What's New

FLUIDS AND SOLIDS HANDLING

Seat Design Enhances Inlet Pipeline Regulator

The 9940 Series industrial pipeline regulator includes a high-flow encapsulated soft seat with a low cracking pressure. The seat has an integral positive pin stop that prevents it from being deformed, and it is surrounded by a 55-µm sintered filter to prevent damage from debris. The seat also combines 10 to 12 components into one assembly, which extends the service life of the regulator. The 9940 offers outlet pressure ranges of 0–15 psi, 0–40 psi, and 0–200 psi. It has a 65-mm neoprene diaphragm for stable pressure control and weighs just over 3.3 lb.

Concoa
www.concoa.com

Valve Control System Effectively Controls Fugitive Emissions

The Valtek GS globe control valve combined with the Logix 420 digital positioner is a fully integrated valve package for continuous process control throughout the plant. The Valtek GS control valve complies with the latest standards for controlling fugitive emissions (ISO 15848). It can accommodate a range of valve sizes, from 0.5 in. to 6 in., and is appropriate for pressure classes 150 and 300. The Logix 420 digital positioner is compact and explosionproof, can be direct-mounted, and can control small to large valves with high flowrates.

Flowserve Corp.
www.flowserve.com

INSTRUMENTATION

Flexible Shaft Extension Detects High Levels in Bins Containing Coarse Solids

The company's standard BMRX and fail-safe MAXIMA+ rotary level indicators can now be configured with this flexible shaft extension, which is useful in conditions where a rigid extension may be damaged or bent by heavy material, such as coal, rock, aggregates, ores, or other lumpy materials. The extension is 8 mm wide, and comes in lengths of 4 in. to 14 ft. A counterweight at the end of the cable includes a coupler for attaching the paddle.

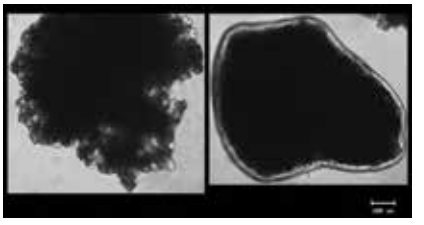
BinMaster
www.binmaster.com

Near-Infrared Transmission Probe Is Available in an Extended Length

The FPT-850EL is now available in lengths up to 1.2 m with a diameter of 27 mm. The near-infrared transmission probe has been developed to provide maximum long-term reliability under the extreme conditions of high temperature, thermal shock, and aggressive chemistries. The probe is designed with a proprietary seal that guarantees that the only materials in contact with the process are sapphire, high-nickel alloys, and a thin flash of either gold or polytetrafluoroethylene (PTFE). There are no optical fibers within the probe, which ensures excellent optical stability and long-term reliability. The elimination of both internal optical fibers and elastomeric seals permits reliable operation at temperatures up to 400°C.

Axiom Analytical, Inc.
www.goaxiom.com

Imaging Particle-Analysis System Permits Real-Time Monitoring of Microencapsulation Processes



The FlowCAM particle-imaging system automatically detects, images, and measures individual particles and agglomerates during the microencapsulation process in real time. It can reveal thousands of particles onscreen in seconds and save the data for later analysis. The FlowCAM enables operators to view the distinct shell layer encasing the core particle, visually assess the wall thickness and quality of the coating coverage, and determine whether the encapsulated particles meet specifications. Process stability can be tested by observing how the particles react to changes in temperature, concentration, pH, and other variables. The FlowCAM is suitable for monitoring food ingredients, chemicals, pharmaceuticals, flavors, fragrances, and other microencapsulated products. The system can measure more than 30 different parameters for each particle.

Fluid Imaging Technologies
www.fluidimaging.com

Level Sensors Improve Operator Efficiency

The LevelWave Radar Series is suitable for level measurement applications in liquids and corrosive or sticky media, including blending vessels, distillation tanks, silos, and storage tanks for most liquids. Each device can rotate 360 deg., which allows for either side or top mounting, as needed. The instruments feature a user-friendly external display with an intuitive interface to minimize operator error. Digital remote electronics that function at distances of up to 100 m are available.
Invensys
www.invensys.com

Variable-Area Flowmeter Operates Over a Large Temperature Range

The MT3809 armored variable-area flowmeter is designed to withstand extreme conditions in chemical, petrochemical, oil and gas, and liquefied petroleum gas applications. It can function over a wide range of operating temperatures, from –196°C to 420°C, and at pressures up to 1,380 bar. Even in demanding applications, the MT3809 delivers an accuracy of 2% of full scale. The explosionproof housing meets the most stringent hazardous-area classification requirements, and a flameproof option is also available. The MT3809 has full stainless steel construction, and weld neck flanges provide long-term durability in all configurations.
Brooks Instrument
www.brooksinstrument.com

MATERIALS AND CHEMICALS

High-Performance Adhesives Have High Thermal Conductivities

The TC-2030 and TC-2035 thermally conductive adhesives enable the design of more-compact, reliable, and higher-performing automotive electronics assemblies. TC-2030 is a two-part, heat-cured silicone adhesive formulated with field-proven thermally conductive fillers; it has a high thermal conductivity of 2.7 W/m-K and a bond line thickness (BLT) of 130 µm. TC-2035 has a thermal conductivity of 3.3 W/m-K and a BLT as low as 50 µm, and performs reliably at temperatures reaching 200°C.
Dow Corning
www.dowcorning.com

Rotolining Powder Provides Corrosion Protection for Pipes, Pumps, and Vessels

Fluon ETFE is a melt-processable copolymer of tetrafluoroethylene and ethylene with high resistance to heat and corrosive chemicals. The powder exhibits excellent bonding to metal, making it suitable for seamless rotolining of industrial equipment used in chemical processing applications. Unlike traditional sheet-lining methods, free-flowing ETFE powder naturally conforms to vessel interiors of virtually any size and shape and typically does not require welding and sealing. It produces a seamless interior lining of intricate and complex objects with a uniform thickness up to 0.250 in., and allows for post-machining of critical surfaces.
AGC Chemicals Americas, Inc.
www.agcchem.com

Two-Component Epoxy Resists Abrasion

The EP21SC-1 epoxy delivers abrasion resistance for an array of bonding, coating, and sealing applications in the chemical process industries. Engineered with silicon carbide filler material, it has a smooth, paste-like consistency and a noncritical one-to-one mix ratio by weight or volume. As a two-part system, it cures readily at room temperature, or more quickly at elevated temperatures. With a Shore D hardness exceeding 95, the rigid epoxy adheres well to treated metals, ceramics, and many plastics. It has a tensile strength greater than 6,000 psi and a compressive strength of over 15,000 psi at room temperature. Since the system is 100% reactive and does not contain any solvents or diluents, it experiences minimal shrinkage upon curing. EP21SC-1 is capable of withstanding contact with water and a range of chemicals, including oils, hydraulic fluids, acids, and bases. It has a service temperature range of –60°F to 250°F and a low thermal-expansion coefficient. It is suitable for maintenance and repair of pumps, chutes, centrifuges, impellers, and tanks.
Master Bond, Inc.
www.masterbond.com