GREATER LITRE METER CHOICE DELIVERS INCREASED EFFICIENCIES

UK flowmeter specialist Litre Meter (www.litremeter.com) has long recognised the need for bespoke solutions for specific flow application requirements. Fluids differ in viscosities and in their chemical and physical properties. Flow rates and materials also vary. In order to deliver solutions, it has been necessary to design and customise flowmeters for each application – until now.

In order to respond quickly to requests for flowmeter solutions Litre Meter now keeps in stock design drawings for 115,000 different VFF flowmeter configurations. The sheer range of choice has effectively designed-out the need for customisation. Using pre-existing drawings means that meters are built and delivered more quickly with increased efficiencies for the customer.

Lead times are greatly reduced and customers can bring their projects to fruition and get them commissioned and online quickly to minimise delay and maximise production – and therefore profits.

Litre Meter has created a dedicated program that enables Litre Meter distributors and application engineers to select and configure flowmeter solutions using all the options available to them.

“Customisation has become more complex than ever as technologies have been developed to provide more sophisticated communications, a wider range of connections and accurate measurements at higher pressures and over wider flow ranges – down to very low flow rates,” said Litre Meter CEO Charles Wemyss.

“However, we recognise that although customisation takes time it results in cost savings in a variety of applications. We have therefore collated all our available customisation options into a one-stop-shop for flowmeter applications to speed up the design and manufacturing processes. Our customers no longer need to ‘make do’ with a standard instrument that does not fully meet the needs of the application.”

The VFF flowmeter is suitable for measuring liquids with flow rates from 0.0004 l/m (0.5 litres per day) to over 270 l/min, at pressure ratings up to 4,000 bar (60,000 psi). It is of intrinsically safe design and manufactured to operate reliably at temperatures ranging from -40 to 100°C.

Research led to the development of highly customised versions of standard rotary piston meters, which are now part of the standard range. The low flow capability of Litre Meter VFF meters was improved by providing the pressure balance chamber and titanium rotor with a physical vapour deposition (PVD) coating designed to lower the friction properties of the meter to provide extended flow ability. The additional hardness provided by the PVD coating also improved wear resistance.

Litre Meter’s VFF LF05 was, until recently, the ultimate current positive displacement flow meter and is capable of measuring down to 0.03 litres/hour at viscosities of 2 cSt and just 0.02 litres/hour when the viscosity is 10 cSt. It has a flow range of zero

to 30 litres/hour, a viscosity range of 0.8 to 2000 cSt or greater, an accuracy of ±0.5 per cent of reading and repeatability of ±0.25 per cent.

Litre Meter then introduced the VFF LF03, which takes the capability of the range down to lower flows than ever before – for example, on a fluid with a viscosity of 5 cP the LF03 will measure down to 0.015 litres/hour rather than 0.024 litres/hour for the LF05 and 0.065 litres/hour for the LF15.

Standard meters are available with a 316 stainless steel, titanium, duplex and super duplex steel bodies, with a variety of connections. Flowmeters are also available with the state-of-the-art direct space-saving FlowPod instruments. These provide local display indication in an enclosure that is only 85 mm in diameter and is back-lit with large rate and totalizer digits providing local display of flow rate and total flow. They have HART 7 protocols on a two-wire system mounted in an ATEX Exd stainless steel housing.

As a low flow specialist working with suppliers to major companies such as BP, Chevron, Anadarko, Shell UK and Tyco, Litre Meter has supplied meters for chemical injection in the oil and gas industry for projects around the world for over 20 years. This experience in chemical injection applications onshore and offshore has confirmed the instrument's capability to reliably measure fluids to help maintain flow assurance under extreme conditions of both temperature and pressure.

Notes

1. Litre Meter, based near Buckingham, UK, was established in 1975 and specialises in the custom design and manufacture of instruments for measuring and controlling fluids.
2. The company has particular expertise with offshore and sub-sea flow measurement and has supplied flowmeters for these applications throughout the world. The company's VFF flowmeter was developed specifically for the petrochemical industry.
3. Litre Meter also pioneered the development of the Pelton wheel flowmeter, an accurate and versatile technology that has since been used across many industries to measure a variety of low viscosity liquids at both low and high flow rates.
4. The company is also UK distributor for other flowmeter technology including Sierra Thermal, Ultrasonic and Vortex Mass gas flow meters TRICOR Coriolis and Ritter gas flowmeters and KEM positive displacement flowmeters for liquids.
5. Litre Meter is part of the Tasi Group of companies which includes AW Lake, KEM and TRICOR.