

Density Altitude Calculator

- using selectable units and dew point -

To use the calculator, just click the type of units that you will be entering, then enter the elevation, temperature, altimeter setting and dew point... then click the calculate button.

Density Altitude Calculator

Elevation	<input checked="" type="radio"/> feet <input type="radio"/> meters	<input style="width: 90%;" type="text" value="6814"/>
Air Temperature	<input checked="" type="radio"/> deg F <input type="radio"/> deg C	<input style="width: 90%;" type="text" value="54"/>
Altimeter Setting	<input checked="" type="radio"/> inches Hg <input type="radio"/> hPa	<input style="width: 90%;" type="text" value="30.19"/>
Dew Point	<input checked="" type="radio"/> deg F <input type="radio"/> deg C	<input style="width: 90%;" type="text" value="-14"/>

Density Altitude	<input style="width: 90%;" type="text" value="7765"/>	<input type="radio"/> feet	<input style="width: 90%;" type="text" value="2367"/>	<input type="radio"/> meters
Absolute Pressure	<input style="width: 90%;" type="text" value="23.473"/>	<input type="radio"/> inches Hg	<input style="width: 90%;" type="text" value="794.88"/>	<input type="radio"/> hPa
Air Density	<input style="width: 90%;" type="text" value="0.0606"/>	<input type="radio"/> lb/ft3	<input style="width: 90%;" type="text" value="0.97"/>	<input type="radio"/> kg/m3
Relative Density	<input style="width: 90%;" type="text" value="79.18"/>	<input type="radio"/> %	<input style="width: 90%;" type="text" value="79.18"/>	<input type="radio"/> %
Estimated AWOS	<input style="width: 90%;" type="text" value="7800"/>	<input type="radio"/> feet	<input style="width: 90%;" type="text" value="2377"/>	<input type="radio"/> meters

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Additional Information:

Example calculations:

Example 1: at 5050 feet elevation, 95 deg F air temp, 29.45 inches-Hg barometric pressure and a dew point of 67 deg F, the Density Altitude is calculated as 9252 feet.

Example 2: at 1540 meters elevation, 35 deg C air temp, 997 hPa barometric pressure and a dew point of 19 deg C, the Density Altitude is calculated as 2821 meters.

The metric unit hPa (hectoPascal) is identical to the pressure unit called mb (milliBar).

Air density is affected by the air pressure, temperature and humidity. The density of the air is reduced by decreased air pressure, increased temperatures and increased moisture. A reduction in air density reduces engine horsepower, reduces aerodynamic lift and reduces drag.

The National Weather Service (NWS) has on-line [relative humidity and altimeter setting](#) for a variety of US locations, in both English and Metric units. Also, the Federal Aviation Administration (FAA) offers local phone numbers for [AWOS data](#) at many US airports.