

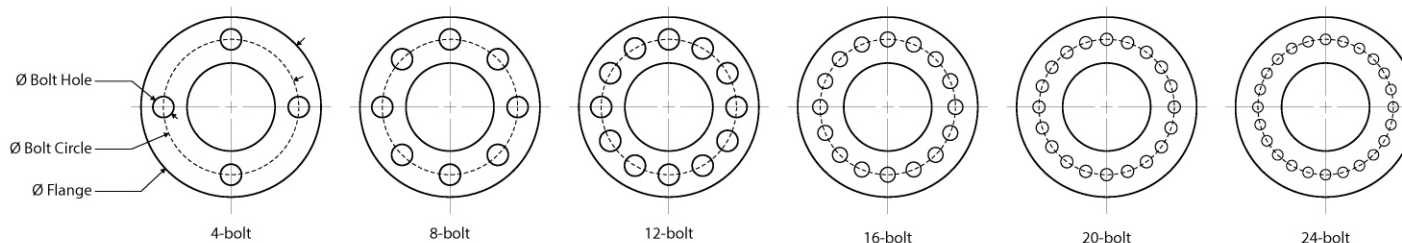
Pressure/Temperature Ratings (in PSIG) Таблицы давление/температура. Давление в PSIG, температура в °F
Material Group 1.1 **Material Group 1.2**

| Temp (°F) | Class | | | | | | |
|--------------|-------|-----|------|------|------|------|------|
| | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| -20 to 100 | 290 | 750 | 1000 | 1500 | 2250 | 3750 | 6250 |
| 200 | 260 | 750 | 1000 | 1500 | 2250 | 3750 | 6250 |
| 300 | 230 | 730 | 970 | 1455 | 2185 | 3640 | 6070 |
| 400 | 200 | 705 | 940 | 1405 | 2110 | 3520 | 5865 |
| 500 | 170 | 665 | 885 | 1330 | 1995 | 3325 | 5540 |
| 600 | 140 | 605 | 805 | 1210 | 1815 | 3025 | 5040 |
| 650 | 125 | 590 | 785 | 1175 | 1765 | 2940 | 4905 |
| 700 | 110 | 555 | 740 | 1110 | 1665 | 2775 | 4630 |
| 750 | 95 | 505 | 675 | 1015 | 1520 | 2535 | 4230 |
| 800 | 80 | 410 | 550 | 825 | 1235 | 2055 | 3430 |
| 850 | 65 | 320 | 425 | 640 | 955 | 1595 | 2655 |
| 900 | 50 | 225 | 295 | 445 | 670 | 1115 | 1855 |
| 950 | 35 | 135 | 185 | 275 | 410 | 685 | 1145 |
| 1000 | 20 | 85 | 115 | 170 | 255 | 430 | 715 |

| Temp (°F) | Class | | | | | | |
|--------------|-------|-----|-----|------|------|------|------|
| | 150 | 300 | 400 | 600 | 900 | 1500 | 2500 |
| < 100 | 285 | 740 | 985 | 1480 | 2220 | 3705 | 6170 |
| 200 | 260 | 680 | 905 | 1360 | 2035 | 3395 | 5655 |
| 300 | 230 | 655 | 870 | 1310 | 1965 | 3270 | 5450 |
| 400 | 200 | 635 | 845 | 1265 | 1900 | 3170 | 5280 |
| 500 | 170 | 605 | 805 | 1205 | 1810 | 3015 | 5025 |
| 600 | 140 | 570 | 755 | 1135 | 1705 | 2840 | 4730 |
| 650 | 125 | 550 | 730 | 1100 | 1650 | 2745 | 4575 |
| 700 | 110 | 530 | 710 | 1060 | 1590 | 2655 | 4425 |
| 750 | 95 | 505 | 675 | 1015 | 1520 | 2535 | 4230 |
| 800 | 80 | 410 | 550 | 825 | 1235 | 2055 | 3430 |
| 850 | 65 | 320 | 425 | 640 | 955 | 1595 | 2655 |
| 900 | 50 | 230 | 305 | 460 | 690 | 1150 | 1915 |
| 950 | 35 | 135 | 185 | 275 | 410 | 685 | 1145 |
| 1000 | 20 | 85 | 115 | 170 | 255 | 430 | 715 |

