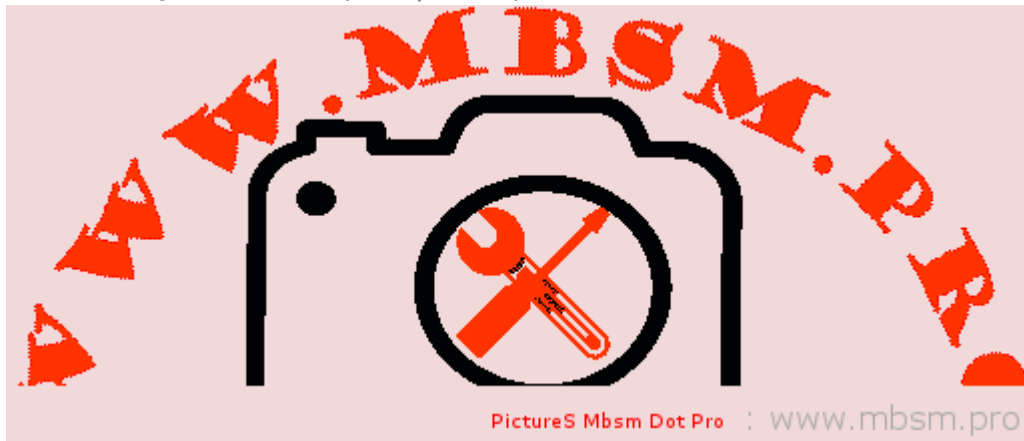


PREFIXES , CONVERSION ,FACTORS

Category: Technologie

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Prefixes



Units can be used as such or in multiples or fractions of ten:

PREFIX		POWER OF TEN
T	tera	10^{12}
G	giga	10^9
M	mega	10^6
k	kilo	10^3
h	hecto	10^2
da	deca	10^1
d	deci	10^{-1}
c	centi	10^{-2}
m	milli	10^{-3}
μ	micro	10^{-6}
n	nano	10^{-9}
P	pico	10^{-12}
f	femto	10^{-15}
a	atto	10^{-18}

$$1 \text{ m} = 100 \text{ cm} = 1000 \text{ mm}$$

$$1 \text{ m}^2 = 10\,000 \text{ cm}^2 = 10^6 \text{ mm}^2$$

$$1 \text{ m}^3 = 10^6 \text{ cm}^3 = 10^9 \text{ mm}^3$$

$$1 \text{ Mg m}^{-3} = 10^3 \text{ kg m}^{-3} = 1 \text{ g cm}^{-3}$$

$$1 \text{ kPa} = 10 \text{ mbar}$$

$$1 \text{ joule} = 0.2388 \text{ cal}$$

$$1 \text{ watt} = 1 \text{ J s}^{-1} = 0.8598 \text{ kcal h}^{-1}$$

$$1 \text{ W m}^{-2} = 0.8598 \text{ kcal m}^{-2} \text{ h}^{-1}$$

$$1 \text{ W m}^{-2} = 1.433 \times 10^{-3} \text{ cal cm}^{-2} \text{ min}^{-1}$$

$$1 \text{ Hp} = 745.7 \text{ W}$$

$$1 \text{ W} = 0.001431 \text{ Hp}$$

$$\text{Water flow (m}^3 \text{ s}^{-1}) = 0.55 \times \text{Pump power (W)}/\text{Pressure (kPa)}$$

$$\text{Water flow (litre s}^{-1}) = 5.43 \times \text{Pump power (kilowatts)}/\text{pressure (bars)}$$

Brake Horsepower is the horsepower for an electric motor. Do not use for fuel-powered engines.

Conversion factors

Temperature

Standard unit: degree Celsius ($^{\circ}\text{C}$)

$$\text{degree Fahrenheit (}^{\circ}\text{F)} \quad ^{\circ}\text{C} = (^{\circ}\text{F} - 32) \cdot 5/9$$

$$\text{kelvin(s) (K)} \quad \text{K} = ^{\circ}\text{C} + 273.15$$

Pressure (air pressure, vapour pressure)

Standard unit: kilopascal (kPa)

$$\text{millibar (mbar)} \quad 1 \text{ mbar} = 0.1 \text{ kPa}$$

$$\text{Bar} \quad 1 \text{ bar} = 100 \text{ kPa}$$

$$\text{centimetre of water (cm)} \quad 1 \text{ cm of water} = 0.09807 \text{ kPa}$$

$$\text{millimetre of mercury (mm Hg)} \quad 1 \text{ mm hg} = 0.1333 \text{ kPa}$$

$$\text{atmosphere (atm)} \quad 1 \text{ atm} = 101.325 \text{ kPa}$$

$$\text{pound per square inch (psi)} \quad 1 \text{ psi} = 6.896 \text{ kPa}$$

Wind speed

Standard unit: metre per second (m s^{-1})

$$\text{kilometre per day (km day}^{-1}) \quad 1 \text{ km day}^{-1} = 0.01157 \text{ m s}^{-1}$$

$$\text{nautical mile/hour (knot)} \quad 1 \text{ knot} = 0.5144 \text{ m s}^{-1}$$

$$\text{foot per second (ft s}^{-1}) \quad 1 \text{ ft s}^{-1} = 0.3048 \text{ m s}^{-1}$$

Radiation

Standard unit: megajoule per square metre and per day ($\text{MJ m}^2 \text{ day}^{-1}$) or as equivalent evaporation in mm per day (mm day^{-1})

$$\text{equivalent evaporation (mm/day)} \quad 1 \text{ mm day}^{-1} = 2.45 \text{ MJ m}^{-2} \text{ day}^{-1}$$

-14	256	255	255	255	254	254	253	253	253	252
-13	260	259	259	258	258	258	257	257	257	256
-12	264	263	263	262	262	262	261	261	260	260
-11	268	267	267	267	266	266	265	265	265	264
-10	272	271	271	271	270	270	269	269	269	268
-9	276	276	275	275	274	274	274	273	273	272
-8	280	280	279	279	279	278	278	277	277	276
-7	284	284	284	283	283	282	282	282	281	281
-6	289	288	288	287	287	287	286	286	285	285
-5	293	293	292	292	291	291	291	290	290	289
-4	298	297	297	296	296	295	295	294	294	294
-3	302	302	301	301	300	300	299	299	298	298
-2	306	306	306	305	305	304	304	303	303	302
-1	311	311	310	310	309	309	308	308	307	307
0	316	315	315	314	314	313	313	312	312	311