NITREX

NXL CONTINUOUS SERIES

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The NXL multi-chamber continuous furnace line is based on scalable process modules, which boost system capacity and adaptability to application and productivity demands. Its adaptable design allows for semi-automated to fully automated manufacturing automation, as well as lights-out operations, with shorter lead times and faster production turnaround.

ADVANCED FURNACE

As part of a turnkey system, the NXL furnace runs completely automatically and autonomously, with minimal human involvement. All stages of a process, including purging, heating, nitriding, and cooling, are automatically sequenced in a continuous uninterrupted cycle. This setup provides an autonomous, self-adjusting process that contributes to greater process accuracy and consistency in nitriding/nitrocarburizing results.

NXH FURNACE TURNKEY SYSTEM WITH NITREG® PROCESS CONTROL

AMS 2759/10 2759/12 COMPLIANT

NXL CONTINUOUS SERIES

- DEPENDABLE
- EFFICIENT
- PROCESS FLEXIBILITY
- HIGH THROUGHPUT

Eco-friendly technology

MAIN FEATURES

- Exceptional temperature uniformity throughout the workload
- Separate heating zones for accurate temperature control
- Hot gas recirculation fan for quick load heat-up
- Light ceramic fiber insulation for fast and efficient heating and cooling
- Long-lasting Kanthal® heating elements
- Inconel 600 (refractory alloy) retort and racking for a long service life
- Turbo-cooling module for shorter cooling times and improved furnace utilization rates
- NITREG® technologies with proven recipes optimized for maximum part quality and performance
- Software module for data archiving and reporting as well as remote diagnostics
- SCADA connectivity

OPTIONS AVAILABLE

- Accelerated-cooling system
- Automatic door opening
- Effluent neutralizing
- Ammonia dissociator
- Water-cooling system
- Custom racking
- Charge cars

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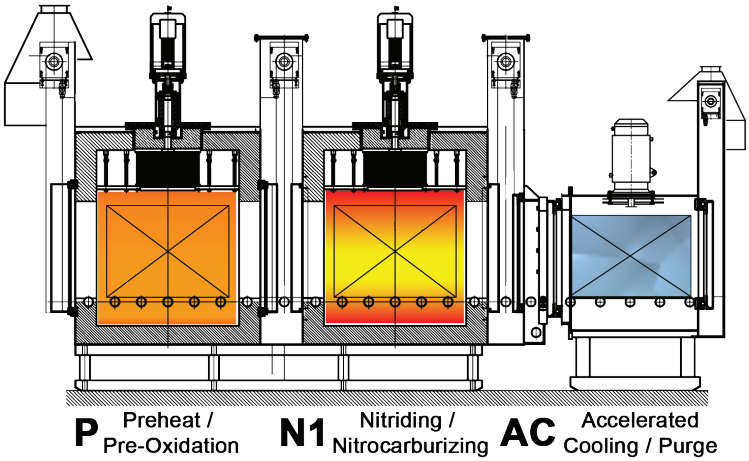
MODULES AND CONFIGURATIONS

The NXL line is made up of process modules that can be combined in a variety of configurations, including preheat/pre-oxidation, post-nitriding oxidation, purge/cooling, and one or more chambers for nitriding/nitrocarburizing. The modular platform design allows the NXL to be integrated into an automated manufacturing cell for maximum furnace throughput and uptime.



NXL CONTINUOUS SERIES

- DEPENDABLE
- EFFICIENT
- PROCESS FLEXIBILITY
- HIGH THROUGHPUT

Eco-friendly technology

BENEFITS

- Modular, flow-through design provides 30-40% energy savings compared to batch furnaces
- Clean, environmentally-friendly, and sustainable processes—reduced consumption of process gases and energy savings from shorter process times
- Highly economical solution for just-in-time high-volume production
- True nitriding/nitrocarburizing process control – compliant with AMS 2759/10 and AMS 2759/12 standards

TYPICAL CONFIGURATIONS

PN1-TC

includes the following chambers:

- 1 Preheat/Pre-oxidation
- 1 Nitriding/Nitrocarburizing
- 1 Turbo Cooling/Purge

PN2-TC

includes the following chambers:

- 1 Preheat/Pre-oxidation
- 2 Nitriding/Nitrocarburizing
- 1 Turbo Cooling/Purge

PN1-OXN-TC

includes the following chambers:

- 1 Preheat/Pre-oxidation
- 1 Nitriding/Nitrocarburizing
- 1 Nitriding/Nitrocarburizing/ Post-oxidation
- 1 Turbo Cooling/Purge

SPECIFICATIONS

NXL	Working Space (W x H x L)	Load Capacity (max)
NXL-9912	35½" x 35½" x 47¼" / 900 x 900 x 1,200 mm	3,300 lbs / 1,500 kg
NXL-9918	35½" x 35½" x 71" / 900 x 900 x 1,800 mm	3,970 lbs / 1,800 kg

