

Design: Combination of ANSYS® Fluent® analysis and numerical Matlab® model

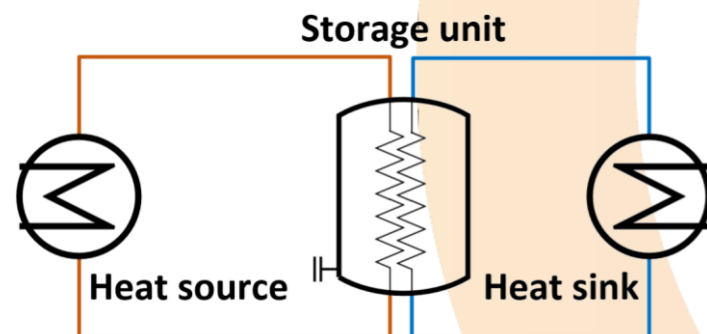


Extruded aluminum fins:
Easy assembly, high thermal conductivity

Design and build of a novel dual-tube PCM storage unit



PCM: $\text{KNO}_3\text{-LiNO}_3$ (eu),
 $T_{\text{melt}} \approx 133^\circ\text{C}$, Inventory $\approx 4.4\text{t}$
Storage unit: $\sim 1 \times 1 \times 3.5\text{m}$,
56 tube pairs
Heat transfer fluid: R1233zd(E)



Dual-tube: De-coupling charging/ discharging parameters: different pressure, HTF or simultaneous charge/ discharge possible



Testing: 160 kWh unit designed, built and currently in testing phase