

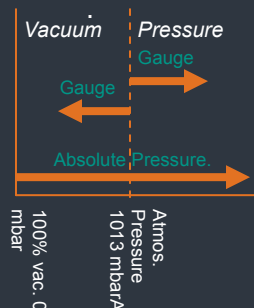
# Pressure Conversions

mbar	hPa	PSI	mH <sub>2</sub> O	mmHg	In Hg	kN/m <sup>2</sup>	ATM
1	1	0.0145	0.010197	0.7501	2.953	0.1	9.869 x 10 <sup>-4</sup>
1	1	0.0145	0.010197	0.7501	2.953	0.1	9.869 x 10 <sup>-4</sup>
69.95	69.95	1	0.703	0.3597	0.01414	0.4788	4.726 x 10 <sup>-4</sup>
98.066	98.066	1.4223	1	73.56	2.896	9.806	0.0978
1.333	1.333	0.01934	0.01359	1	0.03937	0.1333	1.316 x 10 <sup>-3</sup>
2.491	2.491	20.89	0.0254	0.2953	1	0.145	0.03342
10	10	0.145	0.10197	7.501	0.2953	1	9.869 x 10 <sup>-3</sup>
1013	1013	14.7	10.33	760	29.92	101.3	1

## Additional Details

- Example;  
Convert 2.8mH<sub>2</sub>O into mbar  
98.066 x 2.8 = 274.58 mbar
- 1 N/m<sup>2</sup> = 1 Pa  
1 N/mm<sup>2</sup> = 1 MPa  
1 torr = 1 mmHg
- Pascal (Pa) is the preferred unit for pressures of fluids, but bar and millibar may also be used. All other pressure units such as torr, psi, inHg, atm, mH<sub>2</sub>O should not be used.
- $h = 10^2$   
 $K = 10^3$   
 $M = 10^6$

## INFORMATION ON THE TYPES OF PRESSURES AND DISCRPTIONS



**Absolute Pressure** - a pressure that is measured from absolute zero (0 mabarA). typical for vacuum readings and Atmospheric Pressures. Usually indicated by using a letter "A" after the unit.

**Gauge Pressure** - a pressure that is measured from atmospheric or relative to the pressure surrounding a gauge. Usually used for compressor readings.

**Total Pressure** - Consider a vessel which has a number of gas constituents and vapours each with different masses. Each will exert different pressures, which is expressed as a partial pressure.

The total pressure within the vessel will be the sum of all the individual pressure.

Particularly in higher vacuum measurement certain types of gauges will only measure the pressure of certain gases and not all gases and vapours (i.e. Pirani type). These can give a false reading of the total system pressure under certain conditions.