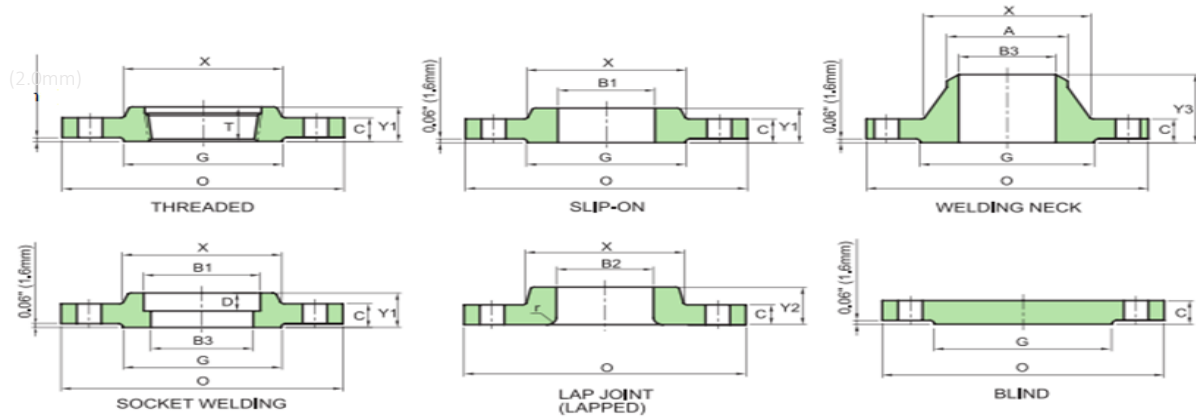


CALSS 150 FLANGES

ASME B16.5 - 2017

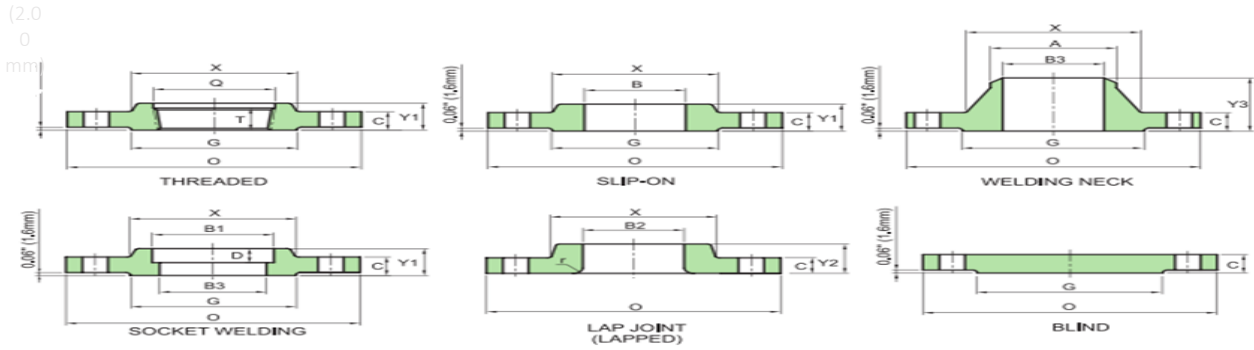


| Nominal Pipe Size | Outside Dia. Of Flange | Thk. Of Flange Min. | Thk. Of Lap Joint | Dia. Of Hub | Dia. Of Raise Face | Hub Dia. Chamfer weld Neck | LENGTH THROUGH HUB | | | BORE | | | Corner Radius of Lap Joint | Depth Of Socket | Drilling | | | | Length Of Bolts | | | |
|-------------------|------------------------|---------------------|-------------------|-------------|--------------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|----------------------------|-----------------|-----------------------|---------------------|--------------------|-----------------|-----------------|-----------------|------------|-----------------|
| | | | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | Min. Thread Length | Slip-on Socket Weld | Lap Joint | | | Weld Neck Socket Weld | Dia. Of Bolt Circle | Dia. Of Bolt Holes | Number Of Bolts | Dia. Of bolts | Stud Bolts | | Machine Bolts |
| | | | | | | | | | | | | | | | | | | | | 2mm Raised Face | Ring Joint | 2mm Raised Face |
| NPS | O | C | C1 | X | G | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | D | P | mm | In. | | | | |
| ½" | 90 | 11.6 | 11.2 | 30 | 34.9 | 21.3 | 16 | 16 | 48 | 16 | 22.2 | 22.9 | 15.8 | 3 | 10 | 60.3 | 15.9 | 4 | ½ | 55 | - | 50 |
| ¾" | 100 | 13.2 | 12.7 | 38 | 42.9 | 26.7 | 16 | 16 | 53 | 16 | 27.7 | 28.2 | 20.9 | 3 | 11 | 69.9 | 15.9 | 4 | ½ | 65 | - | 50 |
| 1" | 110 | 14.7 | 14.3 | 49 | 50.8 | 33.4 | 18 | 17 | 56 | 17 | 34.5 | 34.9 | 26.6 | 3 | 13 | 79.4 | 15.9 | 4 | ½ | 65 | 75 | 55 |
| 1¼" | 115 | 16.3 | 15.9 | 59 | 63.5 | 42.2 | 21 | 21 | 58 | 21 | 43.2 | 43.7 | 35.1 | 5 | 14 | 88.9 | 15.9 | 4 | ½ | 70 | 85 | 55 |
| 1½" | 125 | 17.9 | 17.5 | 65 | 73.0 | 48.3 | 23 | 22 | 62 | 22 | 49.5 | 50.0 | 40.9 | 6 | 16 | 98.4 | 15.9 | 4 | ½ | 70 | 85 | 65 |
| 2" | 150 | 19.5 | 19.1 | 78 | 92.1 | 60.3 | 26 | 25 | 64 | 25 | 61.9 | 62.5 | 52.5 | 8 | 17 | 120.7 | 19.1 | 4 | 5/8 | 85 | 95 | 70 |
| 2½" | 180 | 22.7 | 22.3 | 90 | 104.8 | 73.0 | 29 | 29 | 70 | 29 | 74.6 | 75.4 | 62.7 | 8 | 19 | 139.7 | 19.1 | 4 | 5/8 | 90 | 100 | 75 |
