



this month's topic **Pumps**

Sampling Pump Module Simplifies Gas Monitoring in Remote Areas



The SM100 sampling pump module draws combustible or toxic gases to a gas detector in areas that are inaccessible for direct sensor monitoring. The module supplies gas for up to three detectors at flowrates from 0.05 L/min to 1 L/min, which is useful for monitoring multiple gases in a single line. It features a low-flow indicator, which informs operators when the flow is insufficient for gas detection. It also provides local signal indication of a low-flow condition. The SM100 has a rugged design and Type 316 stainless steel construction for use in harsh industrial environments. It is available in two configurations: an aspirated model that is used with a compressed air source, and a DC pump model. The SM100 operates over a wide temperature range of -4°F to 131°F .

General Monitors

www.generalmonitors.com

Pumps Are Easily Integrated into Microfluidic Systems

These electro-osmotic (EO) pumps can significantly reduce the influence of electrochemistry and bubble formation in microfluidic systems. The low-power pumps are extremely small, which speeds integration into custom systems and portable instruments for use where space is at a premium. The product family includes two EO pump cores — basic and bubble-free — as well as an EO pump open interface with several outlet sizes for increased flexibility. The pumps can operate over

a wide flow range, from 5 mL/min to 150 mL/min, and can be used with a variety of fluids, such as deionized water, ionic solutions, and alcohols. They are suitable for a broad range of applications, including consumer electronics, fuel cells, and microfluidic experimentation.

Dolomite

www.dolomite-microfluidics.com

Diaphragm Vacuum Pumps Achieve Fast Evacuation

N950.50 Series multi-head diaphragm vacuum pumps simultaneously produce high flowrates and deep vacuums for the quick transfer or evacuation of gases — they can reach a maximum flowrate of 50 L/min and a maximum vacuum of less than 2 mbar. The pumps can be powered with a brushless DC motor or a worldwide motor with a range of 100–240 V and 50–60 Hz. The liquid-tolerant pump design mitigates any potentially adverse effects of condensable media.

The pumps operate without oil to eliminate any chance of contaminating the pumped medium. They offer a high level of gas tightness and can perform in any installed position. Available add-ons include speed control through external signal input, gas ballast, remote on/off operation, and signal output for speed monitoring. Wetted material options include polyphenylene sulfide (PPS), polytetrafluoroethylene (PTFE), and ethylene propylene diene monomer (EPDM).

KNF Neuberger, Inc.

www.knf.com

Diaphragm Pumps Are Now ATEX Approved

The G70 Series air-operated diaphragm pumps now feature Kalrez perfluoroelastomer diaphragms, which are resistant to over 1,800 different chemicals yet remain stable at high

temperatures. They are also now ATEX approved. These air- or CO_2 -operated diaphragm pumps have unique spring-loaded check valves that form a strong seal, and quick-connect ports for easy installation. They can process liquids at flowrates up to 5 gpm, and have inlet and outlet ports from 10 mm to 19.1 mm dia. The G70 Series is suitable for a wide range of chemical transfer and dispensing applications.

Xylem, Inc.

www.xyleminc.com

Metering Pumps Are Suitable for Pilot Plant Applications



These ceramic metering pumps have a unique valveless rotating/reciprocating piston design that eliminates the need for check valves, which can clog, leak, or fail over time. The design produces maintenance-free, drift-free fluid control that will hold an accuracy of 1% or better for millions of cycles. The pumps are suitable for pilot plant applications, where precision fluid control is critical for the successful scale-up of processes. Pump models are available in sizes ranging from 5 mL per dispense up to 4 L/min continuous metering. These pumps may be used to meter compounds such as monomers, catalysts, food additives, acids, extraction solvents, alternative fuels, water treatment chemicals, and viscous fluids and slurries.

Fluid Metering, Inc.

www.fmipump.com