



# CAST STEEL CHECK VALVES

Premium technical presentation for industrial valve supply, procurement and project coordination across Latin American energy markets.

API 594 / API 6D / ASME B16.34

CL150 - CL2500

RF / RTJ / BW ENDS

|                      |                                                                                                                                   |
|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| PRIMARY APPLICATIONS | Oil & gas   pipelines   petrochemical   mining   chemical process                                                                 |
| PRODUCT SCOPE        | Cast steel check valves with bolted bonnet and pressure seal options                                                              |
| CONTACT              | <a href="http://www.petrogasperu.com">www.petrogasperu.com</a>   <a href="mailto:mail@petrogasperu.com">mail@petrogasperu.com</a> |

## ENGINEERED SOLUTIONS. DELIVERED FAST.

High-performance industrial products for critical operations in **Oil & Gas**, **Chemical**, **Mining**, and **Water Treatment** across Latin America.



FAST-TRACK  
DELIVERIES



INDUSTRIAL  
GRADE QUALITY



RELIABLE  
PARTNER



RESPONSIVE  
SERVICE

### OUR PRODUCTS

-  FORGINGS & CASTINGS
-  SAFETY VALVES
-  BREATHER VALVES
-  FLAME ARRESTORS

## FEATURES

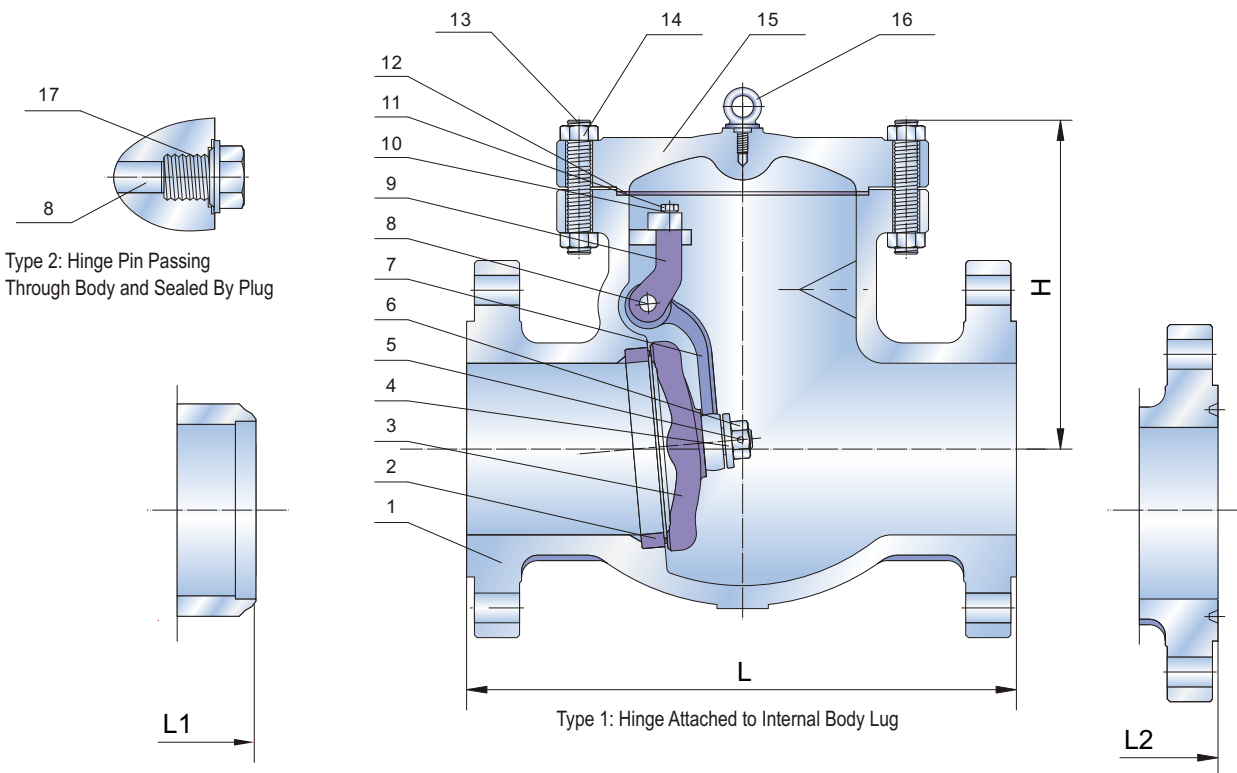
|                           |
|---------------------------|
| Bolted Cover              |
| Swing Type Disc           |
| Type 1 Standard 2"-10"    |
| Type 2 Standard 12"-30"   |
| 6" & Larger With Eye Bolt |
| By Pass On Request        |
| Lever & Weight Optional   |

## SPECIFICATIONS

|              |                     |
|--------------|---------------------|
| Design       | ASME B16.34/BS 1868 |
| Face to Face | ASME B16.10         |
| End to End   | ASME B16.10         |
| End Flange   | ASME B16.5          |
| BW End       | ASME B16.25         |
| Test         | API 598             |
| Special      | NACE MR-01-75       |

## STANDARD MATERIALS OF PARTS

| ITEM | PART NAME       | MATERIAL                      |
|------|-----------------|-------------------------------|
| 1    | Body            | ASTM A216 GR.WCB              |
| 2    | Seat Ring       | ASTM A105 + Stellite Faced    |
| 3    | Disc            | ASTM A216 GR.WCB + 13Cr Faced |
| 4    | Disc Washer     | ASTM A276 Type 410            |
| 5    | Disc Nut Pin    | Stainless Steel               |
| 6    | Disc Nut        | Stainless Steel               |
| 7    | Hinge           | ASTM A216 GR.WCB              |
| 8    | Hinge Pin       | ASTM A182 GR.F6a              |
| 9    | Bearing Bracket | ASTM A216 GR.WCB              |
| 10   | Spring Washer   | Carbon Steel                  |
| 11   | Hex, Bolt       | Carbon Steel                  |
| 12   | Gasket          | Soft Iron+Graphite            |
| 13   | Cover Bolt      | ASTM A193 GR.B7               |
| 14   | Cover Bolt Nut  | ASTM A194 GR.2H               |
| 15   | Cover           | ASTM A216 GR.WCB              |
| 16   | Eye Bolt        | Carbon Steel                  |
| 17   | Plug            | Carbon Steel                  |



| Dimensions and Weights |    |      |      |       |       |       |       |       |       |       |       |       |       | CLASS150 |       |
|------------------------|----|------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|----------|-------|
| SIZE                   | in | 2"   | 2.5" | 3"    | 4"    | 6"    | 8"    | 10"   | 12"   | 14"   | 16"   | 18"   | 20"   | 24"      | 30"   |
|                        | mm | 50   | 65   | 80    | 100   | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 600      | 750   |
| L/L1                   | in | 8.00 | 8.50 | 9.50  | 11.50 | 14.00 | 19.50 | 24.50 | 27.50 | 31.00 | 34.00 | 38.50 | 38.50 | 51.00    | 60.00 |
|                        | mm | 203  | 216  | 241   | 292   | 356   | 495   | 622   | 699   | 787   | 864   | 978   | 978   | 1295     | 1524  |
| L2                     | in | 8.50 | 9.00 | 10.00 | 12.00 | 14.50 | 20.00 | 25.00 | 28.00 | 31.50 | 34.50 | 39.00 | 39.00 | 51.50    | —     |
|                        | mm | 216  | 229  | 254   | 305   | 368   | 508   | 635   | 711   | 800   | 876   | 991   | 991   | 1308     | —     |
| H                      | in | 6.10 | 6.70 | 7.09  | 8.66  | 10.55 | 12.20 | 14.57 | 16.73 | 18.70 | 20.67 | 22.83 | 24.72 | 34.72    | 38.27 |
|                        | mm | 155  | 170  | 180   | 220   | 268   | 310   | 370   | 425   | 475   | 525   | 580   | 628   | 882      | 972   |
| Weight RF              | kg | 19   | 26   | 29    | 46    | 77    | 163   | 220   | 366   | 428   | 555   | 775   | 835   | 1180     | 1960  |

## FEATURES

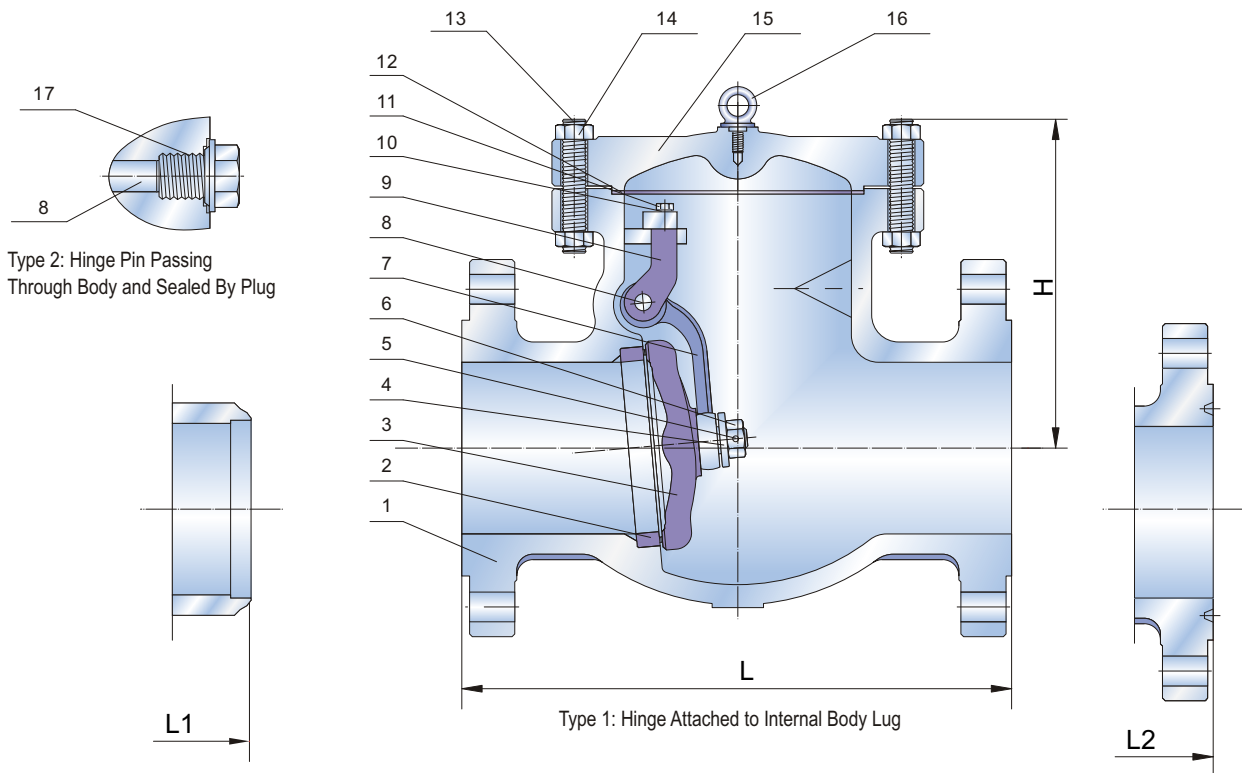
|                           |
|---------------------------|
| Bolted Cover              |
| Swing Type Disc           |
| Type 1 Standard 2"-8"     |
| Type 2 Standard 10"-24"   |
| 3" & Larger With Eye Bolt |
| By Pass On Request        |
| Lever & Weight Optional   |

