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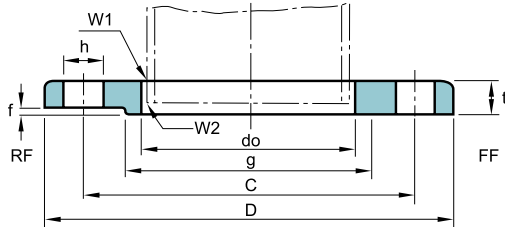
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## JIS / KS Flanges

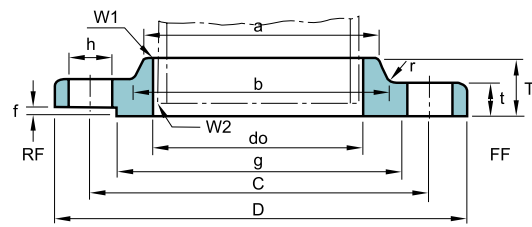


# 5K KS B1503 / JIS B2220

NOMINAL SIZE 10 - 400mm



NOMINAL SIZE 450 - 1000mm



Unit : mm

| Nominal Bore of Flange | Outside Dia. of Appli- Cable pipe | Inside Dia. of Flange | Outside Dia. of Flange | SECTIONAL DIMENSIONS OF FLANGE |    |             |      |        |             |                     | DIA. OF BOLT        |                      |           |     | Nominal Bolt Size | Welding |       | Weight (kg) |
|------------------------|-----------------------------------|-----------------------|------------------------|--------------------------------|----|-------------|------|--------|-------------|---------------------|---------------------|----------------------|-----------|-----|-------------------|---------|-------|-------------|
|                        |                                   |                       |                        | t                              | T  | Dia. of Hub |      | Radius | Raised Face | Dia. of Raised Face | Dia. of Bolt Circle | Number of Bolt Holes | Hole Dia. | W1  |                   | W2      |       |             |
|                        |                                   |                       |                        |                                |    | a           | b    |        |             |                     |                     |                      |           |     |                   |         | r     |             |
| (10)                   | 17.3                              | 17.8                  | 75                     | 9                              | -  | -           | -    | -      | 1           | 39                  | 55                  | 4                    | 12        | M10 | 5.0               | 2.5     | 0.27  |             |
| 15                     | 21.7                              | 22.2                  | 80                     | 9                              | -  | -           | -    | -      | 1           | 44                  | 60                  | 4                    | 12        | M10 | 5.0               | 3.0     | 0.30  |             |
| (20)                   | 27.2                              | 27.7                  | 85                     | 10                             | -  | -           | -    | -      | 1           | 49                  | 65                  | 4                    | 12        | M10 | 5.0               | 3.0     | 0.37  |             |
| 25                     | 34.0                              | 34.5                  | 95                     | 10                             | -  | -           | -    | -      | 1           | 59                  | 75                  | 4                    | 12        | M10 | 5.0               | 3.0     | 0.45  |             |
| (32)                   | 42.7                              | 43.2                  | 115                    | 12                             | -  | -           | -    | -      | 2           | 70                  | 90                  | 4                    | 15        | M12 | 6.0               | 3.0     | 0.78  |             |
| 40                     | 48.6                              | 49.1                  | 120                    | 12                             | -  | -           | -    | -      | 2           | 75                  | 95                  | 4                    | 15        | M12 | 6.0               | 3.0     | 0.83  |             |
| 50                     | 60.5                              | 61.1                  | 130                    | 14                             | -  | -           | -    | -      | 2           | 85                  | 105                 | 4                    | 15        | M12 | 6.0               | 3.0     | 1.07  |             |
| 65                     | 76.3                              | 77.1                  | 155                    | 14                             | -  | -           | -    | -      | 2           | 110                 | 130                 | 4                    | 15        | M12 | 6.0               | 4.0     | 1.49  |             |
| 80                     | 89.1                              | 90.0                  | 180                    | 14                             | -  | -           | -    | -      | 2           | 121                 | 145                 | 4                    | 19        | M16 | 6.0               | 4.0     | 1.99  |             |
| (90)                   | 101.6                             | 102.6                 | 190                    | 14                             | -  | -           | -    | -      | 2           | 131                 | 155                 | 4                    | 19        | M16 | 6.0               | 4.0     | 2.09  |             |
| 100                    | 114.3                             | 115.4                 | 200                    | 16                             | -  | -           | -    | -      | 2           | 141                 | 165                 | 8                    | 19        | M16 | 7.0               | 4.0     | 2.39  |             |
| 125                    | 139.8                             | 141.2                 | 235                    | 16                             | -  | -           | -    | -      | 2           | 176                 | 200                 | 8                    | 19        | M16 | 7.0               | 4.0     | 3.23  |             |
| 150                    | 165.2                             | 166.6                 | 265                    | 18                             | -  | -           | -    | -      | 2           | 206                 | 230                 | 8                    | 19        | M16 | 7.0               | 5.0     | 4.41  |             |
| (175)                  | 190.7                             | 192.1                 | 300                    | 18                             | -  | -           | -    | -      | 2           | 232                 | 260                 | 8                    | 23        | M20 | 7.5               | 5.0     | 5.51  |             |
| 200                    | 216.3                             | 218.0                 | 320                    | 20                             | -  | -           | -    | -      | 2           | 252                 | 280                 | 8                    | 23        | M20 | 8.5               | 6.0     | 6.33  |             |
| (225)                  | 241.8                             | 243.7                 | 345                    | 20                             | -  | -           | -    | -      | 2           | 277                 | 305                 | 12                   | 23        | M20 | 9.0               | 6.0     | 6.64  |             |
| 250                    | 267.4                             | 269.5                 | 385                    | 22                             | -  | -           | -    | -      | 2           | 317                 | 345                 | 12                   | 23        | M20 | 10.0              | 6.0     | 9.45  |             |
| 300                    | 318.5                             | 321.0                 | 430                    | 22                             | -  | -           | -    | -      | 3           | 360                 | 390                 | 12                   | 23        | M20 | 10.0              | 6.0     | 10.30 |             |
| 350                    | 355.6                             | 358.1                 | 480                    | 24                             | -  | -           | -    | -      | 3           | 403                 | 435                 | 12                   | 25        | M22 | 12.0              | 7.0     | 14.00 |             |
| 400                    | 406.4                             | 409.0                 | 540                    | 24                             | -  | -           | -    | -      | 3           | 463                 | 495                 | 16                   | 25        | M22 | 12.0              | 7.0     | 16.90 |             |
| 450                    | 457.2                             | 460.0                 | 605                    | 24                             | 40 | 495         | 500  | 5      | 3           | 523                 | 555                 | 16                   | 25        | M22 | 12.0              | 7.0     | 24.80 |             |
| 500                    | 508.0                             | 511.0                 | 655                    | 24                             | 40 | 546         | 552  | 5      | 3           | 573                 | 605                 | 20                   | 25        | M22 | 12.0              | 7.0     | 26.90 |             |
| 550                    | 558.8                             | 562.0                 | 720                    | 26                             | 42 | 597         | 603  | 5      | 3           | 630                 | 665                 | 20                   | 27        | M24 | 12.0              | 7.0     | 34.10 |             |
| 600                    | 609.6                             | 613.0                 | 770                    | 26                             | 44 | 648         | 654  | 5      | 3           | 680                 | 715                 | 20                   | 27        | M24 | 12.0              | 7.0     | 37.50 |             |
| 650                    | 660.4                             | 664.0                 | 825                    | 26                             | 48 | 702         | 708  | 5      | 3           | 735                 | 770                 | 24                   | 27        | M24 | 12.0              | 7.0     | 42.80 |             |
| 700                    | 711.2                             | 715.0                 | 875                    | 26                             | 48 | 751         | 758  | 5      | 3           | 785                 | 820                 | 24                   | 27        | M24 | 12.0              | 7.0     | 45.40 |             |
| 750                    | 762.0                             | 766.0                 | 945                    | 28                             | 52 | 802         | 810  | 5      | 3           | 840                 | 880                 | 24                   | 33        | M30 | 12.0              | 7.0     | 57.40 |             |
| 800                    | 812.8                             | 817.0                 | 995                    | 28                             | 52 | 854         | 862  | 5      | 3           | 890                 | 930                 | 24                   | 33        | M30 | 13.0              | 8.0     | 60.80 |             |
| 850                    | 863.6                             | 868.0                 | 1045                   | 28                             | 54 | 904         | 912  | 5      | 3           | 940                 | 980                 | 24                   | 33        | M30 | 13.0              | 8.0     | 63.50 |             |
| 900                    | 914.4                             | 919.0                 | 1095                   | 30                             | 56 | 956         | 964  | 5      | 3           | 990                 | 1030                | 24                   | 33        | M30 | 13.0              | 8.0     | 75.30 |             |
| 1000                   | 1016.0                            | 1021.0                | 1195                   | 32                             | 60 | 1058        | 1066 | 5      | 3           | 1090                | 1130                | 28                   | 33        | M30 | 14.0              | 9.0     | 88.50 |             |
| *(1100)                | 1117.6                            | 1123.0                | 1305                   | 32                             | -  | -           | -    | -      | 3           | 1200                | 1240                | 28                   | 33        | M30 | -                 | -       | -     |             |
| *1200                  | 1219.2                            | 1225.0                | 1420                   | 34                             | -  | -           | -    | -      | 3           | 1305                | 1350                | 32                   | 33        | M30 | -                 | -       | -     |             |
| *1350                  | 1371.6                            | -                     | 1575                   | 34                             | -  | -           | -    | -      | 3           | 1460                | 1505                | 32                   | 33        | M30 | -                 | -       | -     |             |
| *1500                  | 1524.0                            | -                     | 1730                   | 36                             | -  | -           | -    | -      | 3           | 1615                | 1660                | 36                   | 33        | M30 | -                 | -       | -     |             |

