

System International

| Base units: | (abbrev.) | Quantity |
|--------------------|-----------|---------------------|
| • the metre | (m) | length |
| • the kilogram | (kg) | mass |
| • the second | (s) | time |
| • the ampere | (a) | electric current |
| • the kelvin | (K) | temperature |
| • the candela | (Cd) | luminous intensity |
| • the mole | (mol) | amount of substance |

| Prefixes: | (abbrev.) | Quantity |
|------------------|-----------|-----------|
| • mega | M | 1 000 000 |
| • kilo | k | 1000 |
| • centi | c | 0.01 |
| • milli | m | 0.001 |

Some rules:

1. Use no decimal after the abbreviated versions of metric units unless at the end of a sentence. For example, 35.6 N (short for newtons), 3.00 kg (short for kilograms), or 0.500 s (short for seconds) are correct forms; but 40.0 m. and 20.5 s. or 20.5 sec. are incorrect forms.
2. A centred dot (\cdot) is used to separate abbreviated SI units involving combined quantities, such as N \cdot s for newton seconds or kg \cdot m² for kilogram metres squared. A decimal point ($.$), however, is also acceptable and is easier to type. Some countries permit the use of a “thin” space.

3. Use a slash (/) to indicate an arithmetic division of units, such as, m/s for metres per second or N/m² for newtons per square metre.
4. Do not capitalize a unit derived from a proper name when spelling out the unit even though the unit's abbreviation is a capital letter. Examples of such units include the watt (W), the newton (N), the hertz (Hz), the pascal (Pa) and the joule (J). An exception is the degree Celsius (°C).
5. Do not mix abbreviations and unabbreviated forms in an expression. For instance, the following are incorrect forms: newtons per m, kg.metres and N.seconds.
6. The prefixes hecto, deca, deci and centi should be avoided, excepting for the measurements of area, volume, length and sound, such as hectare, centilitre, decibel and centimetre.
7. When pronouncing metric units that have a prefix, the accent should always be placed on the complete prefix, that is, kilo'-metre versus ki-lo'-metre or kilo-metre'.
8. Always type a space between the numeric part and the units except for °C, °, ', " (angles in deg, min, s) and %. Examples: 76.4 W, 20.4°C, 13%, 678 N.m and 45° 15'.
9. When writing out numbers with greater than four digits on either side of the decimal point, use a "thin" space instead of a comma to separate digits into groups of three as, for example, 23 400 m or 0.001 63 m. This is because the comma is used in many countries as a decimal point. It is permissible to omit the space in four digit numbers, such as 1000, 7984, 5500, 0.3506, 0.2114, etc.

System International units of measure and abbreviations

| Quantity | Name ¹ | Symbol | Formula ² |
|-----------------------------------|---------------------------|-----------|-----------------------------------|
| Kinematic domain: | | | |
| length, linear displacement | metre | m | |
| area | square metre | | m ² |
| volume | cubic metre | | m ³ |
| | litre | L | dm ³ |
| linear velocity, speed | metre per second | | m/s |
| linear acceleration | metre per second squared | | m/s ² |
| plane angle, angular displacement | radian | rad | |
| | degree | deg | $\pi/180$ rad |
| | minute | ' | 1/60 deg |
| | second | " | 1/360 deg |
| | revolution | r | 2 π rad |
| angular velocity | radian per second | | rad/s |
| angular acceleration | radian per second squared | | rad/s ² |
| Inertial property domain: | | | |
| mass | kilogram | kg | |
| | tonne | T | 1000 kg |
| moment of inertia | kilogram metre squared | | kg·m ² |
| density | kilogram per cubic metre | | kg/m ³ |
| Temporal domain: | | | |
| time | second | s | |
| | minute | min | 60 s |
| | hour | h | 3600 s |
| frequency | hertz | Hz | 1/s |
| Kinetic domain: | | | |
| force | newton | N | kg·m/s ² |
| moment of force, torque | newton metre | | N·m |
| pressure, stress | pascal | Pa | N/m ² |
| energy, work | joule | J | kg·m ² /s ² |
| power | watt | W | J/s |
| linear momentum/impulse | kilogram metre per second | | kg·m/s or N·s |
| angular momentum/impulse | newton second | | kg·m ² /s or N·m·s |
| Electrical domain: | | | |
| current | ampere | A | |
| voltage | volt | V | W/A |
| charge | coulomb | C | s·A |
| power | watt | W | J/s |
| resistance | ohm | Ω | V/A |
| capacitance | farad | F | C/V |
| Temperature domain: | | | |
| temperature | kelvin | K | |
| | degree Celsius | °C | |

System International unit prefixes

| Multiplication Factor | Prefix | Symbol |
|---|--------|--------|
| $1\ 000\ 000\ 000\ 000\ 000\ 000 = 10^{18}$ | exa | E |
| $1\ 000\ 000\ 000\ 000\ 000 = 10^{15}$ | peta | P |
| $1\ 000\ 000\ 000\ 000 = 10^{12}$ | tera | T |
| $1\ 000\ 000\ 000 = 10^9$ | giga | G |
| $1\ 000\ 000 = 10^6$ | mega | M |
| $1\ 000 = 10^3$ | kilo | k |
| $100 = 10^2$ | hecto | h |
| $10 = 10^1$ | deca | da |
| $0.1 = 10^{-1}$ | deci | d |
| $0.01 = 10^{-2}$ | centi | c |
| $0.001 = 10^{-3}$ | milli | m |
| $0.000\ 001 = 10^{-6}$ | micro | μ |
| $0.000\ 000\ 001 = 10^{-9}$ | nano | n |
| $0.000\ 000\ 000\ 001 = 10^{-12}$ | pico | p |
| $0.000\ 000\ 000\ 000\ 001 = 10^{-15}$ | femto | f |
| $0.000\ 000\ 000\ 000\ 000\ 001 = 10^{-18}$ | atto | a |