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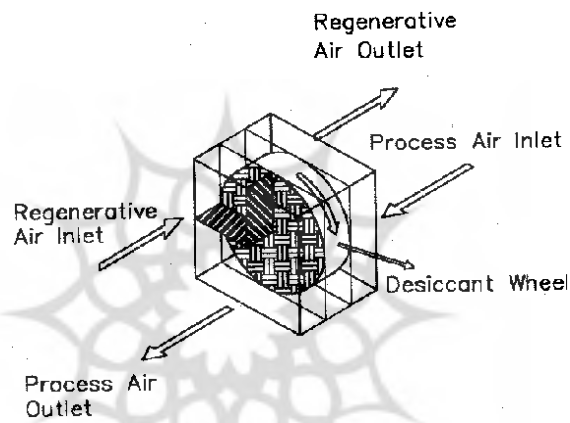
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[1] Maclain - Cross

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Jurinak

- 2- Enthalpy
- 3- Linear Analogy Method

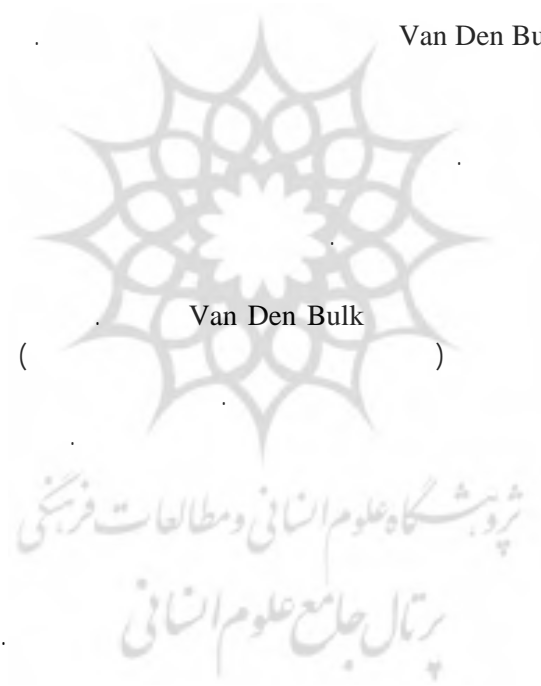
Barlow

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Van Den Bulk

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Van Den Bulk

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- 4- Pseudo-Steady State Model
 - 5- Transient
 - 6- Steady State
 - 7- Unbalanced

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Van Den Bulk

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$$CF = \frac{M_d}{M_w}$$

M_w

M_d

CF

$$CF = (\dots) / [(\dots)]$$

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$$\frac{\partial Y_a}{\partial x} = \frac{2K_y}{a_p U_a \rho} (Y_w - Y_a) \quad ()$$

$$\frac{\partial H_a}{\partial x} = \frac{2K_y H_v}{a_p U_a \rho} (Y_w - Y_a) + \frac{2K_y H_v}{a_p U_a \rho} (T_w - T_a) \quad ()$$

$$\frac{\partial W}{\partial t} = \frac{2K_y}{a_w \rho_w f} (Y_a - Y_w) \quad ()$$

$$\frac{\partial H_w}{\partial t} = \frac{2K_y H_v}{a_w \rho_w} (Y_a - Y_w) + \frac{2h}{a_w \rho_w} (T_w - T_a) \quad ()$$

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H_w, H_a, Y_w, Y_a

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$$Y_w = Y_w(T_w, W) \quad ()$$

