



ENVIRONMENTAL, HEALTH AND SAFETY

Shutoff Device Reduces Fire Risk

The FireBag thermal-activated gas-shutoff device automatically turns off a gas supply in the event of a fire, preventing explosions and limiting the spread of fire. When the outside temperature reaches the setoff temperature of 203–212°F (95–100°C), the metal alloy that keeps the plug and cartridge together melts, and the spring pressure pushes the plug against the gas opening to close it completely. No fire or heat detectors are required to ensure automatic interception of the gas flow. The housing and finishing are constructed from zinc-plated steel.

Assured Automation

www.assuredautomation.com

SOLIDS AND FLUIDS HANDLING

Hybrid Grinder

Provides Small-Media Milling



The Model 05-SDM hybrid mill for small-media milling combines the features of a standard, wet-grinding laboratory batch mill with the ability to handle small-media milling. Advantages include simple operation, energy efficiency, rugged construction, and no expensive shaft seals to maintain. In addition, users can inspect the mill and add material at any time during

the grinding cycle. With the addition of a specially designed shaft and proprietary Delta Discs, the mill is able to use mini media from 0.25 mm to 3 mm and operate at the high shaft speeds (300–3,000 RPM) that are required to energize small media. Available in either stainless steel or metal-free models, the mill processes about 1–1.5 L of slurry and has a media-retaining screen installed at the discharge outlet.

Union Process, Inc.

www.unionprocess.com

Nanofiber Filter Cartridge Fits New and Existing Dust Collectors



The new HemiPleat Nano dust collector filter is said to provide higher filtration efficiencies, longer service life, and lower pressure drop compared to competitive nanofiber filters. The product line is available in minimum efficiency rating value (MERV)-14 and MERV-16 efficiency options — higher than most competitive filters. A new technology is used to apply a thick layer of highly durable nanofibers to the surface of the patented HemiPleat open-pleat filter design. Open-pleat spacing allows for better utilization of the media pack, improving air flow through the

cartridge. Dust buildup is released easily during pulse cleaning, reducing compressed-air (and hence energy) requirements. The filter is suitable for use with hard-to-handle dusts, such as those produced in laser and plasma cutting, welding and thermal-spray applications, and it is designed to withstand rigorous pulse cleaning for all types of dry dust applications. An optional fire-retardant cellulose-blend base material is available.

Camfil Farr Air Pollution Control

www.farrapc.com

Enclosed Conveyor System Enables Layout Flexibility



This fully enclosed tubular drag conveyor with a chain-driven flight mechanism gently conveys friable and blended materials. Dust-free operation eliminates the potential for toxic or flammable spillage, odors, and airborne dust that create hazardous work areas. The enclosed design also protects the conveyed product from outside contamination. The system can be flexibly laid out to convey the product horizontally, vertically, or at any angle and around corners. The system can accommodate multiple inlets and outlets and has a large throughput capacity (up to 50 ft³/min).

Hapman

www.hapman.com

Modular Pump is Easy to Service



The modular PV360 axial piston pump, the latest addition to the PVplus axial piston pump family, is available for a range of heavy-duty mobile and industrial applications with operating pressures up to 5,000 psi (350 bar). This variable-displacement, 360-cm³/rev pump features a large servo piston for fast response. A patented ripple chamber technology reduces pressure and flow pulsation by 40–60% compared with similar pumps. As a result, fewer sine waves (which can loosen hydraulic connections and damage downstream components) are introduced into the system, and pump noise is reduced.

Parker Hannifin Corp.

www.phpump.com

HEAT TRANSFER Direct-Injection Heaters Reduce Energy Usage



This family of direct-steam-injection water heaters (also referred to as direct-injection heaters) are used to rapidly and accurately heat water and water-based slurries by injecting steam directly into the fluid. They are used in a variety of industrial processing applications, including preheating of boiler feed-water, fibrous slurries (such as pulp stock and biomass), paper starch, and

water used for sanitization and tank cleaning, as well as for anaerobic treatment of organic waste and a variety of other applications. Direct injection heating uses all of the sensible and latent heat of steam to heat the fluid, and can provide heating equal to that of indirect heat exchangers while using 20–30% less energy. These heaters are available in 1.5-in. through 6-in. sizes, with other sizes available on request. All units are custom-engineered. With the exception of the actuator and modulating spindle, the direct-injection heater has no moving parts, thereby reducing maintenance and extending service life.

Kadant Johnson, Inc.

www.kadant.com

MATERIALS Solvents Boast Improved Yields and Reduced Environmental Impact

The new Highsolv P99 and Highsolv E99 solvents for organic synthesis are colorless, low-viscosity solvents with favorable toxicological properties. They are suitable for a range of pharmaceutical and fine-chemical applications, and can be used as a viable replacement for many common toxic and flammable solvents for organic syntheses, such as dichloromethane, toluene, and others. Both have relatively high flash and boiling points, which ensures useful operating temperatures for a wide range of chemical sequences. Readily miscible with diverse solvents, Highsolv P99 is also miscible with water. Both solvents are stable to numerous strong bases and can be used in mildly acidic processing conditions, further extending their versatility.

Clariant International Ltd.

www.clariant.com

LABORATORY EQUIPMENT PCR System Performs Rapid Microbiology Analyses

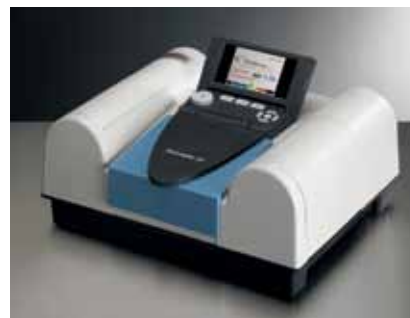
The GeneDisc rapid microbiology system enables accelerated microbiological analysis for pharmaceutical and biotech-

nology applications. The simple-to-use, robust platform — which is based on established quantitative polymerase chain reaction (qPCR) technology — provides a significant time savings over traditional incubation sampling methods. This can allow materials and final products to be released more quickly, improving production efficiency and reducing inventories. Typical culture-based methods may need at least five days to yield results, but the GeneDisc system generates comparable results for most microbiological applications in just a few hours. Bar-coded data input and fewer operator-dependent steps help to ensure reliable results and reduce the potential for error.

Pall Corp.

www.pall.com

Spectrophotometer Needs Little Maintenance



The Spectronic 200, a new visible spectrophotometer, incorporates the latest optical and detector technologies to meet the needs of academic and industrial quality-control laboratories. This cost-effective instrument is simple to set up and use, requires little maintenance, has no moving parts, and has a small footprint. It delivers fast, full-wavelength scan data and multi-standard quantitative analysis. For users of the company's predecessor Spectronic 20 and Genesys 20 spectrophotometers, the onboard software platform and simple user interface make upgrading easy.

Thermo Fisher Scientific, Inc.

www.thermofisher.com