



# Miscellaneous Conversion Factor



To Convert	Into	Multiply By	To Convert	Into	Multiply By
Microfarad	Farads	$10^{-6}$	Revolutions	Radians	6.283
Microhms	Megohms	$10^{-12}$	Revolutions/min.	Degrees/sec.	6
Microhms	Ohms	$10^{-6}$	Revolutions/min.	Radians/sec.	0.1047
Microns	Meters	$1 \times 10^{-6}$	Revolutions/min. <sup>2</sup>	Radians/sec. <sup>2</sup>	$1.745 \times 10^{-3}$
Miles (statute)	Centimeters	$1.609 \times 10^5$	Revolutions/min. <sup>2</sup>	Revolutions/sec. <sup>2</sup>	$2.778 \times 10^{-4}$
Miles (statute)	Feet	5280	Revolutions/sec.	Degrees/sec.	360
Miles (statute)	Inches	$6.336 \times 10^4$	Revolutions/sec.	Radians/sec.	6.283
Miles (statute)	Kilometers	1.609	Revolutions/sec. <sup>2</sup>	Radians/sec. <sup>2</sup>	6.283
Miles/hr.	Feet/min.	88	Seconds (angles)	Degrees	$2.778 \times 10^{-4}$
Miles/hr.	Feet/sec.	1.467	Seconds (angles)	Minutes	0.01667
Miles/hr.	Meters/min.	26.82	Slugs	Pounds	32.17
Miles/h * s	Centimeters/sec. <sup>2</sup>	44.70	Square centimeters	Circular mils	$1.973 \times 10^6$
Miles/h * s	Feet/sec. <sup>2</sup>	1.467	Square centimeters	Sq. inches	0.1550
Miles/h * s	Kilometers/h * s	1.609	Square centimeters	Sq. meters	0.0001
Millimicrons	Meters	$1 \times 10^{-9}$	Square centimeters	Sq. millimeters	100
Milligrams	Grams	0.001	Square feet	Circular mils	$1.833 \times 10^6$
Millihenries	Henries	0.001	Square feet	Sq. centimeters	929
Milliliters	Liters	0.001	Square feet	Sq. inches	144
Millimeters	Centimeters	0.1	Square inches	Circular mils	$1.273 \times 10^6$
Millimeters	Inches	0.03937	Square inches	Sq. centimeters	6.452
Millimeters	Mils	39.37	Square inches	Sq. millimeters	645.2
Mils	Centimeters	$2.540 \times 10^{-3}$	Square inches	Sq. mils	$10^6$
Mils	Inches	0.001	Square meters	Sq. centimeters	$10^4$
Minutes (angles)	Degrees	0.01667	Square meters	Sq. feet	10.76
Minutes (angles)	Radians	$2.909 \times 10^{-4}$	Square meters	Sq. inches	1550
Ohms	Megohms	$10^{-6}$	Square meters	Sq. millimeters	$10^6$
Ounces	Grams	28.349527	Square millimeters	Circular mils	1973
Ounces	Pounds	0.0625	Square millimeters	Sq. centimeters	0.01
Ounces (fluid)	Cu. inches	1.805	Square millimeters	Sq. inches	$1.550 \times 10^{-3}$
Ounces (fluid)	Liters	0.02957	Square mils	Circular mils	1.273
Pints (liquid)	Cu. centimeters	473.2	Square mils	Sq. centimeters	$6.452 \times 10^{-6}$
Pints (liquid)	Cu. feet	0.01671	Square mils	Sq. inches	$10^{-8}$
Pints (liquid)	Cu. inches	28.87	Temp. (°C) + 273°	Absolute temp. (°C)	1.0
Pints (liquid)	Gallons	0.125	Temp. (°C) + 17.78°	Temperature (°F)	1.8