| Material Group No. | Material Nominal Designation | Forging Поковка | Casting Отливка | Plate Листовой прокат | Bar Пруток | Tubular Трубы |
|--------------------|--|--|--|---|---|------------------------------|
| 1.1 | C, C-SI C-MN-SI C-MN-SI-V | A105, A350 Gr. LF2 A350 Gr. LF6 Cl.1 | A216 Gr. WCB | A515 Gr. 70 A516 Gr. 70 A537 Gr. Cl.1 | A675 Gr. 70 A105 A350 Gr. LF2 A696 Gr. C | A672 Gr. B70 A672 Gr. C70 |
| 1.2 | C-SI 2 1/2NI 3 1/2NI C-MN-SI C-MN-SI-V | A350 Gr. LF3 A350 Gr. LF6 Cl.2 | A352 Gr. LC2 A352 Gr. LC3 A216 Gr. WCC A352 Gr. LCC | A203 Gr. B A203 Gr. E | A350 Gr. LF3 | A106 Gr. C |

ANSI/ASME B16.5 Flange Connections



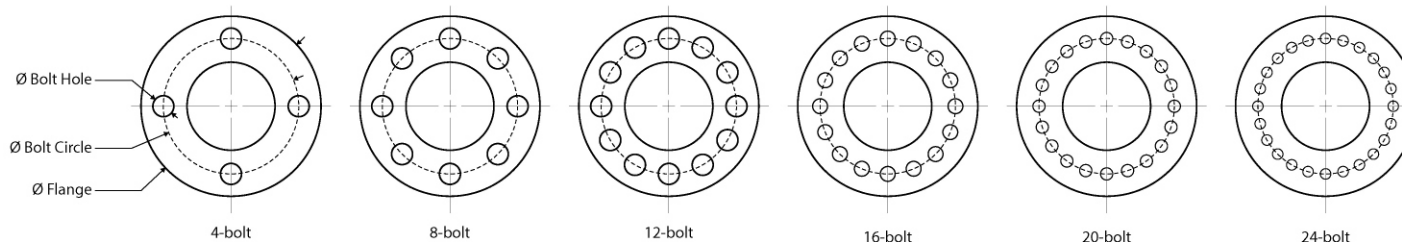
Dimensions (in inches) Размеры в дюймах
Class 150

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts ККО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/4 | 3-3/8 | 4 | 1/2 | 0.62 | 2-1/4 |
| 1/2 | 3-1/2 | 4 | 1/2 | 0.62 | 2-3/8 |
| 3/4 | 3-7/8 | 4 | 1/2 | 0.62 | 2-3/4 |
| 1 | 4-1/4 | 4 | 1/2 | 0.62 | 3-1/8 |
| 1-1/4 | 4-5/8 | 4 | 1/2 | 0.62 | 3-1/2 |
| 1-1/2 | 5 | 4 | 1/2 | 0.62 | 3-7/8 |
| 2 | 6 | 4 | 5/8 | 0.75 | 4-3/4 |
| 2-1/2 | 7 | 4 | 5/8 | 0.75 | 5-1/2 |
| 3 | 7-1/2 | 4 | 5/8 | 0.75 | 6 |
| 3-1/2 | 8-1/2 | 8 | 5/8 | 0.75 | 7 |
| 4 | 9 | 8 | 5/8 | 0.75 | 7-1/2 |
| 5 | 10 | 8 | 3/4 | 0.88 | 8-1/2 |
| 6 | 11 | 8 | 3/4 | 0.88 | 9-1/2 |
| 8 | 13-1/2 | 8 | 3/4 | 0.88 | 11-3/4 |
| 10 | 16 | 12 | 7/8 | 1 | 14-1/4 |
| 12 | 19 | 12 | 7/8 | 1 | 17 |
| 14 | 21 | 12 | 1 | 1.12 | 18-3/4 |
| 16 | 23-1/2 | 16 | 1 | 1.12 | 21-1/4 |
| 18 | 25 | 16 | 1-1/8 | 1.25 | 22-3/4 |
| 20 | 27-1/2 | 20 | 1-1/8 | 1.25 | 25 |
| 24 | 32 | 20 | 1-1/4 | 1.38 | 29-1/2 |

