



nikal
STEELS

EN 1092-1 Flanges



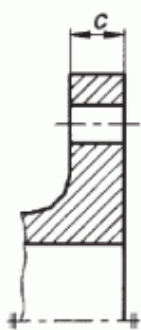


EN 1092-1 Flanges Summary Chart

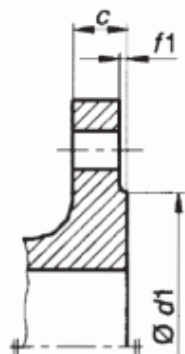
| Description | | Rated Pressure (in bar) (1 bar = 14.5 psi = 100 kPa) | | | | | | |
|-------------|---|---|----|----|----|----|----|-----|
| | | 6 | 10 | 16 | 25 | 40 | 63 | 100 |
| 01 | Plate <slip-on> flanges for welding | V | V | V | V | V | V | V |
| 02 | Loose plate flanges with weld-on plate collar | V | V | V | V | V | | |
| 04 | Loose plate flanges with weld-neck collar | V | V | V | V | V | | |
| 05 | Blank <blind> flanges | V | V | V | V | V | V | V |
| 11 | Weld-Neck Flanges | V | V | V | V | V | V | V |
| 12 | Hubbed slip-on flanges for welding | V | V | V | V | V | V | V |
| 13 | Hubbed threaded flanges | | | V | | V | V | V |
| 21 | Integral flanges | V | V | V | V | V | V | V |
| 32 | Weld-on plate collars | V | V | V | V | V | | |
| 33 | Lapped pipe ends | V | V | V | V | V | | |
| 34 | Weld-neck collars | V | V | V | V | V | | |



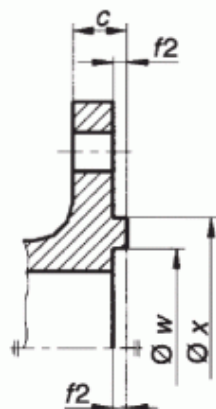
Flange Facing Dimensions EN 1092-1



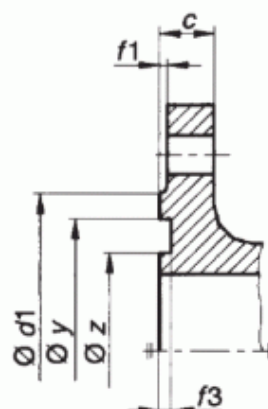
Type A: Flat face



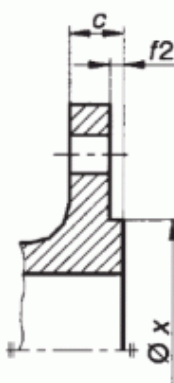
Type B: Raised face (B1 and B2)



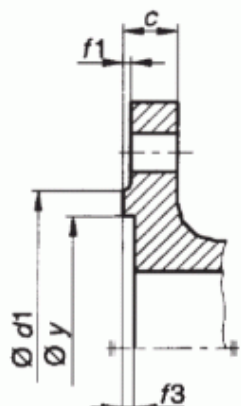
Type C: Tongue



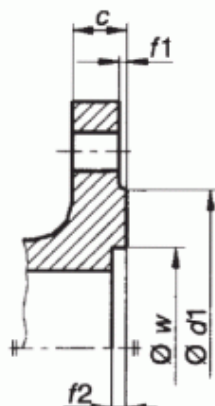
Type D: Groove



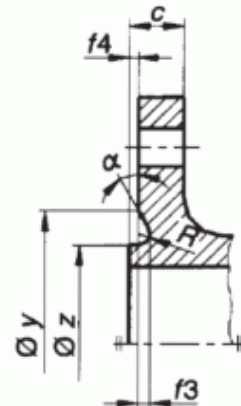
Type E: Spigot



Type F: Recess



Type G: O-ring spigot



Type H: O-ring groove



Type A
Flat face



Type B
Raised face
(B1 and B2)



Type C
Tongue



Type D
Groove



Type E
Spigot



Type F
Recess



Type G
O-ring spigot



Type H
O-ring groove



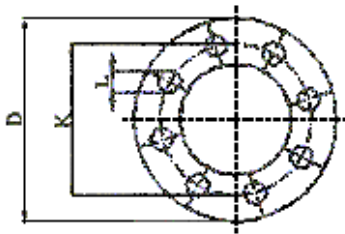
Flange Facing Dimensions EN 1092-1

| DN | d_1 | | | | f_1 | f_2 | f_3 | f_4 | w | x | y | z | $\alpha \approx$ | R |
|------|---------------------|---------------------|-----------------------|-------|-------|-------|-------|-------|-----|-----|-----|-----|------------------|-----|
| | PN 2,5 | PN 6 | PN 10 | PN 16 | | | | | | | | | | |
| | mm | mm | mm | mm | | | | | | | | | | |
| 10 | Use PN 6 dimensions | 35 | Use PN 100 dimensions | | 2 | 4,5 | 4,0 | 2,0 | 24 | 34 | 35 | 23 | - | 2,5 |
| 15 | | 40 | | | | | | | 29 | 39 | 40 | 28 | - | |
| 20 | | 50 | | | | | | | 36 | 50 | 51 | 35 | 41° | |
| 25 | | 60 | | | | | | | 43 | 57 | 58 | 42 | | |
| 32 | | 70 | | | | | | | 51 | 65 | 66 | 50 | | |
| 40 | | 80 | | | | | | | 61 | 75 | 76 | 60 | | |
| 50 | | 90 | | | | | | | 73 | 87 | 88 | 72 | | |
| 65 | | 110 | | | | | | | 95 | 109 | 110 | 94 | | |
| 80 | | 128 | 106 | 120 | | 121 | 105 | | | | | | | |
| 100 | | 148 | 158 | 158 | | 129 | 149 | 150 | 128 | 32° | 3 | | | |
| 125 | | 178 | 188 | 188 | | 155 | 175 | 176 | 154 | | | | | |
| 150 | | 202 | 212 | 212 | | 183 | 203 | 204 | 182 | | | | | |
| 200 | | 258 | 268 | 268 | | 239 | 259 | 260 | 238 | | | | | |
| 250 | | 312 | 320 | 320 | | 292 | 312 | 313 | 291 | | | | | |
| 300 | | 365 | 370 | 378 | | 343 | 363 | 364 | 342 | | | | | |
| 350 | | Use PN 6 dimensions | 415 | 430 | | 438 | 395 | 421 | 422 | | | 394 | 27° | |
| 400 | 465 | | 482 | 490 | 447 | 473 | 474 | 446 | | | | | | |
| 450 | 520 | | 532 | 550 | 497 | 523 | 524 | 496 | | | | | | |
| 500 | 570 | | 585 | 610 | 549 | 575 | 576 | 548 | | | | | | |
| 600 | 670 | | 685 | 725 | 649 | 675 | 676 | 648 | | | | | | |
| 700 | 775 | | 800 | 795 | 751 | 777 | 778 | 750 | | | | | | |
| 800 | 880 | | 905 | 900 | 856 | 882 | 883 | 855 | | | | | | |
| 900 | 980 | | 1005 | 1000 | 961 | 987 | 988 | 960 | | | | | | |
| 1000 | 1080 | | 1110 | 1115 | 1062 | 1092 | 1094 | 1060 | | | | | | |
| 1200 | 1280 | | 1295 | 1330 | 1262 | 1292 | 1294 | 1260 | 28° | 4 | | | | |
| 1400 | 1480 | 1510 | 1535 | 1462 | 1492 | 1494 | 1460 | | | | | | | |
| 1600 | 1690 | 1710 | 1760 | 1662 | 1692 | 1694 | 1660 | | | | | | | |
| 1800 | 1890 | 1920 | 1960 | 1862 | 1892 | 1894 | 1860 | | | | | | | |
| 2000 | 2090 | 2125 | 2170 | 2062 | 2092 | 2094 | 2060 | | | | | | | |

