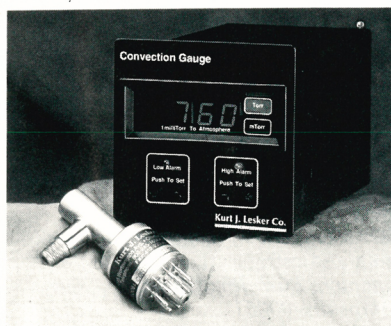


NEW PRODUCTS

The descriptions of the new products listed in this section are based on information supplied to us by the manufacturers, and in some cases by independent sources. PHYSICS TODAY can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card is attached inside the back cover of the magazine.

Vacuum Gauge with Temperature Compensation

Kurt J. Lesker Company has introduced a convection-type vacuum gauge that is said to compensate automatically for ambient temperature changes. The gauge has a platinum-



alloy filament that operates below 125 °C and can handle corrosive vapors, such as mercury and fluorine. All other parts of the gauge that are exposed to vacuum are made of 300-series stainless steel. The unit is available as an indicator or as a controller with two setpoint relays. Kurt J. Lesker, 1515 Worthington Avenue, Clairton, Pennsylvania 15025

►Circle number 180 on Reader Service Card

Compact, Modular, Corrosion-Resistant Vacuum Pumping System

Elnik Systems has made available the PC 5 vacuum pumping system from Vacuubrand, which is said to have a smaller footprint than other comparable systems. The system's integrated stand holds the following:

one of three corrosion-resistant pumps with pumping speeds from 34 to 112 liters per minute at vacuum levels from 2 to 10 mbar; a shatter-resistant glass catchpot with an electropneumatic valve and an exhaust condenser; and a microprocessor controller. The pump is mounted so that no liquid can be trapped between the valve and the valve seat. A gas ballast ensures that the final stage of the pump is always purged. The system is intended for chemistry labs. Elnik Systems, 4 Edison Place, Fairfield, New Jersey 07004-3501

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Cold Cathode Pressure Sensor for 10^{-11} to 10^{-2} Torr

The I-Mag cold cathode sensor from the HPS division of MKS Instruments measures pressures from 10^{-11} to 10^{-2} Torr by ionizing the gas in the vacuum chamber and measuring the ion current. We are told that the use of a high-voltage discharge, rather than a hot filament, to ionize the gas makes the I-Mag less susceptible to contamination. The I-Mag is assembled under clean conditions, and with its cables and magnet removed, it can be baked out at 500 °C to further clean its surfaces. The sensor reads pressures to within 1% of the indicated decade, and its readings are reproducible to within 5% of the indicated pressure. The I-Mag operates from 0–100 °C, and it weighs less than two pounds.

The I-Mag can be used with all current HPS or MKS electronics. The company also produces a rebuild kit that it says will allow the sensor to be used indefinitely. It is expected to be used in the investiga-

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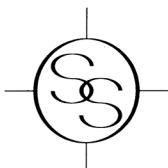
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tion and processing of semiconductors and thin films, in ultrahigh vacuum applications and in industrial processing. *HPS Division, MKS Instruments, 5390 Sterling Drive, Boulder, Colorado 80301-9855*

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Automatic Valve Controller for Vacuum Systems

Key High Vacuum Products has introduced two automatic valve controllers for cryopumped vacuum systems.

The ACP-2000 is designed to monitor and control all the functions of a cryopump and associated valves; when the controller detects a fault, it shifts to standby mode. The ACP-2000-C incorporates a remote data manager for control from a computer. Both pumps have bell-jar position sensors and microprocess control, and both allow the user to control purges and regeneration times. *Key High Vacuum Products, 36 Southern Boulevard, Nesconset, New York 11767*

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Large Ultrahigh- Vacuum Gate Valves

VAT's Series 10 ultrahigh-vacuum gate valves have inner diameters up to 60 inches. The stainless-steel doors have a camless sealing mechanism that uses spreading balls to distribute the sealing forces evenly and minimize the closing shock. The valves have a guaranteed life of 20 000 cycles before needing maintenance. Options include pneumatic, hydraulically damped or electric actuators; for applications at very low pressures, all-metal static seals and double seal plates with differential pumping between them are also available. *VAT, 500 West Cummings Park, Woburn, Massachusetts 01801*

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Residual Gas Analysis for Testing Leaks

The NGS division of MKS Instruments has made available a series of modular residual gas analyzers for leak testing. The systems use a partial pressure transducer with a Faraday cup or electron multiplier tube to detect helium or some other tracer gas. For applications requiring high sensitivity, a partial pressure

transducer with a differential pressure ion source allows detection below 100 parts per billion. Trends can be monitored in a pressure-versus-time format; the computer's beeper changes frequency depending on the tracer gas pressure. Users can select from a range of pressure reduction manifolds, high-vacuum pumping systems, heater-bakeout jackets and computer controls; the systems can be configured as fixed stations or portable carts. *MKS Instruments, NGS Division, 6 Shattuck Road, Andover, Massachusetts 01810*