Pints (liquid)	Liters	0.4732	Temp. (°F) + 460°	Absolute temp. (°F)	1.0
Pints (liquid)	Quarts (liquid)	0.5	Temp. (F) -32°	Temperature (°C)	5/9
Poise	Grams/cm. sec.	1.00	Tons (short)	Ounces	32000
Pounds	Dynes	$44.4823 \times 10^4$	Tons (short)	Pounds	2000
Pounds	Grams	453.5924	Volts/inch	Volts/cm	0.39370
Pounds	Kilograms	0.4536	Watts	Btu/hr.	3.4129
Pounds	Ounces	16	Watts	Btu/min.	0.05688
Pounds of water	Cu. feet	0.01602	Watts	Ergs/sec.	107
Pounds of water	Cu. inches	27.68	Watts	Foot-pounds/sec.	0.7378
Pounds of water	Gallons	0.1198	Watts	Horsepower	$1.341 \times 10^{-3}$
Pound-foot	Centimeter-dynes	$1.356 \times 10^7$	Watts	Kg-calories/min.	0.01433
Pound-foot	Centimeter-grams	13825	Watts	Kilowatts	0.001
Pound-foot	Meter-kilograms	0.1383	Watt-hours	Btu	3.413
Pounds/cu. in.	Grams/cu. cm	27.68	Watt-hours	Ergs	$3.60 \times 10^{10}$
Pounds/cu. in.	Pounds/cu. ft.	1728	Watt-hours	Foot-pounds	2656
Pounds/sq. in.	Atmospheres	0.06804	Watt-hours	Gram-calories	859.85
Pounds/sq. in.	Feet of water	2.307	Watt-hours	Horsepower-hrs.	$1.341 \times 10^{-3}$
Pounds/sq. in.	Inches of mercury	2.036	Watt-hours	Kilogram-calories	0.8605
Pounds/sq. in.	Pounds/sq. ft.	144	Watt-hours	Kilowatt-hrs.	0.001
Quarts (liquid)	Gallons	0.25	Webers	Maxwells	$10^8$
Quarts (liquid)	Liters	0.9463	Webers	Kilolines	$10^9$
Radians	Degrees	57.30	Webers/sq. in.	Gausses	$1.550 \times 10^7$
Radians/sec.	Degrees/sec.	57.30	Webers/sq. in.	Lines/sq. in.	$10^8$
Radians/sec./sec.	Revs./sec./sec.	0.1592	Webers/sq. in.	Webers/sq. cm	0.1550
Revolutions	Degrees	360	Yards	Meters	0.9144



# Miscellaneous Conversion Factors



To Convert	Into	Multiply By	To Convert	Into	Multiply By
Foot-candle	Lumen/sq. meter	10.764	Inches of mercury	Pounds/sq. in.	0.4912
Foot-pounds	Btu	$1.286 \times 10^{-3}$	Joules	Btu	$9480 \times 10^{-4}$
Foot-pounds	Ergs	$1.356 \times 10^{-7}$	Joules	Ergs	$10^7$
Foot-pounds	Gram-calories	0.3238	Joules	Foot-pounds	0.7376
Foot-pounds	Joules	1.356	Joules	Kilogram-calories	$2.389 \times 10^{-4}$
Foot-pounds/min.	Btu/min.	$1.286 \times 10^{-3}$	Joules	Watt-hrs.	$2.778 \times 10^{-4}$
Foot-pounds/min.	Foot-pounds/sec.	0.01667	Kilograms	Grams	1000
Foot-pounds/min.	Horsepower	$3.030 \times 10^{-5}$	Kilograms	Pounds	2.205
Foot-pounds/min.	Kg-calories/min.	$3.24 \times 10^{-4}$	Kilograms	Tons (short)	$1.102 \times 10^{-3}$
Foot-pounds/min.	Kilowatts	$2.260 \times 10^{-5}$	Kilograms/sq. cm	Pounds/sq. in.	14.22
Foot-pounds/sec.	Btu/min.	0.07717	Kilogram-calories	Btu	3.968