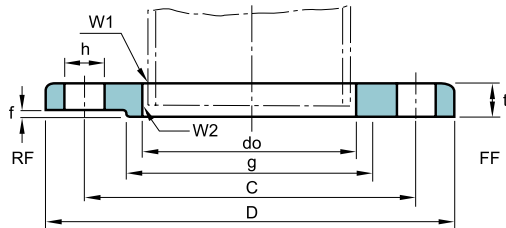
**Notes**

1. Flanges of parenthesized nominal diameter had letter not be used.
2. The facing of flanges shall conform to KS B1519 (JIS B2202) 1987.
3. Nominal diameter over 1000 is manufacturer's standard (\*)

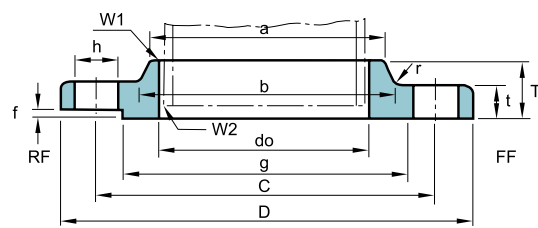
# JIS & KS FLANGES

## 10K KS B1503 / JIS B2220

NOMINAL SIZE 10 - 225mm



NOMINAL SIZE 250 - 1000mm



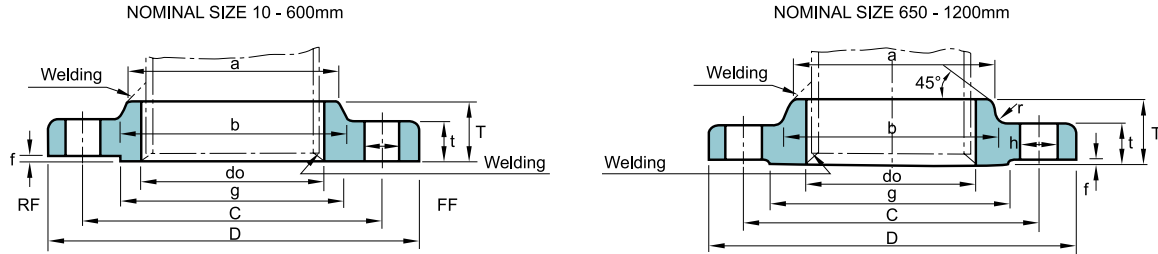
Unit : mm

| Nominal Bore of Flange | Outside Dia. of Appli- Cable pipe | Inside Dia. of Flange | Outside Dia. of Flange | SECTIONAL DIMENSIONS OF FLANGE |    |             |      |        |             |                     | DIA. OF BOLT        |                      |           |     | Nominal Bolt Size | Welding |        | Weight (kg) |
|------------------------|-----------------------------------|-----------------------|------------------------|--------------------------------|----|-------------|------|--------|-------------|---------------------|---------------------|----------------------|-----------|-----|-------------------|---------|--------|-------------|
|                        |                                   |                       |                        | t                              | T  | Dia. of Hub |      | Radius | Raised Face | Dia. of Raised Face | Dia. of Bolt Circle | Number of Bolt Holes | Hole Dia. | W1  |                   | W2      |        |             |
|                        |                                   |                       |                        |                                |    | a           | b    |        |             |                     |                     |                      |           |     |                   |         | r      |             |
| 10                     | 17.3                              | 17.8                  | 90                     | 12                             | -  | -           | -    | -      | 1           | 46                  | 65                  | 4                    | 15        | M12 | 5.0               | 2.5     | 0.52   |             |
| 15                     | 21.7                              | 22.2                  | 95                     | 12                             | -  | -           | -    | -      | 1           | 51                  | 70                  | 4                    | 15        | M12 | 5.0               | 3.0     | 0.57   |             |
| 20                     | 27.2                              | 27.7                  | 100                    | 14                             | -  | -           | -    | -      | 1           | 56                  | 75                  | 4                    | 15        | M12 | 5.0               | 3.0     | 0.73   |             |
| 25                     | 34.0                              | 34.5                  | 125                    | 14                             | -  | -           | -    | -      | 1           | 67                  | 90                  | 4                    | 19        | M16 | 5.0               | 3.0     | 1.13   |             |
| 32                     | 42.7                              | 43.2                  | 135                    | 16                             | -  | -           | -    | -      | 2           | 76                  | 100                 | 4                    | 19        | M16 | 6.0               | 3.0     | 1.48   |             |
| 40                     | 48.6                              | 49.1                  | 140                    | 16                             | -  | -           | -    | -      | 2           | 81                  | 105                 | 4                    | 19        | M16 | 6.0               | 3.0     | 1.56   |             |
| 50                     | 60.5                              | 61.1                  | 155                    | 16                             | -  | -           | -    | -      | 2           | 96                  | 120                 | 4                    | 19        | M16 | 6.0               | 3.0     | 1.88   |             |
| 65                     | 76.3                              | 77.1                  | 175                    | 18                             | -  | -           | -    | -      | 2           | 116                 | 140                 | 4                    | 19        | M16 | 6.5               | 4.0     | 2.60   |             |
| 80                     | 89.1                              | 90.0                  | 185                    | 18                             | -  | -           | -    | -      | 2           | 126                 | 150                 | 8                    | 19        | M16 | 6.5               | 4.0     | 2.61   |             |
| (90)                   | 101.6                             | 102.6                 | 195                    | 18                             | -  | -           | -    | -      | 2           | 136                 | 160                 | 8                    | 19        | M16 | 6.5               | 4.0     | 2.76   |             |
| 100                    | 114.3                             | 115.4                 | 210                    | 18                             | -  | -           | -    | -      | 2           | 151                 | 175                 | 8                    | 19        | M16 | 7.0               | 4.0     | 3.14   |             |
| 125                    | 139.8                             | 141.2                 | 250                    | 20                             | -  | -           | -    | -      | 2           | 182                 | 210                 | 8                    | 23        | M20 | 7.5               | 4.0     | 4.77   |             |
| 150                    | 165.2                             | 166.6                 | 280                    | 22                             | -  | -           | -    | -      | 2           | 212                 | 240                 | 8                    | 23        | M20 | 8.0               | 5.0     | 6.34   |             |
| (175)                  | 190.7                             | 192.1                 | 305                    | 22                             | -  | -           | -    | -      | 2           | 237                 | 265                 | 12                   | 23        | M20 | 9.0               | 5.0     | 6.82   |             |
| 200                    | 216.3                             | 218.0                 | 330                    | 22                             | -  | -           | -    | -      | 2           | 262                 | 290                 | 12                   | 23        | M20 | 9.0               | 6.0     | 7.53   |             |
