Product Digest

this month's topic Measurement Equipment

Electromagnetic Flowmeter's Multiple Electrodes Cover a Pipe's Full Diameter

The FPI Mag electromagnetic flowmeter is the successor to the company's widely used Multi-Mag insertion flowmeter, which is said to be the industry's only multi-electrode, hot-tap, full-profile insertion flowmeter that can deliver a continuous total flow profile similar to that of a full-bore mag meter. Its multi-electrode sensor design compensates for variable flow profiles, including swirl, turbulence, and low-flow conditions. Multiple electrodes placed across the entire sensor body continuously measure and report the average flowrate over the full pipe diameter. It is suitable for use in process water and effluent wastewater applications in the chemical, electric power, food-and-beverage, oil-and-gas, metals-and-mining, and pulp-and-paper industries. The insertion-style device is packaged in Type 316 stainless steel for maximum structural integrity, and the sensor is coated with a fusion-bonded epoxy coating to ensure operational longevity in rugged plant environments. Hot-tap installation requires no service interruption for cutting pipe or welding flanges, reducing installation costs. It is available for line sizes from 4 in. to 138 in., and features accuracy of ±1% of reading. It is precalibrated to NIST standards and requires no recalibration in the field.

McCrometer
www.mccrometer.com

Ultrasonic Flow Measurement Device is Suitable for High-Purity Applications

This new family of ultrasonic flow-measurement devices includes two portable models (Portaflow 220 and 330) and two fixed-installation models (Ultraflow 3000 and 4000). Both types display instantaneous and totalized fluid flowrate and velocity data, and can be installed quickly without interrupting the process. Data can be downloaded directly to a computer or printer, or stored in the instrument's memory and downloaded later. The instruments are supplied with two types of transducer sets to accommodate pipe sizes up to 78 in. o.d. The transducers are attached directly to the outside of the pipe being monitored, which allows for complete installation without disruption to the process or equipment. External mounting keeps components from making contact with the fluid being monitored, so there is no risk of either contamination of the process fluid or exposure of the equipment to corrosive or toxic liquids. For this reason, these devices are suitable for high-purity and ultrapure applications.

GF Piping Systems
www.gfpiping.com

Nonconctact Infrared Measurement System Tracks Temperatures

This company's MI3 Series infrared temperature-measurement system now includes several new high-temperature sensing heads (M13 1M and M13 2M). These are constructed of IP65 (NEMA 4) stainless steel and have a separate communication module. They provide a 1-µm spectral response (offering a measurement range of 500–1,800°C), and 1.6-µm spectral response (250–1,400°C). The sensing heads are available with standard laser sighting, and provide fast (10-µs) response time. The M13MCOMM multichannel communication box supports up to four sensing heads in a DIN-mountable package. All operating parameters can be accessed and configured through the standard user interface, or with the company's DataTemp software via a USB 2.0 digital interface. A range of network communication interface options, including RS-485, Modbus, and Profibus, enables seamless integration into existing control equipment or OEM systems. A user-programmable alarm output enables alarm, control redundancy, and simple on/off capabilities.

Raytek
www.raytek.com

New Coriolis Flowmeter Enables Seamless Upgrades

The Promass E200 Coriolis flowmeter is said to be the world's first Coriolis flowmeter with true two-wire, 4- to 20-mA HART technology. This advance allows users to upgrade their existing control scheme by replacing legacy flowmeters with this high-accuracy Coriolis meter without the need for any wiring, plumbing, or hardware changes. By comparison, switching to other Coriolis flowmeters often requires significant wiring changes, additional power supplies, or safety barriers. The Promass E200 simultaneously measures mass flow, fluid density, and temperature, and can be used with most acids, alkalis, solvents, and gases. It can be integrated with DCS, PLC, PAS, and other remotely operated controller systems. The device has built-in diagnostics and, in the event of a fault, clearly displays information about errors and root causes on its local display. Its two-wire technology enables it to be used in

intrinsically safe applications for Class 1 Division 1 locations. It comes in a variety of line sizes and materials.
Endress+Hauser
www.us.endress.com

Flowmeter Measures Air and Gases in Compressors

The ST75 mass flowmeter is designed to measure fuel gases, specialty gases, and pneumatic air flow in gas compressors. It is available for line sizes from 0.25 in. to 2.0 in. (6–51 mm), and provides three distinct outputs: mass flowrate, totalized flow, and media temperatures.

The ability to gather such data enables compressor operators to evaluate compressor performance and make adjustments to maximize operating efficiency and reduce costs. The ability to compare the performance of multiple gas compressors also supports predictive maintenance, since higher flowrates often indicate leaking valves or seals. The ST75 includes temperature compensation to ensure performance under variable process and plant temperature conditions. The device operates over a wide flow range, from 0.01 scfm to 559 scfm (0.01–950 ncmh), and offers accuracy to ±1% of reading and ±0.5% repeatability. Its precision flow element has no moving parts; rather, its platinum resistance temperature detector (RTD) sensors are embedded in equal-mass thermowells with microprocessor electronics that can be calibrated to laboratory standards for CO_2 and other gases.
Fluid Components International
www.fluidcomponents.com

Remote Monitoring System Automates Liquid Level Measurement in Tanks

The TankScan TS7000 battery-powered monitoring system provides remote monitoring of level data for tanks that store chemicals, fuel oil, and petroleum. Tank-level data are sent wirelessly to the local controller, which can monitor up to 30 tanks within 1,000 ft. Data are transmitted from the controller to the TankScan software platform, which enables inventory managers to prevent costly runouts and plan least-cost routing for inventory management. The system has no moving parts and uses micropower impulse radar (MIR) measurement technology, making it easy to install and use. A range of controller communications options — including analog phone, USB, Ethernet, cellular, and satellite — expands the options for operators. Both PC-based and Web-based software options for displaying and interpreting tank-level data are available.
ATEK Products
www.tankscan.com

Electromagnetic Water Flowmeter Comes with More Power Options

The AquaMaster 3, the latest addition to the company's AquaMaster family of electromagnetic water flowmeters, has an expanded range of power-source options, making it suitable for virtually any location. It comes with a choice of mains and battery power options, and a new renewable-power version can draw power from either solar or wind-powered energy sources. A simple 6–21-V d.c. connection can be hooked up to sources as small as a 5-kW solar panel or 60-kW-equivalent wind supply. The AquaMaster 3 uses supercapacitor energy-storage technology (as an alternative to conventional batteries), so it can be used in remote locations. Unlike batteries, which experience a chemical reaction whenever energy is stored or discharged, supercapacitors can withstand thousands of charging cycles with no degradation. This enables the AquaMaster 3 to provide continuous measurement and alarm reporting via SMS for up to seven days in the event of a power failure and up to three weeks when coupled with a renewable power mode.
ABB
www.abb.com/instrumentation

Pressure Transmitters are Designed for Demanding Environments

The Foxboro I/A Series pressure transmitters are microprocessor-based transmitters that provide precise measurement of differential and gauge pressure. They are available for applications handling liquids, gases, and vapors, and transmit 4- to 20-mA d.c. analog and digital signals, according to the measured differential or gauge pressure. They enable two-way communications using HART protocol, which allows self-diagnosis, range resetting, and automatic zero adjustment.

Invensys
www.invensys.com