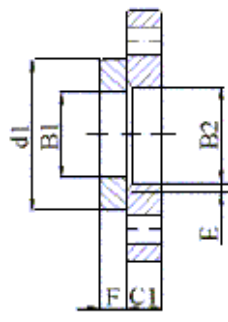
| DN | d_1 | | | | f_1 | f_2 | f_3 | f_4 | w | x | y | z | $\alpha \approx$ | R | |
|------|-----------------------|-------|-------|--------|-------|-------|-------|-------|-----|-----|-----|-----|------------------|-----|-----|
| | PN 25 | PN 40 | PN 63 | PN 100 | | | | | | | | | | | |
| | mm | mm | mm | mm | | | | | | | | | | | |
| 10 | Use PN 100 dimensions | | | | 2 | 4,5 | 4,0 | 2,0 | 24 | 34 | 35 | 23 | - | 2,5 | |
| 15 | | | | | | | | | 40 | 29 | 39 | 40 | 28 | | - |
| 20 | | | | | | | | | 58 | 36 | 50 | 51 | 35 | | 41° |
| 25 | | | | | | | | | 68 | 43 | 57 | 58 | 42 | | |
| 32 | | | | | | | | | 78 | 51 | 65 | 66 | 50 | | |
| 40 | | | | | | | | | 88 | 61 | 75 | 76 | 60 | | |
| 50 | | | | | | | | | 102 | 73 | 87 | 88 | 72 | | |
| 65 | | | | | | | | | 122 | 95 | 109 | 110 | 94 | | |
| 80 | 138 | 106 | 120 | 121 | | 105 | | | | | | | | | |
| 100 | 162 | 162 | 162 | 162 | | 129 | 149 | 150 | 128 | 32° | 3 | | | | |
| 125 | 188 | 188 | 188 | 188 | | 155 | 175 | 176 | 154 | | | | | | |
| 150 | 218 | 218 | 218 | 218 | | 183 | 203 | 204 | 182 | | | | | | |
| 200 | 278 | 285 | 285 | 285 | | 239 | 259 | 260 | 238 | | | | | | |
| 250 | 335 | 345 | 345 | 345 | | 292 | 312 | 313 | 291 | | | | | | |
| 300 | 395 | 410 | 410 | 410 | | 343 | 363 | 364 | 342 | | | | | | |
| 350 | 450 | 465 | 465 | 465 | | 395 | 421 | 422 | 394 | | | 27° | 3,5 | | |
| 400 | 505 | 535 | 535 | 535 | 447 | 473 | 474 | 446 | | | | | | | |
| 450 | 555 | 560 | 560 | 560 | 497 | 523 | 524 | 496 | | | | | | | |
| 500 | 615 | 615 | 615 | 615 | 549 | 575 | 576 | 548 | | | | | | | |
| 600 | 720 | 735 | 735 | - | 649 | 675 | 676 | 648 | | | | | | | |
| 700 | 820 | - | 840 | - | 751 | 777 | 778 | 750 | | | | | | | |
| 800 | 930 | - | 960 | - | 856 | 882 | 883 | 855 | | | | | | | |
| 900 | 1030 | - | 1070 | - | 961 | 987 | 988 | 960 | | | | | | | |
| 1000 | 1140 | - | 1180 | - | 1062 | 1092 | 1094 | 1060 | | | | | | | |
| 1200 | 1350 | - | 1380 | - | 1262 | 1292 | 1294 | 1260 | 28° | 4 | | | | | |
| 1400 | 1560 | - | - | - | 1462 | 1492 | 1494 | 1460 | | | | | | | |
| 1600 | 1780 | - | - | - | 1662 | 1692 | 1694 | 1660 | | | | | | | |
| 1800 | 1985 | - | - | - | 1862 | 1892 | 1894 | 1860 | | | | | | | |
| 2000 | 2210 | - | - | - | 2062 | 2092 | 2094 | 2060 | | | | | | | |



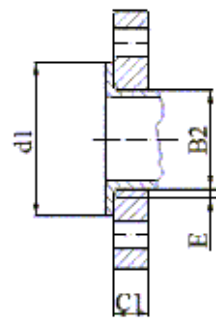
EN 1092-1 PN6 Flanges



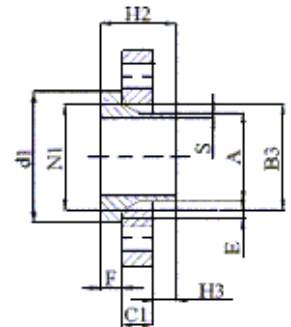
Typ 01



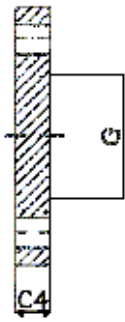
Typ 02 in 32



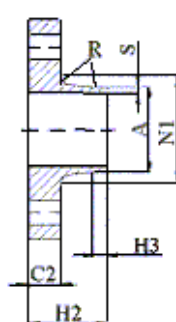
Typ 02 in 33



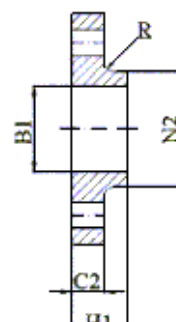
Typ 04 in 34



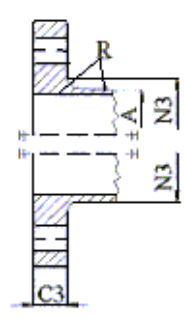
Typ 05



Typ 11



Typ 12



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN6 Flanges

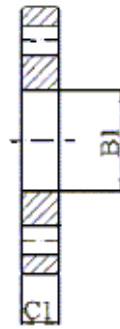
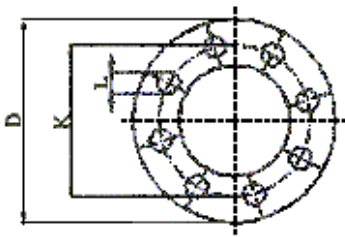
| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck A | Bore diameters B1 B2 | | Flange thickness C1* C2 C3 C4 | | | | Chamfer E | Collar thickness F | Diameter of shoulder G max | Length H1 H2 H3 | | | Neck diameters N1 N2 N3 | | | Corner radius R | Neck thickness (preferred value) S |
|----------------------------|-------------------|-------------------------|-----------------------|-------|------------|-------------------------------|-------------------------|----------------|----------------------------------|----|----|----|--------------|-----------------------|-------------------------------|--------------------|----|----------|----------------------------|----------------------|----|--------------------|---------------------------------------|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolts | | | | | | | | | | | | | | | | | | | |
| | D | K | L | No | Size | | | | | | | | | | | | | | | | | | |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | |
| 01, 02, 05, 11, 12, 13, 21 | | | | | 11 21** | 01 12 32 | 02 | 01 02 04 | 11 12 13 21 | 05 | 02 | 32 | 05 | 12 13 | 11 | 11 | 11 | 12 13 | 21 | 11 12 12 21 | 11 | | |
| 10 | 75 | 50 | 11 | 4 | M10 | 17,2 | 18,0 | 21 | 12 | 12 | 12 | 3 | 10 | - | 20 | 28 | 6 | 26 | 25 | 20 | 4 | 1,8 | |
| 15 | 80 | 55 | 11 | 4 | M10 | 21,3 | 22,0 | 25 | 12 | 12 | 12 | 3 | 10 | - | 20 | 30 | 6 | 30 | 30 | 26 | 4 | 2,0 | |
| 20 | 90 | 65 | 11 | 4 | M10 | 26,9 | 27,5 | 31 | 14 | 14 | 14 | 4 | 10 | - | 24 | 32 | 6 | 38 | 40 | 34 | 4 | 2,3 | |
| 25 | 100 | 75 | 11 | 4 | M10 | 33,7 | 34,5 | 38 | 14 | 14 | 14 | 4 | 10 | - | 24 | 35 | 6 | 42 | 50 | 44 | 4 | 2,6 | |
| 32 | 120 | 90 | 14 | 4 | M12 | 42,4 | 43,5 | 46 | 16 | 14 | 14 | 5 | 10 | - | 26 | 35 | 6 | 55 | 60 | 54 | 6 | 2,6 | |
| 40 | 130 | 100 | 14 | 4 | M12 | 48,3 | 49,5 | 53 | 16 | 14 | 14 | 5 | 10 | - | 26 | 38 | 7 | 62 | 70 | 64 | 6 | 2,6 | |
| 50 | 140 | 110 | 14 | 4 | M12 | 60,3 | 61,5 | 65 | 16 | 14 | 14 | 5 | 12 | - | 28 | 38 | 8 | 74 | 80 | 74 | 6 | 2,9 | |
| 65 | 160 | 130 | 14 | 4 | M12 | 76,1 | 77,5 | 81 | 16 | 14 | 14 | 6 | 12 | 55 | 32 | 38 | 9 | 88 | 100 | 94 | 6 | 2,9 | |
| 80 | 190 | 150 | 18 | 4 | M16 | 88,9 | 90,5 | 94 | 18 | 16 | 16 | 6 | 12 | 70 | 34 | 42 | 10 | 102 | 110 | 110 | 8 | 3,2 | |
| 100 | 210 | 170 | 18 | 4 | M16 | 114,3 | 116,0 | 120 | 18 | 16 | 16 | 6 | 14 | 90 | 40 | 45 | 10 | 130 | 130 | 130 | 8 | 3,6 | |
| 125 | 240 | 200 | 18 | 8 | M16 | 139,7 | 141,5 | 145 | 20 | 18 | 18 | 6 | 14 | 115 | 44 | 48 | 10 | 155 | 160 | 160 | 8 | 4,0 | |
| 150 | 265 | 225 | 18 | 8 | M16 | 168,3 | 170,5 | 174 | 20 | 18 | 18 | 6 | 14 | 140 | 44 | 48 | 12 | 184 | 185 | 182 | 10 | 4,5 | |
| 200 | 320 | 280 | 18 | 8 | M16 | 219,1 | 221,5 | 226 | 22 | 20 | 20 | 6 | 16 | 190 | 44 | 55 | 15 | 236 | 240 | 238 | 10 | 5,9 | |
| 250 | 375 | 335 | 18 | 12 | M16 | 273,0 | 276,5 | 281 | 24 | 22 | 22 | 8 | 18 | 235 | 44 | 60 | 15 | 290 | 295 | 284 | 12 | 6,3 | |
| 300 | 440 | 395 | 22 | 12 | M20 | 323,9 | 327,5 | 333 | 24 | 22 | 22 | 8 | 18 | 285 | 44 | 62 | 15 | 342 | 355 | 342 | 12 | 7,1 | |
| 350 | 490 | 445 | 22 | 12 | M20 | 355,6 | 359,5 | 365 | 26 | 22 | 22 | 8 | 18 | 330 | - | 62 | 15 | 385 | - | 392 | 12 | 7,1 | |
| 400 | 540 | 495 | 22 | 16 | M20 | 406,4 | 411,0 | 416 | 28 | 22 | 22 | 8 | 20 | 380 | - | 65 | 15 | 438 | - | 442 | 12 | 7,1 | |
| 450 | 595 | 550 | 22 | 16 | M20 | 457,0 | 462,0 | 467 | 30 | 22 | 24 | 8 | 20 | 425 | - | 65 | 15 | 492 | - | 494 | 12 | 7,1 | |
| 500 | 645 | 600 | 22 | 20 | M20 | 508,0 | 513,5 | 519 | 30 | 24 | 24 | 8 | 22 | 475 | - | 68 | 15 | 538 | - | 544 | 12 | 7,1 | |
| 600 | 755 | 705 | 26 | 20 | M24 | 610,0 | 616,5 | 622 | 32 | 30 | 30 | 8 | 22 | 575 | - | 70 | 16 | 640 | - | 642 | 12 | 7,1 | |
| 700 | 860 | 810 | 26 | 24 | M24 | 711,0 | - | - | - | 24 | 40 | - | - | 670 | - | 70 | 16 | 740 | - | 746 | 12 | 7,1 | |
| 800 | 975 | 920 | 30 | 24 | M27 | 813,0 | - | - | - | 24 | 44 | - | - | 770 | - | 70 | 16 | 842 | - | 850 | 12 | 7,1 | |
| 900 | 1075 | 1020 | 30 | 24 | M27 | 914,0 | - | - | - | 26 | 48 | - | - | 860 | - | 70 | 16 | 942 | - | 950 | 12 | 7,1 | |
| 1000 | 1175 | 1120 | 30 | 28 | M27 | 1016,0 | - | - | - | 26 | 52 | - | - | 960 | - | 70 | 16 | 1045 | - | 1050 | 16 | 7,1 | |
| 1200 | 1405 | 1340 | 33 | 32 | M30 | 1219,0 | - | - | - | 28 | 60 | - | - | 1160 | - | 90 | 20 | 1248 | - | 1264 | 16 | 8,0 | |
| 1400 | 1630 | 1560 | 36 | 36 | M33 | 1422,0 | - | - | - | 32 | 68 | - | - | 1346 | - | 90 | 20 | 1452 | - | 1480 | 16 | 8,0 | |
| 1600 | 1830 | 1760 | 36 | 40 | M33 | 1626,0 | - | - | - | 34 | 76 | - | - | 1546 | - | 90 | 20 | 1655 | - | 1680 | 16 | 9,0 | |
| 1800 | 2045 | 1970 | 39 | 44 | M36 | 1829,0 | - | - | - | 36 | 84 | - | - | 1746 | - | 100 | 20 | 1855 | - | 1878 | 16 | 10,0 | |
| 2000 | 2265 | 2180 | 42 | 48 | M39 | 2032,0 | - | - | - | 38 | 92 | - | - | 1950 | - | 110 | 25 | 2058 | - | 2082 | 16 | 11,0 | |
| 2200 | 2475 | 2390 | 42 | 52 | M39 | 2035,0 | - | - | - | 42 | - | - | - | - | - | 115 | 25 | 2260 | - | - | 18 | 12,0 | |
| 2400 | 2685 | 2600 | 42 | 56 | M39 | 2438,0 | - | - | - | 44 | - | - | - | - | - | 125 | 25 | 2462 | - | - | 18 | 13,0 | |
| 2600 | 2905 | 2710 | 48 | 60 | M45 | 2620,0 | - | - | - | 46 | - | - | - | - | - | 130 | 25 | 2665 | - | - | 18 | 14,0 | |
| 2800 | 3115 | 3020 | 48 | 64 | M45 | 2820,0 | - | - | - | 48 | - | - | - | - | - | 135 | 30 | 2865 | - | - | 18 | 15,0 | |
| 3000 | 3315 | 3220 | 48 | 68 | M45 | 3020,0 | - | - | - | 50 | - | - | - | - | - | 140 | 30 | 3068 | - | - | 18 | 16,0 | |
| 3200 | 3525 | 3430 | 48 | 72 | M45 | 3220,0 | - | - | - | 54 | - | - | - | - | - | 150 | 30 | 3272 | - | - | 20 | 16,0 | |
| 3400 | 3735 | 3640 | 48 | 76 | M45 | 3420,0 | - | - | - | 56 | - | - | - | - | - | 160 | 35 | 3475 | - | - | 20 | 18,0 | |
| 3600 | 3970 | 3860 | 56 | 80 | M52 | 3620,0 | - | - | - | 60 | - | - | - | - | - | 165 | 35 | 3678 | - | - | 20 | 18,0 | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.

