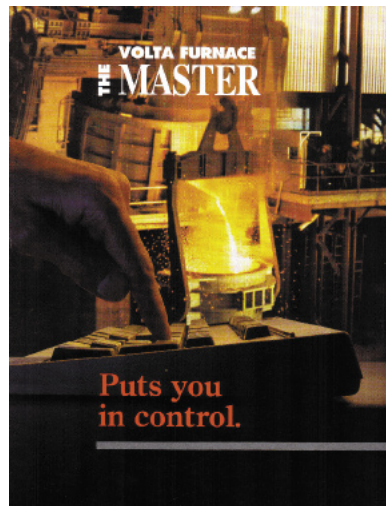




Whiting Equipment Canada Inc.
The Volta Furnace Master



THE VOLTA FURNACE MASTER

Furnace control you can count on.

The Volta Furnace Master provides the ultimate in state-of-the-art Electric Arc Furnace control. All types of operations can be optimized quickly and economically.

The Arc Furnace industry relies on automation to maintain consistent product quality in a highly competitive market.

Whiting has over 90 years experience, and over 500 installations to call upon for reference when applying high technology to the melting process industries. New and existing installations can both benefit from the features offered by The Volta Furnace Master.

FEATURES

- PLC's and PC's are used to control all aspects of Electric Arc Furnace (EAF) operations.
- Animated graphics provide comprehensive operator interface that is easy to use.
- State-of-the-art current or impedance regulation is provided for metal melting or mineral fusion.
- Supervisory Control and Data Acquisition (SCADA) system requires only basic computer skills to operate.
- Historical data logged to ASCII file format.
- Modular hardware and software provides the right system for each type of melting operation, from the simplest to the most sophisticated.
- Used in single or multiple furnace shops.

Some of the types of Feed Materials that can be processed are:

Metals Melting

- Steel
- Iron
- Copper
- Nickel
- Ferro Alloys
- Beryllium Copper

Mineral Fusion

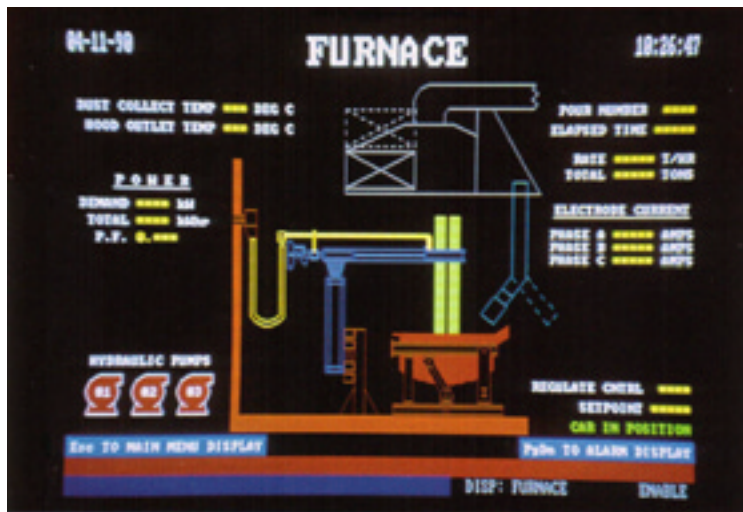
- Al_2O_3
- MgO
- AZS
- ZrO_2
- $3Al_2O_3 \cdot SiO_2$
- $MgOCr_2O_3$
- $MgOAl_2O_3$
- Slag (Mineral Wool)

BENEFITS

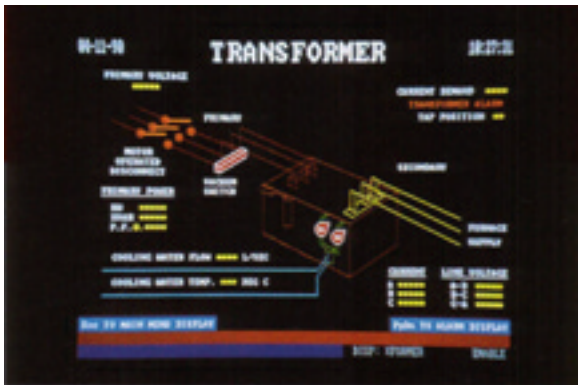
Adding real-time computer control of your melting processes is often the key to staying ahead of your competitors. The new globalization of the market place increases both opportunity and competition.

A few of the benefits of The Volta Furnace Master are:

- Melting operations are optimized.
- Real-time operator assistance throughout the heat.
- Troubleshooting of furnace systems is optimized.
- Power consumption of process cycle is minimized.
- Automatic heat reports are easier to obtain, more accurate, and more comprehensive.
- Process consistency between heats is maximized.
- Process model development available.
- Trend analysis utilization.

