



How Panametrics clamp-on flow meters helped a chemical plant in China improve operational efficiency

Summary

A chemical plant in Northeast China had been operating for several decades, but a number of production lines had no flow measurement in place. To improve flow monitoring, increase production yield and reduce the risk of unexpected shutdowns, the customer wanted to add new flow measurement points while avoiding any disruption to production.

Application

Medium:	Mixed aromatics
Pipe size and thickness:	DN250 (10") thickness:9.27mm (Sch. 80)
Pipe material:	Stainless steel 316
Pressure:	0.2 MPa (29 psig)
Temperature:	~ 240°C (464°F)
Requested accuracy:	±1-2%

Benefits:

- Easy to install with no process shutdown
- Very low maintenance
- No pressure drop
- Contactless high temperature flow measurement.
- Long term stability and drift characteristics

Challenge

The customer needed to measure the flow of hot aromatic hydrocarbons, as this data was critical for monitoring operations and calculating production yield. The main challenge was installing the flow meters without shutting down the plant. Two of the measurement points involved fluid temperatures of up to 250°C — beyond the capabilities of most clamp-on ultrasonic flow meter manufacturers. As a result, the end user turned to Panametrics for a suitable solution.

Solution

To validate the solution, Panametrics first conducted a field test using a PT900 portable flow meter combined with high-temperature C-ET transducers. The results were conclusive, with the measurement performance meeting the customer's expectations.

Following the successful trial, the operator purchased two PanaFlow LC flow meters with C-ET transducers for the hot aromatic hydrocarbon lines shown in Fig. 1. Since installation and start-up, the flow meters have performed well, providing stable and consistent readings. The customer is delighted that the processing unit can now be monitored live, helping to improve production yield. Building on this success, the site plans to continue deploying clamp-on flow meters to better map its manufacturing processes.

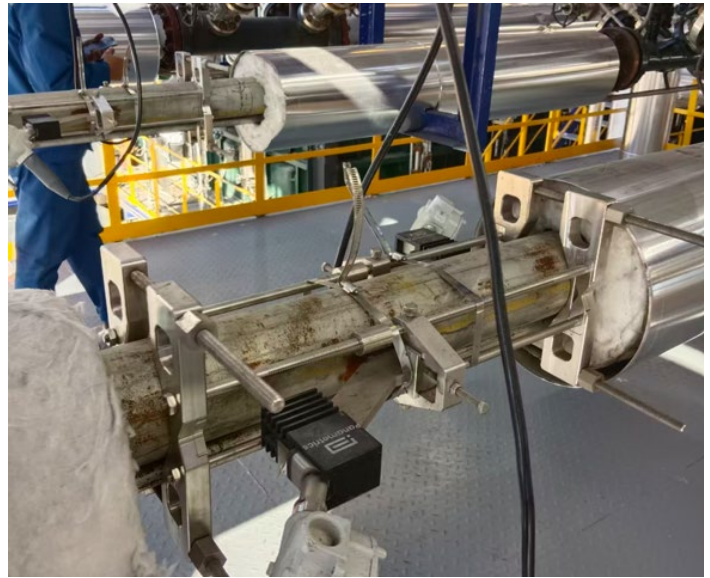


Fig. 1: C-ET installed on DN250 pipe on a single traverse