## SPECIFICATIONS

|              |                     |
|--------------|---------------------|
| Design       | ASME B16.34/BS 1868 |
| Face to Face | ASME B16.10         |
| End to End   | ASME B16.10         |
| End Flange   | ASME B16.5          |
| BW End       | ASME B16.25         |
| Test         | API 598             |
| Special      | NACE MR-01-75       |

## STANDARD MATERIALS OF PARTS

| ITEM | PART NAME       | MATERIAL                      |
|------|-----------------|-------------------------------|
| 1    | Body            | ASTM A216 GR.WCB              |
| 2    | Seat Ring       | ASTM A105 + Stellite Faced    |
| 3    | Disc            | ASTM A216 GR.WCB + 13Cr Faced |
| 4    | Disc Washer     | ASTM A276 Type 410            |
| 5    | Disc Nut Pin    | Stainless Steel               |
| 6    | Disc Nut        | Stainless Steel               |
| 7    | Hinge           | ASTM A216 GR.WCB              |
| 8    | Hinge Pin       | ASTM A182 GR.F6a              |
| 9    | Bearing Bracket | ASTM A216 GR.WCB              |
| 10   | Spring Washer   | Carbon Steel                  |
| 11   | Hex, Bolt       | Carbon Steel                  |
| 12   | Gasket          | Soft Iron+Graphite            |
| 13   | Cover Bolt      | ASTM A193 GR.B7               |
| 14   | Cover Bolt Nut  | ASTM A194 GR.2H               |
| 15   | Cover           | ASTM A216 GR.WCB              |
| 16   | Eye Bolt        | Carbon Steel                  |
| 17   | Plug            | Carbon Steel                  |



| Dimensions and Weights |          |          |            |          |           |           |           |            |            |            |            |            |            | CLASS300   |
|------------------------|----------|----------|------------|----------|-----------|-----------|-----------|------------|------------|------------|------------|------------|------------|------------|
| SIZE                   | in<br>mm | 2"<br>50 | 2.5"<br>65 | 3"<br>80 | 4"<br>100 | 6"<br>150 | 8"<br>200 | 10"<br>250 | 12"<br>300 | 14"<br>350 | 16"<br>400 | 18"<br>450 | 20"<br>500 | 24"<br>600 |
| L/L1                   | in       | 10.50    | 11.50      | 12.50    | 14.00     | 17.50     | 21.00     | 24.50      | 28.00      | 33.00      | 34.00      | 38.50      | 40.00      | 53.00      |
|                        | mm       | 267      | 292        | 318      | 356       | 445       | 533       | 622        | 711        | 838        | 864        | 978        | 1016       | 1346       |
| L2                     | in       | 11.12    | 12.12      | 13.12    | 14.62     | 18.12     | 21.62     | 25.12      | 28.62      | 33.62      | 34.62      | 39.12      | 40.75      | 53.88      |
|                        | mm       | 283      | 308        | 333      | 371       | 460       | 549       | 638        | 727        | 854        | 879        | 994        | 1035       | 1368       |
| H                      | in       | 6.89     | 7.28       | 7.80     | 9.25      | 11.10     | 13.19     | 15.15      | 18.11      | 20.47      | 21.81      | 23.62      | 26.38      | 29.53      |
|                        | mm       | 175      | 185        | 198      | 235       | 282       | 335       | 385        | 460        | 520        | 554        | 600        | 670        | 750        |
| Weight RF              | kg       | 21       | 30         | 39       | 69        | 125       | 210       | 307        | 450        | 680        | 840        | 1025       | 1320       | 1960       |

## FEATURES

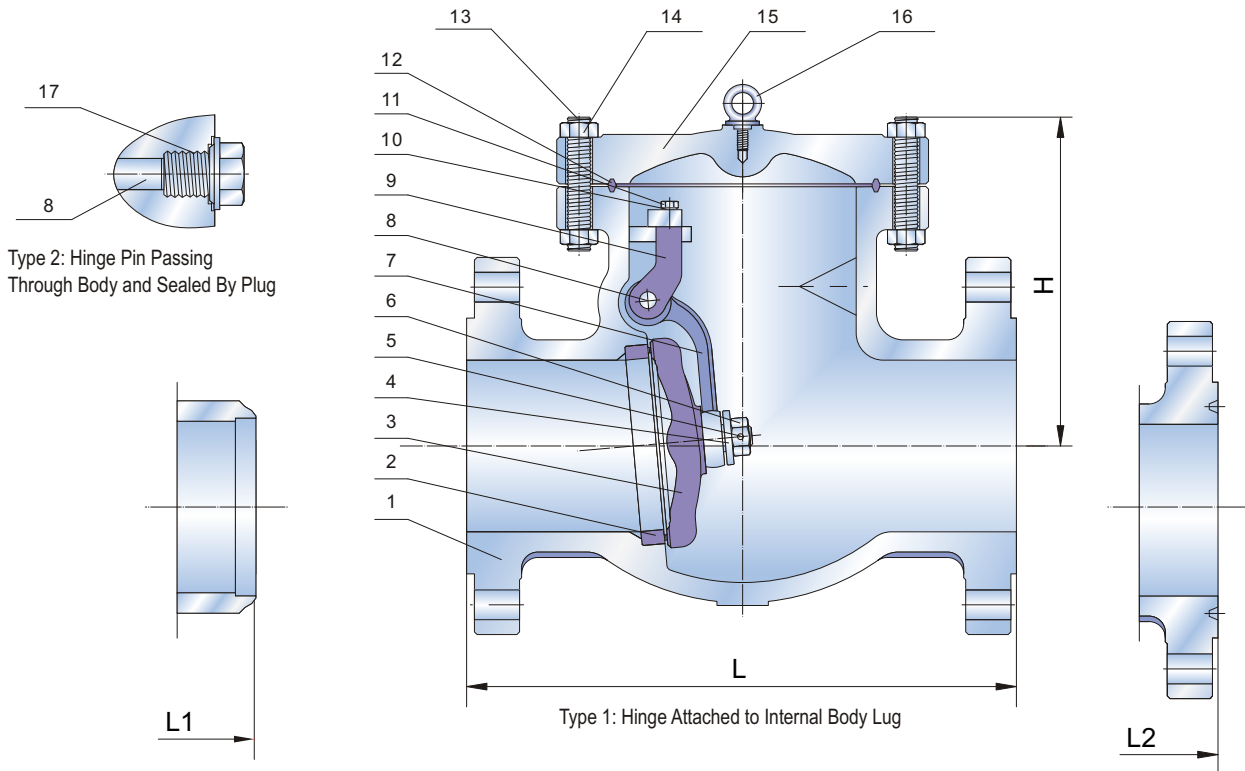
|                         |
|-------------------------|
| Bolted Cover            |
| Swing Type Disc         |
| Type 1 Standard 2"-6"   |
| Type 2 Standard 8"-24"  |
| With Eye Bolt           |
| By Pass On Request      |
| Lever & Weight Optional |

## SPECIFICATIONS

|              |                     |
|--------------|---------------------|
| Design       | ASME B16.34/BS 1868 |
| Face to Face | ASME B16.10         |
| End to End   | ASME B16.10         |
| End Flange   | ASME B16.5          |
| BW End       | ASME B16.25         |
| Test         | API 598             |
| Special      | NACE MR-01-75       |

## STANDARD MATERIALS OF PARTS

| ITEM | PART NAME          | MATERIAL                      |
|------|--------------------|-------------------------------|
| 1    | Body               | ASTM A216 GR.WCB              |
| 2    | Seat Ring          | ASTM A105 + Stellite Faced    |
| 3    | Disc               | ASTM A216 GR.WCB + 13Cr Faced |
| 4    | Disc Washer        | ASTM A276 Type 410            |
| 5    | Disc Nut Pin       | Stainless Steel               |
| 6    | Disc Nut           | Stainless Steel               |
| 7    | Hinge              | ASTM A216 GR.WCB              |
| 8    | Hinge Pin          | ASTM A182 GR.F6a              |
| 9    | Bearing Bracket    | ASTM A216 GR.WCB              |
| 10   | Spring Washer      | Carbon Steel                  |
| 11   | Hex, Bolt          | Carbon Steel                  |
| 12   | Gasket, Ring Joint | Soft Iron                     |
| 13   | Cover Bolt         | ASTM A193 GR.B7               |
| 14   | Cover Bolt Nut     | ASTM A194 GR.2H               |
| 15   | Cover              | ASTM A216 GR.WCB              |
| 16   | Eye Bolt           | Carbon Steel                  |
| 17   | Plug               | Carbon Steel                  |



| Dimensions and Weights |    |       |       |       |       |       |       |       |       |       |       |       |       | CLASS 600 |
|------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| SIZE                   | in | 2"    | 2.5"  | 3"    | 4"    | 6"    | 8"    | 10"   | 12"   | 14"   | 16"   | 18"   | 20"   | 24"       |
| L/L1                   | mm | 50    | 65    | 80    | 100   | 150   | 200   | 250   | 300   | 350   | 400   | 450   | 500   | 600       |
|                        | mm | 11.50 | 13.00 | 14.00 | 17.00 | 22.00 | 26.00 | 31.00 | 33.00 | 35.00 | 39.00 | 43.00 | 47.00 | 55.00     |
| L2                     | mm | 292   | 330   | 356   | 432   | 559   | 660   | 787   | 838   | 889   | 991   | 1092  | 1194  | 1397      |
|                        | mm | 11.62 | 13.12 | 14.12 | 17.12 | 22.12 | 26.12 | 31.12 | 33.12 | 35.12 | 39.12 | 43.12 | 47.25 | 55.38     |
| H                      | mm | 295   | 333   | 359   | 435   | 562   | 663   | 790   | 841   | 892   | 994   | 1095  | 1200  | 1407      |
|                        | mm | 7.16  | 7.87  | 8.94  | 10.24 | 12.80 | 15.35 | 19.29 | 20.79 | 22.56 | 25.98 | 28.35 | 29.37 | 37.80     |
| Weight RF              | mm | 182   | 200   | 227   | 260   | 325   | 390   | 490   | 528   | 572   | 660   | 720   | 746   | 960       |
|                        | kg | 36    | 49    | 70    | 122   | 269   | 465   | 673   | 875   | 944   | 1220  | 1620  | 2120  | 3100      |

