



Together We Define the Future



# Robotemp

The measuring and sampling robot for tough work at the EAF





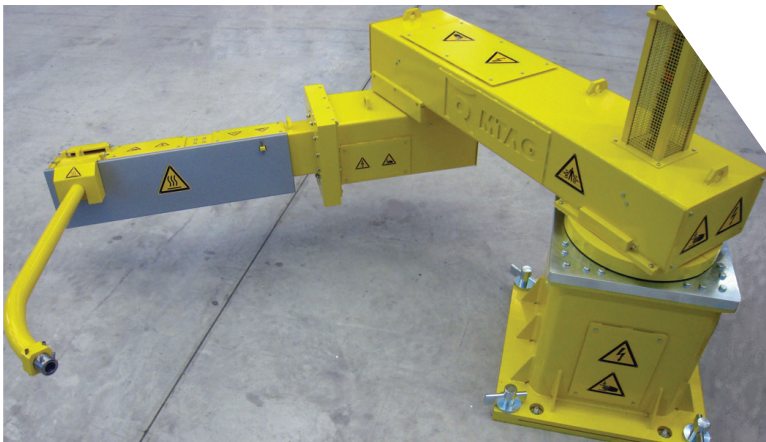
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Monitoring of the electric arc furnace (EAF) melting and refining process is an important task in the EAF operations. For safety reasons, manual temperature measurements and samplings are only possible when the power supply has been switched off. Utilizing MTAG Switzerland's measuring and sampling robot, **Robotemp**, the duration of breaks without power supply can be reduced consequently improving the energy balance resulting in an increase in productivity. Often the access to the slag door of electric arc furnace is limited and hazardous; heavy equipment is required to clean the slag door. In many instances, door burners and oxygen lances are used that restrict accessibility. The platform in the slag door is often lifted, lowered or shifted in order to simplify the skimming-off process. To circumvent these obstacles, a highly versatile appliance is required, specifically one that is capable of moving past the door burners, taking measurements despite a limited amount of space. MTAG Switzerland's 4 axis manipulator **Robotemp**, is robust, compact and versatile fulfilling all of these requirements.

## With the use of the 4 axis-manipulator Robotemp customers benefit from:

- Elimination of Safety Concerns: the change of cartridges can be easily done in the safe parking positions removing operators in front of the EAF slag door.
- Reduced tap to tap time: 3-10% decrease due to no interruptions of the EAF process caused by manually conducted measurements and samples taking by operators.
- Energy Saving and Higher Productivity due to reduced tap-to-tap time and energy loss.
- Measurement and Sample taking possible during power on of the furnace when injection lances are in place
- Improved metallurgy and process reliability due to high repeatability and consistency of measurements and samples.
- Monitoring the measurement process or sample taking by the operator from the pulpit



**MTAG Switzerland's Robotemp is mounted on the floor next to the EAF so that both measurements and samples can be taken through the furnace door without changes to the EAF and so cartridges can be exchanged in the safe parking positions.**

### Details:

- In combination with a deadman control, Robotemp can be operated without additional protection fences.
- Measuring and sampling lance is equipped with a quick coupler for compressed air and wiring to the front arm.
- Lance tube is easily replaceable from the front arm head
- By means of its freely programmable axes, Robotemp, is easy to adjust and correct at any situation on site.
- For maintenance purposes, Robotemp has been designed to be easily removable or exchangeable within 5 minutes via a wedge bolt connection.