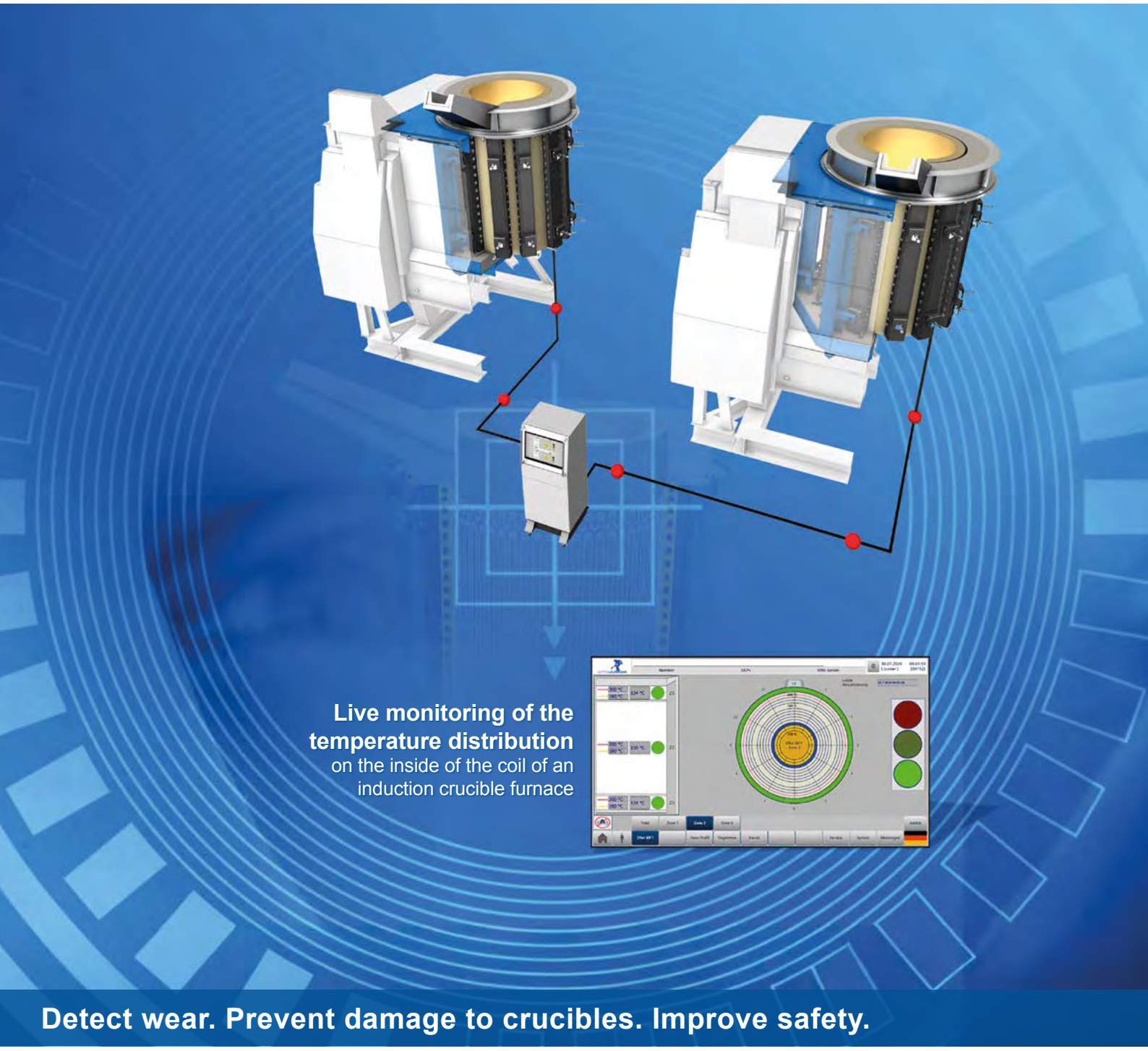
OCP+
Optical Coil Protection Plus



Live monitoring of the temperature distribution
on the inside of the coil of an induction crucible furnace

Detect wear. Prevent damage to crucibles. Improve safety.

Optical Coil Protection Plus

Intelligent Predictive Crucible Monitoring

OCP+ is a temperature measurement system designed to monitor local temperature distributions on the inner surface of coils in induction crucible furnaces.

It reliably detects wear and damage to the crucible, such as erosion, cracks and metal protrusions, and monitors not only the melting and holding processes but also the sintering process. OCP+ can be used in almost all induction crucible furnaces.

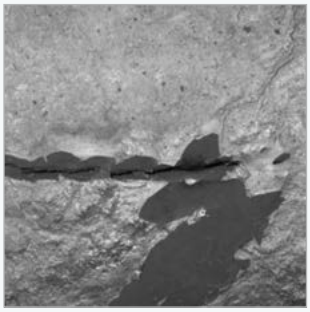
OCP+ is characterised by improved and straightforward visualisation. Every operator has a quick overview at any time of day. After a short training period, the system is intuitive to use.

OCP+ continuously measures and monitors the process and switches off automatically when preset limit values are reached. OCP+ thus meets the expectations placed on modern crucible monitoring.

What crucible defects can the OCP+ system detect?



