

# PSYCHROMETRIC CHART NO. 1

NORMAL TEMPERATURE

BAROMETRIC PRESSURE: 29.921 INCHES OF MERCURY

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## SEA LEVEL

$$\dot{m}_{a1} = \frac{V_1}{v_1} = \frac{5014.68 \text{ ft}^3/\text{min}}{12.65 \text{ ft}^3/\text{lbma}}$$

$$\dot{m}_{a1} = 396.4 \text{ lbma}/\text{min}$$

$$\dot{m}_{a2} = \frac{V_2}{v_2} = \frac{15008.7 \text{ ft}^3/\text{min}}{13.68 \text{ ft}^3/\text{lbma}}$$

$$\dot{m}_{a2} = 1097.1 \text{ lbma}/\text{min}$$

$$h_1 = 12.0 \frac{\text{Btu}}{\text{lbma}}$$

$$h_2 = 28.2 \frac{\text{Btu}}{\text{lbma}}$$

$$v_1 = 12.65 \text{ ft}^3/\text{lbma}$$

$$v_2 = 13.68 \text{ ft}^3/\text{lbma}$$

$$\dot{m}_{a1} = \frac{h_2^\# - h_3^\#}{h_3^\# - h_1^\#}$$

$$h_3^\# = \frac{\dot{m}_{a1} h_1^\# + \dot{m}_{a2} h_2^\#}{\dot{m}_{a1} + \dot{m}_{a2}}$$

$$h_3^\# = \frac{(396.4)(12.0) + (1097.1)(28.2)}{396.4 + 1097.1}$$

$$h_3^\# = 23.9 \frac{\text{Btu}}{\text{lbma}}$$

$$\phi_3 = 54\%$$

$$\omega_3 = 0.0074$$

$$h_1 = 12.0 \frac{\text{Btu}}{\text{lbma}}$$

$$v_1 = 12.65 \text{ ft}^3/\text{lbma}$$

$$\omega_2 = 0.0093$$

$$\omega_1 = 0.002$$

