



ergolines
INNOVATION PARTNER

VSD – VIBRATIONAL SLAG CARRYOVER DETECTOR.

The VSD is an automatic vibration-based monitoring system to detect slag carryover from the ladle to the tundish.

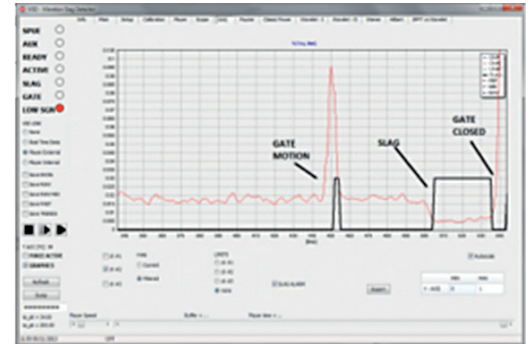
One of the reasons for poor quality steel in cast products is excessive slag in the tundish. High quality standards impose restrictive constraints on production, which often require costly reconditioning operations.



INSTRUMENT MAIN FEATURES

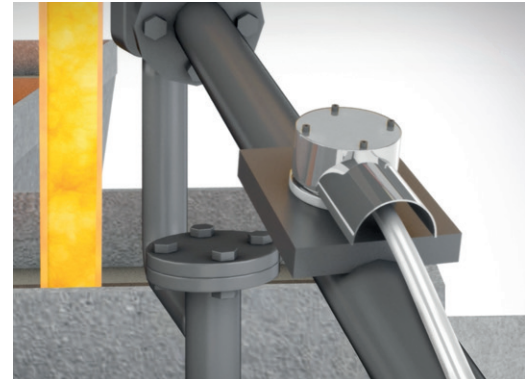
This device allows the following:

- › to improve steel quality
- › to increase the productivity, optimising the slag/steel ratio
- › to optimise ladle productivity
- › to reduce wear of the refractory and slide gate refractory plate.



HOW IT WORKS

VSD is an indirect device which exploits the variations in the flow of steel in the shroud, when the said flow starts to become turbulent in the presence of slag. Vibration variation can be easily monitored, by analysing the behaviour of the manipulator arm in the final stage of casting.



SYSTEM COMPONENTS

The system is made up of the following components:

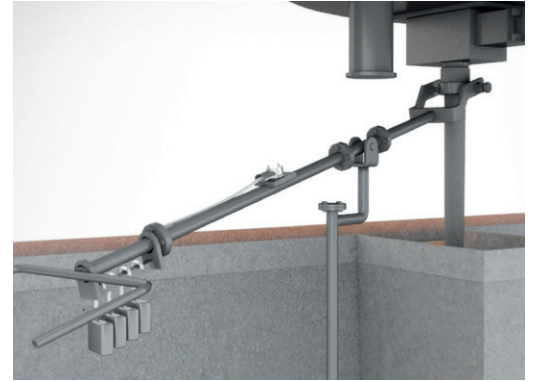
- › sensor with 3D accelerometer
- › 10 m shielded cable
- › junction box
- › central processing unit
- › operator panel.

All components are installed far away from sensitive casting areas, thus ensuring a long device life.



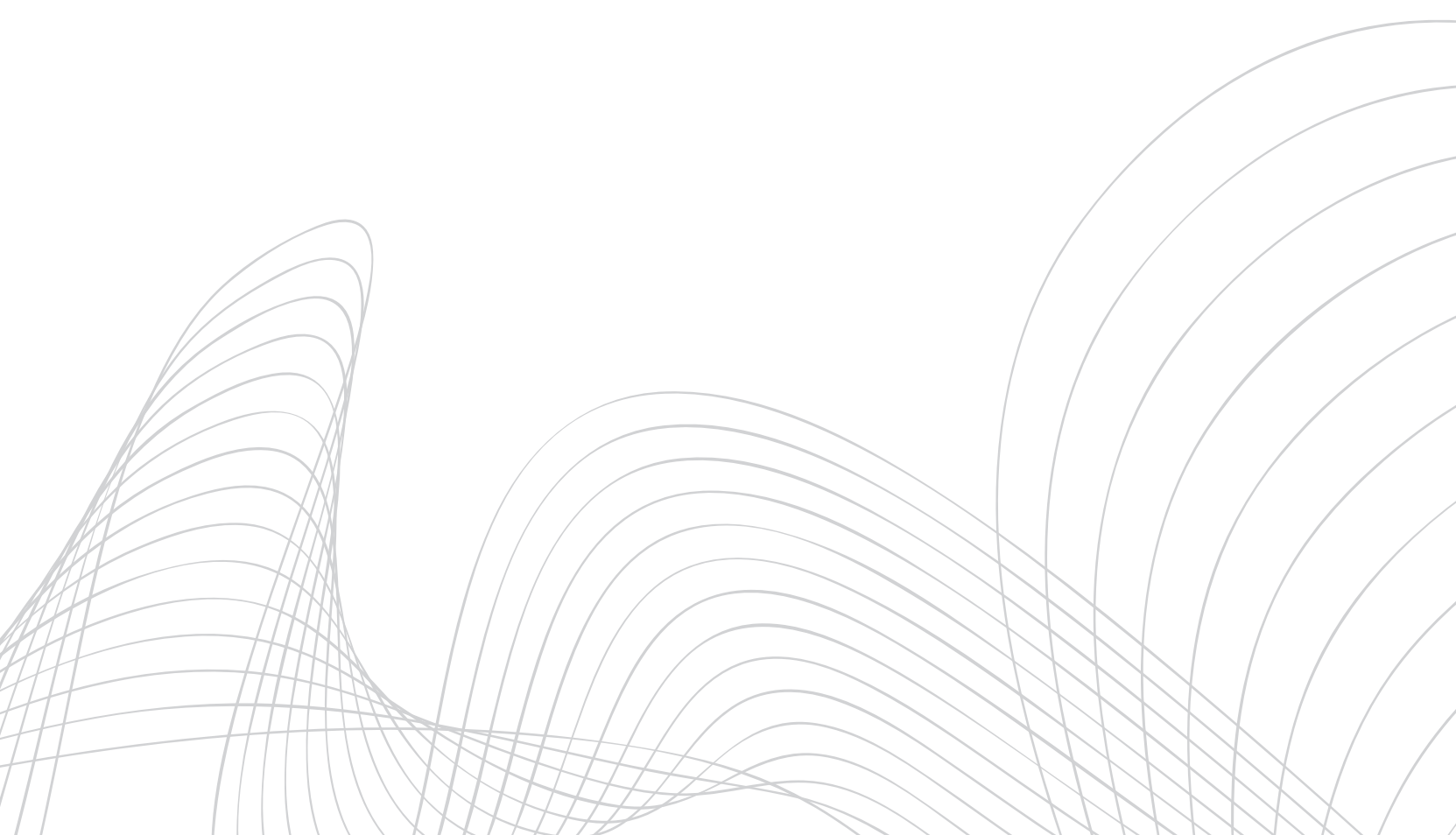
INSTALLATION

VSD is installed directly on the manipulator with a dedicated support and is designed based on the characteristics of the existing arm. Ergolines offers a manipulator arm optimised with the installed instruments as an alternative. The sensor is equipped with a cooling circuit which makes it suitable for use even under particularly high temperature conditions.



TECHNICAL DATA

Operating temperature	0 ÷ 80 °C
Degree of protection	IP 67
Overall dimensions	l=300 mm, h=150 mm
Sensor weight	5 Kg





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