



Level



Pressure



Flow



Temperature



Liquid Analysis



Registration



Systems Components



Services



Solutions

# Wastewater pretreatment in the brewing industry

## Endress+Hauser supplies complete measuring technology for a modern wastewater pretreatment plant



The Schmid family in Ustersbach near Augsburg, Germany, has been brewing beer since 1605. Today, the family-run business is a modern company that maintains the company's values and traditions, and whose environmental protection policy means it can look optimistically towards the future.

### Challenge

In 2007, the family-run business invested about 1 million euros in a modern wastewater pretreatment system. The wastewater generated daily (approx. 600 m<sup>3</sup>) is directed to the adjacent wastewater treatment plant. However, the discontinuous wastewater generation, which is very low at weekends, does not facilitate the stable operation of the municipal wastewater treatment plant. For this reason, facility engineering company Klaus Jäger set up a 1,200 m<sup>3</sup> mixing and equalizing tank on the brewery's premises, which ensures a continuous supply of wastewater at a rate of approx. 15 to 25 m<sup>3</sup>/h. Due to the high percentage of highly biodegradable substances, microbial decomposition processes can be expected in brewery wastewater.

### Solution used

The new system is controlled by a Siemens S7 PLC. The measuring technology needed to control the system was supplied by

Endress+Hauser. To ward off unpleasant odors resulting from anaerobic metabolites, a ventilation system was also integrated. The volume of oxygen needed to keep the wastewater fresh is determined by measuring the ORP in the bypass of the recirculation system and by measuring the level in the tank. This oxygen is then introduced via two water-jet air compressors. To set the pH value, a pH sensor was installed in the bypass of the recirculation system. This sensor controls the acid and alkali dosing stations. Another pH measuring system is installed in the outlet of the wastewater treatment plant to document that values stay within the limit value ranges. The volume of wastewater fed in can be measured here with a calibrated electromagnetic flowmeter having an accuracy level of 0.5 % from the measured value.

### Customer benefit

Thanks to its modern wastewater pretreatment system, the Usterbach brewery is already perfectly equipped for the future. The system was designed in such a way that it can later be used as the first stage for a process water treatment plant or for an anaerobic plant with biogas production in a combined heat and power plant.

### The customer's requirements

Complete measuring technology for controlling wastewater pretreatment

### The Endress+Hauser solution

CPS11D, CPS12D, CPA442, CPM253, ASP Station 2000, Promag10 W & Cerabar M PMC45



### Customer benefit

- Complete single-source measuring technology
- Future-oriented wastewater pretreatment

# Endress+Hauser

People for Process Automation

### Endress+Hauser measuring technology in use:

- **1x CPS12D with CPA442 & CPM253:**  
ORP measurement in the bypass of the recirculation system for determining the oxygen demand
- **2x CPS11D with CPA442 & CPM253:**  
1x pH measurement in the bypass for regulating pH levels  
  
1x in the outlet for documentation purposes
- **2x Cerabar M PMC45:**  
1x level measurement in the inlet for pump control  
  
1x level measurement in the tank which determines the oxygen demand in conjunction with ORP measurement
- **1x Promag 10 W:**  
Flow measurement in the final control stage
- **1x ASP Station 2000:**  
For sampling in the final control stage



04.07/MC

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