

## Conversion Factors

To use the tables (compiled from ANSI, 1971) on the following pages, locate the "from" unit in the row and the "to" unit in the column and multiply the "to" conversion factor by the number you want to convert. For example, to change kilometers to feet, look in the cell corresponding to the kilometer row and ft column to find 3,281, and multiply the number of kilometers by 3,281 to obtain the number of feet.

From/To	m	mm	km	in.	ft	yd	mi
meter (m)	1	1,000	0.001	39.37	3.281	1.094	0.0006215
millimeter (mm)	0.001	1	1.0E-06	0.03937	0.003281	0.001094	6.214E-07
kilometer (km)	1,000	1,000,000	1	39,370	3,281	1,094	0.6214
inch (in.)	0.0254	25.4	2.54E-05	1	0.08333	0.02778	1.578E-05
foot (ft)	0.3048	304.8	3.048E-04	12	1	0.3333	1.894E-04
yard (yd)	0.9144	914.4	9.144E-04	36	3	1	5.683E-04
mile (mi)	1,609	1,609,000	1.609	63,350	5,280	1,760	1

From/To	m <sup>3</sup>	l	ft <sup>3</sup>	gal	Imp gal	ac-ft
cubic meter (m <sup>3</sup> )	1	1,000	35.31	264.2	220.0	8.107E-04
liter (l)	0.001	1	0.03531	0.2642	0.2200	8.107E-07
cubic foot (ft <sup>3</sup> )	0.02832	28.32	1	7.481	6.229	2.296E-05
gallon US	0.003785	3.785	0.1337	1	0.8327	3.069E-06
gallon Imp. (Imp gal)	0.004546	4.546	0.1605	1.201	1	3.686E-06
acre-foot (ac-ft)	1,233	1,233,000	43,560	325,900	271,300	1

From/To	Pa	kPa	bar	atm	psf	psi	ft H <sub>2</sub> O	mm H <sub>2</sub> O	mm Hg	kg/cm <sup>2</sup>
Pascal (Pa)	1	0.001	1.0E-05	9.869E-06	0.02089	1.451E-04	3.346E-04	0.1020	0.007501	1.020E-05
kilopascal (kPa)	1000	1	0.01	9.869E-03	20.89	0.1450	0.3346	102.0	7.500	0.01020
bar	1.00E+05	100	1	0.9869	2,089	14.50	33.46	10,200	750.0	1.0204
atmosphere (atm)	1.01E+05	101.3	1.013	1	2,116	14.70	33.90	10,330	759.8	1.0337
pounds per square foot (psf)	47.88	0.04788	0.0004788	4.725E-04	1	0.006944	0.01602	4.884	0.3591	4.886E-04
pounds per square inch (psi)	6894	6.894	0.06894	0.06805	144.0	1	2.307	703.3	51.72	0.07035
feet water (ft H <sub>2</sub> O)	2,986	2.986	0.02986	0.02948	62.43	0.4335	1	304.6	22.42	0.03047
millimeters water (mm H <sub>2</sub> O)	9.803	0.009803	9.803E-05	9.677E-05	0.2047	0.001422	0.003283	1	0.07353	1.0003E-04
millimeters mercury (mm Hg)	133.3	0.1333	0.001333	0.001316	2.784	0.01934	0.04465	13.60	1	0.001360
kilograms	98,000	98	0.98	0.96742	2,046.7	14.22	32.82	9,997	735.07	1

per square centimeter (kg/cm <sup>2</sup> )				3	8					
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*Flow Conversion Factors*

From/To	m <sup>3</sup> /s	l/s	m <sup>3</sup> /hr	cfs	MGD	gpm	ac-ft/day
cubic meter/second (m <sup>3</sup> /s)	1	1,000	1,440	35.32	22.83	15,850	70.08
liter/second (l/s)	0.001	1	1.440	0.03532	0.02283	15.85	0.07008
cubic meter/hour (m <sup>3</sup> /hr)	0.0006944	0.2777	1	0.02453	0.01585	11.01	0.04866
cubic foot/second (cfs)	0.02831	28.31	40.77	1	0.6462	448.7	1.984
million gallon/day (MGD)	0.04381	43.81	63.09	1.548	1	694.4	3.070
gallon (US)/minute (gpm)	0.00006309	0.06309	0.09086	0.002229	0.001440	1	0.004421
acre-foot per day (ac-ft/day)	0.01427	14.27	20.55	0.5041	0.3257	226.2	1

*Viscosity Conversion Factors*

From/To	Pa-s	cP	lbf-s/ft <sup>2</sup>
pascal-second (Pa-s)	1	1,000	0.02089
centipoise (cP)	0.001	1	2.089E-05
pound f-second/sq. ft (lbf-s/ft <sup>2</sup> )	47.88	47,880	1

*Kinematic Viscosity Conversion Factors*

From/To	m <sup>2</sup> /s	cS	ft <sup>2</sup> /s
square meter/second (m <sup>2</sup> /s)	1	1,000,000	10.76
centistoke (cS)	1.0E-06	1	1.080E-05
square feet/second (ft <sup>2</sup> /s)	0.09290	9.290E+04	1

*Velocity Conversion Factors*

From/To	m/s	km/hr	fps	mph
meter/second (m/s)	1	3.600	3.281	2.237
kilometer/hour (km/hr)	0.2778	1	0.9114	0.6215
feet/second (fps)	0.3048	1.097	1	0.6819
miles/hour (mph)	0.4470	1.609	1.467	1

*Power Conversion Factors*

From/To	W	kW	hp	ft-lbf/s	BTU/hr
watt (W)	1	0.001	0.001341	0.7380	3.414
kilowatt (kW)	1000	1	1.340	738.0	3,414
horsepower (hp)	746	0.7460	1	550.6	2,547
foot pound f/sec (ft-lbf/s)	1.355	0.001355	0.001816	1	4.626
BTU/hour (BTU/hr)	0.2929	0.0002929	0.0003926	0.2162	1