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Gas Leak Detector for Safety and Quality Assurance

The RXS 240 Multi-Gas Sniffer from Balzers detects up to five different gases simultaneously using a quadrupole mass spectrometer. The system is portable, and it comes with a handheld probe so that leaks can be pinpointed more accurately. The RXS 240 has a built-in library of over 100 gases to select from; users may expand the library to include additional gases. The unit has analog and digital interfaces to facilitate data logging and remote operation. The detector is designed for quality assurance and safety monitoring in semiconductor fabrication, chemical processing, packaging and refrigeration. *Balzers, 8 Sagamore Park Road, Hudson, New Hampshire 03051*

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Compact Vacuum Pressure Gauge Modules

Granville-Phillips Mini-Ion gauge modules each weigh 13 ounces and incorporate an ion gauge and its electronics inside an all-metal enclosure. The 342 model employs a triode ionization gauge for pressures from 5×10^{-7} to 5×10^{-2} Torr, while the 343 uses a Bayard-Alpert gauge for pressures from 5×10^{-8} to 5×10^{-3} Torr. The modules provide an analog signal of the indicated pressure for output to a remote display or computer.

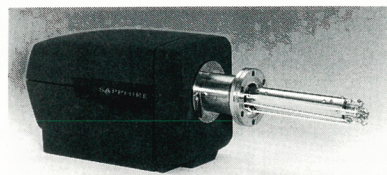
The modules have a protection feature that turns off the gauge tubes if the pressure rises above an upper limit, and the electronics are protected against power reversals, surges and excessive voltages. The ionization gauge can be replaced in the

field using only a Phillips screw-driver. *Granville-Phillips, 5675 Arapahoe Avenue, Boulder, Colorado 80303*

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Residual Gas Analyzers for Gas Generators

The Sapphire residual gas analyzers from Fisons Instruments use a charge integrating signal amplifier to identify vacuum generator gases from 1 to 300 atomic mass units and concentrations down to a part per million. A compact head unit houses the drive electronics, including several microprocessors, and it connects to a quadrupole analyzer. The microprocessors detect software changes and upgrade the unit's operation. An autotuning feature is said to ensure automatic operation at peak performance, making user setups and adjustments unnecessary. The analyzer's software pack-



age controls both normal operations and diagnostic applications; data can be presented with a dynamic range of 8 decades of pressure in Torr, millibars, Pascals or ion current.

The Sapphire has an on-line backup filament that can be switched on if the main filament fails. Up to eight units can be controlled by a single multidrop RS232 interface, while a local area network can control up to 255 heads. An optional triple filter analyzer is also available. *Fisons Instruments Vacuum Generators, Maunsell Road, Castleham Industrial Establishment, Hastings, East Sussex TN38 9NN, United Kingdom*

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Compact, Low-Cost Ultrahigh Vacuum Gauge Control

GFV Associates' CT/BA-10 ultrahigh-vacuum gauge control is said to provide many of the same functions of the company's larger CT/BA-1 controller at just over half the price. The CT/BA-10 operates both conventional

triode and Bayard-Alpert ionization gauge tubes at a controlled emission current and bias voltage. The gauge tube sensitivity can be adjusted from the unit's front panel. The new controller autoscales pressure readings from 10^{-8} to 10^{-2} Torr, and it comes with two standard thermocouple pressure gauge controls for monitoring both high vacuum during pump down and forepressure. Pressure readings are NIST-traceable when the company's NIST-traceable ionization tubes are used. The CT/BA-10 measures $8'' \times 10'' \times 3.5''$, runs on 117/240 volts ac 50/60 Hertz and uses less than 200 watts. *GFV Associates, 52 Louder's Lane, Boston, Massachusetts 02130*

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Magnetically Coupled, Ultrahigh-Vacuum-Compatible Manipulator

Surface/Interface's goniometer is a magnetically coupled sample manipulation system intended for use in molecular beam epitaxy. The goniometer can rotate samples through 270° in polar or azimuthal angles, and it has up to 16 inches of vertical travel and up to 2 inches of horizontal travel. The unit also functions as an efficient heat-transfer system for evenly heating and cooling specimens to temperatures from -180 to 1000°C . The unit can be equipped with a thermocouple or other devices to measure conditions near the sample. *Surface/Interface, 110 Pioneer Way, Suite D, Mountain View, California 94041*

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New Literature

Vacuum Catalog—Balzers' vacuum accessories catalog lists the company's line of fittings, flanges, construction components, compact gauges, residual gas analyzers and valves. *Balzers, 8 Sagamore Park Road, Hudson, New Hampshire 03051*

On-line catalog—Fisons Instruments' on-line catalog lists ultrahigh vacuum products such as flanges, valves, linear-rotary drives, pumps and traps, ultrahigh-vacuum chambers, residual gas analyzers, synchrotron components and surface systems. The catalog is available on the World Wide Web at <http://www.surface.fisons.co.uk/vacgen/>. ■



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