| 3" | 190 | 24.3 | 23.9 | 108 | 127.0 | 88.9 | 31 | 30 | 70 | 30 | 90.7 | 91.4 | 77.9 | 10 | 21 | 152.4 | 19.1 | 4 | 5/8 | 90 | 100 | 75 |
| 3½" | 215 | 24.3 | 23.9 | 122 | 139.7 | 101.6 | 32 | 32 | 72 | 32 | 103.4 | 104.1 | 90.1 | 10 | ..... | 177.8 | 19.1 | 8 | 5/8 | 90 | 100 | 75 |
| 4" | 230 | 24.3 | 23.9 | 135 | 157.2 | 114.3 | 34 | 33 | 77 | 33 | 116.1 | 116.8 | 102.3 | 11 | ..... | 190.5 | 19.1 | 8 | 5/8 | 90 | 100 | 75 |
| 5" | 255 | 24.3 | 23.9 | 164 | 185.7 | 141.3 | 37 | 36 | 89 | 36 | 143.8 | 144.4 | 128.2 | 11 | ..... | 215.9 | 22.2 | 8 | ¾ | 95 | 110 | 85 |
| 6" | 280 | 25.9 | 25.4 | 192 | 215.9 | 168.3 | 40 | 40 | 89 | 40 | 170.7 | 171.4 | 154.1 | 13 | ..... | 241.3 | 22.2 | 8 | ¾ | 100 | 115 | 85 |
| 8" | 345 | 29 | 28.6 | 246 | 269.9 | 219.1 | 45 | 44 | 102 | 44 | 221.5 | 222.2 | 202.7 | 13 | ..... | 298.5 | 22.2 | 8 | ¾ | 110 | 120 | 90 |
| 10" | 405 | 30.6 | 30.2 | 305 | 323.8 | 273.0 | 50 | 49 | 102 | 49 | 276.2 | 277.4 | 254.6 | 13 | ..... | 362.0 | 25.4 | 12 | 7/8 | 115 | 125 | 100 |
| 12" | 485 | 32.2 | 31.8 | 365 | 381.0 | 323.8 | 56 | 56 | 115 | 56 | 327.0 | 328.2 | 304.8 | 13 | ..... | 431.8 | 25.4 | 12 | 7/8 | 120 | 135 | 100 |
| 14" | 535 | 35.4 | 35 | 400 | 412.8 | 355.6 | 58 | 79 | 127 | 57 | 359.2 | 360.2 | | 13 | ..... | 476.3 | 28.6 | 12 | 1 | 135 | 145 | 115 |
| 16" | 595 | 37 | 36.6 | 457 | 469.9 | 406.4 | 64 | 87 | 127 | 64 | 410.5 | 411.2 | | 13 | ..... | 539.8 | 28.6 | 16 | 1 | 135 | 145 | 115 |
| 18" | 635 | 40.1 | 39.7 | 505 | 533.4 | 457.0 | 69 | 97 | 140 | 68 | 461.8 | 462.3 | | 13 | ..... | 577.9 | 31.8 | 16 | 1 1/8 | 145 | 160 | 125 |
| 20" | 700 | 43.3 | 42.9 | 559 | 584.2 | 508.0 | 73 | 103 | 145 | 73 | 513.1 | 514.4 | | 13 | ..... | 635.0 | 31.8 | 20 | 1 1/8 | 160 | 170 | 140 |
| 22" | 750 | 46.5 | 46.1 | 610 | 641.4 | 558.8 | 80 | 108 | 150 | ..... | 564.4 | 565.2 | | 13 | ..... | 692.2 | 35.0 | 20 | 1 1/4 | 170 | 185 | 150 |
| 24" | 815 | 48.1 | 47.7 | 663 | 692.2 | 610.0 | 83 | 111 | 153 | 83 | 616.0 | 616.0 | | 13 | ..... | 749.3 | 35.0 | 20 | 1 1/4 | 170 | 185 | 150 |

