



**THE AEF
TECHNOLOGY**
ACOUSTIC EXTRA
FREEZING
GENTLE FREEZING

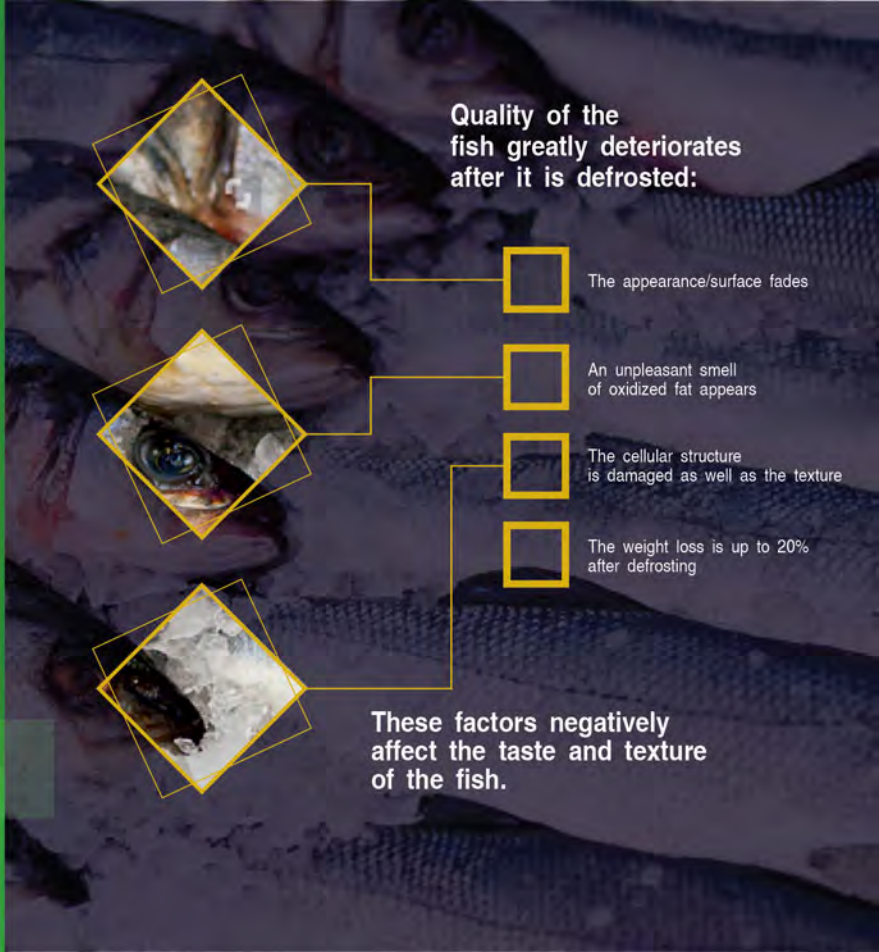
**ALIVE
TASTE**





The problems of traditional freezing

Freezing is the best way to store fresh products for a long time and keep its quality at high level.



Quality of the fish greatly deteriorates after it is defrosted:



The appearance/surface fades



An unpleasant smell of oxidized fat appears



The cellular structure is damaged as well as the texture



The weight loss is up to 20% after defrosting

These factors negatively affect the taste and texture of the fish.



Using this technology you can freeze not only fish, but also shrimps, oysters, caviar and crab meat

Decision is an acoustic extra freezing AEF

The AEF technology is based on USSR scientific elaborations of ice nanocrystalization process. The result of this research is acoustic freezing method which allows to save cellular structure.

As a result after being defrosted the fish retains

Nutrients



Natural colour



Texture



Taste





How does it work?

The AEF system makes acoustic waves which produce the smallest ice crystals inside the cells and in the intercellular space. Steadily, under the waves influence, the crystals grow up and absorb the free water without damaging the cellular structure.

The crystals have such an orientation that they do not grow together even if the product is stored for years.

Consequently, the AEF system guaranties the fish freezing having the qualities of the fresh one.



The equipment

The AEF technology can be installed in those on-board the ship and onshore freezing chambers.

According to the type of the chamber the next ways of the AEF system installing are distinguished:

Portion

Shelving/panel

Contact

Tunnel

Spiral



Advantages of the AEF system

Increasing the storage time
The identity of the fresh and defrosted fish



Near-zero liquid loss per the fish weight

The improvement of delivery

- the fish is frozen on board the ship
- it is delivered under -18°C or lower the processing plant
- the fish is defrosted without loss of liquid, texture, flavour and quality
- it is transported to the final destination cooled





The specification of freezing



Extended shelf
life without
loss of quality



Identity of defrosted
and fresh fish

<0,5%

Minimal loss
of liquid



Possibility
of re-freezing

The AEF allows to lessen oxidation up to 98% (in depending of the product)

The AEF allows to store tuna, salmon and other fish under -18 C up to 1,5 year

The weight loss after freezing is not more than 0,5%



The field of application

The fish trade has largely improved its abilities and possibilities after the AEF integration in the freezing chambers. Nowadays most of the AEF fish products satisfy the quality of best restaurants.

The integration of the AEF in the fish processing plants shows excellent results.

The research of the VNIRO institute approved that the quality of fish, sea foods, caviar remains the same after being defrosted.

The AEF can be used in diversified food productions. The freezing of crab meat, clams as well as fruit and vegetables has confirmed its effectiveness





**Experience/test
the effectiveness
and your benefit.**

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