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Nomenclature

A_b	Area of basin (m ²)
A_g	Area of glass cover (m ²)
C	Thermal capacity(J/m ² /K)
C_p	Specific heat(J/kg/K)
D	Thermal diffusivity(m ² /s)
$\dot{E}_{x_{in}}$	Exergy input from sun (W)
$\dot{E}_{x_{cv}}$	Upward exergy flow rate by convection (W)
$\dot{E}_{x_{ev}}$	Upward exergy flow rate by evaporation (W)
$\dot{E}_{x_{rw}}$	Upward exergy rate by radiation (W)
\dot{E}_{x_t}	Total upward exergy flow rate with in solar still (W)
F_{ex}	Fraction of evaporative exergy
F_{cv}	Fraction of convective exergy
F_{rx}	Fraction of radiative exergy
Gr	Grashof number
g	Gravitational acceleration (m ² /s)
h_{cw}	Convective heat transfer coefficient from water surface to glass cover (W/m ² K)
h_{ev}	Evaporative heat transfer coefficient from water surface to glass cover (W/m ² K)
h_{fg}	Latent heat of vaporization (J/kg)
h_{rw}	Radiative heat transfer coefficient from water surface to glass cover (W/m ² K)
h_{1w}	Total heat transfer coefficient from water surface to glass cover (W/m ² K)
$I_s(t)$	Solar radiation on the glass cover of solar still (W/m ²)
K	Thermal conductivity (W/m K)
L	Characteristic length scale of convection
m_d	Distillate output

Nu	Nusselt number
P_g	Partial vapor pressures at inner glass cover temperature (N /m ²)
Pr	Prandtl number
P_w	Partial vapor pressure at water surface temperature (N /m ²)
\dot{q}_{ev}	Rate of evaporative heat transfer within still from water to glass cover (W)
T_a	Ambient temperature (K)
T_g	Inside surface temperature of glass cover (K)
T_s	Sun temperature (K)
T_w	Water temperature (K)

Greek symbols

σ	Stephan Boltzman constant ($5.6697 \times 10^{-8} \text{ W /m}^2 \text{ K}^4$)
η_e	Energy efficiency
ε	Exergy efficiency
ε_i	Instantaneous exergy efficiency