

LETTER SYMBOLS (Continued)

- m = weight of dry air crossing any duct section, pounds per minute.
 m_1, m_2, m_3 = weights of dry air convected across sections F_1, F_2, F_3 respectively, pounds per minute.
 M = weight of dry air withdrawn with inside air, pounds per hour.
 n_a = mols of dry air.
 n_w = mols of water vapor.
 p = total pressure of a mixture of air and water vapor, pounds per square inch or inches Hg.
 p_a = partial pressure of air, pounds per square inch or inches Hg.
 p_s = saturation pressure of pure water vapor, pounds per square inch or inches Hg.
 p_w = partial pressure of water vapor in mixture of air and water vapor, pounds per square inch or inches Hg.
 P = atmospheric pressure, inches Hg.
 P_o = standard atmospheric pressure by definition 29.921 in. Hg.
 PE = potential energy, Btu per pound dry air.
 $\overline{PE}$ = average potential energy; Btu per pound dry air.
 q = ratio of energy added (or removed) to water added (or removed), Btu per pound. Also called specific enthalpy of water added.
 q_{12} = heat added between sections 1 and 2, Btu per pound dry air.
 Aq_B = heat added between sections A and B per pound of dry air, Btu per pound.
 AQ_B = total heat added between sections A and B, Btu per minute.
 ΔQ = energy to be removed from or added to conditioned space, Btu per hour.
 R = universal gas constant.
 R_a = gas constant for dry air.
 R_w = gas constant for water vapor.
 s = entropy of moist air per pound of dry air, Btu per (pound) (Fahrenheit degree).
 $\bar{s}$ = correction to be added to entropy of moist air obtained from Equation 6.
 $\bar{s}$ = additional correction to be added to entropy because of "mixing entropy" (obtained from Table 3). Correction to be added to value of s obtained from Equation 6.
 s_a = specific entropy of dry air, Btu per (pound) (Fahrenheit degree, absolute).
 s_{as} = the difference between the entropy of moist air at saturation per pound of dry air, and the specific entropy of the dry air itself, Btu per (pound of dry air) (Fahrenheit degree, absolute).
 s_s = entropy of moist air at saturation per pound of dry air, Btu per (pound of dry air) (Fahrenheit degree, absolute).
 s_w = specific entropy of condensed water (liquid or solid) at standard atmospheric pressure, Btu per (pound of water) (Fahrenheit degree, absolute).
 t^* = thermodynamic wet-bulb temperature, Fahrenheit degrees.
 $t(F)$ = temperature, Fahrenheit degrees.
 T = absolute temperature, Fahrenheit degrees.
 T_o = standard atmospheric temperature, by definition 288 Kelvin degrees.
 v = volume of moist air per pound of dry air, cubic feet per pound.
 $\bar{v}$ = correction to be added to volume of moist air per pound of dry air, above 150 F.
 v_a = specific volume of dry air, cubic feet per pound.

LETTER SYMBOLS (Continued)

- $v_{as} = v_s - v_a$, the difference between volume of moist air at saturation, per pound of dry air, and the volume of the dry air itself, cubic feet per pound of dry air.
 v_s = volume of moist air at saturation per pound of dry air, cubic feet per pound of dry air.
 v_T = total volume, cubic feet.
 V = velocity, feet per minute.
 $\bar{V}$ = average velocity, feet per minute.
 W = humidity ratio, of moist air, pounds of water per pound of dry air.
 ΔW = water to be removed from (or added to) conditioned space, pounds per hour.
 W_s = humidity ratio, at saturation, weight of water vapor per pound of dry air, pound per pound.
 W_s^* = humidity ratio corresponding to thermodynamic wet-bulb temperature t^* , pounds of water per pound of dry air.
 Z = elevation above any datum, feet.
 $\bar{Z}$ = average elevation, feet.

REFERENCES

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