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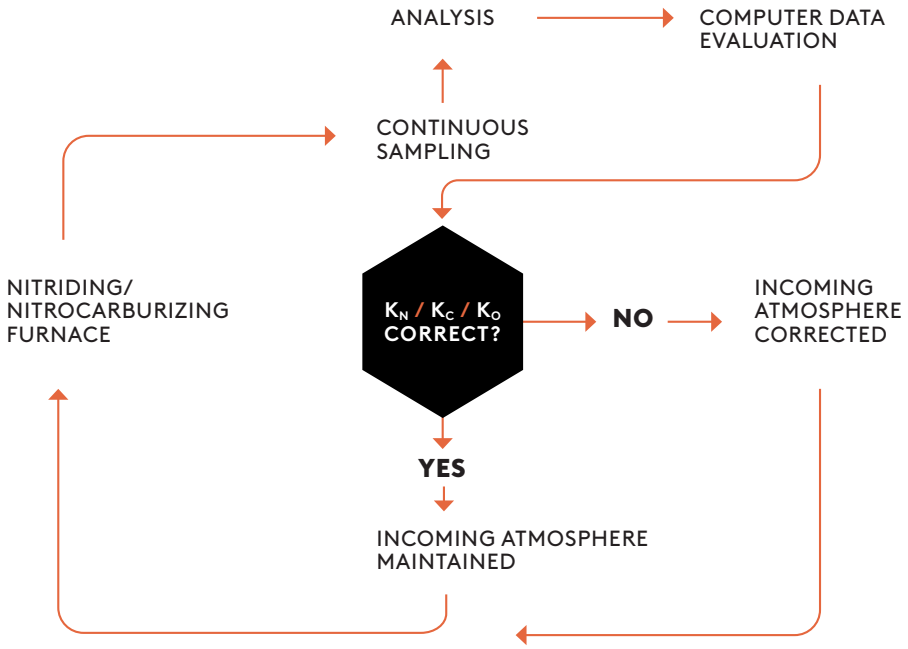
EXPERT CONTROL SOFTWARE
& NITREG® FAMILY OF TECHNOLOGIES

The NITREG® family of technologies applies individually customized processes to different applications and materials for optimum results. The process is carried out in a closed-loop circuit, which enables the control system to respond automatically to the changes in nitriding conditions that occur during the process cycle.

The control system continuously samples and analyzes the furnace atmosphere, and based on the data extracted, it adjusts the process parameters in order to maintain the preset value of the K_N, K_C and K_O.

CLOSED-LOOP PROCESS CONTROL

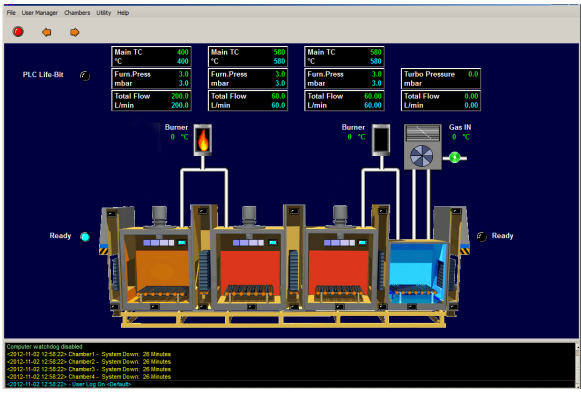
This closed-loop process control enables the system to respond automatically to the changes in nitriding/ nitrocarburizing conditions that occur during the process cycle.



NITREG® TECHNOLOGY offers customized processes for a variety of applications & materials with optimum results.

INTUITIVE USER INTERFACE

The user interface contains data points on the furnace, on processes, jobs, and stages, displaying variables such as temperature, flows, power output, nitriding potential, as well as the actual status of the nitriding process and system equipment.



- Intuitive control interface contains all information on the furnace
- Over 30 signal sensing points are continuously displayed on the control screen
- The control software includes troubleshooting, emergency and calibration menus

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AUXILIARY EQUIPMENT

EVERYTHING FOR YOUR NITREX SYSTEM

A Nitrex system is not complete without the right auxiliary equipment to support, enhance, and optimize the nitriding/nitrocarburizing process and operational efficiency.

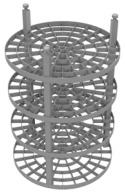
All equipment is properly sized and vetted to ensure maximum performance from your Nitrex system.

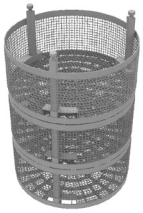
AUXILIARY EQUIPMENT designed to enhance the functionality of a Nitrex nitriding system and ensure optimum performance

Eco-friendly solutions

RACKING

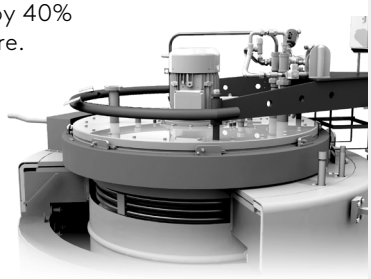
Easy-to-assemble Inconel baskets and trays constructed for safe and easy loading.





ACCELERATED COOLING

Internal accelerated cooling system to reduce cooling time by 40% or more.



AMMONIA DISSOCIATOR

Economical and safe supply of dissociated ammonia.

EFFLUENT NEUTRALIZER

Eliminates residual ammonia and/or other pollutant gases from nitriding/nitrocarburizing system exhaust.

WATER COOLING

Recirculates clean cooling water to prolong the longevity of furnace elements.

ACCELERATED WATER COOLING SYSTEM

Maintains a consistent and controlled supply of clean water to the cooling coils of the furnace's accelerated cooling internal heat exchanger.

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