| (225)                  | 241.8                             | 243.7                 | 350                    | 22                             | -  | -           | -    | -      | 2           | 282                 | 310                 | 12                   | 23        | M20 | 9.0               | 6.0     | 7.74   |             |
| 250                    | 267.4                             | 269.5                 | 400                    | 24                             | 36 | 288         | 292  | 6      | 2           | 324                 | 355                 | 12                   | 25        | M22 | 10.0              | 6.0     | 12.70  |             |
| 300                    | 318.5                             | 321.0                 | 445                    | 24                             | 38 | 340         | 346  | 6      | 3           | 368                 | 400                 | 16                   | 25        | M22 | 10.0              | 6.0     | 13.80  |             |
| 350                    | 355.6                             | 358.1                 | 490                    | 26                             | 42 | 380         | 386  | 6      | 3           | 413                 | 445                 | 16                   | 25        | M22 | 12.0              | 7.0     | 18.20  |             |
| 400                    | 406.4                             | 409.0                 | 560                    | 28                             | 44 | 436         | 442  | 6      | 3           | 475                 | 510                 | 16                   | 27        | M24 | 12.0              | 7.0     | 25.20  |             |
| 450                    | 457.2                             | 460.0                 | 620                    | 30                             | 48 | 496         | 502  | 6      | 3           | 530                 | 565                 | 20                   | 27        | M24 | 14.0              | 8.0     | 33.00  |             |
| 500                    | 508.0                             | 511.0                 | 675                    | 30                             | 48 | 548         | 554  | 6      | 3           | 585                 | 620                 | 20                   | 27        | M24 | 14.0              | 8.0     | 37.60  |             |
| 550                    | 558.8                             | 562.0                 | 745                    | 32                             | 52 | 604         | 610  | 6      | 3           | 640                 | 680                 | 20                   | 33        | M30 | 15.0              | 9.0     | 49.70  |             |
| 600                    | 609.6                             | 613.0                 | 795                    | 32                             | 52 | 656         | 662  | 6      | 3           | 690                 | 730                 | 24                   | 33        | M30 | 16.0              | 10.0    | 52.60  |             |
| 650                    | 660.4                             | 664.0                 | 845                    | 34                             | 56 | 706         | 712  | 6      | 3           | 740                 | 780                 | 24                   | 33        | M30 | 16.0              | 10.0    | 60.60  |             |
| 700                    | 711.2                             | 715.0                 | 905                    | 34                             | 58 | 762         | 770  | 6      | 3           | 800                 | 840                 | 24                   | 33        | M30 | 17.0              | 10.0    | 70.60  |             |
| 750                    | 762.0                             | 766.0                 | 970                    | 36                             | 62 | 816         | 824  | 6      | 3           | 855                 | 900                 | 24                   | 33        | M30 | 18.0              | 11.0    | 85.80  |             |
| 800                    | 812.8                             | 817.0                 | 1020                   | 36                             | 64 | 868         | 876  | 6      | 3           | 905                 | 950                 | 28                   | 33        | M30 | 19.0              | 12.0    | 91.20  |             |
| (850)                  | 863.6                             | 868.0                 | 1070                   | 36                             | 66 | 920         | 928  | 6      | 3           | 955                 | 1000                | 28                   | 33        | M30 | 19.0              | 12.0    | 98.60  |             |
| 900                    | 914.4                             | 919.0                 | 1120                   | 38                             | 70 | 971         | 979  | 6      | 3           | 1005                | 1050                | 28                   | 33        | M30 | 22.0              | 14.0    | 109.00 |             |
| 1000                   | 1016.0                            | 1021.0                | 1235                   | 40                             | 74 | 1073        | 1081 | 6      | 3           | 1110                | 1160                | 28                   | 39        | M36 | 22.0              | 14.0    | 133.00 |             |
| *(1100)                | 1117.6                            | 1123.0                | 1345                   | 42                             | 76 | -           | -    | -      | 3           | 1220                | 1270                | 28                   | 39        | M36 | -                 | -       | -      |             |
| *1200                  | 1219.2                            | 1225.0                | 1465                   | 44                             | 78 | -           | -    | -      | 3           | 1325                | 1380                | 32                   | 39        | M36 | -                 | -       | -      |             |
| *1350                  | 1371.6                            | -                     | 1630                   | 48                             | 82 | -           | -    | -      | 3           | 1480                | 1540                | 36                   | 45        | M42 | -                 | -       | -      |             |
| *1500                  | 1524.0                            | -                     | 1795                   | 50                             | 90 | -           | -    | -      | 3           | 1635                | 1700                | 40                   | 45        | M42 | -                 | -       | -      |             |

**Notes**

- Flanges of parenthesized nominal diameter had letter not be used.
- The facing of flanges shall conform to KS B1519 (JIS B2202) 1987.
- Nominal diameter over 1000 is manufacturer's standard (\*)