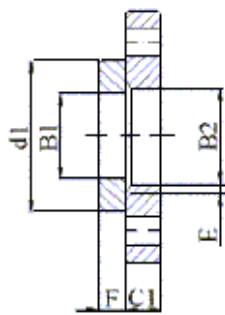
Note 2: For d1 dimensions see document "Flange Facing Dimensions EN 1092-1".



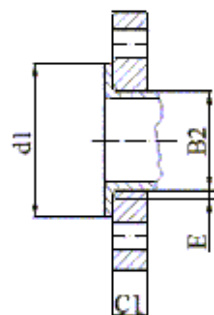
EN 1092-1 PN10 Flanges



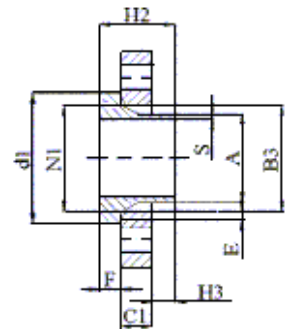
Typ 01



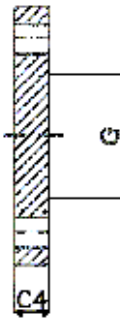
Typ 02 in 32



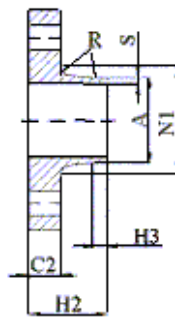
Typ 02 in 33



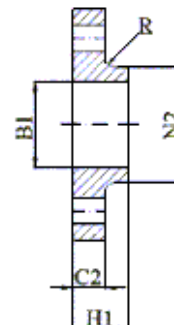
Typ 04 in 34



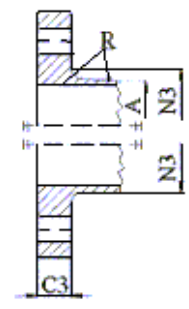
Typ 05



Typ 11



Typ 12



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN10 Flanges

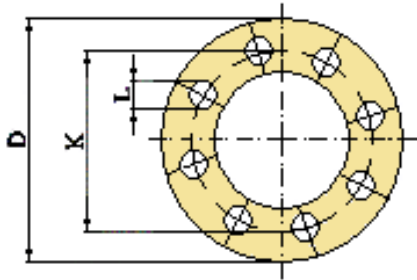
| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck | Bore diameters | | | | Flange thickness | | | | Chamfer | Collar thickness | Diameter of shoulders | Length | | | Neck diameters | | | Corner radius | Neck thickness (preferred value) |
|-------------------------------------|------------------------|--------------------------------------|-----------------------|---------|-----|--------------------------|----------------|-----|-----|----------------|------------------|----|----|----------|----------|------------------|-----------------------|----------|----------|----------|----------------|------|----------------|---------------|----------------------------------|
| | Outside diameter | Diameter of bolt circle of bolt hole | Diameter of bolt hole | Bolting | | | | | | | | | | | | | | | | | | | | | |
| | D | K | | L | No | | | | | | | | | | | | | | | | | | | | |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | | | |
| | 01, 02, 05, 11, 12, 21 | | | | | 11 21* 34 | 01 12 32 | 02 | 04 | 01 02 04 | 11 12 | 21 | 05 | 02 04 | 32 34 | 05 | 12 | 11 34 | 11 34 | 11 34 | 12 | 21 | 11 12 21 | 11 34 | |
| 10 15 20 25 32 40 | Use PN40 dimensions | Use PN40 dimensions | | | | | | | | | | | | | | | | | | | | | | | |
| 50 65 80 100 125 150 | Use PN 16 dimensions | Use PN 16 dimensions | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 340 | 295 | 22 | 8 | M20 | 219,1 | 221,5 | 226 | 240 | 24 | 24 | 24 | 24 | 6 | 20 | 190 | 44 | 62 | 16 | 234 | 246 | 246 | 10 | 5,9 | |
| 250 | 395 | 350 | 22 | 12 | M20 | 273,0 | 276,5 | 218 | 294 | 26 | 26 | 26 | 26 | 8 | 22 | 235 | 46 | 68 | 16 | 292 | 298 | 298 | 12 | 6,3 | |
| 300 | 445 | 400 | 22 | 12 | M20 | 323,9 | 327,5 | 333 | 348 | 26 | 26 | 26 | 26 | 8 | 22 | 285 | 46 | 68 | 16 | 342 | 350 | 348 | 12 | 7,1 | |
| 350 | 505 | 460 | 22 | 16 | M20 | 335,6 | 359,5 | 365 | 400 | 28 | 26 | 26 | 26 | 8 | 22 | 330 | 53 | 68 | 16 | 385 | 400 | 408 | 12 | 7,1 | |
| 400 | 565 | 515 | 26 | 16 | M24 | 406,4 | 411,0 | 416 | 450 | 32 | 26 | 26 | 26 | 8 | 24 | 380 | 57 | 72 | 16 | 440 | 456 | 456 | 12 | 7,1 | |
| 450 | 615 | 565 | 26 | 20 | M24 | 457,0 | 462,0 | 467 | 498 | 36 | 28 | 28 | 28 | 8 | 24 | 425 | 63 | 72 | 16 | 488 | 502 | 502 | 12 | 7,1 | |
| 500 | 670 | 620 | 26 | 20 | M24 | 508,0 | 513,5 | 519 | 550 | 38 | 28 | 28 | 28 | 8 | 26 | 475 | 67 | 75 | 16 | 542 | 559 | 559 | 12 | 7,1 | |
| 600 | 780 | 725 | 30 | 20 | M27 | 610,0 | 616,5 | 622 | 650 | 42 | 34 | 34 | 34 | 8 | 26 | 575 | 75 | 80 | 18 | 642 | 658 | 658 | 12 | 7,1 | |
| 700 | 895 | 840 | 30 | 24 | M27 | 711,1 | - | - | - | - | 30 | 34 | 38 | - | - | 670 | - | 80 | 18 | 746 | - | 772 | 12 | 8,0 | |
| 800 | 1015 | 950 | 33 | 24 | M30 | 813 | - | - | - | - | 32 | 36 | 42 | - | - | 770 | - | 90 | 18 | 850 | - | 876 | 12 | 8,0 | |
| 900 | 1115 | 1050 | 33 | 28 | M30 | 914 | - | - | - | - | 34 | 38 | 46 | - | - | 860 | - | 95 | 20 | 950 | - | 976 | 12 | 10,0 | |
| 1000 | 1230 | 1160 | 36 | 28 | M33 | 1016 | - | - | - | - | 34 | 38 | 52 | - | - | 960 | - | 95 | 20 | 1052 | - | 1080 | 16 | 10,0 | |
| 1200 | 1455 | 1380 | 39 | 32 | M36 | 1219 | - | - | - | - | 38 | 44 | 60 | - | - | 1160 | - | 115 | 25 | 1256 | - | 1292 | 16 | 11,0 | |
| 1400 | 1675 | 1590 | 42 | 36 | M39 | 1422 | - | - | - | - | 42 | 48 | - | - | - | 1346 | - | 120 | 25 | 1460 | - | 1496 | 16 | 12,0 | |
| 1600 | 1915 | 1820 | 48 | 40 | M45 | 1626 | - | - | - | - | 46 | 52 | - | - | - | 1546 | - | 130 | 25 | 1666 | - | 1712 | 16 | 14,0 | |
| 1800 | 2115 | 2020 | 48 | 44 | M45 | 1829 | - | - | - | - | 50 | 56 | - | - | - | 1746 | - | 140 | 30 | 1868 | - | 1910 | 16 | 15,0 | |
| 2000 | 2325 | 2230 | 48 | 48 | M45 | 2032 | - | - | - | - | 54 | 60 | - | - | - | 1950 | - | 150 | 30 | 2072 | - | 2120 | 16 | 16,0 | |
| 2200 | 2550 | 2440 | 56 | 52 | M52 | 2235 | - | - | - | - | 58 | - | - | - | - | - | - | 160 | 35 | 2275 | - | - | 18 | 18,0 | |
| 2400 | 2760 | 2650 | 56 | 56 | M52 | 2438 | - | - | - | - | 62 | - | - | - | - | - | - | 170 | 35 | 2478 | - | - | 18 | 20,0 | |
| 2600 | 2960 | 2850 | 56 | 60 | M52 | 2620 | - | - | - | - | 66 | - | - | - | - | - | - | 180 | 40 | 2680 | - | - | 18 | 22,0 | |
| 2800 | 3180 | 3070 | 56 | 64 | M52 | 2820 | - | - | - | - | 70 | - | - | - | - | - | - | 190 | 40 | 2882 | - | - | 18 | 22,0 | |
| 3000 | 3405 | 3290 | 62 | 68 | M56 | 3020 | - | - | - | - | 75 | - | - | - | - | - | - | 200 | 45 | 3085 | - | - | 18 | 24,0 | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.

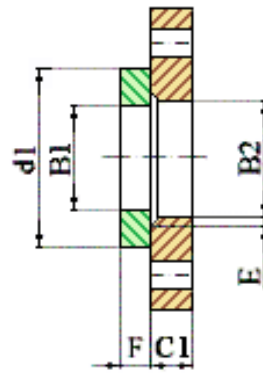
Note 2: For d1 dimensions see document "Flange Facing Dimensions EN 1092-1".



