

APPLICATION NOTE

BNFL - Sellafield

MINISONIC CLAMP ON ULTRASONIC FLOWMETERS - FROM ULTRAFLUX



BACKGROUND:

BNFL had a requirement to cool a plutonium pellet processes. In very generalized terms, the product is ground up and then formed into a useable product. The process generates heat that requires cooling. This cooling is provided by running a refrigerant around a system of stainless steel cooling pipework.

THE PROBLEM:

Due to the extremely radioactive nature of the application a non contact system of flow measurement was preferable without moving parts. Any moving parts could have been degraded prematurely by the product causing a change in the measured flow from the actual flow, thus giving a measurement error. Also, any contact parts would have to be approved and would have needed testing/checking for compatibility for radiation resistance.

FLOWLINE'S METERING SOLUTION:

Flowline's' solution was to offer our clamp on meter from ULTRAFLUX.

The MINISONIC 600 and MINISONIC 2000 use clamp on sensors and are completely non contact. This solution was ideal. The meter is capable of metering refrigerants, fuels and water, to a high degree of accuracy and repeatability. The pipework was a DN15 stainless steel, with the refrigerant flowing at up to 2 m/s. The system was easy to set up, it can be done via the integral keypad or via the free issue software. It gave a 4-20 mA output for flow and also had an alarm relay for setting a flow limit switch.

The MINISONIC range of flowmeters were also selected for their range ability and ease of installation. Where pipework has been installed, clamp-on meters can be selected for their retrofit capability. Flows are not interrupted or by-passed and the installation can be easily checked by the in-built diagnostics. Temperatures to 180 C are a standard option and down to -50 C pipe sizes of 10-3300 mm are offered through firmware and sensor options. 2 channel and 2 chord versions are available. The 'ESC' autofocus function increases the performance of the meter in extreme conditions.

Further Information



For Further information on the MINISONIC range of Clamp on Ultrasonic Flowmeters contact Flowline on 020 8207 6565

www.flowline.co.uk
sales@flowline.co.uk

EQUIPMENT DESCRIPTION:

EQUIPMENT SPECIFICATION:

MINISONIC 600 pipe i. d. up to 600mm,
MINISONIC 2000 pipe i. d. up to 3300 mm.
Single / Dual Channel / Chord Options.
Probe Types, Clamp On and Wetted.
Outputs
2x 4-20mA,
2 relays for
alarm, flow direction, flow threshold, totaliser, fault, RS232 and 485, JBUS-MODBUS Protocol.
Power Supply 10-30 VDC, 9-18 VAC, Consumption < 5W Typical Accuracy +/- 1% of reading, repeatability +/- 0.05%
Now available with ESC (Echo Shape Control), and the new high technology probes for difficult applications.
These meters now have an integral keypad, display and an incredible autofocus/noise rejection capability. Full user lists and references are available.

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SPECIALISTS IN FLOW MEASUREMENT