TO BE SPECIFIED BY PURCHASER

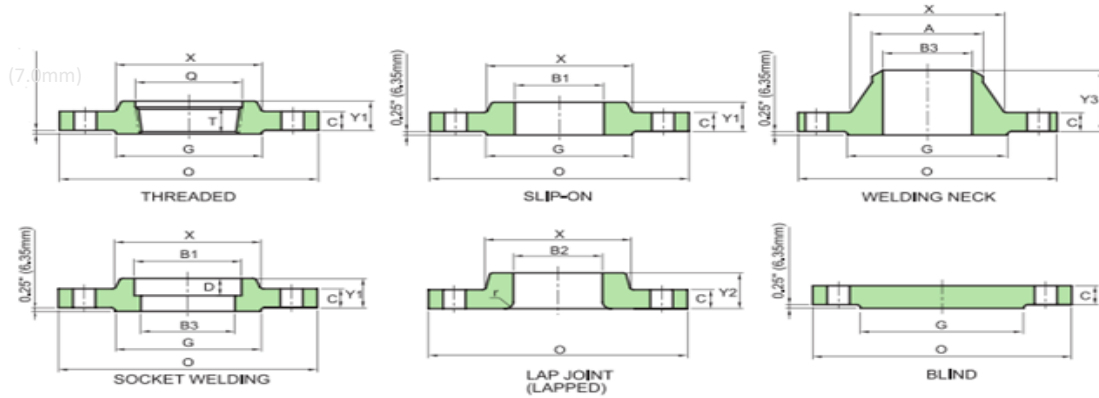
CALSS 300 FLANGES

ASME B16.5 - 2017



| Nominal Pipe Size | Outside Dia. Of Flange | Thk. Of Flange Min. | Thk. Of Lap Joint | Dia. Of Hub | Dia. Of Raise Face | Hub Dia. Chamfer weld Neck | LENGTH THROUGH HUB | | | | BORE | | | Corner Radius Of Socket | Counter Bore Threaded Flange Min. | Depth Of Socket | Drilling | | | Length Of Bolts | | | |
|-------------------|------------------------|---------------------|-------------------|-------------|--------------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|------------------------------|-------------------------|-----------------------------------|-----------------|---------------------|--------------------|------------------|-----------------|------------|-----------------|----------------|
| | | | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | Min. Thread Length | Slip-on Socket Weld | Lap Joint | Weld Neck Socket Weld | | | | Dia. Of Bolt Circle | Dia. Of Bolt Holes | Numbere Of Bolts | Dia. Of bolts | Stud Bolts | | Mach Ine Bolts |
| NPS | O | C | C1 | X | G | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | Q | D | P | mm | In | 2mm Raised Face | Ring Joint | 2mm Raised Face | |
| ½" | 95 | 14.7 | 14.3 | 38 | 34.9 | 21.3 | 23 | 22 | 53 | 16 | 22.2 | 22.9 | 15.8 | 3 | 23.6 | 10 | 66.7 | 15.9 | 4 | ½ | 65 | 75 | 55 |
| ¾" | 115 | 16.3 | 15.9 | 48 | 42.9 | 26.7 | 26 | 25 | 58 | 16 | 27.7 | 28.2 | 20.9 | 3 | 29.0 | 11 | 82.6 | 19.1 | 4 | 5/8 | 75 | 90 | 65 |
| 1" | 125 | 17.9 | 17.5 | 54 | 50.8 | 33.4 | 27 | 27 | 62 | 18 | 34.5 | 34.9 | 26.6 | 3 | 35.8 | 13 | 88.9 | 19.1 | 4 | 5/8 | 75 | 90 | 65 |
| 1 ½" | 135 | 19.5 | 19.1 | 64 | 63.5 | 42.2 | 27 | 27 | 66 | 21 | 43.2 | 43.7 | 35.1 | 5 | 44.4 | 14 | 98.4 | 19.1 | 4 | 5/8 | 85 | 95 | 70 |
| 1 ½" | 155 | 21.1 | 20.7 | 70 | 73.0 | 48.3 | 31 | 30 | 69 | 23 | 49.5 | 50.0 | 40.9 | 6 | 50.3 | 16 | 114.3 | 22.2 | 4 | ¾ | 90 | 100 | 75 |
| 2" | 165 | 22.7 | 22.3 | 84 | 92.1 | 60.3 | 34 | 33 | 70 | 29 | 61.9 | 62.5 | 52.5 | 8 | 63.5 | 17 | 127.0 | 19.1 | 8 | 5/8 | 90 | 100 | 75 |
| 2 ½" | 190 | 25.9 | 25.4 | 100 | 104.8 | 73.0 | 39 | 38 | 77 | 32 | 74.6 | 75.4 | 62.7 | 8 | 76.2 | 19 | 149.2 | 22.2 | 8 | ¾ | 100 | 115 | 85 |
| 3" | 210 | 29.0 | 28.6 | 117 | 127.0 | 88.9 | 43 | 43 | 80 | 32 | 90.7 | 91.4 | 77.9 | 10 | 92.2 | 21 | 168.3 | 22.2 | 8 | ¾ | 110 | 120 | 90 |
| 3 ½" | 230 | 30.6 | 30.2 | 133 | 139.7 | 101.6 | 45 | 44 | 81 | 37 | 103.4 | 104.1 | 90.1 | 10 | 104.9 | ..... | 184.2 | 22.2 | 8 | ¾ | 110 | 125 | 95 |
| 4" | 255 | 32.2 | 31.8 | 146 | 157.2 | 114.3 | 48 | 48 | 86 | 37 | 116.1 | 116.8 | 102.3 | 11 | 117.6 | ..... | 200.0 | 22.2 | 8 | ¾ | 115 | 125 | 95 |
| 5" | 280 | 35.4 | 35.0 | 178 | 185.7 | 141.3 | 51 | 51 | 99 | 43 | 143.8 | 144.4 | 128.2 | 11 | 144.4 | ..... | 235.0 | 22.2 | 8 | ¾ | 120 | 135 | 110 |
| 6" | 320 | 37.0 | 36.6 | 206 | 215.9 | 168.3 | 53 | 52 | 99 | 47 | 170.7 | 171.4 | 154.1 | 13 | 171.4 | ..... | 269.9 | 22.2 | 12 | ¾ | 120 | 140 | 110 |
| 8" | 380 | 41.7 | 41.3 | 260 | 269.9 | 219.1 | 62 | 62 | 112 | 51 | 221.5 | 222.2 | 202.7 | 13 | 222.2 | ..... | 330.2 | 25.4 | 12 | 7/8 | 140 | 150 | 120 |
| 10" | 445 | 48.1 | 47.7 | 321 | 323.8 | 273.0 | 67 | 95 | 118 | 56 | 276.2 | 277.4 | 254.6 | 13 | 276.2 | ..... | 387.4 | 28.6 | 16 | 1 | 160 | 170 | 140 |
| 12" | 520 | 51.3 | 50.8 | 375 | 381.0 | 323.8 | 73 | 102 | 131 | 61 | 327.0 | 328.2 | 304.8 | 13 | 328.6 | ..... | 450.8 | 31.8 | 16 | 1 1/8 | 170 | 185 | 145 |
| 14" | 585 | 54.4 | 54.0 | 425 | 412.8 | 355.6 | 77 | 111 | 143 | 64 | 359.2 | 360.2 | TO BE SPECIFIED BY PURCHASER | 13 | 360.4 | ..... | 514.4 | 31.8 | 20 | 1 1/8 | 180 | 190 | 160 |
| 16" | 650 | 57.6 | 57.2 | 483 | 469.9 | 406.4 | 83 | 121 | 146 | 69 | 410.5 | 411.2 | | 13 | 411.2 | ..... | 571.5 | 35.0 | 20 | 1 1/4 | 190 | 205 | 165 |
| 18" | 710 | 60.8 | 60.4 | 533 | 533.4 | 457.0 | 89 | 130 | 159 | 70 | 461.8 | 462.3 | | 13 | 462.0 | ..... | 628.6 | 35.0 | 24 | 1 1/4 | 195 | 210 | 170 |
| 20" | 775 | 64.0 | 63.5 | 587 | 584.2 | 508.0 | 96 | 140 | 162 | 74 | 513.1 | 514.4 | | 13 | 512.8 | ..... | 685.8 | 35.0 | 24 | 1 1/4 | 205 | 220 | 185 |
| 22" | 840 | 67.1 | 66.7 | 640 | 641.1 | 558.8 | 102 | 145 | 166 | ..... | 564.4 | 514.4 | | 13 | 512.8 | ..... | 743.0 | 41.00 | 24 | 1 1/4 | 230 | 255 | 205 |
| 24" | 915 | 70.3 | 69.9 | 702 | 692.2 | 610.0 | 107 | 152 | 169 | 83 | 616.0 | 616.0 | | 13 | 614.4 | ..... | 812.8 | 41.3 | 24 | 1 1/2 | 230 | 255 | 205 |

