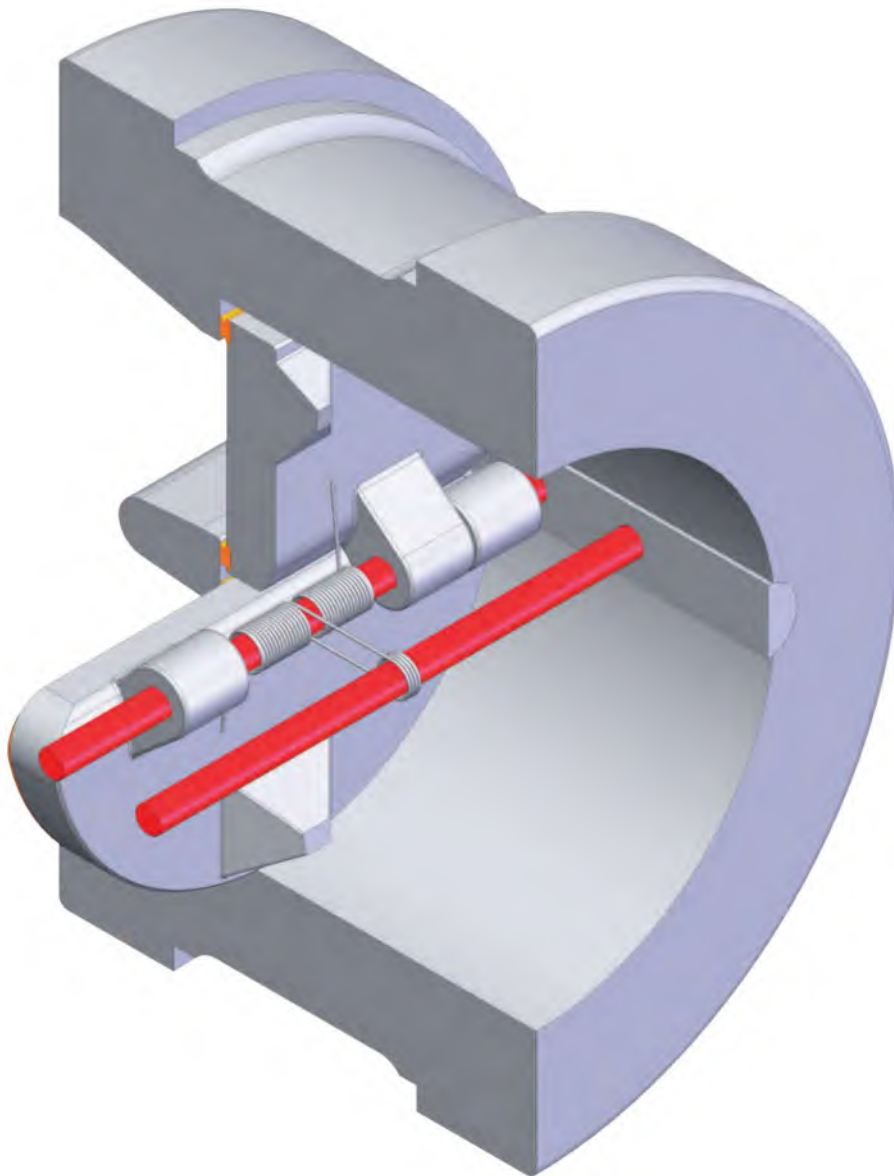
The stop pin is part of the trim. It is machined from ground bar in forged stainless steel. It is held in position parallel to the hinge pin on the same support. It has a double function: it stops the disc and retains the spring's trust. The pin can be easily removed for maintenance of the valve.



ORION STEEL VALVES

# Dual Plate Wafer Check Valves

RETAINERLESS DESIGN ACCORDING TO API 594



Only as Example: For Installation Recommendation, please refer to page 96.



### Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 250 - ALL SIZES

CD\_W: 150 RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 101 | 120 | 133 | 171 | 219 | 276 | 336 | 405 | 448 |
| B                       | 60  | 67  | 73  | 73  | 98  | 127 | 146 | 181 | 184 |
| C                       | 60  | 67  | 90  | 110 | 160 | 215 | 270 | 300 | 330 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 3   | 4   | 5   | 8   | 17  | 30  | 50  | 90  | 110 |

| SIZE                    | 16" | 18" | 20" | 24" | 30" | 36"   | 42"   | 48"   |
|-------------------------|-----|-----|-----|-----|-----|-------|-------|-------|
| A                       | 511 | 546 | 603 | 714 | 879 | 1,044 | 1,216 | 1,381 |
| B                       | 191 | 203 | 219 | 222 | 305 | 368   | 432   | 524   |
| C                       | 380 | 435 | 485 | 575 | 740 | 887   | 1,040 | 1,192 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |       |       |       |
|                         | 147 | 169 | 221 | 307 | 502 | 817   | 1,282 | 1,887 |

### Class ASME 300 (PN 50)

FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

CD\_W: 300 RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 108 | 127 | 146 | 178 | 247 | 304 | 358 | 419 | 483 |
| B                       | 60  | 67  | 73  | 73  | 98  | 127 | 146 | 181 | 222 |
| C                       | 60  | 67  | 90  | 110 | 160 | 215 | 270 | 300 | 330 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 3   | 6   | 6   | 9   | 20  | 39  | 54  | 100 | 166 |

| SIZE                    | 16" | 18" | 20" | 24" | 28" | 30" | 36"   | 42"   | 48"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| A                       | 537 | 593 | 650 | 771 | 894 | 949 | 1.114 | 1.162 | 1.320 |
| B                       | 232 | 264 | 292 | 318 | 368 | 368 | 483   | 568   | 629   |
| C                       | 380 | 435 | 481 | 580 | 656 | 740 | 887   | 1.040 | 1.192 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |       |       |       |
|                         | 203 | 248 | 324 | 488 | 746 | 850 | 1.247 | 2.268 | 3.867 |



### Class ASME 600 (PN 100)

FIGURE NUMBERS - CLASS ASME 600 - ALL SIZES

CD\_W 600: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 108 | 127 | 146 | 191 | 264 | 317 | 397 | 454 | 490 |
| B                       | 60  | 67  | 73  | 79  | 136 | 165 | 213 | 227 | 273 |
| C                       | 60  | 67  | 90  | 102 | 155 | 202 | 235 | 290 | 315 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 3   | 5   | 6   | 13  | 38  | 55  | 127 | 172 | 224 |

| SIZE                    | 16" | 18" | 20" | 24" | 30"   | 36"   | 42"   |
|-------------------------|-----|-----|-----|-----|-------|-------|-------|
| A                       | 562 | 610 | 680 | 787 | 1096  | 1127  | 1216  |
| B                       | 305 | 362 | 368 | 438 | 505   | 635   | 701   |
| C                       | 370 | 427 | 480 | 580 | 740   | 887   | 1.040 |
| Approximate WEIGHT (Kg) |     |     |     |     |       |       |       |
|                         | 352 | 471 | 558 | 807 | 1.687 | 2.126 | 2.929 |

### Class ASME 900 (PN 150)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

CD\_W 900: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 139 | 161 | 165 | 203 | 285 | 355 | 431 | 495 | 517 |
| B                       | 70  | 83  | 83  | 102 | 159 | 206 | 241 | 292 | 356 |
| C                       | 58  | 54  | 78  | 102 | 155 | 202 | 245 | 290 | 330 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 6   | 8   | 11  | 19  | 56  | 90  | 189 | 249 | 357 |

| SIZE                    | 16" | 18" | 20" | 24"   |
|-------------------------|-----|-----|-----|-------|
| A                       | 571 | 635 | 695 | 835   |
| B                       | 384 | 451 | 451 | 495   |
| C                       | 370 | 435 | 481 | 580   |
| Approximate WEIGHT (Kg) |     |     |     |       |
|                         | 455 | 623 | 693 | 1.143 |



