



## What's New

### FLUIDS AND SOLIDS HANDLING

#### Positive-Displacement Pumps Have Wide Flow Ranges



The Cheminert Model M6 and Model M50 liquid-handling pumps produce bidirectional pulseless flow and are self-priming and tolerant of any gas in the fluid lines. The M6 pump has a range of 5 nL/min to 5 mL/min, and the M50 pump has a range of 1 mL/min to 25 mL/min. The Cheminert pumps can replace syringe pumps and eliminate the need for refill cycles and syringe changes. RS-232 and RS-485 communication protocols are incorporated into the microprocessor-driven controller. A software package is included that controls flowrates, flow direction, and metered volumes.

**Valco Instruments Co.**

[www.vici.com](http://www.vici.com)

#### Peristaltic Pumps Have a Variable Start-Stop Feature



The TPV RP peristaltic pumps can be configured to dispense liquids for a selected time period and to stop dispensing for another selected time period, for up to seven time intervals. The pumps have controls that allow

priming, dynamic braking, speed setting, and flow reversal. They include a handle for easy transport that also serves as a base to lift and angle the pump face. The pumps can handle speeds of 0–300 rpm with a flow range of 0–5,000 mL/min for 1/2-in.-i.d. tubing. The pumps include three stainless steel rollers and stainless steel shafts, an adjustable tubing sub-assembly, a maintenance-free 24 VDC brushless motor, and a safety cover.

**Aalborg Instruments**

[www.aalborg.com](http://www.aalborg.com)

#### Flexible Tubing Offers Exceptional Chemical Resistance



Vitube tubing is constructed of flexible Viton synthetic rubber. This material provides chemical resistance over a wide range of conditions, especially high temperatures. It withstands continuous exposure to temperatures between –30°F and 400°F, and can withstand temperatures as high as 600°F for limited time periods. And, it can withstand exposure to oils, fuels, lubricants, and mineral acids; aliphatic and aromatic hydrocarbons such as carbon tetrachloride, benzene, toluene, and xylene; and sunlight and ozone. Because the tubing contains no regrinds or blends of other elastomers, the supplier is able to guarantee its consistency and quality. The tubing is matte black and is available in a formulation for peristaltic pump use. It is stocked in sizes ranging from 1/32-in. through 7/8-in. i.d.

**New Age Industries, Inc.**

[www.newageindustries.com](http://www.newageindustries.com)

#### High-Efficiency Impeller Reduces Energy Costs



The XE-3 high-efficiency axial flow impeller boasts improved efficiency over the company's previous models that can reduce energy costs in retrofit applications. The impeller's low weight allows for the use of longer shafts without the need for additional support. The XE-3 is available in carbon steel or 316/316L stainless steel with an extensive array of coatings. It is suitable for heat transfer, blending, and solids suspension applications.

**Chemineer, Inc.**

[www.chemineer.com](http://www.chemineer.com)

#### Tablet Coating System is Customizable



With a unique delivery system that improves coating results, this equipment can be custom-designed for a variety of tablet coating requirements. The system consists of a modular air-atomizing manifold, a liquid-delivery skid, and Batch Architect process controls. The removable spray bar features anti-bearding nozzles, internal recirculating guns, a shutoff valve, and a mounting design that prevents tablet entrapment. The system has a custom programmable logic controller

(PLC) and touch screen for control and automation of the liquid delivery skid. The company can tailor core components of the system to each customer's specifications

**Fluid Air, Inc.**

[www.fluidairinc.com](http://www.fluidairinc.com)

### **Gear Joint Offers Better Performance and Longevity**



This gear joint has been redesigned for reduced wear, reduced friction, and increased loading capabilities. It is made of advanced materials using improved manufacturing methods to achieve better overall performance. The enhancements allow increased pressure limits for existing pumps and the use of larger element options for drive ends. The improved gear joint is available as a drop-in replacement for the company's 2000, 2000 WA, and 2000 WB pumps. Pumps with the new gear joints offer benefits in an array of applications, including sludge and mineral slurry transfer; feeding and dewatering equipment; and paint, solvent, adhesive, and gel transport.

**Moyno, Inc.**

[www.moyno.com](http://www.moyno.com)

## **MATERIALS AND CHEMICALS**

### **Pure Monomer Resins Have Low Levels of VOCs**

This line of low-volatiles pure monomer resins includes Kristalex, Kristalex 3115LV, Kristalex 3100LV, and Plastolyn 290LV. The resins have excellent stability and low levels of

volatile organic compounds (VOCs) — making them more environmentally friendly than other formulations. All of the resins offer color consistency and are designed to balance cohesion, melt viscosity, and mechanical properties of various polymers.

**Eastman Chemical Co.**

[www.eastman.com](http://www.eastman.com)

### **Viscosity Enhancer Thickens Surfactant Systems**

The TEGO Carbomer 841 SER is a novel crosslinked polyacrylic acid copolymer designed to control the rheology of surfactant systems. It is well-suited for very mild formulations of sulfate-free and/or polyethylene glycol (PEG)-free surfactants. The viscosity enhancer can be used in low-level surfactant systems and personal cleansing products such as shampoos and body washes. It is compatible with cationics and creates stable viscosities over a wide pH range. It comes in high-density powder form that is easy to handle and cold processable.

