

Saturated Pressure Table

| temperature [°C] | pressure [bar] | | density [kg/m ³] | | enthalpy [kJ/kg] | | entropy [J/kg*K] | |
|---------------------|-------------------|--------|---------------------------------|--------|---------------------|--------|---------------------|--------|
| | liquid | vapour | liquid | vapour | liquid | vapour | liquid | vapour |
| -60,0 | 0,481 | 0,341 | 1390,8 | 1,715 | 119,91 | 364,94 | 0,6714 | 1,8389 |
| -59,0 | 0,509 | 0,363 | 1387,9 | 1,815 | 121,19 | 365,55 | 0,6774 | 1,8361 |
| -58,0 | 0,537 | 0,385 | 1385,0 | 1,919 | 122,47 | 366,16 | 0,6833 | 1,8334 |
| -57,0 | 0,568 | 0,408 | 1382,1 | 2,028 | 123,75 | 366,77 | 0,6893 | 1,8307 |
| -56,0 | 0,599 | 0,433 | 1379,2 | 2,141 | 125,03 | 367,37 | 0,6952 | 1,8281 |
| -55,0 | 0,632 | 0,458 | 1376,2 | 2,260 | 126,31 | 367,98 | 0,7010 | 1,8255 |
| -54,0 | 0,667 | 0,485 | 1373,3 | 2,384 | 127,59 | 368,58 | 0,7069 | 1,8230 |
| -53,0 | 0,703 | 0,513 | 1370,3 | 2,513 | 128,87 | 369,19 | 0,7127 | 1,8205 |
| -52,0 | 0,740 | 0,543 | 1367,4 | 2,648 | 130,16 | 369,79 | 0,7185 | 1,8181 |
| -51,0 | 0,779 | 0,574 | 1364,4 | 2,788 | 131,45 | 370,39 | 0,7243 | 1,8157 |
| -50,0 | 0,820 | 0,606 | 1361,4 | 2,935 | 132,73 | 370,99 | 0,7301 | 1,8133 |
| -49,0 | 0,862 | 0,639 | 1358,4 | 3,087 | 134,02 | 371,59 | 0,7359 | 1,8110 |
| -48,0 | 0,906 | 0,674 | 1355,4 | 3,246 | 135,32 | 372,19 | 0,7416 | 1,8088 |
| -47,0 | 0,952 | 0,711 | 1352,4 | 3,410 | 136,61 | 372,79 | 0,7473 | 1,8065 |
| -46,0 | 1,000 | 0,749 | 1349,4 | 3,582 | 137,90 | 373,38 | 0,7530 | 1,8044 |
| -45,0 | 1,049 | 0,789 | 1346,4 | 3,760 | 139,20 | 373,98 | 0,7587 | 1,8022 |
| -44,0 | 1,100 | 0,830 | 1343,3 | 3,945 | 140,50 | 374,57 | 0,7644 | 1,8001 |
| -43,0 | 1,154 | 0,873 | 1340,3 | 4,138 | 141,80 | 375,16 | 0,7700 | 1,7980 |