### Class ASME 1500 (PN 250)

FIGURE NUMBERS - CLASS ASME 1500 - ALL SIZES

CD\_W 1500: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 139 | 161 | 171 | 206 | 279 | 349 | 431 | 517 | 575 |
| B                       | 70  | 83  | 83  | 102 | 159 | 206 | 248 | 305 | 356 |
| C                       | 58  | 54  | 78  | 102 | 150 | 185 | 227 | 286 | 320 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 7   | 10  | 12  | 20  | 51  | 121 | 192 | 313 | 469 |

| SIZE                    | 16" | 18" | 20"   | 24"   |
|-------------------------|-----|-----|-------|-------|
| A                       | 638 | 701 | 752   | 898   |
| B                       | 384 | 468 | 533   | 559   |
| C                       | 370 | 435 | 481   | 580   |
| Approximate WEIGHT (Kg) |     |     |       |       |
|                         | 589 | 827 | 1.227 | 2.202 |

### Class ASME 2500 (PN 420)

FIGURE NUMBERS - CLASS ASME 2500 - ALL SIZES

CD\_W 2500: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 142 | 165 | 193 | 231 | 314 | 384 | 472 | 546 |
| B                       | 70  | 83  | 86  | 105 | 159 | 206 | 254 | 305 |
| C                       | 58  | 54  | 78  | 100 | 153 | 185 | 234 | 280 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |
|                         | 10  | 13  | 16  | 27  | 67  | 137 | 237 | 395 |

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

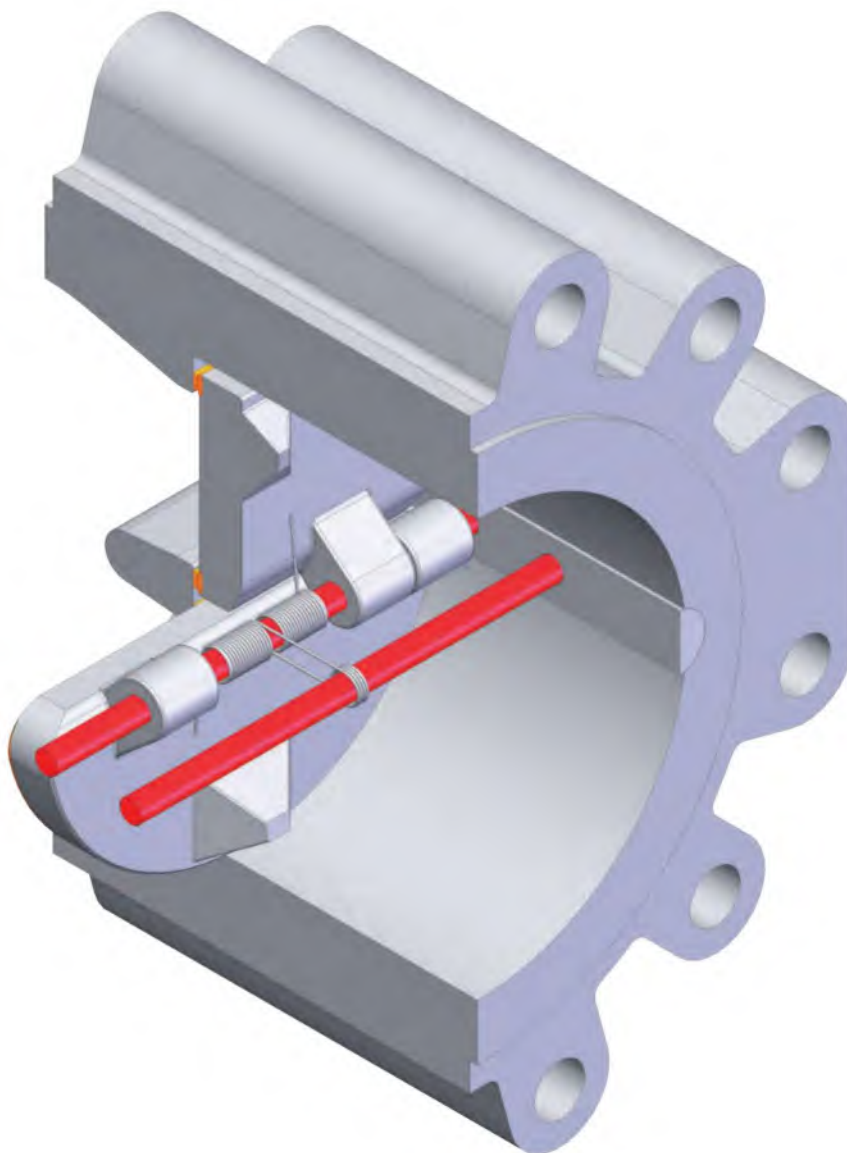
Dimensions and weight may change from above values without notice.



