

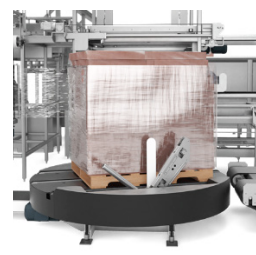
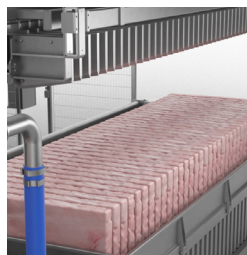
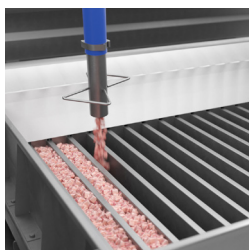
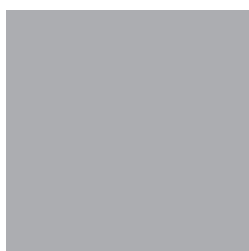
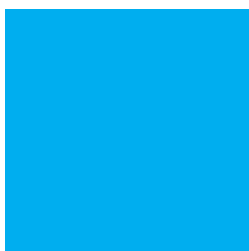
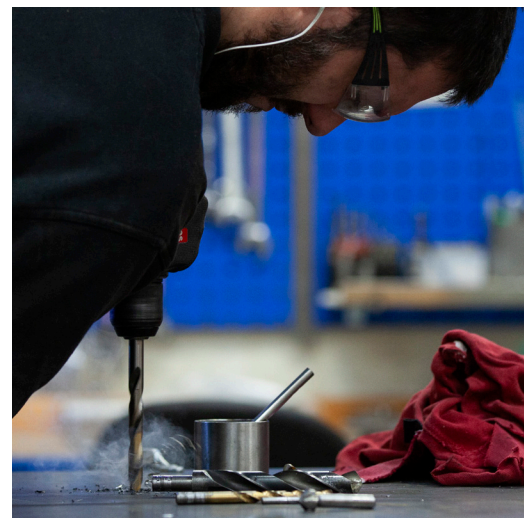
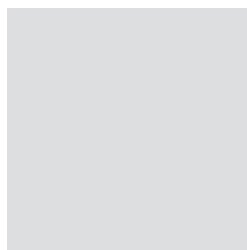
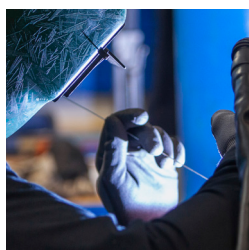
Description

