

# **ALNAT Endo**



Reliable  
and efficient  
protective  
atmosphere  
solution for  
high quality  
neutral  
treatments

Higher mechanical performances, non decarburizing specifications, improved production quality require a reliable and efficient atmosphere **ALNAT Endo** with major benefits:

- High Quality N<sub>2</sub>/H<sub>2</sub>/CO carrier gas with low H<sub>2</sub>O, CO<sub>2</sub> and O<sub>2</sub>
- Range of concentration and flow-rate adapted to your needs
- Specific design with low energy consumption
- No waste gas during production
- Customization for your application and requirements
- Minimal capital expenses
- Upgrade of your process performance
- Easy installation and operation

# ALNAT Endo

## A high quality atmosphere



- Based on the catalytic reaction between air and natural gas
- Regulated by an Oxygen probe at high temperature
- Combined with an automated Nitrogen dilution
- With mass flow regulators on inlet gases, Air, CH<sub>4</sub>, N<sub>2</sub>
- **ALNAT Endo** produces a large range of atmosphere composition from 1% to 20% CO and 2% to 40% H<sub>2</sub> with N<sub>2</sub>.

## Adapted to many metal heat treatments

- For annealing, neutral hardening, brazing and sintering
- For semi-products and finished parts in carbon steels
- Adapted to very high quality tube bright annealing
- In batch type furnaces, continuous belt, roller hearth furnaces



## Customized installation



- A range of **ALNAT Endo** equipment from 30 m<sup>3</sup>/h to 2x100 m<sup>3</sup>/h
- Engineered and designed to your specific needs
- **ALNAT Endo** supply for multi-furnace or single furnace
- Preventive and corrective Air Liquide maintenance
- Consulting and training on gas handling and safety
- Automatic Nitrogen safety procedures

## Extended ALNAT offers

- **ALNAT Expertise** to qualify the performance of your furnaces
- **ALNAT Control** to monitor your heat treatment operations
- **ALNAT Performance:**
  - Complete process control to optimize the quality and flow-rate of the atmosphere delivered to your continuous furnaces
  - On-line atmosphere analysis (CO/CO<sub>2</sub>/CH<sub>4</sub>) and (H<sub>2</sub>O/O<sub>2</sub> probe)
  - Definition of recipes adapted to steel grades
  - Telemetry for remote monitoring and reporting



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