# Saturated Steam Table by Temperature

*Basis: IAPWS IF97 industrial formulation for water and steam. Enthalpy and entropy are zero for liquid at the triple point.*

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## Saturated water and steam by temperature

| T °C | P bar a | vf L/kg | vg $m^3$/kg | hf kJ/kg | hfg kJ/kg | hg kJ/kg | sf kJ/kg K | sg kJ/kg K |
|---|---|---|---|---|---|---|---|---|
| 0.01 | 0.00612 | 1.0002 | 205.997 | 0.00 | 2500.91 | 2500.91 | 0.0000 | 9.1555 |
| 5 | 0.00873 | 1.0001 | 147.017 | 21.02 | 2489.05 | 2510.07 | 0.0763 | 9.0249 |
| 10 | 0.01228 | 1.0003 | 106.309 | 42.02 | 2477.21 | 2519.23 | 0.1511 | 8.8998 |
| 15 | 0.01706 | 1.0009 | 77.881 | 62.98 | 2465.38 | 2528.36 | 0.2245 | 8.7804 |
| 20 | 0.02339 | 1.0018 | 57.761 | 83.92 | 2453.55 | 2537.47 | 0.2965 | 8.6661 |
| 25 | 0.03170 | 1.0030 | 43.341 | 104.84 | 2441.71 | 2546.54 | 0.3673 | 8.5568 |
| 30 | 0.04247 | 1.0044 | 32.882 | 125.75 | 2429.84 | 2555.58 | 0.4368 | 8.4521 |
| 35 | 0.05629 | 1.0060 | 25.208 | 146.64 | 2417.94 | 2564.58 | 0.5052 | 8.3518 |
| 40 | 0.07384 | 1.0079 | 19.517 | 167.54 | 2406.00 | 2573.54 | 0.5724 | 8.2557 |
| 45 | 0.09594 | 1.0099 | 15.253 | 188.44 | 2394.02 | 2582.45 | 0.6386 | 8.1634 |
| 50 | 0.1235 | 1.0121 | 12.028 | 209.34 | 2381.97 | 2591.31 | 0.7038 | 8.0749 |
| 55 | 0.1576 | 1.0145 | 9.5649 | 230.24 | 2369.87 | 2600.11 | 0.7680 | 7.9899 |
| 60 | 0.1995 | 1.0171 | 7.6677 | 251.15 | 2357.69 | 2608.85 | 0.8312 | 7.9082 |
| 65 | 0.2504 | 1.0199 | 6.1938 | 272.08 | 2345.43 | 2617.51 | 0.8935 | 7.8296 |
| 70 | 0.3120 | 1.0228 | 5.0397 | 293.02 | 2333.08 | 2626.10 | 0.9550 | 7.7540 |
| 75 | 0.3860 | 1.0258 | 4.1291 | 313.97 | 2320.63 | 2634.60 | 1.0156 | 7.6812 |
| 80 | 0.4741 | 1.0290 | 3.4053 | 334.95 | 2308.07 | 2643.01 | 1.0754 | 7.6110 |
| 85 | 0.5787 | 1.0324 | 2.8259 | 355.95 | 2295.38 | 2651.33 | 1.1344 | 7.5434 |
| 90 | 0.7018 | 1.0359 | 2.3591 | 376.97 | 2282.56 | 2659.53 | 1.1927 | 7.4781 |
| 95 | 0.8461 | 1.0396 | 1.9806 | 398.02 | 2269.60 | 2667.61 | 1.2502 | 7.4150 |
| 100 | 1.0142 | 1.0435 | 1.6719 | 419.10 | 2256.47 | 2675.57 | 1.3070 | 7.3541 |
| 110 | 1.4338 | 1.0516 | 1.2094 | 461.36 | 2229.70 | 2691.07 | 1.4187 | 7.2380 |
| 120 | 1.9867 | 1.0603 | 0.8913 | 503.78 | 2202.15 | 2705.93 | 1.5278 | 7.1291 |
| 130 | 2.7026 | 1.0697 | 0.6681 | 546.39 | 2173.70 | 2720.09 | 1.6346 | 7.0264 |
