Table 4 .... Density or Specific Weights

1 dyne per cm³ = 0.00101979 gram per cm³ = 0.00118528 poundals per in.³
1 gram per cm³ = 980.5966 dynes per cm³ = 1.162283 poundals per in.³
1 poundal per in.³ = 843.683 dynes per cm³ = 0.860378 g per cm³ = 0.0310832 pound per in.³

g per cm³	lb per in.³	lb per ft³	lb per yd³	lb per m³	lb per bu U. S.	lb per gal, dry, U. S.	lb per gal, liquid, U. S.
1	0.03613	62.4283	1685.56	1000	77.6893	9.71116	8.34545
27.6797	1	1728	46,656	27679.7	2150.42	268.803	231
0.01602	5.787×10^{-4}	1	27	16.0184	1.24446	0.15556	0.13368
5.933×10^{-4}	2.143×10^{-5}	0.03704	1	0.59327	0.04609	0.005762	0.004951
0.001	3.613×10^{-5}	0.06243	1.68556	1	0.07769	0.009711	0.008345
0.01287	4.650×10^{-4}	0.80356	21.6962	12.8718	1	0.125	0.10742
0.010297	0.003720	6.42851	173.570	102.974	8	1	0.85937
0.11983	0.004329	7.48052	201.974	119.826	9.30920	1.16365	1

The specific gravity of a substance is the ratio of its density to that of water at 4 C, both densities being expressed in the same units.
The density of a substance is its mass per unit volume.
The specific weight of a substance is its weight per unit volume.

Table 5 .... Masses and Weights

1 gram (g) = 10 decigrams (dg) = 100 centigrams (cg) = 1000 milligrams (mg) = 0.001 kilograms (kg)
1 kg = 1 liter or dm³ of water at 4 C, 45° lat. and sea level = 15,432.35639 (gr)
1 U. S. gal = 8.34545 lb, 1 Imperial gal = 10.0221 lb, 1 cu ft = 62.4283 lb water as above.

kg	gr	oz		lb		tons		
		troy oz t	avoir oz av	troy lb t	avoir lb av	net-short 2000 lb	gross-long 2240 lb	metric 1000 kg
1	15432.4	32.1507	35.2740	2.67923	2.20462	0.001102	9.842×10^{-4}	0.001
6.480×10^{-4}	1	0.002083	0.002286	1.736×10^{-4}	1.429×10^{-4}	7.143×10^{-8}	6.378×10^{-8}	6.480×10^{-4}
0.03110	480	1	1.09714	0.08333	0.06857	3.429×10^{-5}	3.061×10^{-5}	3.110×10^{-5}
0.02835	473.5	0.91146	1	0.07595	0.06250	3.125×10^{-5}	2.790×10^{-5}	2.835×10^{-5}
0.37324	5760	12	13.1657	1	0.82286	4.114×10^{-4}	3.674×10^{-4}	3.732×10^{-4}
0.45359	7000	14.5833	16	1.21528	1	0.00050	4.464×10^{-4}	4.536×10^{-4}
907.185	14,000,000	29,166.7	32,000	2430.56	2000	1	0.89286	0.90719
1016.05	15,680,000	32,666.7	35,840	2722.22	2240	1.12	1	1.01605
1000	15,432,356	32,150.7	35,274.0	2679.23	2204.62	1.10231	0.98421	1

The pound, ounce and grain Apothecary have the same weight as those of Troy weight.
1 pound (Apoth.) = 12 ounces (℥) = 96 drams (ʒ) = 288 scruples (℈) = 5760 grains (gr).
1 pound (Troy) = 12 ounces (℥) = 240 pennyweight (dwt) = 5760 grains (gr).
1 hundredweight = 1/20 long ton = 4 quarters = 8 stone = 112 lbs = 50.8024 kg.

Table 6 .... Pressure

1 dyne per cm² = 0.00101979 g per cm² = 0.000466646 poundals per in.²
1 gram per cm² = 980.5966 dynes per cm² = 0.457592 poundals per in.²
1 poundal per in.² = 2142.95 dynes per cm² = 2.18536 g per cm² = 0.0310832 lb per in.²

kg per cm²	psi	psf	atmospheres, standard 760 mm	columns of mercury Hg 13.59593 sp gr		columns of water, max density at 4C, 39°F.	
				mm	in.	m	ft
1	14.2234	2048.17	0.96778	735.514	28.9572	10	32.8083
0.07031	1	144	0.06804	51.7116	2.03588	0.70307	2.30665
4.882×10^{-4}	0.006944	1	4.725×10^{-4}	0.35911	0.01414	0.004882	0.01602
1.03329	14.6969	2116.35	1	760	29.9212	10.3329	33.9006
0.001360	0.01934	2.78468	0.001316	1	0.03937	0.01360	0.04461
0.03453	0.49119	70.7310	0.03342	25.4001	1	0.34534	1.13299
0.10	1.42234	204.817	0.09678	73.5514	2.89572	1	3.28083
0.03048	0.43353	62.4283	0.02950	22.4185	0.88262	0.30480	1