## FEATURES

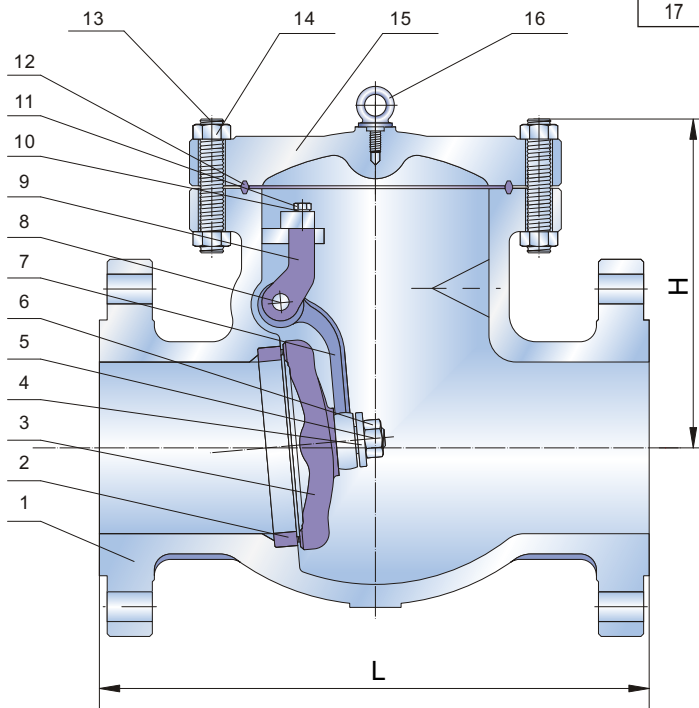
|                         |
|-------------------------|
| Bolted Cover            |
| Swing Type Disc         |
| Type 1 Optional         |
| Type 2 Standard         |
| With Eye Bolt           |
| By Pass On Request      |
| Lever & Weight Optional |

## SPECIFICATIONS

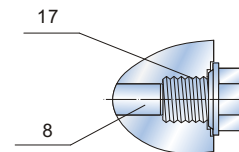
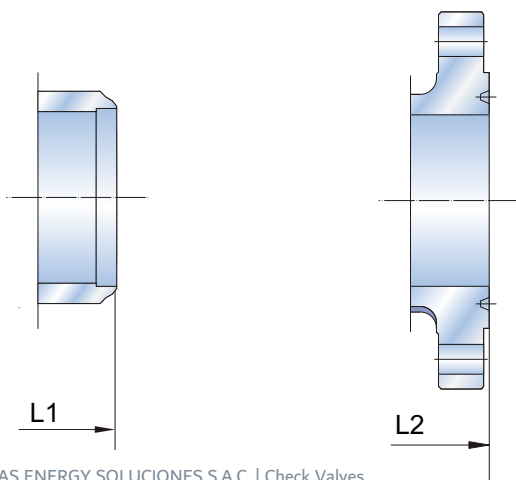
|              |                     |
|--------------|---------------------|
| Design       | ASME B16.34/BS 1868 |
| Face to Face | ASME B16.10         |
| End to End   | ASME B16.10         |
| End Flange   | ASME B16.5          |
| BW End       | ASME B16.25         |
| Test         | API 598             |
| Special      | NACE MR-01-75       |

## STANDARD MATERIALS OF PARTS

| ITEM | PART NAME          | MATERIAL                          |
|------|--------------------|-----------------------------------|
| 1    | Body               | ASTM A216 GR.WCB                  |
| 2    | Seat Ring          | ASTM A105 + Stellite Faced        |
| 3    | Disc               | ASTM A216 GR.WCB + Stellite Faced |
| 4    | Disc Washer        | ASTM A276 Type 410                |
| 5    | Disc Nut Pin       | Stainless Steel                   |
| 6    | Disc Nut           | Stainless Steel                   |
| 7    | Hinge              | ASTM A216 GR.WCB                  |
| 8    | Hinge Pin          | ASTM A182 GR.F6a                  |
| 9    | Bearing Bracket    | ASTM A216 GR.WCB                  |
| 10   | Spring Washer      | Carbon Steel                      |
| 11   | Hex, Bolt          | Carbon Steel                      |
| 12   | Gasket, Ring Joint | Soft Iron                         |
| 13   | Cover Bolt         | ASTM A193 GR.B7                   |
| 14   | Cover Bolt Nut     | ASTM A194 GR.2H                   |
| 15   | Cover              | ASTM A216 GR.WCB                  |
| 16   | Eye Bolt           | Carbon Steel                      |
| 17   | Plug               | Carbon Steel                      |



Type 1: Hinge Attached to Internal Body Lug



Type 2: Hinge Pin Passing Through Body and Sealed By Plug

| Dimensions and Weights |    |       |       |       |       |       |       |       |       | CLASS 900 |
|------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|-----------|
| SIZE                   | in | 2"    | 2.5"  | 3"    | 4"    | 6"    | 8"    | 10"   | 12"   |           |
|                        | mm | 50    | 65    | 80    | 100   | 150   | 200   | 250   | 300   |           |
| L/L1                   | in | 14.50 | 16.50 | 15.00 | 18.00 | 24.00 | 29.00 | 33.00 | 38.00 |           |
|                        | mm | 368   | 419   | 381   | 457   | 610   | 737   | 838   | 965   |           |
| L2                     | in | 14.62 | 16.62 | 15.12 | 18.12 | 24.12 | 29.12 | 33.12 | 38.12 |           |
|                        | mm | 371   | 422   | 384   | 460   | 613   | 740   | 841   | 968   |           |
| H                      | in | 11.65 | 11.81 | 11.81 | 12.87 | 17.36 | 19.76 | 26.14 | 30.51 |           |
|                        | mm | 296   | 300   | 300   | 327   | 441   | 502   | 664   | 775   |           |
| Weight RF              | kg | 70    | 100   | 91    | 150   | 305   | 510   | 810   | 1120  |           |

| Dimensions and Weights |    |       |       |       |       |       |       |       |       | CLASS 1500 |
|------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| SIZE                   | in | 2"    | 2.5"  | 3"    | 4"    | 6"    | 8"    | 10"   | 12"   |            |
|                        | mm | 50    | 65    | 80    | 100   | 150   | 200   | 250   | 300   |            |
| L/L1                   | in | 14.50 | 16.50 | 18.50 | 21.50 | 27.75 | 32.75 | 39.00 | 44.50 |            |
|                        | mm | 368   | 419   | 470   | 546   | 705   | 832   | 991   | 1130  |            |
| L2                     | in | 14.62 | 16.62 | 18.62 | 21.62 | 28.00 | 33.13 | 39.38 | 45.12 |            |
|                        | mm | 371   | 422   | 473   | 549   | 711   | 841   | 1000  | 1146  |            |
| H                      | in | 11.65 | 11.81 | 13.43 | 16.22 | 20.12 | 26.77 | 29.76 | 33.74 |            |
|                        | mm | 296   | 300   | 341   | 412   | 511   | 680   | 756   | 857   |            |
| Weight RF              | kg | 70    | 100   | 150   | 245   | 550   | 1010  | 1550  | 2280  |            |

| Dimensions and Weights |    |       |       |       |       |       |       |       |       | CLASS 2500 |
|------------------------|----|-------|-------|-------|-------|-------|-------|-------|-------|------------|
| SIZE                   | in | 2"    | 2.5"  | 3"    | 4"    | 6"    | 8"    | 10"   | 12"   |            |
|                        | mm | 50    | 65    | 80    | 100   | 150   | 200   | 250   | 300   |            |
| L/L1                   | in | 17.75 | 20.00 | 22.75 | 26.50 | 36.00 | 40.25 | 50.00 | 56.00 |            |
|                        | mm | 451   | 508   | 578   | 673   | 914   | 1022  | 1270  | 1422  |            |
| L2                     | in | 17.87 | 20.25 | 23.00 | 26.88 | 36.50 | 40.87 | 50.88 | 56.88 |            |
|                        | mm | 454   | 514   | 584   | 683   | 927   | 1038  | 1292  | 1445  |            |
| H                      | in | 16.38 | 16.50 | 17.36 | 18.86 | 20.12 | 27.99 | 33.50 | 39.37 |            |
|                        | mm | 416   | 419   | 441   | 479   | 511   | 711   | 851   | 1000  |            |
| Weight RF              | kg | 145   | 240   | 330   | 650   | 1400  | 2420  | 3750  | 5500  |            |

## FEATURES

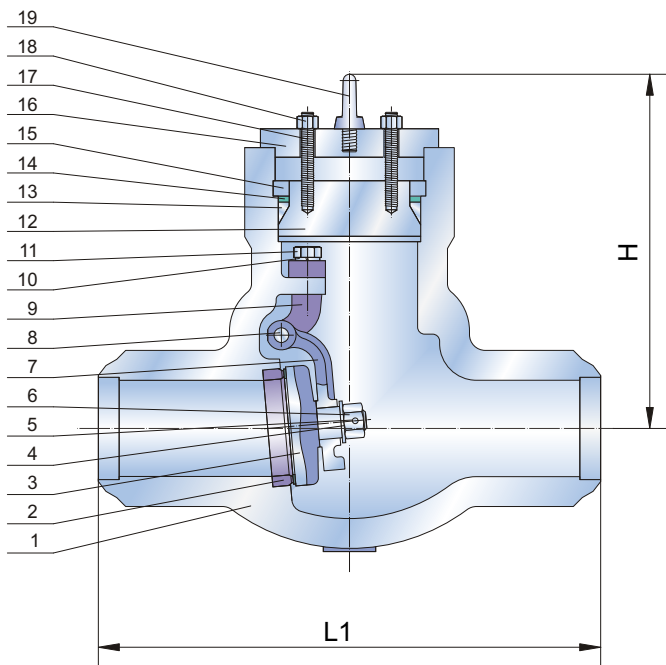
|                         |
|-------------------------|
| Pressure Seal           |
| Swing Type Disc         |
| Type 1 Standard         |
| Type 2 Optional         |
| With Eye Bolt           |
| By Pass On Request      |
| Lever & Weight Optional |

## SPECIFICATIONS

|              |               |
|--------------|---------------|
| Design       | ASME B16.34   |
| Face to Face | ASME B16.10   |
| End to End   | ASME B16.10   |
| End Flange   | ASME B16.5    |
| BW End       | ASME B16.25   |
| Test         | API 598       |
| Special      | NACE MR-01-75 |