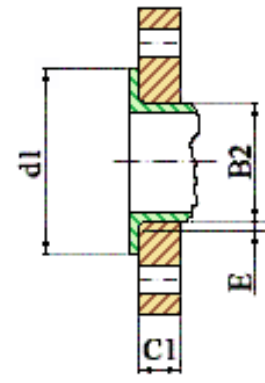
EN 1092-1 PN16 Flanges



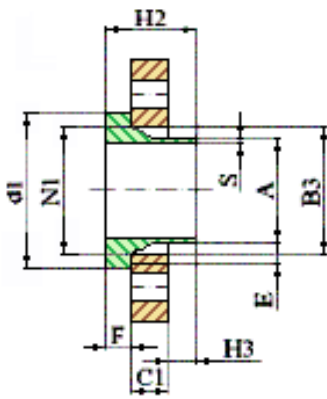
Typ 01



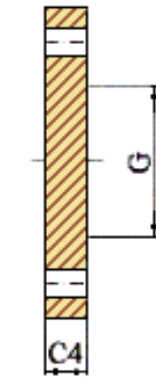
Typ 02 in 32



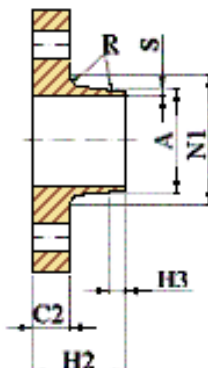
Typ 02 in 33



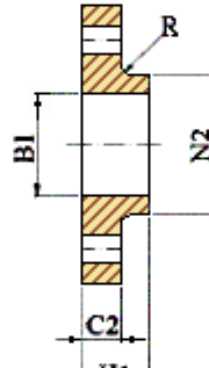
Typ 04 in 34



Typ 05



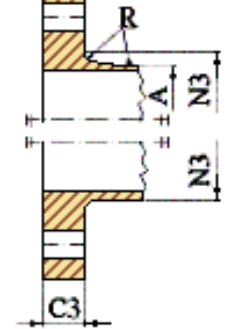
Typ 11



Typ 12



Typ 13



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN16 Flanges

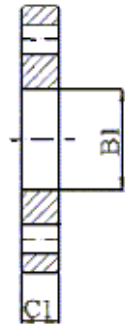
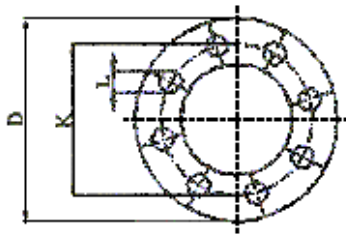
| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck | Bore diameters | | | Flange thickness | | | | Chamfer | | Collar thickness | | Diameter of shoulders | | Length | | | Neck diameters | | | Corner radius | | Neck thickness (preferred value) | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|------------------------|-------------------------|-----------------------|---------|------|--------------------------|----------------|-----|-----|------------------|----------------|----|----|----------|----------|------------------|----------|-----------------------|----------|----------|----------|------|----------------------|----------|--|---------------|--|----------------------------------|--|---|----|----|----|----|----|----|----|---|---|--------|----|----|----|----|----|----|---|---|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | D | K | L | No | Size | | | | | | | | | | | | | | | | | | | | | | | | | A | B1 | B2 | B3 | C1 | C2 | C3 | C4 | E | F | G max. | H1 | H2 | H3 | N1 | N2 | N3 | R | S |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 01, 02, 05, 11, 12, 21 | | | | | 11 21* 34 | 01 12 32 | 02 | 04 | 01 02 04 | 11 12 13 | 21 | 05 | 02 04 | 32 34 | 05 | 12 13 | 11 34 | 11 34 | 11 34 | 12 13 | 21 | 11 12 13 21 | 11 34 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 15 20 25 32 40 | Use PN 40 dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 165 | 125 | 18 | 4 | M16 | 60,3 | 61,5 | 65 | 77 | 19 | 18 | 18 | 18 | 5 | 16 | - | 28 | 45 | 8 | 74 | 84 | 84 | 5 | 2,9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | 185 | 145 | 18 | ** | M16 | 76,1 | 77,5 | 81 | 96 | 20 | 18 | 18 | 18 | 6 | 16 | 55 | 32 | 45 | 10 | 92 | 104 | 104 | 6 | 2,9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | 200 | 160 | 18 | 8 | M16 | 88,9 | 90,5 | 94 | 108 | 20 | 20 | 20 | 20 | 6 | 16 | 70 | 34 | 50 | 10 | 105 | 118 | 120 | 6 | 3,2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 220 | 180 | 18 | 8 | M16 | 114,3 | 116,0 | 120 | 134 | 22 | 20 | 20 | 20 | 6 | 18 | 90 | 40 | 52 | 12 | 131 | 140 | 140 | 8 | 3,6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | 250 | 210 | 18 | 8 | M16 | 139,7 | 141,5 | 145 | 162 | 22 | 22 | 22 | 22 | 6 | 18 | 115 | 44 | 55 | 12 | 156 | 168 | 170 | 8 | 4,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 150 | 285 | 240 | 22 | 8 | M20 | 168,3 | 170,5 | 174 | 188 | 24 | 22 | 22 | 22 | 6 | 20 | 140 | 44 | 55 | 12 | 184 | 195 | 190 | 10 | 4,5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 200 | 340 | 295 | 22 | 12 | M20 | 219,1 | 221,5 | 226 | 240 | 26 | 24 | 24 | 24 | 6 | 20 | 190 | 44 | 62 | 16 | 235 | 246 | 246 | 10 | 5,9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 250 | 405 | 355 | 26 | 12 | M24 | 273,0 | 276,5 | 281 | 294 | 29 | 26 | 26 | 26 | 8 | 22 | 235 | 46 | 70 | 16 | 292 | 298 | 296 | 12 | 6,3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 300 | 460 | 410 | 26 | 12 | M24 | 323,9 | 327,5 | 333 | 348 | 32 | 28 | 28 | 28 | 8 | 24 | 285 | 46 | 78 | 16 | 344 | 350 | 350 | 12 | 7,1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 350 | 520 | 470 | 26 | 16 | M24 | 355,6 | 359,0 | 365 | 400 | 35 | 30 | 30 | 30 | 8 | 26 | 330 | 57 | 82 | 16 | 390 | 400 | 410 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 400 | 580 | 525 | 30 | 16 | M27 | 406,4 | 411,0 | 416 | 454 | 38 | 32 | 32 | 32 | 8 | 28 | 380 | 63 | 85 | 16 | 445 | 456 | 458 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 450 | 640 | 585 | 30 | 20 | M27 | 457,0 | 462,0 | 467 | 500 | 42 | 40 | 40 | 40 | 8 | 30 | 425 | 68 | 87 | 16 | 490 | 502 | 516 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 500 | 715 | 650 | 33 | 20 | M30 | 508,0 | 513,5 | 510 | 556 | 46 | 44 | 44 | 44 | 8 | 32 | 475 | 73 | 90 | 16 | 548 | 559 | 576 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 600 | 840 | 770 | 36 | 20 | M33 | 610,0 | 616,5 | 622 | 660 | 52 | 54 | 54 | 54 | 8 | 32 | 575 | 83 | 95 | 18 | 652 | 658 | 690 | 12 | 8,8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 700 | 910 | 840 | 36 | 24 | M33 | 711,0 | - | - | - | - | 36 | 42 | 48 | - | - | 670 | 83 | 100 | 18 | 755 | 760 | 760 | 12 | 8,8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 800 | 1025 | 950 | 39 | 24 | M36 | 813,0 | - | - | - | - | 38 | 42 | 52 | - | - | 770 | 90 | 105 | 20 | 855 | 864 | 862 | 12 | 10,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 900 | 1125 | 1050 | 39 | 28 | M36 | 914,0 | - | - | - | - | 40 | 44 | 58 | - | - | 860 | 94 | 110 | 20 | 955 | 968 | 962 | 12 | 10,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1000 | 1255 | 1170 | 42 | 28 | M39 | 1016,0 | - | - | - | - | 42 | 46 | 64 | - | - | 960 | 100 | 120 | 22 | 1058 | 1072 | 1076 | 16 | 10,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1200 | 1485 | 1390 | 48 | 32 | M45 | 1219,0 | - | - | - | - | 48 | 52 | 76 | - | - | 1160 | - | 130 | 30 | 1262 | - | 1282 | 16 | 12,5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1400 | 1685 | 1590 | 48 | 36 | M45 | 1422,0 | - | - | - | - | 52 | 58 | - | - | - | 1346 | - | 145 | 30 | 1465 | - | 1482 | 16 | 14,2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1600 | 1930 | 1820 | 56 | 40 | M52 | 1626,0 | - | - | - | - | 58 | 64 | - | - | - | 1546 | - | 160 | 35 | 1668 | - | 1696 | 16 | 16,0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1800 | 2130 | 2020 | 56 | 44 | M52 | 1829,0 | - | - | - | - | 62 | 68 | - | - | - | 1746 | - | 170 | 35 | 1870 | - | 1896 | 16 | 17,5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2000 | 2345 | 2230 | 62 | 48 | M56 | 2032,0 | - | - | - | - | 66 | 70 | - | - | - | 1950 | - | 180 | 40 | 2072 | - | 2100 | 16 | 20,0 | | | | | | | | | | | | | | | | | | | | | | | | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.

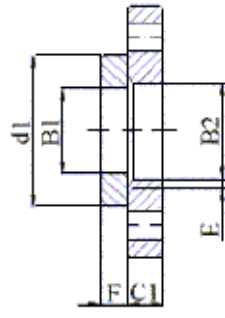
Note 2: For d1 dimensions see document "Flange Facing Dimensions EN 1092-1".



