

Application note



Liquid clamp-on flow measurement in a milk production line

Summary

A Food & Beverage bulk manufacturer of tomato paste, tomato ketchup, evaporated milk, sterilized cream, hot sauce, full cream, milk powder, oats, cornstarch, and custard powder. The plant is located in the Sharjah Airport Free Zone, UAE and was established in 2012.

During one of the sales visits the customer informed Panametrics Channel Partner it was looking for a flow meter for its milk production line.

Application

Medium	Milk
Pipe size and material	2" (DN50) stainless steel
Temperature	80°C (176°F)
Pressure	5-6 barg (72.5-87 psig)
Flow rate	5-25 m ³ /h (22-110 GPM) or 0.5-3 m/s (1.6-9.8 ft/s)

Benefits:

- Easy to set up
- Easy to operate
- No process shutdown
- No downtime and no periodic maintenance/calibration



Challenge

With an interruption to production not possible, thereby ruling out an inline flow meter solution, Panametrics recommended its AT600 clamp-on ultrasonic flow meter. A demo was put in place to provide the customer with the confidence that a clamp-on solution would be effective.

1. AT600/PT900
2. CF-JR 4MHz Transducers
3. Clamping fixture
4. Cable
5. Solid Pad Couplant CPL-8

Solution

Panametrics demonstrated the solution at two different locations using CF-JR transducers. Results were received in a matter of minutes without any errors. The customer varied the flow rate on four occasions and found the readings matched the pump curve. The customer was also able to verify the flow rates without requiring an external power supply at remote locations. The customer connected the transducer to the pipe from outside with the help of a strap fastener and installed it in a short period of time.

Using a clamp-on ultrasonic flow meter the customer eliminated the need for costly and cumbersome mechanical work on the lines as well as maintenance and recalibration, saving time and money.

After seeing the successful demo, the customer requested a permanent meter for continuous measurement. An Aquatrans AT600 and CF-JR transducers with totalizer was installed.

The accurate and reliable flow measurements provided by Panametrics technology is now helping the customer optimize its operations.

