

# Nitrogen Immersion Freezer.



From chicken breasts to pizza toppings, strawberries to shrimp, the Messer nitrogen immersion freezer is the most reliable, accurate, and versatile compact freezer available for processing 1,000-15,000 lb/hr of individually quick frozen (IQF) food. Immersion freezing is the fastest way to freeze while locking important nutrients, moisture, and flavor into the food. The Messer immersion freezer can be adapted to specific processing needs to help increase the quality of frozen product.

## **Benefits**

- Rapid start-up and reliable, trouble-free operation backed by Messer expertise
- Accurate, automatic control of liquid nitrogen level in bath ensures precise freeze
- Versatile - can be used in a variety of applications
- System designed specifically for applications requiring a steady stream of moderate-to-high flow rates

- Processing costs reduced by efficient use of nitrogen in liquid bath and improving exhaust control
- Refrigeration efficiency and cost savings maximized by use of insulation and tight-sealing, tongue-and-groove lid
- Maintenance and operation simplified with a hydraulic lift-out conveyor, tongue-and-groove lid, and belt speed dial
- Emergency stop push-buttons and electronic overload protection for safety
- Solid, Type 304 stainless steel construction with pre-wired electrical control panel meets USDA and NEC standards

## **Maintains food quality**

The most critical aspect of processing IQF products is ensuring a consistent product freeze. The Messer nitrogen immersion freezer automatically maintains an appropriate and accurate level of liquid nitrogen in the bath to guarantee proper freezing, hour after hour.

### Boosts processing efficiency

The Messer freezer is designed for efficiency. Strawberries, scallops, shrimp, pizza toppings, and other foods are fed through an opening at the top of the freezer directly into the bath. They then exit on the conveyor belt. Foods that require a specific orientation such as chicken breasts, fish fillets, or beef strips are fed into the bath on the conveyor belt through an opening in the front. The freezer's precise regulation of the liquid bath improves nitrogen efficiency and allows better exhaust control. Its fast installation, rapid start-up, and trouble-free operation reduce downtime. All these benefits add up to cost-effective, high-quality production.

### Flexibility

The Messer immersion freezer can be used as a stand-alone freezer, in conjunction with a post-cooling tunnel or spiral, or even as a Cryo-Assist unit linked to a mechanical freezer. When attached to a Messer spiral freezer, the immersion-spiral combination provides the most efficient freezing solution. This solution provides the benefit of crusting the product in the immersion and the ability to re-use the cold gas in the spiral freezer.

### Simplifies operation and maintenance

A sturdy hydraulic lift gives easy access to the conveyor and immersion tub for cleaning and maintenance. Similarly, a tight-sealing, tongue-and groove lid closure makes cleanup easier than with a traditional, particle-retaining gasket design. Belt speed can also be smoothly adjusted using a dial with a digital speed indicator.

### Sturdy, safe construction

The freezer is equipped with emergency stop push-buttons at each end and electronic overload protection for safety. Its sturdy, Type 304 stainless steel construction and pre-wired electrical control panel meet USDA standards.

### Specialized expertise for frozen food applications

Messer has more experience in IQF food technology than any other freezer manufacturer. This expertise guarantees a knowledge of frozen food processors' needs and an unmatched degree of reliability, such as when predicting a customer's nitrogen consumption and production capacity.

### Technical specifications

Model	KFI 34-9	KFI 38-13
Production capacity (lb.hr) *	1,000 - 10,000	1,000 - 15,000
Usable belt width (in.)	34	38
Belt speed (in./sec)	2 - 20	2 - 20
Overall length (in.)	135	183
Overall width (in.)	88	95
Drive motor (hp)	2	2
Electrical	20A @ 460V	20A @ 460V
Exhaust Plenum (in.)	10	14
Approximate weight (lb)	4500	5300
Options		
Exhaust Inverter (5HP)	Available	Standard
AB PLC and HMI Control	Available	Available
Wash / Polish / Wrap	Available	Available

\*Production capacity dependent on product size and heat load



#### Messer North America, Inc.

200 Somerset Corporate Blvd  
Suite 7000  
Bridgewater, NJ 08807  
Phone: 1-800-755-9277  
sales@messer-us.com  
www.messer-us.com



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