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Reciprocal System Natural Units versus Conventional Units

Natural Units	Conventional	Symbol	Name	Measures	Equivalents
$\frac{s}{t}$	A	MKS A	ampere	electric current	
$\frac{1}{t}$	$\frac{A}{m}$	MKS A/m	Ampere per metre	magnetization magnetic field strength H-field	
$\frac{1}{st}$	$\frac{A}{m^2}$	MKS A/m²	Ampere per square metre	electric current density	
$\frac{s}{t}$	A	MKS A.rad	ampere radian	magnetomotive force	
$\frac{t}{s^4}$	$\frac{\mathrm{kg}}{ms^2}$	CGS Ba	Barye	pressure stress	dyn/cm
$\frac{1}{t}$	$\frac{1}{s}$	MKS Bq	Becquerel	radioactivity	1/s
$\frac{1}{s}$	cd	MKS cd	candela	luminous intensity	
$\frac{1}{s^3}$	$\frac{\mathrm{cd}}{m^2}$	MKS cd/m²	candela per square metre	luminance	
$\frac{s}{1}$	m	CGS cm	centimeter	length	
$\frac{s}{1}$	sA	MKS C	Coulomb	electric charge or quantity of electricity	s.A F.V
$\frac{1}{s^2}$	$\frac{sA}{m^3}$	MKS C/m³	Coulomb per cubic metre	electric charge density	
$\frac{s^4}{t^3}$	$\frac{sA}{\mathrm{kg}}$	MKS C/kg	Coulomb per kilogram	exposure	
1	$\frac{sA}{m}$	MKS C/m	Coulomb per metre	linear charge density	
$\frac{1}{s}$	$\frac{sA}{m^2}$	MKS C/m²	Coulomb per square metre	electric displacement field polarization density	
$\frac{s^3}{1}$	m^3	MKS m³	cubic metre	volume	

Natural Units	Conventional		Symbol	Name	Measures	Equivalents
$\frac{s^6}{t^3}$	$\frac{m^3}{\mathrm{kg}}$	MKS	m³/kg	cubic metre per kilogram	specific volume	
$\frac{s^3}{1}$	$\frac{m^3}{\mathrm{mol}}$	MKS	m³/mol	cubic metre per mole	molar volume	
$\frac{s^3}{t}$	$\frac{m^3}{s\,\mathrm{mol}}$	MKS	m³/(mol.s)	cubic metre per mole second	catalytic efficiency	
$\frac{s^3}{t}$	$\frac{m^3}{s}$	MKS	m³/s	cubic metre per second	volumetric flow	
$\frac{t}{s}$	K	MKS	°C	degree Celsius	temperature	K
$\frac{t}{s^2}$	$\frac{m\,\mathrm{kg}}{s^2}$	CGS	dyn	dyne	force	
$\frac{t}{s}$	$\frac{m^2\,\mathrm{kg}}{s^2}$	CGS	erg	erg	energy work heat	dyn.cm
$\frac{s^3}{t}$	$\frac{s^4A^2}{m^2\,\mathrm{kg}}$	MKS	F	Farad	electrical capacitance	C/V s/
$\frac{s^2}{t}$	$\frac{s^4A^2}{m^3\,\mathrm{kg}}$	MKS	F/m	Farad per metre	permittivity	
$\frac{s}{t^2}$	$\frac{m}{s^2}$	CGS	Gal	Galileo	acceleration	dyn/g
$\frac{t^3}{s^3}$	kg	CGS	g	gram	mass	
$\frac{s^2}{t^2}$	$\frac{m^2}{s^2}$	MKS	Gy	Gray	absorbed dose	J/kg
$\frac{s^2}{t^3}$	$\frac{m^2}{s^3}$	MKS	Gy/s	Gray per second	absorbed dose rate	
$\frac{t^3}{s^3}$	$\frac{m^2\,\mathrm{kg}}{s^2A^2}$	MKS	H	Henry	electrical inductance	V.s/A .s Wb/A
$\frac{t^3}{s^4}$	$\frac{m\,\mathrm{kg}}{s^2A^2}$	MKS	H/m	Henry per metre	magnetic permeability	
$\frac{1}{t}$	$\frac{1}{s}$	MKS	Hz	Hertz	frequency	1/s
$\frac{1}{t^2}$	$\frac{1}{s^2}$	MKS	Hz/s	Hertz per second	frequency drift	

