



## Temperature Conversion Formulas

To Convert To...		Multiply...	By...
Atmospheres	(atm)	Bar -- Inches Mercury (in Hg) Pounds/square inch (psi) Torr --	0.9869 0.03342 0.06805 0.001316
Bar		Atmospheres (atm) Pounds/square inch (psi)	1.0133 0.06895
British Thermal Units	(Btu)	Joules (J) Kilowatt-hours (KWh) Watt-hours (Wh)	0.000948 3412 3.412
British Thermal Units/hour	(Btu/h)	Kilocalories/hour (kcal/h) Watts (W)	3.969 3.412
British Thermal Units/inches hour-square foot--°F British Thermal Units/pound British Thermal Units/pound--°F	(Btu--in) (h-ft2--°F) (Btu/lb) (Btu/lb--°F)	Watts/meter--°C (W/m--°C) Kilojoules/kilogram (kJ/kg) Kilojoules/kilogram--°C (kJ/kg--°C)	6.933 0.4299 0.2388
Calories	(cal)	Joules (J)	0.2388
Centimeters	(cm)	Feet (ft) Inches (in)	30.48 2.54
Centimeters/second	(cm/s)	Feet/minute (fpm)	0.508
Cubic centimeters	(cm3or cc)	Cubic feet (ft3) Cubic inches (in3) Milli Liters (ml)	28,320 16.39 1.0
Cubic feet	(ft3)	Cubic meters (m3) Gallons, U.S. (gal) Liters (l)	35.32 0.1337 .03532
Cubic feet/minute	(cfm)	Cubic meters/hour (m3/h) Cubic meters/second (m3/s) Liters/second (l/s)	0.5885 2119 2.119
Cubic inches	(in3)	Cubic centimeters (cm3or cc)	0.061
Cubic meters	(m3)	Gallons, U.S. (gal) Liters (l) Cubic feet (ft3)	0.003785 0.001 0.02832
Cubic meters/hour	(m3/h)	Cubic feet/minute (cfm) Gallons/minute (gpm)	1.699 0.2271
Cubic meters/second	(m3/s)	Cubic feet/minute (cfm)	0.000472

Cubic centimeters	(cm <sup>3</sup> or cc)	Cubic feet (ft <sup>3</sup> ) Cubic inches (in <sup>3</sup> ) Milli Liters (ml)	28,320 16.39 1.0
Cubic feet	(ft <sup>3</sup> )	Cubic meters (m <sup>3</sup> ) Gallons, U.S. (gal) Liters (l)	35.32 0.1337 .03532
Cubic feet/minute	(cfm)	Cubic meters/hour (m <sup>3</sup> /h) Cubic meters/second (m <sup>3</sup> /s) Liters/second (l/s)	0.5885 2119 2.119
Cubic inches	(in <sup>3</sup> )	Cubic centimeters (cm <sup>3</sup> or cc)	0.061
Cubic meters	(m <sup>3</sup> )	Gallons, U.S. (gal) Liters (l) Cubic feet (ft <sup>3</sup> )	0.003785 0.001 0.02832
Cubic meters/hour	(m <sup>3</sup> /h)	Cubic feet/minute (cfm) Gallons/minute (gpm)	1.699 0.2271
Cubic meters/second	(m <sup>3</sup> /s)	Cubic feet/minute (cfm)	0.000472
Feet	(ft)	Centimeters (cm) Meters (m)	0.03281 3.281
Feet/minute	(fpm)	Centimeters/second (cm/s) Meters/second (m/s)	1.969 196.9
Gallons, Imperial	--	Gallons, U.S. (gal)	0.8327
Gallons, U.S.	(gal)	Cubic feet (ft <sup>3</sup> ) Cubic meters (m <sup>3</sup> ) Gallons, Imperial -- Liters (l)	7.481 264.2 1.201 0.2642
Gallons/minute	(gpm)	Cubic meters/hour Liters/second (m <sup>3</sup> /h) (l/s)	4.403 15.85
Grams	(g)	Ounces (oz) Pounds (lb)	28.35 453.6
Grams/cubic centimeter	(g/cm <sup>3</sup> )	Kilograms/cubic meter (kg/m <sup>3</sup> ) Pounds/cubic foot (lb/ft <sup>3</sup> ) Pounds/cubic inch (lb/in <sup>3</sup> )	0.001 0.01602 27.68
Inches	(in)	Centimeters (cm) Millimeters (mm)	0.3937 0.03937
Inches Mercury	(in Hg)	Atmospheres (atm) Torr -	29.92 25.4
Joules	(J)	British Thermal Units (Btu) Calories (cal) Watt-hours (Wh)	1055 4.187 3600
Joules/second	(J/s)	British Thermal Units/hour (Btu/h) Watts (W)	0.2931 1