| -42,0 | 1,209 | 0,918 | 1337,3 | 4,337 | 143,10 | 375,75 | 0,7756 | 1,7960 |
| -41,0 | 1,267 | 0,965 | 1334,2 | 4,544 | 144,41 | 376,34 | 0,7812 | 1,7940 |
| -40,0 | 1,326 | 1,013 | 1331,1 | 4,759 | 145,71 | 376,93 | 0,7868 | 1,7921 |
| -39,0 | 1,388 | 1,064 | 1328,0 | 4,982 | 147,02 | 377,52 | 0,7924 | 1,7902 |
| -38,0 | 1,452 | 1,116 | 1324,9 | 5,213 | 148,33 | 378,10 | 0,7980 | 1,7883 |
| -37,0 | 1,518 | 1,171 | 1321,8 | 5,452 | 149,64 | 378,69 | 0,8035 | 1,7864 |
| -36,0 | 1,586 | 1,227 | 1318,7 | 5,700 | 150,96 | 379,27 | 0,8090 | 1,7846 |
| -35,0 | 1,657 | 1,286 | 1315,6 | 5,956 | 152,27 | 379,85 | 0,8146 | 1,7828 |
| -34,0 | 1,731 | 1,346 | 1312,5 | 6,222 | 153,59 | 380,43 | 0,8201 | 1,7810 |
| -33,0 | 1,807 | 1,409 | 1309,3 | 6,497 | 154,91 | 381,01 | 0,8255 | 1,7793 |
| -32,0 | 1,885 | 1,475 | 1306,2 | 6,781 | 156,23 | 381,58 | 0,8310 | 1,7776 |
| -31,0 | 1,966 | 1,542 | 1303,0 | 7,075 | 157,56 | 382,15 | 0,8365 | 1,7759 |
| -30,0 | 2,050 | 1,612 | 1299,8 | 7,379 | 158,89 | 382,72 | 0,8419 | 1,7743 |
| -29,0 | 2,137 | 1,685 | 1296,6 | 7,694 | 160,22 | 383,29 | 0,8474 | 1,7727 |
| -28,0 | 2,226 | 1,760 | 1293,4 | 8,018 | 161,55 | 383,86 | 0,8528 | 1,7711 |
| -27,0 | 2,318 | 1,838 | 1290,2 | 8,354 | 162,88 | 384,43 | 0,8582 | 1,7695 |
| -26,0 | 2,413 | 1,918 | 1287,0 | 8,700 | 164,22 | 384,99 | 0,8636 | 1,7680 |
| -25,0 | 2,511 | 2,001 | 1283,7 | 9,058 | 165,56 | 385,55 | 0,8689 | 1,7665 |
| -24,0 | 2,612 | 2,087 | 1280,5 | 9,427 | 166,90 | 386,11 | 0,8743 | 1,7650 |
| -23,0 | 2,716 | 2,175 | 1277,2 | 9,808 | 168,25 | 386,66 | 0,8797 | 1,7635 |
| -22,0 | 2,824 | 2,267 | 1273,9 | 10,20 | 169,59 | 387,22 | 0,8850 | 1,7621 |
| -21,0 | 2,934 | 2,361 | 1270,6 | 10,61 | 170,94 | 387,77 | 0,8903 | 1,7607 |
| -20,0 | 3,048 | 2,458 | 1267,3 | 11,02 | 172,30 | 388,32 | 0,8957 | 1,7593 |