## STANDARD MATERIALS OF PARTS

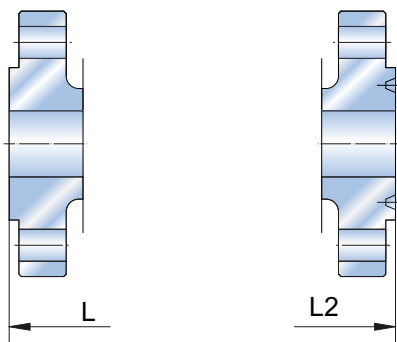
| ITEM | PART NAME       | MATERIAL                          |
|------|-----------------|-----------------------------------|
| 1    | Body            | ASTM A216 GR.WCB                  |
| 2    | Seat Ring       | ASTM A105 + Stellite Faced        |
| 3    | Disc            | ASTM A216 GR.WCB + Stellite Faced |
| 4    | Disc Washer     | ASTM A276 Type 410                |
| 5    | Disc Nut Pin    | Stainless Steel                   |
| 6    | Disc Nut        | Stainless Steel                   |
| 7    | Hinge           | ASTM A216 GR.WCB                  |
| 8    | Hinge Pin       | ASTM A182 GR.F6a                  |
| 9    | Bearing Bracket | ASTM A216 GR.WCB                  |
| 10   | Spring Washer   | Carbon Steel                      |
| 11   | Hex, Bolt       | Carbon Steel                      |
| 12   | Bonnet          | ASTM A216 GR.WCB                  |
| 13   | Gasket          | ASTM A182 GR.F304                 |
| 14   | Thrust Ring     | ASTM A276 Type 410                |
| 15   | Separate Ring   | ASTM A276 Type 410                |
| 16   | Cover           | ASTM A216 GR.WCB                  |
| 17   | Cover Bolts     | ASTM A193 GR.B7                   |
| 18   | Cover Bolt Nuts | ASTM A194 GR.2H                   |
| 19   | Eye Bolt        | Carbon Steel                      |



| Dimensions and Weights CLASS 900 |          |              |              |              |              |              |              |              |              |  |
|----------------------------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
| SIZE                             | in<br>mm | 2"<br>50     | 2.5"<br>65   | 3"<br>80     | 4"<br>100    | 6"<br>150    | 8"<br>200    | 10"<br>250   | 12"<br>300   |  |
| L/L1                             | in<br>mm | 14.50<br>368 | 16.50<br>419 | 15.00<br>381 | 18.00<br>457 | 24.00<br>610 | 29.00<br>737 | 33.00<br>838 | 38.00<br>965 |  |
| L2                               | in<br>mm | 14.62<br>371 | 16.62<br>422 | 15.12<br>384 | 18.12<br>460 | 24.12<br>613 | 29.12<br>740 | 33.12<br>841 | 38.12<br>968 |  |
| H                                | in<br>mm | 11.65<br>296 | 11.81<br>300 | 11.81<br>300 | 12.87<br>327 | 17.36<br>441 | 19.76<br>502 | 26.14<br>664 | 30.51<br>775 |  |
| Weight BW                        | kg       | 50           | 77           | 68           | 115          | 230          | 387          | 632          | 910          |  |

| Dimensions and Weights CLASS 1500 |          |              |              |              |              |              |              |               |               |  |
|-----------------------------------|----------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|--|
| SIZE                              | in<br>mm | 2"<br>50     | 2.5"<br>65   | 3"<br>80     | 4"<br>100    | 6"<br>150    | 8"<br>200    | 10"<br>250    | 12"<br>300    |  |
| L/L1                              | in<br>mm | 14.50<br>368 | 16.50<br>419 | 18.50<br>470 | 21.50<br>546 | 27.75<br>705 | 32.75<br>832 | 39.00<br>991  | 44.50<br>1130 |  |
| L2                                | in<br>mm | 14.62<br>371 | 16.62<br>422 | 18.62<br>473 | 21.62<br>549 | 28.00<br>711 | 33.13<br>841 | 39.38<br>1000 | 45.12<br>1146 |  |
| H                                 | in<br>mm | 11.65<br>296 | 11.81<br>300 | 13.43<br>341 | 16.22<br>412 | 20.12<br>511 | 26.77<br>680 | 29.76<br>756  | 33.74<br>857  |  |
| Weight BW                         | kg       | 50           | 77           | 115          | 190          | 452          | 845          | 1280          | 1780          |  |

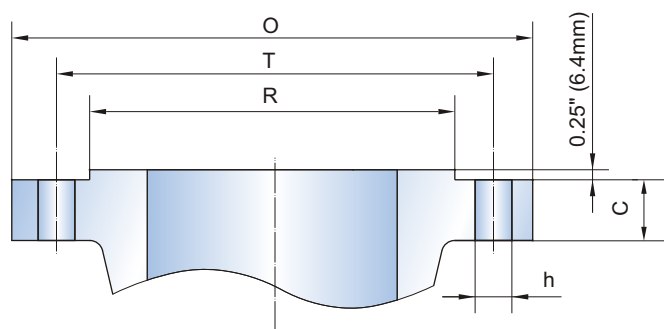
| Dimensions and Weights CLASS 2500 |          |              |              |              |              |              |               |               |               |  |
|-----------------------------------|----------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|--|
| SIZE                              | in<br>mm | 2"<br>50     | 2.5"<br>65   | 3"<br>80     | 4"<br>100    | 6"<br>150    | 8"<br>200     | 10"<br>250    | 12"<br>300    |  |
| L/L1                              | in<br>mm | 17.75<br>451 | 20.00<br>508 | 22.75<br>578 | 26.50<br>673 | 36.00<br>914 | 40.25<br>1022 | 50.00<br>1270 | 56.00<br>1422 |  |
| L2                                | in<br>mm | 17.87<br>454 | 20.25<br>514 | 23.00<br>584 | 26.88<br>683 | 36.50<br>927 | 40.87<br>1038 | 50.88<br>1292 | 56.88<br>1445 |  |
| H                                 | in<br>mm | 16.38<br>416 | 16.50<br>419 | 17.36<br>441 | 18.86<br>479 | 20.12<br>511 | 27.99<br>711  | 33.50<br>851  | 39.37<br>1000 |  |
| Weight BW                         | kg       | 110          | 190          | 260          | 535          | 1110         | 1980          | 2980          | 4350          |  |



# CAST STEEL SWING CHECK VALVE STANDARD MATERIALS OF PARTS

| ITEM | PART NAME       |                       | CARBON STEEL        |                 |           | ALLOY STEEL     |              |          | STAINLESS STEEL |              |            |            |           |
|------|-----------------|-----------------------|---------------------|-----------------|-----------|-----------------|--------------|----------|-----------------|--------------|------------|------------|-----------|
| 1    | Body            |                       | A216 WCB            | A352 LCB        | A352 LCC  | A217 WC1        | A217 WC6     | A217 C5  | A351 CF8        | A351 CF8M    | A351 CF3   | A351 CF3M  | A351 CF8C |
| 2    | Seat Ring       |                       | A105                | A350 LF2        | A350 LF2  | A182 F1         | A182 F11     | A182 F5  | A182 F304       | A182 F316    | A182 F304L | A182 F316L | A182 F321 |
| 3    | Disc            |                       | A216 WCB            | A352 LCB        | A352 LCC  | A217 WC1        | A217 WC6     | A217 C5  | A351 CF8        | A351 CF8M    | A351 CF3   | A351 CF3M  | A351 CF8C |
| 4    | Disc Washer     |                       | A276 410            | A276 304        | A276 304  | A276 410        |              |          | A276 316        |              |            |            |           |
| 5    | Disc Nut Pin    |                       | Stainless Steel     |                 |           | Stainless Steel |              |          | 316             |              |            |            |           |
| 6    | Disc Nut        |                       | Stainless Steel     |                 |           | Stainless Steel |              |          | 316             |              |            |            |           |
| 7    | Hinge           |                       | A216 WCB            | A352 LCB        | A352 LCC  | A217 WC1        | A217 WC6     | A217 C5  | A351 CF8        | A351 CF8M    | A351 CF3   | A351 CF3M  | A351 CF8C |
| 8    | Hinge Pin       |                       | A182 F6a            | A182 F304       | A182 F304 | A182 F6a        | A182 F6a     | A182 F6a | A182 F304       | A182 F316    | A182 F304L | A182 F316L | A182 F321 |
| 9    | Bearing Bracket |                       | A216 WCB            | A352 LCB        | A352 LCC  | A217 WC1        | A217 WC6     | A217 C5  | A351 CF8        | A351 CF8M    | A351 CF3   | A351 CF3M  | A351 CF8C |
| 10   | Spring Washer   |                       | Carbon Steel        | Stainless Steel |           | Stainless Steel |              |          | 316             |              |            |            |           |
| 11   | Hex, Bolt       |                       | A193 B7             | A320 L7         | A320 L7   | A193 B7         | A193 B16     | A193 B16 | A193 B8         |              |            |            |           |
| 12   | Gasket          | CL150-600             | Soft Iron +Graphite | 304+Graphite    |           | 304+Graphite    | 304+Graphite |          | 304+Graphite    | 316+Graphite |            |            |           |
|      |                 | CL900-2500 Ring Joint | Soft Iron           | 304             |           | 304             | 304          |          | 304             | 316          |            |            |           |
| 13   | Cover Bolt      |                       | A193 B7             | A320 L7         | A320 L7   | A193 B7         | A193 B16     | A193 B16 | A193 B8         |              |            |            |           |
| 14   | Cover Bolt Nut  |                       | A194 2H             | A194 4          | A194 4    | A194 2H         | A194 4       | A194 4   | A194 8          |              |            |            |           |
| 15   | Cover           |                       | A216 WCB            | A352 LCB        | A352 LCC  | A217 WC1        | A217 WC6     | A217 C5  | A351 CF8        | A351 CF8M    | A351 CF3   | A351 CF3M  | A351 CF8C |
| 16   | Eye Bolt        |                       | Carbon Steel        | Stainless Steel |           | Stainless Steel |              |          | Stainless Steel |              |            |            |           |
| 17   | Pulga           |                       | A105                | A350 LF2        | A350 LF2  | A182 F1         | A182 F11     | A182 F5  | A182 F304       | A182 F316    | A182 F304L | A182 F316L | A182 F321 |

