



What's New

OPERATIONS AND MAINTENANCE

Trailer-Mounted Boiler Supplies Steam During Outages



This trailer-mounted watertube boiler provides steam during planned shutdowns or emergency situations. It burns either natural gas or No. 2 fuel oil, has a design pressure of 395 psi (typical operation is 125–360 psi), and provides 75,000 lb/h of saturated steam. Other models are available to handle a wide range of pressures, temperatures, and flowrates. Installation is simple and requires a single electrical connection and easily accessible piping connections.

Indeck Power Equipment Co.

www.indeck.com

Grease Relies on Nanoceramic Particles for Reliable Performance

The DayLube industrial grease contains nanoceramic particles that act like submicroscopic ball bearings, providing continuous lubrication to steel surfaces to reduce friction and increase wear resistance in a range of machinery and metalworking applications. Its coefficient of friction at all temperatures is said to be lower than that of traditional polytetrafluoroethylene (PTFE) greases. It maintains its viscosity across its entire temperature range of –40°F to 800°F, and the nanoceramic particles remain intact to 2,500°F. It is NSF-H1 food-grade certified, and has adhesion that extends production by up to ten times that of other industrial greases. After 100,000 production strokes, DayLube shows no evidence of breaking down. It has

a low dielectric constant, is capable of load-bearing, does not contain metal or silicone, and is resistant to steam, acids, and most chemical products.

Dayton Progress

www.daytonprogress.com

INSTRUMENTATION

Gas Chromatography System Enjoys Extended Column Life

The TraceGold GC column comes with an integrated SafeGuard column, and is suitable for carrying out analytical investigations in environmental, food, petrochemical, forensic, and other applications. The system combines an analytical gas chromatography (GC) column with a built-in guard column, which is designed to extend the life of the analytical column and ensure consistency of results over a longer period of time, without compromising its chromatographic performance. The stainless steel system is available in a range of guard column lengths and analytical column specifications, and handles temperatures ranging from –60°C to 350°C.

Thermo Fisher Scientific

www.thermoscientific.com

Conductivity Sensors Maximize Boiler Efficiency



The CS675 and CS676 stainless steel conductivity sensors provide accurate, reliable monitoring of impurities in boiler water, reducing maintenance cycles and shortening the blowdown interval. This helps to reduce boiler corrosion and contamination and lower operating, repair, and energy costs. The sensors' bodies and pins are constructed of Type 316 stainless steel,

and can withstand temperatures to 200°C and pressures to 250 psig. They feature a thermally resistant polyetheretherketone (PEEK) insert and high-temperature ethylene-propylene O-rings. Models can be ordered with or without automatic temperature compensation. Probes are supplied with 6-in. polytetrafluoroethylene (Teflon)-coated leads for junction box connection and extension, and longer cable lengths are also available. The standard cell K value is 1.0, and units with K values of 0.1 and 10.0 can be ordered.

Sensorex

www.sensorex.com

Small-Scale FTIR Enables Rapid Screening of Reaction Results

The FlowIR™ is one of the smallest Fourier transform infrared (FTIR) spectroscopy instruments on the market. It can be placed nearly anywhere along a reactor setup and seamlessly integrated into just about any flow chemistry synthesis system. Because no special connections are required, it allows real-time flow chemistry monitoring at any point along a reaction chain. The use of multiple units along the reaction path in complex multistep synthesis set-ups provides critical feedback to allow ongoing reaction adjustments. FlowIR™ is portable, as each unit weighs just 6 lb (28 kg). Standard Ethernet TCP/IP connectors are used to communicate results for simplified reporting.

Mettler Toledo

www.mt.com

Thermal Imaging System Automates Liquid Level Measurement in Tanks

The Arc family of thermal imaging cameras is suitable for both R&D and automation applications, and for heavy industrial uses. The high-resolution thermal imager uses advanced

focal-plane-array detector technology, yielding high-accuracy measurements over a wide temperature range (-20°C to $1,000^{\circ}\text{C}$). The thermal camera can be used in process control, automation, critical vessel monitoring, and product testing applications in industries as varied as metals, plastics, paper, packaging, food, automotive, minerals, and more. The device uses high-resolution radiometric imagers that can view targets at any distance with clarity. Temperature processing is performed by onboard software, so the cameras do not need to be connected to a PC. Connection to a range of I/O modules by standard industrial Ethernet enables standalone operation.

Land Instruments International,
a unit of Ametek, Inc.
www.landinst.com

LAB EQUIPMENT

Automated Oil Evaporator Analyzes Difficult Samples



The Aquacounter AQL-2320 automated oil-evaporator Karl Fischer titration system is designed for analyzing moisture in difficult samples, such as oil, grease, paint, resins, bonding agents, etc. Using an azeotropic distillation solvent such as toluene or xylene, moisture can be evaporated at a lower temperature, which saves on expensive Karl Fischer reagents and lowers maintenance costs, since the titration cell remains clean and free of contaminants. The system heats samples up to 200°C and easily automates the addition of the azeotropic solvent. The sample tray can hold 20 samples

and the operator can automate the exchange of Karl Fischer reagents.

JM Science
www.jmscience.com

pH Buffer Ensures Accuracy and Traceability to Standards



The new Traceable pH standards are certified reference materials (CRMs) with an accuracy of ± 0.010 pH at 25°C that are 100% compatible with all instruments and probes. CRMs meet federal, state, and local agencies' strict mandates and provide exact calibration results for any pH meter. All CRMs feature resistance to temperature changes and long-term buffer stability. Each 100-mL Traceable container is supplied with an individual temperature-compensation chart, as well as a serial-numbered certificate that indicates traceability to the National Institute of Standards and Technology's (NIST) and/or another national standards laboratory's standards.