Saturated Pressure Table

| temperature [°C] | pressure [bar] | | density [kg/m³] | | enthalpy [kJ/kg] | | entropy [J/kg*K] | |
|---------------------|-------------------|--------|--------------------|--------|---------------------|--------|---------------------|--------|
| | liquid | vapour | liquid | vapour | liquid | vapour | liquid | vapour |
| -19,0 | 3,166 | 2,559 | 1264,0 | 11,46 | 173,65 | 388,87 | 0,9010 | 1,7579 |
| -18,0 | 3,286 | 2,663 | 1260,7 | 11,90 | 175,01 | 389,41 | 0,9063 | 1,7566 |
| -17,0 | 3,410 | 2,769 | 1257,3 | 12,36 | 176,37 | 389,95 | 0,9115 | 1,7553 |
| -16,0 | 3,538 | 2,880 | 1253,9 | 12,83 | 177,74 | 390,49 | 0,9168 | 1,7539 |
| -15,0 | 3,669 | 2,993 | 1250,5 | 13,31 | 179,10 | 391,03 | 0,9221 | 1,7527 |
| -14,0 | 3,804 | 3,110 | 1247,1 | 13,81 | 180,47 | 391,56 | 0,9273 | 1,7514 |
| -13,0 | 3,943 | 3,230 | 1243,7 | 14,33 | 181,85 | 392,09 | 0,9326 | 1,7501 |
| -12,0 | 4,086 | 3,354 | 1240,3 | 14,86 | 183,22 | 392,62 | 0,9378 | 1,7489 |
| -11,0 | 4,232 | 3,482 | 1236,8 | 15,40 | 184,60 | 393,14 | 0,9431 | 1,7477 |
| -10,0 | 4,383 | 3,613 | 1233,4 | 15,97 | 185,99 | 393,66 | 0,9483 | 1,7465 |
| -9,0 | 4,537 | 3,748 | 1229,9 | 16,54 | 187,37 | 394,18 | 0,9535 | 1,7453 |
| -8,0 | 4,695 | 3,887 | 1226,4 | 17,14 | 188,76 | 394,70 | 0,9587 | 1,7441 |
| -7,0 | 4,858 | 4,030 | 1222,8 | 17,75 | 190,15 | 395,21 | 0,9639 | 1,7430 |
| -6,0 | 5,025 | 4,176 | 1219,3 | 18,38 | 191,55 | 395,72 | 0,9691 | 1,7418 |
| -5,0 | 5,196 | 4,327 | 1215,7 | 19,03 | 192,95 | 396,22 | 0,9742 | 1,7407 |
| -4,0 | 5,372 | 4,482 | 1212,1 | 19,69 | 194,35 | 396,72 | 0,9794 | 1,7396 |
| -3,0 | 5,552 | 4,641 | 1208,5 | 20,38 | 195,76 | 397,22 | 0,9846 | 1,7385 |
| -2,0 | 5,736 | 4,805 | 1204,9 | 21,08 | 197,17 | 397,71 | 0,9897 | 1,7374 |
| -1,0 | 5,925 | 4,972 | 1201,3 | 21,80 | 198,58 | 398,21 | 0,9949 | 1,7363 |
| 0,0 | 6,119 | 5,144 | 1197,6 | 22,54 | 200,00 | 398,69 | 1,0000 | 1,7353 |
| 1,0 | 6,317 | 5,321 | 1193,9 | 23,31 | 201,42 | 399,17 | 1,0051 | 1,7342 |
| 2,0 | 6,520 | 5,502 | 1190,2 | 24,09 | 202,85 | 399,65 | 1,0103 | 1,7332 |
| 3,0 | 6,728 | 5,688 | 1186,4 | 24,90 | 204,28 | 400,13 | 1,0154 | 1,7321 |
| 4,0 | 6,941 | 5,879 | 1182,7 | 25,72 | 205,71 | 400,60 | 1,0205 | 1,7311 |
| 5,0 | 7,159 | 6,074 | 1178,9 | 26,57 | 207,15 | 401,06 | 1,0256 | 1,7301 |
| 6,0 | 7,382 | 6,275 | 1175,1 | 27,45 | 208,59 | 401,52 | 1,0307 | 1,7291 |
| 7,0 | 7,610 | 6,480 | 1171,3 | 28,34 | 210,04 | 401,98 | 1,0358 | 1,7281 |
| 8,0 | 7,844 | 6,690 | 1167,4 | 29,27 | 211,49 | 402,43 | 1,0409 | 1,7271 |
| 9,0 | 8,082 | 6,906 | 1163,5 | 30,21 | 212,94 | 402,88 | 1,0460 | 1,7261 |
| 10,0 | 8,327 | 7,126 | 1159,6 | 31,18 | 214,40 | 403,32 | 1,0511 | 1,7251 |
| 11,0 | 8,576 | 7,352 | 1155,6 | 32,18 | 215,86 | 403,76 | 1,0562 | 1,7241 |
| 12,0 | 8,831 | 7,584 | 1151,7 | 33,21 | 217,33 | 404,19 | 1,0613 | 1,7232 |
| 13,0 | 9,092 | 7,821 | 1147,7 | 34,26 | 218,81 | 404,61 | 1,0663 | 1,7222 |
| 14,0 | 9,358 | 8,063 | 1143,6 | 35,34 | 220,28 | 405,03 | 1,0714 | 1,7212 |
| 15,0 | 9,630 | 8,311 | 1139,6 | 36,45 | 221,77 | 405,45 | 1,0765 | 1,7203 |
| 16,0 | 9,908 | 8,565 | 1135,5 | 37,59 | 223,25 | 405,86 | 1,0816 | 1,7193 |
| 17,0 | 10,19 | 8,825 | 1131,4 | 38,76 | 224,75 | 406,26 | 1,0866 | 1,7184 |
| 18,0 | 10,48 | 9,091 | 1127,2 | 39,96 | 226,25 | 406,66 | 1,0917 | 1,7174 |
| 19,0 | 10,78 | 9,362 | 1123,0 | 41,19 | 227,75 | 407,05 | 1,0968 | 1,7165 |
| 20,0 | 11,08 | 9,640 | 1118,8 | 42,46 | 229,26 | 407,43 | 1,1018 | 1,7155 |