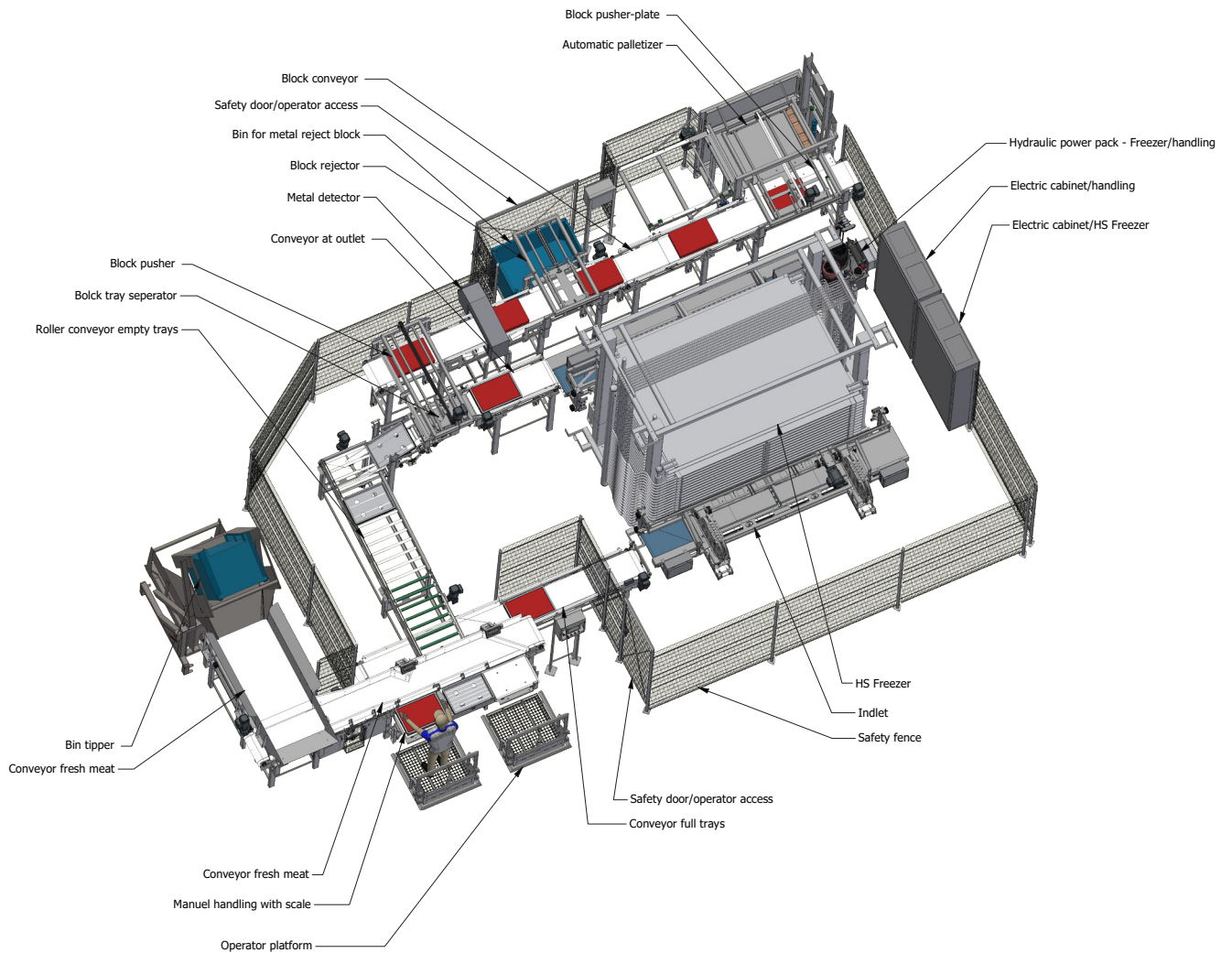
Drawing nr. 122-658773

Automatic production

Pumpable products

Cases based on 1 horizontal freezer





Automatic production

Pumpable products

Cases based on 1 horisontal freezer

HS Freezer Nh3 -38° C

Cycle time 180 min

Approx 102 Ton/24 hours

SEAFOOD

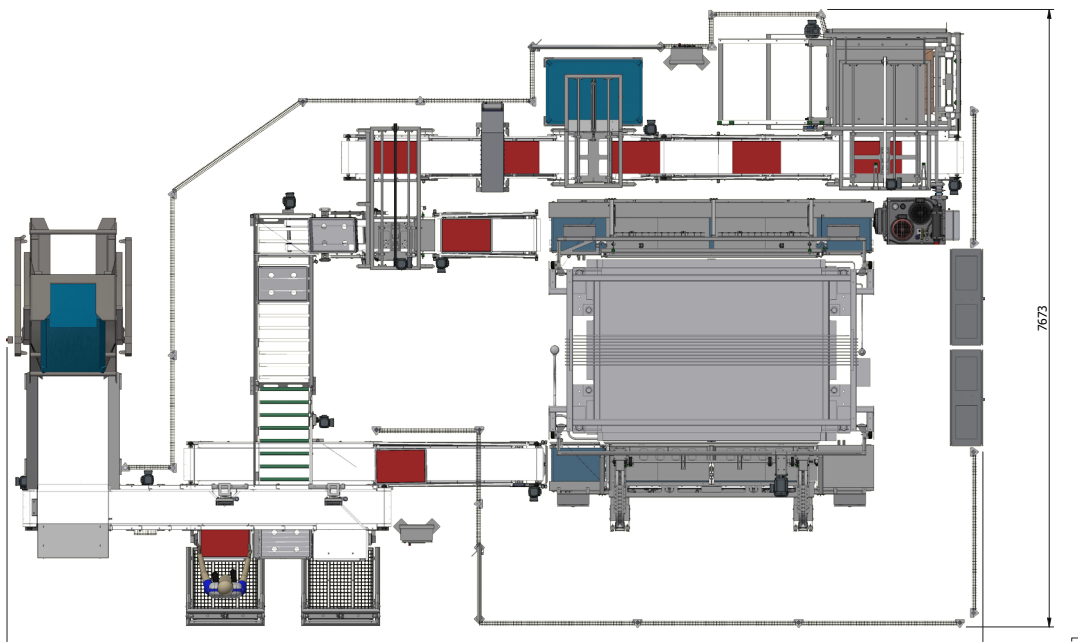
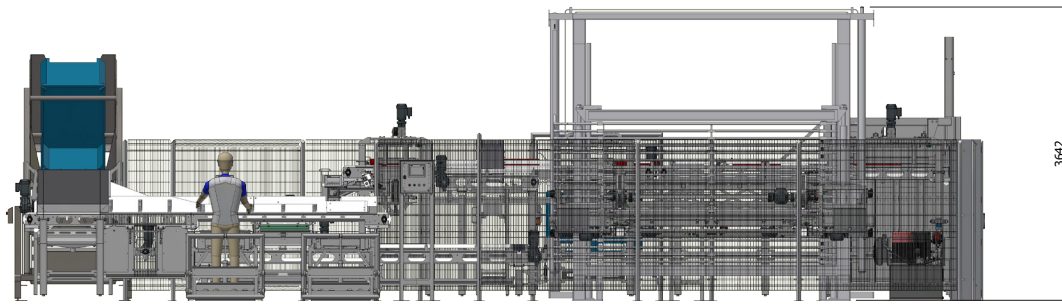
MDM

