

High Savings Potential Using Anderson-Negele Turbidity Technology

Amul Fed (formerly known as Mother Dairy - Gandhinagar) in Gujarat, India, has been one of nation's largest dairy product manufacturers since 1994. Its brand is popularly known as "AMUL" and dominates the Indian dairy market. The dairy handles 3.5 million liters of milk per day. It is a zero discharge dairy and always strives for continuous process improvements.

In light of the water savings that could be achieved in their CIP process by using the ITM-4 turbidity meters from Anderson-Negele, Amul Fed India installed around seven of these meters in its CIP lines.

The requirement

The plant head of Amul Fed, Ahmedabad, was facing the challenge that accurate amounts of water recovery were not being achieved during the CIP process. This was attributable to the fact that the plant used a time-based process in which water recovery was performed for a fixed time during the CIP process using a conductivity meter. Because identification of the exact point, amount and time for water recovery was not automated, the client was looking for a solution that would optimize the CIP process in order to save more water.

With the objective of recovering a maximum amount of water from their CIP process, the team from Mother Dairy approached Anderson-Negele to resolve the issue permanently in a cost-effective way.

The Anderson-Negele solution

The Anderson-Negele team determined that the CIP process did not meet the client's requirements because it used a conductivity meter for water and product recovery. Conductivity measurement is unable to determine the exact phase separation of two or more different media in the CIP process of a dairy plant. Hence, a **ITM-4 turbidity meter** was installed in the CIP lines to precisely detect the separation point between different phases. Amul Fed was convinced by the effectiveness of the solution and decided to automate their CIP process. This helped reduce the load on the effluent treatment plant (ETP) since it was possible to define the exact range of water recovery. In addition, energy savings were increased by reducing the number of CIPs.

The advantages

- Compact device, no separate evaluation unit necessary
- Reduced ETP load
- Reduced power consumption
- Maintenance free
- Faster return on investment

Features

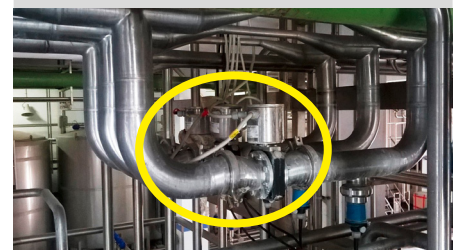
- The ITM-4 measures turbidity using the 4-beam alternating light method
- 4 freely selectable and externally switchable measurement ranges
- Smallest measurement range: 0...5 NTU or 0...1 EBC
- Largest measurement range: 0...5000 NTU or 0...1250 EBC
- Color-independent measurement principle (wave length 860 nm)
- 3-A certificate with Tri-Clamp process connection and hygienic thread connection

Customer: Amul Fed (formerly known as Mother Dairy - Gandhinagar)



ITM-4 Turbidity Meter

ITM-4 Installed in CIP Lines



Product Information and CAD Data