Natural Units	Conventional	Symbol	Name	Measures	Equivalents
$\frac{t}{s}$	$\frac{m^2\,\mathrm{kg}}{s^2}$	MKS J	Joule	energy work heat	N.m C.V W.s
$\frac{t}{s^4}$	$\frac{\mathrm{kg}}{ms^2}$	MKS J/m³	Joule per cubic metre	energy density	
1	$\frac{m^2\,\mathrm{kg}}{s^2K}$	MKS J/K	Joule per kelvin	heat capacity entropy	
1	$\frac{m^2\,\mathrm{kg}}{s^2K\,\mathrm{mol}}$	MKS J/(K.mol)	Joule per Kelvin mole	molar heat capacity molar entropy	
$\frac{s^2}{t^2}$	$\frac{m^2}{s^2}$	MKS J/kg	Joule per kilogram	specific energy	
$\frac{s^9}{t^7}$	$\frac{m^2}{\mathrm{kg}^2K}$	MKS J/(K.kg)	Joule per kilogram Kelvin	specific heat capacity specific entropy	
$\frac{t}{s}$	$\frac{m^2\,\mathrm{kg}}{s^2\,\mathrm{mol}}$	MKS J/mol	Joule per mole	molar energy	
$\frac{t}{s^3}$	$\frac{\mathrm{kg}}{s^2}$	MKS J/m²	Joule per square metre	radiant exposure	
$\frac{1}{s^3}$	$\frac{\mathrm{kg}}{s^3}$	MKS J/(m².s)	Joule per square metre second	energy flux density	
$\frac{s^3}{t}$	m^2A	MKS J/T	Joule per Tesla	magnetic dipole moment	
$\frac{t^2}{s}$	$\frac{m^2\,\mathrm{kg}}{s}$	MKS J.s	Joule second	action	
$\frac{1}{t}$	$\frac{\mathrm{mol}}{s}$	MKS kat	katal	catalytic activity	mol/s
$\frac{1}{s}$	$\frac{1}{m}$	CGS K	Kayser	wave number	
$\frac{t}{s}$	K	MKS K	Kelvin	thermodynamic pressure	
$\frac{t}{s^2}$	$\frac{K}{m}$	MKS K/m	Kelvin per metre	temperature gradient	
$\frac{t}{1}$	$\frac{s^3K}{m^2\,\mathrm{kg}}$	MKS K/W	Kelvin per Watt	thermal resistance	
$\frac{t^3}{s^3}$	kg	MKS kg	kilogram	mass	
$\frac{t^3}{s^6}$	$\frac{\mathrm{kg}}{m^3}$	MKS kg/m³	kilogram per cubic meter	density mass density	

Natural Units	Conventional	Symbol	Name	Measures	Equivalents
$\frac{t^3}{s^4}$	$\frac{\mathrm{kg}}{m}$	MKS kg/m	kilogram per metre	linear mass density	
$\frac{t^3}{s^3}$	$\frac{\mathrm{kg}}{\mathrm{mol}}$	MKS kg/mol	kilogram per mole	molar mass	
$\frac{t^2}{s^3}$	$\frac{\mathrm{kg}}{s}$	MKS kg/s	kilogram per second	mass flow rate	
$\frac{t^3}{s^5}$	$\frac{\mathrm{kg}}{m^2}$	MKS kg/m²	kilogram per square metre	area density	
$\frac{t^3}{s}$	$m^2\,\mathrm{kg}$	MKS kg.m²	kilogram square metre	moment of inertia	
$\frac{1}{s}$	cd	MKS lm	lumen	luminous flux	cd.sr
1	$\frac{s^3\,\mathrm{cd}}{m^2\,\mathrm{kg}}$	MKS lm/W	lumen per Watt	luminous efficacy	
$\frac{t}{s}$	$s\,\mathrm{cd}$	MKS lm.s	lumen second	luminous energy	
$\frac{1}{s^3}$	$\frac{\mathrm{cd}}{m^2}$	MKS lx	lux	illuminance	lm/m
$\frac{t}{s^3}$	$\frac{s\,\mathrm{cd}}{m^2}$	MKS lx.s	lux second	luminous exposure	
$\frac{s}{1}$	m	MKS m	metre	length	
$\frac{1}{s^2}$	$\frac{1}{m^2}$	MKS m/m³	metre per cubic metre	fuel efficiency	
$\frac{s^4}{t^3}$	$\frac{s^2A^2}{m\,\mathrm{kg}}$	MKS m/H	metre per Henry	magnetic susceptibility	
$\frac{s}{t}$	$\frac{m}{s}$	MKS m/s	metre per second	speed velocity	
$\frac{s}{t^3}$	$\frac{m}{s^3}$	MKS m/s³	metre per second cubed	jerk jolt	
$\frac{s}{t^2}$	$\frac{m}{s^2}$	MKS m/s²	metre per second squared	acceleration	
1	mol	MKS mol	mole	amount of substance	
$\frac{1}{s^3}$	$\frac{\mathrm{mol}}{m^3}$	MKS mol/m³	mole per cubic metre	molarity amount of substance concentration	