LIQUIDS /SLURRY

ORGANS/MEAT

Drawing nr. 122-658773





Flow Description

Pumpable products

The process and description of the flow of the project. Depending on the product the freezers will either be loaded by a loading arm or by a semi-automatic container loading system.

- ▶ The operator places a big bin with product in the bin tipper which empties the bin into an unloading chute, connected to the product conveyor. Above the product conveyor, a tray conveyor is supplying the operator with empty trays. The operator picks up an empty tray from the top-conveyor and places it on a bench scale and places a plastic liner in the tray. From here the operator pick up the products from the product conveyor and slide it into the tray. To achieve the 20 kg, a weighing instrument are showing the exact weight of the product in the tray. To finetune at achieving exactly 20 kg,

the operator can cut off the product in minor pieces on the sliding chute which have a PEHD cut plate in the bottom.

When the tray is full, the operator closes the plastic liner and pushes the full tray onto an incline chute, transferring the tray to the "full tray conveyor" toward the infeed conveyor for the DSI horizontal flex freezer.

The full tray conveyor transports the filled and unfrozen trays to the freezer loading conveyor, and buffer up four trays at time.

The horizontal flex freezer receives four trays and elevates or lowers them to the freezing station and push in the trays, one row at a time and go back to pick up four more trays. When a freezing station is full, it closes and starts the freezing cycles, while the infeed system is filling the next freezing station. The horizontal flex freezer can freeze trays giving a block dimension of 400 x 600 x 100 and 75

mm. When the freezing process is done, and the product are solid frozen, the freezing station opens, and is ready for new non-frozen trays. The new trays are getting pushed in by the infeed system and is pushing out the frozen trays at the other side, onto the outfeed conveyor. The outfeed conveyor moves the trays in vertical direction to the level of the outfeed roller conveyor and transfer the trays hereto.

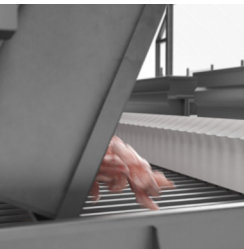
At the chain conveyor, the blocks from the four trays are ejected to a parallel conveyor. The empty trays return to the filling area for the operator to reload. The last layer which will be flipped one by one due to the number of layers on the pallet and the speed of the system. The blocks will be pushed to the block cutter to be cut and divided into two and further distributed through a metal detector. If a block contains metal the palletizing robot will pick up the blocks and place the rejected block into a bin for further inspection.

The frozen blocks continue to the block conveyor for metal detection. If a block contains metal, the blocks are automatically pushed into a bin for manual inspection. The blocks are sent to semi-automatic palletizer.

The operator must place an empty pallet in the palletizer, close the door and press start before the palletizer can start.

Two blocks are pushed onto the plate of the palletizer at a time, and when the plate has constructed a layer of four blocks, the plate retract, and the layer of blocks are placed on the pallet. This cycle is repeat until the pallet is loaded with 10 layers corresponding to 800 kg or if the operator signals for a product change.

When the pallet is full, the operator must remove and reload the palletizer with an empty pallet.



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