

Conversion Factors		
Multiply	By	To obtain
	Volume	
Acre-feet	325,851	U.S. gallons
	43,560	Cubic feet
	1,613.30	Cubic yards
	1,233.49	Cubic meters
Cubic Yards	27	Cubic feet
	46,656	Cubic inches
	0.76456	Cubic meters
Cubic Feet	1,728	Cubic inches
	7.4805	U.S. gallons
	28.317	Liters
	0.037037	Cubic yards
	0.000022957	Acre-foot
U.S. Gallons	231	Cubic inches
	3.78543	Liters
	0.13368	Cubic feet
	0.00000307	Acre-foot
Cubic inches	16.3872	Cubic centimeters
	0.004329	U.S. gallons
	0.0005787	Cubic feet
Cubic feet per second	448.8	U.S. gallons per minute
	60	Cubic feet per minute
	3,600	Cubic feet per hour
	86,400	Cubic feet per day
	723.9669	Acre-feet per year
	1.9835	Acre-feet per day
	0.9917	Acre-inches per hour
		Miner's inch in Idaho, Kansas, Nebraska, South Dakota, North Dakota, New Mexico, Utah, Washington
	50	
	40	Miner's inch in Arizona, Montana, Oregon, Nevada, and California
	38.4	Miner's inch in Colorado
	0.028317	Cubic meters per second
	1.699	Cubic meters per minute
Feet per second	1.097	Kilometers per hour
	30.48	Centimeters per second
	0.4536	Kilograms
Pounds, avoirdupois	16	Ounces
	7,000	Grains
	1.21528	Pounds, troy
	1,000	Grams
Kilograms	15.432	Grains
	2.2046	Pounds, Avoirdupois
Atmosphere, at sea level	76	Centimeters of mercury
	29.92	Inches of mercury
	33.9	Feet of water
	14.7	Pounds per square inch
Degrees	60	Minutes
	3,600	Seconds
	0.01745	Radians
Horsepower	33,000	Foot-pounds per minute
	550	Foot-pounds per second
	0.7457	Kilowatts
	778	Foot-pounds

Conversion Factors		
Multiply	By	To obtain
	Length	
Miles	1.60935	Kilometers
	1,760	Yards
	5,280	Feet
	63,360	Inches
Meters	0.00062137	Miles
	1.0936	Yards
	3.28088	Feet
	39.37	Inches
	100	Centimeters
	0.001	kilometers
Yards	0.9144	Meters
	3	Feet
	36	Inches
Feet	0.3048	Meters
	0.00018939	Miles
	0.33333	Yards
	12	Inches
Inches	0.08333	Feet
	0.027778	Yards
	2.54	Centimeters
	Surface	
Square miles	27,878,400	Square feet
	3,097,600	Square yards
	640	Acres
	259	Hectares
Acres	208.71	Square feet
	0.404687	Hectares
	0.0015625	Square miles
	4,840	Square yards
	43,560	Square feet
	4,047	Square meters
Square yards	0.0002066	Acres
	9	Square feet
	1,296	Square inches
Square feet	0.092903	Square meters
	0.11111	Square yards
	144	Square inches
Square inches	6.45163	Square centimeters
	0.0007716	Square yards
	0.006944	Square feet

Hydraulic Conversion Factors for Converting English to Metric Units

Multiply	By	To Obtain
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Mass/Volume (density)

Pounds per cubic foot	16.0185	Kilograms per cubic meter
	0.0160185	Grams per cubic centimeter

Velocity

Feet per second	30.48 (exactly)	Centimeters per second
Inches per hour	2.540 (exactly)	Centimeters per hour
Feet per year	0.3048 (exactly)	Meters per year

Flow

Cubic feet per second	0.028317	Cubic meters per second
	28.317	Liters per second
Cubic feet per minute	0.4719	Liters per second
Gallons per minute	0.06309	Liters per second
	3.7854	Liters per minute

Power

Horsepower (English)	745.7	Watts
(defined 550 foot pounds per second)	1.014	Horsepower (metric)
		(defined 75 kilogram-meters per second)

Seepage

Cubic feet per square foot per day	304.8	Liters per square meter per day
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Viscosity

Dynamic viscosity (pound second per square foot)	4.8824	Kilogram second per square meter
Kinematic viscosity (square feet per second)	0.092903 (exactly)	Square meters per second

Surface Tension

Pounds per foot	1.4882	Kilograms per meter
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Gas Constant

Feet per degree F	0.5486	Meters per degree Celsius ¹
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Hydraulic Conversion Factors for Converting English to Metric Units

Multiply	By	To Obtain
Length		
Inches	25.4 (exactly)	Millimeters
Feet	30.48 (exactly)	Centimeters
Miles	1.609344 (exactly)	Kilometers
Area		
Square Inches	6.4516 (exactly)	Square centimeters
Square Feet	0.092903 (exactly)	Square meters
Acres	0.0040469	Square kilometers
Square miles	2.58999	Square kilometers
Volume		
Pint (pt)	0.4732	Liters (l)
Cubic feet	0.0283168	Cubic meters
	28.3168	Liters
Gallons (U.S.)	3.78543	Liters
Cubic yards	0.7646	Cubic meters
Acre-feet	1233.5	Cubic meters
Mass (weight)		
Ounce (oz)	28.35	Grams (g)
Tons (short) (ts)	0.9072	Metric tons TM
Pounds (avoirdupois)	0.45359237 (exactly)	Kilograms
Tons (2,000 pounds)	907.185	Kilograms
Acceleration		
Feet per second per second	0.3048	Meters per second per second
Force/unit area		
Pounds per square inch	0.070307	Kilograms per square centimeter
Pounds per square inch	4.88243	Kilograms per square meter
Feet of water column (at 20° C)	2.246	Centimeters of mercury column
	0.03041	Kilograms per square centimeter

Common Hydraulic Conversion Factors

Unit and Symbol	Multipliers	Unit and Symbol
Inches per hour (in/h)	1.008	Cubic feet per second (ft ³ /s)
Inches per hour (in/h)	645.3	Cubic feet per second per square mile (ft ³ /s/mi ²)
Surface inches (in)	0.0833	Acre-feet (a-ft)
Surface inches (in)	645.3	Cubic feet per second per hour (ft ³ /s/h)
Surface inches (in)	26.89	Cubic feet per second per day (ft ³ /s/d)
Square miles (mi ²)	640	Acres (a)
Acres (a)	43,560	Square feet (ft ²)
Square feet (ft ²)	144	Square Inches (in ²)
Cubic feet per second-days (ft ³ /s-d)	1.983	Acre-feet (a-ft)
Miles per hour (mi/h)	1.467	Feet per second (ft/s)
Knot (kn)	1.151	Statute miles per hour (mi/h)
Solar constant (I)	1.98	Langleys per minute (ly/min)
Langley (ly)	1	Calorie per square centimeter (cal/cm ²)
Water equivalent (L)	590	Calories per gram ¹ (cal/g) ¹
Water equivalent (mm/d)	0.041	Langley per minute (ly/min)
Inches mercury (in Hg)	33.86	Millibars (mbar)
Atmosphere (at)	29.92	Inches mercury (at 0 degrees °C) (in Hg)
Millibar (mbar)	0.02953	Inches mercury (in Hg)
Degrees Celsius (degrees °C)	-	5/9 (degrees Fahrenheit) -32
Degrees Fahrenheit (degrees °F)	-	9/5 (degrees Celsius) +32
Degrees Kelvin (degrees °K)	-	Degrees Celsius +273