



## BASIC CONVERSIONS

<u>VOLUME</u>			<u>VOLUME - continued</u>				
<u>Convert From</u>	<u>Into</u>	<u>Multiply By</u>	<u>Convert From</u>	<u>Into</u>	<u>Multiply By</u>		
Acre-feet	Cu feet	43560	Gallons (US liq)	Acre-feet	$3.068 \times 10^{-6}$		
	Cu meters	1233.482		Cu centimeters	3785.41		
Cu Centimeters	Cu yards	1613.33	Cu feet	0.13368			
	Gallons (US)	$3.259 \times 10^5$	Cu inches	231			
	Cu feet	$3.5315 \times 10^{-5}$	Cu meters	0.00378			
	Cu inches	0.06102	Cu yards	0.00495			
	Cu meters	$1 \times 10^{-6}$	Liters	3.7853			
	Cu yards	$1.308 \times 10^{-6}$	Ounces (US liq)	128			
	Gallons (US liq)	0.00026	Pints (US liq)	8			
	Liters	0.00099	Quarts (US liq)	4			
Cu Feet	Ounces (US liq)	0.03381	Liters	Acre-feet	$8.106 \times 10^{-7}$		
	Pints (US liq)	0.00211		Cu centimeters	1.00003		
	Quarts (US liq)	0.00106		Cu feet	0.03532		
	Acre-feet	$2.296 \times 10^{-5}$		Cu inches	61.002		
	Cu centimeters	28316.8		Cu meters	0.00100003		
	Cu inches	1728.0		Cu yards	0.00131		
	Cu meters	0.02832		Gallons (US liq)	0.26148		
	Cu yards	0.03704		Ounces (US liq)	33.81497		
	Gallons (US liq)	7.48052		Pints (US liq)	2.1134		
	Liters	28.316		Quarts (US liq)	1.0567		
	Ounces (US liq)	957.506		Ounces (US liq)	Cu Centimeters	29.5737	
	Pints (US liq)	59.8442			Cu inches	1.80469	
	Quarts (US liq)	29.922		Cu meters	$2.957 \times 10^{-5}$		
	Cu Inches	Acre-feet		$1.329 \times 10^{-8}$	Pints (US liq)	Gallons (US liq)	0.00781
Cu centimeters		16.3871	Liters	0.02957			
Cu feet		0.000579	Pints (US liq)	0.0625			
Cu meters		$1.639 \times 10^{-5}$	Quarts (US liq)	0.0312			
Cu yards		$2.143 \times 10^{-5}$	Cu Centimeters	473.176			
Gallons (US liq)		0.00433	Cu feet	0.01671			
Liters		0.01639	Cu inches	28.875			
Ounces (US liq)		0.55411	Cu yards	0.000619			
Pints (US liq)		0.03463	Gallons (US liq)	0.125			
Quarts (US liq)		0.01732	Liters	0.47316			
Cu Meters		Acre-feet	0.00081	Quarts (US liq)		0.5	
		Cu centimeters	$1 \times 10^6$	<u>PRESSURE</u>			
		Cu feet	35.147	<u>Convert From</u>		<u>Into</u>	<u>Multiply By</u>
		Cu inches	61023.7	Atmospheres		BAR	1.01325
	Cu yards	1.30795	Ft H <sub>2</sub> O @ 68°F		33.96		
	Gallons (US liq)	264.172	Grams/sq cm		1033.23		
	Liters	999.97	In Hg @ 32°F		29.9213		
	Pints (US liq)	2113.38	In H <sub>2</sub> O @ 68°F		407.5		
	Quarts (US liq)	1056.69	Kg/sq cm		1.03322		
	Acre-feet	$6.198 \times 10^{-4}$	Kg/sq meter		10332		
	Cu centimeters	764554.9	kilo Pascals		101.3		
	Cu feet	27	mm Hg @ 32°F		760		
	Cu inches	46656	Pounds/sq ft		2116		
	Cu meters	0.76455	Pounds/sq in		14.6960		
Gallons (US liq)	201.974						
Liters	764.553						
Quarts (US liq)	807.896						

