



RGreene.com

**INDUSTRIAL  
CONTROLS  
FOR FACTORY  
AUTOMATION**

Since 1958

**St. Louis**

Richard Greene Company  
10742 Kahlmeyer Drive  
St Louis, MO 63132  
**(314) 423-8989**

**Kansas City**

Richard Greene Company  
8200 Marshall Drive  
Lenexa, KS 66214  
**(913) 492-6886**



## Temperature Conversion Formulas

| To Convert To...   |  | Multiply...   | By...                                    |
|--|--|---|--|
| Atmospheres  | (atm)  | Bar --<br>Inches Mercury (in Hg)<br>Pounds/square inch (psi)<br>Torr --                         | 0.9869<br>0.03342<br>0.06805<br>0.001316 |
| Bar  |  | Atmospheres (atm)<br>Pounds/square inch (psi)   | 1.0133<br>0.06895                        |
| British Thermal Units  | (Btu)  | Joules (J)<br>Kilowatt-hours (KWh)<br>Watt-hours (Wh)   | 0.000948<br>3412<br>3.412                |
| British Thermal Units/hour   | (Btu/h)  | Kilocalories/hour (kcal/h)<br>Watts (W)   | 3.969<br>3.412                           |
| British Thermal Units/inches<br>hour-square foot--°F<br>British Thermal Units/pound<br>British Thermal Units/pound--°F | (Btu--in)<br>(h-ft2--°F)<br>(Btu/lb)<br>(Btu/lb--°F) | Watts/meter--°C (W/m--°C)<br>Kilojoules/kilogram (kJ/kg)<br>Kilojoules/kilogram--°C (kJ/kg--°C) | 6.933<br>0.4299<br>0.2388                |
| Calories   | (cal)  | Joules (J)  | 0.2388                                   |
| Centimeters  | (cm)   | Feet (ft)<br>Inches (in)  | 30.48<br>2.54                            |
| Centimeters/second   | (cm/s)   | Feet/minute (fpm)   | 0.508                                    |
| Cubic centimeters  | (cm3or cc)   | Cubic feet (ft3)<br>Cubic inches (in3)<br>Milli Liters (ml)                                     | 28,320<br>16.39<br>1.0                   |
| Cubic feet   | (ft3)  | Cubic meters (m3)<br>Gallons, U.S. (gal)<br>Liters (l)  | 35.32<br>0.1337<br>.03532                |
| Cubic feet/minute  | (cfm)  | Cubic meters/hour (m3/h)<br>Cubic meters/second (m3/s)<br>Liters/second (l/s)                   | 0.5885<br>2119<br>2.119                  |
| Cubic inches   | (in3)  | Cubic centimeters (cm3or cc)  | 0.061                                    |
| Cubic meters   | (m3)   | Gallons, U.S. (gal)<br>Liters (l)<br>Cubic feet (ft3)   | 0.003785<br>0.001<br>0.02832             |
| Cubic meters/hour  | (m3/h)   | Cubic feet/minute (cfm)<br>Gallons/minute (gpm)   | 1.699<br>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> )<br>Cubic inches (in <sup>3</sup> )<br>Milli Liters (ml)  | 28,320<br>16.39<br>1.0            |
| Cubic feet             | (ft <sup>3</sup> )      | Cubic meters (m <sup>3</sup> )<br>Gallons, U.S. (gal)<br>Liters (l)  | 35.32<br>0.1337<br>.03532         |
| Cubic feet/minute      | (cfm)                   | Cubic meters/hour (m <sup>3</sup> /h)<br>Cubic meters/second (m <sup>3</sup> /s)<br>Liters/second (l/s)                          | 0.5885<br>2119<br>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)<br>Liters (l)<br>Cubic feet (ft <sup>3</sup> )   | 0.003785<br>0.001<br>0.02832      |
| Cubic meters/hour      | (m <sup>3</sup> /h)     | Cubic feet/minute (cfm)<br>Gallons/minute (gpm)  | 1.699<br>0.2271                   |
| Cubic meters/second    | (m <sup>3</sup> /s)     | Cubic feet/minute (cfm)  | 0.000472                          |
| Feet                   | (ft)                    | Centimeters (cm)<br>Meters (m)   | 0.03281<br>3.281                  |
| Feet/minute            | (fpm)                   | Centimeters/second (cm/s)<br>Meters/second (m/s)   | 1.969<br>196.9                    |
| Gallons, Imperial      | --                      | Gallons, U.S. (gal)  | 0.8327                            |
| Gallons, U.S.          | (gal)                   | Cubic feet (ft <sup>3</sup> )<br>Cubic meters (m <sup>3</sup> )<br>Gallons, Imperial --<br>Liters (l)                            | 7.481<br>264.2<br>1.201<br>0.2642 |
| Gallons/minute         | (gpm)                   | Cubic meters/hour<br>Liters/second (m <sup>3</sup> /h)<br>(l/s)  | 4.403<br>15.85                    |
| Grams                  | (g)                     | Ounces (oz)<br>Pounds (lb)   | 28.35<br>453.6                    |
| Grams/cubic centimeter | (g/cm <sup>3</sup> )    | Kilograms/cubic meter (kg/m <sup>3</sup> )<br>Pounds/cubic foot (lb/ft <sup>3</sup> )<br>Pounds/cubic inch (lb/in <sup>3</sup> ) | 0.001<br>0.01602<br>27.68         |
| Inches                 | (in)                    | Centimeters (cm)<br>Millimeters (mm)   | 0.3937<br>0.03937                 |
| Inches Mercury         | (in Hg)                 | Atmospheres (atm)<br>Torr -  | 29.92<br>25.4                     |
| Joules                 | (J)                     | British Thermal Units (Btu)<br>Calories (cal)<br>Watt-hours (Wh)   | 1055<br>4.187<br>3600             |
| Joules/second          | (J/s)                   | British Thermal Units/hour (Btu/h)<br>Watts (W)  | 0.2931<br>1                       |

