



What's New

INSTRUMENTATION

Guided-Wave Radar Transmitter Performs Online Integrity Testing



The Rosemount 5300 Series guided-wave radar (GWR) transmitter is now available with a verification reflector function, which enables the user to conduct online integrity tests without stopping the process or manually raising product levels to the vessel alarm point. This saves time, increases plant uptime, reduces the risk of spills, enhances safety, and lowers costs. The verification reflector uses an adjustable reference reflector fitted to the GWR's probe. During commissioning, location and amplitude data are stored in the transmitter; during testing, the transmitter outputs a level corresponding to the reflector position, and compares that to the stored reflector data to verify the integrity of the measurement electronics and the upper part of the probe. The verification reflector can also be used to diagnose product buildup, corrosion, and other problems with the upper parts of the probe.

Emerson Process Management
www.emerson.com

Temperature Controllers Provide On/Off or PID Control

The CN38S Series temperature controllers accept thermocouple, resistance temperature detector (RTD), and thermistor inputs and perform on/off or PID control. They have a temperature resolution of 0.1°C and an auto-

matic temperature-scale-adjustment (*i.e.*, auto-ranging) function. The controllers have a sensitive touch keypad that is protected from dust and liquids. A soft-start feature eliminates thermal shock and mechanical stress that can occur during startup.

Omega
www.omega.com

Explosionproof Pressure Transducers Are Certified for Hazardous Areas

The 31EP and 32EP Series explosion-proof pressure transducers are CSA approved for installation in hazardous areas, and are particularly suited for space-constrained, harsh environments. The two models are nearly identical, with the exception of their pressure diaphragms. To withstand the stresses of cavitation or extreme pressure spikes, the 32EP Series transducer has a thicker diaphragm, which improves stability and reliability in fluctuating pressures. Both series employ sputtered thin-film sensing technology and have 17-4 PH stainless steel wetted parts. Electrical connections can be threaded directly into installed electrical conduit, and a variety of pressure fittings are available for connections with process fluids. Long-term stability (0.2% of full scale drift per year), high accuracy (0.25% of full scale), and resistance to shock and vibration contribute to the transducers' reliability and dependability.

Gems Sensors and Controls
www.gemssensors.com

MATERIALS AND CHEMICALS

Surfactant Derived from Natural Oils Can Replace Cleaning Solvents

Steposol MET-10U, a bio-based surfactant made from a naturally derived metathesized feedstock, meets sustainability goals while improv-

ing cleaning performance. Unlike traditional highly alkaline (pH 11–13) solvent-based degreasers, it has a neutral pH. At a concentration of 5% in water, it removes adhesives and latex paint as well as 100%-solvent systems. Specific product attributes include a Kauri-butanol value greater than 1,000, a boiling point of 297°C, a biorenewable carbon index of 75%, and a formulating pH range of 3 to 12. This high-strength and nonvolatile surfactant effectively cleans as both a low hydrophilic-lipophilic balance (HLB) surfactant and a strong solvent.

Stepan
www.stepan.com

Silicon Tubing Comes in Three Medical Grades that Withstand Sterilization



Silcon Medical, Silcon Med-X, and Silbrade Medical tubings are manufactured in a controlled environment from silicone elastomer that is U.S. Pharmacopeia (USP) Class VI and U.S. Food and Drug Administration (FDA) compliant. The material contains no plasticizers that could leach out, and it holds up to sterilization by methods such as autoclaving and gamma irradiation. Two of the offerings — Silcon Medical and Silbrade Medical — are peroxide-cured, while Silcon Med-X is platinum-cured. Silcon Medical unreinforced tubing is pliable, translucent, and nonreactive to bodily

fluids and tissues. Its surface resists sticking, encrustation, and bacterial growth, and it tolerates temperatures ranging from -100°F to 400°F (-73°C to 204°C). Silcon Med-X provides the same benefits, as well as enhanced purity and reduced extractables due to its platinum curing. Silibrade Medical is braid-reinforced for higher-pressure applications. Silcon Medical is stocked in sizes ranging from 0.030 in. through 1/2 in. I.D.; Silcon Med-X from 0.030 in. through 5/8 in. I.D.; and Silibrade Medical from 1/16 in. to 1 in. I.D. Each tubing is available in custom sizes, colors, and hardnesses, and with additional modifications.