# BASIC CONVERSIONS



## PRESSURE - continued

Convert From	Into	Multiply By	
BAR	Atmospheres	0.98692	
	Ft H <sub>2</sub> O @ 68°F	33.51	
	Grams/sq cm	1019.72	
	In Hg @ 32°F	29.530	
	In H <sub>2</sub> O @ 68°F	407.5	
	Kg/sq cm	1.01972	
	Kg/sq meter	10197	
	kilo Pascals	100	
	mm Hg @ 32°F	0.1333	
	Pounds/sq ft	2089.0	
	Pounds/sq in	14.5038	
	Ft H <sub>2</sub> O @ 68°F	Atmospheres	0.98692
		BAR	2.984 X 10 <sup>-2</sup>
		In Hg @ 32°F	0.8812
In H <sub>2</sub> O @ 68°F		12	
Kg/sq cm		3.043 X 10 <sup>-2</sup>	
Kg/sq meter		304.3	
kilo Pascals		2.984	
mm Hg @ 32°F		22.38	
Pounds/sq ft		62.32	
Pounds/sq in		0.4328	
Grams/sq cm		Atmospheres	0.00097
		BAR	0.00098
		In Hg @ 32°F	0.02896
		Kg/sq cm	1.01972
	Kg/sq meter	1000	
	kilo Pascals	100	
	mm Hg @ 32°F	0.73556	
	Pounds/sq ft	2.0481	
	Pounds/sq in	0.01422	
	In Hg @32°F	Atmospheres	0.03342
		BAR	0.03386
		Ft H <sub>2</sub> O @ 68°F	1.135
		Grams/sq cm	34.532
		In H <sub>2</sub> O @ 68°F	13.62
Kg/sq cm		3.453 X 10 <sup>-2</sup>	
Kg/sq meter		345.3	
kilo Pascals		3.386	
mm Hg @ 32°F		25.4	
Pounds/sq ft		70.73	
Pounds/sq in		0.4912	
In H <sub>2</sub> O @ 68°F		Atmospheres	2.454 X 10 <sup>-3</sup>
		BAR	2.49 X 10 <sup>-3</sup>
		Ft H <sub>2</sub> O @ 68°F	8.333 X 10 <sup>-2</sup>
	In Hg @ 32°F	7.343 X 10 <sup>-2</sup>	
	Kg/sq cm	2.53 X 10 <sup>-3</sup>	
	Kg/sq meter	25.38	
	kilo Pascals	0.249	
	mm Hg @ 32°F	1.865	
	Pounds/sq ft	5.197	
	Pounds/sq in	3.609 X 10 <sup>-2</sup>	

## PRESSURE - continued

Convert From	Into	Multiply By	
Kg/sq cm	Atmospheres	0.9678	
	BAR	0.98066	
	Ft H <sub>2</sub> O@68°F	32.87	
	In Hg @32°F	28.959	
	In H <sub>2</sub> O @ 68°F	394.4	
	Kg/sq meter	1 X 10 <sup>4</sup>	
	kilo Pascals	98.07	
	mm Hg @32°F	735.6	
	Pounds/sq ft	2048	
	Pounds/sq in	14.22	
	Kg/sq meter	Atmospheres	9.678 X 10 <sup>-5</sup>
		BAR	9.807 X 10 <sup>-5</sup>
		Ft H <sub>2</sub> O@68°F	3.287 X 10 <sup>-3</sup>
		Grams/sq cm	0.1
In Hg @32°F		0.0029	
In H <sub>2</sub> O @ 68°F		3.944 X 10 <sup>-2</sup>	
Kg/sq cm		0.001	
kilo Pascals		9.807 X 10 <sup>-3</sup>	
mm Hg @32°F		0.07356	
Pounds/sq ft		0.20482	
Pounds/sq in		1.422 X 10 <sup>-3</sup>	
kilo Pascals		Atmospheres	9.869 X 10 <sup>-3</sup>
		BAR	0.01
		Ft H <sub>2</sub> O@68°F	0.3351
	In Hg @32°F	0.2953	
	In H <sub>2</sub> O @ 68°F	4.022	
	Kg/sq cm	1.02 X 10 <sup>-2</sup>	
	Kg/sq meter	102	
	mm Hg @32°F	7.501	
	Pounds/sq ft	20.89	
	Pounds/sq in	0.145	
	mm Hg @32°F	Atmospheres	1.316 X 10 <sup>-3</sup>
		BAR	1.333 X 10 <sup>-3</sup>
		Ft H <sub>2</sub> O@68°F	4.468 X 10 <sup>-2</sup>
		Grams/sq cm	1.3595
In Hg @32°F		3.937 X 10 <sup>-2</sup>	
In H <sub>2</sub> O @ 68°F		0.5362	
Kg/sq cm		1.36 X 10 <sup>-3</sup>	
Kg/sq meter		13.595	
kilo Pascals		0.1333	
Pounds/sq ft		2.7845	
Pounds/sq in		0.0193	
Pounds/sq ft		Atmospheres	4.73 X 10 <sup>-4</sup>
		BAR	4.79 X 10 <sup>-4</sup>
		Ft H <sub>2</sub> O@68°F	1.605 X 10 <sup>-2</sup>
	Grams/sq cm	0.48824	
	In Hg @32°F	2.036	
	In H <sub>2</sub> O @ 68°F	0.1926	
	Kg/sq cm	4.88 X 10 <sup>-4</sup>	
	Kg/sq meter	4.882	
	kilo Pascals	4.79 X 10 <sup>-2</sup>	
	mm Hg @32°F	0.3591	
	Pounds/sq in	6.945 X 10 <sup>-3</sup>	



