

CONVERSION FACTORS

Pressure		
1 lb. per sq. inch	=	2.31 ft. water at 60° F
	=	2.04 in. Hg at 60° F
1 ft. water at 60° F	=	0.433 lb. per sq. inch
	=	0.884 in. Hg at 60° F
1 in. Hg at 60° F	=	0.49 lb. per sq. inch
	=	1.13 ft. water at 60° F
lb. per sq. inch Absolute (psia)	=	lb. per sq. inch gauge (psig) + 14.7

Temperature		
°C	=	(°F – 32) X 5/9

Weight of Liquid		
1 gal. (U.S.)	=	8.34 lb. X sp. Gr.
1 cu. ft.	=	62.4 lb. X sp. gr.
1 lb.	=	0.12 U.S. gal. / sp. gr.
	=	0.016 cu. ft. / sp. gr.

Flow		
1 gpm	=	0.134 cu. ft. per min.
	=	500 lb. per hr. X sp. gr.
500 lb. per hr.	=	1 gpm / sp. gr.
1 cu. ft. per min. (cfm)	=	448.8 gal. per hr. (gph)

Work		
1 Btu (mean)	=	778 ft. lb.
	=	0.293 watt hr.
	=	1/180 of heat required to change temp. of 1 lb. water from 32° F to 212° F
1 hp-hr	=	2545 Btu (mean)
	=	0.746 kw hr
1 Kw hr	=	3413 Btu (mean)
	=	1.34 hp-hr

Power		
1 Btu per hr.	=	0.293 watt
	=	12.96 ft. lb. per min.
	=	0.00039 hp
1 ton refrigeration (U.S.)	=	288,000 Btu per 24 hr.
	=	12,000 Btu per hr.
	=	200 Btu per min.
	=	83.33 lb. ice melted per hr. from and at 32° F
	=	2000 lb. ice melted per 24 hr. from and at 32° F
1 hp	=	550 ft. lb. per sec.
	=	746 watt
	=	2545 Btu per hr.
1 boiler hp	=	33,480 Btu per hr.
	=	34.5 lb. water evap. Per hr. from and at 212° F
	=	9.8 kw.
1 kw.	=	3413 Btu per hr.

Mass		
1 lb. (avoir.)	=	16 oz. (avoir.)
	=	7000 grain
1 ton (short)	=	2000 lb.
1 ton (long)	=	2240 lb.

Volume		
1 gal. (U.S.)	=	128 fl. oz. (U.S.)
	=	231 cu. inch
	=	0.833 gal. (Brit)
1 cu. ft.	=	7.48 gal. (U.S.)

Weight of Water
1 cu. ft. at 50° F weighs 62.41 lb.
1 gal. At 50° F weighs 8.34 lb.
1 cu. ft. of ice weighs 57.2 lb.
Water is at its greatest density at 39.2° F
1 cu. ft. at 39.2° F weighs 62.43 lb.