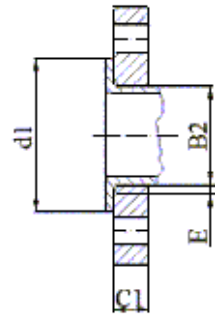
EN 1092-1 PN25 Flanges



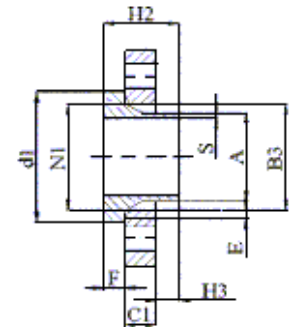
Typ 01



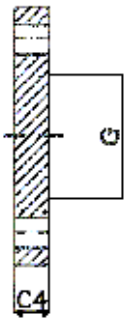
Typ 02 in 32



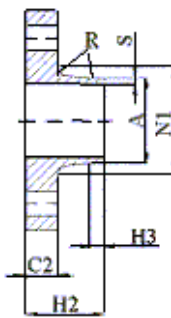
Typ 02 in 33



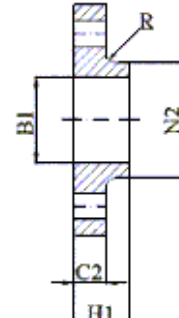
Typ 04 in 34



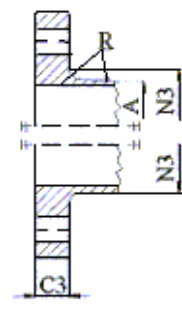
Typ 05



Typ 11



Typ 12



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN25 Flanges

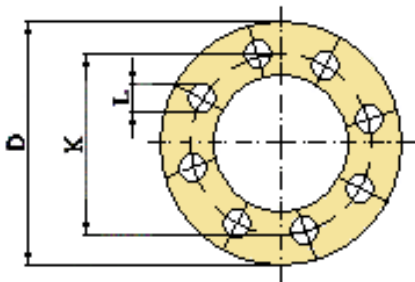
| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck | Bore diameters | | | Flange thickness | | | | Chamfer | Collar thickness | Diameter of shoulder | Length | | | Neck diameters | | | Corner radius | Neck thickness (preferred value) | | | | | | | | | | | | | | | | | | | |
|---------------------|------------------------|-------------------------|-----------------------|-------|------|--------------------------|----------------|-----|-----|------------------|----------------|----|----|----------|------------------|----------------------|----------|----------|----------|----------------|----------|------|----------------------|----------------------------------|---|----|----|----|----|----|----|----|---|---|------------------|----|----|----|----|----|----|---|---|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolts | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | D | K | L | No | Size | | | | | | | | | | | | | | | | | | | | A | B1 | B2 | B3 | C1 | C2 | C3 | C4 | E | F | G _{max} | H1 | H2 | H3 | N1 | N2 | N3 | R | S |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 01, 02, 05, 11, 12, 21 | | | | | 11 21* 34 | 01 12 32 | 02 | 04 | 01 02 04 | 11 12 13 | 21 | 05 | 02 04 | 32 34 | 05 | 12 13 | 11 34 | 11 34 | 11 34 | 12 13 | 21 | 11 12 13 21 | 11 34 | | | | | | | | | | | | | | | | | | | |
| 10 | Use PN 40 dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 65 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 80 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 125 | 360 | 310 | 26 | 12 | M24 | 219,1 | 221,5 | 226 | 250 | 32 | 30 | 30 | 30 | 6 | 26 | 190 | 52 | 80 | 16 | 244 | 256 | 252 | 10 | 6,3 | | | | | | | | | | | | | | | | | | | |
| 250 | 425 | 370 | 30 | 12 | M27 | 273,5 | 276,5 | 281 | 302 | 35 | 32 | 32 | 32 | 8 | 26 | 235 | 60 | 88 | 18 | 298 | 310 | 304 | 12 | 7,1 | | | | | | | | | | | | | | | | | | | |
| 300 | 485 | 430 | 30 | 16 | M27 | 323,9 | 327,5 | 333 | 356 | 38 | 34 | 34 | 34 | 8 | 28 | 285 | 67 | 92 | 18 | 352 | 364 | 364 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | |
| 350 | 555 | 490 | 33 | 16 | M30 | 355,6 | 359,5 | 365 | 408 | 42 | 38 | 38 | 38 | 8 | 32 | 332 | 72 | 100 | 20 | 398 | 418 | 418 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | |
| 400 | 620 | 550 | 36 | 16 | M33 | 406,4 | 411,0 | 416 | 462 | 46 | 40 | 40 | 40 | 8 | 34 | 380 | 78 | 110 | 20 | 452 | 472 | 472 | 12 | 8,8 | | | | | | | | | | | | | | | | | | | |
| 450 | 670 | 600 | 36 | 20 | M33 | 457,0 | 462,0 | 467 | 510 | 50 | 46 | 46 | 46 | 8 | 36 | 425 | 84 | 110 | 20 | 500 | 520 | 520 | 12 | 8,8 | | | | | | | | | | | | | | | | | | | |
| 500 | 730 | 660 | 36 | 20 | M33 | 508,0 | 513,5 | 519 | 568 | 56 | 48 | 48 | 48 | 8 | 38 | 475 | 90 | 125 | 20 | 558 | 580 | 580 | 12 | 10,0 | | | | | | | | | | | | | | | | | | | |
| 600 | 845 | 770 | 39 | 20 | M36 | 610,0 | 616,5 | 622 | 670 | 68 | 58 | 58 | 58 | 8 | 40 | 575 | 100 | 125 | 20 | 660 | 684 | 684 | 12 | 11,0 | | | | | | | | | | | | | | | | | | | |
| 700 | 960 | 875 | 42 | 24 | M39 | 711,0 | - | - | - | - | 46 | 50 | - | - | - | - | - | 125 | 20 | 760 | - | 780 | 12 | 12,5 | | | | | | | | | | | | | | | | | | | |
| 800 | 1085 | 990 | 48 | 24 | M45 | 813,0 | - | - | - | - | 50 | 54 | - | - | - | - | - | 135 | 22 | 864 | - | 882 | 12 | 14,2 | | | | | | | | | | | | | | | | | | | |
| 900 | 1158 | 1090 | 48 | 28 | M45 | 914,0 | - | - | - | - | 54 | 58 | - | - | - | - | - | 145 | 24 | 968 | - | 982 | 12 | 16,0 | | | | | | | | | | | | | | | | | | | |
| 1000 | 1320 | 1210 | 56 | 28 | M52 | 1016,0 | - | - | - | - | 58 | 62 | - | - | - | - | - | 155 | 24 | 1070 | - | 1086 | 16 | 17,5 | | | | | | | | | | | | | | | | | | | |
| 1200 | 1530 | 1420 | 56 | 32 | M52 | 1219 | - | - | - | - | - | 70 | - | - | - | - | - | - | - | - | - | 1296 | 18 | - | | | | | | | | | | | | | | | | | | | |
| 1400 | 1755 | 1640 | 62 | 36 | M56 | 1422 | - | - | - | - | - | 76 | - | - | - | - | - | - | - | - | - | 1508 | 18 | - | | | | | | | | | | | | | | | | | | | |
| 1600 | 1975 | 1860 | 62 | 40 | M56 | 1626 | - | - | - | - | - | 84 | - | - | - | - | - | - | - | - | - | 1726 | 20 | - | | | | | | | | | | | | | | | | | | | |
| 1800 | 2195 | 2070 | 70 | 44 | M64 | 1829 | - | - | - | - | - | 90 | - | - | - | - | - | - | - | - | - | 1920 | 20 | - | | | | | | | | | | | | | | | | | | | |
| 2000 | 2425 | 2300 | 70 | 48 | M64 | 2032 | - | - | - | - | - | 96 | - | - | - | - | - | - | - | - | - | 2150 | 20 | - | | | | | | | | | | | | | | | | | | | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.

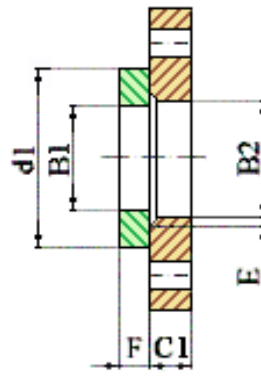
Note 2: For d1 dimensions see document " Flange Facing Dimensions EN 1092-1".



