

## 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:

$$P_{psi} = 0.491154 \times P_{inHg}$$
$$P_{inHg} = 2.03602 \times P_{psi}$$

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:

$$P_{kPa} = 0.1333224 \times \left( \frac{P_{mmHg}}{10} \right)$$

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

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:

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

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

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:

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

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