

UNITS CONVERSION TABLES

Overview

These conversion tables are provided for your reference.

Units Conversion Tables

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Table 1: Multiples and Submultiples of SI units

Prefix	Symbol	Multiplying Factor
exa	E	10^{18} 1 000 000 000 000 000 000
peta	P	10^{15} 1 000 000 000 000 000
tera	T	10^{12} 1 000 000 000 000
giga	G	10^9 1 000 000 000
mega	M	10^6 1 000 000
kilo	k	10^3 1 000
hecto*	h	10^2 100
deca*	da	10
deci*	d	10^{-1} 0.1
centi	c	10^{-2} 0.01
milli	m	10^{-3} 0.001
micro	u	10^{-6} 0.000 001
nano	n	10^{-9} 0.000 000 001
pico	p	10^{-12} 0.000 000 000 001
femto	f	10^{-15} 0.000 000 000 000 001
atto	a	10^{-18} 0.000 000 000 000 000 001

* these prefixes are not normally used

Table 2: Length Units

Millimeters	Centimeters	Meters	Kilometers	Inches	Feet	Yards	Miles
mm	cm	m	km	in	ft	yd	mi
1	0.1	0.001	0.000001	0.03937	0.003281	0.001094	6.21e-07
10	1	0.01	0.00001	0.393701	0.032808	0.010936	0.000006
1000	100	1	0.001	39.37008	3.28084	1.093613	0.000621
1000000	100000	1000	1	39370.08	3280.84	1093.613	0.621371
25.4	2.54	0.0254	0.000025	1	0.083333	0.027778	0.000016
304.8	30.48	0.3048	0.000305	12	1	0.333333	0.000189
914.4	91.44	0.9144	0.000914	36	3	1	0.000568
1609344	160934.4	1609.344	1.609344	63360	5280	1760	1

Table 3: Area Units

Millimeter square	Centimeter square	Meter square	Inch square	Foot square	Yard square
mm ²	cm ²	m ²	in ²	ft ²	yd ²
1	0.01	0.000001	0.00155	0.000011	0.000001
100	1	0.0001	0.155	0.001076	0.00012
1000000	10000	1	1550.003	10.76391	1.19599
645.16	6.4516	0.000645	1	0.006944	0.000772
92903	929.0304	0.092903	144	1	0.111111
836127	8361.274	0.836127	1296	9	1

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deca*	da	10 10
deci*	d	10^{-1} 0.1
centi	c	10^{-2} 0.01
milli	m	10^{-3} 0.001
micro	u	10^{-6} 0.000 001
nano	n	10^{-9} 0.000 000 001
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Table 8: Volumetric Gas Flow Units

Normal meter cube/hour	Standard cubic feet/hour	Standard cubic feet/minute
Nm ³ /hr	scfh	scfm
1	35.31073	0.588582
0.02832	1	0.016669
1.699	59.99294	1

Table 9: Mass Flow Units

Kilogram/hour	Pound/hour	Kilogram/second	Ton/hour
kg/h	lb/hour	kg/s	t/h
1	2.204586	0.000278	0.001
0.4536	1	0.000126	0.000454
3600	7936.508	1	3.6
1000	2204.586	0.277778	1

Table 10: High Pressure Units

Bar	Pound/square inch	Kilopascal	Megapascal	Kilogram force/centimeter square	Millimeter of mercury	Atmospheres
bar	psi	kPa	MPa	kgf/cm ²	mm Hg	atm
1	14.50326	100	0.1	1.01968	750.0188	0.987167
0.06895	1	6.895	0.006895	0.070307	51.71379	0.068065
0.01	0.1450	1	0.001	0.01020	7.5002	0.00987
10	145.03	1000	1	10.197	7500.2	9.8717
0.9807	14.22335	98.07	0.09807	1	735.5434	0.968115
0.001333	0.019337	0.13333	0.000133	0.00136	1	0.001316
1.013	14.69181	101.3	0.1013	1.032936	759.769	1

Table 11: Low Pressure Units

Meter of water	Foot of water	Centimeter of mercury	Inches of mercury	Inches of water	Pascal
mH ₂ O	ftH ₂ O	cmHg	inHg	inH ₂ O	Pa
1	3.280696	7.356339	2.896043	39.36572	9806
0.304813	1	2.242311	0.882753	11.9992	2989
0.135937	0.445969	1	0.39368	5.351265	1333
0.345299	1.13282	2.540135	1	13.59293	3386
0.025403	0.083339	0.186872	0.073568	1	249.1
0.000102	0.000335	0.00075	0.000295	0.004014	1

Table 12: Speed Units

Meter/second	Meter/minute	Kilometer/hour	Foot/second	Foot/minute	Miles/hour
m/s	m/min	km/h	ft/s	ft/min	mi/h
1	59.988	3.599712	3.28084	196.8504	2.237136
0.01667	1	0.060007	0.054692	3.281496	0.037293
0.2778	16.66467	1	0.911417	54.68504	0.621477
0.3048	18.28434	1.097192	1	60	0.681879
0.00508	0.304739	0.018287	0.016667	1	0.011365
0.447	26.81464	1.609071	1.466535	87.99213	1

Table 13: Torque Units

Newton meter	Kilogram force meter	Foot pound	Inch pound
Nm	kgfm	ftlb	inlb
1	0.101972	0.737561	8.850732
9.80665	1	7.233003	86.79603
1.35582	0.138255	1	12
0.112985	0.011521	0.083333	1

Table 14: Dynamic Viscosity Units

Centipoise*	Poise	Pound/foot-second
cp	poise	lb/(ft·s)
1	0.01	0.000672
100	1	0.067197
1488.16	14.8816	1

Table 15: Kinematic Viscosity Units

Centistoke*	Stoke	Foot square/second	meter square/second
cs	St	ft ² /s	m ² /s
1	0.01	0.000011	0.000001
100	1	0.001076	0.0001
92903	929.03	1	0.092903
1000000	10000	10.76392	1

*note: centistokes x specific gravity = centipoise

Table 16: Temperature Conversion Formulas

Degree Celsius (°C)	(°F - 32) x 5/9
	(K - 273.15)
Degree Fahrenheit (°F)	(°C x 9/5) + 32
	(1.8 x K) - 459.67
Kelvin (K)	(°C + 273.15)
	(°F + 459.67) ÷ 1.8