Foot-pounds/sec.	Horsepower	$1.818 \times 10^{-3}$	Kilogram-calories	Foot-pounds	3088
Foot-pounds/sec.	Kilowatts	$1.356 \times 10^{-3}$	Kilogram-calories	Joules	4186
Foot-pounds/sec.	Cu. feet	0.1337	Kilogram-calories	Kilowatt-hrs.	$1.163 \times 10^{-3}$
Gallons	Cu. inches	231	Kilolines	Maxwells	1000
Gallons	Liters	3.785	Kilometers	Meters	1000
Gallons of water	Pounds of water	8.3453	Kilometers	Miles	0.6214
Gausses	Lines/sq. in.	6.452	Kilometers/hr.	Feet/sec.	0.9113
Gausses	Webers/sq. cm	$10^{-8}$	Kilometers/hr.	Miles/hr.	0.6214
Gausses	Webers/sq. in.	$6.452 \times 10^{-8}$	Kilometers/hr. <sup>2</sup>	Centimeters/sec. <sup>2</sup>	27.78
Gilberts	Ampere-turns	0.7958	Kilometers/hr. <sup>2</sup>	Feet/sec. <sup>2</sup>	0.9113
Gilberts/cm	Ampere-turns/cm	0.7958	Kilometers/hr. <sup>2</sup>	Miles/hr. <sup>2</sup>	0.6214
Gilberts/cm	Ampere-turns/in.	2.021	Kilowatts	Btu/min.	58.92
Grams	Dynes	980.7	Kilowatts	Foot-pounds/sec.	737.6
Grams	Joules/cm	$9.807 \times 10^{-5}$	Kilowatts	Horsepower	1.341
Grams	Kilograms	0.001	Kilowatts	Kg-calories/min.	14.34
Grams	Milligrams	1000	Kilowatts	Watts	1000
Grams	Ounces (avdp)	0.03527	Kilowatt-hrs.	Btu	3413
Grams	Pounds	$2.205 \times 10^{-3}$	Kilowatt-hrs.	Foot-pounds	$2.855 \times 10^6$
Grams/cu. cm	Pounds/cu. ft.	62.43	Kilowatt-hrs.	Gram-calories	859850
Grams/cu. cm	Pounds/cu. in.	0.03613	Kilowatt-hrs.	Horsepower-hrs.	1.341
Gram-calories	Btu	$3.9683 \times 10^{-3}$	Kilowatt-hrs.	Joules	$3.6 \times 10^6$
Gram-calories	Ergs	$4.1868 \times 10^7$	Lines/sq. cm	Gausses	1.0
Gram-calories	Foot-pounds	3.0880	Lines/sq. in.	Gausses	0.1550
Gram-calories	Horsepower-hrs.	$1.5596 \times 10^{-6}$	Lines/sq. in.	Webers/sq. in.	$10^{-8}$
Gram-calories	Watt-hrs.	$1.1630 \times 10^{-3}$	Liters	Cu. centimeters	1000
Gram-calories/sec.	Btu-hr	14.286	Liters	Cu. feet	0.03531
Gram-centimeters	Btu	$9.297 \times 10^{-8}$	Liters	Cu. inches	61.02
Gram-centimeters	Ergs	980.7	Liters	Gallons (U.S. liq.)	0.2642
Gram-centimeters	Joules	$9.807 \times 10^{-5}$	Lumen	Spher. candle power	0.07958
Henries	Millihenries	1000	Lumen	Watts	0.001498
Horsepower	Btu/min.	42.44	Lumen/sq. ft.	Foot-candles	1.0
Horsepower	Foot-pounds/min.	33000	Lumen/sq. ft.	Lumen/sq. meter	10.76
Horsepower	Foot-pounds/sec.	550	Maxwells	Kilolines	0.001
Horsepower	Kg-calories/min.	10.68	Maxwells	Webers	$10^{-8}$
Horsepower	Watts	745.7	Megohms	Ohms	$10^6$
Horsepower-hrs.	Btu	2547	Meters	Centimeters	100
Horsepower-hrs.	Ergs	$2.6845 \times 10^{13}$	Meters	Feet	3.281
Horsepower-hrs.	Foot-pounds	$1.98 \times 10^6$	Meters	Inches	39.37