Natural Units	Conventional		Symbol	Name	Measures	Equivalents
$\frac{s^3}{t^3}$	$\frac{\mathrm{mol}}{\mathrm{kg}}$	MKS	mol/kg	mole per kilogram	molarity	
$\frac{t}{s^2}$	$\frac{m\,\mathrm{kg}}{s^2}$	MKS	N	Newton	force weight	kg.m/s
$\frac{t}{s}$	$\frac{m^2\,\mathrm{kg}}{s^2}$	MKS	N.m	Newton metre	torque moment of force	J/rad
$\frac{t^2}{s}$	$\frac{m^2\,\mathrm{kg}}{s}$	MKS	N.m.s	Newton metre second	angular momentum	
$\frac{s^2}{t}$	$\frac{m^2}{s}$	MKS	N.m.s/kg	Newton metre second per kilogra	specific angular momentum	
$\frac{t}{s^3}$	$\frac{\mathrm{kg}}{s^2}$	MKS	N/m	Newton per metre	surface tension stiffness	J/m
$\frac{1}{s^2}$	$\frac{m\,\mathrm{kg}}{s^3}$	MKS	N/s	Newton per second	yank	
$\frac{t^2}{s^2}$	$\frac{m\,\mathrm{kg}}{s}$	MKS	N.s	Newton second	momentum impulse	
$\frac{t^2}{s^3}$	$\frac{m^2\,\mathrm{kg}}{s^3A^2}$	MKS	Ω	ohm	electrical resistance impedance	1/S V/A
$\frac{t^2}{s^2}$	$\frac{m^3\,\mathrm{kg}}{s^3A^2}$	MKS	Ω.m	ohm metre	resistivity	
$\frac{t}{s^4}$	$\frac{\mathrm{kg}}{ms^2}$	MKS	Pa	Pascal	pressure stress	N/m
$\frac{t^2}{s^4}$	$\frac{\mathrm{kg}}{ms}$	MKS	Pa.s	Pascal second	dynamic viscosity	N.s/m
1	1	CGS	ph	phot	illuminance	
$\frac{t^2}{s^4}$	$\frac{\mathrm{kg}}{ms}$	CGS	P	Poise	dynamic viscosity	Ba.s
1	1	MKS	rad	radian	angle	m/m
$\frac{1}{t}$	$\frac{1}{s}$	MKS	rad/s	radian per second	angular velocity	
$\frac{1}{t^2}$	$\frac{1}{s^2}$	MKS	rad/s²	radian per second squared	angular acceleration	
$\frac{s^3}{t^3}$	$\frac{s^2A^2}{m^2\,\mathrm{kg}}$	MKS	H⁻¹	reciprocal Henry	magnetic reluctance	
$\frac{s}{t}$	$\frac{1}{K}$	MKS	K⁻¹	reciprocal Kelvin	thermal expansion coefficient	

