

Pressure conversion table

system of units		SI units					technical units					
		mbar	bar	Pa	kPa	MPa	mmWC	mWC	kp/cm ²	atm	Torr	psi
SI units	1 mbar =	1	10 ⁻³	100	0,1	0,1 · 10 ⁻³	10,197	10,197 · 10 ⁻³	1,0197 · 10 ⁻³	0,98692 · 10 ⁻³	0,75006	14,504 · 10 ⁻³
	1 bar =	10 ³	1	10 ⁵	100	0,1	10,197 · 10 ³	10,197	1,0197	0,9869	750,06	14,504
	1 Pa =	0,01	10 ⁻⁵	1	10 ⁻³	10 ⁻⁶	0,10197	0,10197 · 10 ⁻³	10,197 · 10 ⁻⁶	9,8692 · 10 ⁻⁶	7,5006 · 10 ⁻³	0,14504 · 10 ⁻³
	1 kPa =	10	0,01	10 ³	1	10 ⁻³	0,10197 · 10 ³	0,10197	10,197 · 10 ⁻³	9,8692 · 10 ⁻³	7,5006	0,14504
	1 MPa =	10 · 10 ³	10	10 ⁶	10 ³	1	0,10197 · 10 ⁶	0,10197 · 10 ³	10,197	9,8692	7,5006 · 10 ³	0,14504 · 10 ³
technical units	1 mmWC =	98,067 · 10 ⁻³	98,067 · 10 ⁻⁶	9,8067	9,8067 · 10 ⁻³	9,8067 · 10 ⁻⁶	1	10 ⁻³	0,1 · 10 ⁻³	96,784 · 10 ⁻⁶	73,556 · 10 ⁻³	1,4223 · 10 ⁻³
	1 mWC =	98,067	98,067 · 10 ⁻³	9,8067 · 10 ³	9,8067	9,8067 · 10 ⁻³	10 ³	1	0,1	96,784 · 10 ⁻³	73,556	1,4223
	1 kp/cm ² =	0,98067 · 10 ³	0,98067	98,067 · 10 ³	98,067	98,067 · 10 ⁻³	10 · 10 ³	10	1	0,96784	735,56	14,224
	1 atm =	1,0133 · 10 ³	1,0133	0,10133 · 10 ⁶	0,10133 · 10 ³	0,10133	10,332 · 10 ³	10,332	1,0332	1	760	14,693
	1 Torr =	1,3332	1,3332 · 10 ⁻³	0,13332 · 10 ³	0,13332	0,13332 · 10 ⁻³	13,595	13,595 · 10 ⁻³	1,3595 · 10 ⁻³	1,3158 · 10 ⁻³	1	19,34 · 10 ⁻³
	1 psi =	68,948	68,948 · 10 ⁻³	6,8948 · 10 ³	6,8948	6,8948 · 10 ⁻³	0,70307 · 10 ³	0,70307	70,307 · 10 ⁻³	68,046 · 10 ⁻³	51,715	1

further designation:

$$1 \text{ Pa} = 1 \text{ N/m}^2$$

$$1 \text{ hPa} = 1 \text{ mbar}$$

$$1 \text{ mm HG} = 1 \text{ Torr}$$

$$1 \text{ kp/cm}^2 = 1 \text{ at}$$

Pressure system of units

The values for pressure have been legally set down in the implementing ordinance for the law on measurement units (implementing ordinance for units - EinhAusfVO). The derived SI unit (SI - International system of units) is the Pascal with the symbol Pa. The Bar with the symbol bar is allowed as a special name for the tenth of the Megapascal (MPa). The position of the zero point is not stipulated by the international measuring system.

The following indices are used for pressure specifications:

- P_{abs} = Absolute pressure with reference to an evacuated space
- P_{e} = Positive or negative excess pressure relative to the prevailing atmospheric pressure
- ΔP = Differential pressure, pressure difference between two pressure values
- P_{amb} = Absolute value of the prevailing atmospheric pressure

The old technical units are not permitted now. The table above shows relationships and should help the plant engineer to make the conversions.