## CLASS 600-2500 RF

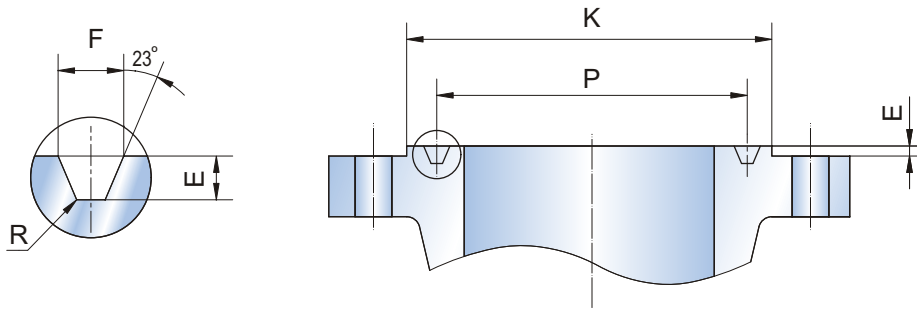


| CLASS | SIZE  |     | O     |      | R     |     | C    |       | T     |       | h    |    | Bolt |          |
|-------|-------|-----|-------|------|-------|-----|------|-------|-------|-------|------|----|------|----------|
|       | in    | mm  | in    | mm   | in    | mm  | in   | mm    | in    | mm    | in   | mm | QTY. | Diameter |
| 600   | 2     | 50  | 6.50  | 165  | 3.62  | 92  | 1.00 | 26    | 5.00  | 127   | 0.75 | 19 | 8    | 5/8      |
|       | 2 1/2 | 65  | 7.50  | 190  | 4.12  | 105 | 1.12 | 29    | 5.88  | 149   | 0.88 | 22 | 8    | 3/4      |
|       | 3     | 80  | 8.25  | 210  | 5.00  | 127 | 1.25 | 32    | 6.62  | 168   | 0.88 | 22 | 8    | 3/4      |
|       | 4     | 100 | 10.75 | 273  | 6.19  | 157 | 1.50 | 38    | 8.50  | 216   | 1.00 | 25 | 8    | 7/8      |
|       | 6     | 150 | 14.00 | 356  | 8.50  | 216 | 1.88 | 48    | 11.50 | 292   | 1.12 | 29 | 12   | 1        |
|       | 8     | 200 | 16.50 | 419  | 10.62 | 270 | 2.19 | 56    | 13.75 | 349   | 1.25 | 32 | 12   | 1 1/8    |
|       | 10    | 250 | 20.00 | 508  | 12.75 | 324 | 2.50 | 64    | 17.00 | 432   | 1.38 | 35 | 16   | 1 1/4    |
|       | 12    | 300 | 22.00 | 559  | 15.00 | 381 | 2.62 | 67    | 19.25 | 489   | 1.38 | 35 | 20   | 1 1/4    |
|       | 14    | 350 | 23.75 | 603  | 16.25 | 413 | 2.75 | 70    | 20.75 | 527   | 1.50 | 38 | 20   | 1 3/8    |
|       | 16    | 400 | 27.00 | 686  | 18.50 | 470 | 3.00 | 77    | 23.75 | 603   | 1.62 | 41 | 20   | 1 1/2    |
|       | 18    | 450 | 29.25 | 743  | 21.00 | 533 | 3.25 | 83    | 25.75 | 654   | 1.75 | 44 | 20   | 1 5/8    |
|       | 20    | 500 | 32.00 | 813  | 23.00 | 584 | 3.50 | 89    | 28.50 | 724   | 1.75 | 44 | 24   | 1 5/8    |
|       | 24    | 600 | 37.00 | 940  | 27.25 | 692 | 4.00 | 102   | 33.00 | 838   | 2.00 | 51 | 24   | 1 7/8    |
| 900   | 2     | 50  | 8.50  | 216  | 3.62  | 92  | 1.50 | 38.5  | 6.50  | 165.1 | 1.00 | 26 | 8    | 7/8      |
|       | 2 1/2 | 65  | 9.62  | 244  | 4.12  | 105 | 1.62 | 41.5  | 7.50  | 190.5 | 1.12 | 29 | 8    | 1        |
|       | 3     | 80  | 9.50  | 241  | 5.00  | 127 | 1.50 | 38.5  | 7.50  | 190.5 | 1.00 | 26 | 8    | 7/8      |
|       | 4     | 100 | 11.50 | 292  | 6.19  | 157 | 1.75 | 44.5  | 9.25  | 234.9 | 1.25 | 32 | 8    | 1 1/8    |
|       | 6     | 150 | 15.00 | 381  | 8.50  | 216 | 2.19 | 56.0  | 12.50 | 317.5 | 1.25 | 32 | 12   | 1 1/8    |
|       | 8     | 200 | 18.50 | 470  | 10.62 | 270 | 2.50 | 63.5  | 15.50 | 393.7 | 1.50 | 39 | 12   | 1 3/8    |
|       | 10    | 250 | 21.50 | 545  | 12.75 | 324 | 2.75 | 70.0  | 18.50 | 469.9 | 1.50 | 39 | 16   | 1 3/8    |
|       | 12    | 300 | 24.00 | 610  | 15.00 | 381 | 3.12 | 79.5  | 21.00 | 533.4 | 1.50 | 39 | 20   | 1 3/8    |
|       | 14    | 350 | 25.25 | 640  | 16.25 | 413 | 3.38 | 86.0  | 22.00 | 558.8 | 1.62 | 42 | 20   | 1 1/2    |
|       | 16    | 400 | 27.75 | 705  | 18.50 | 470 | 3.50 | 89.0  | 24.25 | 615.9 | 1.75 | 45 | 20   | 1 5/8    |
|       | 18    | 450 | 31.00 | 785  | 21.00 | 533 | 4.00 | 102.0 | 27.00 | 685.8 | 2.00 | 51 | 20   | 1 7/8    |
|       | 20    | 500 | 33.75 | 855  | 23.00 | 584 | 4.25 | 108.0 | 29.50 | 749.3 | 2.12 | 54 | 20   | 2        |
|       | 24    | 600 | 41.00 | 1040 | 27.25 | 692 | 5.50 | 140.0 | 35.50 | 901.7 | 2.62 | 67 | 20   | 2 1/2    |
| 1500  | 2     | 50  | 8.50  | 216  | 3.62  | 92  | 1.50 | 38.5  | 6.50  | 165.1 | 1.00 | 26 | 8    | 7/8      |
|       | 2 1/2 | 65  | 9.62  | 244  | 4.12  | 105 | 1.62 | 41.5  | 7.50  | 190.5 | 1.12 | 29 | 8    | 1        |
|       | 3     | 80  | 10.50 | 267  | 5.00  | 127 | 1.88 | 48.0  | 8.00  | 203.2 | 1.25 | 32 | 8    | 1 1/8    |
|       | 4     | 100 | 12.25 | 311  | 6.19  | 157 | 2.12 | 54.0  | 9.50  | 241.3 | 1.38 | 35 | 8    | 1 1/4    |
|       | 6     | 150 | 15.50 | 394  | 8.50  | 216 | 3.25 | 83.0  | 12.50 | 317.5 | 1.50 | 39 | 12   | 1 3/8    |
|       | 8     | 200 | 19.00 | 483  | 10.62 | 270 | 3.62 | 92.9  | 15.50 | 393.7 | 1.75 | 45 | 12   | 1 5/8    |
|       | 10    | 250 | 23.00 | 585  | 12.75 | 324 | 4.25 | 108.0 | 19.00 | 482.6 | 2.00 | 51 | 12   | 1 7/8    |
|       | 12    | 300 | 26.50 | 675  | 15.00 | 381 | 4.88 | 124.0 | 22.50 | 571.5 | 2.12 | 54 | 16   | 2        |
|       | 14    | 350 | 29.50 | 750  | 16.25 | 413 | 5.25 | 133.5 | 25.00 | 635.0 | 2.38 | 61 | 16   | 2 1/4    |
|       | 16    | 400 | 32.50 | 825  | 18.50 | 470 | 5.75 | 146.5 | 27.75 | 704.8 | 2.62 | 67 | 16   | 2 1/2    |
|       | 18    | 450 | 36.00 | 915  | 21.00 | 533 | 6.38 | 162.0 | 30.50 | 774.7 | 2.88 | 74 | 16   | 2 3/4    |
|       | 20    | 500 | 38.75 | 985  | 23.00 | 584 | 7.00 | 178.0 | 32.75 | 831.8 | 3.12 | 80 | 16   | 3        |
|       | 24    | 600 | 46.00 | 1170 | 27.25 | 692 | 8.00 | 203.5 | 39.00 | 990.6 | 3.62 | 93 | 16   | 3 1/2    |
| 2500  | 2     | 50  | 9.25  | 235  | 3.62  | 92  | 2.00 | 51.0  | 6.75  | 171.4 | 1.12 | 29 | 8    | 1        |
|       | 2 1/2 | 65  | 10.50 | 267  | 4.12  | 105 | 2.25 | 57.5  | 7.75  | 196.8 | 1.25 | 32 | 8    | 1 1/8    |
|       | 3     | 80  | 12.00 | 305  | 5.00  | 127 | 2.62 | 67.0  | 9.00  | 228.6 | 1.38 | 35 | 8    | 1 1/4    |
|       | 4     | 100 | 14.00 | 356  | 6.19  | 157 | 3.00 | 76.5  | 10.75 | 273.0 | 1.62 | 42 | 8    | 1 1/2    |
|       | 6     | 150 | 19.00 | 483  | 8.50  | 216 | 4.25 | 108.0 | 14.50 | 368.3 | 2.12 | 54 | 8    | 2        |
|       | 8     | 200 | 21.75 | 550  | 10.62 | 270 | 5.00 | 127.0 | 17.25 | 438.1 | 2.12 | 54 | 12   | 2        |
|       | 10    | 250 | 26.50 | 675  | 12.75 | 324 | 6.50 | 165.5 | 21.25 | 539.7 | 2.62 | 67 | 12   | 2 1/2    |
|       | 12    | 300 | 30.00 | 760  | 15.00 | 381 | 7.25 | 184.5 | 24.38 | 619.1 | 2.88 | 74 | 12   | 2 3/4    |

