

Research Highlights

- Use of Al_2O_3 nanoparticles in refrigerant (R134a) improves the COP of refrigeration system
- The refrigerant temperature drop across the condenser increases (3.0% to 23.77%), resulting in sub-cooling of nano-refrigerant before leaving the condenser
- The temperature gain across the evaporator is enhanced (4.69% to 39.30%)
- The performance of the system drops down when the dispersion concentration is increased to 1% from 0.5%.
- The heat transfer coefficient is found to be improving for condenser