



Maxikool For Shrimp

MECHANICAL CRYOGENIC

Background

Shrimp is delicate thing where they can process in different way such as cooked, raw frozen, IQF, value added like shrimp ring, breaded shrimp, to produce the best quality of prawn we need to freeze by Liquid Nitrogen or Liquid Carbon dioxide (Cryogenic System). Nitrogen and Carbon Dioxide cryogenic fast freezing will get the best result but cause very expensive in Freezing cost. Maxikool can offer you the same quality and many benefit as following .

Requirement and Solution

1. Very Low Freezing Temperature same to Nitrogen and Carbon Dioxide

Maxikool Freezer can operate at -70°C which is equal temperature freeze by Liquid Nitrogen and Liquid Carbon dioxide



Ensure the best of product quality equal to freezing by Cryogenic technology

- Ensure weight loss is less than 1 %
- Ensure freezing time is equally to cryogenic system
- Ensure quality, texture and test after thawing is the same with fresh product

2. Fast freezing cause better quality product

Guarantee weight loss is less than 1 % and water crystal is very small cause shrimp product after thawing keep same freshness to previous before freeze

Mechanical System.

Cold vapor or Mechanical (conventional)

-40° C temperature by conventional system cause slow freeze, shrimp layer can not create the ice wall to protect water loss cause dehydrate

Dehydrate : water loss from shrimp normally 3-5 % cause product quality is not good enough

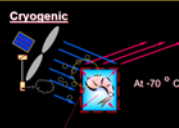
Slow freeze also create big ice crystal cause to damage the shrimp cell, (Tissue) after thaw shrimp quality is not good

MAXI-COOL 13


The image is a slide titled 'Mechanical System.' It features a diagram of a conventional mechanical freezing system with a fan and a shrimp. Text explains that a -40°C temperature causes slow freezing, preventing the formation of a protective ice wall and leading to dehydration. It notes that dehydration results in a 3-5% water loss, which is insufficient for quality. Additionally, slow freezing creates large ice crystals that damage shrimp cells, affecting quality after thawing. A microscopic image shows these large, jagged ice crystals. The slide includes the 'MAXI-COOL' logo and the number '13' in the bottom right corner.

Cryogenic System & Maxikool system

Cryogenic

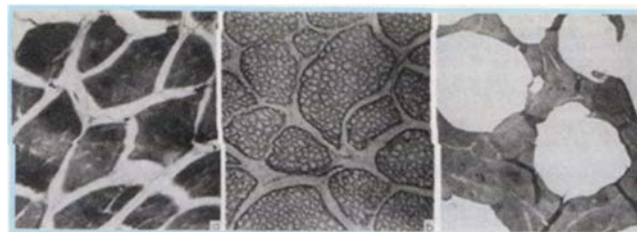


At -70 °C air flow will create ice wall to protect water loss from Shrimp cell. The water loss (weight loss) is not more than 1%, we call cryogenic.



Fast freezing create small crystal and when thaw product, quality is same quality to before freeze

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Tuna Before Freeze Tuna Freeze by Maxikool Tuna Freeze by Slow freeze

3. Low freezing cost,

Maxikool offer very low freezing cost only 300-400 VND/kg, Since we introduce our company as the saving energy machine, so every machine we install KW Hour meter to measure all electrical consumption which include Compressor , pump, fan etc.



4. IQF (Individual Quick Frozen) is require in some product

With MMBT (Maxikool Multi Belt Technology) we can offer you the result of IQF 98 % and very low power consumption. MMBT uses mechanic gravity which no need additional energy compare to fluidize bed where in a lot of energy to lifting product.



5. Safe space compare to conventional (-40°)

Because of better technology , Maxikool can offer 30% less space compare to conventional system.

6. Safety Environment, Easy to operate and Less maintenance

Maxikool operate with Freon Refrigerant, less toxic, friendly environmental to community, also easy to operate only on/off switch and less maintenance by screw compressor.