



**AW-LAKE**  
PROCESS FLOW MEASUREMENT



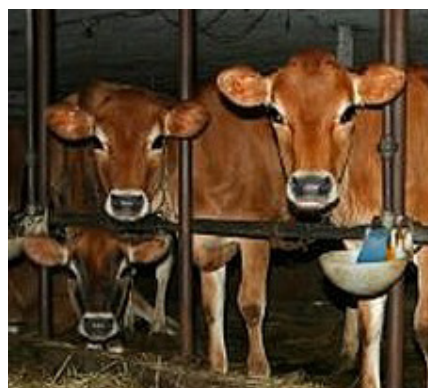
## APPLICATION SPOTLIGHT

Milk Production Monitoring





## Milk Production Monitoring



### APPLICATION:

This application involves measuring the total amount of milk being produced and stored at a dairy farm. During the different shifts at the farm, the cows are being brought into the staging areas where the milk can be collected using vacuum pumps. After the milk is pumped from the cows it is piped through stainless steel pipes to a bulk holding tank which is kept at a chilling 4 degrees Fahrenheit until it is picked up by the milk haulers. Flow meters are needed between the pumps and the storage tanks to know the exact amount of milk that is being produced each day and to monitor productivity for each shift throughout the day.

### PRODUCT SUPPLIED:

- TA3-250-200-1 Sanitary Turbine Flow Meters
- RT-50-B-0M5 Battery-Powered Local Flow Transmitters

### CHALLENGE:

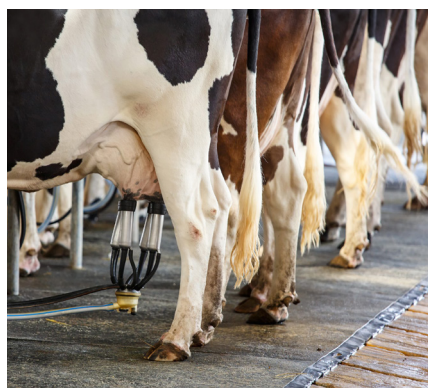
This application poses a few challenges. First this process is already in operation, which means that the system will need to be shut down to install the necessary inline flow meters. The next issue is the tank itself can be used as an estimate but because it is sealed there is no good way to see exactly

how much you have. Along with that the bulk tank is being emptied relatively frequently and if all the product is not emptied it would throw off total amounts. Another challenge with installing a meter to collect the dairy production data is the transmitter needs power run to it. Lastly the meter needs to be 3A certified because it is going into a sanitary food and beverage application.





## Milk Production Monitoring



### SOLUTION:

AW-Lake's solution was to use 3A sanitary turbine flow meters with battery-powered transmitters. The turbine used is the TA3-250-200-1 which has 2 ½" Tri-clamp fittings and a flow range of 40-400 gallons per minute. The Transmitter that was chosen was the RT-50-B-0M5 battery-powered transmitter with local display which offers rate and total measurements. It also comes standard with Bluetooth capabilities that allows the unit to be connected to a phone or tablet. The TA3 turbine flow meter meets all sanitary requirements which makes it perfectly suited for this dairy application. It is also very compact making installation very simple. Installation only require 2 cuts and a small section of pipe to be removed to install each meter. The RT-50 simplifies things even further because it does not require external power, so no wires or conduit were needed, saving time and costs.

### RESULT:

This sanitary turbine flow meter installation satisfied the customer's needs and was easily implemented at a cost point that is a fraction of other solutions. The price point to implement the sanitary turbine with battery-powered display cost at least 65% LESS than the alternative sanitary Coriolis meter which doesn't account for the costs of running the necessary wire conduit. So not only is it cheaper it is much quicker and simpler to get it up and running.

The RT-50 tracks accurate totals of milk being collected into the bulk holding tank. It has both a total and grand total tracker. This will allow workers to record totals from specific times or groups of cows and keep track of overall totals for the week or month. This will help the farm track when the cows are at peak production to help optimize production at each pump. These totals may also be used to compare the product further down the process to determine how much product loss is occurring between the raw product and finish good.