

Rotation Heat Pump

Application in district heating

BIOENERGIE BUCKLIGE WELT

Bioenergie Bucklige Welt operates a biomass power plant for the generation of heat and electricity.

A Rotation Heat Pump from ecop has been in use since 2020.



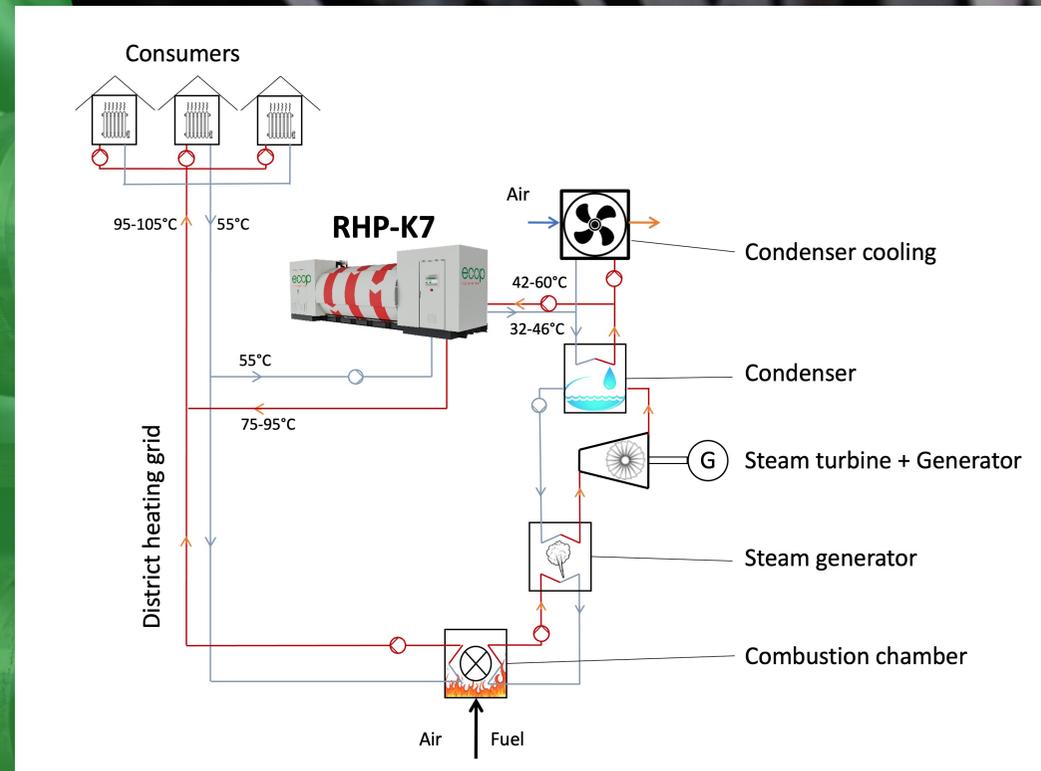
„I am pleased to say that after the successful development, the ecop Rotation Heat Pump is running stable in operation and is earning my company around 90.000 to 125.000 EUR per year (before depreciation) and a Return on Invest will be reached in about 4 years.“ Peter Aigner, Managing Director Bioenergie Bucklige Welt



INTEGRATION

The integration of the RHP-K7 Rotation Heat Pump makes it possible to **use the condenser cooling** required for electricity generation. This was previously released to the ambient air as waste heat. Now it is fed into the district heating network via the heat pump. This results in a lower consumption of wood chips, which reduces CO₂ emissions.

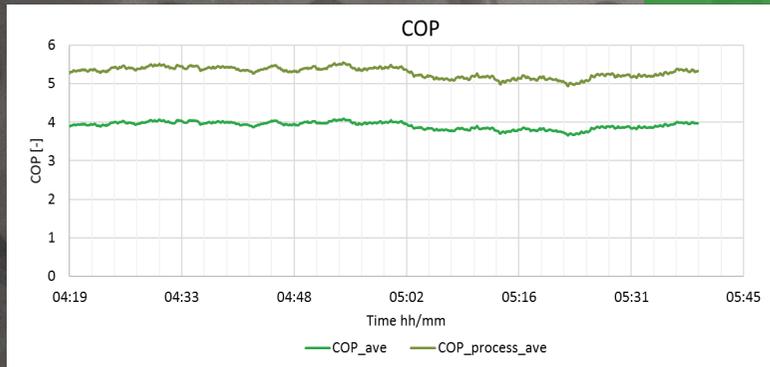
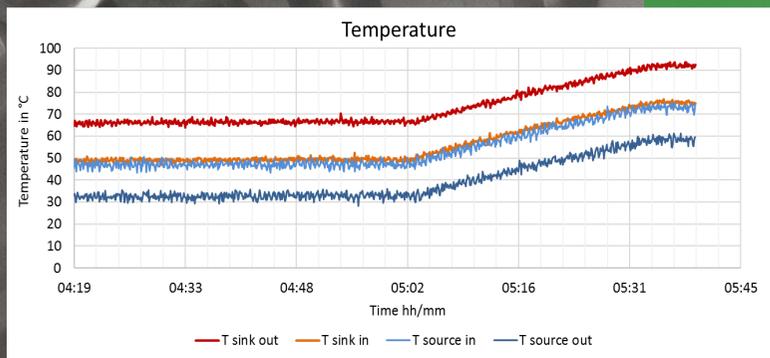
Since the ecop Rotation Heat Pump can be controlled flexibly, it is operated with different basic conditions in **summer and winter**. In summer, both source and sink have a higher temperature than in winter. The efficiency is almost identical. However, the heat pump can also make perfect use of much faster changing temperature levels.



EVALUATION

There is ongoing monitoring and evaluation of the performance. Fraunhofer was also called in as an external expert to provide objectively evaluated results. The results confirm the performance and flexibility of the Rotation Heat Pump. The Coefficient of Performance (COP) remained practically constant regardless of the temperature level. For the time of evaluation, it was slightly above 4, but values above 5 were also obtained at other operating points.

This means that the Rotation Heat Pump can be used for different temperature levels with consistently high efficiency. The temperature levels are mainly dependent on the existing temperature of the source and the temperature lift due to the rotor speed. The temperature level is therefore changed only via the control system of the plant; no conversions or modifications to the machine are required.



CONTACT



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OUR MISSION

ecop enables the efficient provision of CO₂-free, sustainable industrial heat with a pioneering and future-proof technology, thus making a significant contribution to the heat transition.