Fundamental and Derived Units

Fundamental Units in the MKS System

Quantity	Name	Unit Symbol
Length	meter	m
Mass	kilogram	kg
Time	second	s
Electric Current	Ampere	A
Thermodynamic Temperature	Kelvin	K
Amount of a Substance	mole	mol
Luminous Intensity	candela	cd

Some MKS Derived Units

Quantity	Name of Unit	Unit Symbol	Unit Derivation
Area	square meter		m^2
Volume	cubic meter		m^3
Frequency	Hertz	Hz	s^{-1}
Speed or Velocity	meter per second		$m\ s^{-1}$
Acceleration	meter per second squared		$m\ s^{-2}$
Force	Newton	N	$kg\ m\ s^{-2}$
Pressure	Pascal	Pa	$N\ m^{-2}$
Energy	Joule	J	$kg\ m^2\ s^{-2}$
Power	Watt	W	$J\ s^{-1}$
Electric Charge	Coulomb	C	A s
Potential Difference	Volt	V	$J\ C^{-1}$
Electric Resistance	Ohm	Ω	$A\ V^{-1}$
Capacitance	Farad	F	$V\ C^{-1}$
Inductance	Henry	H	$V\ s\ A^{-1}$
Magnetic Flux Density	Tesla	T	$N\ A^{-1}\ m^{-1}$