

Pittsburgh AIR Systems, Inc.

INDUSTRIAL INC.

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Psychrometric Equations:

$$H_T = CFM \times 4.5 \times \Delta h$$

$$H_S = CFM \times 1.085 \times \Delta T$$

$$H_L = CFM \times 0.68 \times \Delta W_{GR}$$

$$H_T = H_S + H_L$$

Where:

H_T = Total Heat (BTU/Hr)

H_S = Sensible Heat (BTU/Hr)

H_L = Latent Heat (BTU/Hr)

ΔT = Dry Bulb Temp Diff. (°F)

Δh = Enthalpy Diff. (BTU/lb)

ΔW_{GR} = Humidity Ratio Diff. (Grains/lb of Dry Air)

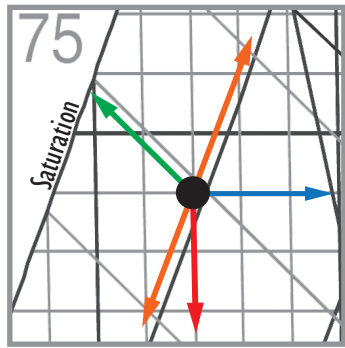
Standards & Conversions:

1 lb moisture = 7000 Grains

Density of Water = 8.34 lbs/gal

Density of Air (Dry) = 0.075 lbs/ft³ (60°F, 14.7 psi)

Latent Heat of Vaporization (Water) = 970 BTU/lb



Dry Bulb (°F)

Humidity Ratio
(Grains of Moisture/lb of Dry Air)

Enthalpy (BTU/lb)
& Wet Bulb (°F)

RH