Horsepower-hrs.	Gram-calories	641190	Meters	Kilometers	0.001
Horsepower-hrs.	Joules	$2.684 \times 10^6$	Meters	Yards	1.094
Horsepower-hrs.	Kilowatt-hrs.	0.7457	Meters/min.	Foot/sec.	0.05468
Hours	Weeks	$5.952 \times 10^{-1}$	Meters/sec.	Feet/sec.	3.281
Inches	Centimeters	2.540	Meters/sec.	Kilometers/hr.	3.6
Inches	Millimeters	25.40	Meters/sec.	Miles/hr.	2.237
Inches	Mils	1000	Meters/sec. <sup>2</sup>	Feet/sec./sec.	3.281
Inches of mercury	Atmospheres	0.03342	Meters/sec. <sup>2</sup>	Kilometers/hr. <sup>2</sup>	3.6
Inches of mercury	Feet of water	1.133	Meters/sec. <sup>2</sup>	Miles/hr. <sup>2</sup>	2.237



# Miscellaneous Conversion Factors



To Convert	Into	Multiply By	To Convert	Into	Multiply By
Amperes/sq. cm	Amperes/sq. in.	6.452	Cubic feet	Cu. meters	0.02832
Amperes/sq. in.	Amperes/sq. cm	0.1550	Cubic feet	Cubic yards	0.03704
Ampere-hours	Coulombs	3600	Cubic feet	Gallons (U.S. liq.)	7.48052
Ampere-turns	Gilberts	1.257	Cubic feet	Liters	28.32
Ampere-turns/cm	Ampere-turns/in.	2.540	Cubic feet/min.	Cu. cms/sec.	472
Ampere-turns/cm	Gilberts/cm	1.257	Cubic inches	Cu. centimeters	16.39
Ampere-turns/in.	Ampere-turns/cm	0.3937	Cubic inches	Cu. feet	$5.787 \times 10^{-4}$
Ampere-turns/in.	Gilberts/cm	0.4850	Cubic inches	Gallons (U.S. liq.)	$4.329 \times 10^{-3}$
Angstrom unit	Inch	$3937 \times 10^{-9}$	Cubic inches	Liters	0.01639
Angstrom unit	Micron or (Mu.)	$1 \times 10^{-4}$	Cubic inches	Quarts (U.S. liq.)	0.01732
Atmospheres	Cms of mercury	76	Cubic meters	Gallons (U.S. liq.)	264.2
Atmospheres	Feet of water (4°C)	33.90	Cubic meters	Liters	1000
Atmospheres	In. of mercury (0°C)	29.92	Cubic meters	Pints (U.S. liq.)	2113
Atmospheres	Pounds/sq. in.	14.70	Days	Seconds	86400
Bars	Atmospheres	0.9869	Degrees/sec.	Radians/sec.	0.01745
Bars	Dynes/sq. cm	$10^6$	Degrees/sec.	Revolutions/min.	0.1667
Bars	Pounds/sq. in.	14.50	Degrees/sec.	Revolutions/sec.	$2.778 \times 10^{-3}$
Btu	Ergs	$1.0550 \times 10^{10}$	Degrees (angle)	Quadrants	0.01111
Btu	Foot-pounds	778.3	Degrees (angle)	Radians	0.01745
Btu	Gram-calories	252	Degrees (angle)	Seconds	3600
Btu	Horsepower-hrs.	$3.931 \times 10^{-4}$	Dyne/cm	Erg/sq. millimeter	0.01
Btu	Joules	1054.8	Dyne/sq. cm	Atmospheres	$9.869 \times 10^{-7}$
Btu	Kilowatt-hrs.	$2.928 \times 10^{-4}$	Dyne/sq. cm	In. of mercury (0°C)	$2.953 \times 10^{-5}$
Btu/hr.	Foot-pounds/sec.	0.2162	Dynes	Grams	$1.020 \times 10^{-3}$
Btu/hr.	Gram-cal./sec.	0.0700	Dynes	Joules/cm	$10^{-7}$
Btu/hr.	Horsepower-hrs.	$3.929 \times 10^{-4}$	Dynes	Joules/m (Newtons)	$10^{-5}$
Btu/hr.	Watts	0.2931	Dynes	Pounds	$2.248 \times 10^{-6}$