End Flange Dimensions: ASME B16.5

Tolerances: the Same as Class 150 300

## CLASS 150-2500 RTJ



| CLASS      | SIZE  |     | Ring No. | P      |         | E     |       | F     |       | R    |     | K     |      |
|------------|-------|-----|----------|--------|---------|-------|-------|-------|-------|------|-----|-------|------|
|            | in    | mm  |          | in     | mm      | in    | mm    | in    | mm    | in   | mm  | in    | mm   |
| 150        | 2     | 50  | R22      | 3.250  | 82.55   | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 4.00  | 102  |
|            | 2 1/2 | 65  | R25      | 4.000  | 101.60  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 4.75  | 121  |
|            | 3     | 80  | R29      | 4.500  | 114.30  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 5.25  | 133  |
|            | 4     | 100 | R36      | 5.875  | 149.22  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 6.75  | 171  |
|            | 6     | 150 | R43      | 7.625  | 193.68  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 8.62  | 219  |
|            | 8     | 200 | R48      | 9.750  | 247.65  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 10.75 | 273  |
|            | 10    | 250 | R52      | 12.000 | 304.80  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 13.00 | 330  |
|            | 12    | 300 | R56      | 15.000 | 381.00  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 16.00 | 406  |
|            | 14    | 350 | R59      | 15.625 | 396.88  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 16.75 | 425  |
|            | 16    | 400 | R64      | 17.875 | 454.02  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 19.00 | 483  |
|            | 18    | 450 | R68      | 20.375 | 517.52  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 21.50 | 546  |
|            | 20    | 500 | R72      | 22.000 | 558.80  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 23.50 | 597  |
|            | 24    | 600 | R76      | 26.500 | 673.10  | 0.250 | 6.35  | 0.344 | 8.74  | 0.03 | 0.8 | 28.00 | 711  |
| 300<br>600 | 2     | 50  | R23      | 3.250  | 82.55   | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 4.25  | 108  |
|            | 2 1/2 | 65  | R26      | 4.000  | 101.60  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 5.00  | 127  |
|            | 3     | 80  | R31      | 4.875  | 123.82  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 5.75  | 146  |
|            | 4     | 100 | R37      | 5.875  | 149.22  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 6.88  | 175  |
|            | 6     | 150 | R45      | 8.312  | 211.13  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 9.50  | 241  |
|            | 8     | 200 | R49      | 10.625 | 269.88  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 11.88 | 302  |
|            | 10    | 250 | R53      | 12.750 | 323.85  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 14.00 | 356  |
|            | 12    | 300 | R57      | 15.000 | 381.00  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 16.25 | 413  |
|            | 14    | 350 | R61      | 16.500 | 419.10  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 18.00 | 457  |
|            | 16    | 400 | R65      | 18.500 | 469.90  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 20.00 | 508  |
|            | 18    | 450 | R69      | 21.000 | 533.40  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 22.62 | 575  |
|            | 20    | 500 | R73      | 23.000 | 584.20  | 0.375 | 9.52  | 0.531 | 13.49 | 0.06 | 1.5 | 25.00 | 635  |
|            | 24    | 600 | R77      | 27.250 | 692.15  | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 29.50 | 749  |
|            | 26    | 650 | R93      | 29.500 | 749.30  | 0.500 | 12.7  | 0.781 | 19.84 | 0.06 | 1.5 | 31.88 | 861  |
|            | 28    | 700 | R94      | 31.500 | 800.10  | 0.500 | 12.7  | 0.781 | 19.84 | 0.06 | 1.5 | 33.88 | 861  |
|            | 30    | 750 | R95      | 33.750 | 857.25  | 0.500 | 12.7  | 0.781 | 19.84 | 0.06 | 1.5 | 36.12 | 917  |
|            | 32    | 800 | R96      | 36.000 | 914.40  | 0.562 | 14.27 | 0.906 | 23.01 | 0.06 | 1.5 | 38.75 | 984  |
|            | 36    | 900 | R98      | 40.250 | 1022.35 | 0.562 | 14.27 | 0.906 | 23.01 | 0.06 | 1.5 | 43.00 | 1092 |

| CLASS | SIZE  |     | Ring No. | P      |        | E     |       | F     |       | R    |     | K     |     |
|-------|-------|-----|----------|--------|--------|-------|-------|-------|-------|------|-----|-------|-----|
|       | in    | mm  |          | in     | mm     | in    | mm    | in    | mm    | in   | mm  | in    | mm  |
| 900   | 2     | 50  | R24      | 3.750  | 95.25  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 4.88  | 124 |
|       | 2 1/2 | 65  | R27      | 4.250  | 107.95 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 5.38  | 137 |
|       | 3     | 80  | R31      | 4.875  | 123.82 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 6.12  | 156 |
|       | 4     | 100 | R37      | 5.875  | 149.22 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 7.12  | 181 |
|       | 6     | 150 | R45      | 8.312  | 211.12 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 9.50  | 241 |
|       | 8     | 200 | R49      | 10.625 | 269.88 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 12.12 | 308 |
|       | 10    | 250 | R53      | 12.750 | 323.85 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 14.25 | 362 |
|       | 12    | 300 | R57      | 15.000 | 381.00 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 16.50 | 419 |
|       | 14    | 350 | R62      | 16.500 | 419.10 | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 18.38 | 467 |
|       | 16    | 400 | R66      | 18.500 | 469.90 | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 20.62 | 524 |
|       | 18    | 450 | R70      | 21.000 | 533.40 | 0.500 | 12.7  | 0.781 | 19.84 | 0.06 | 1.5 | 23.38 | 594 |
|       | 20    | 500 | R74      | 23.000 | 584.20 | 0.500 | 12.7  | 0.781 | 19.84 | 0.06 | 1.5 | 25.50 | 648 |
|       | 24    | 600 | R78      | 27.250 | 692.15 | 0.625 | 15.88 | 1.062 | 26.97 | 0.09 | 2.3 | 30.38 | 772 |
| 1500  | 2     | 50  | R24      | 3.750  | 95.25  | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 4.88  | 124 |
|       | 2 1/2 | 65  | R27      | 4.250  | 107.95 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 5.38  | 137 |
|       | 3     | 80  | R35      | 5.375  | 136.52 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 6.62  | 168 |
|       | 4     | 100 | R39      | 6.375  | 161.92 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 7.62  | 194 |
|       | 6     | 150 | R46      | 8.312  | 211.12 | 0.375 | 9.52  | 0.531 | 13.49 | 0.06 | 1.5 | 9.75  | 248 |
|       | 8     | 200 | R50      | 10.625 | 269.88 | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 12.50 | 318 |
|       | 10    | 250 | R54      | 12.750 | 323.85 | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 14.62 | 371 |
|       | 12    | 300 | R58      | 15.000 | 381.00 | 0.562 | 14.27 | 0.906 | 23.01 | 0.06 | 1.5 | 17.25 | 438 |
|       | 14    | 350 | R63      | 16.500 | 419.10 | 0.625 | 15.88 | 1.062 | 26.97 | 0.09 | 2.3 | 19.25 | 489 |
|       | 16    | 400 | R67      | 18.500 | 469.90 | 0.688 | 17.48 | 1.188 | 30.18 | 0.09 | 2.3 | 21.50 | 546 |
|       | 18    | 450 | R71      | 21.000 | 533.40 | 0.688 | 17.48 | 1.188 | 30.18 | 0.09 | 2.3 | 24.12 | 613 |
|       | 20    | 500 | R75      | 23.000 | 584.20 | 0.688 | 17.48 | 1.312 | 33.32 | 0.09 | 2.3 | 26.50 | 673 |
|       | 24    | 600 | R79      | 27.250 | 692.15 | 0.812 | 20.62 | 1.438 | 36.53 | 0.09 | 2.3 | 31.25 | 794 |
| 2500  | 2     | 50  | R26      | 4.000  | 101.60 | 0.312 | 7.92  | 0.469 | 11.91 | 0.03 | 0.8 | 5.25  | 133 |
|       | 2 1/2 | 65  | R28      | 4.375  | 111.12 | 0.375 | 9.52  | 0.531 | 13.49 | 0.03 | 0.8 | 5.88  | 149 |
|       | 3     | 80  | R32      | 5.000  | 127.00 | 0.375 | 9.52  | 0.531 | 13.49 | 0.06 | 1.5 | 6.62  | 168 |
|       | 4     | 100 | R38      | 6.188  | 157.18 | 0.438 | 11.13 | 0.656 | 16.66 | 0.06 | 1.5 | 8.00  | 203 |
|       | 6     | 150 | R47      | 9.000  | 228.60 | 0.500 | 12.70 | 0.781 | 19.84 | 0.06 | 1.5 | 11.00 | 279 |
|       | 8     | 200 | R51      | 11.000 | 279.40 | 0.562 | 14.27 | 0.906 | 23.01 | 0.06 | 1.5 | 13.38 | 340 |
|       | 10    | 250 | R55      | 13.500 | 342.90 | 0.688 | 17.48 | 1.188 | 30.18 | 0.09 | 2.3 | 16.75 | 425 |
|       | 12    | 300 | R60      | 16.000 | 406.40 | 0.688 | 17.48 | 1.312 | 33.32 | 0.09 | 2.3 | 19.50 | 495 |

End Flange Dimensions:

Size 2"-24" to ASME B16.5, Size 26"-36" to ASME B16.47 A .

Tolerances: Unit inch

Depth E: + 0.016, -0

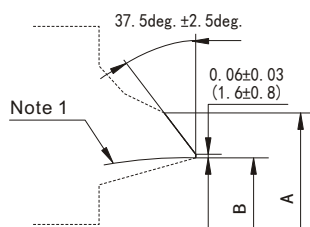
Width F: ± 0.008

Pith Diameter P: ± 0.005

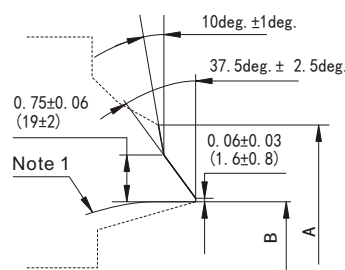
Radius at Bottom R:  $R \leq 0.06$  +0.03, -0

$R > 0.06$  ± 0.03

Angle 23 Deg.: ± 0.5 Deg.



Note 1 Internal surface may be as formed or machined for dimension B at root face. Contour within the envelope shall be in accordance with section.



Wall Thickness not Over 0.88in (22mm)  
Welding End Detail for Joint Without Backing Ring

Wall Thickness Over 0.88in (22mm)  
Welding End Detail for Joint Without Backing Ring