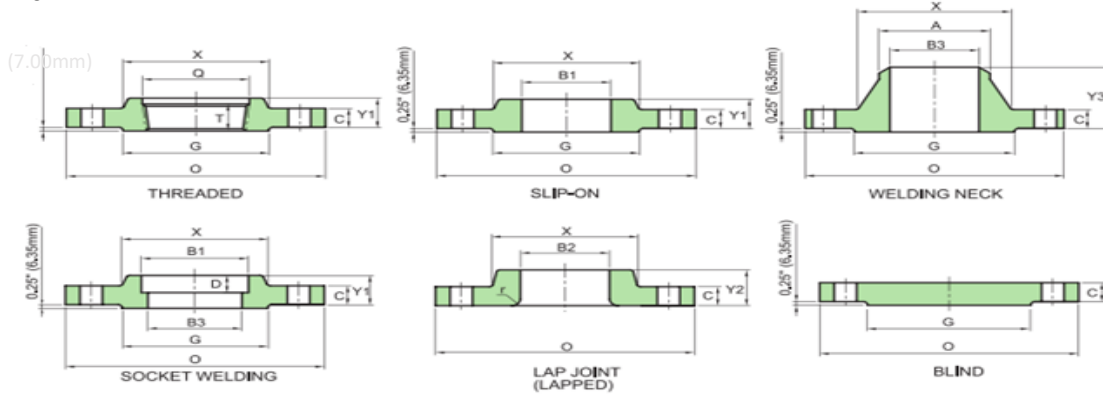
CLASS 400 FLANGES
ASME B16.5 - 2017



| Nominal Pipe Size | Outside DIA. Of Flange | Thk. Of Flange Min. | DIA. Of Hub | Hub DIA. Chamfer weld Neck | LENGTH THROUGH HUB | | | | BORE | | | Corner Radius Of Lap Joint | Counter Bore Threaded Flange Min. |
|-------------------|------------------------|---------------------|-------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|----------------------------------|----------------------------|-----------------------------------|
| | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | Min. Thread Length | Slip-on Socket Weld | Lap Joint | Weld Neck Socket Weld | | |
| NPS | O | C | X | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | Q |
| ½" | 95 | 14.3 | 38 | 21.3 | 22 | 22 | 52 | 16 | 22.2 | 22.9 | To Be Specified By The Purchaser | 3 | 23.6 |
| ¾" | 115 | 15.9 | 48 | 26.7 | 25 | 25 | 57 | 16 | 27.7 | 28.2 | | 3 | 29.0 |
| 1" | 125 | 17.5 | 54 | 33.4 | 27 | 27 | 62 | 18 | 34.5 | 34.9 | | 3 | 35.8 |
| 1 ¼" | 135 | 20.7 | 64 | 42.2 | 29 | 29 | 67 | 21 | 43.2 | 43.7 | | 5 | 44.4 |
| 1 ½" | 155 | 22.3 | 70 | 48.3 | 32 | 32 | 70 | 23 | 49.5 | 50.0 | | 6 | 50.6 |
| 2" | 165 | 25.4 | 84 | 60.3 | 37 | 37 | 73 | 29 | 61.9 | 62.5 | | 8 | 63.5 |
| 2 ½" | 190 | 28.6 | 100 | 73.0 | 41 | 41 | 79 | 32 | 74.6 | 75.4 | | 8 | 76.2 |
| 3" | 210 | 31.8 | 117 | 88.9 | 46 | 46 | 83 | 35 | 90.7 | 91.4 | | 10 | 92.2 |
| 3 ½" | 230 | 35.0 | 133 | 101.6 | 49 | 49 | 86 | 40 | 103.4 | 104.1 | | 10 | 104.9 |
| 4" | 255 | 35.0 | 146 | 114.3 | 51 | 51 | 89 | 37 | 116.1 | 116.8 | | 11 | 117.6 |
| 5" | 280 | 38.1 | 178 | 141.3 | 54 | 54 | 102 | 43 | 143.8 | 144.5 | | 11 | 144.4 |
| 6" | 320 | 41.3 | 206 | 168.3 | 57 | 57 | 103 | 46 | 170.7 | 171.4 | | 13 | 171.4 |
| 8" | 380 | 47.7 | 260 | 219.1 | 68 | 68 | 117 | 51 | 221.5 | 222.2 | | 13 | 222.2 |
| 10" | 445 | 54.0 | 321 | 273.0 | 73 | 102 | 124 | 56 | 276.2 | 277.4 | | 13 | 276.2 |
| 12" | 520 | 57.2 | 375 | 323.8 | 79 | 108 | 137 | 61 | 327.0 | 328.2 | | 13 | 328.6 |
| 14" | 585 | 60.4 | 425 | 355.6 | 84 | 117 | 149 | 64 | 359.2 | 360.2 | | 13 | 360.4 |
| 16" | 650 | 63.5 | 483 | 406.4 | 94 | 127 | 152 | 69 | 410.5 | 411.2 | 13 | 411.2 | |
| 18" | 710 | 66.7 | 533 | 457.0 | 98 | 137 | 165 | 70 | 461.8 | 462.3 | 13 | 462.0 | |
| 20" | 775 | 69.9 | 587 | 508.0 | 102 | 146 | 168 | 74 | 513.1 | 514.4 | 13 | 512.8 | |
| 22" | 840 | 73.1 | 640 | 22.0 | 108 | 152 | 171 | .... | 564.4 | 565.2 | 13 | ..... |  |
| 24" | 915 | 76.2 | 702 | 610.0 | 114 | 159 | 175 | 83 | 616.0 | 616.0 | 13 | 614.4 | |