**Evonik**

[www.evonik.com](http://www.evonik.com)

## **INSTRUMENTATION**

### **Human-Machine Interface Terminals are Now ABS Classified**



The QTERM-A7 and QTERM-A12 human-machine interface (HMI) terminals are now classified by the American Bureau of Shipping (ABS). ABS promotes safety standards for the design, construction, and operational

maintenance of marine equipment. The terminals are also Class 1 Div. 2 certified for hazardous conditions. The terminals can be supplied with 7-in. or 12-in. LCD displays with resistive touch screens, with either Windows Embedded CE 6.0 or iX software.

**Beijer Electronics**

[www.beijerelectronicsinc.com](http://www.beijerelectronicsinc.com)

### **Flowmeters Receive ISO Certification**



The Full Profile Insertion (FPI) Mag, Ultra Mag, and MX Ultra Mag flowmeters have received ISO 9001:2008 certification from the International Organization for Standardization (ISO). ISO certification guarantees that the meters are manufactured consistently using environmentally friendly methods. ISO compliance will improve process quality and uniformity through regular auditing. The FPI Mag flowmeter can be installed without service interruption, which makes it well-suited for retrofits, upgrades, and maintenance projects. It is available for bidirectional measurement in line sizes of 4–38 in. The Ultra Mag and MX Ultra Mag flowmeters are noninvasive and designed for inline installation. They can be installed in line sizes of 2–48 in., and can measure flows from 0.2 to 32 ft/sec at pressures up to 300 psi.

**McCrometer**

[www.mccrometer.com](http://www.mccrometer.com)

## BIOPROCESSING

### Bioreactor System Enhances Cell Culture Performance



The XRS 20 bioreactor system incorporates a single-use Allegro 3D biocontainer. The bioreactor is designed for cultivation of mammalian cells in suspension culture on the 2 L to 20 L scale. The XRS 20 has biaxial agitation for better mixing and mass transfer, which expedites transport of nutrients and metabolites in the cellular microenvironment. The system includes integrated components such as sensors, filters, and drain and tubing sets for rapid installation and efficient harvesting. It features an advanced controller with a touch-screen interface for easy monitoring and control of process parameters.

**Pall Corp.**

[www.pall.com](http://www.pall.com)

### Separators Isolate Aqueous Phases from Organics in One Step



These universal phase separators are a flexible alternative to the traditional glass funnel separation of immiscible liquids. The columns are fitted with a selectively permeable insert that can effectively separate an upper organic phase from a lower aqueous phase by gravity without additional process steps. Any volume under 80 mL can be processed in a single step, and larger volumes can be processed in batches.

The separators are constructed of inert proprietary polymers, and come in a convenient ready-to-use kit with refill packs.

**Biotage**

[www.biotage.com](http://www.biotage.com)

### System for Fill/Finish Operations Has a Wide Range of Fill Scales

This single-use fill/finish platform for pharmaceutical and biopharmaceutical applications is compliant with current good manufacturing practices (cGMP). It is designed for bioprocess filling applications ranging from 0.2 mL to 100 L. All of the process equipment used in conjunction with the platform is disposable, including the connectors, vials, baskets, and caps. During operation, vial baskets are manually placed in the preparation isolator before the vials are filled using disposable dispensing needles. Weighing and capping are done in a sterile finishing isolator, where the vials are closed in one step prior to weighing.

**ATMI, Inc.**

[www.atmi.com](http://www.atmi.com)

## ENVIRONMENTAL, HEALTH, AND SAFETY

### Color Camera Includes Built-In Defroster and Heater



The Fieldeye II Model FC33U all-weather CCD color camera monitors plant facilities and premises with pan-tilt-zoom functionality. Its compact enclosure is constructed of rugged, corrosion-resistant SUS316L stainless steel. The camera has high sensitivity and resolution, with a zoom magnification of 36X optical and 20X digital. An

integral defroster and heater prevent the formation of condensation and the freezing of components. An optical wiper that removes droplets and dirt from the lens is available. Video data can be transmitted via a single coaxial cable or an Ethernet network. Applications include the monitoring of processes at oil, petrochemical, chemical, pulp and paper, pharmaceutical, and food facilities. The Model FC33U is not explosionproof, but the company plans to release an explosionproof model by the end of this year.

**Yokogawa**

[www.yokogawa.com/us](http://www.yokogawa.com/us)

### Safety Helmet Features a Pre-Installed Suspension System



The Serpent safety helmet is now available in an unvented Class E model with a rotating ratchet adjustment; an eight-point, six-strap suspension system for impact resistance; and a soft, cloth brow pad. The suspension system is pre-installed, which lowers the risk of injuries due to an improper fit, and the helmet's light weight (13 oz) encourages use throughout the day. The helmet provides good electrical insulation for a wide range of environments. Its shell comes in 11 colors, including Hi-Viz Orange and Hi-Viz Limon, both of which conform to the ANSI standard for high visibility. The helmet meets the ANSI Z89.1-2009 standard for Type 1 helmets, and has been independently tested to the voluntary ANSI standards for lower temperature and reverse donning.

**Gateway Safety**

[www.gatewayssafety.com](http://www.gatewayssafety.com)