

Solex awarded contract for new mineral cooling application

Canadian-based heat exchange technology experts Solex Thermal Science recently announced that it has been selected by cement and mining technology specialists CEMTEC for a unique cooling application in Central Europe.

Text courtesy of Solex Thermal Science

As part of the agreement, Solex will deliver a customized plate-based moving bed heat exchanger (MBHE) that will be used to indirectly cool a milled, rock-based powder that's similar to cement.



➤ Image courtesy of CEMTEC

"We are excited to bring our decades of thermal engineering experience to this collaboration with CEMTEC," says Gerald Marinitsch, Global Director, Industrials for Solex Thermal Science. "We are confident that our MBHE technology will provide a reliable, real-world solution to this unique and important cooling application."

How it works

The proprietary technology provided by Solex is built on decades of experience in thermal and bulk materials engineering. The use of a welded plate-channel design allows the powder to flow by gravity within a vertically orientated exchanger and between banks of stainless-steel plates. A heat transfer fluid passes within the plates to cool the material by conduction.

The use of indirect heat transfer technology, combined with customized plate spacing, provides the necessary residence time to eliminate caking within the unit while also ensuring consistent temperature profiles at the outlet.

The unit is expected to be delivered prior to summer 2022.

Cementing industry collaborations

The CEMTEC collaboration represents the latest chapter in Solex's work within the cement industry. The company previously collaborated with Lafarge in Canada on a successful project where Solex's plate-based heat exchange technology was able to reduce the temperature of cement products below target levels while using less water and energy when compared to tube cooling technology.

CEMTEC is a world-renowned specialist in wet and dry grinding technologies for many types of bulk materials, stone/earth and ores.

Located in Enns, Austria, the company's offering includes systems for grinding a wide variety of materials and mineral bulk materials, as well as rotating drums for thermal (burning, drying, cooling) and mechanical treatment (mixing, washing, conditioning) of various bulk materials.

Solex Thermal Science is a developer of high-efficiency, indirect heat exchange technology for the heating, cooling and drying of free-flowing granular materials such as solid granules, pellets, beans, seeds and particles.

Over the past 30 years, the company has installed more than 800 advanced heat exchangers in more than 50 countries worldwide with applications such as fertilizer, oilseeds and industrial materials such as foundry sand, polymers and minerals.

In recent years, the company has expanded into the energy-transition sector with key collaborations globally on decarbonisation applications such as industrial waste heat recovery, concentrated solar power (CSP) and carbon capture.