



PENTAIR Q

QUALIFIED DATA FOR WORLD-CLASS OPERATIONS

foodandbeverage.pentair.com



PENTAIR Q FOR BEER FILTRATION



Collect, learn, adjust, innovate and improve.

MAINTAINING BALANCE

Brewing is a complex process, with ongoing pressure to adapt to the latest techniques to make operations as efficient as possible.

Beer filtration is a crucial step within the brewing process since it is the final stage that connects the brewhouse with the filling lines.

Maintaining a dynamic filtration process is central to retaining momentum. It allows you to adapt to constant modifications across variables such as beer type and volume. But such agility requires ongoing system analysis, adjustments, and optimization of process parameters.

How can you achieve this balance? With access to real-time, qualified system data.

PENTAIR Q

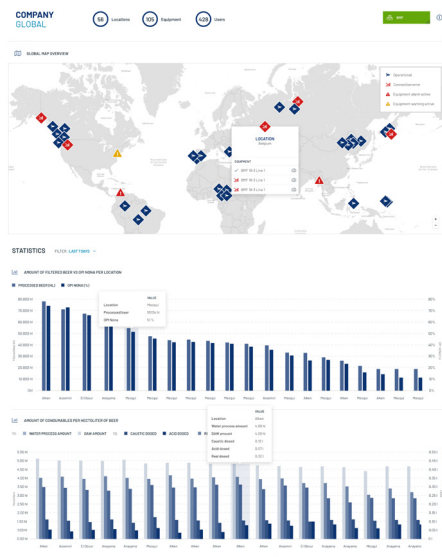
For breweries in need of real-time filtration optimization insights, think Pentair Q.

Pentair's unique system and process knowledge combined with state-of-the-art industrial IoT technology have led to the development of Pentair Q.

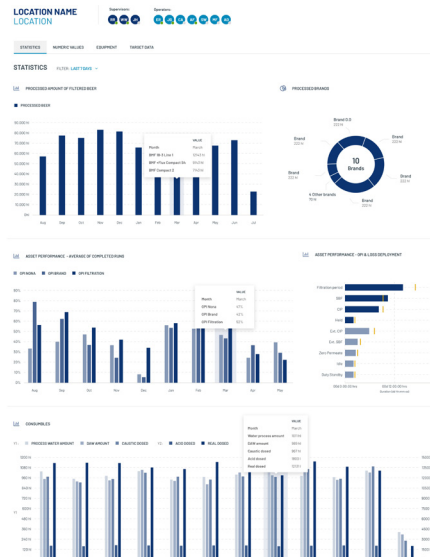
Pentair Q is an Internet of Things (IoT) platform that collects, processes and visualizes data from your Pentair Beer Membrane Filtration System(s) (BMF) to the cloud.



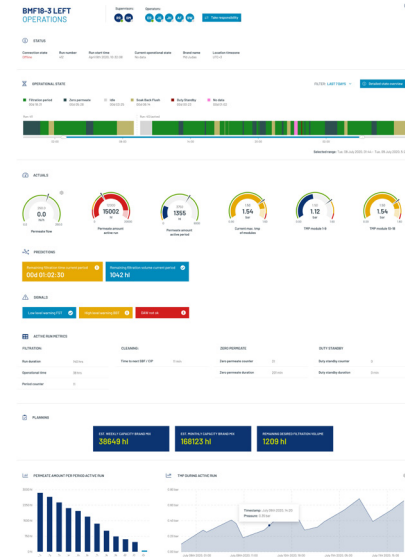
HOW DOES PENTAIR Q WORK IN BREWERIES?



Customer Global Dashboard



Customer Location Dashboard



Customer Product Dashboard

Sensors in your BMF system generate real-time data, which is collected and transferred to the Pentair Q cloud data lake using the local IT network.

Pentair Q processes this cloud data and feeds it to tailor-made micro applications.

Supported by techniques like machine learning and artificial intelligence, these micro applications allow you to investigate and make the best operational decisions quickly.

Turn valuable process data into insights, predictions, and process improvements to increase your filtration system's efficiency, sustainability, and flexibility. The daily routines of operators and brewing managers are also made easier with Pentair Q, allowing them to focus on brewing perfection.

Qualified data for world-class operations is at your fingertips.

HOW DOES YOUR BREWERY BENEFIT FROM PENTAIR Q?

- ◆ **Improve Beer Yield**
Identify patterns on optimal times to clean your BMF system, ensuring you get as much beer out of your filter as possible.
- ◆ **Lower Operating Costs**
Pinpoint the origin of alerts, allowing you to stay on top of your BMF system standstill, helping to lower overall maintenance costs and improve your Operational Performance Index (OPI).
- ◆ **Increase Output Predictability**
Catch bad batches before they even happen. Stay alerted to changes in filtration parameters, such as temperature increases, reducing the risk of batch spoilage and ensuring output when its expected.
- ◆ **Ensure Consistency**
There are many variables that have an impact upon your final product. Pentair Q IoT contextualizes data from sensors and processes and opens up the black box of manufacturing, allowing you to take steps to control product quality and ensure consistency.
- ◆ **Reduce Environmental Impact**
Staying informed of adjustments to critical process parameters such as water and power consumption will enable you to improve overall operational efficiency of your BMF system, reducing wasteful use of consumables.



MICRO-APPLICATIONS



DATA DASHBOARDING

Expand your decision-making with readily accessible internal knowledge available at your fingertips.



ADVANCED ANALYTICS

Key performance indicator histograms provide the users with information about deviating values to prevent potential performance decreases.



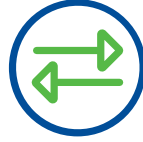
USER SUPPORT

Cut the technical learning curve with our digital support.



DATA VISUALIZATION

Visualize custom trends empowering users to identify potential areas for system performance optimization.



KNOWLEDGE TRANSFER

Compare and apply learnings across different site locations.



NOTIFICATION MANAGEMENT

Receive instant notifications to mitigate downtime, inform users about potential safety issues or notify them about changes in system performance. Notification management provides a list of the top five Key Performance Indicators (KPIs) to focus on for the biggest impact.

PENTAIR Q BREWERY USE CASES

BOOSTING BEER YIELD THROUGH NOTIFICATIONS

The Pentair Q Notification Dashboard summarizes notifications over a selected period and across brewery location(s). On top of this, you can view a 'top 5' of the most frequent and time-consuming notifications. KPIs such as MTBA (Mean Time Between Alarms) and MTBR (Mean Time Between Resolved) show frequency and follow-up

metrics needed to improve your process.

By resolving alarm notifications and pinpointing the origin of the alert, you can benefit from reduced machine standstill and manual intervention, meaning higher equipment availability, output predictability, and a higher yield of filtered beer.

REDUCING COSTS WITH DATA VISUALIZATIONS

You might have numerous brewery branches or multiple Pentair Beer Membrane Filtration Systems operating within your brewery. Obtaining usable insights from various data streams can be a challenge.

Pentair Q aggregates all the raw data it collects and represents it in a data visualization. Brewery managers can then quickly identify patterns to make informed strategic decisions for their brewery.

For example, your Pentair BMF outfitted with sensors and actuators will allow Pentair Q to collect and visualize data on critical parameters such as pressure and turbidity. Data visualization will enable the brewer to pinpoint specific interventions needed and adjust in real-time, preventing contamination and lowering operating costs.

Let's talk about Pentair Q. Contact our specialists or get more information here.



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