CALSS 600 FLANGES

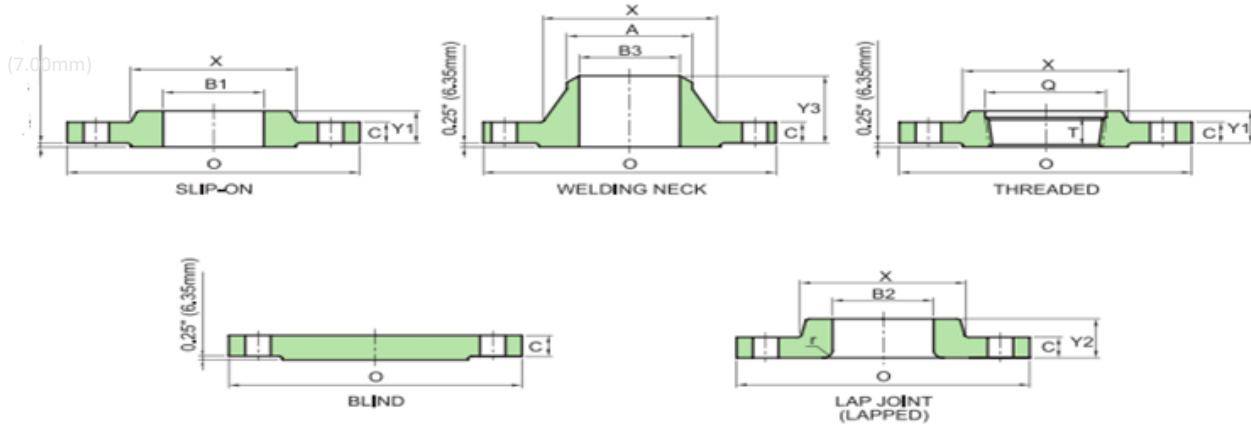
ASME B16.5 - 2017



| Nominal Pipe Size | Outside DIA. Of Flange | Thk. Of Flange Min. | DIA. Of Hub | DIA. Of Raise Face | Hub DIA. Chamfer weld Neck | LENGTH THROUGH HUB | | | BORE | | | | Corner Radius Of Lap Joint | Counter Bore Threaded Flange Min. | Depth Of Socket | Drilling | | | | Length Of Stud Bolts | | |
|-------------------|------------------------|---------------------|-------------|--------------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|----------------------------------|----------------------------|-----------------------------------|-----------------|---------------------|--------------------|-----------------|---------------|----------------------|-----------------------------------|------------|
| | | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | Min. Thread Length | Slip-on Socket Weld | Lap Joint | Weld Neck Socket Weld | | | | DIA. Of Bolt Circle | DIA. Of Bolt Holes | Number Of Bolts | DIA. Of bolts | 7mm Raised Face | Male And Female / Tongue & Groove | Ring Joint |
| | | | | | | | | | | | | | | | | | | | | | | |
| NPS | O | C | X | G | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | Q | D | P | mm | | In. | | | |
| ½" | 95 | 14.3 | 38 | 34.9 | 21.3 | 22 | 22 | 52 | 16 | 22.2 | 22.9 | To Be Specified By The Purchaser | 3 | 23.6 | 10 | 66.7 | 15.9 | 4 | ½ | 75 | 70 | 75 |
| ¾" | 115 | 15.9 | 48 | 42.9 | 26.7 | 25 | 25 | 57 | 16 | 27.7 | 28.2 | | 3 | 29.0 | 11 | 82.6 | 19.1 | 4 | 5/8 | 90 | 85 | 90 |
| 1" | 125 | 17.5 | 54 | 50.8 | 33.4 | 27 | 27 | 62 | 18 | 34.5 | 34.9 | | 3 | 35.8 | 13 | 88.9 | 19.1 | 4 | 5/8 | 90 | 85 | 90 |
| 1 ¼" | 135 | 20.7 | 64 | 63.5 | 42.2 | 29 | 29 | 67 | 21 | 43.2 | 43.7 | | 5 | 44.4 | 14 | 98.4 | 19.1 | 4 | 5/8 | 95 | 90 | 95 |
| 1 ½" | 155 | 22.3 | 70 | 73.0 | 48.3 | 32 | 32 | 70 | 23 | 49.5 | 50.0 | | 6 | 50.6 | 16 | 114.3 | 22.2 | 4 | ¾ | 110 | 100 | 110 |
| 2" | 165 | 25.4 | 84 | 92.1 | 60.3 | 37 | 37 | 73 | 29 | 61.9 | 62.5 | | 8 | 63.5 | 17 | 127.0 | 19.1 | 8 | 5/8 | 110 | 100 | 110 |
| 2 ½" | 190 | 28.6 | 100 | 104.8 | 73.0 | 41 | 41 | 79 | 32 | 74.6 | 75.4 | | 8 | 76.2 | 19 | 149.2 | 22.2 | 8 | ¾ | 120 | 115 | 120 |
| 3" | 210 | 31.8 | 117 | 127.0 | 88.9 | 46 | 46 | 83 | 35 | 90.7 | 91.4 | | 10 | 92.2 | 21 | 168.3 | 22.2 | 8 | ¾ | 125 | 120 | 125 |
| 3 ½" | 230 | 35.0 | 133 | 139.7 | 101.6 | 49 | 49 | 86 | 40 | 103.4 | 104.1 | | 10 | 104.9 | .... | 184.2 | 25.4 | 8 | 7/8 | 140 | 135 | 140 |
| 4" | 275 | 38.1 | 152 | 157.2 | 114.3 | 54 | 54 | 102 | 42 | 116.1 | 116.8 | | 11 | 117.6 | .... | 215.9 | 25.4 | 8 | 7/8 | 145 | 140 | 145 |
| 5" | 330 | 44.5 | 189 | 185.7 | 141.3 | 60 | 60 | 114 | 48 | 143.8 | 144.4 | | 11 | 144.4 | ..... | 266.7 | 28.6 | 8 | 1 | 165 | 160 | 165 |
| 6" | 355 | 47.7 | 222 | 215.9 | 168.3 | 67 | 67 | 117 | 51 | 170.7 | 171.4 | | 13 | 171.4 | ..... | 292.1 | 28.6 | 12 | 1 | 170 | 165 | 170 |
| 8" | 420 | 55.6 | 273 | 269.9 | 219.1 | 76 | 76 | 133 | 58 | 221.5 | 222.2 | | 13 | 222.2 | ..... | 349.2 | 31.8 | 12 | 1 1/8 | 190 | 185 | 190 |
| 10" | 510 | 63.5 | 343 | 323.8 | 273.0 | 86 | 111 | 152 | 66 | 276.2 | 277.4 | | 13 | 276.2 | ..... | 431.8 | 35.0 | 16 | 1 ¼ | 215 | 210 | 215 |
| 12" | 560 | 66.7 | 400 | 381.0 | 323.8 | 92 | 117 | 156 | 70 | 327.0 | 328.2 | | 13 | 328.6 | ..... | 480.9 | 35.0 | 20 | 1 ¼ | 220 | 215 | 220 |
| 14" | 605 | 69.9 | 432 | 412.8 | 355.6 | 94 | 127 | 165 | 74 | 359.2 | 360.2 | | 13 | 360.4 | ..... | 527.0 | 38.1 | 20 | 1 3/8 | 235 | 230 | 235 |
| 16" | 685 | 76.2 | 495 | 469.9 | 406.4 | 106 | 140 | 178 | 78 | 410.5 | 411.2 | | 13 | 411.2 | ..... | 603.2 | 41.3 | 20 | 1 ½ | 255 | 250 | 255 |
| 18" | 745 | 82.6 | 546 | 533.4 | 457.0 | 117 | 152 | 184 | 80 | 461.8 | 462.3 | | 13 | 462.0 | ..... | 654.0 | 44.5 | 20 | 1 5/8 | 275 | 265 | 275 |
| 20" | 815 | 88.9 | 610 | 584.2 | 508.0 | 127 | 165 | 190 | 83 | 513.1 | 514.4 | | 13 | 512.8 | ..... | 723.9 | 44.5 | 24 | 1 5/8 | 285 | 280 | 290 |
| 22" | 870 | 95.2 | 663 | 641.4 | 558.8 | 133 | 175 | 197 | ..... | 564.4 | 565.2 | | 13 | ..... | ..... | 777.7 | 47.6 | 24 | 1 3/4 | 305 | ..... | 310 |
| 24" | 940 | 101.6 | 718 | 692.2 | 610.0 | 140 | 184 | 203 | 93 | 616.0 | 616.0 | | 13 | 614.4 | ..... | 838.2 | 50.8 | 24 | 1 7/8 | 330 | 325 | 335 |

