



## What's New

### FLUIDS AND SOLIDS HANDLING

#### Multiple-Port Valve Is Appropriate for High-Purity Environments

The Robolux valve is suitable for hygienic-processing facilities in the pharmaceutical, chemical, food and beverage, and similar industries where cleanability is important. The multiport valve and manifold design enable one membrane to handle two independent process-switching functions, which allows one of these valves to replace two traditional shut-off diaphragm valves. This, plus the elimination of T-adapters and dead legs, reduces installation space requirements. The internal volume of the valve has been minimized to improve flow and evacuation properties, as well as reduce unnecessary waste of expensive chemicals and ingredients. Field-level automation is possible with components that include pilot valves, electrical feedback units, and optical status indicators; up to 62 valves can be connected to a programmable logic controller (PLC) by a two-wire line connection. With all of the necessary automation controls contained in the head of the valve, installation and maintenance are made quicker, simpler, and less expensive. An LED optical status display integrated into the control head aids diagnostics and maintenance by signaling the current switching position of the process valve.

#### Bürkert Fluid Control Systems

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

#### Diaphragm Valves Have High Flow Coefficients

The Type 514–519 high-flow diaphragm valves have an optimized, turbulence-free flow geometry and flow coefficient ( $C_v$ ) values that are, on average, more than double those of traditional diaphragm valves. This increases flowrate performance and

reduces energy consumption, which makes these valves suitable for applications where diaphragm valve use has typically been limited due to flow restrictions. A self-draining feature minimizes dead space and improves hygiene and resistance to crystallizing fluids. The body is attached to the bonnet by a metal-free threaded connection that minimizes buildup in corrosive environments and eliminates the need to retorque bolts due to thermal expansion. The valves come in sizes of 1/2–2 in. and can handle pressures up to 150 psi. End connection options include socket, spigot, and flanged. The basic valve is operated manually, but an integrated electrical feedback unit can be retrofitted to the valve to enable piping system regulation and process monitoring. Other features include a color-coded housing nut to indicate pressure rating and diaphragm material, as well as a two-color position indicator to show valve position at a distance. This valve series is suitable for extremely contaminated media, media containing particulates, and high-purity liquids.

#### GF Piping Systems

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

#### Ultraheavy-Duty Bulk-Bag Filling System Runs at High Capacities



This ultraheavy-duty bulk-bag filling system combines the company's Swing-Down bulk-bag filler with a pallet dispenser and powered chain conveyor to provide a complete system that pelletizes and fills bags

with difficult-to-handle materials such as filter cake, aggregates, metal powders, abrasive minerals, and dry chemical additives. It can safely fill bulk bags at high capacities, and includes a wide-diameter spout to handle irregular materials. The filling process is almost entirely automated, with operator intervention necessary only to attach the bags to the spout. Air that is displaced during the filling operation is vented and requires a connection to a dust collector. An optional steel-tube flexible screw conveyor can be integrated with the user's existing upstream process equipment or other material sources.

#### Flexicon Corp.

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

### INSTRUMENTATION

#### Programmable Motion Controller Includes a Speed Sensor and a Control Unit



The Model MSD-800 programmable motion controller continuously monitors the rotary speed of indoor and outdoor rotating equipment such as screw conveyors, belt conveyor pulleys, rotary feeders, and bucket elevators. To prevent costly damage from undesirable changes in speed, the system sends a signal to the control unit to alert the operator of the out-of-bounds speed; this signal can be used to trigger an alarm and/or shut down the equipment. The motion controller consists of a speed sensor and a control unit. The speed sensor, enclosed in a rugged cast aluminum housing, is attached directly to the shaft of the rotating equipment to

be monitored. The sensor generates electronic pulses, which are transmitted to the control unit, where the signal is analyzed and compared to one or two pre-programmed under- and over-speed points.

**Conveyor Components Co.**

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

### **Single-Loop Controller Is Easier to Read and Maintain**

YS1000 Series single-loop controllers have been enhanced to simplify operation and maintenance, with an improved LCD screen and easy-to-maintain design. The STN LCN screen on previous models has been replaced with a TFT LCD screen that provides a 50% wider viewing angle, increased contrast and brightness, and a longer lifespan. When the controller screen does require replacement, the maintenance can be conducted while the controller is online, without interrupting operation. This controller is appropriate for industries such as power, oil refining, petrochemical, chemical, iron and steel, pulp and paper, food, pharmaceuticals, and water and sewage treatment.

**Yokogawa Corp. of America**

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

### **ENVIRONMENTAL, HEALTH, AND SAFETY**

#### **Manual-Inflating Sample Bag Does Not Require Additional Equipment**



The VeriAir Flex manual-inflating sample bag enables the collection of atmospheric grab samples without the need for preparation, sampling pumps, or any additional equipment. The bag has a simple design that is intrinsically safe, and is made of a durable multi-

layer foil that can be reused. The integrated panels help to protect the bag during use, storage, and shipment. An analytical-grade inner polyolefin lining ensures stable storage of most gases. Unlike stainless steel canisters, the samples do not need to be subjected to pressure or dilution when tested, and because they are lightweight, they can be shipped at lower costs. The product line includes a 1-L and 5-L foil bag, as well as a 1-L Tedlar polyvinyl fluoride film bag.

**Nextteq LLC**

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

### **LABORATORY EQUIPMENT**

#### **Programmable Digital Hot Plate Has Five Stirring Positions**



The EchoTherm Model HS65 programmable digital stirring hot plate has five stirring positions and can store up to ten programs with as many as ten steps each. Temperature, temperature ramp rate, stirring speed, and time can all be automated. The ceramic glass heating plate can be heated from ambient to 400°C, and is controlled to 1°C of the target.

**Torrey Pines Scientific, Inc.**

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

#### **Purification/Powderization System Improves Productivity**

This purification/powderization technology, called Crude2Pure (C2P), automates time-consuming tasks to allow researchers to focus on more crucial issues, such as synthesiz-

ing and isolating target compounds. Designed for use with preparative liquid chromatography, it uses trap concentration to purify target compounds from synthetic products consisting of low-molecular-weight organic compounds and complicated natural substances, recovering them as highly pure powders. Processes that would typically take 24 hr to complete can now be done in only 5 hours. Operators can easily process multiple samples, achieving improved productivity at lower cost. Researchers in the drug manufacturing, food science, and chemistry sectors will benefit from this time-saving technology.

**Shimadzu Scientific Instruments, Inc.**

[www.ssi.shimadzu.com](http://www.ssi.shimadzu.com)

#### **Reaction Conditions Can Be Separately Controlled in 24 Bioreactors**



Micro-Matrix consists of 24 independent bioreactors organized in a microtiter plate footprint. The system offers an integrated, easy-to-use, and cost-effective technology platform for the handling and growth of large numbers of microbial strains, clone libraries, mutant banks, and cells. The pH and dissolved oxygen content can be controlled in each individual reactor by liquid or gas addition. An integrated heating and cooling system allows the temperature conditions to also be varied separately in the reactors. Process control is offered through an intuitive PC-based human interface.

**Applikon Biotechnology**

[www.applikon-bio.com](http://www.applikon-bio.com)