Btu/min.	Foot-pounds/sec.	12.96	Dynes/sq. cm	Bars	$10^{-6}$
Btu/min.	Horsepower	0.02356	Erg/sec.	Dyne-cm/sec.	1.000
Btu/min.	Kilowatts	0.01757	Ergs	Btu	$9.480 \times 10^{-11}$
Btu/min.	Watts	17.57	Ergs	Dyne-centimeters	1.0
Calories, gram (mean)	Btu (mean)	$3.9685 \times 10^{-3}$	Ergs	Foot-pounds	$7.367 \times 10^{-8}$
Candle/sq. inch	Lamberts	4870	Ergs	Grams-calories	$0.2389 \times 10^{-7}$
Centigrade	Fahrenheit	$(^{\circ}\text{C} \times 9/5) + 32^{\circ}$	Ergs	Gram-cms	$1.020 \times 10^{-3}$
Centiliters	Liters	0.01	Ergs	Joules	$10^{-7}$
Centimeters	Feet	$3.281 \times 10^{-2}$	Ergs	Watt-hours	$0.2778 \times 10^{-10}$
Centimeters	Meters	0.01	Ergs/sec.	Btu/min.	$5.688 \times 10^{-9}$
Centimeters	Inches	0.3937	Ergs/sec.	Foot-pounds/sec.	$7.3756 \times 10^{-8}$
Centimeters	Millimeters	10	Ergs/sec.	Horsepower	$1.341 \times 10^{-10}$
Centimeter-dynes	Centimeter-grams	$1.020 \times 10^{-3}$	Ergs/sec.	Kilowatts	$10^{10}$
Centimeter-dynes	Pound-feet	$7.378 \times 10^{-8}$	Farads	Microfarads	$10^6$
Centimeters/sec.	Feet/sec.	0.03281	Faradays	Ampere-hours	26.80
Centimeters/sec. <sup>2</sup>	Feet/sec. <sup>2</sup>	0.03281	Faradays	Coulombs	$9.649 \times 10^4$
Circular mils	Sq. centimeters	$5.067 \times 10^{-6}$	Feet	Centimeters	30.48
Circular mils	Sq. mils	0.7854	Feet	Meters	0.3048
Circular mils	Sq. inches	$7.854 \times 10^{-7}$	Feet	Millimeters	304.8
Circumference	Radians	6.283	Feet of water	Atmospheres	0.02950
Coulombs	Faradays	$1.036 \times 10^{-5}$	Feet of water	Inches of mercury	0.8826
Coulombs/sq. cm	Coulombs/sq. in.	64.52	Feet of water	Kilograms/sq. cm	0.03048
Coulombs/sq. in.	Coulombs/sq. cm	0.1550	Feet of water	Pounds/sq. in.	0.4335
Cubic centimeters	Cu. inches	0.06102	Feet/min.	Centimeters/sec.	0.5080
Cubic centimeters	Gallons (U.S. liq.)	$2.642 \times 10^{-4}$	Feet/min.	Miles/hr.	0.01136
Cubic centimeters	Liters	0.001	Feet/sec.	Centimeters/sec.	30.48
Cubic centimeters	Quarts (U.S. liq.)	$1.057 \times 10^{-3}$	Feet/sec. <sup>2</sup>	Meters/sec. <sup>2</sup>	0.3048
Cubic feet	Cu. inches	1728	Feet/sec. <sup>2</sup>	Miles/h • s	0.6818



# Miscellaneous Conversion Factors



<b>Linear</b>	1 inch	25.400 millimeter (mm)	1 millimeter	0.03937 inches (in.)
	1 inch	2.54 centimeters (cm)	1 centimeter	0.3937 inches (in.)
	1 foot	12 inches (in.)	1 inch	0.08333 feet (ft.)
	1 foot	0.333 yards (yd.)	1 yard	3 feet (ft.)
	1 foot	0.30481 meters (m)	1 meter	3.2809 feet (ft.)
	1 yard	36 inches (in.)	1 inch	0.02778 yards (yd.)
	1 yard	3 feet (ft.)	1 foot	0.333 yards (yd.)
