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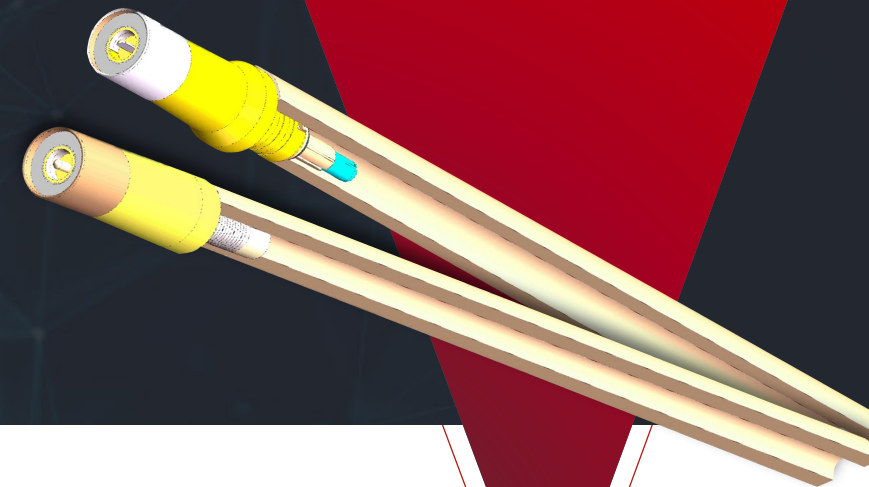
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PRODUCT

## FeO Sensors

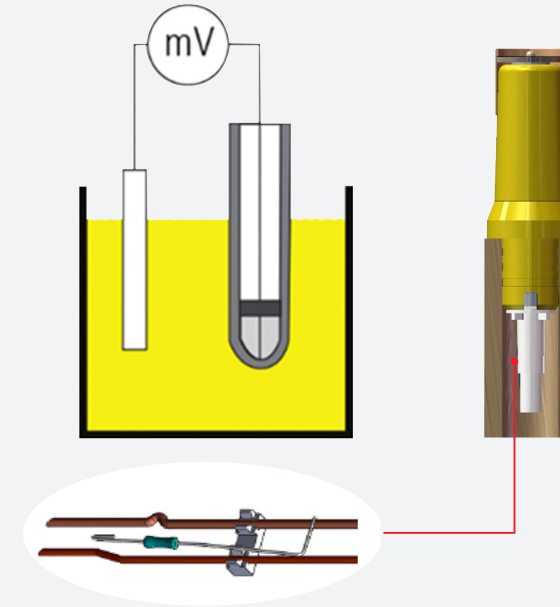
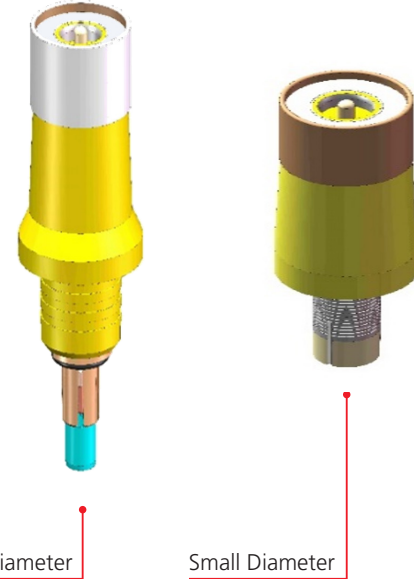
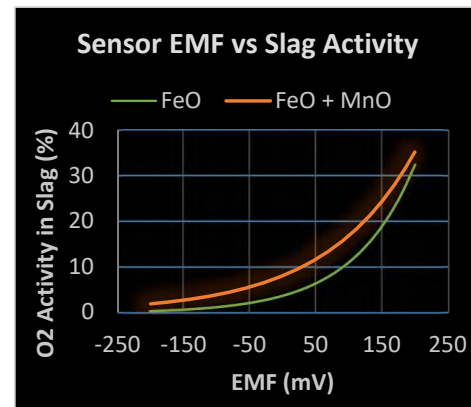
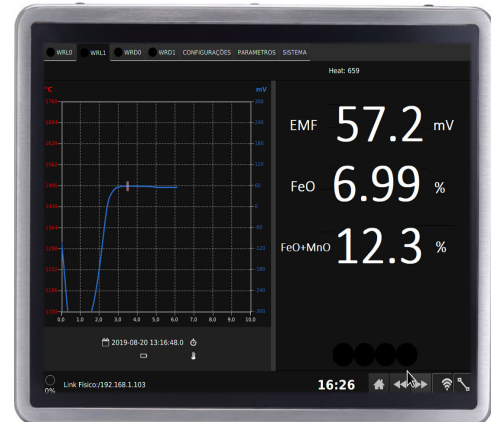
Sensors for measuring the oxygen activity in slag

- Provides a fast and accurate measurement of the Oxygen activity in the slag
- Estimates the amount of FeO or FeO+MnO in the slag
- Allows the user to better predict fading of deoxidants
- Can be used in both primary and secondary refining

# FeO Sensors for measuring the oxygen activity in slag

## Fast and accurate measurement of the oxygen activity in the slag

- The disposable FeO sensors represent a powerful control of slag oxidation and metal-slag reactions.
- Very often the metal steel treatment is compromised by high oxidation of slag, which is normally caused by contamination with slag from primary refining (which often have FeO contents around 25%);
- The FeO Sensor brings user benefits in steel desulphurisation, addition of deoxidants and control of inclusions;
- Measuring the slag activity allows the user to reach equilibrium in oxidation between slag and steel, avoiding the re-oxidation of the bath;
- It also improves and accelerates decision making, since x-ray spectrometry of slag is timing consuming and normally post-mortem;



## High quality solution with the required support

- The usage of the FeO Sensor can be optimized with the support of the Vesuvius Sales Engineers;
- Our team will guide user to the best practices as well as the appropriate way to use the FeO Sensor;
- During commissioning the Vesuvius team will optimize the accuracy of the results based on a preliminary comparison with slag samples analyzed in the lab via x-ray spectrometry.

## A complete solution for your process

- The measurement principle is similar to the one used to measure the oxygen activity in molten steel;
- There probe head has an open chamber that collects the slag while it is being submerged in the bath. This chamber contains a solid electrolyte sensor (electrochemical cell);
- The slag is carried down to the steel and when the temperature is stable it is possible to measure the oxygen activity in the slag and a voltage is generated;
- A controlled resistor is added to the probe so as it can be recognized by the measuring instruments Ecil-Lab or Steel-Lab.

## Direction for good usage of the FeO Sensor

- For accurate results it is important to make sure the immersions are vertical and argon stirring is OFF (or very low);
- It is recommended to have the FeO Sensor being used as the first measurement in treatment. This will guarantee enough slag in the measuring position and will also provide the user with information to predict deoxidant fading;
- It is also important that the slag layer is liquid. If the slag is hard, it must be melted through reheat and argon stirring;
- The FeO Sensor provides optimal results for FeO contents between 0.5 and 35% (or FeO+MnO between 1.3 and 40%).

