



RIDGE-M™

## User Experience

Holland Malt  
Food and beverage industry



Holland Malt B.V., part of Royal Swinkels Family Brewers, is a malt producer located on the northern coast of The Netherlands. Since 1939 the company has been producing malt to ensure the supply for its own brewery, and nowadays it is producing and exporting malt to breweries all over the world.

The family-owned company has been in the business for over seven generations. From this perspective, Holland Malt is fully aware of its social and environmental responsibilities. That is why they work hard every day to reduce their environmental impact and safeguard the well-being of future generations.

Due to a growing demand Holland Malt doubled its malting capacity in 2017. Unfortunately, doubling the production capacity also means doubling the water consumption. For the treatment of their wastewater Holland Malt needed a reliable and stable system that could provide high-quality permeate and provide significant cost savings. To reduce their environmental impact and their global footprint, Holland Malt partnered with Berghof Membranes.

After testing pilot systems from various manufacturers, Holland Malt has chosen the ultrafiltration system from Berghof Membranes, called the B-Smart® which is known for its reliability, high quality permeate production, ease of use, and low maintenance.

### 5 years later

Testing, piloting, and designing an ultrafiltration process is one thing, but the results and the experience of the end-user in practice are of much greater importance. This is why we spoke with Gert-Jan van Veen, who is a Process Technologist and responsible for the malting process and water management of the plant.

“2017 was a big milestone for us. Due to great success and a rising demand we needed to double the output of our malt house. However, that meant we had the challenge to double our water consumption and wastewater treatment as well. We are discharging our treated wastewater directly in the harbor. This is saltwater, low on nutrients. This is why we have tightening regulations for our permeate (freshwater). The freshwater we use for the process is being bought from the water company since we can't pump water from the soil due to the salinity. After testing in the past, we found a way to reuse the permeate partially for the process. We needed a reliable system that produces high-quality permeate which can be reused in the malting process.”

“Before partnering with Berghof Membranes we already had one MBR plant with ultrafiltration membranes running. But due to the increase in production, we needed a second installation. For selecting the most suitable technology we decided to do a pilot test with multiple membrane brands in which Berghof Membranes performed best.”

The adaptability to fluctuations in wastewater quality and quantity was one of the main drivers which made us select the technology of Berghof Membranes. In addition, the provided system brought us large savings in energy costs, which is a big priority to Holland Malt.



**Membranes**  
Think outside the box

“We started the system at a low crossflow velocity first. However, after digging deeper into it, it turned out that a higher speed gave better results. For lowering our operational costs we really wanted to decrease the power requirements of the pump. Eventually, we were more than happy that the ultrafiltration system of Berghof Membranes was able to operate with lower energy costs, this by generating the same crossflow velocity with less pump pressure required.”

## A long term partnership

During the last five years, the partnership between Holland Malt and Berghof Membranes has been very intensive: “We have been testing, monitoring, and tweaking the process together to make it even better. I was really happy that Berghof Membranes cared so much, even after commissioning. We had some challenges during the start-up phase. They were very open to our feedback and had a great service team to support us.”

“I really appreciate our close partnership. The membranes are performing well. The combination of high-quality membranes and the expertise in mastering the process gives us the reliability and long membrane lifespan we are looking for. Of course, as you know, in daily production processes there are always occasional problems popping up. But when it does I have the security that Berghof Membranes is always fast to act!”



## Deepening the strategic partnership


During the past years, Berghof Membranes has successfully developed a new R&D membrane. After lab and pilot testing, it was time to test the product in a real production environment. For this we wanted to have a good reference, meaning an innovative and leading company with a clear focus on sustainability. Holland Malt was the obvious choice for us.



Holland Malt wants to be the first 100% emission-free malt house in the world. To achieve this goal by 2024 the company will fully replace the consumption of natural gas by installing heat pumps. This will be a major step in the company's quest for an even higher level of sustainability.

The company was more than happy to partner with Berghof Membranes for testing our new R&D membranes. “The new R&D membranes of Berghof Membranes are very easy to install as they are 1-on-1 replaceable with the current HyperFlux™ ones. We had them installed in no time in our high crossflow skid where we operate at a velocity of 4 m/s! So far they have been running for six months and the results look really promising, both stable and reliable. Recently we have opened the modules and we didn't notice any fouling or signs that indicate clogging of the membranes. All modules seem to perform really smooth!”

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