ORION STEEL VALVES

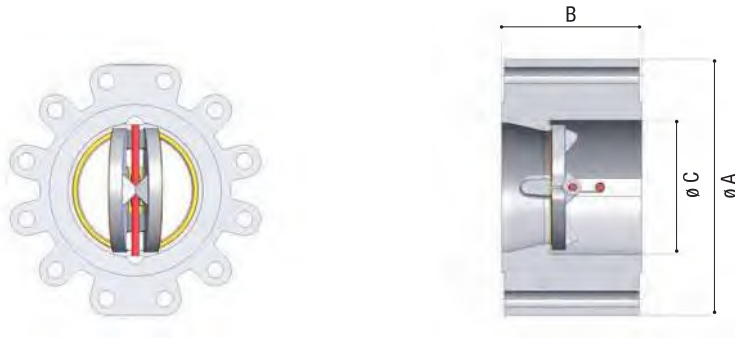
# Dual Plate Lug Check Valves

RETAINERLESS DESIGN ACCORDING TO API 594



Only as Example: For Installation Recommendation, please refer to page 96.





### Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 250 - ALL SIZES

CD\_L 150: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"    | 4"    | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-------|-------|-----|-----|-----|-----|-----|
| A                       | 150 | 180 | 181,4 | 222,3 | 277 | 345 | 405 | 475 | 535 |
| B                       | 60  | 67  | 73    | 73    | 98  | 127 | 146 | 181 | 184 |
| C                       | 60  | 67  | 90    | 110   | 160 | 200 | 245 | 300 | 335 |
| Approximate WEIGHT (Kg) |     |     |       |       |     |     |     |     |     |
|                         | 5   | 7   | 7     | 13    | 24  | 32  | 54  | 128 | 154 |

| SIZE                    | 16" | 18" | 20" | 24" | 30" | 36"   | 42"   | 48"   |
|-------------------------|-----|-----|-----|-----|-----|-------|-------|-------|
| A                       | 587 | 635 | 700 | 815 | 985 | 1170  | 1345  | 1510  |
| B                       | 191 | 203 | 219 | 222 | 305 | 368   | 432   | 524   |
| C                       | 380 | 435 | 481 | 580 | 740 | 887   | 1.040 | 1.192 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |       |       |       |
|                         | 190 | 233 | 301 | 394 | 786 | 1.293 | 2.040 | 3.057 |

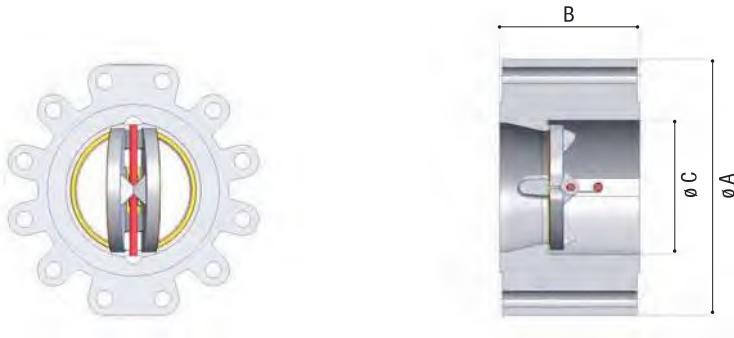
### Class ASME 300 (PN 50)

FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

CD\_L 300: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 156 | 190 | 200 | 235 | 306 | 371 | 433 | 520 | 585 |
| B                       | 60  | 67  | 73  | 73  | 98  | 127 | 146 | 181 | 222 |
| C                       | 60  | 67  | 90  | 110 | 160 | 215 | 270 | 301 | 335 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 5   | 9   | 10  | 14  | 31  | 57  | 82  | 162 | 257 |

| SIZE                    | 16" | 18" | 20" | 24" | 30"   | 36"   | 42"   | 48"   |
|-------------------------|-----|-----|-----|-----|-------|-------|-------|-------|
| A                       | 630 | 710 | 775 | 915 | 1.090 | 1.270 | 1.290 | 1.465 |
| B                       | 232 | 264 | 292 | 318 | 368   | 483   | 568   | 629   |
| C                       | 380 | 435 | 481 | 580 | 740   | 887   | 1.040 | 1.192 |
| Approximate WEIGHT (Kg) |     |     |     |     |       |       |       |       |
|                         | 293 | 442 | 579 | 856 | 1.294 | 2.125 | 2.828 | 4.631 |



### Class ASME 600 (PN 100)

FIGURE NUMBERS - CLASS ASME 600 - ALL SIZES

CD\_L 600: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"    | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-------|-----|-----|-----|-----|-----|-----|
| A                       | 156 | 190 | 203,3 | 254 | 335 | 396 | 494 | 560 | 587 |
| B                       | 60  | 67  | 73    | 79  | 136 | 165 | 213 | 229 | 273 |
| C                       | 60  | 67  | 90    | 102 | 155 | 202 | 235 | 290 | 315 |
| Approximate WEIGHT (Kg) |     |     |       |     |     |     |     |     |     |
|                         | 5   | 7   | 9     | 17  | 38  | 83  | 185 | 256 | 325 |

| SIZE                    | 16" | 18" | 20" | 24"   | 30"   | 36"   | 42"   |
|-------------------------|-----|-----|-----|-------|-------|-------|-------|
| A                       | 677 | 745 | 797 | 940   | 1.130 | 1.315 | 1.405 |
| B                       | 305 | 362 | 368 | 438   | 505   | 635   | 701   |
| C                       | 372 | 435 | 480 | 580   | 740   | 887   | 1.040 |
| Approximate WEIGHT (Kg) |     |     |     |       |       |       |       |
|                         | 494 | 721 | 765 | 1.388 | 1.687 | 3.602 | 4.451 |

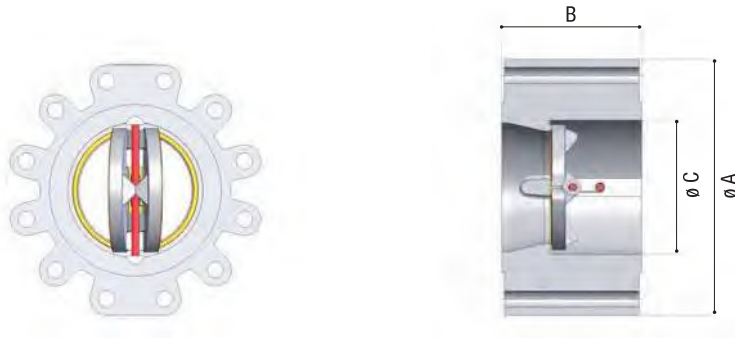
### Class ASME 900 (PN 150)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

CD\_L 900: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 215 | 245 | 240 | 290 | 380 | 461 | 545 | 610 | 640 |
| B                       | 70  | 83  | 83  | 102 | 159 | 206 | 241 | 292 | 356 |
| C                       | 58  | 54  | 78  | 110 | 155 | 202 | 245 | 290 | 330 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |     |
|                         | 18  | 22  | 28  | 45  | 120 | 150 | 341 | 394 | 583 |

| SIZE                    | 16" | 18"   | 20"   | 24"   |
|-------------------------|-----|-------|-------|-------|
| A                       | 705 | 785   | 855   | 1.040 |
| B                       | 384 | 451   | 451   | 495   |
| C                       | 370 | 435   | 481   | 580   |
| Approximate WEIGHT (Kg) |     |       |       |       |
|                         | 766 | 1.162 | 1.343 | 2.036 |