# BASIC CONVERSIONS

### PRESSURE - continued

Convert From	Into	Multiply By
Pounds/sq in	Atmospheres	6.805 X 10 <sup>-2</sup>
	BAR	6.895 X 10 <sup>-2</sup>
	Ft H <sub>2</sub> O @ 68°F	1.605 X 10 <sup>-2</sup>
	Grams/sq cm	70.307
	In Hg @ 32°F	2.036
	In H <sub>2</sub> O @ 68°F	27.73
	Kg/sq cm	7.031 X 10 <sup>-2</sup>
	Kg/sq meter	703.1
	kilo Pascals	6.895
	mm Hg @ 32°F	51.72
	Pounds/sq ft	144

### VELOCITY (Distance-time)

Convert From	Into	Multiply By
Feet/day	Feet/ second	1.157 X 10 <sup>-5</sup>
	Kilometers/hour	1.27 X 10 <sup>-5</sup>
	Meters/second	3.528 X 10 <sup>-6</sup>
Feet/ second	Miles/hour	7.891 X 10 <sup>-6</sup>
	Feet/ day	8.64 X 10 <sup>4</sup>
	Kilometers/hour	1.097
Kilometers/hour	Meters/second	0.3048
	Miles/hour	0.6818
	Feet/day	7.874 X 10 <sup>4</sup>
	Feet/ second	0.9113
Meters/second	Meters/second	0.2778
	Miles/hour	0.6214
	Feet/day	2.835 X 10 <sup>5</sup>
	Feet/ second	3.281
Miles/hour	Kilometers/hour	3.6
	Miles/hour	2.237
	Feet/day	1.267 X 10 <sup>5</sup>
	Feet/ second	1.467
	Kilometers/hour	1.609
	Meters/second	0.447

### DISCHARGE RATES (Volume-time)

Convert From	Into	Multiply By
Acre-feet/day	Cu feet/second	0.5042
	Cu meters/day	1234
	Gallons/minute	226.3
	Liters/second	14.28
Cu feet/second	Acre-feet/day	1.983
	Cu meters/day	2447
	Gallons/minute	448.8
	Liters/second	28.32
Cu meters/day	Acre-feet/day	6.051 X 10 <sup>6</sup>
	Cu feet/second	3.051 X 10 <sup>6</sup>
	Gallons/minute	1.369 X 10 <sup>9</sup>
	Liters/second	8.64 X 10 <sup>7</sup>
Gallons/minute	Acre-feet/day	4.419 X 10 <sup>-3</sup>
	Cu feet/second	2.228 X 10 <sup>-3</sup>
	Cu meters/day	5.45
	Liters/second	6.309 X 10 <sup>-2</sup>

### DISCHARGE RATES - continued

Convert From	Into	Multiply By
Liters/second	Acre-feet/day	7.005 X 10 <sup>-2</sup>
	Cu feet/second	3.531 X 10 <sup>-2</sup>
	Cu meters/day	86.4
	Gallons/minute	15.85

