

Conversion Factors		
To Convert From	To	Multiply By
Area		
Square Feet (ft ²)	Square Centimeters (cm ²)	929.0304
Square Feet (ft ²)	Square Meter (m ²)	0.09290304
Square Feet (ft ²)	Square Inches (in ²)	144
Square Inches (in ²)	Square Centimeters (cm ²)	6.4516
Length		
Feet (ft)	Centimeters (cm)	30.48
Feet (ft)	Meters (m)	0.3048
Feet (ft)	Inches (in)	12
Inches (in)	Millimeters (cm)	25.4
Inches (in)	Centimeters (cm)	2.54
Mass/Force		
Pounds (lb)	Grains (gr)	7000
Pounds(lb)	Grams (g)	453.59237
Grains (gr)	Grams (g)	0.06479891
Kilograms (kg)	Pounds(lb)	2.2046226
Kilogram-force (kgf)	Newton (N)	9.80665
Pound-force (lbf)	Newton (N)	4.44822
Power, Energy, Heat		
British Thermal Unit per Min (Btu/min)	Steam, Pounds per Hour (lb/hr Steam)	1 x 10 ⁻³
Horsepower (hp)	Watts (W)	745.7
Horsepower, boiler (hp)	British Thermal Unit per Hour (Btu/hr)	33445.7
Horsepower, boiler (hp)	Kilowatts (kW)	9.8095
Kilowatts-Hours (kWhr)	British Thermal Units per Hour (Btu/hr)	3414.43
British Thermal Unit, mean (Btu)	Kilogram-Calories (kcal)	0.252
British Thermal Unit, mean (Btu)	Watts per Second, Joule (J)	1055.06
Pressure		
Inches of Mercury (in Hg)	Millimeters of Mercury (mm Hg)	25.4
Inches of Mercury (in Hg)	Inches of Water (in H ₂ O)	13.6
Inches of Mercury (in Hg)	Atmospheres (atm)	0.0334211
Inches of Mercury (in Hg)	Kilopascals (kPa)	3.386388
Atmospheres (atm)	Bars (bar)	1.01325
Atmospheres (atm)	Pounds per Square Inch (psi)	14.695949
Pascals (Pa)	Newton per Square Meter (N/m ²)	1.0
Volume		
Cubic Meters (m ³)	Cubic Feet (ft ³)	35.314667
Cubic Feet (ft ³)	Liters (l)	28.136847
Liters (l)	Cubic Centimeters (ccm)	1000

Temperature

$$K = ^\circ C + 273.15$$

$$^\circ F = (9/5 \times ^\circ C) + 32$$

$$^\circ R = ^\circ F + 459.67 = 1.8K$$

$$^\circ C = 5/9 (^\circ F - 32)$$

Constants

Avogadro's Number	6.02 x 10 ²³ atoms/g atom
Gas Constants	82.05 atm cm ³ /(g-mole * K)
	1.987 cal/(g-mole * K)
	10.731 ft lb in ² /(lb-mole * °R)
	0.732 ft ³ atm/(lb-mole * °R)
1 g-mole of Ideal Gas	24.05 Liters at EPA Standard Conditions

US EPA Standard Conditions

Standard Temperature (T _{std})	20°C (68°F)
Standard Pressure (P _{std})	760mm Hg (29.92in Hg)

Gas Concentration Units

Parts-per-million by volume (ppm_v) to milligrams per dry standard cubic meter (mg/dscm)

$$mg / dscm = \left[\frac{ppm_v \times MW}{22.405 \frac{Liters}{g - mole}} \right]$$

Correct to x% O₂

$$C_{s @ x\% O_2} = C_s \times \left[\frac{20.9 - x\% O_2}{20.9 - \% O_{2(dryactual)}} \right]$$

Gas Concentration Units		
To Convert From	To	Multiply By
Parts-per-million (ppm) SO ₂	Nanogram/Std Cubic Meter (ng/scm) SO ₂	2.66 x 10 ⁶
Parts-per-million (ppm) SO ₂	Pounds/Std Cubic Foot (lb/scf) SO ₂	1.660 x 10 ⁻⁷
Parts-per-million (ppm) NO _x	Nanogram/Std Cubic Meter (ng/scm) NO _x	1.912 x 10 ⁶
Parts-per-million (ppm) NO _x	Pounds/Std Cubic Foot (lb/scf) NO _x	1.194 x 10 ⁻⁷