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Nomenclature

| | |
|--------------|---|
| C_p | Specific heat ($\text{kJ kg}^{-1} \text{K}^{-1}$) |
| D | Distribution Ratio (-) |
| $\dot{E}x$ | Exergy rate (kW) |
| $\dot{E}x_d$ | Rate of Exergy destruction (kW) |
| h | Enthalpy (kJ kg^{-1}) |
| \dot{I} | Irreversibility rate (kW) |
| \dot{m} | Mass flow rate (kg s^{-1}) |
| \dot{m}_s | Steam generated (kg s^{-1}) |
| \dot{m}_w | Water flow rate (kg s^{-1}) |
| P | Pressure (kPa) |
| \dot{Q} | Heat load (kW) |
| s | Specific Entropy ($\text{kJ kg}^{-1} \text{K}^{-1}$ or $\text{J mol}^{-1} \text{K}^{-1}$) |
| T | Temperature (K) |
| T_0 | Reference Temperature (K) |
| \dot{W} | Work transfer rate (kW) |
| X | Solution Concentration (%) |

Greek Letters

| | |
|--------|---|
| ψ | Specific Exergy (kJ kg^{-1}) |
| ρ | Density (kg mol^{-1}) |
| η | Exergy Efficiency (%) |

Subscripts

| | |
|-------|-----------------|
| A | Absorber |
| C | Condenser |
| c | Carnot |
| ExV | Expansion Valve |
| G | Generator |

| | |
|------------|-------------------------|
| <i>HPG</i> | High Pressure Generator |
| <i>in</i> | Inlet |
| <i>LPG</i> | Low Pressure Generator |
| <i>out</i> | Outlet |
| <i>SP</i> | Solution pump |
| <i>r</i> | Refrigerant |
| <i>ss</i> | Strong Solution |
| <i>s</i> | Steam |
| <i>SHE</i> | Solution Heat Exchanger |
| <i>tot</i> | Total |
| <i>w</i> | Water |
| <i>ws</i> | Weak Solution |

Abbreviation

| | |
|--------|---|
| ASHRAE | American Society for Heating, Refrigeration and Air Conditioning Engineer |
| COP | Coefficient of Performance |
| CP | Cross over probability |
| CR | Cross over ratio |
| DE | Differential evolution |
| ETC | Evacuated Tube Collector |
| EFPC | Evacuated flat plate Collector |
| EES | Engineering equation solver |
| HPA | High Pressure Absorber |
| FR | Flow ratio |
| GA | Genetic algorithm |
| GAMS | General algebraic modeling system |
| GC | Generator Condenser |
| HPC | High pressure condenser |
| HPG | High pressure |
| HRR | Heat recovery Ratio |
| LCA | Life cycle assessment |
| LPG | Low pressure |

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| LTSHE | Low temperature side heat exchanger |
| NP | Population Size |
| NLP | Non Linear Programming |
| P | Parallel |
| PF | Parato Font |
| PM | Parallel Mode |
| PTC | Parabolic Trough Collector |
| RP | Reverse Parallel |
| S | Series |
| SM | Serial Mode |
| SHE | Solution heat Exchanger |
| TRNSYS | Transient simulation system |
| VARS | Vapour absorption refrigeration system |