

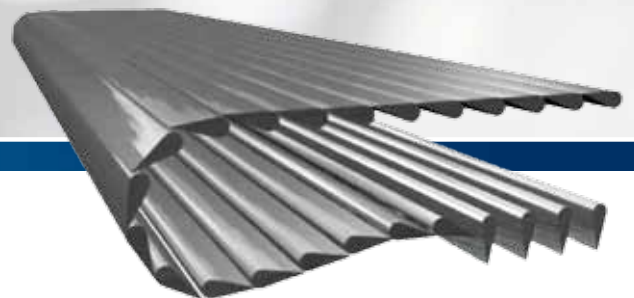
Super Chiller Solution

Fresh product and superiour quality



The new way of thinking

Fillets in subzero state



- Premium product appearance
- Superior quality of product
- Optimized product mix
- Increased yield trough out-processing
- Maximal trimming capacity
- Extended shelf life for fresh product

Introduction

The purpose of super chilling is to build up strength to the fillets by taking them into subzero state. Fillets in subzero state are both firm and elastic and by that the fillet can resist further processing much better. The result is following:

- Quality of the fillet is maintained trough out all handling and processing.
- Unspoiled firm fillets give optimal product mix.
- Better yield, because the moister is now locked into the fillet.
- Extended shelf life for fresh product in subzero state.

The super chilling concept is based on three main steps.

1

Preparing the fillets before super-chilling in special designed cooling tank for 10-12 minutes. The preparation of the fillets is based on following.

- **Cooling down fillets before super chilling.**
- **Cleaning the fillets which give a whiter and better look.**

2

The Super Chiller is designed to super-chill fresh products into sub-zero state (available in 3 standard sizes). Chilling capacity is based on the following.

- **Fillets average size 500 g (17.64 oz).**
- **Loading on freezing belt 8.80 kg/m² (1.8 lbs/ft²).**
- **Fillets are super-chilled in 8 minutes.**
- **Capacity is 60-100 fillets/min.**

3

Skinning Machine is special designed for fillets in sub-zero state. Capacity of each machine is 40 fillets/min. This capacity is based on following.

- **Cod and Haddock fillets.**
- **Average length: 420 mm.**

1



1.1 - Fluid Ice system:
Ensures maximal cooling and increases capacity of Super Chiller.



1.2 - Cooling and buffering:
The cooling tank acts as a buffer in the processing line.



1.3 - Dissolve bloodspots:
Fillets become whiter as bloodspots are dissolved.

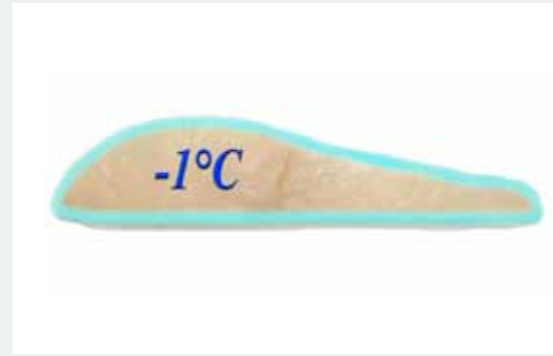


1.4 - Cooling tank to in-feed:
Cooling tank delivers fillet to the in-feed conveyor.

2



2.1 - In-feed process designed for optimal facilities:
Optimal facilities and effective in-feed.



2.2 - Super Chiller
Contact-chilling super chills the product.



2.3 - Teflon-coated aluminium-droplets belt:
The aluminium contact-belt has a flat surface.



2.4 - Quality is maintained through out the process:
Fillet in sub-zero state are both firm and elastic.

3



3.1 - Slide to the skinning machine:
The product comes from the Super Chiller on a slide to the skinning machine.