$$[] \quad ()$$

$$()$$

$$() ()$$

$$Y_a(t, 0) = Y_{a,ad,in}(t) \quad ()$$

$$T_a(t, 0) = T_{a,ad,in}(t) \quad ()$$

$$Y_w(0, x) = Y_w(t_{re}, X_L - x) \quad ()$$

$$T_w(0, x) = T_w(t_{re}, X_L - x) \quad ()$$

$$Y_a(t, 0) = Y_{a,re,in}(t) \quad ()$$

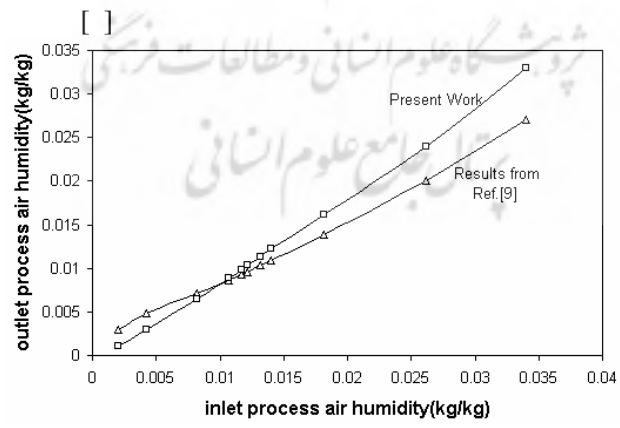
$$T_a(t, 0) = T_{a,re,in}(t) \quad ()$$

$$Y_w(0, x) = Y_w(t_{re}, X_L - x) \quad ()$$

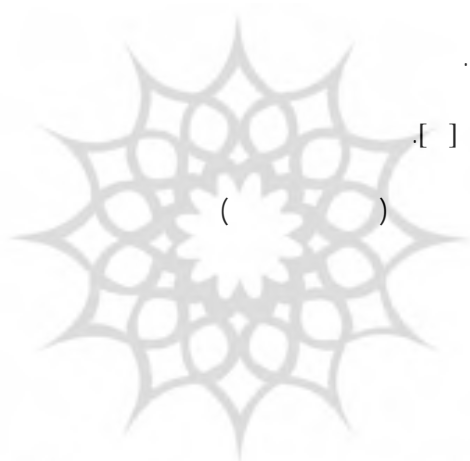
$$T_w(0, x) = T_w(t_{re}, X_L - x) \quad ()$$

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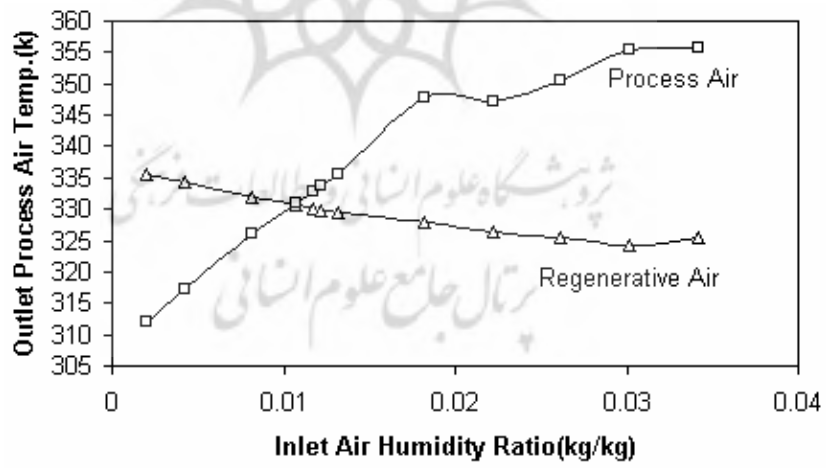
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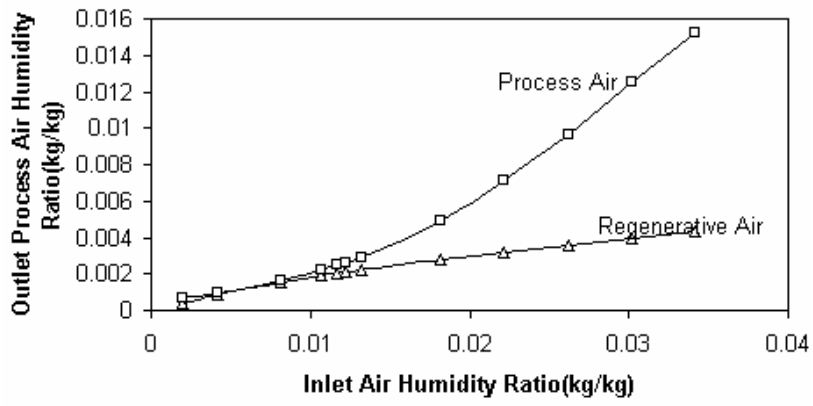
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(COP, CE)

