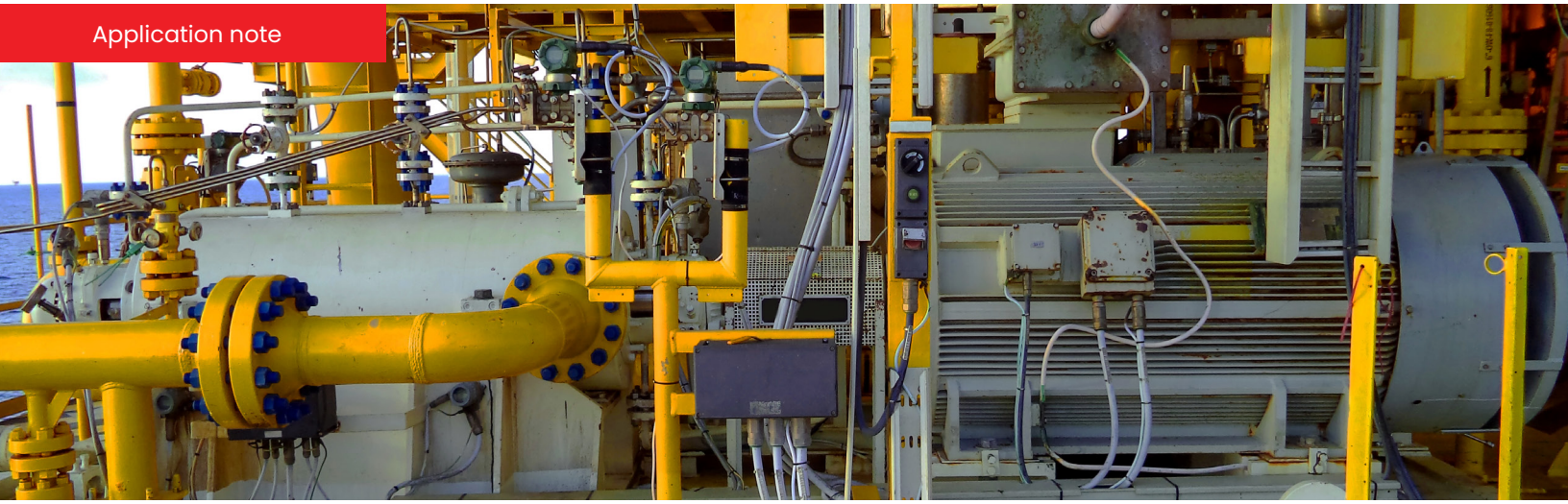
Application note



Panametrics liquid clamp-on ultrasonic flowmeter

helps offshore operator improve 'enhanced oil recovery' performance

Summary

An offshore operator in South East Asia wanted to increase the reliability of its produced water injection flow measurement on their main line to increase enhanced oil recovery (EOR) performance on the asset. In addition the customer, recognizing an opportunity to improve efficiency, also wanted to install flowmeters on its fire water lines.

Specifications

Fluid:	Produced water	Sea water
Pipe size:	12" 150#	6" 150#
Pipe material:	CS	CS
Wall thickness:	25mm	21mm
Process Temperature:	Amb.	Amb.
Process Pressure:	20-45 barg	5 – 20 barg

Benefits:

- Easy to install
- No process interruption
- No pressure drop
- High reliability
- Low maintenance
- Long term stability and drift characteristics
- Wide turndown ratio

Fig. 1: Existing ultrasonic flowmeter

Challenge

The customer used a competitor's ultrasonic flowmeter on its main water injection line, which fed several produced water injection pumps. However, the flowmeter provided erratic readings and the local technical support appeared to be weak. This proved frustrating for the customer adding to inefficiency and impacting on EOR performance.

With no flowmeter solution on the fire lines, the customer wanted accurate and reliable technology to ensure they delivered the required water flow rates; and with the offshore platform operating 24/7, the customer required a solution that could be installed without production interruption.

Solution

Following a meeting with the customer and with the pump contractor to identify its requirements, Panametrics recommended the implementation of liquid clamp-on ultrasonic flowmeters on the water injection and fire lines.

Panametrics long and successful track record across these applications, combined with its strong technical support helped convince the customer to adopt the Panametrics solution.

Using PanaFlow LC with XMTXP R10 transducers, the installation was straightforward with no interruption to production.

After several months of operations, the customer is very satisfied with the performance of all three flowmeters. It now has accurate and reliable measurements across their enhanced oil recovery process, which has led to productivity gains, as well as gaining a high degree of confidence that the fire pumps are delivering to their specifications when tested.

Fig. 2: PanaFlow LC and XMTXP R10 installation

Per avere più informazioni
CONTATTACI

EP srl
41124 Modena
Via S. Faustino, 155/P

Tel. +39 059 35 76 00
www.epsas.it
ep.ma@epsas.it

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linkedin.com/company/panametricscompany

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