### Class ASME 1500 (PN 250)

FIGURE NUMBERS - CLASS ASME 1500 - ALL SIZES

CD\_L 1500: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" | 14"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| A                       | 201 | 245 | 247 | 290 | 395 | 485 | 572 | 675 | 750   |
| B                       | 70  | 83  | 83  | 102 | 159 | 206 | 248 | 305 | 356   |
| C                       | 45  | 54  | 78  | 102 | 155 | 185 | 227 | 290 | 330   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |       |
|                         | 10  | 14  | 18  | 28  | 58  | 133 | 294 | 649 | 1.119 |

| SIZE                    | 16"   | 18"   | 20"   | 24"   |
|-------------------------|-------|-------|-------|-------|
| A                       | 825   | 915   | 985   | 1.170 |
| B                       | 384   | 468   | 533   | 559   |
| C                       | 370   | 435   | 481   | 580   |
| Approximate WEIGHT (Kg) |       |       |       |       |
|                         | 1.161 | 1.813 | 2.686 | 3.331 |

### Class ASME 2500 (PN 420)

FIGURE NUMBERS - CLASS ASME 2500 - ALL SIZES

CD\_L 2500: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 2"  | 2½" | 3"  | 4"  | 6"  | 8"  | 10" | 12" |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| A                       | 210 | 265 | 305 | 328 | 485 | 550 | 675 | 760 |
| B                       | 70  | 83  | 86  | 105 | 159 | 206 | 254 | 305 |
| C                       | 45  | 54  | 78  | 102 | 155 | 185 | 235 | 290 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |
|                         | 11  | 17  | 20  | 37  | 53  | 120 | 190 | 305 |

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

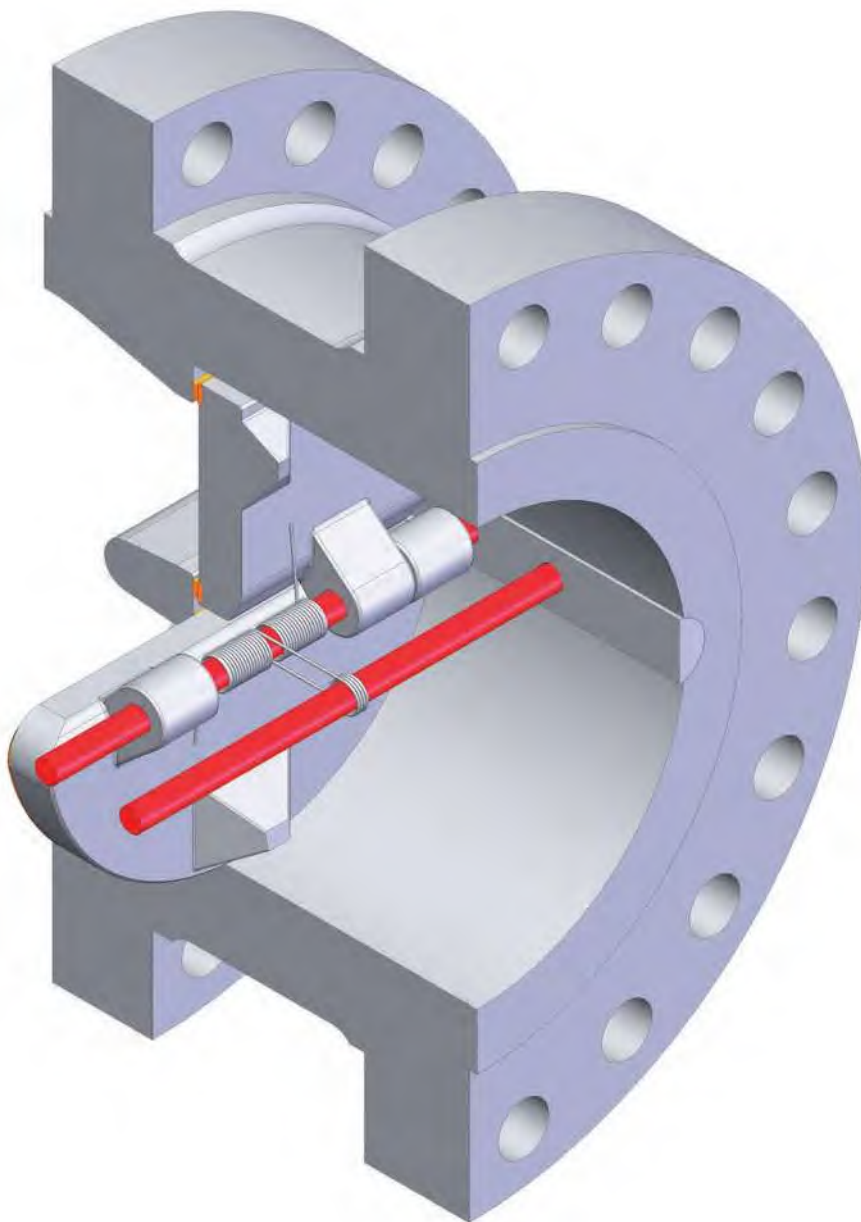
Dimensions and weight may change from above values without notice.