Saturated Pressure Table

| temperature [°C] | pressure [bar] | | density [kg/m³] | | enthalpy [kJ/kg] | | entropy [J/kg*K] | |
|---------------------|-------------------|--------|--------------------|--------|---------------------|--------|---------------------|--------|
| | liquid | vapour | liquid | vapour | liquid | vapour | liquid | vapour |
| 21,0 | 11,39 | 9,924 | 1114,5 | 43,76 | 230,77 | 407,81 | 1,1069 | 1,7145 |
| 22,0 | 11,70 | 10,21 | 1110,2 | 45,10 | 232,29 | 408,18 | 1,1120 | 1,7136 |
| 23,0 | 12,02 | 10,51 | 1105,9 | 46,47 | 233,82 | 408,54 | 1,1170 | 1,7126 |
| 24,0 | 12,35 | 10,81 | 1101,5 | 47,88 | 235,35 | 408,90 | 1,1221 | 1,7116 |
| 25,0 | 12,69 | 11,12 | 1097,1 | 49,33 | 236,89 | 409,24 | 1,1272 | 1,7107 |
| 26,0 | 13,03 | 11,44 | 1092,6 | 50,81 | 238,44 | 409,59 | 1,1322 | 1,7097 |
| 27,0 | 13,37 | 11,76 | 1088,1 | 52,34 | 239,99 | 409,92 | 1,1373 | 1,7087 |
| 28,0 | 13,73 | 12,09 | 1083,5 | 53,91 | 241,54 | 410,24 | 1,1424 | 1,7077 |
| 29,0 | 14,09 | 12,43 | 1079,0 | 55,52 | 243,11 | 410,56 | 1,1474 | 1,7067 |
| 30,0 | 14,46 | 12,77 | 1074,3 | 57,18 | 244,68 | 410,87 | 1,1525 | 1,7057 |
| 31,0 | 14,83 | 13,13 | 1069,6 | 58,88 | 246,26 | 411,16 | 1,1576 | 1,7047 |
| 32,0 | 15,21 | 13,48 | 1064,9 | 60,63 | 247,84 | 411,45 | 1,1627 | 1,7037 |
| 33,0 | 15,60 | 13,85 | 1060,1 | 62,43 | 249,43 | 411,73 | 1,1678 | 1,7027 |
| 34,0 | 16,00 | 14,22 | 1055,3 | 64,28 | 251,03 | 412,00 | 1,1729 | 1,7016 |
| 35,0 | 16,40 | 14,60 | 1050,4 | 66,18 | 252,64 | 412,26 | 1,1780 | 1,7006 |
| 36,0 | 16,81 | 14,99 | 1045,4 | 68,13 | 254,26 | 412,51 | 1,1831 | 1,6995 |
| 37,0 | 17,23 | 15,39 | 1040,4 | 70,15 | 255,88 | 412,75 | 1,1882 | 1,6984 |
| 38,0 | 17,66 | 15,79 | 1035,3 | 72,22 | 257,51 | 412,98 | 1,1933 | 1,6973 |
| 39,0 | 18,09 | 16,21 | 1030,2 | 74,35 | 259,15 | 413,19 | 1,1984 | 1,6962 |
| 40,0 | 18,54 | 16,63 | 1025,0 | 76,54 | 260,80 | 413,40 | 1,2036 | 1,6951 |
| 41,0 | 18,99 | 17,06 | 1019,7 | 78,80 | 262,46 | 413,59 | 1,2087 | 1,6939 |
| 42,0 | 19,44 | 17,50 | 1014,4 | 81,12 | 264,13 | 413,77 | 1,2139 | 1,6927 |
| 43,0 | 19,91 | 17,94 | 1009,0 | 83,52 | 265,81 | 413,93 | 1,2191 | 1,6915 |
| 44,0 | 20,39 | 18,40 | 1003,5 | 85,99 | 267,50 | 414,08 | 1,2243 | 1,6903 |
| 45,0 | 20,87 | 18,86 | 997,92 | 88,54 | 269,20 | 414,22 | 1,2295 | 1,6891 |
| 46,0 | 21,36 | 19,33 | 992,26 | 91,17 | 270,91 | 414,34 | 1,2347 | 1,6878 |
| 47,0 | 21,86 | 19,82 | 986,52 | 93,88 | 272,64 | 414,44 | 1,2399 | 1,6865 |
| 48,0 | 22,37 | 20,31 | 980,68 | 96,68 | 274,37 | 414,53 | 1,2452 | 1,6852 |
| 49,0 | 22,88 | 20,81 | 974,74 | 99,57 | 276,12 | 414,60 | 1,2504 | 1,6838 |
| 50,0 | 23,41 | 21,32 | 968,70 | 102,6 | 277,88 | 414,66 | 1,2557 | 1,6824 |
| 51,0 | 23,94 | 21,84 | 962,55 | 105,6 | 279,66 | 414,69 | 1,2610 | 1,6810 |
| 52,0 | 24,49 | 22,37 | 956,29 | 108,8 | 281,45 | 414,71 | 1,2664 | 1,6795 |
| 53,0 | 25,04 | 22,91 | 949,91 | 112,1 | 283,25 | 414,70 | 1,2717 | 1,6780 |
| 54,0 | 25,60 | 23,46 | 943,40 | 115,6 | 285,08 | 414,67 | 1,2771 | 1,6764 |
| 55,0 | 26,17 | 24,02 | 936,75 | 119,1 | 286,91 | 414,62 | 1,2826 | 1,6748 |
| 56,0 | 26,75 | 24,59 | 929,96 | 122,8 | 288,77 | 414,55 | 1,2880 | 1,6731 |
| 57,0 | 27,34 | 25,18 | 923,01 | 126,6 | 290,64 | 414,44 | 1,2935 | 1,6714 |
| 58,0 | 27,94 | 25,77 | 915,90 | 130,6 | 292,54 | 414,32 | 1,2990 | 1,6696 |
| 59,0 | 28,54 | 26,38 | 908,62 | 134,7 | 294,45 | 414,16 | 1,3046 | 1,6678 |
| 60,0 | 29,16 | 26,99 | 901,14 | 139,0 | 296,39 | 413,97 | 1,3102 | 1,6658 |

