This SSi system will provide a furnace with the ability to run recipes for one- or two-stage automated gas nitriding cycles and control the necessary parameters to achieve precise metallurgical results. SSi’s programmable controller includes a touch screen interface with a built-in data logger and controls $K_N$, %DA, temperature, back pressure, soak time, and all gas flows.

A small footprint for a complete electrical and flow control panel minimizes operator intervention with precision control and maximizes cycle times for furnace utilization and meeting quality standards.
SSi provides equipment for measuring the concentration of reactive gases in the retort—gases necessary for determination of the nitriding and carbon activity meeting the following AMS Specifications: AMS2759/6 (Nitriding), AMS2759/10 (Automated Nitriding) and AMS 2759/12 (FNC)

Full Furnace Safeties

Precision Measurement of Furnace Atmosphere

Temperature Control

Recipe Management
  - Automated 2 stage nitriding including pre- and post-oxidation
  - Remote recipe management

Process Gas Flow Control
  - \( \text{N}_2, \%\text{DA}, \text{CO}_2, \text{NH}_3, \text{O}_2 \)
  - \( K_C, K_N, \%\text{DA} \) Atmosphere Control

Pre-Ox, Post-Ox Control

Configurable I/O Based on Furnace Setup

Emergency \( \text{N}_2 \) Purge

Furnace Back Pressure Control

Furnace Overtemp

Furnace Pressure Monitoring

\( \text{O}_2 \) Monitoring

Software Configuration/Remote Management

**TS Manager** - Data management for touch screen flash card. Remote data viewer, historical data backup, SuperDATA integration.
Electronic Flow Control
- Nitrogen
- Ammonia
- Dissociated Ammonia (DA)
- CO₂

Hydrogen Analyzer
- Precision Measurement of Furnace Atmosphere

Oxygen Analyzer
- Furnace Safety - Quick Purge Time

Analog Pressure Meters

Easy To Maintain Sample and Process Gas Lines
- Auto Sample Parameters
- Manual Hand Valves
- Drip Legs
- Filters

Password Protected Operator Interface

Digital Data Logging

Built In Maintenance Alerts

Alarms
- Pressure Alarms:
  - High Furnace Pressure
  - Low Furnace Pressure
  - Back Pressure
- Deviation Alarms:
  - Temperature Deviation
  - %DA Deviation
  - Kₜ Deviation
- Other Alarms:
  - High Temperature Limit
  - Recipe Hold Time
  - Oxygen Levels
  - Low Flow Purge

High and Low Pressure Supply Supported

Extensive Sample Filtering

Exhaust Burnoff

SCR or Contact Heated