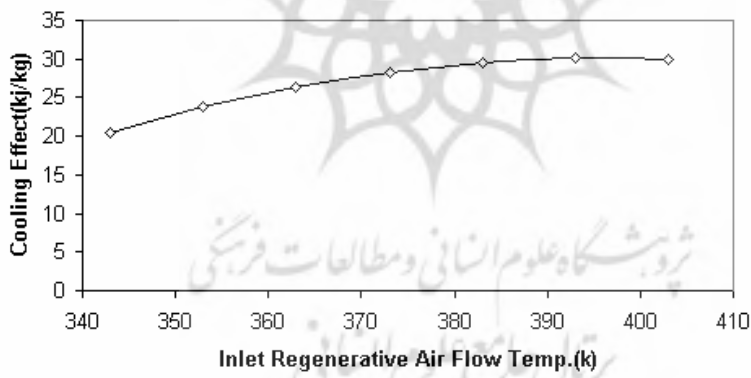
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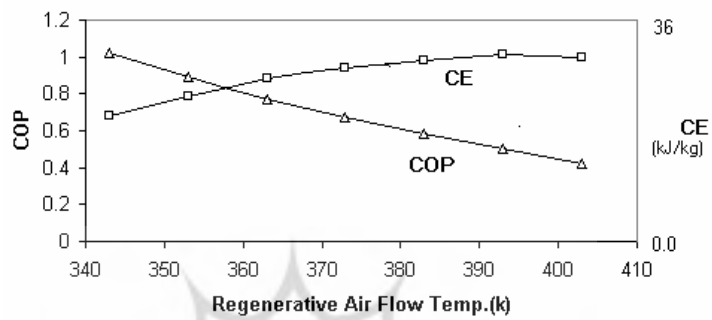


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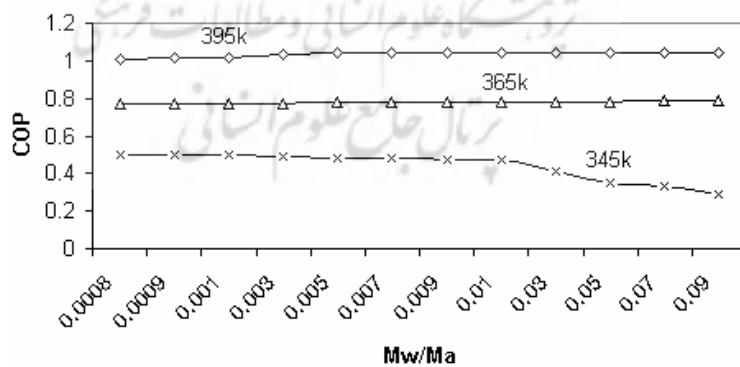
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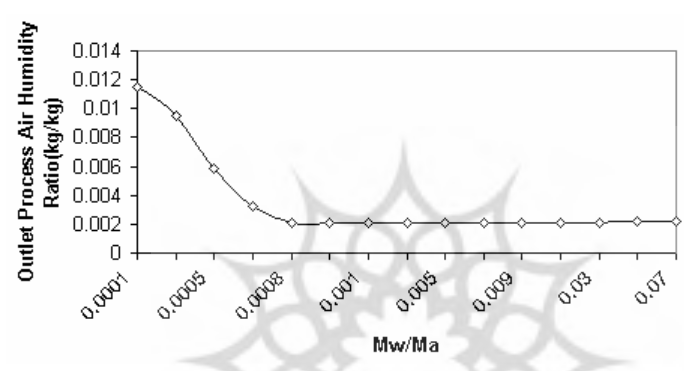
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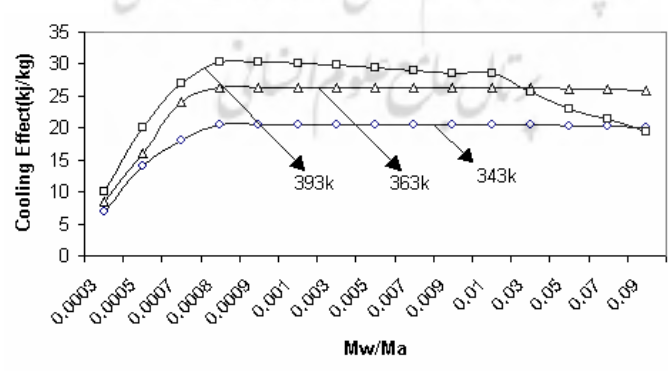
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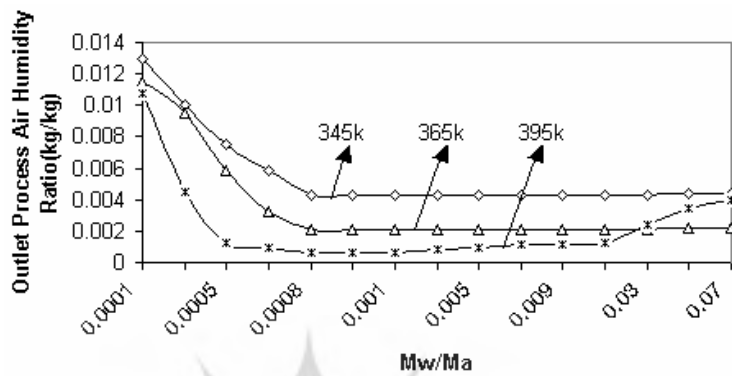


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