POLYTRACK® clinker cooler.
POLYTRACK® – the future-oriented clinker cooler from Polysius.

The swatch box that Polysius compiled before starting with the development of a new clinker cooler concentrated on the requirements specified by the market: high performance, compact & low-cost, flexible and easy to maintain.

And POLYTRACK®, the resulting new cooler generation, provides a range of solutions that fully correspond to the highly complex requirement profile. Numerous innovative process and design details make the POLYTRACK® a future-oriented solution from both the mechanical and the process technological points of view.

POLYTRACK® advantages at a glance

The POLYTRACK®, a combination of static, horizontal aeration floor and above-floor transporting system, offers - on the basis of its extremely efficient clinker transporting principle and strict separation of transportation and aeration functions - the following compelling advantages:

- Uniform, uncontaminated solutions provide the basis for the customer's demands: compact & low-cost, flexible and easy to maintain, as well as low wear, and what wear occurs has no influence on the aeration of the cooler.

The clinker transporting principle – providing the push for success

The clinker transporting principle: the transport tracks are arranged in line with the direction of clinker conveyance. The rows of transport tracks are positioned at a certain distance from each other, with the aeration elements for blowing cooling air into the clinker bed located between them. The number of transport track rows is determined by the required width of the cooler. Every row of transport tracks runs the entire length of the cooler.

To convey the clinker, the transport tracks move forward together and then move backward individually. By varying the transport stroke length and the conveying speed of the clinker bed and thus the clinker bed depth and clinker throughput are optimally controlled over the entire width of the cooler. Implemented for the first time in a clinker cooler, this solution provides the best prerequisites for consistent and uniform coating of all grain size fractions.

Intermediate crusher concept

Thanks to the highly effective clinker transporting principle there is no need for sifting clinker grains. Due to its horizontal construction, the POLYTRACK® has an extremely low allowed height. This results in enormous capital cost savings (for the cooler itself and, as a result, also for the rotary kiln and preheaters) and allows installation even under space conditions which hitherto ruled out the placement of conventional coolers - e.g. in the case of plant conversions. Even with limited installation height, it is possible to install a roll crusher as intermediate crusher and thus intensify the cooling.

Aeration concept

The air is distributed by static aeration elements that are located between the transport tracks. Large boxes integrated into the aeration elements are permanently filled with clinker and thus provide autogenous wear protection. Thanks to their design and robust construction, the transport tracks suffer minimal wear, and what wear occurs has no influence on the aeration of the clinker bed.

Sealing concept

Sealing, sliding element pairs reliably seal the few contact zones between the static and the moving cooler components. As a result, the cooler can fall through the aeration floor. This does away with the need for wear-intensive grate riddlings conveyors – which is another crucial factor in reducing the construction height.
The POLYTRACK® has a modular design and can be configured without any problem to provide a customised solution with a static primary grate and an intermediate crusher.

Modular concept

Thanks to its modular design, the POLYTRACK® cooler is an extremely flexible solution for both new plants and conversion retrofittings. The modules are 2.4 m and 4.8 m long and 1.5 m/2.0 m and 2.5 m wide, so that appropriate module combination permits straightforward adaptation of the cooler length and width to different throughput rates.

The modules are preassembled in the manufacturing shop. This ensures optimum alignment of the clinker transport and aeration elements, thus saving a significant amount of work during assembly on the plant site and providing the important benefit of short installation, commissioning and – in the case of conversions – plant stoppage times.