Class 300

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts ККО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/4 | 3-3/8 | 4 | 1/2 | 0.62 | 2-1/4 |
| 1/2 | 3-3/4 | 4 | 1/2 | 0.62 | 2-5/8 |
| 3/4 | 4-5/8 | 4 | 5/8 | 0.75 | 3-1/4 |
| 1 | 4-7/8 | 4 | 5/8 | 0.75 | 3-1/2 |
| 1-1/4 | 5-1/4 | 4 | 5/8 | 0.75 | 3-7/8 |
| 1-1/2 | 6-1/8 | 4 | 3/4 | 0.88 | 4-1/2 |
| 2 | 6-1/2 | 8 | 5/8 | 0.75 | 5 |
| 2-1/2 | 7-1/2 | 8 | 3/4 | 0.88 | 5-7/8 |
| 3 | 8-1/4 | 8 | 3/4 | 0.88 | 6-5/8 |
| 3-1/2 | 9 | 8 | 3/4 | 0.88 | 7-1/4 |
| 4 | 10 | 8 | 3/4 | 0.88 | 7-7/8 |
| 5 | 11 | 8 | 3/4 | 0.88 | 9-1/4 |
| 6 | 12-1/2 | 12 | 3/4 | 0.88 | 10-5/8 |
| 8 | 15 | 12 | 7/8 | 1 | 13 |
| 10 | 17-1/2 | 16 | 1 | 1.12 | 15-1/4 |
| 12 | 20-1/2 | 16 | 1-1/8 | 1.25 | 17-3/4 |
| 14 | 23 | 20 | 1-1/8 | 1.25 | 20-1/4 |
| 16 | 25-1/2 | 20 | 1-1/4 | 1.38 | 22-1/2 |
| 18 | 28 | 24 | 1-1/4 | 1.38 | 24-3/4 |
| 20 | 30-1/2 | 24 | 1-1/4 | 1.38 | 27 |
| 24 | 36 | 24 | 1-1/2 | 1.62 | 32 |

ANSI/ASME B16.5 Flange Connections



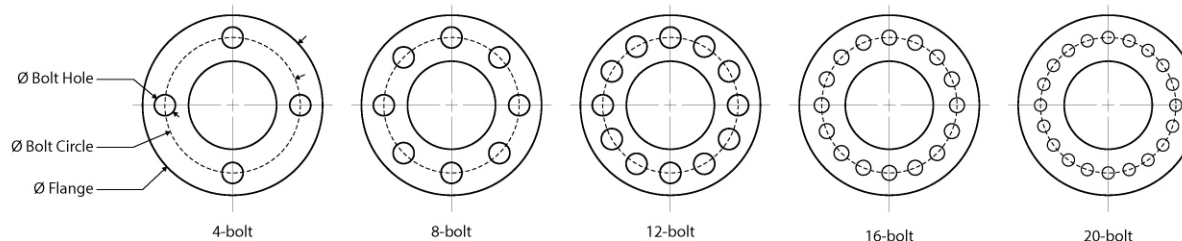
Dimensions (in inches) Размеры в дюймах
Class 400

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts ККО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/4 | 3-3/8 | 4 | 1/2 | 0.62 | 2-1/4 |
| 1/2 | 3-3/4 | 4 | 1/2 | 0.62 | 2-5/8 |
| 3/4 | 4-5/8 | 4 | 5/8 | 0.75 | 3-1/4 |
| 1 | 4-7/8 | 4 | 5/8 | 0.75 | 3-1/2 |
| 1-1/4 | 5-1/4 | 4 | 5/8 | 0.75 | 3-7/8 |
| 1-1/2 | 6-1/8 | 4 | 3/4 | 0.88 | 4-1/2 |
| 2 | 6-1/2 | 8 | 5/8 | 0.75 | 5 |
| 2-1/2 | 7-1/2 | 8 | 3/4 | 0.88 | 5-7/8 |
| 3 | 8-1/4 | 8 | 3/4 | 0.88 | 6-5/8 |
| 3-1/2 | 9 | 8 | 7/8 | 1 | 7-1/4 |
| 4 | 10 | 8 | 7/8 | 1 | 7-7/8 |
| 5 | 11 | 8 | 7/8 | 1 | 9-1/4 |
| 6 | 12-1/2 | 12 | 7/8 | 1 | 10-5/8 |
| 8 | 15 | 12 | 1 | 1.12 | 13 |
| 10 | 17-1/2 | 16 | 1-1/8 | 1.25 | 15-1/4 |
| 12 | 20-1/2 | 16 | 1-1/4 | 1.38 | 17-3/4 |
| 14 | 23 | 20 | 1-1/4 | 1.38 | 20-1/4 |
| 16 | 25-1/2 | 20 | 1-3/8 | 1.5 | 22-1/2 |
| 18 | 28 | 24 | 1-3/8 | 1.5 | 24-3/4 |
| 20 | 30-1/2 | 24 | 1-1/2 | 1.62 | 27 |
| 24 | 36 | 24 | 1-3/4 | 1.88 | 32 |