	1 yard	91.44 centimeters (cm)	1 centimeter	0.01094 yards (yd.)
	1 yard	0.9144 meters (m)	1 meter	1.0936 yards (yd.)
	1 statute mile	5280 feet (ft.)	1 kilometer	3281 feet (ft.)
	1 statute mile	1760 yards (yd.)	1 kilometer	1094 yards (yd.)
	1 statute mile	1.6093 kilometers (km)	1 kilometer	0.6214 statute mile
	<b>Area</b>	1 sq. inch	6.4516 sq. centimeters	1 sq. centimeter
1 sq. foot		144 sq. inches	1 sq. inch	0.00694 sq. feet
1 sq. foot		929.03 sq. centimeters	1 sq. centimeter	0.00108 sq. feet
1 sq. foot		0.092903 sq. meters	1 sq. meter	10.764 sq. feet
1 sq. yard		9 sq. feet	1 sq. foot	0.1111 sq. yards
1 sq. yard		0.83612 sq. meters	1 sq. meter	1.196 sq. yards
<b>Volume</b>	1 cu. inch	0.0005787 cu. feet	1 cu. foot	1728 cu. inches
	1 cu. inch	0.004329 gallons (gal.)	1 gallon	231 cu. inches
	1 cu. inch	16.39 cu. centimeters	1 cu. centimeter	0.06102 cu. inches
	1 cu. inch	0.00001639 cu. meters	1 cu. meter	61023 cu. inches
	1 cu. inch	0.0164 liters (l)	1 liter	61.017 cu. inches
	1 cu. foot	1728 cu. inches	1 cu. inch	0.0005787 cu. feet
	1 cu. foot	7.481 gallons (gal.)	1 gallon	0.1337 cu. feet
	1 cu. foot	0.0283 cu. meters	1 cu. meter	35.31 cu. feet
	1 cu. foot	28.32 liters (l)	1 liter	0.03531 cu. feet
	1 cu. yard	27 cu. feet	1 cu. foot	0.0370 cu. yards
	1 cu. yard	0.76410 cu. meters	1 cu. meter	1.30873 cu. yards
	1 pint	0.4732 liters (l)	1 liter	2.11327 pints (pt.)
	1 quart	2 pints (pt.)	1 pint	0.50 quarts (qt.)
	1 quart	0.25 gallons (gal.)	1 gallon	4 quarts (qt.)
	1 quart	57.75 cu. inches	1 cu. inch	0.017316 quarts (qt.)
	1 quart	0.03342 cu. feet	1 cu. foot	29.9222 quarts (qt.)
	1 quart	0.9464 liters (l)	1 liter	1.057 quarts (qt.)
	1 gallon	231 cu. inches	1 cu. inch	0.004329 gallons (gal.)
	1 gallon	0.1337 cu. feet	1 cu. foot	7.481 gallons (gal.)
	1 gallon	3.785 liters (l)	1 liter	0.2642 gallons (gal.)
<b>Weight</b>	1 ounce	28.35 grams (g)	1 gram	0.03537 ounces (oz.)
	1 ounce	0.02835 kilograms (kg)	1 kilogram	35.274 ounces (oz.)
	1 pound	16 ounces (oz.)	1 ounce	0.0625 pounds (lb.)
	1 pound	453.6 grams (g)	1 gram	0.002205 pounds (lb.)
	1 pound	0.4536 kilograms (kg)	1 kilogram	2.2046 pounds (lb.)
<b>Pressure</b>	1 pound/ sq. inch	0.070307 kilogram/sq. cm	1 kilogram/sq. cm	14.223 pounds/sq. in.
	1 pound/sq. foot	4.8824 kilogram/sq. m	1 kilogram/sq. meter	0.2048 pounds/sq. ft.
	1 pound/sq. yard	0.54249 kilogram/sq. m	1 kilogram/sq. meter	1.8433 pounds/sq. yd.
	1 ounce/cu. inch	1,7300 grams/cu. cm	1 gram/cu. cm	0.57803 ounce/cu. in.
	1 pound/cu. foot	16.019 kilograms/cu. m	1 kilogram/cu. meter	0.062428 pounds/cu. ft.