



MEASURE UNITS AND GRADUATIONS

Table A1 (pressure gauges)

The table below gives conversion factors. To shift from a pressure value expressed in column I units to the corresponding value expressed in row II units, multiply by the value given in the table.

I \ II	bar	mbar	Pa N/m ²	kPa	MPa	at kg/cm ²	psi lbf/in ²	mmH ₂ O	mmHg torr
bar	1	1000	10 ⁵	100	0,1	1,01972	14,5038	1,01972·10 ⁴	750,064
mbar	0,001	1	100	0,1	10 ⁻⁴	1,01972·10 ⁻³	0,0145038	10,1972	0,750064
Pa N/m ²	10 ⁻⁵	10 ⁻²	1	0,001	10 ⁻⁶	1,01972·10 ⁻⁵	1,45038·10 ⁻⁴	0,101972	7,50064·10 ⁻³
kPa	0,01	10	1000	1	0,001	0,0101972	0,145038	101,972	7,50064
MPa	10	10 ⁴	10 ⁶	1000	1	10,1972	145,038	1,01972·10 ⁵	7500,64
at kg/cm ²	0,980665	980,665	9,80665·10 ⁴	98,0665	9,80665·10 ⁻²	1	14,2234	10 ⁴	735,562
psi lbf/in ²	6,89476·10 ⁻²	68,9476	6,89476·10 ³	6,89476	6,89476·10 ⁻³	7,03067·10 ⁻²	1	703,067	51,7146
mmH ₂ O	9,80665·10 ⁻⁵	9,80665·10 ⁻²	9,80665	9,80665·10 ⁻³	9,80665·10 ⁻⁶	10 ⁻⁴	1,42234·10 ⁻³	1	7,35562·10 ⁻²
mmHg torr	1,33322·10 ⁻³	1,33322	133,322	0,133322	1,33322·10 ⁻⁴	1,35951·10 ⁻³	1,93369·10 ⁻²	13,5951	1

Table A2 (thermometers)

Units commonly used for thermometers graduations' dials are:

- °C (Celsius degrees);
- °F (Fahrenheit degrees).

Formulas shown below give conversion relations between the different measure units.

$$t (^{\circ}\text{C}) = 5/9 [t (^{\circ}\text{F}) - 32]$$

$$t (^{\circ}\text{F}) = 9/5 t (^{\circ}\text{C}) + 32$$


Table C1 (pressure gauges)

Minimum graduation divisions of pressure gauges versus numeration and accuracy class as per EN

Graduation	Class 1,6 per SP/NP		Class 1/1,6 per SP/SF/DP/PQ/MP/BP/MA		Class 0,6 per SP/SF/TR		Class 0,25 per CP	
	Division	Division N.	Division	Division N.	Division	Division N.	Division	Division N.
0 ÷ 1	0,05	20	0,02	50	0,01	100	0,005	200
0 ÷ 10	0,5	20	0,2	50	0,1	100	0,05	200
0 ÷ 100	2	20	2	50	1	100	0,5	200
0 ÷ 1000	50	20	20	50	10	100	5	200
-1 ÷ 0	0,05	20	0,02	50	0,01	100	0,005	200
-1 ÷ +9	0,5	20	0,2	50	---	---	---	---
0 ÷ 1,6	0,05	32	0,02	80	0,02	80	0,01	160
0 ÷ 16	0,5	32	0,2	80	0,2	80	0,1	160
0 ÷ 160	5	32	2	80	2	80	1	160
0 ÷ 1600	50	32	20	80	20	80	10	160
-1 ÷ +0,6	0,05	32	0,02	80	---	---	---	---
-1 ÷ +15	0,5	32	0,2	80	---	---	---	---
0 ÷ 2,5	0,1	25	0,05	50	0,02	125	0,01	250
0 ÷ 25	1	25	0,5	50	0,2	125	0,1	250
0 ÷ 250	10	25	5	50	2	125	1	250
0 ÷ 2500	100	25	50	50	20	125	10	250
-1 ÷ +1,5	0,1	25	0,05	50	---	---	---	---
-1 ÷ +24	1	25	0,5	50	---	---	---	---
0 ÷ 0,4	0,01	40	---	---	---	---	---	---
0 ÷ 4	0,2	20	0,1	40	0,05	80	0,02	200
0 ÷ 40	2	20	1	40	0,5	80	0,2	200
0 ÷ 400	20	20	10	40	5	80	2	200
0 ÷ 4000	---	---	100	40	50	80	20	200
-1 ÷ +3	0,1	40	0,1	40	---	---	---	---
0 ÷ 0,6	0,02	30	0,01	60	0,005	120	0,002	300
0 ÷ 6	0,2	30	0,1	60	0,05	120	0,02	300
0 ÷ 60	2	30	1	60	0,5	120	0,2	300
0 ÷ 600	20	30	10	60	5	120	2	300
-1 ÷ +5	0,2	30	0,1	60	---	120	---	---

Table C2 (thermometers)

Minimum graduation divisions of ST and BT series thermometers versus numeration and accuracy class as per EN standard (for expansion or bimetallic thermometers scale ranges see the specific heading of the relevant series)

Graduation	Class 1		Graduation	Class 1	
	Division	Division N.		Division	Division N.
0 ÷ 60	1	60	0 ÷ 400	10	40
0 ÷ 100	2	50	0 ÷ 500	10	50
0 ÷ 120	2	60	0 ÷ 600	10	60
0 ÷ 160	2	80	-50 ÷ +50	2	50
0 ÷ 200	5	40	-40 ÷ +60	2	50
0 ÷ 250	5	50	-20 ÷ +40	1	60
0 ÷ 300	5	60	-20 ÷ +100	2	60