Class 600

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts ККО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/4 | 3-3/8 | 4 | 1/2 | 0.62 | 2-1/4 |
| 1/2 | 3-3/4 | 4 | 1/2 | 0.62 | 2-5/8 |
| 3/4 | 4-5/8 | 4 | 5/8 | 0.75 | 3-1/4 |
| 1 | 4-7/8 | 4 | 5/8 | 0.75 | 3-1/2 |
| 1-1/4 | 5-1/4 | 4 | 5/8 | 0.75 | 3-7/8 |
| 1-1/2 | 6-1/8 | 4 | 3/4 | 0.88 | 4-1/2 |
| 2 | 6-1/2 | 8 | 5/8 | 0.75 | 5 |
| 2-1/2 | 7-1/2 | 8 | 3/4 | 0.88 | 5-7/8 |
| 3 | 8-1/4 | 8 | 3/4 | 0.88 | 6-5/8 |
| 3-1/2 | 9 | 8 | 7/8 | 1 | 7-1/4 |
| 4 | 10-3/4 | 8 | 7/8 | 1 | 8-1/2 |
| 5 | 13 | 8 | 1 | 1.12 | 10-1/2 |
| 6 | 14 | 12 | 1 | 1.12 | 11-1/2 |
| 8 | 16-1/2 | 12 | 1-1/8 | 1.25 | 13-3/4 |
| 10 | 20 | 16 | 1-1/4 | 1.38 | 17 |
| 12 | 22 | 20 | 1-1/4 | 1.38 | 19-1/4 |
| 14 | 23-3/4 | 20 | 1-3/8 | 1.5 | 20-3/4 |
| 16 | 27 | 20 | 1-1/2 | 1.62 | 23-3/4 |
| 18 | 29-1/4 | 20 | 1-5/8 | 1.75 | 25-3/4 |
| 20 | 32 | 24 | 1-5/8 | 1.75 | 28-1/2 |
| 24 | 37 | 24 | 1-7/8 | 2 | 33 |

ANSI/ASME B16.5 Flange Connections

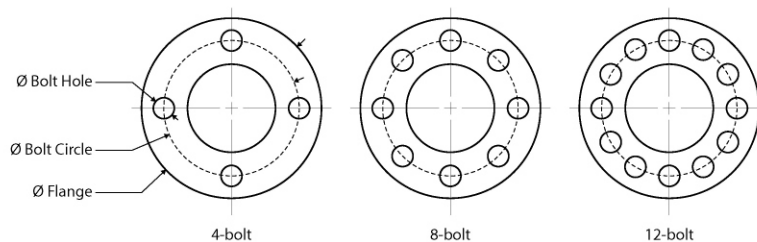


Dimensions (in inches) Размеры в дюймах
Class 900

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts КСО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/2 | 4-3/4 | 4 | 3/4 | 0.88 | 3-1/4 |
| 3/4 | 5-1/8 | 4 | 3/4 | 0.88 | 3-1/2 |
| 1 | 5-7/8 | 4 | 7/8 | 1 | 4 |
| 1-1/4 | 6-1/4 | 4 | 7/8 | 1 | 4-3/8 |
| 1-1/2 | 7 | 4 | 1 | 1.12 | 4-7/8 |
| 2 | 8-1/2 | 8 | 7/8 | 1 | 6-1/2 |
| 2-1/2 | 9-5/8 | 8 | 1 | 1.12 | 7-1/2 |
| 3 | 9-1/2 | 8 | 7/8 | 1 | 7-1/2 |
| 4 | 11-1/2 | 8 | 1-1/8 | 1.25 | 9-1/4 |
| 5 | 13-3/4 | 8 | 1-1/4 | 1.38 | 11 |
| 6 | 15 | 12 | 1-1/8 | 1.25 | 12-1/2 |
| 8 | 18-1/2 | 12 | 1-3/8 | 1.5 | 15-1/2 |
| 10 | 21-1/2 | 16 | 1-3/8 | 1.5 | 18-1/2 |
| 12 | 24 | 20 | 1-3/8 | 1.5 | 21 |
| 14 | 25-1/4 | 20 | 1-1/2 | 1.62 | 22 |
| 16 | 27-3/4 | 20 | 1-5/8 | 1.75 | 24-1/2 |
| 18 | 31 | 20 | 1-7/8 | 2 | 27 |
| 20 | 33-3/4 | 20 | 2 | 2.12 | 29-1/2 |
| 24 | 41 | 20 | 2-1/2 | 2.62 | 35-1/2 |

