## TEMPERATURE CONVERTER BASED ON ALTITUDE

The standard atmosphere (atm) on Earth at sea level is 1013.25 mbar (101.325 kPa), equivalent to 760 mmHg (torr), 29.92 inches Hg, or 14.696 psi. As altitude increases, atmospheric pressure decreases, so air pressure is lower at high altitudes than at sea level. Lowering the atmospheric pressure decreases the boiling point of the solvent so that it can be heated below its normal boiling point to cause its evaporation.

However, it is important to note that the whole distillation process takes longer in altitude than at sea level. Indeed, since the solvent evaporates at lower temperature, the evaporation cycle is slower.

The following chart reflects the temperature adjustment required to compensate for higher altitudes. Look for the value in the "Differential" column corresponding to the altitude level where your unit operates, and reduce this value from the normal boiling point of your solvent.

For example, if your solvent has a normal boiling point of 120 °C and your unit operates at 2,000 feet above sea level, you must set your cycle temperature at 112 °C (120 °C – 8 °C) instead of 120 °C.

| Temperature Adjustment to Compensate for Altitude | | | | | |
|---|---|---|---|---|---|
| Altitude (Ft) | Altitude (M) | Temperature (°C) | (°C) Differential from 182 °C | Temperature (°F) | (°F)Differential from 360 °F |
| 0 | 0 | 182 | 0 | 360 | 0 |
| 500 | 152 | 181 | 1 | 357 | 3 |
| 1000 | 305 | 179 | 3 | 354 | 6 |
| 1500 | 457 | 177 | 5 | 350 | 10 |
| 2000 | 610 | 174 | 8 | 346 | 14 |
| 2500 | 762 | 172 | 10 | 342 | 18 |
| 3000 | 914 | 170 | 12 | 338 | 22 |
| 3500 | 1067 | 167 | 15 | 334 | 26 |
| 4000 | 1219 | 164 | 18 | 327 | 33 |
| 4500 | 1372 | 161 | 21 | 322 | 38 |
| 5000 | 1524 | 157 | 25 | 315 | 45 |
| 6000 | 1829 | 154 | 28 | 310 | 50 |
| 7000 | 2134 | 147 | 35 | 298 | 62 |
| 8000 | 2438 | 141 | 41 | 286 | 74 |
| 9000 | 2743 | 136 | 46 | 274 | 86 |
| 10000 | 3048 | 128 | 54 | 262 | 98 |

# ISTpure

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