

Reference Gebr. Kramer

Better product quality thanks to ultra-fast freezing



Request by Gebr. Kramer

Renovate the freezer installation within six weeks and provide a higher level of capacity and as many glazing baths as possible.

If fish processing plant Visverwerkingsbedrijf Gebr. Kramer in Urk would like to renovate the entire deep-freeze department, ENGIE Refrigeration is facing a major challenge. "With the limited space available, it is a case of fitting things in and carrying out measurements", explains co-owner Lub Kramer. As soon as the final plan is on the table, ENGIE will complete the task in record time. And Kramer will benefit from a higher level of capacity and a better product quality.

Deep-freezing at four times the speed

ENGIE's design for the new freezer installation will increase capacity. This is something that appeals to brothers Lub and Klaas Kramer, but several procedures are still needed in order for this to become a reality. The refrigerating system, that runs on natural refrigerants,



is located on the roof. As a result, more space is created for the deep-freeze tunnel in the depot.

Project Manager Chris Muller of ENGIE has another trick up his sleeve for increasing the capacity. He is replacing the only belt freezer with a 2.60-metre airinjection freezer (ILV) with two 1.80-metre deep-freeze belts. "This allows Gebr. Kramer to process larger



amounts of plaice and sole in a shorter time; around 1,300 to 2,000 kilos per hour. The second line also provides a back-up that is immediately ready in the event of a possible malfunction”, explains Muller. A fillet of plaice is frozen at a temperature of -40°C. This now takes only 5 instead of 20 minutes. And the energy consumption needed to freeze 1 kilo of fish is halved.

Better product quality

The fish itself also thrives better with the faster deep-freeze time. Deep-freeze specialist Juriaan Romkes: “I can already see the difference as soon as the fish come out of the ILV. The fish are lighter and whiter.

And an imprint can barely be seen thanks to the fine structure of the transport conveyor. The fish even look good on the inside: the structure remains unspoiled because the ILV does not extract as much fluid. This means that the fish do not dry out as much and maintain their weight better.”

The Kramer brothers are reaping the benefits of this as entrepreneurs. “The ILV has a longer standing time as it extracts less fluid and thus is less affected by the accumulation of ice. But the most important thing of all is customer confidence. Since the new freezer installation was commissioned, our fish are better and we are much busier”, explained Kramer.

Lower water and energy requirement

After treatment in the ILV, the post-freezing phase ensues. Where the fish now go through five tunnels along their route, instead of two. The fish are hardened further here at a temperature of -38°C. An ice cold plunge in a pool of 0°C water follows after every line

freezer, allowing the fish to absorb up to 10 to 50% ice. Thanks to this fine layer of ice, the fish is protected against drying out and freezer burn and ultimately has a longer shelf life. As the new glazing containers are smaller in size, Kramer saves over 1.6 million litres of water per year. The efficient design of the installation makes the conveyor belt of the ILV that bit shorter than before, up to and including the last line freezer. This also reduces energy consumption.

Central operating system

More line freezers and glazing containers, but it is still much more convenient for the deep-freeze specialist. Sensors in the deep-freeze tunnels constantly check the temperature. And the complete deep-freeze line is incorporated into the central operating system. Romkes: “I can now operate all installations via a touchscreen: from the speed of the conveyor belts to filling of glazing containers. Cleaning has also become much easier, as we are able to open the hatches on the sides of the tunnels.”

Job completed in six weeks

“ENGIE performed amazingly”, concluded Kramer. “The job needed to be completed within six weeks; after all the freezer is the heart of our company. But the installation was back in operation before the deadline. And as is fitting of a family company, Klaas and I are now preparing our sons to take over the company one day. In any case, the next generation will be able to use this freezer installation for years to come.”



The ENGIE solution

A refrigerating system
in a space-saving location,
an air injection freezer with
dual deep-freeze line and
five post-freezers with six
glazing machines.

More information

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Lub Kramer, Gebr. Kramer
Fish Processing Plant

“We have become
much busier since
the new installation.”

