



RECUPERATOR THE HEAT EXCHANGER

BOOST WIND TURBINE EFFICIENCY | AIR-TO-AIR HEAT EXCHANGERS

MAXIMIZE PERFORMANCE, MINIMIZE MAINTENANCE

Tailored air to air plate heat exchangers for wind turbine heat management solution

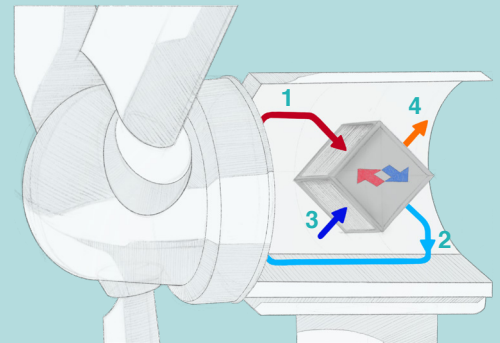
In the rapidly developing field of renewable energy, ensuring optimum efficiency and reliability of wind turbines is critical.

Our cutting-edge air-to-air plate heat exchangers are designed to meet the unique challenges of wind turbines, ensuring the longevity and performance of your equipment.

Wind power conversion generates significant heat within the nacelle, which must be effectively removed to maintain proper turbine operation.

Our air-to-air plate heat exchanger uses fresh outside air to cool the internal environment, protecting critical components inside the nacelle from both excess heat and external contaminants.

The internal and external airflows remain completely sealed, ensuring no cross-contamination and protecting vital components without compromising their lifetime.



How it works

The air inside the nacelle is recirculated. As the hot air generated (1) by components such as the generator passes through the air to air plate heat exchanger, it releases heat by transferring it to the cooler outside air. This cooled air (2) then recirculates back to the components to maintain their optimum temperature. At the same time, fresh outside air (3) passes through the heat exchanger, capturing the heat and releasing it (4) to the outside environment.

Key Features & Benefits

High Thermal Efficiency

Our air to air heat exchangers provide exceptional heat sink capabilities, effectively cooling the nacelle components to ensure they operate within optimal temperature ranges. Multiple international certifications confirm our consistent performance and high-quality standards.

Customizable Solutions

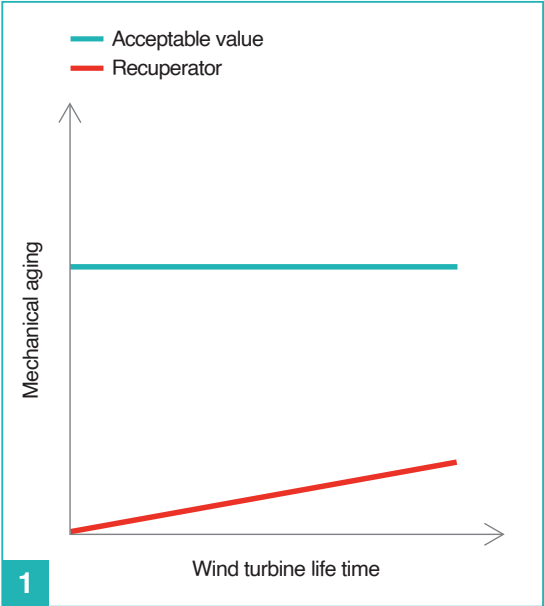
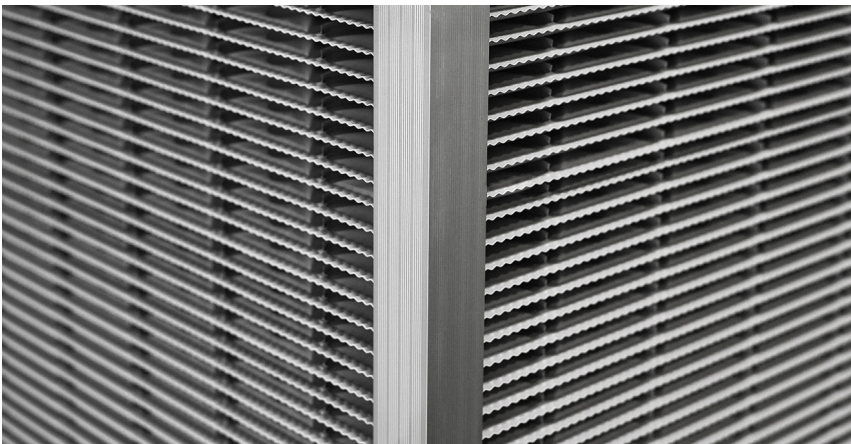
We offer a range of customizable options to fit different turbine sizes and power outputs, ensuring that our heat exchangers meet the specific needs of your wind energy projects.

Robust Design and Low Maintenance

Designed to withstand harsh environmental conditions, including high pressure and temperature fluctuations, humidity, vibrations and salty air, making them ideal for both onshore and offshore wind turbines. With a sealed, low-maintenance design, our air-to-air plate heat exchangers minimize the need for regular upkeep, reducing operational downtime and costs.

Technical Specifications

Parameter	Description
Heat Transfer Capacity	High efficiency and customisable options meet the most demanding requirements
Materials	Anti-corrosion coatings and treatment available for corrosive environmental conditions
Operating Range	-40°C to +90°C (-40°F to +194°F)
Size and Dimensions	Tailored to fit various nacelle designs and space constraints
Weight	Optimised component design to minimise weight



The graph (1) shows the results of mechanical aging tests, which simulate the lifecycle conditions and repeated cycling of the turbine. The mechanical aging of our air-to-air plate heat exchanger is significantly below the acceptable limits set by the customer. This demonstrates the durability and long-term reliability of our heat exchangers.

Case Study



Project name: Jeju Tamra Offshore Wind Farm
Location: South Korea
Total Capacity: 30MW
Commissioning: 2017



Recuperator S.p.A. reserves the right to introduce alterations in its production and computer programs due to improvements in its quality and without prior notice.

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