

Vacuum-Pump Filters

MV Products offers a full line of filter elements for use in vacuum-pump inlet traps and exhaust filters. Available in a



variety of sizes, the filters include copper and stainless steel gauze for trapping; molecular sieves to trap gases and vapors of various sizes; pleated polypropylene in various mesh sizes; activated charcoal to remove organic vapors; activated alumina to neutralize acids and absorb oil; and Sodorb to remove acetic acids. The variety of filters the company offers allows the customer to match the characteristics of the filter to the process in question.

MV Products

247 Rangeway Rd./ P.O. Box 359
North Billerica, MA 01862

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Uncooled Laser Mirrors

Hardric Laboratories says its new HardZap high-power low-scatter mirrors will open many new possibilities in laser machining and other applications that use high-power lasers or that involve positioning high-power lasers at a fast rate. These mirrors, which consist of highly reflective IR coatings on a polished beryllium substrate,

can withstand a continuous heat load of up to 100 kW/cm² in the case of YAG lasers and 60 kW/cm² in the case of CO₂ lasers without degrading. Since they can have a surface roughness as low as 10 Å RMS, they also offer the benefits of low scatter.

Hardric Laboratories, Inc.

1490 Main Street

Waltham, MA 02154

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Laser Spectrum Analyzer

A new laser spectrum analyzer, the RFP-3600 Resolver Pulsed Laser Spectrum Analyzer, offered by Burleigh Instruments, automatically measures the line width, longitudinal mode structure, and frequency stability of every laser pulse, a selected laser pulse, or an average of laser pulses. The wavelength range of the Resolver can be customized to an application by changing etalons. And unlike its predecessor, the Resolver includes within itself the computing power required for data collection and analysis. For more information, visit the company's World Wide Web page (<http://www.burleigh.com>).

Burleigh Instruments, Inc.

Burleigh Park

P.O. Box E

Fishers, NY 14453-0755

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Wafer Defects

KLA Instruments Corporation has introduced the KLA 2702 SEMSpec electron-beam wafer inspection system, a second-generation system that uses electron-beam imaging to find defects in semiconductor wafers automatically. The fully automated instrument is several thousand times faster than a manual SEM; it uses a high-speed digital image-processing computer to analyze images and automatically locate defects as the wafer is scanned by the electron beam. KLA Instruments says the system is complementary to the company's optical inspection tools, which offer significantly higher throughput, making them the systems of choice for

production in-line monitoring. The SEMSpec system, on the other hand, is better suited for the inspection of wafers made by new and advanced IC processes, such as those that meet 0.25 micron and 0.18 micron design rules. For more information, visit the company's Web site (<http://www.kla.com>).

KLA Instruments Corporation

160 Rio Robles

San Jose, CA 95161

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New Excimer Laser

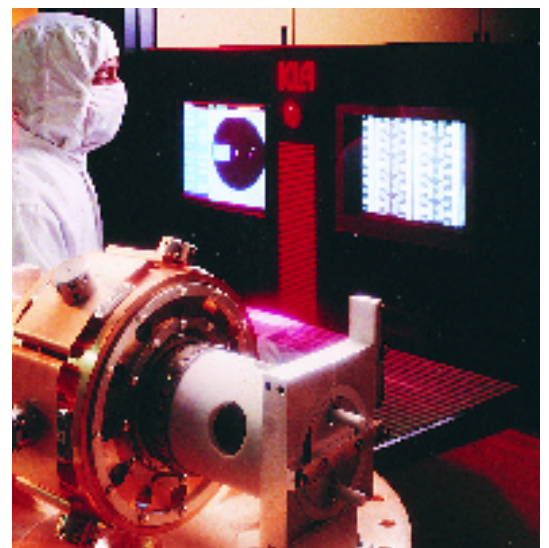
Matsushita Research Institute Tokyo and Lambda Physik have jointly developed a new excimer laser for semiconductor lithography. The new KrF excimer laser, NovaLine LITHOS/S, which operates at 248 nm, has a bandwidth of less than 0.8 pm (FWHM). Lambda Physik says the small bandwidth is vital to high-resolution lithography because, in the deep ultraviolet, small differences in wavelength significantly affect the stepper optics. Lambda Physik also says the new laser should cost much less than a conventional laser to operate because it uses Lambda Physik's NovaTube metal/ceramic laser tube, which won a Sematech award.

