NOMENCLATURE

Notations and Symbols used in the text of this thesis are explained here. Any deviation from this, has been indicated wherever it occurs.

\begin{itemize}
  \item \textbf{A} Area of cross section, $m^2$
  \item \textbf{a} Interfacial area, $m^2 \text{ / } m$
  \item \textbf{C} Non Dimensional Concentration, $(-)$
  \item \textbf{c} Concentration, $kg/mole / m$
  \item \textbf{C}_p Specific heat at constant pressure, Kcal/Kg. C
  \item \textbf{D} Diffusivity, $m / hr.$
  \item \textbf{E} Energy, Kcal
  \item \textbf{Fo} Fourier Number, $(-)$
  \item \textbf{G} Gas Mass Flow Rate, $Kg/hr.m$
  \item \textbf{g} Acceleration due to Gravity, $m/sec.$
  \item \textbf{H} Height of Transfer Units, $m$
  \item \textbf{h} Heat Transfer Coefficient, Kcal/hr.m $^2$ C
  \item \textbf{K} Thermal Conductivity, Kcal/hr.m $^2$ C
  \item \textbf{k} Mass Transfer Coefficient, Kg/hr.m
  \item \textbf{Le} Lewis Number, $(-)$
  \item \textbf{M} Molecular Weight, $(-)$
  \item \textbf{m} Mass Flow Rate, Kg/hr.
  \item \textbf{m} Mass Transfered across the interface, Kg/hr.m $^2$
  \item \textbf{Na} Mass Transfer Rate, Kg/hr.m
\end{itemize}
Nu  Nusselt Number, (-)
P  Pressure, Kg/m
p  Partial Pressure, Kg/m
Q  Flow Rate, Kg/hr.m
R  Non-Dimensional Radius, (-)
Ra  Gas Constant, Kgm/Kg.K
Re  Reynolds Number, (-)
r  Radius, m
S  Entropy, Kcal/Kg C
Sc  Schmidt Number, (-)
Sh  Sherwood Number, (-)
T  Temperature, C
t  Time, sec.
U  Velocity, m/sec.
V  Volume, m
W  Weight of Water in Solution / air, %
w  Humidity Ratio, Kg/Kg of dry air
x  Mole Fraction of Water in CaCl₂, (-)
y  Mole Fraction of Water in Air, (-)
z  Static Bed Height, m
Ψ  Strength of Solution, moles/cc
ε  Void Ratio, (-)
η  Thermal Diffusivity, m/hr.
ρ  Density, Kg/m³
μ  Viscosity, Kg/hr.m
θ  Non-Dimensional Temperature, (-)
\( \tau \)  Non-Dimensional Time, (-)
\( \Delta \)  Incremental Value
\( \alpha \)  Availability, Kcal/Kg
\( \lambda_c \)  Heat of Condensation, Kcal/Kg
\( \lambda_s \)  Heat of Solution, Kcal/Kg
\( \omega \)  Specific Humidity, Kg/Kg of dry air

FBH  Fluidized Bed Height, m
FF  Fluidization Factor, (-)
FR  Flow Ratio, (-)
SBH  Static Bed Height, m

SUBSCRIPT
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0  Surrounding
1  Initial
2  Final
A  Air
a  Air
ave  Average
d  Dessicant Solution
f  At Fluidization
g  Gas
mf  At Minimum Fluidization
i  Inlet
int  Interface
lm Logarithmic Mean
o Outlet
r Residence
s Solid
sat Saturation
v Vapour
w Water

SUPERSCRIPT
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- Molal Basis