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CASE STUDY

User-friendly efficiency and flexibility to the brewing process

Using pure ingredients and careful in-process control

The highest level quality in any food and beverage product is based on the pure ingredients and careful in-process control.

Quality monitoring can be done in several different ways. One of the traditional final tests is done by tasting, but a variety of manual, semi-automated and automated methods are used in quality control laboratories. Using automated discrete systems the laboratories are able to speed up their testing by automating labor-intensive and time-consuming work.

Bavaria, the family owned brewery, is the second largest brewery in the Netherlands producing around 6 million hectoliters beer per year, both for the domestic market as well as for the export. Bavaria has their own water source and malting house. They brought into the market the first non-alcoholic beer.

Malt beer usually still contained a very low alcohol percentage such as 0.1%. Bavaria invented a totally new brewing method that allowed them to brew 100% alcohol-free beer. In 1990, the patent for this method was granted.

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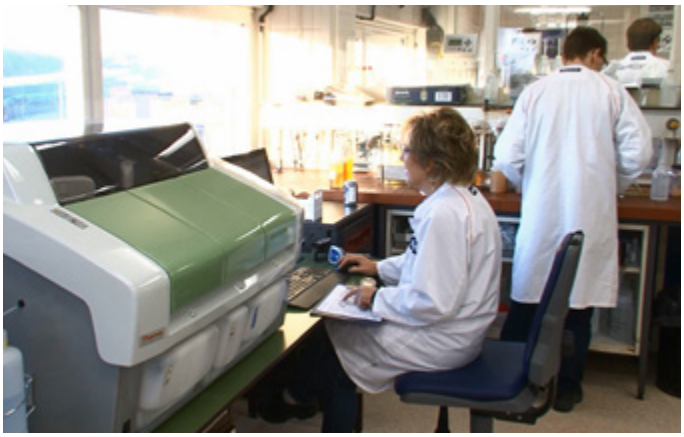
The central laboratory of Bavaria performs most of the analyses for the different departments of the brewery. The total amount of samples per day is around 100. Besides the core laboratory, which is open during the normal working hours, there is a small 24/7 laboratory in the brewery to monitor the process.

In the core laboratory we have around 16 technicians and most of them have worked here over 20 years. We measure all the samples during the whole process. We have barley, we have malt, we analyze the water from the process samples as well in packaged final beers, says Jeffrey Vos who works as Quality Control Manager in Bavaria.

Jeffrey Vos, Manager, Global Quality Control Bavaria.



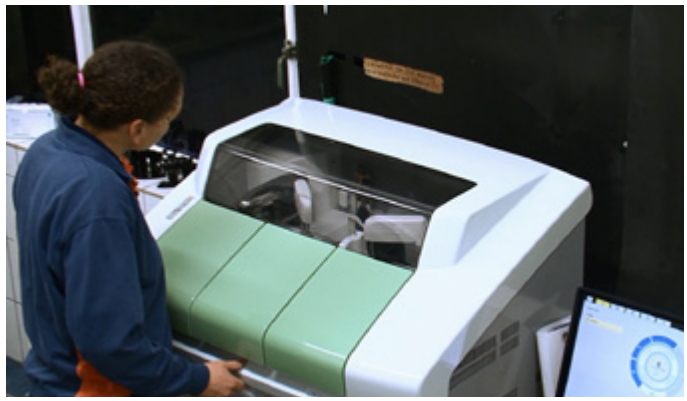
The core laboratory analyzing around 100 samples per day.

Gallery Plus Beermaster, fast and fully automated discrete system

Thermo Scientific™ Gallery™ Plus Beermaster is an automated discrete analyzer used in Bavaria both in the core laboratory and in the brewery process laboratory. On a daily basis bitterness and alcohol in low alcohol beers as well for water hardness and iron and for malt beta-glucans and amino acids are tested with the Gallery Plus Beermaster discrete analyzer.

“We have improved our efficiency a lot by using the Gallery Plus Beermaster discrete analyzer because you can do different tests on a same sample very quickly. In future we want to develop more methods to improve our efficiency even more,” states Jeffrey Vos.

Gallery Plus Beermaster discrete analzyer is using a novel method to measure bitterness. Sample pretreatment is automated and bittering substances are extracted from interfering compounds in a coated capillary column. One fully automated bitterness measurement takes 10 minutes releasing valuable hands-on time compared to manual or semi-automated methods.



24/7 laboratory in the brewery to monitor the process.

Find out more at **thermofisher.com/discreteanalysis**

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