

EQUIVALENTS

Air:

sp.ht = 0.24 (*in BTU/lb/degree*)

13.3 cu.ft. = 1 lb.

0.075 lbs. = 1 cu.ft.

250 Pascals (Pa) = 1 in. wg.

.075 lbs. x 60 min. = 4.5 lbs/hr

4.5 lbs/hr x 0.24 = 1.08

Standard Air = 70°F at 29.92"HG

Water:

Water: sp.ht. = 1.0 (*in BTU/lb/degree*)

1 lb. H₂O = 0.12 Gal.

1 gal H₂O = 8.3 lbs.

1 in. HG = 0.49 psi = 1.13 ft. H₂O = 13.58 in. H₂O

1 gal. 8.33 lbs. x 60 min. = 500 lbs. per hour 500 x 1.0(sp.ht.) = 500

0 psig at sea level = 14.7 psia or 29.92 in. HG or 33.96 ft. H₂O or 407.5 in. H₂O

7,000 Grains = 1lb.

1 cu.ft. H₂O = 7.5 gal. or 62.25 lbs.

1 psi=2.31ft. H₂O=27.72 in. H₂O=2.04 in. HG

Heat:

1 Watt = 3.41 BTUH

1 Ton Cooling Tower = 15,000 BTUH

BTUH = M x sp. Ht. x ΔT

(M=Mass flow rate in lbs/hr)

1 Ton Refrigeration=12,000 BTUH=400 CFM

1 HP = 746 Watts or 2544 BTUH

1 gal Heating Oil = 140,000 BTU (Typ.)

1 cu.ft. Natural Gas = 1000 BTU (Typ.)



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