Saturated Pressure Table

| temperature [°C] | pressure [bar] | | density [kg/m³] | | enthalpy [kJ/kg] | | entropy [J/kg*K] | |
|---------------------|-------------------|--------|--------------------|--------|---------------------|--------|---------------------|--------|
| | liquid | vapour | liquid | vapour | liquid | vapour | liquid | vapour |
| 61,0 | 29,79 | 27,62 | 893,46 | 143,5 | 298,35 | 413,74 | 1,3159 | 1,6638 |
| 62,0 | 30,43 | 28,26 | 885,56 | 148,2 | 300,34 | 413,48 | 1,3216 | 1,6617 |
| 63,0 | 31,08 | 28,91 | 877,43 | 153,1 | 302,36 | 413,19 | 1,3274 | 1,6596 |
| 64,0 | 31,73 | 29,58 | 869,03 | 158,3 | 304,40 | 412,85 | 1,3333 | 1,6573 |
| 65,0 | 32,40 | 30,26 | 860,35 | 163,7 | 306,48 | 412,46 | 1,3392 | 1,6549 |
| 66,0 | 33,08 | 30,95 | 851,35 | 169,3 | 308,60 | 412,03 | 1,3452 | 1,6524 |
| 67,0 | 33,77 | 31,65 | 842,01 | 175,3 | 310,76 | 411,54 | 1,3513 | 1,6497 |
| 68,0 | 34,47 | 32,37 | 832,28 | 181,6 | 312,96 | 410,99 | 1,3575 | 1,6469 |
| 69,0 | 35,18 | 33,11 | 822,12 | 188,3 | 315,21 | 410,37 | 1,3639 | 1,6440 |
| 70,0 | 35,90 | 33,86 | 811,47 | 195,5 | 317,51 | 409,68 | 1,3703 | 1,6408 |
| 71,0 | 36,63 | 34,62 | 800,26 | 203,1 | 319,88 | 408,90 | 1,3770 | 1,6374 |
| 72,0 | 37,37 | 35,40 | 788,40 | 211,2 | 322,32 | 408,03 | 1,3838 | 1,6338 |
| 73,0 | 38,13 | 36,20 | 775,78 | 220,1 | 324,85 | 407,04 | 1,3908 | 1,6299 |
| 74,0 | 38,89 | 37,02 | 762,26 | 229,6 | 327,48 | 405,92 | 1,3981 | 1,6256 |
| 75,0 | 39,66 | 37,86 | 747,63 | 240,2 | 330,23 | 404,65 | 1,4058 | 1,6209 |
| 76,0 | 40,44 | 38,72 | 731,63 | 251,8 | 333,14 | 403,18 | 1,4138 | 1,6157 |
| 77,0 | 41,24 | 39,60 | 713,84 | 264,9 | 336,26 | 401,46 | 1,4224 | 1,6098 |
| 78,0 | 42,03 | 40,50 | 693,60 | 280,0 | 339,64 | 399,42 | 1,4317 | 1,6030 |
| 79,0 | 42,84 | 41,44 | 669,75 | 297,9 | 343,44 | 396,91 | 1,4422 | 1,5950 |
| 80,0 | 43,64 | 42,42 | 639,88 | 320,3 | 347,94 | 393,67 | 1,4546 | 1,5849 |
| 81,0 | 44,41 | 43,46 | 597,22 | 351,5 | 353,96 | 389,03 | 1,4713 | 1,5709 |
| 82,0 | 45,01 | 44,68 | 500,40 | 418,8 | 367,02 | 378,84 | 1,5078 | 1,5413 |

Calculated by Refprop version 10.0

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