



IKN Cooler EM

In modern cement plants most decisions for investing in clinker coolers are based on the reliability of the cooler and the corresponding operating costs. Benchmarks for high reliability and low operating costs are minimum wear and power consumption and optimal heat recuperation.

With more than 600 installations worldwide and over 30 years' experience in clinker cooling, IKN has put all its expertise into designing a cooler that offers:

- + Easy maintenance and low wear
- + High efficiency
- + Low power consumption
- + Quick installation

The Next Step in Grate Surface Design – Coanda Wing®

With new Coanda Wing® technology, the IKN cooler offers uniform grate aeration and optimized air flow. The curved shape of the Coanda Wing® blade directs the air flow through the grates and parallel to the surface, keeping the grate surface temperatures to just 30 – 40°C under normal conditions.

The unique shape of the Coanda Wing® guarantees equal and low pressure drop without any additional flow-regulating equipment. The system is self-cleaning and hard-wearing, requires no welding and is compatible with existing IKN grate plates.

Sturdy and Precise – the Bolted Grate Support Structure

German manufacturers are renowned for the quality of their work, and IKN is no different. The mobile frame and fixed supporting structure is fabricated in accordance with the highest industrial standards in Germany, while the individual modules are assembled on site with a precision similar to that required by the automobile industry in order to create a perfectly aligned grate.

The bolted modular design of the cooler means that less welding is required on site, thus further reducing installation costs and time.

Unique Support System – the LPS®

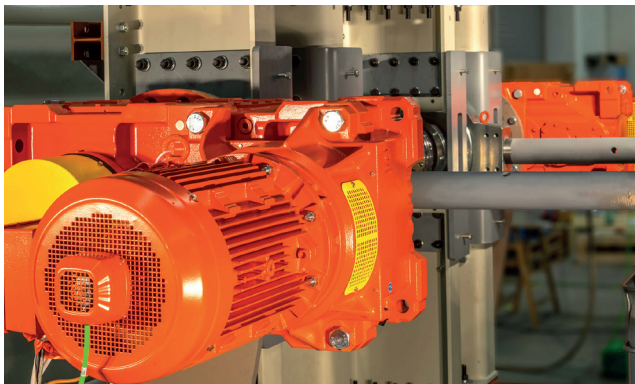
In conventional coolers, the frame supporting the moving rows is subject to wear and over time can sag, causing significant maintenance issues. To counteract this, IKN developed the patented Linear Pendulum Support (LPS®), which supports the mobile frame and prevents sagging.

The LPS® is designed to be maintenance-free and requires no lubricant. All other critical components such as the drive assembly are easily accessible outside the housing. This unique design means that only a visual inspection is required during maintenance stops, giving operators reassurance of the cooler's continued availability.

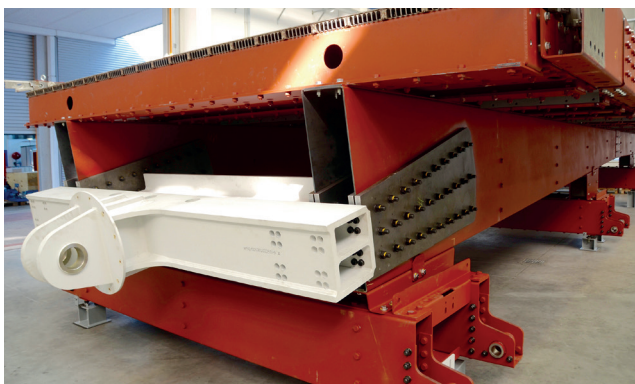
Simple and Flexible – the Dynamic Linear Drive

The Dynamic Linear Drive is an environmentally friendly option for small and medium-sized clinker coolers. Based on advances in VFD and gearbox technology, the DLD combines the simplicity of the electrical drive with the characteristics and flexibility of a hydraulic drive, resulting in:

- Slow forward movement and fast retraction
- Flexible speed profiles with smooth transitions
- Continuous monitoring of all relevant parameters



Dynamic Linear Drive



Bolted Grate Support Structure

Located outside the cooler housing with easy access, the DLD is free of any hydraulic components. It is directly controlled and monitored from the plant CCR, enabling quick and easy installation, commissioning and operation. Depending on the size of the cooler either a single drive or a synchronized twin drive is installed.

Producing Green Energy with Recirculated Hot Vent Air

With the IKN Cooler EM, up to 100% of the hot vent air can be recirculated into any of the cooler compartments. For those plants operating under stringent environmental regulations that prohibit the addition of a new cooler vent air stack, this is a significant advantage. But of even greater environmental benefit is the ability to connect a recirculating cooler to a Waste Heat Recovery System and increase electrical energy output by up to 20%.

In terms of maintenance, the recirculation of hot vent air puts no additional strain on the IKN Cooler EM, since there are no heat-sensitive parts under the grate. Only the cooling fans must be adapted to the thermal load.



LPS®

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