

Story of the month

Project

Project name: 12,5 MW heat pump installation Skanderborg-Hørning

Location: Skanderborg, Denmark



Description

Skanderborg-Hørning District Heating Plant in Denmark supplies centralized heating to the towns of Skanderborg and Hørning. It uses energy-efficient technologies like heat pumps and biomass to provide sustainable, cost-effective heating, supporting Denmark's efforts towards green energy and carbon neutrality.

Operating principle

A large-scale NH_3 (ammonia) pump-circulated heat pump in a district heating plant operates by absorbing low-grade heat from a source (e.g., air or water) in the evaporator. The ammonia refrigerant is then compressed to raise its temperature. The high-temperature ammonia vapor releases heat to the district heating network in the condenser. A pump circulates the liquid ammonia back to the evaporator, completing the cycle. This system efficiently upgrades low-grade heat to supply hot water for district heating, leveraging ammonia's high efficiency and low environmental impact.

Features

- **Energizers:** Similar to evaporators in heat pumps. It absorbs heat from the air.
- **Pump circulation:** It uses pumps to circulate fluids or refrigerants efficiently.
- **Compressor:** Increases the pressure of the refrigerant.
- **Condenser:** Releases absorbed heat into the environment.

Benefits

- High energy efficiency due to the effective heat-absorption and transfer.
- Environmental friendliness with low global warming potential.
- Reduced noise pollution helps to meet the local noise ordinances and environmental standards in urban settings.

For further information please contact us.