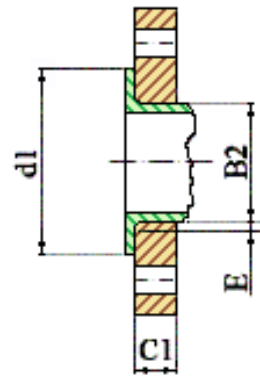
EN 1092-1 PN40 Flanges



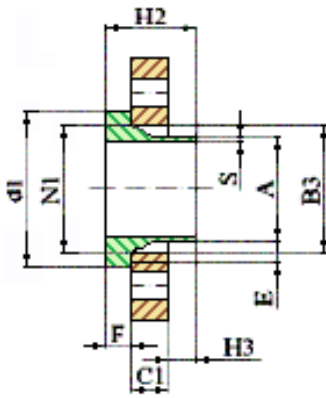
Typ 01



Typ 02 in 32



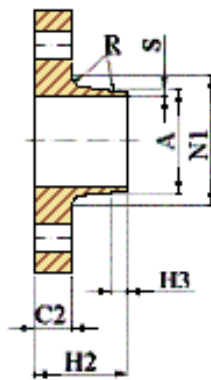
Typ 02 in 33



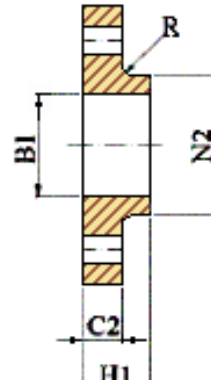
Typ 04 in 34



Typ 05



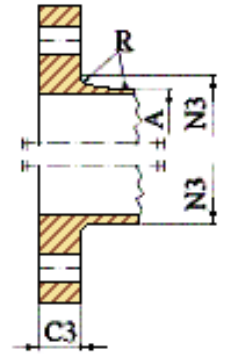
Typ 11



Typ 12



Typ 13



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN40 Flanges

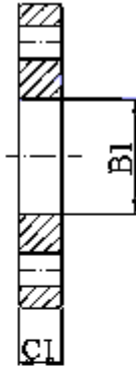
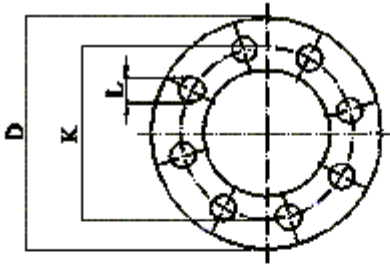
| Nominal diameter DN | Mating dimensions | | | | | | Outside diameter of neck | Bore diameters | | | Flange thickness | | | | Chamfer | Collar thickness | Diameter of shoulders | Length | | | Neck diameters | | | Corner radius | Neck thickness (preferred value) | | | | | | | | | | | | | | | | | | |
|----------------------------|-------------------|-------------------------|-----------------------|---------|------|-----------------|--------------------------|----------------|-----|----------------|------------------|----|----|----------|----------|------------------|-----------------------|----------|----------|----------|----------------|----|----------------------|---------------|----------------------------------|----|----|----|----|----|----|----|---|---|------------------|----|----|----|----|----|----|---|---|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | D | K | L | No | Size | A | | | | | | | | | | | | | | | | | | | | B1 | B2 | B3 | C1 | C2 | C3 | C4 | E | F | G _{max} | H1 | H2 | H3 | N1 | N2 | N3 | R | S |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01, 02, 05, 11, 12, 13, 21 | | | | | | 11 21* 34 | 01 12 32 | 02 | 04 | 01 02 04 | 11 12 13 | 21 | 05 | 02 04 | 32 34 | 05 | 12 13 | 11 34 | 11 34 | 11 34 | 12 13 | 21 | 11 12 13 21 | 11 34 | | | | | | | | | | | | | | | | | | | |
| 10 | 90 | 60 | 14 | 4 | M12 | 17,2 | 18,0 | 21 | 31 | 14 | 16 | 16 | 3 | 12 | - | 22 | 35 | 6 | 28 | 30 | 28 | 4 | 1,8 | | | | | | | | | | | | | | | | | | | | |
| 15 | 95 | 65 | 14 | 4 | M12 | 21,3 | 22,0 | 25 | 35 | 14 | 16 | 16 | 3 | 12 | - | 22 | 38 | 6 | 32 | 35 | 32 | 4 | 2,0 | | | | | | | | | | | | | | | | | | | | |
| 20 | 105 | 75 | 14 | 4 | M12 | 26,9 | 27,5 | 31 | 42 | 16 | 18 | 18 | 4 | 14 | - | 26 | 40 | 6 | 40 | 45 | 40 | 4 | 2,3 | | | | | | | | | | | | | | | | | | | | |
| 25 | 115 | 85 | 14 | 4 | M12 | 33,7 | 34,5 | 38 | 49 | 16 | 18 | 18 | 4 | 14 | - | 28 | 40 | 6 | 46 | 52 | 52 | 4 | 2,6 | | | | | | | | | | | | | | | | | | | | |
| 32 | 140 | 100 | 18 | 4 | M16 | 42,4 | 43,5 | 47 | 59 | 18 | 18 | 18 | 5 | 14 | - | 30 | 42 | 6 | 56 | 60 | 60 | 6 | 2,6 | | | | | | | | | | | | | | | | | | | | |
| 40 | 150 | 110 | 18 | 4 | M16 | 48,3 | 49,5 | 53 | 67 | 18 | 18 | 18 | 5 | 14 | - | 32 | 45 | 7 | 64 | 70 | 70 | 6 | 2,6 | | | | | | | | | | | | | | | | | | | | |
| 50 | 165 | 125 | 18 | 4 | M16 | 60,3 | 61,5 | 65 | 77 | 20 | 20 | 20 | 5 | 16 | - | 34 | 48 | 8 | 75 | 84 | 84 | 6 | 2,9 | | | | | | | | | | | | | | | | | | | | |
| 65 | 185 | 145 | 18 | 8 | M16 | 76,1 | 77,5 | 81 | 96 | 22 | 22 | 22 | 6 | 16 | 55 | 38 | 52 | 10 | 90 | 104 | 104 | 6 | 2,9 | | | | | | | | | | | | | | | | | | | | |
| 80 | 200 | 160 | 18 | 8 | M16 | 88,9 | 90,5 | 94 | 114 | 24 | 24 | 24 | 6 | 18 | 70 | 40 | 58 | 12 | 105 | 118 | 120 | 8 | 3,2 | | | | | | | | | | | | | | | | | | | | |
| 100 | 235 | 190 | 22 | 8 | M20 | 114,3 | 116,0 | 120 | 138 | 26 | 24 | 24 | 6 | 20 | 90 | 44 | 65 | 12 | 134 | 145 | 142 | 8 | 3,6 | | | | | | | | | | | | | | | | | | | | |
| 125 | 270 | 220 | 26 | 8 | M24 | 139,7 | 141,5 | 145 | 166 | 28 | 26 | 26 | 6 | 22 | 115 | 48 | 68 | 12 | 162 | 170 | 162 | 8 | 4,0 | | | | | | | | | | | | | | | | | | | | |
| 150 | 300 | 250 | 26 | 8 | M24 | 168,3 | 170,5 | 174 | 194 | 30 | 28 | 28 | 6 | 24 | 140 | 52 | 75 | 12 | 192 | 200 | 192 | 10 | 4,5 | | | | | | | | | | | | | | | | | | | | |
| 200 | 375 | 320 | 30 | 12 | M27 | 219,1 | 221,5 | 226 | 250 | 36 | 34 | 36 | 6 | 28 | 190 | 52 | 88 | 16 | 244 | 260 | 254 | 10 | 6,3 | | | | | | | | | | | | | | | | | | | | |
| 250 | 450 | 385 | 33 | 12 | M30 | 273,0 | 276,5 | 281 | 312 | 42 | 38 | 38 | 8 | 30 | 235 | 60 | 105 | 18 | 306 | 312 | 312 | 12 | 7,1 | | | | | | | | | | | | | | | | | | | | |
| 300 | 515 | 450 | 33 | 16 | M30 | 323,9 | 327,5 | 333 | 368 | 48 | 42 | 42 | 8 | 34 | 285 | 67 | 115 | 18 | 362 | 380 | 378 | 12 | 8,0 | | | | | | | | | | | | | | | | | | | | |
| 350 | 580 | 510 | 36 | 16 | M33 | 355,6 | 359,5 | 365 | 418 | 54 | 46 | 46 | 8 | 36 | 330 | 72 | 125 | 20 | 408 | 424 | 432 | 12 | 8,8 | | | | | | | | | | | | | | | | | | | | |
| 400 | 660 | 585 | 39 | 16 | M36 | 406,4 | 411,0 | 416 | 472 | 60 | 50 | 50 | 8 | 42 | 380 | 78 | 135 | 20 | 462 | 478 | 498 | 12 | 11,0 | | | | | | | | | | | | | | | | | | | | |
