

Fundamental Quantities	SI Unit	Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric current	Ampere	A
Temperature	Kelvin	K
Amount of substance	mol	mol
Luminous Intensity	candela	cd

Quantity	SI (Metric) Unit	Equal US Customary Unit
Length	meter (m) meter (m) millimeter (mm)	3.281 feet (ft) 39.37 inches (in) 0.03937 inches (in)
Area	square meter (m ²) square meter (m ²) square millimeter (mm ²)	10.76 ft ² 1550 in ² 0.001550 in ²
Volume	cubic meter (m ³) cubic meter (m ³) liter liter liter	35.31 ft ³ 264.2 gallons (gal) 0.03531 ft ³ 61.02 in ³ 0.2642 gal
Mass	kilogram (kg)	2.205 pounds mass (lbm)
Force	Newton (N)	0.2248 pounds force (lbf)
Pressure	Pascal (Pa) or (N/m ²) bar kiloPascal (kPa) or (kN/m ²) kilogram-force/square centimeter (kgf/cm ²) or kilopond (kp/cm ²)	1.450x10 ⁻⁴ lbf/in ² (psi) 14.504 lbf/in ² (psi) 0.1450 lbf/in ² (psi) 14.223 lbf/in ² (psi)
Enthalpy	Joule/gram (J/g)	0.4299 Btu/lbm
Temperature	Kelvin (K) Kelvin (K) °Celsius (°C)	1.800° Rankine (°R) 1.8K-459.67=°Fahrenheit (°F) 1.8°C + 32 = °F
Flow Coefficient	K _v (m ³ /hr/bar ^{1/2}) 1.1562 K _v	0.8649C _v (gpm/psi ^{1/2}) C _v
Flow Rate	cubic meter/hour(m ³ /h) kilogram/hour (kg/h) kilogram/hour (kg/h)	4.403 gal/min (gpm) 0.00441*G ₁ gal/min (gpm) 2.205 lbm/h

Table 2.2 Some units retained for general use (Though outside SI)

Name	Symbol	Value in SI Unit
minute	min	60 s
hour	h	60 min = 3600 s
day	d	24 h = 86400 s
year	y	365.25 d = 3.156×10^7 s
degree	°	$1^\circ = (\pi/180)$ rad
litre	L	$1 \text{ dm}^3 = 10^{-3} \text{ m}^3$
tonne	t	10^3 kg
carat	c	200 mg
bar	bar	$0.1 \text{ MPa} = 10^5 \text{ Pa}$
curie	Ci	$3.7 \times 10^{10} \text{ s}^{-1}$
roentgen	R	$2.58 \times 10^{-4} \text{ C/kg}$
quintal	q	100 kg
barn	b	$100 \text{ fm}^2 = 10^{-28} \text{ m}^2$
are	a	$1 \text{ dam}^2 = 10^2 \text{ m}^2$
hectare	ha	$1 \text{ hm}^2 = 10^4 \text{ m}^2$
standard atmospheric pressure	atm	$101325 \text{ Pa} = 1.013 \times 10^5 \text{ Pa}$

