



Freshline Multi-Purpose (MP)
Tunnel Freezer



Freshline® food processing technologies for meat and poultry in Asia
Effective and efficient solutions for freezing, chilling and packaging



To remain successful in today's globally competitive environment, meat and poultry processors must look for ways to improve productivity, increase product yield and lower costs, while producing high-quality products that keep up with changing consumer demands.

Air Products' flagship Freshline cryogenic solutions are designed to meet your individual needs. We offer a complete portfolio of gases and equipment for efficient and effective freezing, chilling and packaging of meat and poultry products at a low capital cost, helping you address many of the production challenges facing the meat and poultry industry today.

Freshline solutions can improve the taste, texture and appearance of your frozen products by minimizing product dehydration, ice crystal growth and drip loss, bringing you better yield and overall profitability of your operation. Our gases also play an important role in other processes of the 'farm to fork' journey of meat and poultry products: including Controlled Atmospheric Stunning (CAS) and Modified Atmosphere Packaging (MAP).

We can help you:

Chill or freeze your products continuously or in batches

Produce value-added and Individually Quick Frozen (IQF) products

Enrobe IQF products with sauces

Crust freeze to produce a high quality sliced products

Mix, blend or form your products

Extend the shelf life of your products



Applications and equipment

Air Products' Freshline cryogenic solutions can be tailored to meet your specific needs. Our applications and equipment can freeze a wide variety of meat and poultry products, including raw, cooked, marinated, breaded and trayed items. All our freezing systems use high-purity liquid nitrogen (LIN), one of the safest, most efficient and environmentally friendly freezing and cooling mediums available today.



Applications

Chilling/crust freezing Freshline chilling and crust freezing solutions help you crust freeze meat and poultry that require even, consistent slicing or portioning.

Enrobing Our range of IQF coating equipment harnesses the speed and economy of liquid nitrogen to enrobe free-flowing (IQF) products with a variety of sauces. This process produces unique meal ingredients which retain their IQF properties and can be combined with other ingredients to create innovative food solutions.

Blending/forming Freshline Liquid Nitrogen Injection Solutions (LIN-IS) can be retrofitted to existing mixers and blenders or incorporated into new equipment. The Programmable Logic Controller system of the LIN-IS allows accurate temperature control of the product during the blending process, resulting in a more consistent mixture prior to forming.

Freezing Our extensive range of Freshline Liquid Nitrogen systems offers a cost-effective alternative to traditional methods of chilling and freezing food – offering faster processing while occupying less floor space. Freshline cryogenic solutions are designed for a variety of batch or continuous freezing processes. Their hygienic design, simple control and low maintenance requirements make them easy to clean and operate, saving you labor costs and downtime.

Stunning Freshline gas mixtures are used for stunning as part of the poultry slaughter process. The gases used can include nitrogen, argon, oxygen and carbon dioxide, the specific component mix depends on individual country regulations.

Modified atmosphere packaging Freshline gases help extend the shelf life of your meat and poultry products, so as to improve quality and visual appearance and minimize waste.

Equipment

Freshline Multi-Purpose (MP) tunnel freezer Designed to meet the latest global hygiene standards and incorporates the latest technology in an efficient, powerful freezer. The Freshline MP freezer's significant benefits can be enhanced by the addition of the Dual Mode (DM) option. The MP-DM provides increased flexibility and versatility by enabling both IQF and non IQF products to be frozen in the same in-line production layout.



Freshline Quick Start (QS) tunnel freezer This unique quick start cryogenic system requires minimal up-front capital investment and can be quickly and easily integrated into your existing/new production line, providing you with an easy, simple, low-risk solution.



Freshline IQF+ freezer Developed to eliminate product clumping by means of multi step conveyor belts. The product is crust frozen and separated into individual pieces as it passes the liquid nitrogen (LIN) injection system before passing into the straight belt tunnel freezer to complete the freezing process.



Freshline Immersion freezer Products are first immersed in a cold liquid nitrogen bath, they are instantly crust-frozen, then conveyed through an equilibration tunnel for freezing to the desired temperature.



Freshline LIN Injection Solutions (LIN-IS) A controlled temperature system which enables the even cooling of meat and poultry to an ideal consistency in preparation for forming or further processing.



Freshline Tumbler freezer A coating technology ideally suited to the high-value prepared meals sector, which enables meat and poultry products to be coated with a high percentage of a wide range of sauces. This system is suitable for production rates of up to 1,200 kg per hour.



Freshline Batch freezer A cabinet freezer or chiller, specifically designed for the batch or lower capacity meat or poultry processors who demand the benefits provided by liquid nitrogen.



Freshline mixer By injecting nitrogen into a specially designed mixer, meat and poultry can be mixed and chilled evenly without the risk of clumping. With a small footprint, production levels of between 1,200 kg per hour and 2,700 kg per hour can be achieved.



Mechanical freezer enhancement Freshline MP tunnel freezer, Freshline QS tunnel freezer and Freshline Immersion freezer can be combined with a mechanical freezer to increase production throughput, increase production run time, reduce dehydration and improve product quality.



Why use liquid nitrogen (LIN) freezing instead of ammonia or Freon?

Freezing in minutes instead of hours – due to the ultra low temperature of liquid nitrogen

Enhanced product quality with faster freezing rates, resulting in smaller ice crystals

Increased production yield – less dehydration and moisture loss

Lower capital costs

Colder liquid nitrogen temperature equals smaller equipment footprint

Flexible equipment rental option

To cater to the needs of small to medium sized meat and poultry processors who have limited capital for investment, Air Products' equipment is available for rent. Please contact us for further details.

Ask Air Products . . . and expect more

Whenever your freezing, chilling or packaging applications involve meat and poultry, bakery products, fruit and vegetables or anything in between, Air Products' Freshline Solutions can fulfill all your needs. Our high purity gases, hygienically designed equipment and international technical support, based on unmatched industry experience, can help you succeed almost anywhere in the world. By helping you improve your productivity, lower your production costs and maximise your returns, we can help make you more competitive in very demanding markets.

tell me more

For more information,
please contact us at:

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