Table 7 .... Velocities and Accelerations

1 cm per sec = 0.0328083 ft per sec.
1 radian per sec = 57.2958 deg per sec = 0.159155 revolution per sec.
1 gravity = 980.5966 cm per sec per sec = 32.1717 ft per sec per sec.

mps m = meter	fps	mph m = mile	knots U. S.	kilometers per hr	mps² m = meter	fps²	mph-s m = mile
1	3.28083	2.23693	1.94254	3.6	1	3.28083	2.23693
0.30480	1	0.68182	0.59209	1.09728	0.30480	1	0.68182
0.44704	1.46667	1	0.86839	1.60935	0.44704	1.46667	1
0.51479	1.68894	1.15155	1	1.85325	0.27778*	0.91134*	0.62137*
0.27778	0.91134	0.62137	0.53959	1			

* Equivalents for 1 kilometer per hour per sec.

Table 8 .... Heat, Energy, Work

1 dyne-cm = 1 erg = 0.00101979 g-cm = 7.37612×10^{-8} ft-lb.
1 g-cm = 980.5966 ergs = 7.233×10^{-5} ft-lb.
1 ft-lb = 13,557,300 ergs = 13.825.5 g-cm
1 therm = 100,000 Btu

kg-m	ft-lb	horsepower—hours		kilowatt hours kw-hr	joules (10^7 ergs) j	thermal units	
		U. S. hp-hr	metric 75 kg-m-hr			Btu	kg-cal
1	7.23300	3.653×10^{-6}	3.704×10^{-6}	2.724×10^{-6}	9.80597	0.009296	0.002342
0.13826	1	5.051×10^{-7}	5.121×10^{-7}	3.766×10^{-7}	1.35573	0.001285	3.239×10^{-4}
273,745	1,980,000	1	1.01387	0.74565	2,684,340	2544.65	641.240
270,000	1,952,910	0.98632	1	0.73545	2,647,610	2509.83	632.467
367,123	2,655,403	1.34111	1.35972	1	3,600,000	3412.66	859.975
0.10198	0.73761	3.725×10^{-7}	3.777×10^{-7}	2.778×10^{-7}	1	9.480×10^{-4}	2.389×10^{-4}
107.577	778.104	3.930×10^{-4}	3.984×10^{-4}	2.930×10^{-4}	1054.90	1	0.25200
426.900	3087.77	0.001559	0.001581	0.001163	4186.17	3.96832	1

Table 9 .... Power, Rate of Energy and Heat

1 erg per sec = 1 dyne-cm per sec = 7.37612×10^{-8} ft-lb per sec.
1 g-cm per sec = 980.5966 ergs per sec = 7.238×10^{-5} ft-lb per sec.
1 ft-lb per sec = 13,557,300 ergs per sec = 13,825.5 g-cm per sec.

kg-m per sec	ft-lb per sec	hp		kilowatts kw	watts (10^7 ergs per sec) w	thermal units per sec	
		U. S. 550 ft-lb per sec	metric 75 kg-m per sec			Btu per sec	kg-cal per sec
1	7.23300	0.01315	0.01333	0.009806	9.80597	0.009296	0.002342
0.13826	1	0.001818	0.001843	0.001356	1.35573	0.001285	3.237×10^{-4}
76.0404	550	1	1.01387	0.74565	745.650	0.70685	0.17812
75	542.475	0.98632	1	0.73545	735.448	0.69718	0.17569
100	723.300	1.31509	1.33333	0.98060	980.507	0.92957	0.23425
101.979	737.612	1.34111	1.35972	1	1000	0.94796	0.23888
0.10198	0.73761	0.001341	0.001360	0.001	1	9.48×10^{-4}	2.389×10^{-4}
107.577	778.104	1.41474	1.43436	1.05490	1054.90	1	0.25200
426.900	3087.77	5.61412	5.69200	4.18617	4186.17	3.96832	1

The ton refrigeration is 288,000 Btu per 24 hr = 12,000 Btu per hr = 200 Btu per min = 3.3333 Btu per sec.