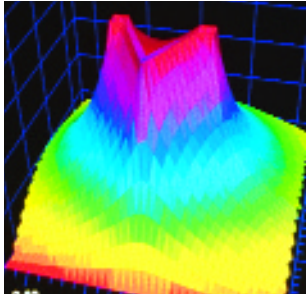
Lambda Physik

3201 West Commercial Blvd.

Fort Lauderdale, FL 33309

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RTD Data Acquisition

An eight-channel resistance temperature detector (RTD) card is

the latest addition to IOtech's series of signal-conditioning products for PC-based data acquisition. The card, called the DKA9, easily supports eight channels of three- or four-wire RTDs with resistances of 100, 500, or 1,000 ohms. The card is compatible with IOtech's DaqBook parallel-port data-acquisition systems for notebook and desktop PCs, DaqBoard ISA-bus plug-in boards for desktop PCs, and Daq PCMCIA A/D cards for notebook PCs. IOtech says the DBK9 requires minimal effort to configure and control because these systems include graphical set-up, acquisition, and display software that requires no programming. Systems enable the user to connect up to 256 analog inputs. More information can be obtained at the company's Web site (<http://www.iotech.com>).

IOtech, Inc.

25971 Cannon Road
Cleveland, OH 44146

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Thin-Film Characterization

n&k Technology has released a new analysis review station, called Iris 100, which uses the data from a reflectometer to characterize thin films. From the raw reflectance data, Iris 100 generates spectra of both the refractive index and the extinction coefficient of the film over a wavelength range extending from 190 to 900 nm. The spectral data are used to generate a profile of the thin-film material, which can be correlated with its composition, microstructure, and resistivity. Iris 100 may be used to characterize single or multiple layers on either opaque or transparent substrates. Iris 100 requires the Windows 95 operating system and has an intuitive

graphic interface that eases data processing and transfer.

n&k Technology, Inc.

3150 De La Cruz Blvd., Suite 105
Santa Clara, CA 95054

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New Software

Finite Element Analysis

The new release of Macsyma's PDEase2D finite element analysis software, for Windows 95 and Windows NT, adds a scientific notebook interface. PDEase is a highly automated finite element engine that includes a simple input language, automatic grid generation and refinement, on-line help, and 140 working on-line demonstrations. PDEase2D's input and output appear in scientific notebooks with interactive animated graphics, numerical data tables, formatted text, hypertext links, and an active table of contents. For more, visit Macsyma's homepage (<http://www.macsyma.com>).

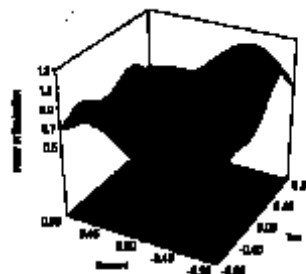
Macsyma, Inc.

20 Academy Street
Arlington, MA 02174-6436

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Experimental Design

Stat-Ease has released version 5 of its Design-Expert software, a software package for Windows that helps users perform the statistical analysis needed to optimize products, processes, and systems. The software can be used to construct rotatable 3D plots of "response surfaces," and the user can then click on a mouse to set flags that display the predicted "responses" at various



points on this surface. Other features include numerical and graphical means of optimizing multiple variables simultane-

ously, a utility that allows the designer to find the optimal formulation of a mixture, and a factorial design builder that makes it easy to set up screening studies. Visit Stat-Ease's home page (<http://www.statease.com>).

Stat-Ease, Inc.

Hennepin Square, Suite 191
2021 East Hennepin Ave.

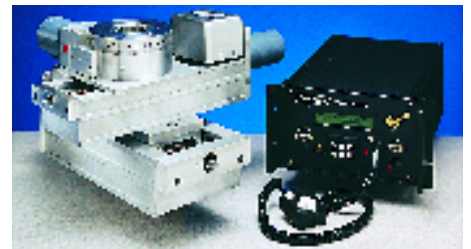
Minneapolis, MN 55413-2723

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New Literature

Slide Assemblies Catalog

Velmex offers a new 48-page catalog (Catalog M-97) that covers more than 235 motor-driven UniSlide assemblies used for scanning, feeding, or incremental positioning. Linear and rotary assemblies are avail-



able for single or multi-axis systems. The assemblies come in eight cross-sectional sizes with travel ranging from 0.5 in. to 86 in. Assemblies are driven by lead screws or timing belts. Motor types include ac induction and dc shunt, permanent magnet, stepper, or servo.

Velmex, Inc.

P.O. Box 38/ 7550 Routes 5 & 20
East Bloomfield, NY 14443

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The descriptions of new products listed in this section are based on information supplied by the manufacturers, and in some cases by independent sources. *The Industrial Physicist* can assume no responsibility for their accuracy. To facilitate inquiries about a particular product, a Reader Service Card is attached between pages 38 and 39.