

## Pressure Conversion

From the user, a value for atmospheric pressure ( $P$ ) is given to be converted to different pressure units.

To convert between inches of mercury ( $inHg$ ) and millimeters of mercury ( $mmHg$ ) or torr, use the formulas below:

$$P_{mmHg} = 25.4 \times P_{inHg}$$

$$P_{inHg} = 0.03937008 \times P_{mmHg}$$

To convert between inches of mercury ( $inHg$ ) and millibars ( $mb$ ) or hectopascals ( $hPa$ ), use the formulas below:

$$P_{mb} = 33.8639 \times P_{inHg}$$

$$P_{inHg} = 0.0295300 \times P_{mb}$$

To convert between inches of mercury ( $inHg$ ) and kilopascals ( $kPa$ ), use the formulas below:

$$P_{kPa} = 33.8639 \times \left( \frac{P_{inHg}}{10} \right)$$

$$P_{inHg} = 0.295300 \times P_{kPa}$$

To convert between inches of mercury ( $inHg$ ) and pounds per square inch ( $psi$ ), use the formulas below:

$$P_{psi} = 0.491130 \times P_{inHg}$$

$$P_{inHg} = 2.03602 \times P_{psi}$$

To convert between torr or millimeters of mercury (*mmHg*) and millibars (*mb*) or hectopascals (*hPa*), use the formulas below:

$$P_{mb} = 1.333224 \times P_{mmHg}$$

$$P_{mmHg} = 0.750062 \times P_{mb}$$

To convert between torr or millimeters of mercury (*mmHg*) and kilopascals (*kPa*), use the formulas below:

$$P_{kPa} = 0.1333224 \times P_{mmHg}$$

$$P_{mmHg} = 7.50062 \times P_{kPa}$$

To convert between torr or millimeters of mercury (*mmHg*) and pounds per square inch (*psi*), use the formulas below:

$$P_{psi} = 0.0193368 \times P_{mmHg}$$

$$P_{mmHg} = 51.7149 \times P_{psi}$$

To convert between millibars (*mb*) or hectopascals (*hPa*) and kilopascals (*kPa*), use the formulas below:

$$P_{kPa} = \left( \frac{P_{mb}}{10} \right)$$

$$P_{mb} = 10 \times P_{kPa}$$

To convert between millibars (*mb*) or hectopascals (*hPa*) and pounds per square inch (*psi*), use the formulas below:

$$P_{psi} = 0.0145038 \times P_{mb}$$

$$P_{mb} = 68.9476 \times P_{psi}$$

To convert between kilopascals (*kPa*) and pounds per square inch (*psi*), use the formulas below:

$$P_{psi} = 0.145038 \times P_{kPa}$$

$$P_{kPa} = 6.89476 \times P_{psi}$$

To convert between standard atmosphere (*atm*) and millimeters of mercury (*mmHg*) or torr, use the formulas below:

$$P_{atm} = 0.0013157894 \times P_{mmHg}$$

$$P_{mmHg} = 760 \times P_{atm}$$

To convert between standard atmosphere (*atm*) and inches of mercury (*inHg*), use the formulas below:

$$P_{atm} = 0.033421 \times P_{inHg}$$

$$P_{inHg} = 29.9213 \times P_{atm}$$

To convert between standard atmosphere (*atm*) and pounds per square inch (*psi*), use

the formulas below:

$$P_{atm} = 0.0680457 \times P_{psi}$$

$$P_{psi} = 14.6960 \times P_{atm}$$

To convert between standard atmosphere (*atm*) and millibars (*mb*) or hectopascals (*hPa*), use the formulas below:

$$P_{atm} = 0.0009869233 \times P_{mb}$$

$$P_{mb} = 1013.250 \times P_{atm}$$

To convert between standard atmosphere (*atm*) and kilopascals (*kPa*), use the formulas below:

$$P_{atm} = 0.009869233 \times P_{kPa}$$

$$P_{kPa} = 101.3250 \times P_{atm}$$