

Datasheet

Atmospheric pressure is the pressure at any point in the Earth's atmosphere. In most circumstances atmospheric pressure is closely approximated by the hydrostatic pressure caused by the weight of air above the measurement point.

A column of air 1 square inch in cross section, measured from sea level to the top of the atmosphere, would weigh approx 14.7 lb/ft. A 1m² square (11 sq ft) column of air would weigh about 100 Kilonewtons (equivalent to a mass of 10.2 tonnes, i.e. 10,200 kg at the surface.)

The SI unit of pressure is 1 Newton per metre 2 (N/m²) - this is also called the Pascal (Pa).

$$1\text{MPa} = 10^6 \text{ Pa} = 10^6 \text{ N/m}^2 = 1 \text{ N/mm}^2.$$

Pressure Units

	Pascal (Pa)/ N/m ²	Bar (bar)	Technical atmosphere (at)	Atmosphere (atm)	Torr (Torr)	Pound-force per square (psi)
1 Pa	= 1 N/m ²	10 ⁻⁵	1.0197x10 ⁻⁵	9.8692 x 10 ⁻⁶	7.5006 x 10 ⁻³	145.04 x 10 ⁻⁶
1 bar	100,000	= 106 dyn / cm ²	1.0197	0.98692	750.06	14.504
1 at	98,066.50	0.980665	1 kgf/cm ²	0.96784	735.56	14.223
1 atm	101,325	1.01325	1.0332	= 1 atm	760	14.696
1 torr	133.322	1.3332 x 10 ⁻³	1.3595 x 10 ⁻³	1.3158 x 10 ⁻³	= 1 Torr; 1 mm Hg	19.337 x 10 ⁻³
1 psi	6,894.76	68.948 x 10 ⁻³	70.307 x 10 ⁻³	68.046 x 10 ⁻³	51.715	= 1 lbf/in ²

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