# 16K KS B1503 / JIS B2220



Unit : mm

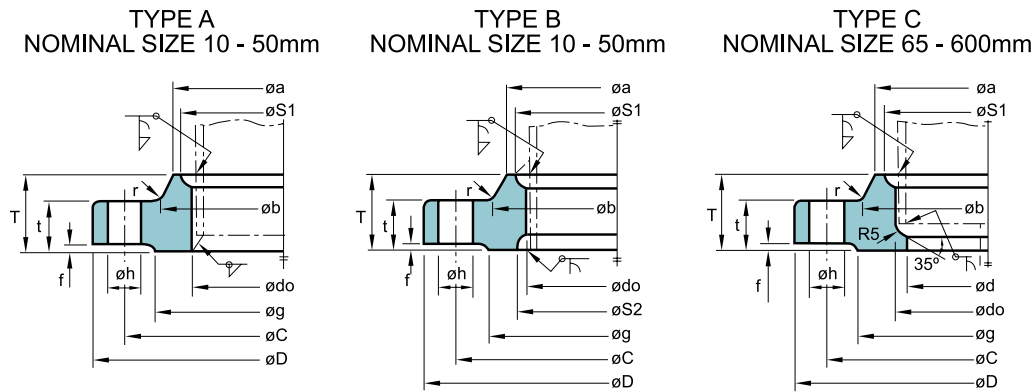
| Nominal Bore of Flange | Outside Dia. of Steel pipe | Inside Dia. of Flange<br>do | Outside Dia. of Flange<br>D | SECTIONAL DIMENSIONS OF FLANGE |     |             |      |             |   |      | DIA. OF BOLT          |                      |                | Nominal Bolt Size | Weight (kg) |
|------------------------|----------------------------|-----------------------------|-----------------------------|--------------------------------|-----|-------------|------|-------------|---|------|-----------------------|----------------------|----------------|-------------------|-------------|
|                        |                            |                             |                             | t                              | T   | Dia. of Hub |      | Radius<br>r | f | g    | Bolt Circle Dia.<br>C | Number of Bolt Holes | Hole Dia.<br>h |                   |             |
|                        |                            |                             |                             |                                |     | a           | b    |             |   |      |                       |                      |                |                   |             |
| 10                     | 17.3                       | 17.8                        | 90                          | 12                             | 16  | 26          | 28   | 4           | 1 | 46   | 65                    | 4                    | 15             | M12               | 0.52        |
| 15                     | 21.7                       | 22.2                        | 95                          | 12                             | 16  | 30          | 32   | 4           | 1 | 51   | 70                    | 4                    | 15             | M12               | 0.58        |
| 20                     | 27.2                       | 27.7                        | 100                         | 14                             | 20  | 38          | 42   | 4           | 1 | 56   | 75                    | 4                    | 15             | M12               | 0.75        |
| 25                     | 34.0                       | 34.5                        | 125                         | 14                             | 20  | 46          | 50   | 4           | 1 | 67   | 90                    | 4                    | 19             | M16               | 1.16        |
| 32                     | 42.7                       | 43.2                        | 135                         | 16                             | 22  | 56          | 60   | 5           | 2 | 76   | 100                   | 4                    | 19             | M16               | 1.53        |
| 40                     | 48.6                       | 49.1                        | 140                         | 16                             | 24  | 62          | 66   | 5           | 2 | 81   | 105                   | 4                    | 19             | M16               | 1.64        |
| 50                     | 60.5                       | 61.1                        | 155                         | 16                             | 24  | 76          | 80   | 5           | 2 | 96   | 120                   | 8                    | 19             | M16               | 1.83        |
| 65                     | 76.3                       | 77.1                        | 175                         | 18                             | 26  | 94          | 98   | 5           | 2 | 116  | 140                   | 8                    | 19             | M16               | 2.58        |
| 80                     | 89.1                       | 90.0                        | 200                         | 20                             | 28  | 108         | 112  | 6           | 2 | 132  | 160                   | 8                    | 23             | M20               | 3.66        |
| (90)                   | 101.6                      | 102.6                       | 210                         | 20                             | 30  | 120         | 124  | 6           | 2 | 145  | 170                   | 8                    | 23             | M20               | 3.95        |
| 100                    | 114.3                      | 115.4                       | 225                         | 22                             | 34  | 134         | 138  | 6           | 2 | 160  | 185                   | 8                    | 23             | M20               | 4.94        |
| 125                    | 139.8                      | 141.2                       | 270                         | 22                             | 34  | 164         | 170  | 6           | 2 | 195  | 225                   | 8                    | 25             | M22               | 7.00        |
| 150                    | 165.2                      | 166.6                       | 305                         | 24                             | 38  | 196         | 202  | 6           | 2 | 230  | 260                   | 12                   | 25             | M22               | 9.62        |
| 200                    | 216.3                      | 218.0                       | 350                         | 26                             | 40  | 244         | 252  | 6           | 2 | 275  | 305                   | 12                   | 25             | M22               | 12.10       |
| 250                    | 267.4                      | 269.5                       | 430                         | 28                             | 44  | 304         | 312  | 6           | 2 | 345  | 380                   | 12                   | 27             | M24               | 20.00       |
| 300                    | 318.5                      | 321.0                       | 480                         | 30                             | 48  | 354         | 364  | 8           | 3 | 395  | 430                   | 16                   | 27             | M24               | 24.40       |
| 350                    | 355.6                      | 358.1                       | 540                         | 34                             | 52  | 398         | 408  | 8           | 3 | 440  | 480                   | 16                   | 33             | M30X3             | 35.00       |
| 400                    | 406.4                      | 409.0                       | 605                         | 38                             | 60  | 446         | 456  | 10          | 3 | 495  | 540                   | 16                   | 33             | M30X3             | 46.20       |
| 450                    | 457.2                      | 460.0                       | 675                         | 40                             | 64  | 504         | 514  | 10          | 3 | 560  | 605                   | 20                   | 33             | M30X3             | 61.90       |
| 500                    | 508.0                      | 511.0                       | 730                         | 42                             | 68  | 558         | 568  | 10          | 3 | 615  | 660                   | 20                   | 33             | M30X3             | 73.25       |
| (550)                  | 558.8                      | 562.0                       | 795                         | 44                             | 70  | 612         | 622  | 10          | 3 | 670  | 720                   | 20                   | 39             | M36X3             | 88.10       |
| 600                    | 609.6                      | 613.0                       | 845                         | 46                             | 74  | 666         | 676  | 10          | 3 | 720  | 770                   | 24                   | 39             | M36X3             | 98.80       |
| (650)                  | 660.4                      | 664.0                       | 895                         | 48                             | 77  | 704         | 726  | 10          | 5 | 770  | 820                   | 24                   | 39             | M36X3             | 101.00      |
| 700                    | 711.2                      | 715.0                       | 960                         | 50                             | 80  | 754         | 776  | 10          | 5 | 820  | 875                   | 24                   | 42             | M39X3             | 120.00      |
| (750)                  | 762.0                      | 766.0                       | 1020                        | 52                             | 83  | 806         | 832  | 10          | 5 | 880  | 935                   | 24                   | 42             | M39X3             | 141.00      |
| 800                    | 812.8                      | 817.0                       | 1085                        | 54                             | 86  | 865         | 885  | 10          | 5 | 930  | 990                   | 24                   | 48             | M45X3             | 161.00      |
| (850)                  | 863.6                      | 868.0                       | 1135                        | 56                             | 89  | 916         | 936  | 10          | 5 | 980  | 1040                  | 24                   | 48             | M45X3             | 177.00      |
| 900                    | 914.4                      | 919.0                       | 1185                        | 58                             | 93  | 968         | 986  | 10          | 5 | 1030 | 1090                  | 28                   | 48             | M45X3             | 191.00      |
| 1000                   | 1016.0                     | 1021.0                      | 1320                        | 62                             | 99  | 1070        | 1098 | 12          | 5 | 1140 | 1210                  | 28                   | 56             | M52X3             | 230.00      |
| (1100)                 | 1117.6                     | 1123.0                      | 1420                        | 66                             | 105 | 1180        | 1200 | 12          | 5 | 1240 | 1310                  | 32                   | 56             | M52X3             | 289.00      |
| 1200                   | 1219.2                     | 1225.0                      | 1530                        | 70                             | 112 | 1282        | 1302 | 12          | 5 | 1350 | 1420                  | 32                   | 56             | M52X3             | 348.00      |

