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:

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

\[
P_{kPa} = 10 \times P_{mb}
\]
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:

\[
P_{atm} = 0.009869233 \times P_{kPa}
\]

\[
P_{kPa} = 101.3250 \times P_{atm}
\]