### TORQUE

Convert From	Into	Multiply By
Foot-pounds	Inch-pounds	12
	KF force-meters	1382.552 x 10 <sup>-4</sup>
Inch-pounds	Newton-meters	1.356
	Foot-pounds	0.8333
	KF force-meters	11547.344 x 10 <sup>-6</sup>
	Newton-meters	11559.357 x 10 <sup>-5</sup>
KF force-meters	Foot-pounds	7.233
	Inch-pounds	86.8
	Newton-meters	9.807
Newton-meters	Foot-pounds	7374.631x 10 <sup>-4</sup>
	Inch-pounds	8.651
	KF force-meters	10196.798 x 10 <sup>-5</sup>

### DENSITY

Convert From	Into	Multiply By
Pounds/Cu inch	Pounds/Cu feet	1728
	Pounds/gallon	231
	Grams/Cu cm	27.68
	Grams/liter	2.768 X 10 <sup>4</sup>
Pounds/Cu feet	Pounds/Cu inch	5.787 X 10 <sup>-4</sup>
	Pounds/gallon	0.1337
	Grams/Cu cm	1.6 X 10 <sup>-2</sup>
	Grams/liter	16.02
Pounds/gallon	Pounds/Cu inch	4.33 X 10 <sup>-3</sup>
	Pounds/Cu feet	7.481
	Grams/Cu cm	0.1198
	Grams/liter	119.8
Grams/Cu cm	Pounds/Cu inch	3.61 X 10 <sup>-2</sup>
	Pounds/Cu feet	62.43
	Pounds/gallon	8.345
	Grams/liter	1000
Grams/liter	Pounds/Cu inch	3.61 X 10 <sup>-5</sup>
	Pounds/Cu feet	6.24 X 10 <sup>-2</sup>
	Pounds/gallon	8.35 X 10 <sup>-3</sup>
	Grams/Cu cm	0.001

### ENERGY

Convert From	Into	Multiply By
British Thermal Unit (BTU)	Foot-pound	777.9
	Horsepower-hr	3.929 X 10 <sup>-4</sup>
	Joules	1055
	Calorie	252
	Kilowatt-hr	2.93 X 10 <sup>-4</sup>

# BASIC CONVERSIONS



## ENERGY - continued

<u>Convert From</u>	<u>Into</u>	<u>Multiply By</u>
Foot-pound	BTU	$1.285 \times 10^{-3}$
	Horsepower-hr	$5.051 \times 10^{-7}$
	Joules	1.356
	Calorie	0.3239
	Kilowatt-hr	$3.766 \times 10^{-7}$
Horsepower-hr	BTU	2545
	Foot-pound	$1.98 \times 10^6$
	Joules	$2.685 \times 10^6$
	Calorie	$6.414 \times 10^5$
Joules	Kilowatt-hr	0.7457
	BTU	$9.481 \times 10^{-4}$
	Foot-pound	0.7376
	Horsepower-hr	$3.725 \times 10^{-7}$
Calorie	Calorie	0.2389
	Kilowatt-hr	$2.778 \times 10^{-7}$
	BTU	$3.968 \times 10^{-3}$
	Foot-pound	3.087
Kilowatt-hr	Horsepower-hr	$1.559 \times 10^{-6}$
	Joules	4.186
	Kilowatt-hour	$1.163 \times 10^{-6}$
	BTU	3413
	Foot-pound	$2.655 \times 10^6$
	Horsepower-hr	1.341
	Joules	$3.6 \times 10^6$
	Calorie	$8.601 \times 10^5$

## MASS - continued

<u>Convert From</u>	<u>Into</u>	<u>Multiply By</u>
Metric ton	Ounce	35273.98
	Pound	2204.62
	Kilogram	1000
	Short ton	1.1023
	Long ton	0.98421

## MASS

<u>Convert From</u>	<u>Into</u>	<u>Multiply By</u>
Ounce	Pound	0.0625
	Kilogram	0.02834952
	Short ton	$3.125 \times 10^{-5}$
	Long ton	$2.79 \times 10^{-5}$
	Metric ton	$2.835 \times 10^{-5}$
Pound	Ounce	16
	Kilogram	0.4536
	Short ton	0.0005
	Long ton	0.0004464
	Metric ton	0.0004536
Kilogram	Ounce	35.27396
	Pound	2.20462
	Short ton	0.001102
	Long ton	0.00098
Short ton	Metric ton	0.091
	Ounce	32000
	Pound	2000
	Kilogram	907.18
Long ton	Long ton	0.89266
	Metric ton	0.90718
	Ounce	35840
	Pound	2240
	Kilogram	1016.05
	Short ton	1.12
	Metric ton	1.10605