NewAge Industries, Inc.

www.newageindustries.com

Wear-Resistant Acetal Compounds Are Made of a Proprietary Polymeric Alloy

APWA Plus compounds are the latest additions to this company's family of acetal (*i.e.*, polyoxymethylene, or POM) compounds that reduce friction between sliding parts, thereby extending equipment life and reducing maintenance requirements and costs. They are made of a polymeric alloy that does not plate-out, which prevents mold corrosion and downtime required for mold cleanup. These compounds contain no polytetrafluoroethylene (PTFE), are free of halogens, and are U.S. Food and Drug Administration (FDA) compliant. The compounds can be customized with additives to meet specific color, conductivity, flame-retardance, high-temperature-resistance, or structural criteria.

RTP Co.

www.rtpcompany.com

Solvent Boasts Low Global Warming Potential

Solstice Performance Fluid is a high-performance solvent with a global warming potential (GWP) of 1, which

is 99% lower than that of the solvents most commonly used to clean oil and grease from metal and plastic parts. Suitable for vapor degreasing equipment and line flushing, it can also be dispensed as an aerosol. Two alcohol blends are available for electronics manufacturing applications, one of which is specifically formulated to meet California's environmental regulations. The material is said to be an environmentally preferable, cost-effective, and energy-efficient alternative to high-GWP solvents and a suitable replacement for HCFC-225ca, which will soon be prohibited in the U.S. Solstice Performance Fluid is non-flammable and is not a volatile organic compound, and it has an occupational exposure limit (OEL) of 10 ppm.

Honeywell

www.honeywell.com

High-Performance Protective Coating Is Appropriate for Severe Chemical Immersion



Series 391 Tank Armor is a 100%-solids epoxy liner for tanks transporting hydraulic fracturing fluids. It provides corrosion resistance to a wide range of acids and chemicals, including toluene and xylene blends, contains no solvent, and is volatile organic compound (VOC) compliant. It is also abrasion resistant and contains microfiber reinforcement for improved film integrity. The coating is designed for one-coat application at a dry film thickness (DFT) of 20–40 mil, and can be applied to an optional high-build thickness of 50 mil. The liner

cures quickly and allows rapid return to service.

Tnemec

www.tnemec.com

Modular Generators Allow for Customizable In-House Nitrogen Production



The Type N 7 P to N 56 P onsite nitrogen generators employ a pressure-swing adsorption (PSA) process — in which purified compressed air flows through a carbon molecular sieve (CMS) and the oxygen is adsorbed as it passes through — to produce nitrogen with a purity up to 99.999%. The generators can be configured with up to 24 modules to generate 1.3–254.8 Nm³/hr of nitrogen. Facilities can eliminate their dependence on outside nitrogen suppliers and control gas quantity, quality, and delivery method, as well as save money. Users can remove liquid-nitrogen tanks from the production area, which eliminates a safety concern and frees up space. The generator requires a compressed-air station, and because of the modular design can be retrofitted to existing systems.

Boge

www.boge.com

HEAT TRANSFER Zero-Ground-Clearance Ovens Can Be Accessed with Pallet Jacks

Sahara Hot Box zero-ground-clearance ovens heat up to 32 drums (55-gal) or up to eight totes electrically or with steam, hot water, or hot oil. They sit flush with the ground and have a metal-plate floor so drums and totes can be moved with a pallet jack, which makes

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them appropriate for areas where fork-lift use is not acceptable. Other features include full insulation, rugged steel construction, and precise temperature control; options include air circulation and exhaust capabilities, an outdoor-use package, and a variety of finishes. The energy-efficient ovens are shipped fully assembled and are easy to install.

