



FOR ALL YOUR THERMAL PROCESS REQUIREMENTS

CASE STUDY

Gas Mixing Station

A major Stainless Steel manufacturer wished to adopt a new steel making process on their 130 Tonnes Electric Arc Furnace to improve safety and productivity. Magma Combustion Engineering were awarded a contract to design, manufacture, install and commission a gas control skid.

AIM

To eliminate the personnel and plant dangers and yield losses associated with boil-over in the EAF or AOD transfer ladle. This improvement was to be achieved by modifying the existing Oxygen lancing system to enable injection of Nitrogen, Argon or binary gas mixtures to be injected into the metal bath.

SCOPE OF THE WORK

To fulfil the needs of the project Magma Combustion Engineering were to design a gas mixing skid that was able to take in the three gases, Oxygen, Nitrogen and Argon, at pressures up to 25 Bars meter the individual flow rates and control the flow to the lance at a maximum of 12 Bars. These gases were to be controlled individually or as binary mixtures. The controls were to be made using an existing lance control PLC modified with additional remote I/O to control the skid components. In addition to modifying the PLC software, the associated SCADA system was re-configured and additional control, monitoring and operator interface screens added.

BENEFITS

- Improved safety for people and plant
- Ease of operation due to improved more intuitive operator screens
- Improved manufacturing performance
- Ability to inject inert gases in addition to Oxygen
- Boil-Over eliminated
- Cleaner steel
- Modernised plant

CONTACT US

Want to know more about how Magma can help you?

- magmacombustion.com / info@magmacombustion.com
- 01709 521144 / Magma House, Rotherham, S60 1SG



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PHOTOS

A selection of photos from this case study.

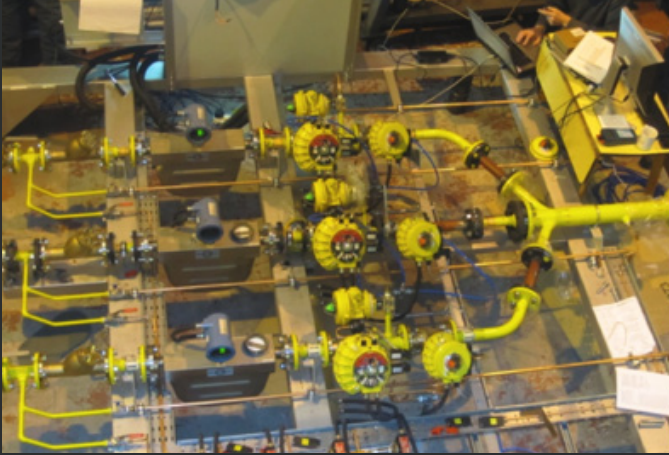


Fig. 1 Factory acceptance testing.



Fig. 2 During installation.

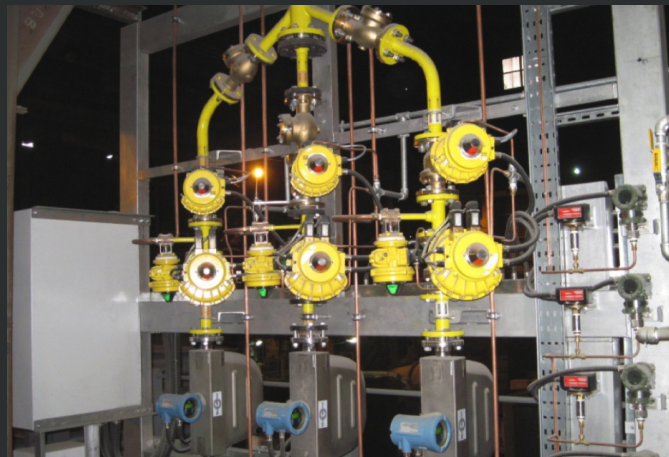


Fig. 3 In operation.

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