

# Avoiding load peaks at Müritz-Milch

## TOC measurement in a dairy



The German dairy company, DMK, serves the entire northwestern region of Germany. DMK processes 6.9 billion liters of milk annually at 28 locations across nine German states. The milk comes for the most part from approximately 10,000 milk suppliers affiliated with the parent companies. This makes DMK the largest milk processor in Germany.



**A TOC analyzer measures the organic load in the wastewater from a dairy. This allows load peaks to be leveled out at a later stage and eliminates costly wastewater charges.**

### The objectives

- Prevention of high pollution load peaks in the wastewater
- Consistently low wastewater charges
- Compliance with legal limit values
- High availability of measured values
- Low maintenance costs

### The challenge

The manufacture of cheese can result in high organic load values (e.g. total carbon) in the wastewater. These load peaks generate costs for dairies, as they are obliged to pay often substantial additional fees to municipal wastewater treatment plants if the specified limit values are exceeded.

### Our solution

In September/October 2012, a test installation was set up in the production outlet at Müritz-Milch using the CA72TOC analyzer, in order to determine the level of organic carbon (TOC). The objective of the test installation was to measure and monitor load peaks in the wastewater resulting from production. To prevent device failure due to the presence of fats and oils, the CA72TOC was fitted with a warm water rinsing unit and an automatic backwash system for the pipes. Even at the end of a five-week trial and despite the high volumes of fat involved, no contamination or fat buildup was detected in the analyzer's internal tubes and piping. Comparison measurements, carried out by an external laboratory, were identical to the measurement results of the CA72TOC analyzer. The next objective is to level out the load. Thanks to the



The CA72TOC checks the organic load in the wastewater during cheese production.

optimized double batch measurement method used by the CA72TOC, any limit value violations are detected on time, and the resulting wastewater is diverted to stackable containers via a slide gate. By slowly releasing this concentrated wastewater into the municipal wastewater treatment plant, the daily load is leveled out.

#### Application details

The CA72TOC analyzer was developed specifically for industrial applications. In this particular application, the options mentioned ensure low-maintenance operation with longterm stability. In addition, all internal pipes and assemblies (e.g. sample conditioning) are cleaned using warm water to prevent the buildup of fat. High availability of measured values and low maintenance costs are guaranteed.

In addition, the sample conditioning system features a standby option that deactivates the analyzer via a pressure switch if sampling does not take place (e.g. if a pump stops) and sets the analyzer to standby mode. As soon as a sample is available, the analyzer resumes operation automatically and the results of the analysis are available in 7 minutes. Clear status messages and a structured design ensure that the unit is easy to operate and service. These are prerequisites for good analysis results.

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