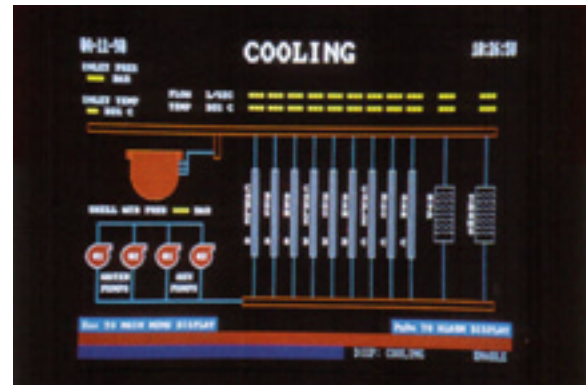


SAMPLE MINERAL FUSION OVERVIEW SCREEN



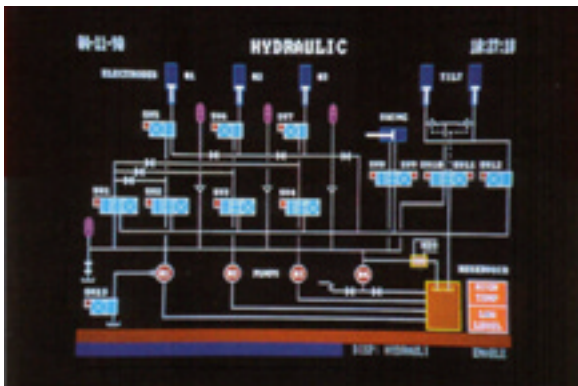
TRANSFORMER STATUS SCREEN

This type of screen is used to display the status of Transform vault equipment position, flow, temperature, electrical and other parameters.



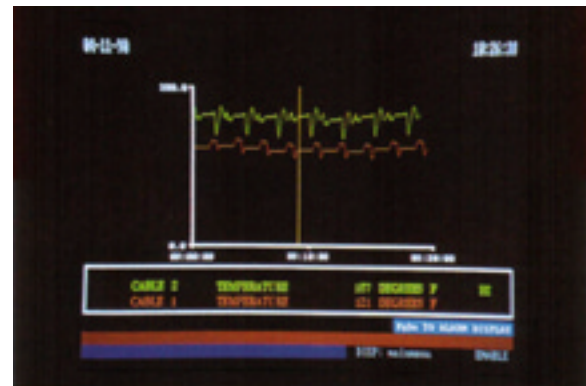
COOLING STATUS SCREEN

This type of screen is used to display- the status of the individual circuit elements, the temperatures, the water flows, and other parameters for the cables, shell, roof, and other components that need to be kept at a constant temperature.



HYDRAULIC SYSTEM STATUS SCREEN

This type of screen is used to display the status of flows, temperatures, pressures, and the position of elements for the hydraulic system, including the emergency raise, and tilting systems.



TREND SCREEN

This type of screen is used to plot the values of any variable measured. They can be plotted on a current or historical basis.

THE VOLTA FURNACE MASTER

The Masters at furnace control.

SPECIFICATIONS

Software

The following Host Computer Control Software modules are available:

- Charge Bucket Weight Control
- Infeed Materials Handling
- Shell Temperature Monitoring
- Roof Temperature Monitoring
- Tilt/Pour Control
- Transformer Safety Interlocking
- On Load Transformer Tap Changing
- Reactor Tap Changing
- Least Cost Charge Algorithm Calculations
- Heat Data Tracking
- Heat Status
- KW/KVAR Demand Control
- Electrode Position Control

The following host Computer Data Acquisition Software modules are available:

- Charge Weights per Heat
- Charge Weights per Day
- Ferro Alloy Weights per Heat
- Ferro Alloy Weights per Day
- Tons per Heat

- Heat Running Time
- Ladle Running Time
- Number of Taps per Unit Time
- Number of Heats per Unit Time
- Furnace Downtime
- Refractory Running Time

Hardware

Host Computer

- Pentium 4 CPU
- 1GB Ram
- 160 GB hard Disk (Larger available upon request)
- 19" Flat Panel Monitor

Controller

- Single Slot PLC CPU
- 4-20mA Analog Input Modules
- 4-20mA Analog Output Modules
- 110VAC Digital Input Modules
- 24VDC Digital Input Modules
- 110VAC Digital Output Modules
- 24VDC Digital Output Modules
- Remote I/O Racks where necessary
- Other I/O voltages and currents available upon request

Whiting Equipment Canada Inc.



www.whiting.ca

Mike Cosoletto

350 Alexander Street
Welland, Ontario L3B 2R2 CDN
Tel (+1) 905-732-7585 ext. 271
Fax (+1) 905-732-2366
Email mcosoletto@whiting.ca