Joules/second	(J/s)	British Thermal Units/hour (Btu/h) Watts (W)	0.2931 1
Kilocalories/hour	(kcal/h)	Btu/hour (Btu/h)	0.252
Kilograms	(kg)	Pounds (lb)	0.4536
Kilograms/cubic meter	(kg/m <sup>3</sup> )	Grams/cubic centimeter (g/cm <sup>3</sup> )	1000
Kilograms/cubic meter	(kg/m <sup>3</sup> )	Pounds/cubic foot (lb/ft <sup>3</sup> )	16.02
Kilograms/square centimeter	(kg/cm <sup>2</sup> )	Pounds/square inch (psi)	0.07031
Kilojoules	(kJ)	Watt-hours (Wh)	3.6
Kilojoules/kilogram	(kJ/kg)	British Thermal Units/pound(Btu/lb)	2.326
Kilojoules/kilogram--°C	(kJ/kg--°C)	British Thermal Units/pound--°F (Btu/lb--°F)	4.187
Kilometers/hour	(km/h)	Miles/hour (mph)	1.609
Kilopascals	(kPa)	Pounds/square inch (psi)	6.895
Kilowatts	(KW)	British Thermal Units/hour (Btu/h) Watts (W)	0.0002931 0.001
Kilowatt-hours	(KWh)	British Thermal Units Btu) Watt-hours (Wh)	0.0002931 0.001
Liters	(l)	Cubic Feet (ft <sup>3</sup> ) Cubic Meters (m <sup>3</sup> ) Gallons, U.S. (gal)	28.32 1000 3.785
Liters/second	(l/s)	Cubic feet/minute (cfm) Gallons/minute (gpm)	0.4719 0.06309
Meters	(m)	Feet (ft)	0.3048
Meters/second	(m/s)	Feet/minute (fpm)	0.00508
Miles/hour	(mph)	Kilometers/hour (km/h)	0.6215
Millimeters	(mm)	Inches (in)	25.4
Newtons/square meter	(N/m <sup>2</sup> )	Pounds/square inch (psi)	6,895
Ounces	(oz)	Grams (g)	0.035274
Pounds	(lb)	Grams (g) Kilograms (kg)	0.002205 2.205
Pounds/cubic foot	(lb/ft <sup>3</sup> )	Grams/cubic centimeter (g/cm <sup>3</sup> ) Kilograms/cubic meter (kg/m <sup>3</sup> )	62.43 0.06243
Pounds/cubic inch	(lb/in <sup>3</sup> )	Grams/cubic centimeter (g/cm <sup>3</sup> )	0.03613
Pounds/square inch	(psi)	Bar - Kilograms/square centimeter (kg/cm <sup>2</sup> ) Kilopascals (kPa) Newtons/square meter (N/m <sup>2</sup> )	14.504 14.22 0.145 0.000145
Square centimeters	(cm <sup>2</sup> )	Square feet (ft <sup>2</sup> ) Square inches (in <sup>2</sup> )	929 6.452
Square feet	(ft <sup>2</sup> )	Square centimeters (cm <sup>2</sup> ) Square meters (m <sup>2</sup> )	0.001076 10.76
Square inches	(in <sup>2</sup> )	Square centimeters (cm <sup>2</sup> )	0.155
Square meters	(m <sup>2</sup> )	Square feet (ft <sup>2</sup> )	0.0929

Torr	Inches Mercury (in. Hg) Pounds/square inch (psi)	0.03937 51.71	
Watts	(W)	British Thermal Units/hour (Btu/h) Joules/second (J/s)	0.2931 1
Watt-hours	(Wh)	British Thermal Units (Btu) Joules (J) Kilojoules (kJ)	0.2931 0.0002778 0.2778
Watts/meter--°C	(W/m--°C)		0.1442
Watts/square centimeter Watts/square inch	(W/cm2) (W/in2)	Watts/square inch (W/in2) Watts/square centimeter (W/cm2)	0.155 6.452

Temperature Scale	Convert to by...
Fahrenheit	$^{\circ}\text{F} = 1.8^{\circ}\text{C} + 32^{\circ}$
Celsius	$^{\circ}\text{C} = 5/9(^{\circ}\text{F}-32^{\circ})$
Rankine	$^{\circ}\text{R} = 1.8\text{K} + 0.6^{\circ}$ $^{\circ}\text{R} = ^{\circ}\text{F} + 460^{\circ}$
Kelvin	$\text{K} = 5/9(^{\circ}\text{R}-0.6^{\circ})$ $\text{K} = ^{\circ}\text{C} + 273^{\circ}$