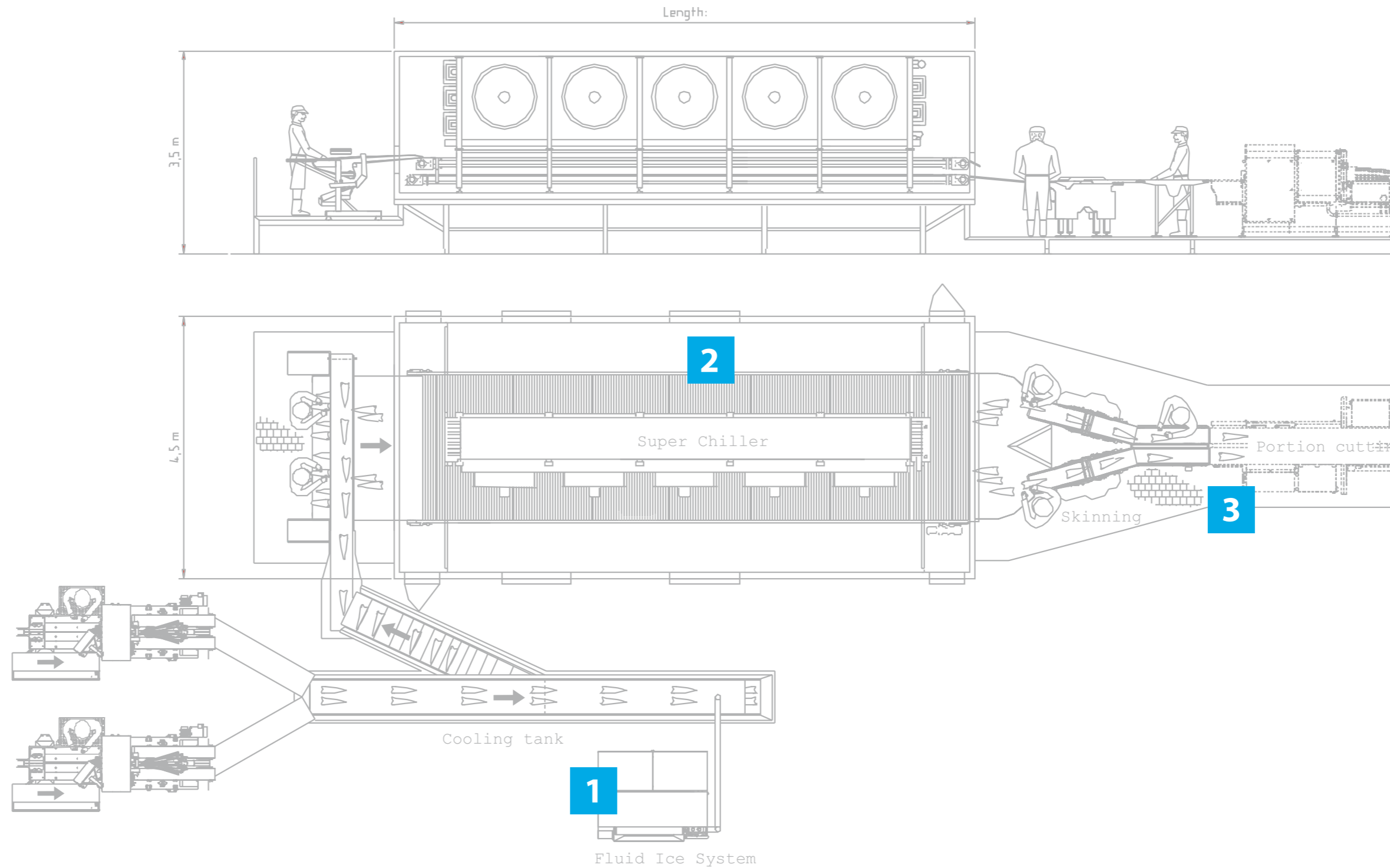
3.2 - Skinning machine:
Skinning with minimum yield loss and tear.



3.3 - Perfect skinning:
Skinned without any damage to the product.



3.4 - Superchilled skinning vs. traditional skinning:
Amazing difference between skinning methods.



Product quality



Increased product quality and yield.

- Better appearance of the product, and better product mix.
- Minimal loss of liquid increases taste quality.
- Tests show up to 3 - 4 days increased shelf life.

Better handling with elastic product.

- New possibilities of processing sensitive raw materials, such as haddock.
- Trimming is easier and spoilage, due to handling, minimized.
- Reduced costs using more economic transport for fresh product.



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