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Monitoring of the brewing process with digital titrators

Using the titration method, many parameters can be monitored during the brewing process – such as water hardness, malt protein content or even tank cleanliness. In this article you will read how a digital burette improved the analyses in a Bremen brewery.

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During the brewing process, several locations need titrations with different measuring solutions: These range from quality control to laboratory analysis. Samples from the operation are analyzed in a qualitative manner to determine, for example, the correct concentrations of cleaning and disinfection agents. In a brewery, different agents for cleaning and disinfection of the tanks, cables and surfaces are employed. It is important that during this process, a uniform concentration of the chemicals is always maintained, their removal must also be confirmed. Monitoring can protect the users from hazards of all types. In the Beck's laboratory, methods to simplify these processes are sought; currently these titrations are standardized on the Titrette® digital burette from Brand.

Additionally, Beck's employees use the Titrette for water and protein analysis. For instance, it is employed to determine the hardness of the brewing water being employed. This influences beer bitterness, which is produced by the added hops. Soft water – as used in Bremen for

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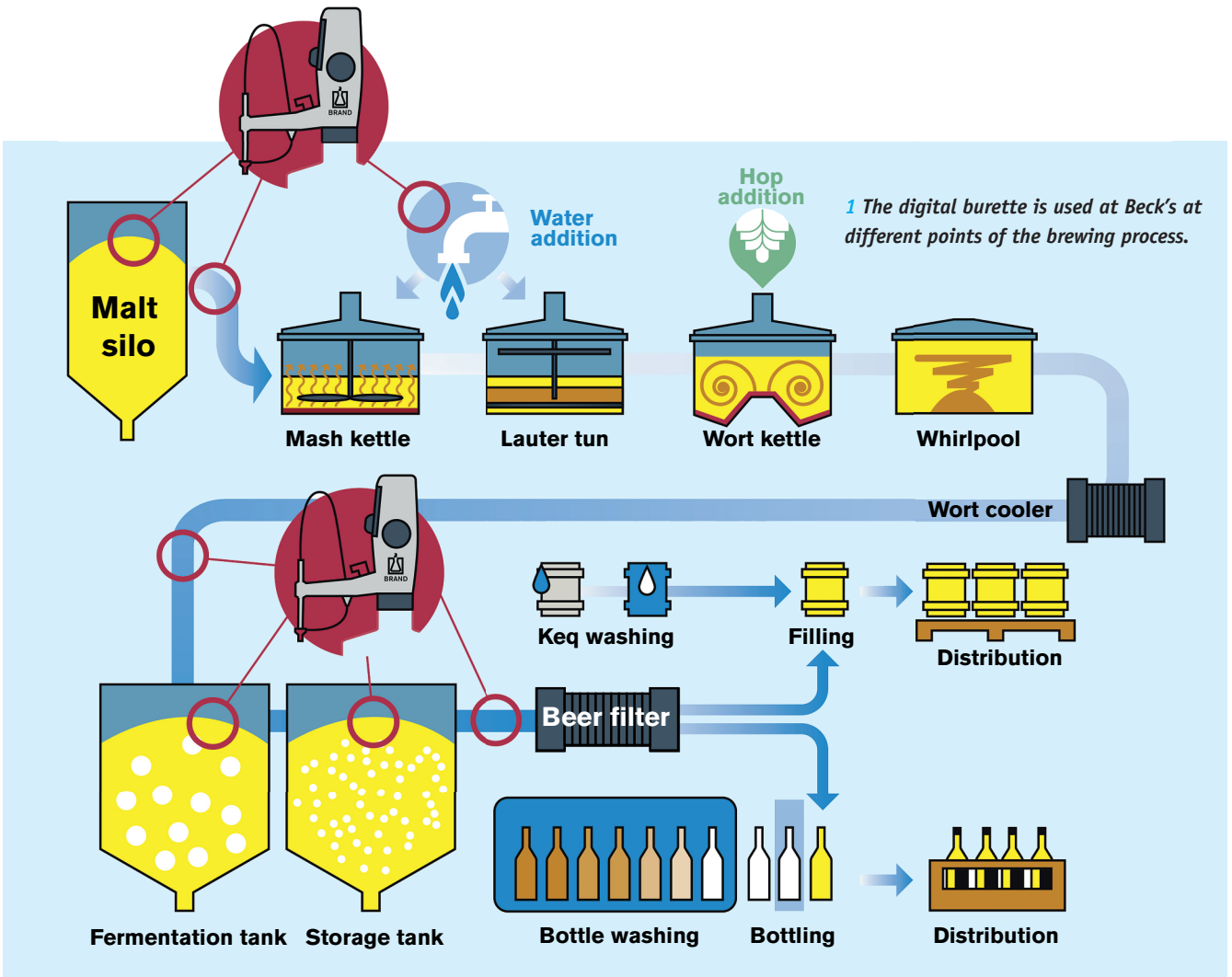
Source: Brand



1 The digital burette is used at Beck's at different points of the brewing process.

Beck's pilsner – ensures a pleasant and crisp bitter; hard water makes the bitterness raspy and indulgent. The brewer should also be familiar with the contents of the barley malt employed. In addition to the extract proportion, the protein content of the malt is primarily important, since this is responsible for foam stability of the beer. In this titration, the Titrette is employed in the Kjeldahl method.

The work is facilitated by the simple operation of the Titrette digital burette. In the past, the glass outlet tip in conventional burettes could break due to excessive load. This problem is eliminated with the Titrette. The titration process is accelerated so the Titrette, as compared with a glass burette, fills much faster.

The large digital display of the Titrette is easy to read. Reading errors associated with conventional glass burettes are virtually eliminated in digital burettes. Dripping which often occurs in glass burettes, does not happen with the Titrette. Another advantage is the ease of cleaning and maintenance. A detailed spare parts list is provided so wearing parts, from seals to the piston, can be ordered.

The accuracy of Titrette was required to be checked gravimetrically as by the standard DIN EN ISO 8655 in three delivery volumes (nominal volumes, 50% and 10%) with ten repetitions. The result of this calibration showed that this deviation from the target value in all cases were ≦0.02ml. The Titrette thus fulfils the same accuracy requirements as a traditional Class A glass burette. ■

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