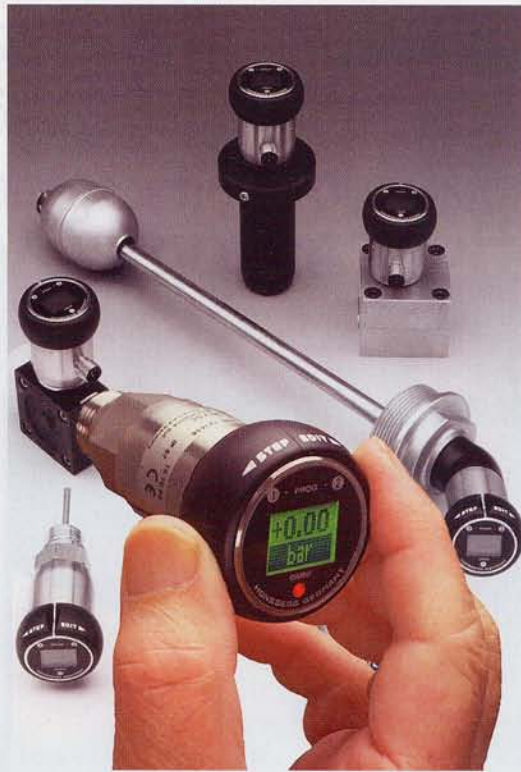


► has always been a tricky subject. However, new, intrinsically safe ATEX and IEC Ex certified vibration sensors recently announced by Hansford Sensors (www.hansfordsensors.com) allow engineers to monitor vibration levels of pumps, fans, compressors, motors, conveyors, drilling rigs and all types of rotating machinery, which operate in a potentially explosive working environment. Nothing new in that, you might say, but these sensors are now much smaller. Hansford Sensors has applied for certification on its HS-420 vibration sensors (offering 4-20mA outputs for direct connection to PLCs) and expects to have these available soon.

Another company strong in ATEX devices is Pressure Vacuum Level (www.pvl.co.uk), with ATEX-certified switches for pressure, level, flow and temperature. PVL level sensors include capacitance probes and liquid level switches, level sensors and fuel gauges, conductivity probes and controllers with a wide range of specifications. Other products include depth, pressure and sludge level transmitters, vibrating fork and optical level sensors and high temperature and pressure sensors working at up to 500bar and 400°C.

There have been substantial advances in programmable sensors. One of the leaders in this field is Honsberg of Germany. Honsberg is a long-established family-owned company in Remscheid, which has come up with the Omni range of programmable sensors for flow, level, temperature and pressure. Each of the stainless steel Omni sensors is rated to IP67 and has an LCD display protected by toughened mineral glass. This shows the range of the sensor, set points and programming parameters, and includes an LED alarm signal. Around the circular LCD display is a programming ring containing an integral magnet that can be operated even when wearing protective gloves. The programming ring makes it possible to display the parameters (for example set points) at Position 1, and to alter them at Position 2. Turn the programming ring through 180°, or remove it altogether, and the programming is totally protected. The Omni range is available at www.pvl.co.uk.

In more exotic spheres, micro-machined



One of the Honsberg Omni sensor range, available in UK from Pressure Vacuum Level (PVL)

silicon sensors exploit the piezo-resistive properties of a monolithic silicon diaphragm to achieve more precise aerospace pressure measurements. Silicon sensors give a high standard of accuracy, response and overload capability, yet are more or less immune to the effects of vibration, shock and acceleration. They are sensitive to applied pressures from only tens of millibars upwards and operate accurately across a very wide range of temperatures.

Even more exotic is biomimetic sensor technology, using biomaterials and information processing of a type found in biological systems. Biomimetic sensors can detect and quantify taste (the electronic tongue) and smell (the electronic nose), and potentially have applications in food science, drugs detection and many other fields. Fast developing, but still with a long way to go, biomimetic sensors are already improving man's understanding of the reception mechanisms in our gustatory and olfactory systems.

Sensor technology is an area of constant advance and improvement, drawing on pure research in the world's universities as well as development work by sensor manufacturers. We shall see a lot more exciting innovations during the next few years. Watch this space.



More info - Enter 250

“Fast developing, but still with a long way to go, biomimetic sensors are already improving man's understanding of the reception mechanisms in our gustatory and olfactory systems.”



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