Benko Products, Inc.

www.benkoproducts.com

FLUIDS AND SOLIDS HANDLING

Diaphragm Pumps Feature Multi-Port Connections



The DEPA DH Next Generation air-operated diaphragm pumps have a flexible, multi-port manifold that improves ball valve guidance, increases functionality, and provides up to 25 installation options. The free flow path design accommodates particle sizes up to 25 mm, which makes these pumps suitable for a broad range of applications. Cast feet integrated in the center block housing allow maintenance to be performed in place, eliminating the need to remove the pump from service, and reducing downtime by up to 25% and the number of parts

required by up to 30% compared to previous models. Block-mounting of the pump and air chambers creates a safe and well-defined diaphragm clamping mechanism. Cost of ownership is reduced through increased efficiency of up to 37%.

Crane ChemPharma & Energy

www.cranecpe.com

Reverse Osmosis Membranes Are Available in Low-Energy and Fouling-Resistant Models

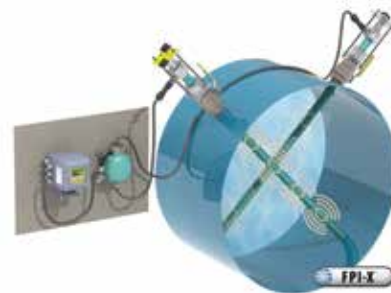
The Lewbrane line of membrane separation elements for reverse osmosis (RO) has been expanded with the introduction of seven new models. The LE (low-energy) models are designed to provide energy savings, while the FR (fouling-resistant) models, which feature a 34-mm feed spacer, are suited for applications with strong fouling potential. The elements are made of a thin-film polyamide composite membrane wound in several layers to form a spiral-shaped component. The elements come in 8-in.-dia. and 4-in.-dia. sizes; the FR models are available with a surface area of 85, 370, or 400 ft², and the LE membranes are available with a 85, 400, or 440 ft² surface area. A new 4-in.-dia. HF (high-flow) membrane with a surface area of 85 ft² is also available.

Lanxess Sybron Chemicals, Inc.

www.lanxess.com

Dual-Sensor Flowmeter Measures Accurately in Extreme Flow Conditions

The FPI-X electromagnetic flowmeter achieves $\pm 0.5\%$ accuracy in the presence of severe inline flow disturbances, such as swirling flows. Its field-tested dual-sensor configuration consists of voltage sensors in two planes across the pipe to compensate for unsymmetrical flow conditions, which ensures more-accurate measurements. Without the need for a long straight run of pipe, the meter can be installed in close proximity to pumps,



valves, elbows, or headers, or in other areas where a symmetrical velocity flow profile cannot be achieved. Such flow environments typically require multiple meters installed at various locations, modifications to piping, or additional flow conditioners; the FPI-X saves time and money because it does not have these requirements. With no moving parts, it requires little to no maintenance.

McCrometer

www.mccrometer.com

Family of Inverter-Driven Motors Includes New Models

The line of Super-E motors with internal Aegis bearing-protection rings has been expanded to include 28 new ratings. The new offerings include 1-hp to 40-hp open drip-proof motors for 200-V and 575-V service, as well as 5-hp to 15-hp totally enclosed fan-cooled (TEFC) designs for 200-V service. Each motor comes with a factory-installed, internally mounted shaft-grounding device, which is necessary to minimize the effects of the shaft currents that are typically present in adjustable-speed motors. Internal mounting minimizes the potential for damage to the grounding device. The motors can be mounted in any position. Additional features include heavy-duty frames, cast endplates, and a Class H inverter-ready insulation system. National Electrical Manufacturers Association (NEMA) Premium efficiencies are also offered for all models.

