

IMPROVE YOUR EFFICIENCY IN CEMENT COOLING

INNOVATIVE TECHNOLOGY FOR ENERGY-EFFICIENT OPERATIONS



High-efficiency cement cooling

Cement cooling is an important step prior to conveying to storage silos to mitigate gypsum dehydration and subsequent moisture liberation which can combine and cause lump formation. It is generally accepted that with mill outlet temperatures of around 110°C – 120°C, cooling to below 80°C is necessary to avoid moisture liberation. The ideal temperature to further avoid moisture attraction while in storage (due to cement's hygroscopic properties) is 50° – 60°C.

The Solex advantage

Solex provides the cement processing industry with solutions that allow for efficient heat transfer with an innovative welded plate design. The compact and efficient use of the heat transfer area provides optimal utilization for cooling bulk solids and powders with the potential to recover low-grade heat if necessary. Alternatively, the design can be reversed and used for pre-heating products, utilizing waste heat from sources such as kiln and cooler grate exhaust gas streams.

The combination of proprietary thermal modeling software and guaranteed mass flow design results in optimal cooling or heating.



PATENTED* TECHNOLOGY THAT MAXIMIZES ENERGY EFFICIENCY

Installation and operating benefits

Solex technology has both cement and water channels totally enclosed. This results in no dust emissions or water and dust contact that can cause scaling and efficiency loss due to reduced heat transfer.

The Solex heat exchanger requires only one moving part — a rotary valve with low input energy and few moving parts — resulting in substantially reduced maintenance costs. The design is modular to accommodate future production increases. With its small footprint, it is also ideal for retrofitting within existing plant and building structures.

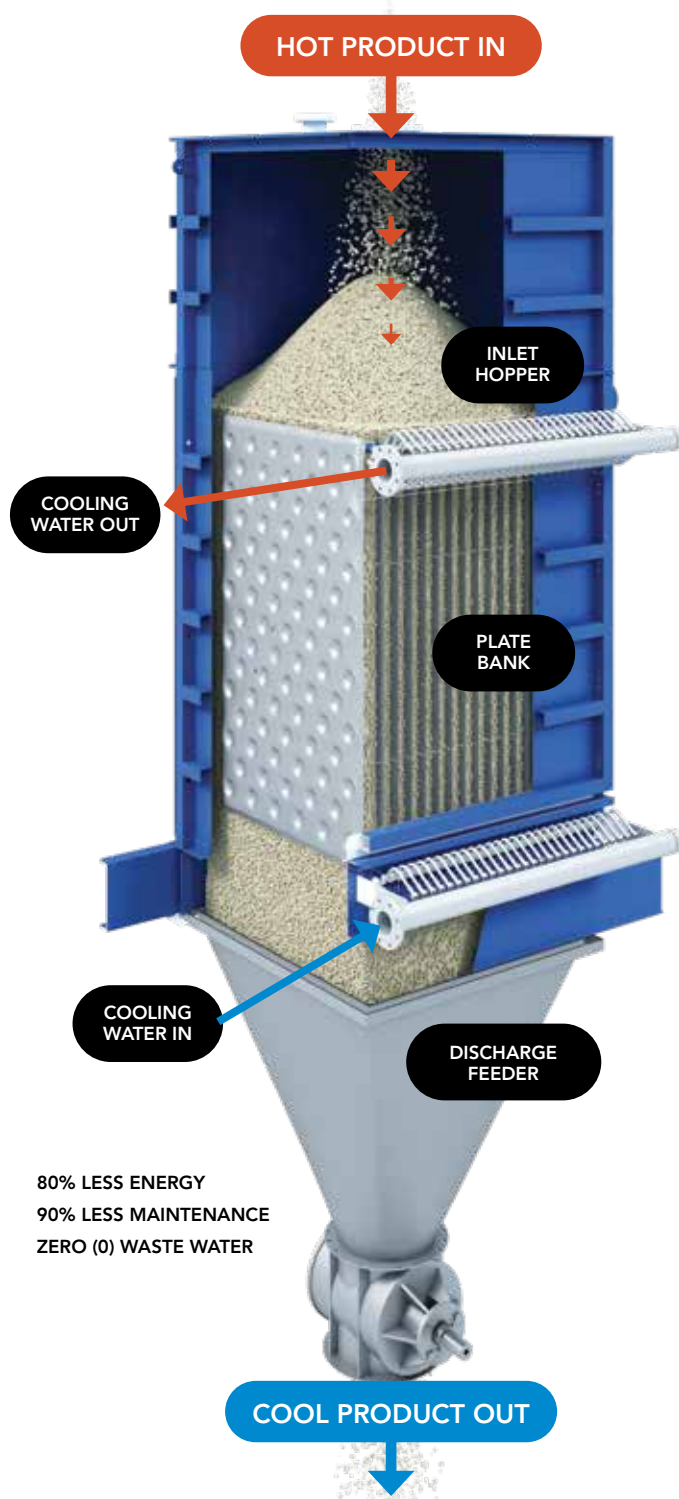
The unit offers a heat transfer area of almost 10 times that of traditional vertical powder coolers and up to 75 per cent less water usage. This allows the Solex cement cooling unit to deliver high efficiency, effectiveness and reliability.

Proven technology through pilot testing

Extensive pilot testing done at the Lafarge cement plant in Exshaw, Alberta, Canada has proven that Solex technology can effectively and efficiently cool cement as part of the finish grinding process. Solex can provide designs for full production capacities of 50 to 200+ tons per hour.

Reduced installation and operating costs

Solex technology is designed to operate with few moving parts, offering simple installation, maintenance, and years of reliable operation. The custom design reduces downtime and lowers maintenance expenses by incorporating easy access to heat transfer areas for cleaning, removal, and isolation of individual plates when required.



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