Build-up



Crucible tear-off



Metal fins



Formation of caverns

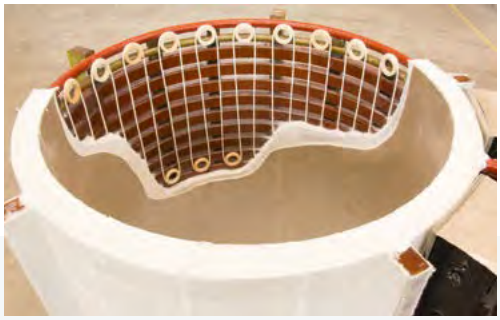
Benefits

- **Increased safety for people and equipment**
  Early detection of crucible damage and the prevention of melt-through incidents improve safety.

- **Improved process reliability**
  Our OCP+ is the only system to offer full-scale temperature monitoring already during the sintering process. Presence of moisture does not affect the measurements.

- **Increased equipment availability**
  Visualising the temperature in front of the induction coil helps to identify localised crucible wear, thereby facilitating the repair of defects and the planning of a new lining.

- **Low investment and running costs**
  The OCP+ sensor cable is integrated into the permanent lining, so there are no additional costs when replacing the wear lining. Overall, this results in significantly lower maintenance costs than with other crucible monitoring systems.

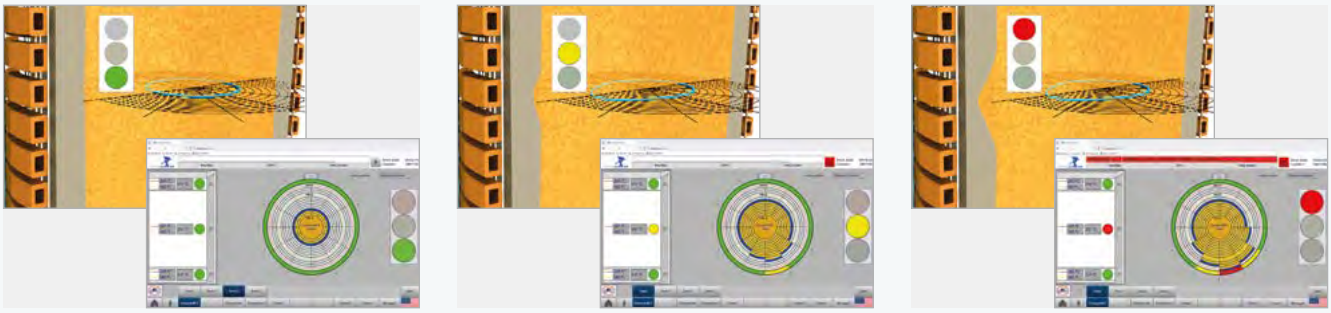


Example arrangement of the OCP+ sensor cable on the inside of the coil of a coreless induction furnace.

Special features

- One evaluation unit monitors up to two furnaces
- Diverse adjustable temperature warning and alarm setpoints
- Traffic light LED status indicator for warning and alarm conditions
- Playback function for review of chronological development of crucible defects
- The OCP+ system can be installed regardless of the furnace manufacturer

As a laser-based temperature measurement method, OCP+ operates reliably even in strong electromagnetic fields, thereby setting itself clearly apart from conventional resistance measurement systems.



Live example: Escalation from normal condition through warning to automatic shutdown alarm in the event of erosion in the melting furnace.

The Optical Coil Protection Plus ...

... measures
- System for measuring the local temperature distribution in induction crucible furnaces

... supervises
- Monitoring of the temperature in front of the coil

... turns off
- System automatically turns off when preset limit values are reached

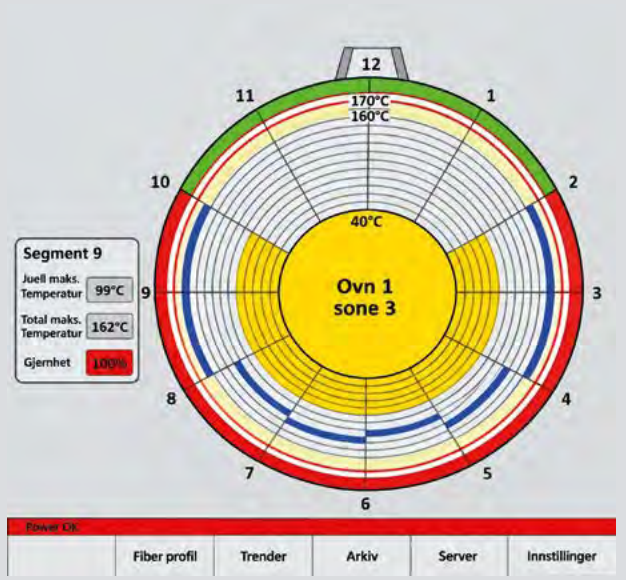
... supports
- Easy integration into machine control systems
- Can be operated intuitively
- Designed for use in harsh foundry environments
- Online customer support possible

Discover how OCP+ is designed and how it works in a clear and informative animation.

Real-world example from operation

How OCP+ prevents potential damage

This practical example illustrates how OCP+ prevents potential damage: any uneven wear on the crucible is detected in good time and the operator is warned – before any damage occurs to the coil.



OCP+ control screen: Segment with elevated temperature and 100% unevenness – shutdown alarm triggered.



Customer photos: Visible damage to the permanent lining – a crucible breakthrough was imminent.

Use OCP+ to detect faults at an early stage and eliminate their causes cost-effectively and sustainably. This enables you to ensure high plant availability, improve operational and process safety, and reduce your costs – in the short term through fewer unplanned downtimes and, in the long term, through lower maintenance costs.

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Contact us. We will be happy to advise you.

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