Baldor Electric Co.

www.baldor.com



ENGINEERING SERVICES

Service Center Offers 48-Hour Assessments to Ensure Fast Turnaround

The company's Express Service Center Program provides ready access to extensive failure analysis, fast replacement of parts and assemblies, and reliable agitator repair services. Experienced technicians thoroughly assess equipment within a 48-hr window so repairs can be made in a timely manner. To meet particularly crucial deadlines, emergency repair services are also offered.

Service center assistance is available for HT and HS agitators; Model 20, MR, and GT agitators; mechanical seal cartridges; drives and extension shafts; impeller hubs and blades; and steady bearing assemblies.

Chemineer, Inc.

www.chemineer.com

ENVIRONMENTAL, HEALTH, AND SAFETY

Stainless Steel Static Grounding Reels Are Suitable for Explosive Environments



New additions to the Rota-Reel line of static grounding reels include the Rota-Reel 200-20R-ST and the Rota-Reel 700-50R-ST, which have cable lengths of 20 ft and 50 ft, respectively. The reels' exterior is constructed of Type 304 stainless steel, which is generally acceptable for use in hazardous (explosive) environments because of its low sparking tendency. This material also offers corrosion resistance, and is appropriate for applications where paints and coatings

can present a contamination risk, such as in the food and pharmaceuticals industries. The reels are also suitable for use in chemical and combustible-dust environments. To convey static electricity to ground without producing a spark, the cable is pulled to the desired length and clamped to the earth-ground source. An internal ratchet system maintains the cable at the desired length; a light tug releases the cable and rewinds it on the spool.

Ametek Hunter Spring

www.ametekhunterspring.com

Flame-Resistant Apparel Combines Comfort and Safety

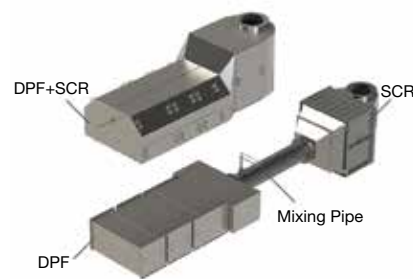
The iQ Series of flame-resistant apparel ensures safety from heat and flame without sacrificing comfort. The clothing's exclusive Amplitude G² fabric was created to provide comfort through breathability, mobility, softness, durability, and moisture wicking. The apparel line offers workers in the manufacturing, oil and gas, emerging energy, and electric utility industries an option of protection with active-wear performance. Currently, men's and women's styles are available in six knits and three wovens, and the company plans to expand the series.

Bulwark

www.bulwark.com

Retrofit System Reduces Emissions from Stationary Diesel Engines

The selective continuously regenerating technology (SCRT) is meant for existing stationary diesel engines that do not comply with the U.S. Environmental Protection Agency's (EPA) new source performance standards for nitrogen oxide (NO_x), particulate matter (PM), carbon monoxide (CO), and hydrocarbon (HC) emissions. The compact system combines a continuous regenerating technology (CRT) diesel particulate filter (DPF), which uses an oxidation catalyst to



continuously combust the soot that is collected on the DPF, with selective catalytic reduction (SCR). Engine exhaust flows first through the CRT for PM, CO, and HC removal. Urea is then injected into the exhaust before it enters the SCR catalyst module, where NO_x is reduced.

Johnson Matthey

www.jmsec.com

Air Curtains Come in Many Lengths and Horsepower Options



The HL (hazardous location) Series industrial air curtains reduce energy losses and restrict the infiltration of fumes, airborne contaminants, and flying insects at petroleum refining, food processing, pharmaceutical manufacturing, and chemical production facilities. Seventy standard models are available with cabinet lengths of 3–16 ft, explosionproof motors from 1/2 hp to 15 hp, heavy-duty blowers for doorways ranging from 6 ft to 20 ft high, spark-resistant fans, and an optional steam or hot water coil with a 103–180°F temperature range. Cabinets and base frames are constructed of 100%-epoxy-coated aluminized steel, but a stainless steel option is also available.

Berner International Corp.

www.berner.com