Control Co.
www.control3.com

ENVIRONMENTAL

Conductive Dust-Collection Media Provides Static Dissipation

The HemiPleat dust collector filter uses a carbon-impregnated media to capture dusts that generate static charges requiring dissipation (such as fumed silica, plastic, polyvinyl chloride (PVC), and carbon black dusts). Since it reduces the risk of ignition due to static electricity charges, the filter is also suitable for use in applications involving potentially explosive

dusts. The conductive media is available in the full selection of HemiPleat cartridge styles, to fit virtually all new and existing cartridge dust collectors. It is said to be the only filter to combine conductive properties with a patented, open-pleat design, which results in better airflow through the cartridge and better cleaning characteristics. This, in turn, reduces maintenance and energy requirements.

Camfil Farr Air Pollution Control
www.farrapc.com

SOLIDS AND FLUIDS HANDLING

Portable Mixers can be Configured to Meet Process Needs

The portable DT mixers are fitted with industry-standard NEMA motors and gear-motors in sizes from 1/4 hp to 5 hp. The mixers are available with a range of impellers and shaft lengths and diameters, and come with flanged or shaft couplings. The standard cast aluminum housing is a high-strength, low-weight design. All-stainless housings and motors are also available for superior cleanliness and corrosion protection.

Chemineer, Inc.,
a unit of Robbins & Myers, Inc.
www.chemineer.com



Rotary Magnet Captures Tramp Metals from High-Moisture Solids

The RotoDrawer is a rotary-style magnetic separator designed to remove ferrous metals from powders and bulk solids that are hard to process through stationary tube magnet housings,

such as powders with high moisture content or with particle sizes that have a tendency to bridge or choke (such as flours, cake mixes or corn starch). It features a motorized, cylindrical arrangement of rare-earth magnetic tubes that continually rotate through a gravity-fed product stream. The rotary action, coupled with splitter bars, work together to break up any clumps and keep the product moving through the housing while the magnets capture ferrous metal contaminants. Standard sizes range from 8-in. inlet and outlet to 18-in. inlet and outlet, and custom sizes and designs are available.

Industrial Magnetics

www.magnetics.com

Vacuum Conveying Unit has an Ultra-Low Profile



The VS200-F1 is an ultra-low-profile unit for vacuum conveying small volumes of bulk solids, including granular products. With an overall height of just 16 in., it is designed to convey capacities up to 500 lb/h. Other features include a quick-release QX style filter, modular construction, an 8-in.-dia. full-bore body, and a full-bore discharge valve that has no moving parts within the product stream. The unit incorporates the new MX 360 vacuum pump, which is capable of vacuum levels as low as 27 in. Hg vacuum and can handle lean, dense, or plug-flow conditions. The standard 316L stainless steel construction is corrosion-resistant, and the seal arrangement is the same as that used on the company's other vacuum conveyors.

Volkmann, Inc.

www.volkmann.com

Butterfly Valve has Permanently Embedded Lugs

The Type 57IL Isolator Lug butterfly valve features a distinct lug design. During the injection molding process used to make the polyvinyl chloride (PVC) valve body, Type 316 stainless steel lugs are inserted into the body, thereby permanently combining the lugs and body into a single unit. This permits removal of the downstream flange while maintaining full upstream line pressure. Encapsulating the lugs into the body also ensures that every valve comes factory-equipped with the lugs. The valves are available in 3–8-in. lever-style configurations (with the option for a gear operator), and 10–12-in. gear-operator configurations. They can also be electrically or pneumatically actuated.

Asahi/America, Inc.

www.asahi-america.com

MATERIALS

Deposit-Control Agents Improve Papermaking

Cartaspers SCH and Cartabond DST.01 are deposit-control products that can help papermakers to improve machine cleanliness and operability when using wastepaper as a raw material. Cartaspers SCH makes use of nanotechnology to introduce trillions of tiny polymer particles into the wet end of a paper machine. The hydrophobic emulsion particles are derived from a hard, high-melting-point polymer. During operation, the tiny polymer spheres associate themselves with other hydrophobic components in the pulp slurry. Through passivation, this agent renders sticky contaminants non-sticky, which prevents agglomeration and fouling. Cartabond DST.01 is a low-charge cationic polymer solution designed to reduce turbidity in the wet-end circuits.

Clariant

www.clariant.com

Cosmetic Silicone Formulation is Designed for Personal Care Products

This family of cosmetic silicone system products provides advantages in terms of stability, functionality, and sensory features. The system is comprised of several materials — the KSG-360Z silicone gel emulsifier, the KSP-441 hybrid silicone powder, and the DMF-2 high-purity, low-residual dimethicone fluid. The materials not only work well together, but each product also offers unique performance properties and sensory benefits when used on its own. These products are said to be suitable alternatives to D5 siloxanes and D5 derivatives.

Shin-Etsu Silicones of America, Inc.

www.shinetsusilicones.com

SAFETY

Reverse-Buckling Rupture Disc is Designed for Sanitary Applications



The Pro-S sanitary pressure-relief system features a reverse-buckling rupture disc whose smooth side faces the product flow to minimize product build-up and blockage. The disc is precision-scored on the vent side to burst in the event of over-pressurization. The Pro-S system includes the Oseco Sanitary Sensor (OSS), which indicates when the disc has ruptured and can be used to activate a variety of alarms, including computer-controlled systems. This disc requires no special liners or coatings and is designed to operate at up to 90% of its burst pressure in hygienic environments. It is available with burst pressures as low as 16 psig.

Oseco

www.oseco.com