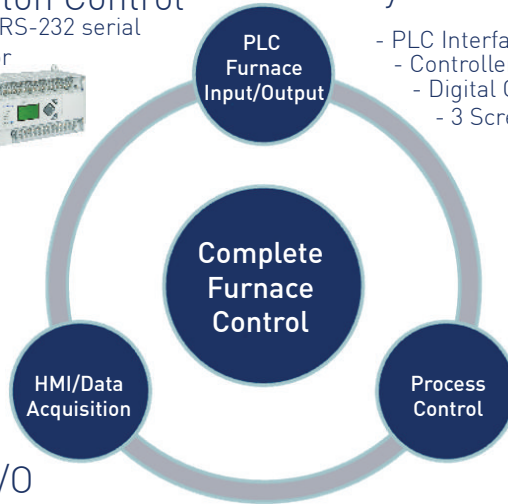




# Controllers Atmosphere Vacuum Gas Nitriding

## HMI and Control In One

- PLC Push Button Control
  - Communicates with PLCs via RS-232 serial connection (DF1 or Modbus) or Ethernet (Modbus)
  - Screen Editor
    - Runs on Windows Computer for creating screens and mapping
  - PLC I/O
- Runtime Software
  - Executable for running software on controller screens
- User Defined
  - Status Driven
  - I/O Reference



- Easy To Display Mechanical Components
  - PLC Interface
  - Controller Interface
  - Digital Chart Recorder
  - 3 Screen Sizes

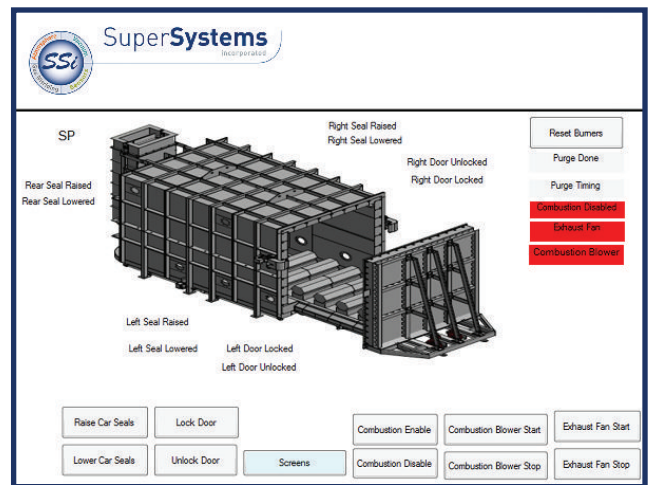


- Color Touch Screen
  - Agitators
  - Limit Switches
  - Timers
  - Flame Screen
  - Fans

- PLC for I/O

- Status/Position Display

AIR BLOWER	IGNITION	BURNERS	RECIRC FAN
ON	ON	ON	ON
OFF	OFF	OFF	OFF
	AUTO		AUTO
QUENCH FANS	AGITATORS	OIL PUMP	QUENCH HEAT
ON	ON	ON	ON
OFF	OFF	OFF	OFF
AUTO	AUTO	AUTO	



## Controller Features

- Maintenance Tracking Database
- Configurable and Expandable I/O
- Remote Control
- AMS 2750 E Compliant
- Remote PC Configuration and Recipe Builder
- Recipe Controller for Precise Process Control

### 9220 Vacuum

- Guarantee Soaks on Load TCs
- Outgas Protection
- Direct Connection to Vacuum Gauge
- Integrated Vacuum Controller Communications
- Multiple PID Sets with Switch Points
- Overshoot Suppression - Fuzzy Logic

### 9210/9215 Gas Nitriding

- Flow Control (N<sub>2</sub>, NH<sub>3</sub>, DA, CO<sub>2</sub>, ENDO, H<sub>2</sub>)
- Automated Back Pressure Control
- Precise Control of Compound Layer
- Kn and %DA Control
- Automated Single and Two Stage Processes

### 9205 Atmosphere

- Percent Carbon and Temperature Control
- Built in Quench Control and Timer
- Programmable 300 24 Step Recipes
- Probe Conditioning and History
- NDIR Gas Analyzer Integration