| 450 | 685 | 610 | 39 | 20 | M36 | 457,0 | 462,0 | 467 | 510 | 66 | 57 | 57 | 8 | 46 | 425 | 84 | 135 | 20 | 500 | 522 | 522 | 12 | 12,5 | | | | | | | | | | | | | | | | | | | | |
| 500 | 755 | 670 | 42 | 20 | M39 | 508,0 | 513,5 | 519 | 572 | 72 | 57 | 57 | 8 | 50 | 475 | 90 | 140 | 20 | 562 | 576 | 576 | 12 | 14,2 | | | | | | | | | | | | | | | | | | | | |
| 600 | 890 | 795 | 48 | 20 | M45 | 610,0 | 616,5 | 622 | 676 | 84 | 72 | 72 | 8 | 54 | 575 | 100 | 150 | 20 | 666 | 686 | 686 | 12 | 16,0 | | | | | | | | | | | | | | | | | | | | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.

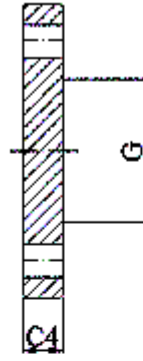
Note 2: For d1 dimensions see document "Flange Facing Dimensions EN 1092-1".



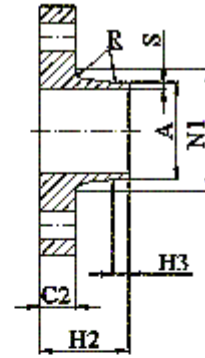
EN 1092-1 PN63 Flanges



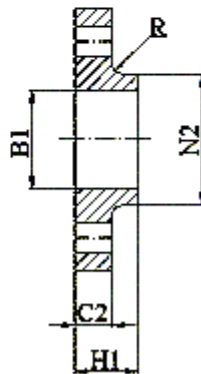
Typ 01



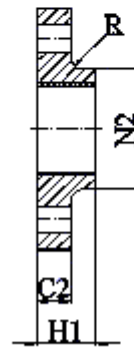
Typ 05



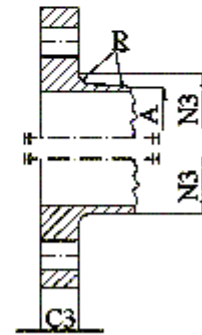
Typ 11



Typ 12



Typ 13



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



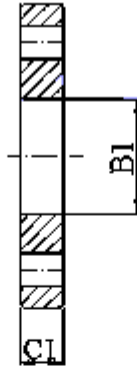
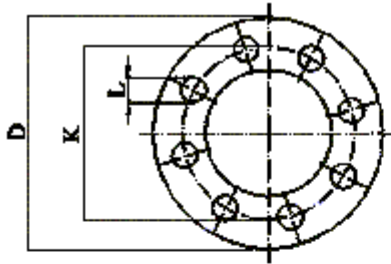
EN 1092-1 PN63 Flanges

| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck A | Bore diameters B1 B2 B3 | | | Flange thickness C1 C2 C3 C4 | | | | Chamfer E | Collar thickness F | Diameter of shoulders G max | Length H1 H2 H3 | | | Neck diameters N1 N2 N3 | | | Corner radius R | Neck thickness (preferred value) S |
|----------------------------------|------------------------|-------------------------|-----------------------|---------|------|-------------------------------|----------------------------|---|---|---------------------------------|----------------|-----|----|--------------|-----------------------|-----------------------------------|--------------------|-----|----|----------------------------|----------|------|----------------------|--|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolting | | | | | | | | | | | | | | | | | | | | |
| | D | K | L | No | Size | | | | | | | | | | | | | | | | | | | |
| | Flange Type | | | | | | | | | | | | | | | | | | | | | | | |
| | 01, 05, 11, 12, 13, 21 | | | | | 11 21* | 01 12 | - | - | 01 | 11 12 13 | 21 | 05 | - | - | 05 | 12 13 | 11 | 11 | 11 | 12 13 | 21 | 11 12 13 21 | 11 |
| 10 15 20 25 32 40 | Use PN 100 dimensions | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 180 | 135 | 22 | 4 | M20 | 60,3 | 61,5 | - | - | 26 | 26 | 26 | 26 | - | - | - | 36 | 62 | 10 | 82 | 90 | 90 | 6 | 2,9 |
| 65 | 205 | 160 | 22 | 8 | M20 | 76,1 | 77,5 | - | - | 26 | 26 | 26 | 26 | - | - | 45 | 40 | 68 | 12 | 98 | 112 | 105 | 6 | 3,2 |
| 80 | 215 | 170 | 22 | 8 | M20 | 88,9 | 90,5 | - | - | 30 | 28 | 28 | 28 | - | - | 60 | 44 | 72 | 12 | 112 | 125 | 122 | 8 | 3,6 |
| 100 | 250 | 200 | 26 | 8 | M24 | 114,3 | 116,0 | - | - | 32 | 30 | 30 | 30 | - | - | 80 | 52 | 78 | 12 | 138 | 152 | 146 | 8 | 4,0 |
| 125 | 295 | 240 | 30 | 8 | M27 | 139,7 | 141,5 | - | - | 34 | 34 | 34 | 34 | - | - | 105 | 56 | 88 | 12 | 168 | 185 | 177 | 8 | 4,5 |
| 150 | 345 | 280 | 33 | 8 | M30 | 168,3 | 170,5 | - | - | 36 | 36 | 36 | 36 | - | - | 130 | 60 | 95 | 12 | 202 | 215 | 204 | 10 | 5,6 |
| 200 | 415 | 345 | 36 | 12 | M33 | 219,1 | 221,5 | - | - | 46 | 42 | 42 | 42 | - | - | 180 | - | 110 | 16 | 256 | - | 264 | 10 | 7,1 |
| 250 | 470 | 400 | 36 | 12 | M33 | 273,0 | 276,5 | - | - | 54 | 46 | 46 | 46 | - | - | 220 | - | 125 | 18 | 316 | - | 320 | 12 | 8,8 |
| 300 | 530 | 460 | 36 | 16 | M33 | 323,9 | 327,5 | - | - | 62 | 52 | 52 | 52 | - | - | 270 | - | 140 | 18 | 372 | - | 378 | 12 | 11,0 |
| 350 | 600 | 525 | 39 | 16 | M36 | 355,6 | 359,5 | - | - | 72 | 56 | 56 | 56 | - | - | 310 | - | 150 | 20 | 420 | - | 434 | 12 | 12,5 |
| 400 | 670 | 585 | 42 | 16 | M39 | 406,4 | 411,0 | - | - | 78 | 60 | 60 | 60 | - | - | 360 | - | 160 | 20 | 475 | - | 490 | 12 | 14,2 |
| 500 | 800 | 705 | 48 | 20 | M45 | - | - | - | - | - | - | 68 | - | - | - | - | - | - | - | - | - | 602 | 12 | - |
| 600 | 930 | 820 | 56 | 20 | M52 | - | - | - | - | - | - | 76 | - | - | - | - | - | - | - | - | - | 714 | 15 | - |
| 700 | 1045 | 935 | 56 | 24 | M52 | - | - | - | - | - | - | 84 | - | - | - | - | - | - | - | - | - | 826 | 15 | - |
| 800 | 1165 | 1050 | 62 | 24 | M56 | - | - | - | - | - | - | 92 | - | - | - | - | - | - | - | - | - | 938 | 18 | - |
| 900 | 1285 | 1170 | 62 | 28 | M56 | - | - | - | - | - | - | 98 | - | - | - | - | - | - | - | - | - | 1048 | 18 | - |
| 1000 | 1415 | 1290 | 70 | 28 | M64 | - | - | - | - | - | - | 108 | - | - | - | - | - | - | - | - | - | 1162 | 18 | - |
| 1200 | 1665 | 1530 | 78 | 32 | M72 | - | - | - | - | - | - | 126 | - | - | - | - | - | - | - | - | - | 1390 | 18 | - |

