

Nitrogen Supply Monitoring System



At Air Products, safety is first

As a leading supplier of industrial gases, equipment, and technical support to the metals processing industry, Air Products recognizes that safety is the number one priority with the atmosphere supply systems that we manufacture, install, and/or operate for our customers.



“We understand how important nitrogen supply is for furnaces using flammable atmospheres. That is the reason we designed our nitrogen supply monitoring system to immediately inform operators about the status of their nitrogen supply.”

Rick Carpenter
Offering Manager, Metals Processing Commercial Technology

Enhancing safety at your furnace operations

If your heat treatment operation uses a furnace atmosphere that is flammable or potentially flammable, you probably rely on a nitrogen purge gas to help ensure safe operation. Now you can further improve your operation's safety with the Air Products nitrogen supply monitoring system.

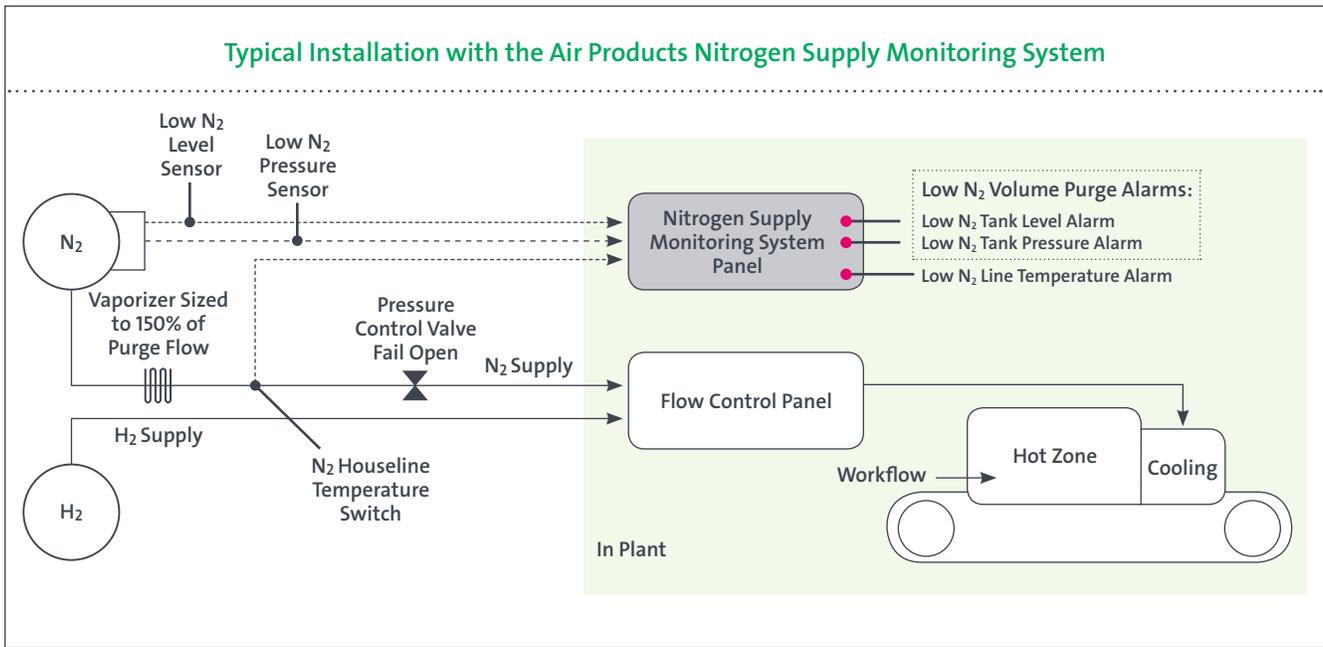
Our system alerts you to the condition of your liquid nitrogen supply and helps you maintain a more reliable supply of nitrogen to the point of use. The system's alarms allow operators to avoid emergency situations by initiating a controlled purge shutdown, thereby helping enable personnel safety and minimizing damage to products and equipment. The three distinct monitoring or alarm points

in the Air Products nitrogen supply monitoring system can help you maintain compliance with NFPA 86:

- Low liquid storage level – assists in monitoring your liquid nitrogen supply tank inventory.
- Low liquid storage pressure – monitors liquid nitrogen tank to enable adequate pressure.
- Low houseline nitrogen temperature – indicates whether liquid nitrogen from the supply tank is being vaporized adequately. This alarm provides a warning if the vaporizer performance should degrade due to overdraw, ice accumulation, or other system upsets.

Typically installed near your furnace operations, the alarm panel uses both sound and light alarms to warn the operator to a potentially critical situation.

Typical Installation with the Air Products Nitrogen Supply Monitoring System



The Air Products Nitrogen Supply Monitoring System

System Features	System Benefits	Required by NFPA 86
Fail open houseline pressure control valve	Nitrogen flow cannot be interrupted by valve failure or loss of power	Yes
Sensor for low purge volume alarm	Adequate notification of low storage tank level for a controlled purge shutdown	Yes
Temperature switch for low temperature measurement and alarm	Signals vaporizer performance degradation to proactively help avoid problems Offers you the flexibility to increase nitrogen flow rates without altering the system, i.e., need for a restricting orifice	Yes
Sensor for low pressure	Adequate notification of insufficient tank pressure, which could impact the flow rate	Yes
Optional interface with Air Products' process management system	Allows you to monitor and archive nitrogen consumption data	Yes

The Air Products nitrogen supply monitoring system panel.





Whether you need small or large volumes of nitrogen, we've got you covered with our CryoEase® microbulk supply solutions or our bulk delivery and storage systems.

Air Products' Standard Nitrogen Supply System

System Features	System Benefits
Double-insulated cryogenic tank sized to meet your nitrogen needs	Minimizes heat leak losses Optimizes on-site storage capacity to enable proper product supply volume while minimizing consumption
Ambient vaporization	Robust, reliable gaseous nitrogen supply without risk of utility outage interruption Proper sizing alleviates the risk of cryogenic liquid discharging into houseline
Houseline pressure control station	Helps maintain consistent pressure, regardless of usage rate, ambient temperature, and operating pattern
TELALERT® telemetry system	Continuously monitors and automatically relays liquid nitrogen tank levels to Air Products' dispatch operations to help us provide you with consistent product delivery to the tank

Easy-to-use system

Our nitrogen supply monitoring system is designed to be user friendly. The locally accessible alarm panel signals both low nitrogen storage volume and storage pressure, and additionally warns of low vaporized nitrogen houseline temperature. The control panel includes an alarm horn, an alarm light for each alarm, and an alarm acknowledge button.

Seamless integration

The Air Products nitrogen supply monitoring system is designed to complement our standard nitrogen supply system. Our applications engineers can work with you to design a houseline nitrogen system to meet your specific flow and pressure requirements. Air Products' standard gas supply systems include many features designed to help you achieve uninterrupted nitrogen supply.

Custom fit solutions

At Air Products, we understand that every operation is unique. We will use our depth of industry experience to respond to your needs with tailored offerings such as our nitrogen supply monitoring system. Our engineers can work closely with you to coordinate communication between our nitrogen supply system and your furnace process for enhanced operating safety. And we can adapt the system to monitor other process gases such as argon.

tell me more

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