

Pouring Stream Measurement



Filling the casting mould

The Task

In foundries **non-contact temperature measurement of the pouring stream** increasingly replaces conventional method using thermocouples. Specially designed pyrometers satisfy the **specific requirements** with regard to the measurement of pouring streams. In contrast to the measurement technique with thermocouples the use of **pyrometers** allows non-contact temperature measurement of the pouring stream directly while the mould is being filled. It is possible to measure the exact pouring temperature which is crucial for the **quality of the castings**.

One particularity of this application is that the surface of a pouring stream may produce thin oxide films. This has to be taken into account for non-contact temperature measurements on pouring streams because the emissivity of this oxide film varies significantly from that of the cast material. In casting processes valid measurement results will be obtained only if the slag or oxide film on the liquid metal is torn open.

Our Solution

Portable Pyrometer IS 8-GS pro specially designed for non-contact temperature measurement of molten metals in the range between 1000 and 2000°C.

The **short wavelength of 0.55 µm** specially selected for the IS 8-GS pro facilitates this accurate temperature measurement as molten metals have their maximum emissivity in this spectral range. In addition, this reduces the influence of emissivity variations and avoids atmospheric absorption interfering with the measurement. An **extended response time of 0.5 s** eliminates the potential influence of hot sparks.

Even for long measuring distances the **easily focusable precision optics** achieves small spot sizes (e.g. at a distance of 5 m the spot is only 16 mm) to allow larger **safety distances between operator and pouring stream**.

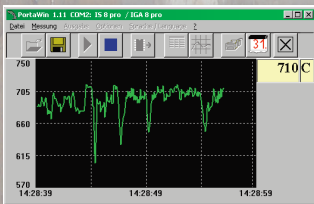
The **USB interface** permits the use of the optional **analyzing software PortaWin**. With this software the measured temperature data can be displayed and processed on a PC in real time or used for **subsequent analysis**.

Your Benefits

- ✓ Special design for mobile deployment in foundries:
Measurements can be taken at all production steps provided that the layer of slag on the liquid metal is torn open
- ✓ Highly accurate measurements due to internal digital processing
- ✓ Compliance with quality specifications thanks to reproducible processes
- ✓ Comprehensive documentation of all process data by large data storage
- ✓ Improved safety in comparison with immersion probes, reducing the risk of accidents



Portable Pyrometer IS8-GS pro



Analysing software PortaWin for portable IMPAC pyrometers



Heat protection bag against radiation heat

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