CALSS 900 FLANGES

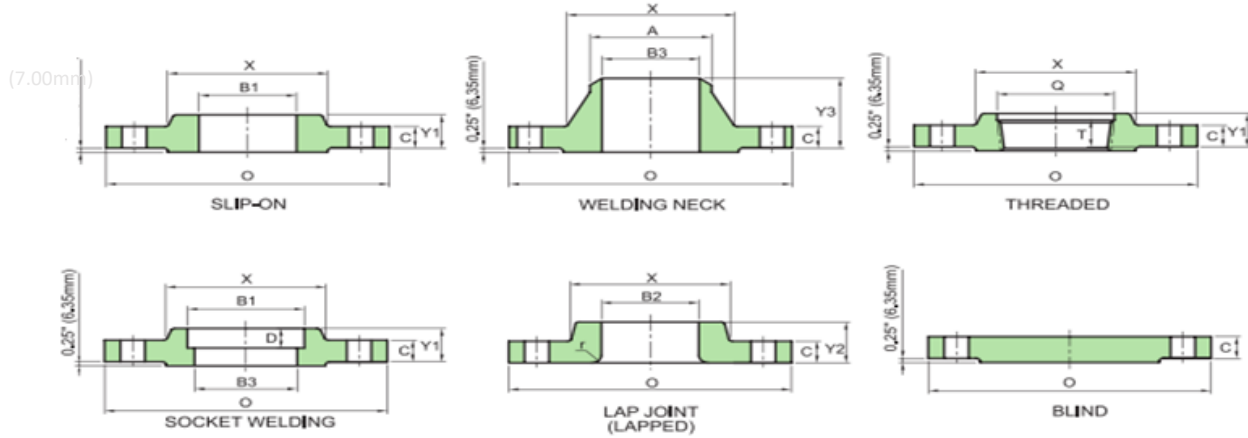
ASME B16.5 - 2017



| Nominal Pipe Size | Outside Dia. Of Flange | Thk. Of Flange Min. | Dia. Of Hub | Dia. Of Raise Face | Hub Dia. Chamfer weld Neck | LENGTH THROUGH HUB | | | BORE | | | | Corner Radius Of Lap Joint | Counter Bore Threaded Flange Min. | Depth Of Socket | Drilling | | | | Length Of Stud Bolts | | |
|-------------------|------------------------|---------------------|-------------|--------------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|----------------------------------|----------------------------|-----------------------------------|-----------------|---------------------|--------------------|-------------------|---------------|----------------------|-----------------------------------|------------|
| | | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | Min. Thread Length | Slip-on Socket Weld | Lap Joint | Weld Neck Socket Weld | | | | Dia. Of Bolt Circle | Dia. Of Bolt Holes | Num bere Of Bolts | Dia. Of bolts | 7mm Raised Face | Male And Female / Tongue & Groove | Ring Joint |
| NPS | O | C | X | G | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | Q | D | P | mm | In. | | | | |
| ½" | 120 | 22.3 | 38 | 34.9 | 21.3 | 32 | 32 | 60 | 23 | 22.2 | 22.9 | To Be Specified By The Purchaser | 3 | 23.6 | 10 | 82.6 | 22.2 | ¾ | 4 | 110 | 100 | 110 |
| ¾" | 130 | 25.4 | 44 | 42.9 | 26.7 | 35 | 35 | 70 | 26 | 27.7 | 28.2 | 3 | 29.0 | 11 | 88.9 | 22.2 | ¾ | 4 | 115 | 110 | 115 | |
| 1" | 150 | 28.6 | 52 | 50.8 | 33.4 | 41 | 41 | 73 | 29 | 34.5 | 34.9 | 3 | 35.8 | 13 | 101.6 | 25.4 | 7/8 | 4 | 125 | 120 | 125 | |
| 1¼" | 160 | 28.6 | 64 | 63.5 | 42.2 | 41 | 41 | 73 | 31 | 43.2 | 43.7 | 5 | 44.4 | 14 | 111.1 | 25.4 | 7/8 | 4 | 125 | 120 | 125 | |
| 1½" | 180 | 31.8 | 70 | 73.0 | 48.3 | 44 | 44 | 83 | 32 | 49.5 | 50.0 | 6 | 50.3 | 16 | 123.8 | 28.6 | 1 | 4 | 140 | 135 | 140 | |
| 2" | 215 | 38.1 | 105 | 92.1 | 60.3 | 57 | 57 | 102 | 39 | 61.9 | 62.5 | 8 | 63.5 | 17 | 165.1 | 25.4 | 7/8 | 8 | 145 | 140 | 145 | |
| 2½" | 245 | 41.3 | 124 | 104.8 | 73.0 | 64 | 64 | 105 | 48 | 74.6 | 75.4 | 8 | 76.2 | 19 | 190.5 | 28.6 | 1 | 8 | 160 | 150 | 160 | |
| 3" | 240 | 38.1 | 127 | 127.0 | 88.9 | 54 | 54 | 102 | 42 | 90.7 | 91.4 | 10 | 92.2 | ..... | 190.5 | 25.4 | 7/8 | 8 | 145 | 140 | 145 | |
| 4" | 290 | 44.5 | 159 | 157.2 | 114.3 | 70 | 70 | 114 | 48 | 116.1 | 116.8 | 11 | 117.6 | ..... | 235.0 | 31.8 | 1 1/8 | 8 | 170 | 165 | 170 | |
| 5" | 350 | 50.8 | 190 | 185.7 | 141.3 | 79 | 79 | 127 | 54 | 143.8 | 144.4 | 11 | 144.4 | ..... | 279.4 | 35.0 | 1 ¼ | 8 | 190 | 185 | 190 | |
| 6" | 380 | 55.6 | 235 | 215.9 | 168.3 | 86 | 86 | 140 | 58 | 170.7 | 171.4 | 13 | 171.4 | ..... | 317.5 | 31.8 | 1 1/8 | 12 | 190 | 185 | 195 | |
| 8" | 470 | 63.5 | 298 | 269.9 | 219.1 | 102 | 114 | 162 | 64 | 221.5 | 222.2 | 13 | 222.2 | ..... | 393.7 | 38.1 | 1 3/8 | 12 | 220 | 215 | 220 | |
| 10" | 545 | 69.9 | 368 | 323.8 | 273.0 | 108 | 127 | 184 | 72 | 276.2 | 277.4 | 13 | 276.2 | ..... | 469.9 | 38.1 | 1 3/8 | 16 | 235 | 230 | 235 | |
| 12" | 610 | 79.4 | 419 | 381.0 | 323.8 | 117 | 143 | 200 | 77 | 327.0 | 328.2 | 13 | 328.6 | ..... | 533.4 | 38.1 | 1 3/8 | 20 | 255 | 250 | 255 | |
| 14" | 640 | 85.8 | 451 | 412.8 | 355.6 | 130 | 156 | 213 | 83 | 359.2 | 360.2 | 13 | 360.4 | ..... | 558.8 | 41.3 | 1 ½ | 20 | 275 | 265 | 280 | |
| 16" | 705 | 88.9 | 508 | 469.9 | 406.4 | 133 | 165 | 216 | 86 | 410.5 | 411.2 | 13 | 411.2 | ..... | 616.0 | 44.5 | 1 5/8 | 20 | 285 | 280 | 290 | |
| 18" | 785 | 101.6 | 565 | 533.4 | 457.0 | 152 | 190 | 229 | 89 | 461.8 | 462.3 | 13 | 462.0 | ..... | 685.8 | 50.8 | 1 7/8 | 20 | 325 | 320 | 235 | |
| 20" | 855 | 108.0 | 622 | 584.2 | 508.0 | 159 | 210 | 248 | 93 | 513.1 | 514.4 | 13 | 512.8 | ..... | 749.3 | 54.0 | 2 | 20 | 350 | 345 | 360 | |
| 24" | 1040 | 139.7 | 749 | 692.2 | 610.0 | 203 | 267 | 292 | 102 | 616.0 | 616.0 | 13 | 614.4 | | 901.7 | 66.7 | 2 ½ | 20 | 440 | 430 | 455 | |

