CASE STORY

THE CUSTOMER
Rank®, a Spanish-based company that specializes in organic Rankine cycle (ORC) equipment, especially cogeneration and trigeneration systems.

THE CHALLENGE
Implement a heat recovery solution for ceramics producer Keros Ceramica.

THE SOLUTION
A compact system, developed in collaboration with Acconia, a company that develops and manages sustainable infrastructure solutions, which uses Rank ORC technology to generate electricity from waste heat.

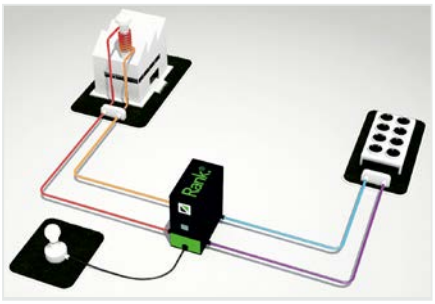
THE HEAT EXCHANGERS
SWEP B-series brazed-plate heat exchangers, installed as economizers, evaporators and condensers in RANK ORC equipment.

THE RESULTS
High-efficiency ORC equipment that reduces energy consumption, costs for Keros Ceramica.

Rank® Organic Rankine Cycle technology for heat recovery

SWEP
A DOVER COMPANY

Ceramic production is energy-intensive. Transforming raw materials into durable ceramic goods requires extreme temperatures, especially during the firing and drying processes. Without a heat recovery system in place, most of the heat used in these stages will be lost – either through walls of the kiln, up the exhaust stacks, or during the cooling process. To help Spanish ceramics manufacturer, Keros Ceramica, address these issues and improve their sustainability profile, SWEP Engineer Giancarlo Soler Zabala worked in partnership with ORC technology company, RANK, to develop a compact thermodynamic solution.



"The system is based on Organic Rankine Cycle (ORC) technology. The compact equipment enables electricity to be generated from natural heat sources and waste heat," says Engineer Roberto Collado Puig at RANK®

"We have also been involved in the design of the customers' machine," adds Soler Zabala.

The role of SWEP BPHEs:
RANK® has installed SWEP brazed plate heat exchangers in its HT-LT series of ORC equipment, which generates electricity from low and medium activation temperatures; and also in the HTC series, for combined heat and power generation (CHP). RANK's R&D department is currently exploring new applications for SWEP technologies. At present, the capacity of RANK ORC equipment ranges from 2 to 100 kWe. The activation range for RANK's low-temperature equipment starts at just 85°C. Brazed-plate heat exchangers from SWEP's B-series are installed as economizers, evaporators and condensers in a wide variety of RANK equipment.

SWEP brazed plate heat exchangers.

Why choose SWEP?
According to Dr. Eng. Joaquin Navarro Esbrí, RANK has chosen SWEP products because of their high quality and wide range, advantages that enable RANK to create various solutions for different types of customers and applications.
"RANK points to SWEP's experience and technical staff in this field. SWEP provides great support, with quick and specific answers to our questions, and helps us in the design of our products," Collado and Navarro say.

More About Rank
Rank® HP is a global group that develops and manages sustainable infrastructure solutions, especially in renewable energy. Their business spans the entire value chain, from design and construction to operation and maintenance. RANK ORC equipment makes it possible to use using a low-temperature heat source to generate electrical energy and useful heat. Compared to burning fossil fuels, ORC equipment offers significant environmental and economic benefits and a high Coefficient of Performance (COP).