| 140 | 3.6150 | 1.0798 | 0.5085 | 589.20 | 2144.24 | 2733.44 | 1.7393 | 6.9293 |
| 150 | 4.7610 | 1.0905 | 0.3925 | 632.25 | 2113.67 | 2745.92 | 1.8420 | 6.8370 |
| 160 | 6.1814 | 1.1020 | 0.3068 | 675.57 | 2081.86 | 2757.43 | 1.9428 | 6.7491 |
| 170 | 7.9205 | 1.1143 | 0.2426 | 719.21 | 2048.69 | 2767.89 | 2.0419 | 6.6649 |
| 180 | 10.0263 | 1.1274 | 0.1939 | 763.19 | 2014.03 | 2777.22 | 2.1395 | 6.5841 |
| 190 | 12.5502 | 1.1414 | 0.1564 | 807.57 | 1977.74 | 2785.31 | 2.2358 | 6.5060 |
| 200 | 15.5467 | 1.1565 | 0.1272 | 852.39 | 1939.67 | 2792.06 | 2.3308 | 6.4303 |
| 210 | 19.0739 | 1.1727 | 0.1043 | 897.73 | 1899.62 | 2797.35 | 2.4248 | 6.3565 |
| 220 | 23.1929 | 1.1902 | 0.0861 | 943.64 | 1857.41 | 2801.05 | 2.5178 | 6.2842 |
| 230 | 27.9679 | 1.2090 | 0.0715 | 990.21 | 1812.80 | 2803.01 | 2.6102 | 6.2131 |
| 240 | 33.4665 | 1.2295 | 0.0597 | 1037.52 | 1765.54 | 2803.06 | 2.7019 | 6.1425 |
| 250 | 39.7594 | 1.2517 | 0.0501 | 1085.69 | 1715.33 | 2801.01 | 2.7934 | 6.0722 |
| 260 | 46.9207 | 1.2761 | 0.0422 | 1134.83 | 1661.82 | 2796.64 | 2.8847 | 6.0017 |
| 270 | 55.0284 | 1.3030 | 0.0356 | 1185.09 | 1604.60 | 2789.69 | 2.9762 | 5.9304 |
| 280 | 64.1646 | 1.3328 | 0.0302 | 1236.67 | 1543.15 | 2779.82 | 3.0681 | 5.8578 |
| 290 | 74.4164 | 1.3663 | 0.0256 | 1289.80 | 1476.84 | 2766.63 | 3.1608 | 5.7832 |
| 300 | 85.8771 | 1.4042 | 0.0217 | 1344.77 | 1404.80 | 2749.57 | 3.2547 | 5.7058 |
| 310 | 98.6475 | 1.4479 | 0.0183 | 1402.00 | 1325.92 | 2727.92 | 3.3506 | 5.6243 |
| 320 | 112.8386 | 1.4991 | 0.0155 | 1462.05 | 1238.62 | 2700.67 | 3.4491 | 5.5373 |

| T °C | P bar a | vf L/kg | vg m³/kg | hf kJ/kg | hfg kJ/kg | hg kJ/kg | sf kJ/kg K | sg kJ/kg K |
|---|---|---|---|---|---|---|---|---|
| 330 | 128.5752 | 1.5606 | 0.0130 | 1525.74 | 1140.51 | 2666.25 | 3.5516 | 5.4425 |
| 340 | 146.0018 | 1.6375 | 0.0108 | 1594.45 | 1027.62 | 2622.07 | 3.6599 | 5.3359 |
| 350 | 165.2916 | 1.7401 | 0.0088 | 1670.86 | 892.73 | 2563.59 | 3.7783 | 5.2109 |
| 360 | 186.6637 | 1.8945 | 0.0069 | 1761.49 | 719.50 | 2480.99 | 3.9164 | 5.0527 |
| 370 | 210.4337 | 2.2221 | 0.0049 | 1892.64 | 440.86 | 2333.50 | 4.1142 | 4.7996 |

## Notes

- vf is shown in litres per kg (m³/kg × 1000).
- The critical point is 373.946 °C and 220.64 bar a.

*Free download from instrumentationblog.in. Check values against the current edition of the standard for design work.*