

SINTERITE

GASBARRE FURNACE GROUP

HUMAN MACHINE INTERFACE (HMI) TOUCHSCREEN CONTROL PANEL

For those customers looking for precise equipment monitoring and control with information management and ease of access, Sinterite offers its HMI (Human Machine Interface) Touchscreen Control Panel.

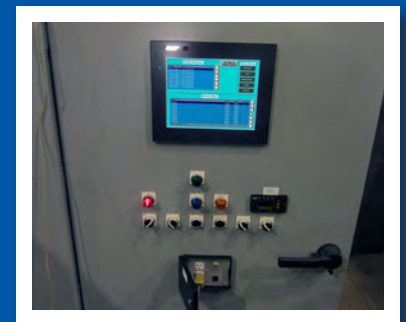
This touchscreen interface allows customers to upgrade their level of user interaction and process specifications. Our standard HMI offering includes state-of-the-art processing speeds, communication integration, module expansion, storage space and data management capabilities. Additional options are available to allow for even greater atmosphere and temperature control and monitoring.

STANDARD PLC SYSTEM

- Compact Logix 1769 Processor
- Integrated Serial and Ethernet/IP™
- Modular Input and Output Modules
- Expandable up to 30 Modules
with up to 48 Ethernet/IP™ Nodes

STANDARD HMI SYSTEM

- Panelview Plus Interface with 12-inch Color Display
- Flash Storage Space
- Connectivity to Printers, Mice and Keyboards
- Supports Remote Connectivity (VNC and FTP)
- Remote Recipe and Data Management via .csv Files
- 800 x 600 Resolution (Minimum)
- Supports Operator Input via Keyboards, Touch or Both



HC900 Panelview Plus Interface

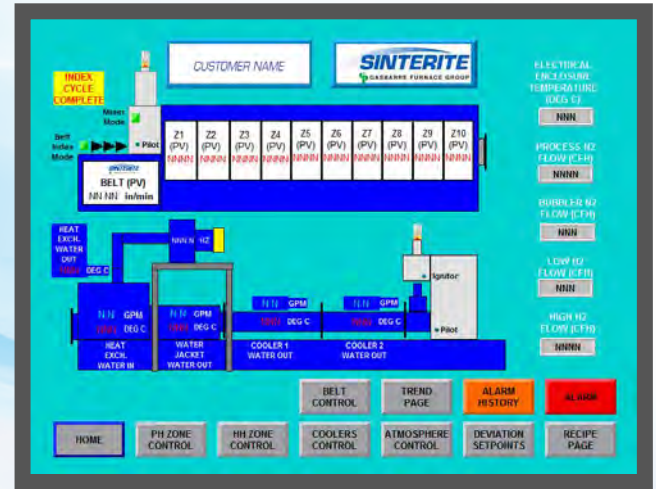
OVERVIEW SCREEN

Standard Furnace Representation Overview Display:

- Actual Zone Temperatures • Actual Belt Speed • Actual Panel Inside Temperature • Pilot Burn-Off Status

OPTIONS:

- Actual Atmosphere Flow • Actual Cooler Water Temperatures and Water Flows • HyperCooler Water Temperatures, Water Flows and Fan Speeds

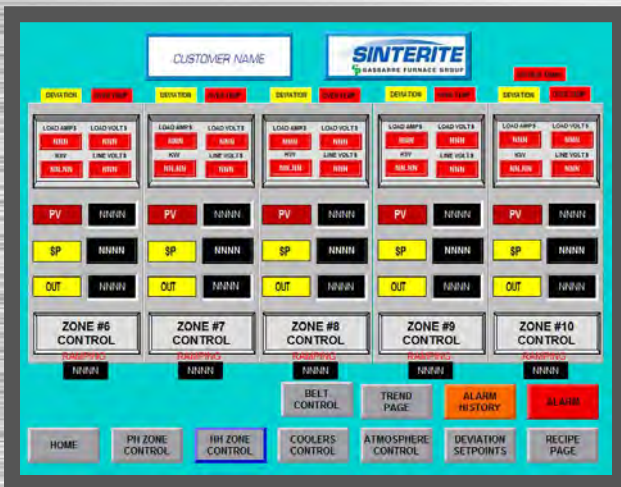


TEMPERATURE CONTROLS (Pre-Heat and High Heat)

- Displays current temperatures and speeds • Allows for manual set point changes • Switch between auto and manual control • Set ramp rate to prevent damage to equipment during set point changes • Visual indications of ramping status • Displays real-time percentage output for each zone, as well as the entire furnace • Displays voltage, amperage and KW for each zone • Stand alone temperature control operation as single loop control instruments, including Modbus communication to PLC

