Private brewery Strate Detmold GmbH & Co. KG: Reduced bottling loss and improved cleaning

®PIUS-Check of the Effizienz-Agentur NRW (EFA) shows you the way

■ The Company

☐ **Adress:**
Strate Detmold GmbH & Co. KG
(private brewery)
Palaisstraße 1-13
32756 Detmold

☐ **Internet:**
www.brauerei-strate.de

☐ **Founded in:**
1863

☐ **Business Area:**
Beer brewing

☐ **Employees:**
33

■ The Potential and Measures

The brewery is a manufacturer and local provider of various beer products. With their motto "in the region, for the region", the company uses regional suppliers as much as possible. With this strategy, the company has found a niche in a cut-throat market dominated by large multinationals. Increasing raw material and energy prices are putting the business under further pressure.

The company subjected all of its processes such as water treatment, steam and energy supply as well as the cleaning and transportation procedures to a detailed examination in order to identify improvement potential. The private brewery Strate made use of EFA's consulting tool – the so-called PIUS-Check. The German Ministry for Economy and Technology finances the PIUS-Check with funds from the VerMat programme provided by the German material efficiency agency (demea). Particular potential was identified in the following areas: in the cleaning process of the bottling plant during the type of beer changeover; in the bottling loss (beer waste); in the CIP regulation of the keg system; in the optimisation of the compressed air and in several smaller measures in the areas of energy and water. The staff have been actively involved in the change process.

NRW.

■ The Benefits

The rinsing/cleaning process necessary during change-over of beer or in the filling of the pressure tank for the bottle or keg filling process, has been switched to CO_2 instead of water. Through this measure, the beer is now pressed into the filling device which is almost completely filled up. Previously this part had to be rejected because water was mixed with the actual product. New tubes from the CO_2 supply to the filling tubes were fitted and pneumatic vents were installed and automated. The investment amounted to Euro 6,000 and resulted in annual savings of Euro 60,000.

With the newly designed CIP regulation of the keg system, all the vents were swapped, the feeder system was replaced by a special technology and supplied with a new regulator. The previous requirement of 90 litres of fresh water sank to just 30 litres per barrel. The investment paid for itself in a little more than a year.

The complete compressed air treatment in the compressors was also renewed. Both of the old drying chambers were replaced with new models and the filter system was adapted to meet the required flow rate. Since then, a system pressure of 7 bars has been achieved in the compressed air network and the idle time has been reduced by 10%. Energy savings of around 9% have also been achieved. Some additional small adjustments such as the activation of the maximum system and amended water nozzles in the bottle cleaning machine and shower have resulted in considerable savings with relatively little effort. The current peak was reduced to 60 kW and water savings of 5,000 m³ per year have been achieved.

An investment of Euro 35,000 was necessary for all the implemented measures. This resulted in annual savings of around Euro 90,000 and improvements in the material efficiency.

Measures	Investment	Material Savings	Cost Savings
The filling tube's ejecting device with CO_2 instead of water	6.000 Euro	1.100 hl of beer	60.000 Euro/a
New regulation of the CIP-system	12.000 Euro	4.200 m³ fresh water	9.500 Euro/a
Compressed air production	15.000 Euro	10 % less energy	not available
Bottle cleaning / -shower	1.100 Euro	5.000 m³	6.600 Euro/a

■ The Contact

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