



**Pressure and Stress / Temperature**

Compilation of technical data.  
 PAI does not assume any responsibility.

Newton = kg·m/s<sup>2</sup>      dyne = gr·cm/s<sup>2</sup>      kgfm = 9.806 650 N·m

	atm	H <sub>2</sub> O		Hg		Millibar or 100 Pa	bar or 100 kPa	MPa = MN/m <sup>2</sup> N/mm <sup>2</sup>	kgf/mm <sup>2</sup>	kgf/cm <sup>2</sup>	psi or lb/in <sup>2</sup>	ksi = 1 000 psi
		15°C mm or kgf/m <sup>2</sup>	60°F in	0°C mm (Torr)	32°F in							
Atmosphere**	1*	10 332.7	406.8	760.0*	29.92	1 013.25*	1.013	0.101 3	0.010 3	1.033	14.70	0.015
Millimeter of water	—	1*	0.039	0.074	0.003	0.098	—	—	—	0.000 1	0.001 4	—
Inches of water	0.002	25.40*	1*	1.868	0.074	2.488	0.002	—	—	0.003	0.036	—
Millimeter of mercury	0.001 3	13.596	0.535	1*	0.039	1.333	0.001	—	—	0.001	0.019	—
Inches of mercury	0.033	345.35	13.595	25.40*	1*	33.867	0.034	—	—	0.035	0.491	—
Millibar 100 Pa	—	10.198	0.401	0.750	0.029	1*	0.001*	—	—	0.001	0.014 5	—
Bar 100 000 Pa	0.987	10 198.1	401.5	750.1	29.53	1 000*	1*	0.1*	0.010 2	1.020	14.5	0.014 5
Megapascal 1 000 000 Pa	9.872	101 981	4 015	7 501	295.3	10 000*	10*	1*	0.102	10.20	145	0.145
Kilogram- force/square millimeter	96.778	1 000 000* (1 000 m)	39 370	73 550	2 895.7	98 066.5*	98.067	9.807	1*	100*	1 422	1.422
Kilogram- force/square centimeter	0.968	10 000* (10 m)	393.7	735.50	28.957	980.67	0.981	0.098	0.01*	1*	14.22	0.014
Pound-force/ square inch	0.068	703.07	27.68	51.715	2.036	68.95	0.069	0.007	—	0.070	1*	0.001*
ksi 1 000 psi	68.046	703 070	27 681	51 715	2 036	68 950	68.95	6.895	0.703	70.307	1 000*	1*

— too small for indication

\* An asterisk indicates the figure is exact

\*\* Standard pressure at sea level

**TEMPERATURE**

The SI base unit of temperature is KELVIN (K).

The degree Kelvin (°K) or degree of absolute temperature is used mainly for scientific measurements.

For practical applications, the unit of temperature used most often is the degree CELSIUS (°C).

The degree Celsius is identical to the degree Kelvin, but the scale that measures in degrees Celsius is more convenient to use.

Scale	Absolute Zero	Freezing Point	Boiling Point
Kelvin	0°K	273.16°K	373.15°K
Celsius	-273.16°C	0°C	100°C
Fahrenheit	-459.69°F	32°F	212°F