OPTIONS:

- Integration of temperature control into PLC system

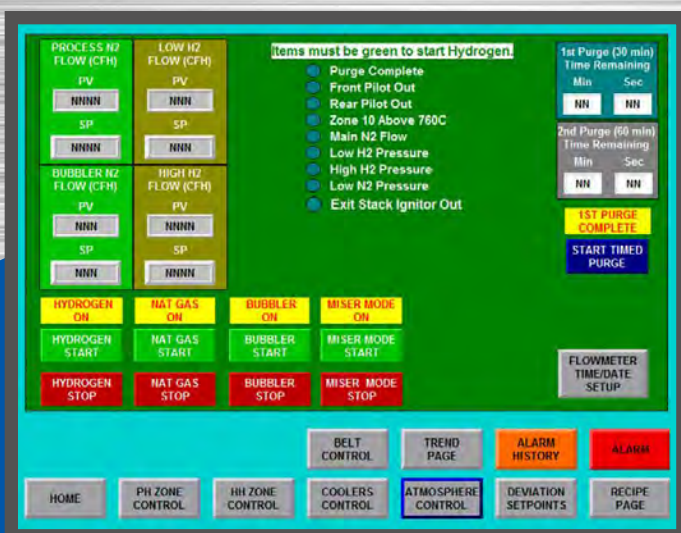


ATMOSPHERE CONTROLS

- Start/stop pushbutton control for flammable gas • Displays time remaining before purge is complete • Quick reference status of all conditions required to start flammable gas

OPTIONS:

- Displays actual atmosphere flows • Displays set point entry



Standard Packages	Basic Control	Control / Information
Furnace Type	Batch • Continuous	Batch • Continuous • Integrated Systems
Standard Hardware	Eurotherm • Honeywell • SSI • PLC: A-B Micrologix 1400 (Optional)	PLC-Compact Logix • Honeywell HC900 HMI-AB Panelview • RS Factory Talk
System Capabilities	Zone Temperature Control • Over Temperature Protection • Belt Speed/Cycle (Batch) • Alarms • Safeties • Sequencing	BASIC CONTROL Package • Alarms Log • Recipes • Data Logging-SD Card • Trend Plots • Communications-Ethernet/TCIP

Other control configurations can be quoted as options.

CONTROL SYSTEM OFFERINGS

	Control	Control/Information
Continuous Belt Furnaces		
Sintering Furnaces	X	X
Brazing Furnaces	X	X
Steam Treat Furnaces	X	X
Annealing Furnaces	X	X
Austempering Furnaces		X
Normalizing	X	X
Stress Relief Furnaces	X	X
Tempering Furnaces	X	X
Mesh Belt Furnaces	X	X
Solid Belt Furnaces	X	X
Cast Link Furnaces	X	X
Humpback Conveyor Furnaces	X	X
Other Continuous Furnaces	X	X
Pusher Furnaces (2000°-3000°F)		X
Pusher Furnaces (below 2000°F)		X
Roller Hearth	X	X
Vacuum Furnaces		
Continuous & Modular		X
Batch		X
Integral, Gas, Pressure & Oil Quench		X
Batch Furnaces		
Sintering Furnaces	X	X
Carburizing Furnaces		X
Carbonitriding Furnaces		X
Normalizing Furnaces	X	X
Spheroidize Annealing Furnaces		X
Stress Relieving Furnaces	X	X
Brazing Furnaces	X	X
Annealing Furnaces	X	X
Tempering Furnaces	X	X
Box & Slot Furnaces (above 2000°F)	X	X
Steam Treat Furnaces	X	X
Bell (Carbon) Furnaces	X	X
Quenching Furnaces	X	X
Tip-Up Furnaces	X	X
Atmosphere Tip-Up Furnaces		X
Tempering Pit Furnaces	X	X
Carburizing Pit Furnaces		X
Nitriding Pit Furnaces		X
Car Bottom Furnaces	X	X
Tool Room Furnaces	X	X
Atmosphere Generators	X	X
Exothermic Gas up to 3000 CFH	X	X
Exothermic Gas up to 20000 CFH	X	X
Endothermic Gas up to 12000 CFH	X	X
Ammonia Dissociators up to 10000 CFH	X	X
Parts Washers	X	X
Charge Cars	X	X
Vacuum Impregnators	X	X
Accelerated Delubrication Units	X	X
Sinter Hardening/Accelerated Cooling Units	X	X