

Unique product quality

- Product is cooled down between all processing steps with fluid ice before packing
- Automatic product handling during processing
- Product emerges in fully sealed, non-transparent polybag
- Product is transported in special plastic tray into the freezer
- Product is -1°C before freezing process
- Fully frozen in 3-4 hours
- Product goes in carton box after freezing process
- Pallet is fully wrapped around with plastic cover on top



No forklifts in processing area

Dr. Björn Margeirsson

Matís - Research Group Leader

- Experiments with the Automatic Box Freezer (ABF) show insignificant effect on the mackerel’s muscle gaping. This indicates that quality concerns regarding the pressure from the plates are redundant.
- The freezing time for the ABF method significantly affects the marckerel’s membrane (peritoneum) lesser than the blast freezing method. High temperature causes increased enzyme activity in the mackerel gut which is observed in the peritoneum’s condition.
- A severely reduced freezing time (the time for the product to reach a target temperature) with the ABF method, i.e. with the target temperature -25 °C, the ABF method has the mean freezing time of 5-7 hours compared to 15-20 hours of the blast freezing method.
- Mackerel frozen using the ABF method has less drip (2.6%) than one using the blast freezing method (4.0%).
- Experiments show that the ABF method is 1.4-2.0 times more energy efficient than the blast freezing method.



Matís ltd. is an independant research institue which strives toward innovation in the food industry, biotechnology, and food security. Matís provides consultancy and services to companies in fisheries and agriculture as well as governmental agencies.

Production cost for Skaginn 3X pelagic system

Working hours per 1,000 kg of fully frozen product*	0,94 hours
Electrical usage for freezers per 1,000 kg of finished product	60 kWh
Electrical usage for total factory without product freezing per 1,000 kg**	66 kWh
Packing cost per 1,000 kg of finished product***	36 Euro

* Working hour based on all factory employers, including also cleaning time and technical service. This is based on 750 MT/24H mackerel production with total 30 employers

** Electrical usage is the total usage for the whole plant and includes all processing equipment (without product freezing), cold storage and normal heating and electric cost of the plant.

*** Packing material for the total product and includes plastic bag, carton box, strapping, pallets and pallets wrapping plastic.

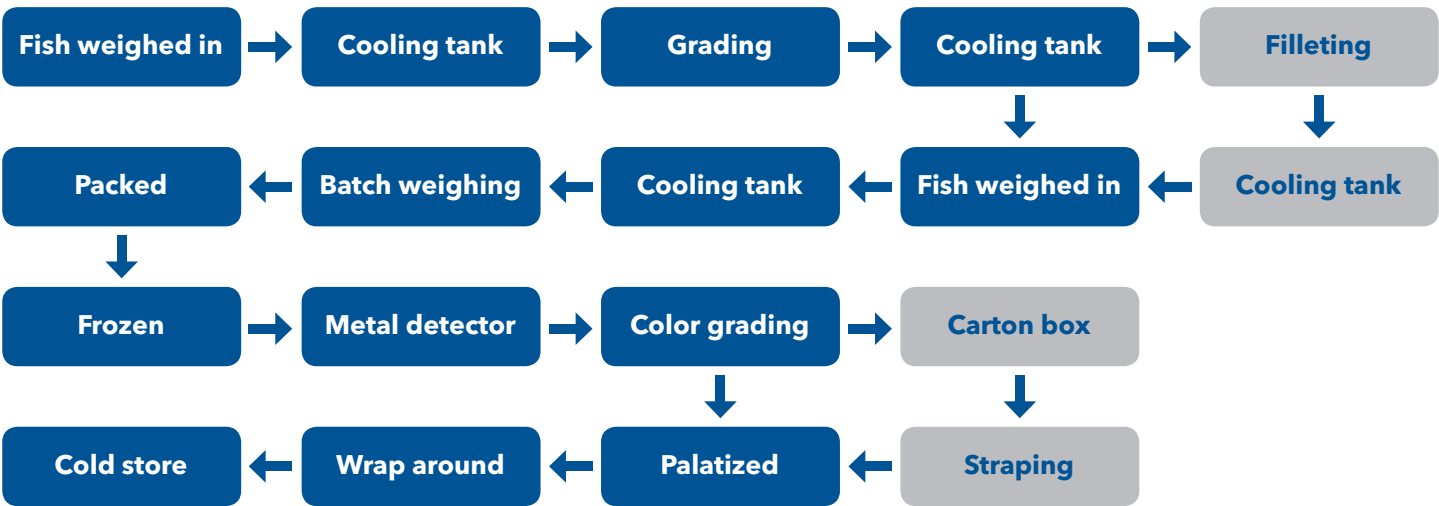
SKAGINN 3X

skaginn3x.com
Iceland

Skaginn 3X automatic pelagic processing starts at the ship ...



... and finishes in cold stores



“ Varðin Pelagic invested in a 600 MT/24H factory from Skaginn 3X in March 2012. One year later the equipment has been installed, packed 60,000 tons of pelagic seafood and with capacity up to 750 MT/24H. We are producing high quality products and our customers agree with that. We have never lost a production day because of technical problems after startup. ”

- Bogi Jacobsen, Managing Director Varðin Pelagic



“ SVN have about 550 MT/24H pelagic system from Skaginn 3X. In SVN we have 9 freezers for product in trays and 3 carton box freezers. We produce mackerel, herring, capelin and capelin roe. We have a long relationship with Skaginn 3X and choose to work with them because they provide unique solutions and high quality equipment. ”

- Jón Már Jónsson, Manager for land based operations SVN

Automatic Pelagic Processing Solutions

- Fully automatic
- Unique design
- All pelagic fish
- Minimal pressure during freezing
- 3-4 hours freezing time
- Save space, 1,000 MT / 3,000 m²
- Capacity from 200-1000 MT/24H

SKAGINN 3X