**Notes**

1. Flanges of parenthesized nominal diameter had letter not be used.
2. The facing of flanges shall conform to KS B1519 (JIS B2202) 1987.
3. The dimension of flange of 650A and larger in nominal sizes excluding 850A, are in accordance with the nominal pressure 25 BAR specified in ISO2084-1974

# JIS & KS FLANGES

## 20K KS B1503 / JIS B2220



Unit : mm

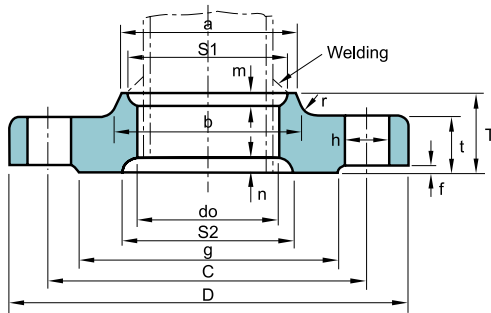
| Nominal Bore of Flange | Outside Dia. of Steel pipe | Inside Dia. of Flange | Outside Dia. of Flange | SECTIONAL DIMENSIONS OF FLANGE |    |             |     |          |   |      |       | BOLT HOLE        |                      |           | REFERENCE         |     |    |    |     | Weight (kg) |        |
|------------------------|----------------------------|-----------------------|------------------------|--------------------------------|----|-------------|-----|----------|---|------|-------|------------------|----------------------|-----------|-------------------|-----|----|----|-----|-------------|--------|
|                        |                            |                       |                        | t                              | T  | Dia. of Hub |     | R-radius | f | g    | d     | Bolt Circle Dia. | Number of Bolt Holes | Hole Dia. | Nominal Bolt Size | S1  | m  | S2 | n   |             | l      |
|                        |                            |                       |                        |                                |    | a           | b   |          |   |      |       |                  |                      |           |                   |     |    |    |     |             |        |
| 10                     | 17.3                       | 17.8                  | 90                     | 14                             | 20 | 30          | 32  | 4        | 1 | 46   | -     | 65               | 4                    | 15        | M12               | 27  | 4  | 27 | 4   | -           | 0.59   |
| 15                     | 21.7                       | 22.2                  | 95                     | 14                             | 20 | 34          | 36  | 4        | 1 | 51   | -     | 70               | 4                    | 15        | M12               | 31  | 4  | 31 | 4   | -           | 0.65   |
| 20                     | 27.2                       | 27.7                  | 100                    | 16                             | 22 | 40          | 42  | 4        | 1 | 56   | -     | 75               | 4                    | 15        | M12               | 37  | 4  | 37 | 4   | -           | 0.81   |
| 25                     | 34.0                       | 34.5                  | 125                    | 16                             | 24 | 48          | 50  | 4        | 1 | 67   | -     | 90               | 4                    | 19        | M16               | 44  | 4  | 44 | 4.5 | -           | 1.29   |
| 32                     | 42.7                       | 43.2                  | 135                    | 18                             | 26 | 56          | 60  | 5        | 2 | 76   | -     | 100              | 4                    | 19        | M16               | 52  | 4  | 53 | 5   | -           | 1.60   |
| 40                     | 48.6                       | 49.1                  | 140                    | 18                             | 26 | 62          | 66  | 5        | 2 | 81   | -     | 105              | 4                    | 19        | M16               | 58  | 4  | 59 | 5.5 | -           | 1.69   |
| 50                     | 60.5                       | 61.1                  | 155                    | 18                             | 26 | 76          | 80  | 5        | 2 | 96   | -     | 120              | 8                    | 19        | M16               | 70  | 4  | 72 | 5.5 | -           | 1.89   |
| 65                     | 76.3                       | 77.7                  | 175                    | 20                             | 30 | 100         | 104 | 5        | 2 | 116  | 65.9  | 140              | 8                    | 19        | M16               | 94  | 6  | -  | -   | 6           | 2.60   |
| 80                     | 89.1                       | 90.0                  | 200                    | 22                             | 34 | 113         | 117 | 6        | 2 | 132  | 78.1  | 160              | 8                    | 23        | M20               | 107 | 6  | -  | -   | 6           | 3.93   |
| (90)                   | 101.6                      | 102.6                 | 210                    | 24                             | 36 | 126         | 130 | 6        | 2 | 145  | 90.2  | 170              | 8                    | 23        | M20               | 120 | 6  | -  | -   | 6           | 4.56   |
| 100                    | 114.3                      | 115.4                 | 225                    | 24                             | 36 | 138         | 142 | 6        | 2 | 160  | 102.3 | 185              | 8                    | 23        | M20               | 132 | 6  | -  | -   | 6           | 5.13   |
| 125                    | 139.8                      | 141.2                 | 270                    | 26                             | 40 | 166         | 172 | 6        | 2 | 195  | 126.6 | 225              | 8                    | 25        | M22               | 160 | 7  | -  | -   | 6           | 8.30   |
| 150                    | 165.2                      | 166.6                 | 305                    | 28                             | 42 | 196         | 202 | 6        | 2 | 230  | 151.0 | 260              | 12                   | 25        | M22               | 186 | 8  | -  | -   | 6           | 10.60  |
| 200                    | 216.3                      | 218.0                 | 350                    | 30                             | 46 | 244         | 252 | 6        | 2 | 275  | 199.9 | 305              | 12                   | 25        | M22               | 237 | 9  | -  | -   | 6           | 13.30  |
| 250                    | 267.4                      | 269.5                 | 430                    | 34                             | 52 | 304         | 312 | 6        | 2 | 345  | 248.8 | 380              | 12                   | 27        | M24               | 290 | 10 | -  | -   | 6           | 23.40  |
| 300                    | 318.5                      | 321.0                 | 480                    | 36                             | 56 | 354         | 364 | 8        | 3 | 395  | 297.9 | 430              | 16                   | 27        | M24               | 345 | 11 | -  | -   | 6           | 27.70  |
| 350                    | 355.6                      | 358.1                 | 540                    | 40                             | 62 | 398         | 408 | 8        | 3 | 440  | 333.4 | 480              | 16                   | 33        | M30X3             | 384 | 12 | -  | -   | 6           | 39.20  |
| 400                    | 406.4                      | 409.0                 | 605                    | 46                             | 70 | 446         | 456 | 10       | 3 | 495  | 381.0 | 540              | 16                   | 33        | M30X3             | 437 | 13 | -  | -   | 7           | 54.20  |
| 450                    | 457.2                      | 460.0                 | 675                    | 48                             | 78 | 504         | 514 | 10       | 3 | 560  | 431.8 | 605              | 20                   | 33        | M30X3             | 490 | 15 | -  | -   | 7           | 71.70  |
| 500                    | 508.0                      | 511.0                 | 730                    | 50                             | 84 | 558         | 568 | 10       | 3 | 615  | 482.6 | 660              | 20                   | 33        | M30X3             | 544 | 16 | -  | -   | 7           | 86.20  |
| (550)                  | 558.8                      | 562.0                 | 795                    | 52                             | 90 | 612         | 622 | 10       | 3 | 670  | 533.4 | 720              | 20                   | 39        | M36X3             | 595 | 16 | -  | -   | 7           | 105.00 |
| 600                    | 609.6                      | 613.0                 | 845                    | 54                             | 96 | 666         | 676 | 10       | 3 | 720  | 584.2 | 770              | 24                   | 39        | M36X3             | 646 | 18 | -  | -   | 7           | 119.00 |
| *650                   | 660.4                      | 664.0                 | 945                    | 60                             | -  | -           | -   | -        | 5 | 790  | -     | 850              | 24                   | 48        | M45X3             | -   | -  | -  | -   | -           | -      |
| *700                   | 711.2                      | 715.0                 | 995                    | 64                             | -  | -           | -   | -        | 5 | 840  | -     | 900              | 24                   | 48        | M45X3             | -   | -  | -  | -   | -           | -      |
| *750                   | 762.0                      | 766.0                 | 1080                   | 68                             | -  | -           | -   | -        | 5 | 900  | -     | 970              | 24                   | 56        | M52X3             | -   | -  | -  | -   | -           | -      |
| *800                   | 812.8                      | 817.0                 | 1140                   | 72                             | -  | -           | -   | -        | 5 | 960  | -     | 1030             | 24                   | 56        | M52X3             | -   | -  | -  | -   | -           | -      |
| *850                   | 863.6                      | 868.0                 | 1200                   | 74                             | -  | -           | -   | -        | 5 | 1020 | -     | 1090             | 24                   | 56        | M52X3             | -   | -  | -  | -   | -           | -      |
| *900                   | 914.4                      | 919.0                 | 1250                   | 76                             | -  | -           | -   | -        | 5 | 1070 | -     | 1140             | 28                   | 56        | M52X3             | -   | -  | -  | -   | -           | -      |

