

Rotapro scraped surface heat exchanger unit

PRODUCT DESCRIPTION

- Delivered to Bornholms, Nexoe, Denmark
- Used for cooling of fish sauce
 - about 600 kg/h from 80°C to 20°C
- JH has been fully responsible for the design, production and start-up on site
- Buffer tank: Ø1000x1380, 1.170 l
Cone bottom: 30°, insulated, EN 1.4404, polished surface in- and outside
- Supply on stainless steel frame:
 - Rotapro SSHE: V70/100, 2,2 kW, 292 RPM
 - Product tank: Ø850x350, 300 l
 - CIP tank: ø600x550, 140 l
 - 2 pump unit for lye and disinfection
 - Valves: Alfa Laval
 - Pumps: Alfa Laval and Alflow
 - Instruments: Baumer
 - Siemens PLC control



BORNHOLMS A/S

CLASSIC PRODUCTS ON NEW CANS



In order to understand our product better, we have had a talk with one of our customers. The outcome is this brief case story. It revolves around a company in progress, who achieved unique results by restructuring its production and by using a scraped surface heat exchanger.

The manufacturer of canned fish Bornholm A/S is located on the isle of Bornholm far away from the Danish mainland. They have produced canned products such as pressed cod roe, fish dumplings and fish soups since 1915. The company has developed itself to be amongst the leading suppliers of canned fish in all of Scandinavia.

A great idea

The people at Bornholms are innovative, as they always strive to be the best of the bunch. That is why they decided to change the product packing, during a restructuring of the production facilities in 2012. They wanted to shift away from using traditional aluminium cans, and instead use a more modern plastic can. The change in packaging had many advantages. The plastic cans are

much better for the environment and at the same time much cheaper than the traditional aluminium cans.

A new challenge

Having a great idea was one thing, but executing it was a whole different story. The thick liquid products such as soups caused a problem. The new plastic packaging was a challenge for the way that Bornholms had produced these products so far. Unlike the aluminium cans, the plastic cans could not resist the temperature of the end-product, which led to a vacuum effect inside the packaging. However, this did not come as a total shock to Technical Manager Per Bertelsen:

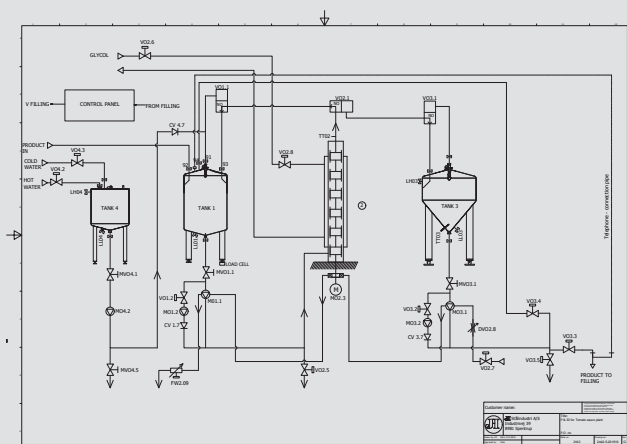
“We hoped that it would work, but we had a suspicion that it probably wouldn’t, and unfortunately it was the suspicion that became a fact”.

An effective solution

The cooling process caused issues in the new production facilities. At JH Stållindustri we have great expertise in solving problems with cooling of highly viscous products. We delivered a process unit where the product is pumped through our specially designed Rotapro scraped surface heat exchanger, which quickly cools the thick soup from 65 to 20 degrees, in order for it to be filled into the plastic can without any problems.

An increase in production

The Rotapro scraped surface heat exchanger is the ideal solution for the cooling process due to the high



viscosity of the product. It is build around a rotor with scraper blades which effectively scrapes and turns the thick liquid through a tube surrounded by cooler fluid. It does so with a very low loss of pressure, which thereby optimize the entire cooling process. That is why the Rotapro solution by JH Stålinindustri have not just meant that the product could be filled into the plastic cans, but has also made it do so much more efficiently than before:

“We are running faster – we have increased our production more than we had dreamt about doing” - Per Bertelsen, Technical Manager.

Specifically the scraped surface heat exchanger solution has increased Bornholms production from 12.000 units a day to 16.000.

A better taste

However, Per Bertelsen underlines the fact that the optimization of the process was not the only benefit of the solution delivered by JH Stålinindustri. The use of the Rotapro scraped surface heat exchanger has also improved the product according to him:

“Being able to cool the product this way has given us a better product” - Per Bertelsen, Technical Manager.

He elaborates that taste, as well texture, has improved by cooling the product through the Rotapro scraped surface heat exchanger. It has also ensured a bigger homogeneity in the product than earlier. All of which is a bonus besides the higher efficient production with packaging in plastic cans.

About working with JH Stålinindustri
Per Bertelsen says: “Its been a fantastic cooperation, there is no doubt about that”.

A number of his statements underlines the benefits Bornholms A/S has gained with their new process unit with the scraped surface heat exchanger:

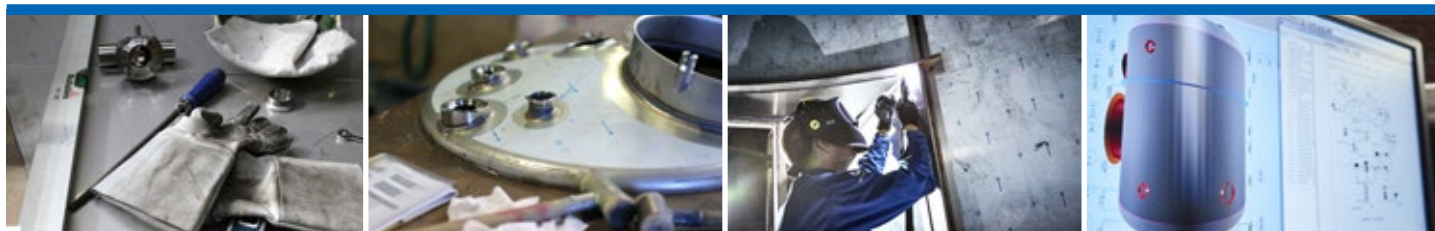
- **An increase in production by 33%**
“We started by producing around 12.000 units during a 7,5 hour workday and now we are up to 16.000”
- **Ensures a homogenic product with a better taste and texture**
“It has given us a more creamy sauce, it has given us a better product and a more homogenic product”
- **Ensures the use of cheaper and more eco friendly packaginge**
“We have been able to convert more product to plastic packaging”
- **Made it possible to manufacture new products**
“We have been able to make a new type of product for the Swedish market”
- **Easy and efficient automatic cleaning system**
“An advantage with the scraped surface heat exchanger is the fact that it is easy to clean, it is truly straight forward”
- **Great craftsmanship an on time delivery**
“It is great craftsmanship that has been delivered, It is a nice piece of work that we received”
- **Quick and helpful service**
“When you call, you are being taken serious and your problem will be cared for right away that is worth everything”



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