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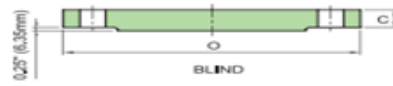
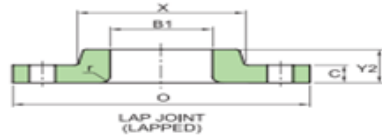
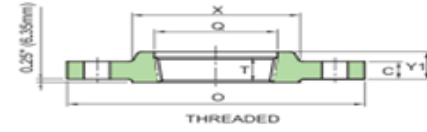
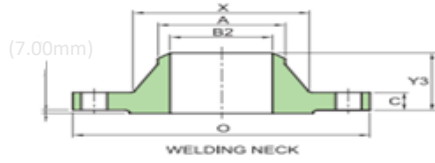
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| Nominal Pipe Size | Outside Dia. Of Flange | Thk. Of Flange Min. | Dia. Of Hub | Dia. Of Raise Face | Hub Dia. Chamfer weld Neck | LENGTH THROUGH HUB | | | Min. Thread Length | BORE | | | Corner Radius Of Lap Joint | Counter Bore Threaded Flange Min. | Depth Of Socket | Drilling | | | | Length Of Stud Bolts | | |
|-------------------|------------------------|---------------------|-------------|--------------------|----------------------------|------------------------------|-----------|-----------|--------------------|---------------------|-----------|----------------------------------|----------------------------|-----------------------------------|-----------------|---------------------|--------------------|---------------|---------------|----------------------|-----------------------------------|------------|
| | | | | | | Threaded Slip-on Socket Weld | Lap Joint | Weld Neck | | Slip-on Socket Weld | Lap Joint | Weld Neck Socket Weld | | | | Dia. Of Bolt Circle | Dia. Of Bolt Holes | Num. Of Bolts | Dia. Of bolts | 7mm Raised Face | Male And Female / Tongue & Groove | Ring Joint |
| NPS | O | C | X | G | A | Y1 | Y2 | Y3 | T | B1 | B2 | B3 | r | Q | D | P | mm | | In. | | | |
| ½" | 120 | 22.3 | 38 | 34.9 | 21.3 | 32 | 32 | 60 | 23 | 22.2 | 22.9 | To Be Specified By The Purchaser | 3 | 23.6 | 10 | 82.6 | 22.2 | 4 | ¾ | 110 | 100 | 110 |
| ¾" | 130 | 25.4 | 44 | 42.9 | 26.7 | 35 | 35 | 70 | 26 | 27.7 | 28.2 | To Be Specified By The Purchaser | 3 | 29.0 | 11 | 88.9 | 22.2 | 4 | ¾ | 115 | 110 | 115 |
| 1" | 150 | 28.6 | 52 | 50.8 | 33.4 | 41 | 41 | 73 | 29 | 34.5 | 34.9 | To Be Specified By The Purchaser | 3 | 35.8 | 13 | 101.6 | 25.4 | 4 | 7/8 | 125 | 120 | 125 |
| 1¼" | 160 | 28.6 | 64 | 63.5 | 42.2 | 41 | 41 | 73 | 31 | 43.2 | 43.7 | To Be Specified By The Purchaser | 5 | 44.4 | 14 | 111.1 | 25.4 | 4 | 7/8 | 125 | 120 | 125 |
| 1" | 180 | 31.8 | 70 | 73.0 | 48.3 | 44 | 44 | 83 | 32 | 49.5 | 50.0 | To Be Specified By The Purchaser | 6 | 50.3 | 16 | 123.8 | 28.6 | 4 | 1 | 140 | 135 | 140 |
| 2" | 215 | 38.1 | 105 | 92.1 | 60.3 | 57 | 57 | 102 | 39 | 61.9 | 62.5 | To Be Specified By The Purchaser | 8 | 63.5 | 17 | 165.1 | 25.4 | 8 | 7/8 | 145 | 140 | 145 |
| 2½" | 245 | 41.3 | 124 | 104.8 | 73.0 | 64 | 64 | 105 | 48 | 74.6 | 75.4 | To Be Specified By The Purchaser | 8 | 76.2 | 19 | 190.5 | 28.6 | 8 | 1 | 160 | 150 | 160 |
| 3" | 265 | 47.7 | 133 | 127.0 | 88.9 | - | 73 | 117 | - | 103.4 | 104.1 | To Be Specified By The Purchaser | 10 | - | - | 203.2 | 31.8 | 8 | 1 1/8 | 180 | 170 | 180 |
| 4" | 310 | 54.0 | 162 | 157.2 | 114.3 | - | 90 | 124 | - | 116.1 | 116.8 | To Be Specified By The Purchaser | 11 | - | - | 241.3 | 35.0 | 8 | 1 ¼ | 195 | 190 | 195 |
| 5" | 375 | 73.1 | 197 | 185.7 | 141.3 | - | 105 | 156 | - | 143.8 | 144.4 | To Be Specified By The Purchaser | 11 | - | -- | 292.1 | 41.3 | 8 | 1 ½ | 250 | 240 | 250 |
| 6" | 395 | 82.6 | 229 | 215.9 | 168.3 | - | 119 | 171 | - | 170.7 | 171.4 | To Be Specified By The Purchaser | 13 | - | - | 317.5 | 38.1 | 12 | 1 3/8 | 260 | 255 | 265 |
| 8" | 485 | 92.1 | 292 | 269.9 | 219.1 | - | 143 | 213 | - | 221.5 | 222.2 | To Be Specified By The Purchaser | 13 | - | - | 393.7 | 44.5 | 12 | 1 5/8 | 290 | 285 | 300 |
| 10" | 585 | 108.0 | 368 | 323.8 | 273.0 | - | 178 | 254 | - | 276.2 | 277.4 | To Be Specified By The Purchaser | 13 | - | - | 482.6 | 50.8 | 12 | 1 7/8 | 335 | 330 | 345 |
| 12" | 675 | 123.9 | 451 | 381.0 | 323.8 | - | 219 | 283 | - | 327.0 | 328.2 | To Be Specified By The Purchaser | 13 | - | - | 571.5 | 54.0 | 16 | 2 | 375 | 370 | 385 |
| 14" | 750 | 133.4 | 495 | 412.8 | 355.6 | - | 241 | 298 | - | 359.2 | 360.2 | To Be Specified By The Purchaser | 13 | - | - | 635.0 | 60.5 | 16 | 2 ¼ | 405 | 400 | 425 |
| 16" | 825 | 146.1 | 552 | 469.9 | 406.4 | - | 260 | 311 | - | 410.5 | 411.2 | To Be Specified By The Purchaser | 13 | - | - | 704.8 | 66.7 | 16 | 2 ½ | 445 | 440 | 470 |
| 18" | 915 | 162.0 | 597 | 533.4 | 457.0 | - | 276 | 327 | - | 461.8 | 462.3 | To Be Specified By The Purchaser | 13 | - | - | 774.7 | 73.0 | 16 | 2 ¾ | 495 | 490 | 525 |
| 20" | 985 | 177.8 | 641 | 584.2 | 508.0 | - | 292 | 356 | - | 513.1 | 514.4 | To Be Specified By The Purchaser | 13 | - | - | 831.8 | 79.5 | 16 | 3 | 540 | 535 | 565 |
| 24" | 1170 | 203.2 | 762 | 692.2 | 610.0 | - | 330 | 406 | - | 616.0 | 616.0 | To Be Specified By The Purchaser | 13 | - | - | 990.6 | 92.1 | 16 | 3 ½ | 615 | 610 | 650 |