### Notes

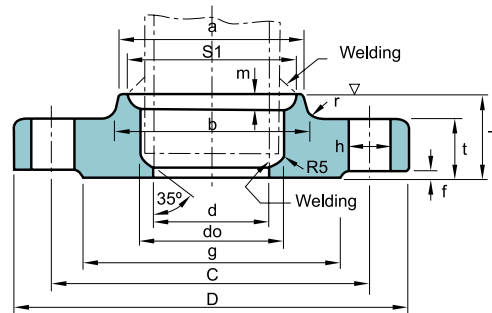
- Flanges of parenthesized nominal diameter had letter not be used.
- "d" is an example of pipe thickness for schedule 40 for nominal diameter 400 and under, and for schedule 12.7 mm for 450 through 600 of KS D3562 and KS D3507 (JIS G3454, JIS G3456)
- The dimension of the notch (m, n, S1, S2) for welding can decided between conerned parties.
- Nominal diameter over 600 is manufacturer's standard (\*)

# 30K KS B1503 / JIS B2220

NOMINAL SIZE 10 - 50mm (TYPE B)



NOMINAL SIZE 65 - 400mm (TYPE C)



Unit : mm

| Nominal Bore of Flange | Outside Dia. of Steel pipe | Inside Dia. of Flange | Outside Dia. of Flange | SECTIONAL DIMENSIONS OF FLANGE |    |             |     |             |   |     | BOLT HOLE |                       |                      |                | REFERENCE         |     |      |    |   | Weight (kg) |       |
|------------------------|----------------------------|-----------------------|------------------------|--------------------------------|----|-------------|-----|-------------|---|-----|-----------|-----------------------|----------------------|----------------|-------------------|-----|------|----|---|-------------|-------|
|                        |                            |                       |                        | t                              | T  | Dia. of Hub |     | Ra-<br>dius | f | g   | d         | Bolt Circle Dia.<br>C | Number of Bolt Holes | Hole Dia.<br>h | Nominal Bolt Size | S1  | m    | S2 | n |             | l     |
|                        |                            |                       |                        |                                |    | a           | b   |             |   |     |           |                       |                      |                |                   |     |      |    |   |             |       |
| 10                     | 17.3                       | 17.8                  | 110                    | 16                             | 24 | 30          | 34  | 4           | 1 | 52  | -         | 75                    | 4                    | 19             | M16               | -   | -    | -  | - | -           | 0.99  |
| 15                     | 21.7                       | 22.2                  | 115                    | 18                             | 26 | 36          | 40  | 5           | 1 | 55  | -         | 80                    | 4                    | 19             | M16               | 31  | 4.0  | 40 | 5 | -           | 1.23  |
| 20                     | 27.2                       | 27.7                  | 120                    | 18                             | 28 | 42          | 46  | 5           | 1 | 60  | -         | 85                    | 4                    | 19             | M16               | 37  | 5.0  | 44 | 5 | -           | 1.34  |
| 25                     | 34.0                       | 34.5                  | 130                    | 20                             | 30 | 50          | 54  | 5           | 1 | 70  | -         | 95                    | 4                    | 19             | M16               | 55  | 6.0  | 52 | 5 | -           | 1.76  |
| 32                     | 42.7                       | 43.2                  | 140                    | 22                             | 32 | 60          | 64  | 6           | 2 | 80  | -         | 105                   | 4                    | 19             | M16               | 52  | 6.0  | 60 | 5 | -           | 2.15  |
| 40                     | 48.6                       | 49.1                  | 160                    | 22                             | 34 | 66          | 70  | 6           | 2 | 90  | -         | 120                   | 4                    | 23             | M20               | 58  | 6.0  | 66 | 5 | -           | 2.82  |
| 50                     | 60.5                       | 61.1                  | 165                    | 22                             | 36 | 82          | 86  | 6           | 2 | 105 | -         | 130                   | 8                    | 19             | M16               | 70  | 6.5  | 78 | 5 | -           | 2.89  |
| 65                     | 76.3                       | 77.1                  | 200                    | 26                             | 40 | 102         | 106 | 8           | 2 | 130 | 65.9      | 160                   | 8                    | 23             | M20               | 96  | 9.5  | 94 | 5 | 6           | 4.70  |
| 80                     | 89.1                       | 90.0                  | 210                    | 28                             | 44 | 115         | 121 | 8           | 2 | 140 | 78.1      | 170                   | 8                    | 23             | M20               | 109 | 9.5  | -  | - | 6           | 5.36  |
| (90)                   | 101.6                      | 102.6                 | 230                    | 30                             | 46 | 128         | 134 | 8           | 2 | 150 | 90.2      | 185                   | 8                    | 25             | M22               | 122 | 9.5  | -  | - | 6           | 6.85  |
| 100                    | 114.3                      | 115.4                 | 240                    | 32                             | 48 | 141         | 147 | 8           | 2 | 160 | 102.3     | 195                   | 8                    | 25             | M22               | 135 | 9.5  | -  | - | 6           | 7.89  |
| 125                    | 139.8                      | 141.2                 | 275                    | 36                             | 54 | 166         | 172 | 8           | 2 | 195 | 126.6     | 230                   | 8                    | 25             | M22               | 160 | 9.5  | -  | - | 6           | 11.40 |
| 150                    | 165.2                      | 166.6                 | 325                    | 38                             | 58 | 196         | 204 | 8           | 2 | 235 | 151.0     | 275                   | 12                   | 27             | M24               | 186 | 9.5  | -  | - | 6           | 16.70 |
| 200                    | 216.3                      | 218.0                 | 370                    | 42                             | 64 | 248         | 256 | 8           | 2 | 280 | 199.9     | 320                   | 12                   | 27             | M24               | 237 | 9.5  | -  | - | 6           | 20.60 |
| 250                    | 267.4                      | 269.5                 | 450                    | 48                             | 72 | 306         | 314 | 10          | 2 | 345 | 248.8     | 390                   | 12                   | 22             | M30               | 290 | 10.0 | -  | - | 6           | 36.10 |
| 300                    | 318.5                      | 321.0                 | 515                    | 52                             | 78 | 360         | 370 | 10          | 3 | 405 | 297.9     | 450                   | 16                   | 33             | M30               | 345 | 12.0 | -  | - | 6           | 49.90 |
| 350                    | 355.6                      | 358.1                 | 560                    | 54                             | 84 | 402         | 412 | 12          | 3 | 450 | 333.4     | 495                   | 16                   | 33             | M30               | 383 | 13.0 | -  | - | 6           | 61.20 |
| 400                    | 406.4                      | 409.0                 | 630                    | 60                             | 92 | 456         | 468 | 15          | 3 | 510 | 381.0     | 560                   | 16                   | 39             | M36               | 435 | 14.0 | -  | - | 7           | 85.20 |