Class 1500

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts КСО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/2 | 4-3/4 | 4 | 3/4 | 0.88 | 3-1/4 |
| 3/4 | 5-1/8 | 4 | 3/4 | 0.88 | 3-1/2 |
| 1 | 5-7/8 | 4 | 7/8 | 1 | 4 |
| 1-1/4 | 6-1/4 | 4 | 7/8 | 1 | 4-3/8 |
| 1-1/2 | 7 | 4 | 1 | 1.12 | 4-7/8 |
| 2 | 8-1/2 | 8 | 7/8 | 1 | 6-1/2 |
| 2-1/2 | 9-5/8 | 8 | 1 | 1.12 | 7-1/2 |
| 3 | 10-1/2 | 8 | 1-1/8 | 1.25 | 8 |
| 4 | 12-1/4 | 8 | 1-1/4 | 1.38 | 9-1/2 |
| 5 | 14-3/4 | 8 | 1-1/2 | 1.62 | 11-1/2 |
| 6 | 15-1/2 | 12 | 1-3/8 | 1.5 | 12-1/2 |
| 8 | 19 | 12 | 1-5/8 | 1.75 | 15-1/2 |
| 10 | 23 | 12 | 1-7/8 | 2 | 19 |
| 12 | 26-1/2 | 16 | 2 | 2.12 | 22-1/2 |
| 14 | 29-1/2 | 16 | 2-1/4 | 2.38 | 25 |
| 16 | 32-1/2 | 16 | 2-1/2 | 2.62 | 27-3/4 |
| 18 | 36 | 16 | 2-3/4 | 2.88 | 30-1/2 |
| 20 | 38-3/4 | 16 | 3 | 3.12 | 32-3/4 |
| 24 | 46 | 16 | 3-1/2 | 3.62 | 39 |



Dimensions (in inches) Размеры в дюймах
Class 2500

| NPS Размер | Ø of Flange Ø Фланца | No. of Bolts КСО | Ø of Bolts Болты | Ø of Bolt Holes Отв. под болты | Ø of Bolt Circle PCD |
|---------------|-------------------------|---------------------|---------------------|--------------------------------------|-------------------------|
| 1/2 | 5-1/4 | 4 | 3/4 | 0.88 | 3-1/2 |
| 3/4 | 5-1/2 | 4 | 3/4 | 0.88 | 3-3/4 |
| 1 | 6-1/4 | 4 | 7/8 | 1 | 4-1/4 |
| 1-1/4 | 7-1/4 | 4 | 1 | 1.12 | 5-1/8 |
| 1-1/2 | 8 | 4 | 1-1/8 | 1.25 | 5-3/4 |
| 2 | 9-1/4 | 8 | 1 | 1.12 | 6-3/4 |
| 2-1/2 | 10-1/2 | 8 | 1-1/8 | 1.25 | 7-3/4 |
| 3 | 12 | 8 | 1-1/4 | 1.38 | 9 |
| 4 | 14 | 8 | 1-1/2 | 1.62 | 10-3/4 |
| 5 | 16-1/2 | 8 | 1-3/4 | 1.88 | 12-3/4 |
| 6 | 19 | 8 | 2 | 2.12 | 14-1/2 |
| 8 | 21-3/4 | 12 | 2 | 2.12 | 17-1/4 |
| 10 | 26-1/2 | 12 | 2-1/2 | 2.62 | 21-1/4 |
| 12 | 30 | 12 | 2-3/4 | 2.88 | 24-3/8 |