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.

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 houeline 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.

“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
### The Air Products Nitrogen Supply Monitoring System

<table>
<thead>
<tr>
<th>System Features</th>
<th>System Benefits</th>
<th>Required by NFPA 86</th>
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</thead>
<tbody>
<tr>
<td>Fail open houseline pressure control valve</td>
<td>Nitrogen flow cannot be interrupted by valve failure or loss of power</td>
<td>Yes</td>
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<tr>
<td>Sensor for low purge volume alarm</td>
<td>Adequate notification of low storage tank level for a controlled purge shutdown</td>
<td>Yes</td>
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<tr>
<td>Temperature switch for low temperature measurement and alarm</td>
<td>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</td>
<td>Yes</td>
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<tr>
<td>Sensor for low pressure</td>
<td>Adequate notification of insufficient tank pressure, which could impact the flow rate</td>
<td>Yes</td>
</tr>
<tr>
<td>Optional interface with Air Products’ process management system</td>
<td>Allows you to monitor and archive nitrogen consumption data</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The Air Products nitrogen supply monitoring system panel.
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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