Natural Units	Conventional		Symbol	Name	Measures	Equivalents
$\frac{1}{s}$	$\frac{1}{m}$	MKS	m^{-1}	reciprocal metre	wavenumber optical power curvature spatial frequency	
$\frac{s^4}{t}$	$\frac{ms^2}{\mathrm{kg}}$	MKS	Pa^{-1}	reciprocal Pascal	compressibility	
$\frac{t}{1}$	s	MKS	s	second	time	
$\frac{s^3}{t^2}$	$\frac{s^3A^2}{m^2\,\mathrm{kg}}$	MKS	S	Siemens	electrical conductance	1/ A/V
$\frac{s^2}{t^2}$	$\frac{s^3A^2}{m^3\,\mathrm{kg}}$	MKS	S/m	Siemens per metre	electric conductivity	
$\frac{s^5}{t^2}$	$\frac{s^3A^2\,\mathrm{mol}}{\mathrm{kg}}$	MKS	$S.m^2/mol$	Siemens square metre per mole	molar conductivity	
$\frac{s^2}{t^2}$	$\frac{m^2}{s^2}$	MKS	Sv	Sievert	equivalent dose	J/kg
$\frac{s^2}{1}$	m^2	MKS	m^2	square metre	area	
$\frac{s^2}{t}$	$\frac{m^2}{s}$	MKS	m^2/s	square metre per second	kinematic viscosity thermal diffusivity diffusion coefficient	
$\frac{s^4}{t^2}$	$\frac{s^2A}{\mathrm{kg}}$	MKS	$m^2/(V.s)$	square metre per volt second	electron mobility	
1	1	MKS	sr	steradian	solid angle	m
1	1	CGS	sb	stilb	luminance	
$\frac{s^2}{t}$	$\frac{m^2}{s}$	CGS	St	Stokes	kinematic viscosity	
$\frac{t^2}{s^4}$	$\frac{\mathrm{kg}}{s^2A}$	MKS	T	Tesla	magnetic field strength magnetic flux density B-field	V.s/m Wb/m N/(A.m)
$\frac{t^2}{s^3}$	$\frac{m\,\mathrm{kg}}{s^2A}$	MKS	T.m	Tesla metre	magnetic rigidity	
$\frac{t}{s^2}$	$\frac{m^2\,\mathrm{kg}}{s^3A}$	MKS	V	Volt	voltage electrical potential difference electromotive force	W/A J/C
$\frac{t}{s^3}$	$\frac{m\,\mathrm{kg}}{s^3A}$	MKS	V/m	Volt per metre	electric field strength	

Natural Units	Conventional		Symbol	Name	Measures	Equivalents
$\frac{1}{s}$	$\frac{m^2\,\mathrm{kg}}{s^3}$	MKS	W	Watt	power radiant flux	J/s V.A
$\frac{1}{s^4}$	$\frac{\mathrm{kg}}{ms^3}$	MKS	W/m³	Watt per cubic metre	spectral irradiance power density	
$\frac{1}{s^2}$	$\frac{m\,\mathrm{kg}}{s^3}$	MKS	W/m	Watt per metre	spectral power	
$\frac{1}{st}$	$\frac{m\,\mathrm{kg}}{s^3K}$	MKS	W/(m.K)	Watt per metre Kelvin	thermal conductivity	
$\frac{1}{s^3}$	$\frac{\mathrm{kg}}{s^3}$	MKS	W/m²	Watt per square metre	heat flux density irradiance	
$\frac{1}{s}$	$\frac{m^2\,\mathrm{kg}}{s^3}$	MKS	W/sr	Watt per steradian	radiant intensity	
$\frac{1}{s^4}$	$\frac{\mathrm{kg}}{ms^3}$	MKS	W/(sr.m³)	Watt per steradian cubic metre	spectral radiance	
$\frac{1}{s^2}$	$\frac{m\,\mathrm{kg}}{s^3}$	MKS	W/(sr.m)	Watt per steradian metre	spectral intensity	
$\frac{1}{s^3}$	$\frac{\mathrm{kg}}{s^3}$	MKS	W/(sr.m²)	Watt per steradian square metre	radiance	
$\frac{t^2}{s^2}$	$\frac{m^2\,\mathrm{kg}}{s^2A}$	MKS	Wb	Weber	magnetic flux	J/A T.m
$\frac{t^2}{s}$	$\frac{m^3\,\mathrm{kg}}{s^2A}$	MKS	Wb.m	Weber metre	magnetic moment	
$\frac{t^2}{s^3}$	$\frac{m\,\mathrm{kg}}{s^2A}$	MKS	Wb/m	Weber per metre	magnetic vector potential	

The Reciprocal System has JUST TWO units: space (s) and time (t). All conventional units can be expressed in exponents of space-time relationships. Note that "s" in the MKS/CGS system is "seconds," not "space." This table uses MathML to render the Natural Units and Conventional symbols columns. If they are not displaying correctly, then your browser may not support MathML.