| Nominal<br>Pipe Size |       | Schedule<br>No.<br>[Note(1)] | O.D. at Welding Ends                             |       |                                   |       | B     |        | C [Note(3)] |        | t     |       |
|----------------------|-------|------------------------------|--------------------------------------------------|-------|-----------------------------------|-------|-------|--------|-------------|--------|-------|-------|
|                      |       |                              | Wrought or Fabricated<br>Components, A [Note(1)] |       | Cast Steel Valves,<br>A [Note(2)] |       |       |        |             |        |       |       |
| DN                   | NPS   |                              | mm                                               | in    | mm                                | in    | mm    | in     | mm          | in     | mm    | in    |
| 65                   | 2 1/2 | 40                           | 73.0                                             | 2.88  | 75                                | 2.96  | 62.5  | 2.469  | 62.93       | 2.479  | 5.16  | 0.203 |
|                      |       | 80                           |                                                  |       |                                   |       | 59    | 2.323  | 59.69       | 2.351  | 7.01  | 0.276 |
|                      |       | 160                          |                                                  |       |                                   |       | 54    | 2.125  | 55.28       | 2.178  | 9.53  | 0.375 |
|                      |       | XXS                          |                                                  |       |                                   |       | 45    | 1.771  | 47.43       | 1.868  | 14.02 | 0.552 |
| 80                   | 3     | 40                           | 88.9                                             | 3.50  | 91                                | 3.59  | 78    | 3.068  | 78.25       | 3.081  | 5.49  | 0.216 |
|                      |       | 80                           |                                                  |       |                                   |       | 73.5  | 2.900  | 74.53       | 2.934  | 7.62  | 0.300 |
|                      |       | 160                          |                                                  |       |                                   |       | 66.5  | 2.624  | 68.38       | 2.692  | 11.13 | 0.438 |
|                      |       | XXS                          |                                                  |       |                                   |       | 58.5  | 2.300  | 61.19       | 2.409  | 15.24 | 0.600 |
| 90                   | 3 1/2 | 40                           | 101.6                                            | 4.00  | 105                               | 4.12  | 90    | 3.548  | 90.52       | 3.564  | 5.74  | 0.226 |
|                      |       | 80                           |                                                  |       |                                   |       | 85.5  | 3.364  | 86.42       | 3.402  | 8.08  | 0.318 |
| 100                  | 4     | 40                           | 114.3                                            | 4.50  | 117                               | 4.62  | 102   | 4.026  | 102.73      | 4.044  | 6.02  | 0.237 |
|                      |       | 80                           |                                                  |       |                                   |       | 97    | 3.826  | 98.28       | 3.869  | 8.56  | 0.337 |
|                      |       | 120                          |                                                  |       |                                   |       | 92    | 3.624  | 93.78       | 3.692  | 11.13 | 0.438 |
|                      |       | 160                          |                                                  |       |                                   |       | 87.5  | 3.438  | 89.65       | 3.530  | 13.49 | 0.531 |
|                      |       | XXS                          |                                                  |       |                                   |       | 80    | 3.152  | 83.30       | 3.279  | 17.12 | 0.674 |
| 125                  | 5     | 40                           | 141.3                                            | 5.56  | 144                               | 5.69  | 128   | 5.047  | 128.80      | 5.070  | 6.55  | 0.258 |
|                      |       | 80                           |                                                  |       |                                   |       | 122   | 4.813  | 123.58      | 4.866  | 9.53  | 0.375 |
|                      |       | 120                          |                                                  |       |                                   |       | 116   | 4.563  | 118.04      | 4.647  | 12.70 | 0.500 |
|                      |       | 160                          |                                                  |       |                                   |       | 109.5 | 4.313  | 112.47      | 4.428  | 15.88 | 0.625 |
|                      |       | XXS                          |                                                  |       |                                   |       | 103   | 4.063  | 106.92      | 4.209  | 19.05 | 0.750 |
| 150                  | 6     | 40                           | 168.3                                            | 6.62  | 172                               | 6.78  | 154   | 6.065  | 154.82      | 6.094  | 7.11  | 0.280 |
|                      |       | 80                           |                                                  |       |                                   |       | 146.5 | 5.761  | 148.06      | 5.828  | 10.97 | 0.432 |
|                      |       | 120                          |                                                  |       |                                   |       | 140   | 5.501  | 142.29      | 5.600  | 14.27 | 0.562 |
|                      |       | 160                          |                                                  |       |                                   |       | 132   | 5.187  | 135.31      | 5.326  | 18.26 | 0.719 |
|                      |       | XXS                          |                                                  |       |                                   |       | 124.5 | 4.897  | 128.85      | 5.072  | 21.95 | 0.864 |
| 200                  | 8     | 40                           | 219.1                                            | 8.62  | 223                               | 8.78  | 203   | 7.981  | 203.75      | 8.020  | 8.18  | 0.322 |
|                      |       | 60                           |                                                  |       |                                   |       | 198.5 | 7.813  | 200.02      | 7.873  | 10.31 | 0.406 |
|                      |       | 80                           |                                                  |       |                                   |       | 193.5 | 7.625  | 195.84      | 7.709  | 12.70 | 0.500 |
|                      |       | 100                          |                                                  |       |                                   |       | 189   | 7.437  | 191.65      | 7.544  | 15.09 | 0.594 |
|                      |       | 120                          |                                                  |       |                                   |       | 182.5 | 7.187  | 186.11      | 7.326  | 18.26 | 0.719 |
|                      |       | 140                          |                                                  |       |                                   |       | 178   | 7.001  | 181.98      | 7.163  | 20.62 | 0.812 |
|                      |       | XXS                          |                                                  |       |                                   |       | 174.5 | 6.875  | 179.16      | 7.053  | 22.23 | 0.875 |
|                      |       | 160                          |                                                  |       |                                   |       | 173   | 6.813  | 177.79      | 6.998  | 23.01 | 0.906 |
| 250                  | 10    | 40                           | 273.0                                            | 10.75 | 278                               | 10.94 | 254.5 | 10.020 | 255.74      | 10.070 | 9.27  | 0.365 |
|                      |       | 60                           |                                                  |       |                                   |       | 247.5 | 9.750  | 249.74      | 9.834  | 12.70 | 0.500 |
|                      |       | 80                           |                                                  |       |                                   |       | 243   | 9.562  | 245.55      | 9.670  | 15.09 | 0.594 |
|                      |       | 100                          |                                                  |       |                                   |       | 236.5 | 9.312  | 240.01      | 9.451  | 18.26 | 0.719 |
|                      |       | 120                          |                                                  |       |                                   |       | 230   | 9.062  | 234.44      | 9.232  | 21.44 | 0.844 |
|                      |       | 140                          |                                                  |       |                                   |       | 222   | 8.750  | 227.51      | 8.959  | 25.40 | 1.000 |
|                      |       | 160                          |                                                  |       |                                   |       | 216   | 8.500  | 221.95      | 8.740  | 28.58 | 1.125 |
| 300                  | 12    | STD                          | 323.8                                            | 12.75 | 329                               | 12.97 | 305   | 12.000 | 306.08      | 12.053 | 9.53  | 0.375 |
|                      |       | 40                           |                                                  |       |                                   |       | 303   | 11.938 | 304.72      | 11.999 | 10.31 | 0.406 |
|                      |       | XS                           |                                                  |       |                                   |       | 298.5 | 11.750 | 300.54      | 11.834 | 12.70 | 0.500 |
|                      |       | 60                           |                                                  |       |                                   |       | 295   | 11.626 | 297.79      | 11.725 | 14.27 | 0.562 |
|                      |       | 80                           |                                                  |       |                                   |       | 289   | 11.374 | 292.17      | 11.505 | 17.48 | 0.688 |
|                      |       | 100                          |                                                  |       |                                   |       | 281   | 11.062 | 285.24      | 11.232 | 21.44 | 0.844 |
|                      |       | 120                          |                                                  |       |                                   |       | 273   | 10.750 | 278.31      | 10.959 | 25.40 | 1.000 |
|                      |       | 140                          |                                                  |       |                                   |       | 266.5 | 10.500 | 272.75      | 10.740 | 28.58 | 1.125 |
|                      |       | 160                          |                                                  |       |                                   |       | 257   | 10.126 | 264.45      | 10.413 | 33.32 | 1.312 |
| 350                  | 14    | STD                          | 355.6                                            | 14.00 | 362                               | 14.25 | 336.5 | 13.250 | 337.88      | 13.303 | 9.53  | 0.375 |
|                      |       | 40                           |                                                  |       |                                   |       | 333.5 | 13.124 | 335.08      | 13.192 | 11.13 | 0.438 |
|                      |       | XS                           |                                                  |       |                                   |       | 330   | 13.000 | 332.34      | 13.084 | 12.70 | 0.500 |
|                      |       | 60                           |                                                  |       |                                   |       | 325.5 | 12.812 | 328.15      | 12.920 | 15.09 | 0.594 |
|                      |       | 80                           |                                                  |       |                                   |       | 317.5 | 12.500 | 321.22      | 12.646 | 19.05 | 0.750 |
|                      |       | 100                          |                                                  |       |                                   |       | 308   | 12.124 | 312.86      | 12.318 | 23.83 | 0.938 |
|                      |       | 120                          |                                                  |       |                                   |       | 300   | 11.812 | 305.93      | 12.044 | 27.79 | 1.094 |
|                      |       | 140                          |                                                  |       |                                   |       | 292   | 11.500 | 299.00      | 11.771 | 31.75 | 1.250 |
|                      |       | 160                          |                                                  |       |                                   |       | 284   | 11.188 | 292.07      | 11.498 | 35.71 | 1.406 |

