

Steel Melting Plant

# SARCON

## ELECTRODE CONTROL SYSTEM FOR ELECTRIC ARC AND LADLE FURNACES

**Based on decades of experience in designing electric arc and ladle furnaces, Sarralle offers steel producers an electrode control system for high-performance electric steelmaking.**

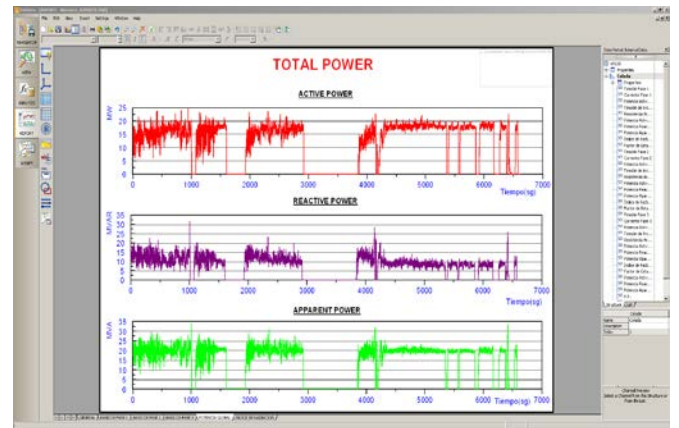
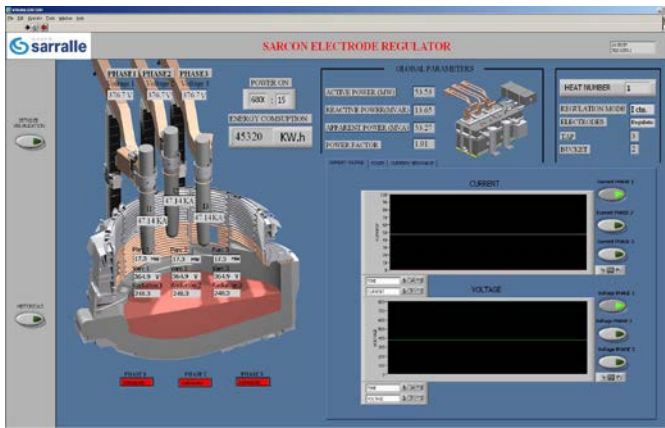
Sarcon is founded on an embedded controller platform, which gather information coming from PLCs, hydraulic room and transformer. This information is processed and showed in a highly dynamic HMI.

Control signal handling is done within the PLC part which simplifies the integration into the automation environment.

Intelligent signal interface modules ensure very fast and accurate data sampling with on-board signal preconditioning and visualization intuitive and easy to operate.

### FEATURES

- Different  $K_p$  values for different errors to optimize the movement of the column
- Set PI to the hydraulic valve working curve
- Analysis in real time of current variation, wave noises and reactive power
- Modifies the set-point to reduce power when the arc is not stable, or increase power during refining
- Maximum speed in short-circuit extinction (scrap falling)
- The phase not affected by the short – circuit, helps to the other ones



Sarcon interfaces

### IMPROVEMENTS

- Hardware with very fast data acquisition that enables better measuring the information in order to regulate the system
- Allows the possibility to deliver the electrical signals to hydraulic drive, optimizing in this way the power transfer to the existing mechanical design
- System based on commercial hardware, without any dedicated electronic systems
- Great capacity of historical database storage

### MAIN BENEFITS

- Energy consumption reduced and melting efficiency improved due to auto-adaptive regulation algorithms
- Reduction of consumables (electrodes and refractory)
- Increased the reliability due to main focus on robustness and operational safety in an industrial environment
- Better productivity ensured by automatic melting profiles and process parameter adaptation
- Ensured process quality due to target group orientated screens and highly sophisticated data recording and evaluation
- Amortization in few months