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| Nominal Pipe Size | Outside Dia. Of Flange | Thk. Of Flange Min. | Dia. Of Hub | Dia. Of Raise Face | Hub Dia. Chamfer weld Neck | LENGTH THROUGH HUB | | | Min. Thread Length | BORE | | Corner Radius Of Lap Joint | Counter Bore Threaded Flange Min. | Drilling | | | | Length Of Stud Bolts | | |
|-------------------|------------------------|---------------------|-------------|--------------------|----------------------------|--------------------|-----------|-----------|--------------------|-----------|----------------------------------|----------------------------|-----------------------------------|---------------------|--------------------|-------------------|---------------|----------------------|-----------------------------------|------------|
| | | | | | | Threaded | Lap Joint | Weld Neck | | Lap Joint | Weld Neck Socket Weld | | | Dia. Of Bolt Circle | Dia. Of Bolt Holes | Num bere Of Bolts | Dia. Of bolts | 7mm Raised Face | Male And Female / Tongue & Groove | Ring Joint |
| | | | | | | | | | | | | | | | | | | | | |
| NPS | O | C | X | G | A | Y1 | Y2 | Y3 | T | B2 | B3 | r | Q | P | mm | In. | | | | |
| ½" | 135 | 30.2 | 43 | 34.9 | 21.3 | 40 | 40 | 73 | 29 | 22.9 | To Be Specified By The Purchaser | 3 | 23.6 | 88.9 | 22.2 | 4 | ¾ | 120 | 115 | 120 |
| ¾" | 140 | 31.8 | 51 | 42.9 | 26.7 | 43 | 43 | 79 | 32 | 28.2 | | 3 | 29.0 | 95.2 | 22.2 | 4 | ¾ | 125 | 120 | 125 |
| 1" | 160 | 35.0 | 57 | 50.8 | 33.4 | 48 | 48 | 89 | 35 | 34.9 | | 3 | 35.8 | 108.0 | 25.4 | 4 | 7/8 | 140 | 135 | 140 |
| 1 ¼" | 185 | 38.1 | 73 | 63.5 | 42.2 | 52 | 52 | 95 | 39 | 43.7 | | 5 | 44.4 | 130.2 | 28.6 | 4 | 1 | 150 | 145 | 150 |
| 1 ½" | 205 | 44.5 | 79 | 73.0 | 48.3 | 60 | 60 | 111 | 45 | 50.0 | | 6 | 50.6 | 146.0 | 31.8 | 4 | 1 1/8 | 170 | 165 | 170 |
| 2" | 235 | 50.9 | 95 | 92.1 | 60.3 | 70 | 70 | 127 | 51 | 62.5 | | 8 | 63.5 | 171.4 | 28.6 | 8 | 1 | 180 | 170 | 180 |
| 2 ½" | 265 | 57.2 | 114 | 104.8 | 73.0 | 79 | 79 | 143 | 58 | 75.4 | | 8 | 76.2 | 196.8 | 31.8 | 8 | 1 1/8 | 195 | 190 | 205 |
| 3" | 305 | 66.7 | 133 | 127.0 | 88.9 | - | 92 | 168 | - | 91.4 | | 10 | - | 228.6 | 35.0 | 8 | 1 ¼ | 220 | 215 | 230 |
| 4" | 355 | 76.2 | 165 | 157.2 | 114.3 | - | 108 | 190 | - | 116.8 | | 11 | - | 273.0 | 41.3 | 8 | 1 ½ | 255 | 250 | 260 |
| 5" | 420 | 92.1 | 203 | 185.7 | 141.3 | - | 130 | 229 | - | 144.4 | | 11 | - | 323.8 | 47.7 | 8 | 1 ½ | 300 | 290 | 310 |
| 6" | 485 | 108.0 | 235 | 215.9 | 168.3 | - | 152 | 273 | - | 171.4 | | 13 | - | 368.3 | 54.0 | 8 | 2 | 345 | 335 | 355 |
| 8" | 550 | 127.0 | 305 | 269.9 | 219.1 | - | 178 | 318 | - | 222.2 | | 13 | - | 438.2 | 54.0 | 12 | 2 | 380 | 375 | 395 |
| 10" | 675 | 165.1 | 375 | 323.8 | 273.0 | - | 229 | 419 | - | 277.4 | 13 | - | 539.8 | 66.7 | 12 | 2 ½ | 490 | 485 | 510 | |
| 12" | 760 | 184.2 | 441 | 381.0 | 323.8 | - | 254 | 464 | - | 328.2 | 13 | - | 619.1 | 73.1 | 12 | 2 ¾ | 540 | 535 | 560 | |