

## *Freshline® Services*



In addition to our Freshline freezing, chilling, modified atmosphere packaging (MAP), and grinding solutions, Air Products offers a variety of services that can help make your process more efficient, improve product quality, and improve product yield. Whether you're experienced with cryogenic gases or just getting started, Air Products has the equipment, labs, and technical support to help your process become your competitive advantage.

Our services provide value to you, both on your site and in our labs. At your site, our experts can perform performance audits, nitrogen consumption monitoring, and even on-site product testing. If you're looking to evaluate a product for freezing, chilling, or MAP feasibility, we can also evaluate the product for you using full-scale equipment at our Air Products food lab located in Allentown, Pennsylvania.

### *Comprehensive Testing— at our site . . .*

Air Products' technical specialists can develop complete freezing and preservation profiles based on actual product trials run in our lab on production-scale equipment. This can help you determine the feasibility of preserving your food product and validate its process parameters before capital costs are incurred. The end result is a comprehensive analysis of freezing and how it affects your final product—knowledge you can use to help make your important business decisions.

And for extended shelf life, we can analyze your packaged product with MAP in our lab. By testing various custom gas blends, we can help determine the best blend to ensure that your product benefits from the longest shelf life extension possible.

### *. . . or yours.*

Testing at your site is also available for freezing, chilling, and packaging applications. To test your product, Air Products can ship a test chamber directly to your plant. By pairing the chamber with liquid nitrogen (LIN), a tunnel freezer can be simulated. Through this simulation, we can help you determine how your product will react to LIN freezing and how your overall process could benefit through improved product quality or decreased moisture loss by incorporating cryogenics.

If you're interested in testing MAP, we can send a packaging unit, film, and analyzer to your plant. By packaging your product with gases, you can witness firsthand how your product can extend its shelf life and maintain color longer.

### *Nitrogen Consumption Monitoring*

Measuring the quantity of LIN used during food freezing and chilling is vital to remaining operationally competitive. Using our telemetry service can provide you with daily data against which to measure your LIN use. Did your new start-up operating procedure make the freezing process more efficient? Did changing from an insulated pipe to a vacuum-jacketed pipe really save costs this year? Questions like these can be answered in pursuit of continuous improvement if LIN usage is tracked daily.

And for continuous data tracking, our online LIN monitoring system can help you maximize your efficiency even further. This system provides an easy-to-understand graphical interface that gives real-time information, which offers valuable insight about your process and can help you run your process more efficiently and lower costs.

### *Process Auditing*

Our technical specialists have years of experience in food manufacturing. This experience, paired with a host of technical freezing, chilling, and preservation knowledge, can provide optimization support to improve your margins. For select companies, our specialists are available to perform audits, in which we can analyze your process line.

Our audits consist of three parts:

- **Business review** – Understanding your business is an important piece to the puzzle. You and your team's input as to where you started, what you're currently doing, and where you want to go, along with input on the areas you suspect may need addressing, is very helpful in providing direction for our specialists for the process analysis.
- **Process analysis** – Our specialists can review your process to identify and understand potential opportunities for improvement. Areas for potential improvement can be nitrogen usage optimization through operator training, product temperature checks, waste reduction, debottlenecking, and yield and productivity improvement. All these areas impact bottom line margins and can increase your profitability. Additionally, our specialists can provide input on belt loading, belt speed, and product retention rates and help improve your product throughput.
- **Mechanical analysis** – Our specialists can look at the nitrogen piping supplying your equipment, along with the equipment itself, to determine if there is opportunity for efficiency gains.

The productivity gains from an audit might be enough to help you produce more products at the same cost or get started on that new product you've been considering.

### *Safety Support*

Some food processors may be unaware of the properties of liquid nitrogen. When you choose Air Products, we can help your process harness the cooling properties of nitrogen as safely as possible. We'll walk you through the things you should know about safely handling nitrogen and operating our equipment. Our safety information is also available online through our customer portal, APDirect, and in print. We even have a 24-hour safety hotline if you need immediate assistance in handling nitrogen.

### *Ask Air Products . . . and expect more.*

Whether your freezing, chilling, cooling or packaging applications include bakery goods, fruit and vegetables, poultry, meats, ready meals or anything in between, Air Products' Freshline solutions offer you the high-purity gases and equipment, the international supply capability, and—most important—the unmatched industry experience and technical support to help you succeed, just about anywhere in the world. We can help you improve your productivity, lower your costs, maximize your returns, and, as a result, help make you more competitive in a very competitive market.

### *For More Information*

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