

List of Symbols

<i>Symbol</i>	<i>Description</i>
Q	Stored or Released Heat
m	Mass of material
C_p	Specific Heat of Material at Constant Pressure
Δh	Phase Change Enthalpy
kJ	Kilo Joule
kg	Kilo Gram
W	Watt
T	Temperature
k	Thermal Conductivity
cm^{-1}	Wavenumber
Bi	Biot Number
h	Heat Transfer Coefficient
L_c	Characteristic Length
$f(\tau)$	Dimensionless Characteristic Time Function
n	Number of Spirals in Sensor
I_0	Zeroth Order Modified Bessel Function
τ	Characteristic Time Ratio
α	Thermal Diffusivity
Θ	Characteristic Time
t	Time
$\overline{\Delta T (t)}$	Average Temperature Increase on Thermal Sensor
P_0	Power Output at the Sensor
rs	Radius of Sensor
s	Second
min	Minutes
hr	Hour
nm	Nano Meter
$\dot{q}_{w,i}$	Rate of Heat Transfer from Water Test Tube at i^{th} Time Interval
m_w	Mass of Water
m_{PCM}	Mass of Phase Change Material
m_t	Mass of Test Tube
$C_{p,w}$	Specific Heat of Water at Constant Pressure
$C_{p,t}$	Specific Heat of Test Tube at Constant Pressure
$\Delta T_{w,i}$	Temperature Difference Between Two Consecutive Measurements
T_w	Temperature of Water
T_{amb}	Temperature of Ambient
T_{PCM}	Temperature of PCM
Δt_i	Time Interval Between Two Consecutive Measurements
k_0, k_1, k_2	Second Order Polynomial Coefficients
$\Delta H_{PCM,i}$	Change in Enthalpy of PCM for i^{th} Time Interval
$H_{PCM}(T_{PCM})$	Enthalpy of PCM at Temperature T
H_0	Arbitrary Reference Value of Enthalpy
kW	Kilo Watt
$wt\%$	Weight Fraction
$mol\%$	Mole Fraction
x_i^l	Mole Fraction of Substance i in Liquid Phase
γ_i^l	Activity Coefficient of Substance i in Liquid Phase
R	Ideal Gas Constant
$\Delta H_i(T,P)$	Enthalpy Change at Temperature T and Pressure P

T_{mi}	Pure Substance Melting Temperature
T_i	System Temperature
$T_{e,m}$	Melting Temperatures of Eutectic Composition
$T_{i,m}$	Melting Temperatures of Pure i^{th} Constituent
%	Percentage
\AA	Angstrom
A_{ap}	Aperture Area of Parabolic Dish
f	Focal Length of Parabolic Dish
A_t	Total Surface Area of Parabolic Dish
A_{pot}	Total Surface Area of Container
mm	Mili Meter
$F'U_L$	Heat Loss Factor From Container
$F'\eta_0$	Optical Efficiency Factor of Parabolic Dish
U_L	Heat Loss Coefficient for Container
η_0	Optical Efficiency of Parabolic Dish
η_b	Overall Thermal Efficiency of Parabolic Dish Concentrator
T_{stag}	Stagnation Temperature of Mild Steel Sheet
I_b	Solar Radiation Flux Density
$F1$	First Figure of Merit of Dish Concentrator
M_{pot}	Mass of Container
$C_{p,pot}$	Specific Heat at Constant Pressor of Container Material
$T_{w,f}$	Final Water Temperature
$T_{w,i}$	Initial Water Temperature
F'	Heat Exchange Efficiency Factor
τ_0	Water Cooling Time Constant
τ_{boil}	Time Required for Boiling of Water
C	Ratio of Parabolic Dish Aperture Area and Container Surface Area