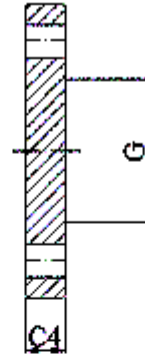
Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.



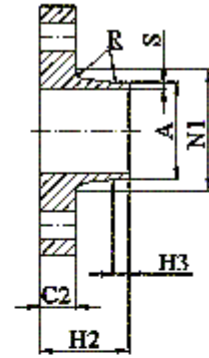
EN 1092-1 PN100 Flanges



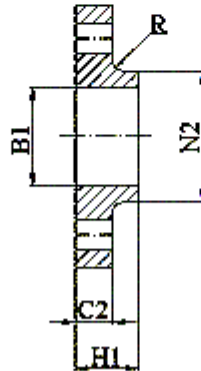
Typ 01



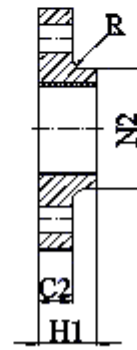
Typ 05



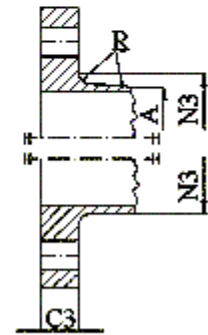
Typ 11



Typ 12



Typ 13



Typ 21

| Flange type (typ) as in EN 1092-1 | |
|--|------------------------------|
| 01 (Plate [slip-on] flanges for welding) | 13 (Hubbed threaded flanges) |
| 02 (Loose plate flanges with weld-on plate collar) | 21 (Integral flanges) |
| 04 (Loose plate flanges with weld-neck collar) | 32 (Weld-on plate collars) |
| 05 (Blank [blind] flanges) | 33 (Lapped pipe ends) |
| 11 (Weld-neck flanges) | 34 (Weld-neck collars) |
| 12 (Hubbed slip-on flanges for welding) | |



EN 1092-1 PN100 Flanges

| Nominal diameter DN | Mating dimensions | | | | | Outside diameter of neck | Bore diameters | | | Flange thickness | | | | Chamfer | Collar thickness | Diameter of shoulders | Length | | | Neck diameters | | | Corner radius | Neck thickness (preferred value) | | |
|------------------------|-------------------|-------------------------|-----------------------|---------|-----------|--------------------------|----------------|----|----|------------------|----|----|----|---------|------------------|-----------------------|--------|-----|----|----------------|-----|----------------------|---------------|----------------------------------|---|---|
| | Outside diameter | Diameter of bolt circle | Diameter of bolt hole | Bolting | | | B1 | B2 | B3 | C1 | C2 | C3 | C4 | | | | H1 | H2 | H3 | N1 | N2 | N3 | | | R | S |
| | D | K | L | Num | Size | | A | | | | | | | | | | | | | | | | | | | |
| Flange type | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01, 05, 11, 12, 13, 21 | | | | | 11 21* | 01 12 | - | - | 01 | 11 12 13 | 21 | 05 | - | - | 05 | 12 13 | 11 | 11 | 11 | 12 13 | 21 | 11 12 13 21 | 11 | | | |
| 10 | 100 | 70 | 14 | 4 | M12 | 17,2 | 18,0 | - | - | 20 | 20 | 20 | 20 | - | - | - | 28 | 45 | 6 | 32 | 40 | 40 | 4 | 1,8 | | |
| 15 | 105 | 75 | 14 | 4 | M12 | 21,3 | 22,0 | - | - | 20 | 20 | 20 | 20 | - | - | - | 28 | 45 | 6 | 34 | 43 | 45 | 4 | 2,0 | | |
| 20 | 130 | 90 | 18 | 4 | M16 | 26,9 | 27,5 | - | - | 22 | 22 | 22 | 22 | - | - | - | 30 | 48 | 8 | 42 | 52 | 50 | 4 | 2,6 | | |
| 25 | 140 | 100 | 18 | 4 | M16 | 33,7 | 34,5 | - | - | 24 | 24 | 24 | 24 | - | - | - | 32 | 58 | 8 | 52 | 60 | 61 | 4 | 2,6 | | |
| 32 | 155 | 110 | 22 | 4 | M20 | 42,4 | 43,5 | - | - | 24 | 24 | 26 | 24 | - | - | - | 32 | 60 | 8 | 62 | 68 | 68 | 6 | 2,9 | | |
| 40 | 170 | 125 | 22 | 4 | M20 | 48,3 | 49,5 | - | - | 26 | 26 | 28 | 26 | - | - | - | 34 | 62 | 10 | 70 | 80 | 82 | 6 | 2,9 | | |
| 50 | 195 | 145 | 26 | 4 | M24 | 60,3 | 61,3 | - | - | 28 | 28 | 30 | 28 | - | - | - | 36 | 68 | 10 | 90 | 95 | 96 | 6 | 3,2 | | |
| 65 | 220 | 170 | 26 | 8 | M24 | 76,1 | 77,5 | - | - | 30 | 30 | 34 | 30 | - | - | 45 | 40 | 76 | 12 | 108 | 118 | 118 | 6 | 3,6 | | |
| 80 | 230 | 180 | 26 | 8 | M24 | 88,9 | 90,5 | - | - | 34 | 32 | 36 | 32 | - | - | 60 | 44 | 78 | 12 | 120 | 130 | 128 | 8 | 4,0 | | |
| 100 | 265 | 210 | 30 | 8 | M27 | 114,3 | 116,0 | - | - | 36 | 36 | 40 | 36 | - | - | 80 | 52 | 90 | 12 | 150 | 158 | 150 | 8 | 5,0 | | |
| 125 | 315 | 250 | 33 | 8 | M30 | 139,7 | 141,5 | - | - | 42 | 40 | 40 | 40 | - | - | 105 | 56 | 105 | 12 | 180 | 188 | 185 | 8 | 6,3 | | |
| 150 | 355 | 290 | 33 | 12 | M30 | 168,3 | 170,5 | - | - | 48 | 44 | 44 | 44 | - | - | 130 | 60 | 115 | 12 | 210 | 225 | 216 | 10 | 7,1 | | |
| 200 | 430 | 360 | 36 | 12 | M33 | 219,1 | 221,5 | - | - | 60 | 52 | 52 | 52 | - | - | 180 | - | 130 | 16 | 278 | - | 278 | 10 | 10,0 | | |
| 250 | 505 | 430 | 39 | 12 | M36 | 273,0 | 276,5 | - | - | 72 | 60 | 60 | 60 | - | - | 210 | - | 157 | 18 | 340 | - | 340 | 12 | 12,5 | | |
| 300 | 585 | 500 | 42 | 16 | M39 | 323,9 | 327,5 | - | - | 84 | 68 | 68 | 68 | - | - | 260 | - | 170 | 18 | 400 | - | 407 | 12 | 14,2 | | |
| 350 | 655 | 560 | 48 | 16 | M45 | 355,6 | 359,5 | - | - | 95 | 74 | 74 | 74 | - | - | 300 | - | 189 | 20 | 460 | - | 460 | 12 | 16,0 | | |
| 400 | 715 | 620 | 48 | 16 | M45 | 406,4 | 411,0 | - | - | 406 | - | 78 | - | - | - | - | - | - | - | - | - | 518 | - | - | | |
| 500 | 870 | 760 | 56 | 20 | M52 | 508,0 | 543,5 | - | - | 128 | - | 94 | - | - | - | - | - | - | - | - | - | 630 | - | - | | |

Note 1: Dimensions N1, N2 and N3 are measured at the intersection of the hub draft angle and the back face of the flange.