

10) Analysis

After designing the cooling and dehumidification system, it became evident how crucial this component is within an air conditioning system. Its role in processing outdoor air—cooling and dehumidifying it before it enters the conditioned space—is essential for maintaining indoor comfort. The efficiency of the compressor significantly impacts the overall system performance, and using a different refrigerant or altering the number of coils in the design would have resulted in different thermodynamic properties and performance characteristics.