**Richard  
Greene**  
Company, Inc.

**INDUSTRIAL  
CONTROLS  
FOR FACTORY  
AUTOMATION**

Since 1958

**St. Louis**

Richard Greene Company  
10742 Kahlmeyer Drive  
St Louis, MO 63132  
**(314) 423-8989**

**Kansas City**

Richard Greene Company  
8200 Marshall Drive  
Lenexa, KS 66214  
**(913) 492-6886**

|                             |                       |   |                                      |
|-----------------------------|-----------------------|---|--------------------------------------|
| Joules/second               | (J/s)                 | British Thermal Units/hour (Btu/h)<br>Watts (W)   | 0.2931<br>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)<br>Watts (W)   | 0.0002931<br>0.001                   |
| Kilowatt-hours              | (KWh)                 | British Thermal Units Btu)<br>Watt-hours (Wh)   | 0.0002931<br>0.001                   |
| Liters                      | (l)                   | Cubic Feet (ft <sup>3</sup> )<br>Cubic Meters (m <sup>3</sup> )<br>Gallons, U.S. (gal)                                      | 28.32<br>1000<br>3.785               |
| Liters/second               | (l/s)                 | Cubic feet/minute (cfm)<br>Gallons/minute (gpm)   | 0.4719<br>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)<br>Kilograms (kg)   | 0.002205<br>2.205                    |
| Pounds/cubic foot           | (lb/ft <sup>3</sup> ) | Grams/cubic centimeter (g/cm <sup>3</sup> )<br>Kilograms/cubic meter (kg/m <sup>3</sup> )                                   | 62.43<br>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 -<br>Kilograms/square centimeter (kg/cm <sup>2</sup> )<br>Kilopascals (kPa)<br>Newtons/square meter (N/m <sup>2</sup> ) | 14.504<br>14.22<br>0.145<br>0.000145 |
| Square centimeters          | (cm <sup>2</sup> )    | Square feet (ft <sup>2</sup> )<br>Square inches (in <sup>2</sup> )  | 929<br>6.452                         |
| Square feet                 | (ft <sup>2</sup> )    | Square centimeters (cm <sup>2</sup> )<br>Square meters (m <sup>2</sup> )  | 0.001076<br>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                               |



**INDUSTRIAL  
CONTROLS  
FOR FACTORY  
AUTOMATION**

Since 1958

**St. Louis**

Richard Greene Company  
10742 Kahlmeyer Drive  
St Louis, MO 63132  
**(314) 423-8989**

**Kansas City**

Richard Greene Company  
8200 Marshall Drive  
Lenexa, KS 66214  
**(913) 492-6886**

|  |  |  |                               |
|--|--|--|-------------------------------|
| Torr   | Inches Mercury (in. Hg)<br>Pounds/square inch<br>(psi) | 0.03937<br>51.71   |                               |
| Watts  | (W)  | British Thermal Units/hour (Btu/h)<br>Joules/second (J/s)    | 0.2931<br>1                   |
| Watt-hours                                   | (Wh)   | British Thermal Units (Btu)<br>Joules (J)<br>Kilojoules (kJ) | 0.2931<br>0.0002778<br>0.2778 |
| Watts/meter--°C                              | (W/m--°C)  |  | 0.1442                        |
| Watts/square centimeter<br>Watts/square inch | (W/cm2)<br>(W/in2)                                     | Watts/square inch (W/in2)<br>Watts/square centimeter (W/cm2) | 0.155<br>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           | $^{\circ}\text{R} = 1.8\text{K} + 0.6^{\circ}$<br>$^{\circ}\text{R} = ^{\circ}\text{F} + 460^{\circ}$ |
| Kelvin            | $\text{K} = 5/9(^{\circ}\text{R} - 0.6^{\circ})$<br>$\text{K} = ^{\circ}\text{C} + 273^{\circ}$       |

**Richard  
Greene**  
Company, Inc.

**INDUSTRIAL  
CONTROLS  
FOR FACTORY  
AUTOMATION**

Since 1958

**St. Louis**

Richard Greene Company  
10742 Kahlmeyer Drive  
St Louis, MO 63132  
**(314) 423-8989**

**Kansas City**

Richard Greene Company  
8200 Marshall Drive  
Lenexa, KS 66214  
**(913) 492-6886**