

# HOW PAULANER BREWERY EXPANDED ITS FILTRATION CAPACITY BY 50%

## WITH PENTAIR BEER MEMBRANE FILTRATION



Paulaner Brewery in Munich, Germany.

### AN INTEGRAL PART OF GERMAN AND INTERNATIONAL BEER CULTURE

Paulaner Brewery is one of Munich's oldest and well-known breweries. Its history is deeply rooted in the tradition of Bavarian beer culture and dates back to the 17th century.

The brewery's name originates from the Capuchin monks who developed a unique beer called Salvator or "Savior" beer. As its popularity grew, the monks received permission to sell it to the public, leading to the establishment of the renowned Paulaner Brewery.

### A RISE IN DEMAND CREATED A CHALLENGE

As preferences and trends in the beer industry continued to evolve, Paulaner's market preference shifted more towards filtered beers. In particular, demand for the Paulaner Münchner Hell rose and continues to rise rapidly, both nationally and internationally, so the brewery needed to increase its beer filtration capacity.

The previous filtration technology consisted of two Pentair Beer Membrane Filtration (BMF) blocks, which filtered alternately of one another. Each BMF block consisted of 4 skids, with 9 membrane pairs per skid. With a total of 705.6 m<sup>2</sup> filter area per BMF block, the maximum filter capacity was 400 hectoliters (hl) of filtered beer per hour.

Due to the good experience with the system, Paulaner decided to upgrade in consultation with Pentair. One of the challenges with the upgrade was replacing the old membrane filtration with the new system within just 3 weeks. To make this possible, dismantling and assembly were planned in advance together with the Paulaner project team.

### LESS DOWNTIME, LESS SPACE REQUIRED, YET MORE CAPACITY

Paulaner replaced its eight Pentair BMF 18 semi-continuous skids with five Pentair BMF +Flux Smart S8 skids designed for continuous filtration.

Previously, the brewery could produce 32,500 hl per week within five days of operation, which corresponds to a capacity of 2 million hl of beer per year.

The new system can process 48,600 hl per week, resulting in a 50% increase in filtration capacity. This results in a higher operating index (OPI) and less filtration downtime.

The new system requires fewer modules, reducing the necessary footprint by 30%<sup>1</sup>.



Pentair Beer Membrane Filtration System in Paulaner Brewery.

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<sup>1</sup> Paulaner required 1,460 m<sup>2</sup> for the old beer membrane filtration system, but the new solution now only requires 1,050 m<sup>2</sup>.



Pentair's Michael Lipp at Paulaner Brewery.

## WHAT LIES AHEAD FOR PAULANER AND THE BREWING INDUSTRY?

Paulaner recognizes that data is the key to staying competitive. They're now integrating the Pentair Q IoT platform into their brewery. This platform provides real-time data from their beer membrane filtration systems, enabling lower operating costs<sup>3</sup> and an improvement in beer yield, output predictability, and product quality consistency<sup>4</sup>.

Paulaner Brewery's journey is a shining example of how tradition and innovation can coexist to create a brighter future in the brewing world.

### KEY FACTS



**LOCATION**  
MUNICH,  
GERMANY



**START-UP**  
1634



**APPLICATION**  
BEER FILTRATION



**RESULTS**  
THE NEW SYSTEM  
PROCESSES 48,600 HL  
PER WEEK, RESULTING  
IN A 50% INCREASE IN  
FILTRATION CAPACITY

## CONTINUOUS FILTRATION

The heart of the Pentair BMF +Flux Smart S8 filter lies in its master controller and membrane units. These intelligent systems filter and clean independently, adapting to fluctuations in resource quality, which assists in maintaining peak efficiency<sup>2</sup>. The system aids in reducing filtration downtime and product loss, coupled with an improvement in beer taste and sustainable practices.



Pentair CO<sub>2</sub> recovery technology is also present at Paulaner Brewery.

<sup>2</sup> When operated correctly as per Pentair provided training on how to use the system.

<sup>3</sup> By pinpointing the origin of alerts with Pentair Q, you can stay on top of equipment standstill, helping to lower overall maintenance costs.

<sup>4</sup> Pentair Q IoT contextualizes data from sensors and processes in the Pentair BMF system and opens up the black box of manufacturing, allowing the user (brewer) to take steps to improve product quality consistency during the filtration process.

**FOR MORE INFORMATION:**

**CONTACT US OR VISIT [FOODANDBEVERAGE.PENTAIR.COM](https://www.foodandbeverage.pentair.com)**



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