| Nominal<br>Pipe Size |     | Schedule<br>No.<br>[Note(1)] | O.D. at Welding Ends                             |       |                                   |       | B     |        | C [Note(3)] |        | t     |       |
|----------------------|-----|------------------------------|--------------------------------------------------|-------|-----------------------------------|-------|-------|--------|-------------|--------|-------|-------|
|                      |     |                              | Wrought or Fabricated<br>Components, A [Note(1)] |       | Cast Steel Valves,<br>A [Note(2)] |       |       |        |             |        |       |       |
| DN                   | NPS |                              | mm                                               | in    | mm                                | in    | mm    | in     | mm          | in     | mm    | in    |
| 400                  | 16  | STD                          | 406.4                                            | 16.00 | 413                               | 16.25 | 387.5 | 15.250 | 388.68      | 15.303 | 9.53  | 0.375 |
|                      |     | 40                           |                                                  |       |                                   |       | 381   | 15.000 | 383.14      | 15.084 | 12.70 | 0.500 |
|                      |     | 60                           |                                                  |       |                                   |       | 373   | 14.688 | 376.21      | 14.811 | 16.66 | 0.656 |
|                      |     | 80                           |                                                  |       |                                   |       | 363.5 | 14.312 | 367.84      | 14.482 | 21.44 | 0.844 |
|                      |     | 100                          |                                                  |       |                                   |       | 354   | 13.938 | 359.53      | 14.155 | 26.19 | 1.031 |
|                      |     | 120                          |                                                  |       |                                   |       | 344.5 | 13.562 | 351.18      | 13.826 | 30.96 | 1.219 |
|                      |     | 140                          |                                                  |       |                                   |       | 333.5 | 13.124 | 341.43      | 13.422 | 36.53 | 1.438 |
|                      |     | 160                          |                                                  |       |                                   |       | 325.5 | 12.812 | 334.50      | 13.170 | 40.49 | 1.594 |
| 450                  | 18  | STD                          | 457.2                                            | 18.00 | 464                               | 18.28 | 438   | 17.250 | 439.48      | 17.303 | 9.53  | 0.375 |
|                      |     | XS                           |                                                  |       |                                   |       | 432   | 17.000 | 433.94      | 17.084 | 12.70 | 0.500 |
|                      |     | 40                           |                                                  |       |                                   |       | 428.5 | 16.876 | 431.19      | 16.975 | 14.27 | 0.562 |
|                      |     | 60                           |                                                  |       |                                   |       | 419   | 16.500 | 422.82      | 16.646 | 19.05 | 0.750 |
|                      |     | 80                           |                                                  |       |                                   |       | 409.5 | 16.124 | 414.46      | 16.318 | 23.83 | 0.938 |
|                      |     | 100                          |                                                  |       |                                   |       | 398.5 | 15.688 | 404.78      | 15.936 | 29.36 | 1.156 |
|                      |     | 120                          |                                                  |       |                                   |       | 387.5 | 15.250 | 395.03      | 15.553 | 34.93 | 1.375 |
|                      |     | 140                          |                                                  |       |                                   |       | 378   | 14.876 | 386.77      | 15.225 | 39.67 | 1.562 |
| 500                  | 20  | STD                          | 508.0                                            | 20.00 | 516                               | 20.31 | 489   | 19.250 | 490.28      | 19.303 | 9.53  | 0.375 |
|                      |     | XS                           |                                                  |       |                                   |       | 482.5 | 19.000 | 484.74      | 19.084 | 12.70 | 0.500 |
|                      |     | 40                           |                                                  |       |                                   |       | 478   | 18.812 | 480.55      | 18.920 | 15.09 | 0.594 |
|                      |     | 60                           |                                                  |       |                                   |       | 467   | 18.376 | 470.88      | 18.538 | 20.62 | 0.812 |
|                      |     | 80                           |                                                  |       |                                   |       | 455.5 | 17.938 | 461.13      | 18.155 | 26.19 | 1.031 |
|                      |     | 100                          |                                                  |       |                                   |       | 443   | 17.438 | 450.02      | 17.717 | 32.54 | 1.281 |
|                      |     | 120                          |                                                  |       |                                   |       | 432   | 17.000 | 440.29      | 17.334 | 38.10 | 1.500 |
|                      |     | 140                          |                                                  |       |                                   |       | 419   | 16.500 | 429.17      | 16.896 | 44.45 | 1.750 |
| 550                  | 22  | STD                          | 558.8                                            | 22.00 | 567                               | 22.34 | 539   | 21.250 | 541.08      | 21.303 | 9.53  | 0.375 |
|                      |     | XS                           |                                                  |       |                                   |       | 533   | 21.000 | 535.54      | 21.084 | 12.70 | 0.500 |
|                      |     | 60                           |                                                  |       |                                   |       | 514   | 20.250 | 518.86      | 20.428 | 22.23 | 0.875 |
|                      |     | 80                           |                                                  |       |                                   |       | 501   | 19.750 | 507.75      | 19.990 | 28.58 | 1.125 |
|                      |     | 100                          |                                                  |       |                                   |       | 488.5 | 19.250 | 496.63      | 19.553 | 34.93 | 1.375 |
|                      |     | 120                          |                                                  |       |                                   |       | 476   | 18.750 | 485.52      | 19.115 | 41.28 | 1.625 |
|                      |     | 140                          |                                                  |       |                                   |       | 463   | 18.250 | 474.41      | 18.678 | 47.63 | 1.875 |
|                      |     | 160                          |                                                  |       |                                   |       | 450.5 | 17.750 | 463.30      | 18.240 | 53.98 | 2.125 |
| 600                  | 24  | STD                          | 609.6                                            | 24.00 | 619                               | 24.38 | 590.5 | 23.250 | 591.88      | 23.303 | 9.53  | 0.375 |
|                      |     | XS                           |                                                  |       |                                   |       | 584   | 23.000 | 586.34      | 23.084 | 12.70 | 0.500 |
|                      |     | 30                           |                                                  |       |                                   |       | 581   | 22.876 | 583.59      | 22.975 | 14.27 | 0.562 |
|                      |     | 40                           |                                                  |       |                                   |       | 574.5 | 22.624 | 577.97      | 22.755 | 17.48 | 0.688 |
|                      |     | 60                           |                                                  |       |                                   |       | 560.5 | 22.062 | 565.49      | 22.263 | 24.61 | 0.969 |
|                      |     | 80                           |                                                  |       |                                   |       | 547.5 | 21.562 | 554.38      | 21.826 | 30.96 | 1.219 |
|                      |     | 100                          |                                                  |       |                                   |       | 532   | 20.938 | 540.49      | 21.280 | 38.89 | 1.531 |
|                      |     | 120                          |                                                  |       |                                   |       | 517.5 | 20.376 | 528.03      | 20.788 | 46.02 | 1.812 |
| 650                  | 26  | STD                          | 650.0                                            | 25.59 | 660.0                             | 26.00 | 635   | 25.000 | 637.14      | 25.084 | 12.70 | 0.500 |
|                      |     | XS                           |                                                  |       |                                   |       | 629   | 24.750 | 631.19      | 24.844 | 15.09 | 0.594 |
|                      |     | 30                           |                                                  |       |                                   |       | 626   | 24.646 | 628.82      | 24.743 | 17.48 | 0.688 |
|                      |     | 40                           |                                                  |       |                                   |       | 614   | 24.167 | 619.91      | 24.406 | 22.91 | 0.902 |
|                      |     | 60                           |                                                  |       |                                   |       | 590.5 | 23.250 | 591.88      | 23.303 | 9.53  | 0.375 |
|                      |     | 80                           |                                                  |       |                                   |       | 560.5 | 22.062 | 565.49      | 22.263 | 24.61 | 0.969 |
|                      |     | 100                          |                                                  |       |                                   |       | 532   | 20.938 | 540.49      | 21.280 | 38.89 | 1.531 |
|                      |     | 120                          |                                                  |       |                                   |       | 517.5 | 20.376 | 528.03      | 20.788 | 46.02 | 1.812 |
| 700                  | 28  | STD                          | 700.0                                            | 27.56 | 711.2                             | 28.00 | 686   | 27.000 | 687.94      | 27.084 | 12.70 | 0.500 |
|                      |     | XS                           |                                                  |       |                                   |       | 680   | 26.750 | 682.37      | 26.865 | 15.88 | 0.625 |
|                      |     | 30                           |                                                  |       |                                   |       | 679.5 | 26.750 | 682.37      | 26.865 | 15.88 | 0.625 |
|                      |     | 40                           |                                                  |       |                                   |       | 667   | 26.271 | 672.46      | 26.475 | 18.75 | 0.740 |
|                      |     | 60                           |                                                  |       |                                   |       | 635   | 25.000 | 637.14      | 25.084 | 12.70 | 0.500 |
|                      |     | 80                           |                                                  |       |                                   |       | 604   | 23.779 | 609.88      | 23.990 | 9.53  | 0.375 |
|                      |     | 100                          |                                                  |       |                                   |       | 574.5 | 22.624 | 577.97      | 22.755 | 17.48 | 0.688 |
|                      |     | 120                          |                                                  |       |                                   |       | 552   | 21.740 | 558.75      | 21.990 | 28.58 | 1.125 |
| 750                  | 30  | STD                          | 750.0                                            | 29.53 | 762.0                             | 30.00 | 730   | 28.750 | 733.17      | 28.865 | 15.88 | 0.625 |
|                      |     | XS                           |                                                  |       |                                   |       | 724   | 28.500 | 726.82      | 28.594 | 15.09 | 0.594 |
|                      |     | 30                           |                                                  |       |                                   |       | 723   | 28.438 | 726.46      | 28.562 | 15.09 | 0.594 |
|                      |     | 40                           |                                                  |       |                                   |       | 711   | 27.969 | 716.19      | 28.167 | 18.75 | 0.740 |
|                      |     | 60                           |                                                  |       |                                   |       | 686   | 27.000 | 687.94      | 27.084 | 12.70 | 0.500 |
|                      |     | 80                           |                                                  |       |                                   |       | 655   | 25.768 | 660.63      | 25.990 | 9.53  | 0.375 |
|                      |     | 100                          |                                                  |       |                                   |       | 626   | 24.646 | 628.82      | 24.743 | 17.48 | 0.688 |
|                      |     | 120                          |                                                  |       |                                   |       | 604   | 23.779 | 609.88      | 23.990 | 9.53  | 0.375 |
| 800                  | 32  | STD                          | 800.0                                            | 31.50 | 812.8                             | 32.00 | 787   | 31.000 | 789.54      | 31.084 | 12.70 | 0.500 |
|                      |     | XS                           |                                                  |       |                                   |       | 781   | 30.750 | 783.97      | 30.865 | 15.88 | 0.625 |
|                      |     | 30                           |                                                  |       |                                   |       | 780   | 30.719 | 782.60      | 30.812 | 15.88 | 0.625 |
|                      |     | 40                           |                                                  |       |                                   |       | 768   | 30.224 | 773.17      | 30.413 | 17.48 | 0.688 |
|                      |     | 60                           |                                                  |       |                                   |       | 736   | 29.000 | 738.74      | 29.084 | 12.70 | 0.500 |
|                      |     | 80                           |                                                  |       |                                   |       | 705   | 27.750 | 709.88      | 27.940 | 9.53  | 0.375 |
|                      |     | 100                          |                                                  |       |                                   |       | 674   | 26.500 | 677.14      | 26.667 | 15.09 | 0.594 |
|                      |     | 120                          |                                                  |       |                                   |       | 652   | 25.688 | 658.75      | 25.938 | 29.36 | 1.156 |
| 850                  | 34  | STD                          | 850.0                                            | 33.47 | 863.6                             | 34.00 | 838   | 33.000 | 840.34      | 33.084 | 12.70 | 0.500 |
|                      |     | XS                           |                                                  |       |                                   |       | 832   | 32.750 | 834.77      | 32.865 | 15.88 | 0.625 |
|                      |     | 30                           |                                                  |       |                                   |       | 831   | 32.719 | 833.40      | 32.812 | 15.88 | 0.625 |
|                      |     | 40                           |                                                  |       |                                   |       | 825   | 32.500 | 827.50      | 32.625 | 15.88 | 0.625 |
|                      |     | 60                           |                                                  |       |                                   |       | 807   | 31.750 | 811.63      | 31.940 | 9.53  | 0.375 |
|                      |     | 80                           |                                                  |       |                                   |       | 777   | 30.500 | 779.14      | 30.667 | 15.09 | 0.594 |
|                      |     | 100                          |                                                  |       |                                   |       | 755   | 29.688 | 761.75      | 29.938 | 29.36 | 1.156 |
|                      |     | 120                          |                                                  |       |                                   |       | 733   | 28.865 | 739.37      | 29.188 | 35.43 | 1.406 |
| 900                  | 36  | STD                          | 900.0                                            | 35.43 | 914.4                             | 36.00 | 889   | 35.000 | 891.14      | 35.084 | 12.70 | 0.500 |
|                      |     | XS                           |                                                  |       |                                   |       | 883   | 34.750 | 885.57      | 34.865 | 15.88 | 0.625 |
|                      |     | 30                           |                                                  |       |                                   |       | 882   | 34.750 | 885.57      | 34.865 | 15.88 | 0.625 |
|                      |     | 40                           |                                                  |       |                                   |       | 876.5 | 34.500 | 880.02      | 34.646 | 19.05 | 0.750 |
|                      |     | 60                           |                                                  |       |                                   |       | 847   | 33.354 | 849.59      | 33.454 | 13.17 | 0.520 |
|                      |     | 80                           |                                                  |       |                                   |       | 817   | 32.167 | 821.63      | 32.354 | 12.69 | 0.500 |
|                      |     | 100                          |                                                  |       |                                   |       | 787   | 30.969 | 791.63      | 31.167 | 12.20 | 0.480 |
|                      |     | 120                          |                                                  |       |                                   |       | 765   | 30.118 | 769.63      | 30.312 | 11.70 | 0.460 |

NOTES:

(1) Letter designations signify

(a) STD = standard wall thickness

(b) XS = extra-strong wall thickness

(c) XXS = double extra-strong wall thickness

(2) The diameters listed are not requirements. They are provided for the convenience of the user.

(3) Internal machining for continuous backing rings for sizes DN 50 (NPS 2) and smaller is not contemplated.