

Title: Heat transformer

Subtitle: Efficiency for the industry

Overview of the content

The heat transformer is an innovative technology that utilises industrial waste heat, valorises it and then feeds it back into the industrial process. This substitutes the primary energy used to generate steam and heat and thus reduces CO₂ emissions. Valorisation is achieved by increasing the temperature by approx. 40 K. This allows previously unused waste heat, especially in the low-temperature range between 60 and 120 °C, to be fed back into the production process for further use.

Compared with conventional technologies such as compression or absorption heat pumps, mechanical vapour recompression and ejector assemblies, the heat transformer does not require any additional energy. The driving force comes from the waste heat itself. Therefore, the heat transformer is a pure efficiency measure and reduces the energy requirements of the company. Those who require less energy are less dependent on primary energy resources and political conditions.

The presentation introduces the heat transformer, provides insights into the development of the technology and shows some application examples. In addition, the experience from operating a pilot plant over a two-year period is presented, as are plans for future plants.

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