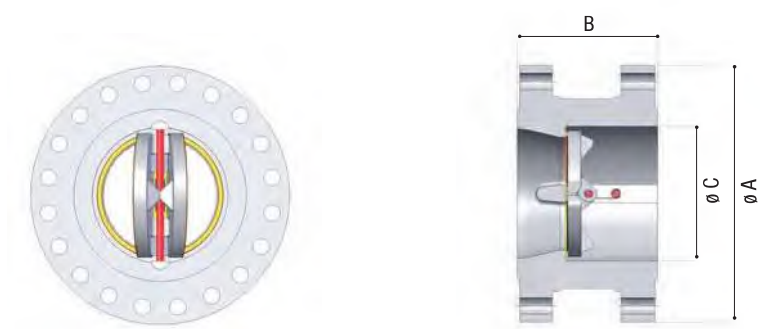
ORION STEEL VALVES

# Double Flanged Check Valves

RETAINERLESS DESIGN ACCORDING TO API 594



Only as Example: For Installation Recommendation, please refer to page 96.



Class ASME 150 (PN 20)

FIGURE NUMBERS - CLASS ASME 150 - ALL SIZES

CD\_F 150: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 10" | 12" | 14" | 16" | 18" | 20" | 24" | 30" | 36"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| A                       | 405 | 485 | 535 | 595 | 635 | 700 | 815 | 985 | 1.170 |
| B                       | 146 | 181 | 184 | 191 | 203 | 219 | 222 | 305 | 368   |
| C                       | 270 | 301 | 335 | 370 | 435 | 481 | 580 | 740 | 887   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |     |     |       |
|                         | 59  | 115 | 125 | 204 | 194 | 226 | 373 | 589 | 838   |

| SIZE                    | 42"   | 48"   | 56"   | 60"   |
|-------------------------|-------|-------|-------|-------|
| A                       | 1.345 | 1.510 | 1.745 | 1.855 |
| B                       | 432   | 524   | 584   | 660   |
| C                       | 1.040 | 1.192 | 1.375 | 1.426 |
| Approximate WEIGHT (Kg) |       |       |       |       |
|                         | 1.471 | 2.180 | 3.125 | 3.598 |

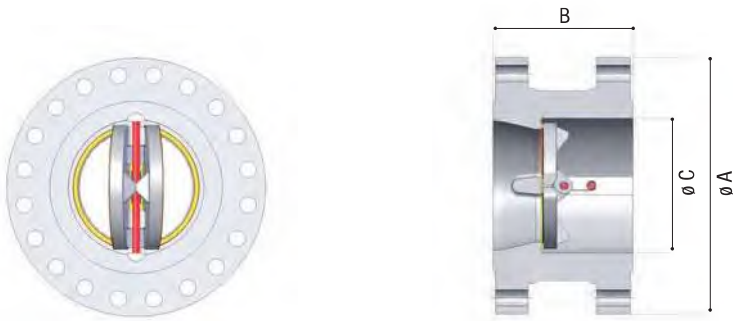
Class ASME 300 (PN 50)