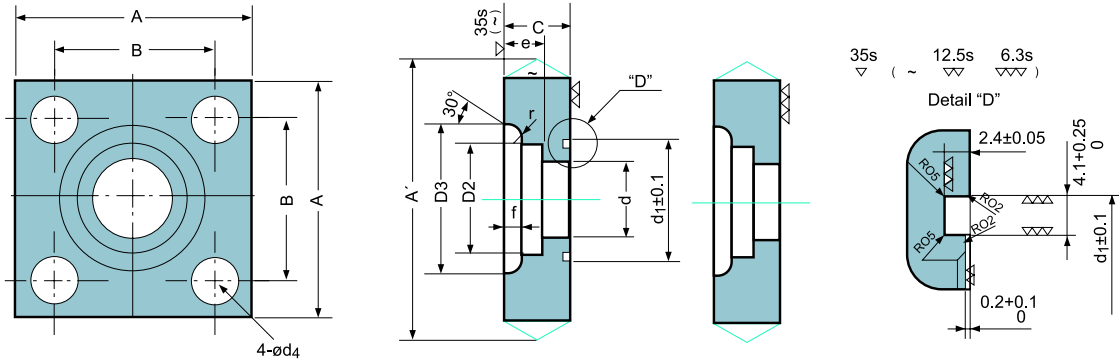
**Notes**

- Flanges of parenthesized nominal diameter had letter not be used.
- "d" is an example of pipe thickness for schedule 40 of KS D3562 and KS D3507 (JIS G3454, JIS G3456). if required, purchaser can specify for other pipe wall thickness.
- This dimension of bolt holes (h) shall be in accordance with Class 3 of KS B1007 (Grade 3 of JIS B1001) where the nominal designation of screw thread of bolt is not more than M16, and in accordance with Class 2 of KS B1007 (Grade 2 of JIS B1001) where the nominal designation of screw thread of bolt is not less than M30 x 3.
- The dimension of the notch (m, n, S1, S2) for welding can decided between concerned parties agreement between parties concerned.

# JIS & KS FLANGES

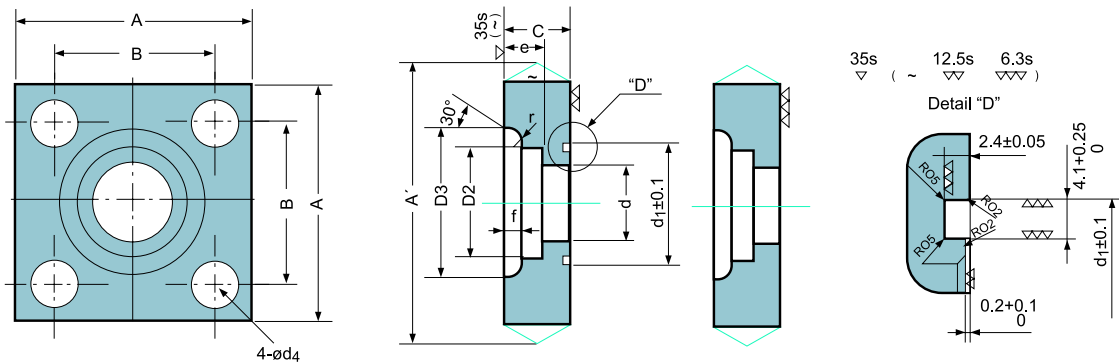
## 210Kgf/cm<sup>2</sup> (JIS B2291 SQUARE FLANGES)

Flange for Oil Pressure



Unit : mm

| Nominal Bore | A   | A' (Max) | B   | C   | d  | d1   | d2   | e    | d3   | d4   | f    | r    | Weight (kg) | G 계열 O 링 |    |     |     |
|--------------|-----|----------|-----|-----|----|------|------|------|------|------|------|------|-------------|----------|----|-----|-----|
| 15           | 63  | ±1.0     | 67  | 40  | 22 | 0    | 16.0 | 30   | 22.2 | +0.2 | 11   | 32   | 11          | 3.5      | 5  | 0.6 | G25 |
| 20           | 68  |          | 72  | 45  |    | -1   |      | 20.0 |      |      | 35   | 27.7 | 0           | 12       | 38 | 11  | 4.0 |
| 25           | 80  | ±1.2     | 85  | 53  | 28 | 0    | 25.0 | 40   | 34.5 | +0.3 | 14   | 45   | 13          | 4.0      | 5  | 1.2 | G35 |
| 32           | 90  |          | 95  | 63  |    | -1.5 |      | 31.5 |      |      | 45   | 43.2 | 0           | 16       | 56 | 13  | 6.0 |
| 40           | 100 | ±1.5     | 106 | 70  | 36 | 0    | 37.5 | 55   | 49.1 | 0    | 18   | 63   | 18          | 7.0      | 5  | 2.4 | G50 |
| 50           | 112 |          | 118 | 80  |    |      |      | 2    |      |      | 47.5 | 65   | 61.1        | 20       | 75 | 18  | 7.0 |
| 65           | 140 | ±2.0     | 148 | 100 | 45 | -2   | 60.0 | 80   | 77.1 | +0.4 | 22   | 95   | 22          | 9.5      | 6  | 5.3 | G75 |
| 80           | 155 |          | 163 | 112 |    |      |      | 45   |      |      | 71.0 | 90   | 90.0        | 0        | 25 | 108 | 24  |

