



Incubator and hot air steriliser in the beer laboratory

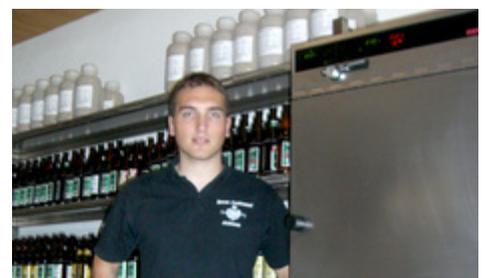
The "Bavarian Purity Law" and the brewery's commitment for the highest possible quality of beer forbid pasteurisation or adding preservatives in brewing the **Schönram** beers, awarded the "World Beer Cup" several times.

To verify the microbiological safety of the beer, an incubator and a hot-air steriliser from Memmert are almost permanently in use in the beer laboratory of the Schönram brewery.

As early as in the Middle Ages, Bavarian **beer** brewers were punished severely if they tried to sell adulterated, insufficiently stored or contaminated beer. In Nuremberg, **such beer** was disposed of in the river Pegnitz and in Regensburg, where the city doctor was in charge of supervising the **beer** quality, the brewer was in the worst



A Memmert Generation 2012 incubator



Peter Boos, second brewmaster, next to his Memmert incubator and steriliser

case forced to drink his low-grade beer himself. In 1516, the urban beer regulations from the Middle Ages culminated in what is today referred to as the “Bavarian **Purity Law**”, obliging all Bavarian beer brewers to use only the ingredients of malt, hops and water only. Of course, **yeast** was already added back then, since, after all, there can be no fermentation process without the “sugar fungus”. However, **microbiology** and all the secrets of the influential and frequently vital but also often life-threatening microorganisms were still unknown. It was the microscope maker Antoni van Leeuwenhoek who, in 1676, first described **microorganisms**, and later in the 19th century, above all Louis Pasteur and Robert Koch, who gradually revealed the mysteries of fungi and **bacteria**.

Bavarian beer without preservatives

The **purity law** alone is no guarantee for superior beer quality - Peter Boos, second brewmaster of the **Schönram** brewery established in 1780 in scenic Upper Bavaria near the Austrian border, is well aware of this. At **Schönram**, old malting barley varieties are carefully chosen along with high-grade aromatic hops and the beer is traditionally stored for as long as it needs to mature properly. German breweries producing for the domestic market do not add any preservatives to their **beer** to extend its shelf life and at **Schönram**, there is also no pasteurising or short-time heating the beer. Thus, a brewmaster has to have excellent knowledge of **microbiology**, since **beer-spoiling bacteria** can cause difficulties in brewing.

Continuous microbiological screening of beer samples

The beer samples are subject to continuous screening for **beer-spoiling microorganisms** over the entire production process. For this purpose, an **incubator** INE 550 and a **hot air steriliser** SFE 550 made by **Memmert** are almost permanently in use in the laboratory of the **Schönram** brewery. In the **incubator**, the **bacteria** are incubated at 27



Hops is one of three ingredients the **purity law** allows



°C for six to seven days. Peter Boos particularly values the durability and exact temperature control of his INE appliance, as well as its high-quality processing and ease of cleaning. Directly below the **incubator**, there's a **hot air steriliser**, since reliable laboratory results are only possible if sample bottles, gas filters, Ringer's solution and water are sterilised residue-free. Three to four times a week, just before leaving work, Peter Boos starts his sterilisation programme comfortably at his computer, with the sterilised sample bottles waiting for him the very next morning. A waterbath for heating the culture media completes the **Memmert** trio in the **Schönram** beer laboratory.

A loyal Memmert fan

At **Schönram**, the durability of **Memmert** appliances has been tested first-hand. Before the INE 550 and SFE 550 were purchased in 2010, an heating oven TV10 manufactured in 1975 was in use for decades in the beer laboratory. Although he would have loved to keep his old oven, Peter Boos was kind enough to provide it to **Memmert** for the company's collection of old appliances. "As soon as our new appliances had been delivered, we sometimes heated Leberkaese in the old **hot-air steriliser**," he recalls, laughing.

AtmoSAFE thanks Peter Boos and the entire [Schönram brewery](#) for the friendly support in creating this article.

An overview of the main topics

- Purity law
- Beer-spoiling bacteria
- Incubator
- Hot air steriliser
- Schönram brewery
- Microbiology

The Schönram brewery in the 1950s



An old Memmert TV10 from 1975

Laboratory equipment for incubation

[Incubator I](#)

[Cooled incubator ICP](#)

[Peltier-cooled incubator IPP](#)

[CO2 incubator INCOmed](#)

[Cooled storage incubator IPS](#)

[Incubation in the cooled storage incubator](#)

The **cooled incubator IPS** incubates **caries bacteria**

absolutely reliably, even on hot
summer days

[more information](#)

Autor: Memmert GmbH + Co. KG

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