

AviaCalc v1.0 Help Index

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Introduction

AviaCalc is a calculator program that can help you perform some conversions and calculations for aeronautics. This may particularly interest aircraft engineering and instrumentation groups, physicists, pilots, and anyone who may take an interest.

It allows you to create [calibration tables](#) for aircraft instruments.

Calculates Pressure at a given Altitude or Altitude from a given Pressure.

Calculates Pitot Pressure from given Airspeed or Airspeed from a given Pressure.

Calculates True Airspeed of aircraft (using altitude, outside air temperature, and indicated airspeed of aircraft)

Using AviaCalc

Using AviaCalc is simple:

Choose the type of calculation you would like from the menu bar.

When the input dialog box appears, enter the appropriate value(s) and press Enter or click "OK" button.

To close the input dialog press "Escape" or click "Cancel" button.

If you want to [change](#) the input or output units click the "Units" button or press Alt+U.

Printing (Registered Version only)

You can print the following conversion Tables :

- Altitude to Pressure
- Pressure to Altitude
- Airspeed to Pressure
- Pressure to Airspeed

To Print a Calculation/Conversion Table

1. From the main menu choose the type of conversion you need.
2. The input dialog box will appear.
3. Click the "Print" button.
4. Make any changes to the printer setup by clicking the Printer Setup button or press Alt-P.
5. Enter the start, end, and step values and click the "OK" button or press "Enter."

Note: AviaCalc will use the units that are presently selected for the conversion.
Therefore, you should [change the units](#) before printing.

Calculation Limits

Registered version of AviaCalc:

Altitude	-5,000 to 104,000 feet
Airspeed	0 to 550 knots
Temperature	-100°C to +100°C (used for True Airspeed calculations)

The shareware version is limited to only the default unit types (feet, in. Hg, km/h, °C) and will calculate the following:

Altitude	0 to 2,000 m
Airspeed	0 to 100 km/h
Temperature	+20°C to +60°C

AviaCalc uses the following units for calculation:
(units can be changed at any time during calculations)

Airspeed:

MPH	miles per hour
Knots	nautical miles (international) per hour
km/h	kilometers per hour

Pressure:

in .Hg	inches of Mercury
mm. Hg	millimeters of Mercury
in. Water	inches of Water
mBar	milliBars
PSI	Pounds per Square Inch
Pa	Pascal

Altitude:

feet	Feet
meters	Meter

Temperature:

°F	Degree Fahrenheit
°C	Degree Centigrade
°K	Degree Kelvin

Changing Units of Measurement (Registered Version Only)

To change the current measuring units click the "Units" button (On any input dialog) or use the keyboard "short cut" - Alt+U.

The Units Selection Dialog will appear.

Select the measuring units you want, then click the "OK" button or press "Enter."

After closing the Unit Selection Dialog, AviaCalc will automatically convert the units for calculations in progress.

Units Conversion Table

1 foot = 0.3048 m
1 mile = 1609 m
1 knot = 1852 m

1 in. Hg (at 0°C) = 25.4 MM. Hg (at 0°C)
1 in. Hg (at 0°C) = 13.61 in. Water (at 15°C)
1 in. Hg (at 0°C) = 33.86 mBar
1 in. Hg (at 0°C) = 0.491 PSI
1 in. Hg (at 0°C) = 3386.3 Pa

Temperature Conversion:

$t^{\circ}\text{C} = (t^{\circ}\text{F} - 32) / 1.8$
 $t^{\circ}\text{K} = (t^{\circ}\text{F} + 459.67) / 1.8$