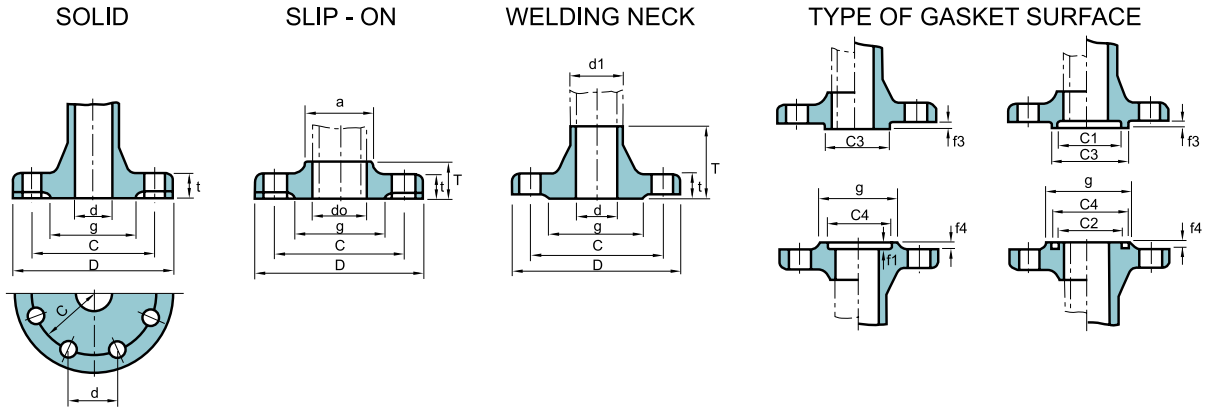


Unit : mm

| Nominal Bore | A   | A' (Max) | B   | C   | d  | d1   | d2   | e    | d3   | d4   | f    | r    | Weight (kg) |     |    |     |
|--------------|-----|----------|-----|-----|----|------|------|------|------|------|------|------|-------------|-----|----|-----|
| 15           | 54  | ±1.0     | 58  | 36  | 22 | 0    | 16.0 | 30   | 22.2 | +0.2 | 11   | 32   | 11          | 3.5 | 5  | 0.5 |
| 20           | 58  |          | 62  | 40  |    | -1   |      | 20.0 |      |      | 35   | 27.7 | 0           | 12  | 38 | 11  |
| 25           | 68  | ±1.2     | 73  | 48  | 28 | 0    | 25.0 | 40   | 34.5 | +0.3 | 14   | 45   | 13          | 4.0 | 5  | 0.8 |
| 32           | 76  |          | 81  | 56  |    | -1.5 |      | 31.5 |      |      | 45   | 43.2 | 0           | 16  | 56 | 13  |
| 40           | 92  | ±1.5     | 98  | 65  | 36 | 0    | 37.5 | 55   | 49.1 | 0    | 18   | 63   | 18          | 7.0 | 5  | 1.9 |
| 50           | 100 |          | 106 | 73  |    |      |      | 2    |      |      | 47.5 | 65   | 61.1        | 20  | 75 | 18  |
| 65           | 128 | ±2.0     | 136 | 92  | 45 | -2   | 60.0 | 80   | 77.1 | +0.4 | 22   | 95   | 22          | 9.5 | 6  | 4.1 |
| 80           | 140 |          | 148 | 103 |    |      |      | 45   |      |      | 71.0 | 90   | 90.0        | 0   | 25 | 108 |

# TOLERANCE FOR PIPE FLANGES

KS B1502 / JIS B2203



| Flange Section    |                          | Surface Condition | Basic Size          | Dimensional Tolerance |
|-------------------|--------------------------|-------------------|---------------------|-----------------------|
| Outside Dia.<br>D | As Forged<br>(1)         |                   | 300 & below         | +not specified        |
|                   |                          |                   | over 300 thru 600   | -2.0                  |
|                   |                          |                   | over 600 thru 1000  | +not specified        |
|                   |                          |                   | over 1000 thru 1500 | -3.0                  |
|                   | Finish                   |                   | 300 & below         | ±1                    |
|                   |                          |                   | over 300 thru 600   | ±1.5                  |
| Inside Dia.<br>d  | Solid Flange<br>d(2)     | As Forged<br>(1)  | 16 & below          | ±1                    |
|                   |                          |                   | over 16 thru 63     | ±1.5                  |
|                   |                          |                   | over 63 thru 125    | ±2                    |
|                   |                          |                   | over 125 thru 150   | ±2.5                  |
|                   |                          |                   | over 250 thru 500   | ±3                    |
|                   |                          |                   | over 500 thru 1000  | ±4                    |
| Inside Dia.<br>do | Slip-on Flange<br>do     | Finish            | 100 & below         | +0.5, 0               |
|                   |                          |                   | over 100 thru 400   | +1, 0                 |
|                   |                          |                   | over 400 thru 600   | +1.5, 0               |
|                   |                          |                   | over 600 thru 800   | +2.0, 0               |
|                   |                          |                   | over 800 thru 1000  | +2.5, 0               |
|                   |                          |                   | over 1000           | +3, 0                 |
|                   | Welding Neck Flange<br>d |                   | 100 & below         | 0, -0.5               |
|                   |                          |                   | over 100 thru 400   | 0, -1                 |
|                   |                          |                   | over 400 thru 600   | 0, -1.5               |
|                   |                          |                   | over 600 thru 800   | 0, -2                 |
|                   |                          |                   | over 800 thru 1000  | 0, -2.5               |
|                   |                          |                   | over 1000           | 0, -3                 |
| Bolt Hole         | Bolt Circle Dia. c       |                   | 250 & below         | ±0.5                  |
|                   |                          |                   | over 250 thru 550   | ±0.6                  |
|                   |                          |                   | over 550 thru 950   | ±0.8                  |
|                   |                          |                   | over 950 thru 1350  | ±1                    |
|                   |                          |                   | over 1350           | ±1.5                  |

| Flange Section |   | Surface Condition | Basic Size          | Dimensional Tolerance |
|----------------|---|-------------------|---------------------|-----------------------|
| Bolt Hole      | Pitch of Hole P                                 | Drilling Hole     |                     | ±0.5                  |
| Dia. of Hub    | Slip-on Flange (a) and Welding Neck Flange (d1) | As Forged (1)     | 220 & below         | +2, 0                 |
|                |   |                   | over 220 thru 450   | +3, 0                 |
|                |   |                   | over 450 thru 650   | +4, 0                 |
|                |   |                   | over 650 thru 850   | +6, 0                 |
|                |   |                   | over 850 thru 1000  | +7, 0                 |
|                |   | Finish            | 220 & below         | +1, 0                 |
|                |   |                   | over 220 thru 450   | +1.5, 0               |
|                |   |                   | over 450 thru 650   | +2, 0                 |
|                |   |                   | over 650 thru 850   | +2.5, 0               |
|                |   |                   | over 850 thru 1000  | +3, 0                 |
| Gasket Seat    | C1, C2, C3, C4                                  | Finish            | 500 & below         | ±0.3                  |
|                |   |                   | over 500 thru 1000  | ±0.35                 |
|                |   |                   | over 1000 thru 1500 | ±0.4                  |
|                | f3, f4  | Finish            | over 1500           | ±0.5                  |
|                |   |                   | 8 & below           | ±0.2                  |
|                |   |                   | over 8              | ±0.25                 |
| Thickness      | g   | Finish            | 200 & below         | ±0.8                  |
|                |   |                   | over 200 thru 650   | ±0.9                  |
|                |   |                   | over 650 thru 1000  | ±1                    |
|                | One-side Finish                                 | Bolt-side Finish  | over 1000           | ±1.2                  |
|                |   |                   | 20 & below          | +1.5, 0               |
|                |   |                   | over 20 thru 50     | +2, 0                 |
| Hub Height T   | Flange with pipe Inserted                       | Finish            | over 50 thru 100    | +3, 0                 |
|                |   |                   | over 100 thru 200   | +2                    |
|                | Flange with Butt-Welded Pipe                    |                   | over 20 & below     | +1, 0                 |
|                |   |                   | over 200 thru 300   | +1.5, 0               |

**Notes**

1. This dimensional tolerance applies to the machined surface, as required.
2. This dimension d has been specified only for the flange, of which the bore part is cylindrical in shape.

**Remarks**

1. The dimensions d of bore part of the solid flanges with surface, as forged of valves, pumps, etc. are allowed up to plus 100% of the above dimensional tolerance. Provided that the required thickness shall be free from its influence.
2. The thickness of flange of valve and the like, of which the dimension between flange faces is limited to a fixed value, are allowed up to plus 100% of the above dimensional tolerance in the column of thickness.
3. In the case of spot facing of the single surface finishing, the thickness of spot facing is allowed up to 70% of the dimensional tolerance in the above column of thickness in negative side.
4. The chain double-lines in the figures of solid flange and socket welding type flange illustrate the cases of large raised face flange.





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