



Freshline DM  
tunnel freezer

***Freshline***<sup>®</sup>

*Food Processing Technologies for Fish and Seafood*

*An efficient way to freeze or chill a broad range  
of products while enhancing product quality*



## Why use liquid nitrogen freezing instead of ammonia or Freon?

- Freezing in seconds instead of hours—LIN is one of the coldest refrigerants on earth
- Enhanced product quality with faster freezing resulting in smaller ice crystals
- Increased production yields—less dehydration and moisture loss
- Lower capital costs
- Colder LIN temperatures equal smaller equipment footprint

We can test your product in our food lab.

### **Solutions Overview**

#### ***If you:***

- *Cool or freeze your products continuously or in batches*
- *Produce value-added products or ready meals*
- *Produce IQF products*
- *Need to package your fresh seafood to increase shelf life and distribution radius*

#### ***Our solutions include:***

- *Continuous and batch cryogenic freezing technologies*
- *A range of equipment that preserves appearance and texture of products for high quality once defrosted*
- *Efficient IQF solutions to help products retain their shape and prevent product folding or belt marks*
- *Expertise in modified atmosphere packaging*

Fish and seafood have become increasingly popular consumer choices for a healthy and varied diet. Fish and shellfish are benefiting from a positive consumer image, and much of the future success of this sector will lie in value-added products such as prepared fillets, seasoned or coated products and ready meals. The challenge for food processors is to ensure that these delicate products maintain their taste and quality right through to the moment they are eaten.

Air Products' Freshline solutions for food processing provide innovative freezing and preservation systems to the seafood industry that help increase production rates and capacities, improve yields and product quality, and lower costs.



## Wide range of solutions

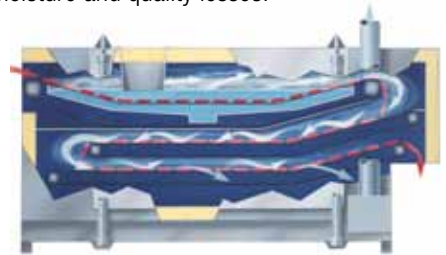
Air Products supplies a full line of Freshline liquid nitrogen freezing systems that can be tailored to meet your specific needs. Our tunnel and immersion freezers can freeze a wide variety of seafood, including raw, cooked, marinated and breaded products. All of our freezing systems use our high-purity liquid nitrogen, which provides the most efficient means of freezing and cooling available.

**Freshline CQ tunnel freezer** – An efficient way to freeze or chill a broad range of products while enhancing product quality. Designed for stand-alone use or for integration into other systems such as immersion freezers, these units are modular, allowing expansion as your needs grow.

**Freshline DM tunnel freezer** – This flexible dual-mode freezer allows you to quickly change from processing IQF to non-IQF products using the same freezer.

**Freshline RH immersion freezer** – This immersion freezer allows you to produce up to 15,000 lbs/hr of consistently high-quality IQF products, such as shrimp and shellfish, that can be difficult to freeze without clumping using traditional freezing methods. Instantaneous immersion freezing of the food's outer surface using LIN helps maintain the product's form, taste and texture and prevents moisture and quality losses.

**Freshline CP immersion freezer** – This uniquely engineered freezing system can be installed for low capital costs and can fully freeze over 3000 pounds per hour in just 10 feet of floor space. Using our proven LIN immersion technology in a multi-tiered freezing system to maximize efficiency, it is well-suited for small products that tend to clump together. This freezer can also be placed in front of an existing conventional mechanical or cryogenic spiral or tunnel system to boost freezing effectiveness.



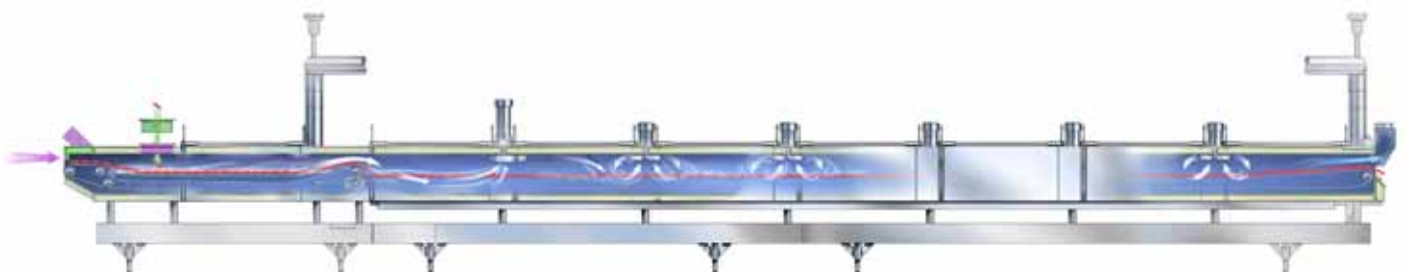
Freshline CP immersion freezer

**Freshline batch freezer** – Uses LIN refrigeration for fast, economical chilling and freezing. It is ideal for food processors with batch or low-volume freezing and chilling requirements. Low capital and entry costs make it appealing to new businesses and those developing new products.

**Freshline tumbler freezer** – Free-flowing products like shrimp and scallops are coated and enrobed with your sauces or herbs and are individually quick-frozen, producing portionable, ready-to-heat products.

**Freshline continuous sauce chiller** - Uses direct injection of LIN for fast cooling of all types of liquids or semi-liquids, allowing your manufacturing process to run continuously.

**Freshline modified atmosphere packaging (MAP)** – Fish is the most perishable of foods because of its habitat and harvesting, and fish is a food that consumers are most sensitive to potential spoilage. When MAP is used in conjunction with careful temperature control, shelf life of fresh fish and seafood can be nearly tripled.



Freshline RH immersion freezer

## 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***

For more information on any of our Freshline offerings, call Air Products today to speak with a food industry expert, or visit us at the website below.

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