FIGURE NUMBERS - CLASS ASME 300 - ALL SIZES

CD\_F 300: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 12" | 14" | 16" | 18" | 20" | 24" | 30"   | 36"   | 42"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| A                       | 520 | 585 | 650 | 710 | 775 | 915 | 1.090 | 1.270 | 1.290 |
| B                       | 181 | 222 | 232 | 264 | 292 | 318 | 368   | 483   | 568   |
| C                       | 301 | 330 | 370 | 435 | 481 | 580 | 740   | 887   | 1.040 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |       |       |       |
|                         | 153 | 222 | 366 | 367 | 361 | 468 | 911   | 1.816 | 2.235 |

| SIZE                    | 48"   | 56"   | 60"   |
|-------------------------|-------|-------|-------|
| A                       | 1.465 | 1.710 | 1.810 |
| B                       | 629   | 737   | 826   |
| C                       | 1.192 | 584   | 660   |
| Approximate WEIGHT (Kg) |       |       |       |
|                         | 3.078 | 4.202 | 4.764 |



### Class ASME 600 (PN 100)

FIGURE NUMBERS - CLASS ASME 600 - ALL SIZES

CD\_F 600: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 12" | 14" | 16" | 18" | 20" | 24" | 30"   | 36"   | 42"   |
|-------------------------|-----|-----|-----|-----|-----|-----|-------|-------|-------|
| A                       | 560 | 605 | 685 | 745 | 815 | 940 | 1.096 | 1.315 | 1.405 |
| B                       | 229 | 273 | 305 | 362 | 368 | 438 | 505   | 635   | 701   |
| C                       | 290 | 330 | 370 | 435 | 481 | 580 | 740   | 887   | 1.040 |
| Approximate WEIGHT (Kg) |     |     |     |     |     |     |       |       |       |
|                         | 272 | 378 | 489 | 468 | 592 | 856 | 1.687 | 2.482 | 3.261 |

### Class ASME 900 (PN 150)

FIGURE NUMBERS - CLASS ASME 900 - ALL SIZES

CD\_F 900: RF - RAISED FACE • RJ - RING JOINT

| SIZE                    | 12" | 14" | 16" | 18" | 20" | 24"   |
|-------------------------|-----|-----|-----|-----|-----|-------|
| A                       | 610 | 640 | 705 | 785 | 855 | 1.040 |
| B                       | 292 | 356 | 384 | 451 | 451 | 495   |
| C                       | 290 | 330 | 370 | 435 | 481 | 580   |
| Approximate WEIGHT (Kg) |     |     |     |     |     |       |
|                         | 454 | 574 | 590 | 656 | 875 | 1.289 |

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.



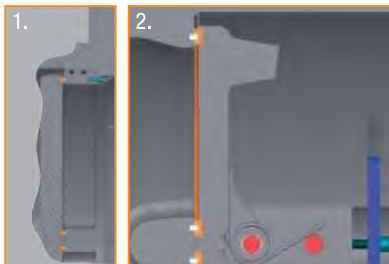
# ORION STEEL VALVES Special Features

ORION is able to provide more valve preparations not listed in this catalogue as butt weld ends, hub ends or compact flange connections. Please contact ORION Sales Department for technical details as weight or end to end dimension.



## SOFT SEATING

- This feature is applicable on all body material
- Renewable seat is an option on all designs to enhance the material selection on trim components



1. Optional renewable seat zero leakage
2. Standard integral seat zero leakage



# Installation Recommendation

The best working position for a dual plate check valve is on horizontal pipeline, with the hinge pin installed vertically.

The valve can be used on vertical flowlines as well, provided the flow direction is upward.

For the vertical downward stream installation, please explicitly ask for a special spring to be installed while ordering, in order to compensate the gravity effect on the plates.

**EACH ORION DUAL PLATE CHECK VALVE HAS A FLOW INDICATION ARROW EMBOSSED ON THE BODY. FOR THE CORRECT INSTALLATION OF THIS VALVE, MAKE SURE THAT IT IS MATCHING THE FLOW DIRECTION.**

