



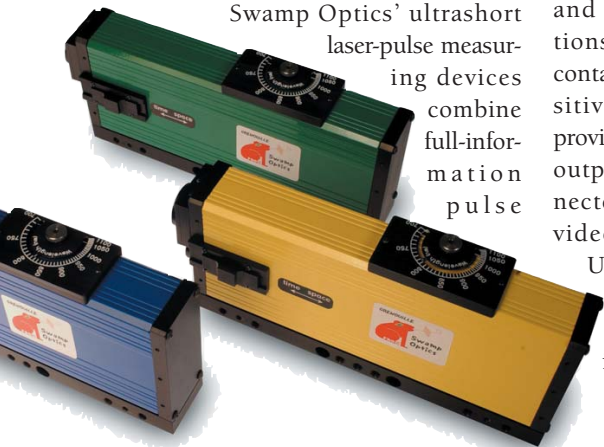
Shaft Collars

Stafford Manufacturing has introduced a new line of chrome-plated shaft collars for use in consumer products such as fitness equipment and medical and laboratory instruments. Its Solution series of shaft collars has a bright, finished appearance for applications where aesthetics are important, and a smooth bore to protect expensive shafts. The collars are available in 47 standard sizes ranging from 1/8 to 3 in. in diameter, and in one- and two-piece styles. Stafford also custom-manufactures the Solution series for a wide range of original-equipment-manufacturer design requirements, including larger sizes with special threads, hinges, knurls, and component-mounting holes.

Stafford Manufacturing Corp.
P.O. Box 2370
Woburn, MA 01888
Circle No. 180 on Reader Service Card

Pulse Measurement

Swamp Optics' ultrashort laser-pulse measuring devices combine full-information pulse



measurement with experimental simplicity. Its several Grenouille models can measure pulses from a wide variety of sources, from the lowest-energy oscillator to the highest-intensity amplifier. Their operating range of 700 to 1,100 nm matches that of most ultrafast Ti:sapphire and solid-state lasers and amplifiers, making them useful for everyday diagnostics as well as more exotic applications. The various models measure pulses as short as 8 fs and as long as 5 ps. The compact devices yield pulse intensity and phase versus time, and pulse spectrum versus spectral phase in real time. They also measure the beam spatial profile and the spatio-temporal distortions, spatial chirp, and pulse-front tilt.

Swamp Optics, LLC
307 Shire Way
Lawrenceville, GA 30044
Circle No. 181 on Reader Service Card

Thermal Viewer-Camera

FJW Optical's handheld Find-R-Scope thermal viewer-camera provides a useful tool for surveillance, threat detection, search and rescue, fire-fighting, building inspection, industrial process-control or monitoring, and military applications. The portable, self-contained instrument is sensitive from 7 to 14 μm and provides a standard NTSC video-output signal using a BNC connector for viewing, recording on videotape, or computer analysis.

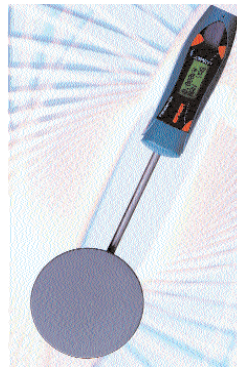
Unlike image intensifiers, the Find-R-Scope does not suffer from blooming, which can obliterate an image, and its high sensitivity, durabil-

ity, and cost efficiency make it a very versatile and convenient instrument.

FJW Optical Systems, Inc.
322 North Woodwork Lane
Palatine, IL 60067
Circle No. 182 on Reader Service Card

Laser Power Probe

Ophir Optronics' new high-precision laser power probe measures laser power between 200 and 10,000 W with an absolute accuracy of $\pm 5\%$ at calibrated wavelengths. The high-power, handheld Comet probe is calibrated for carbon dioxide (CO_2), YAG, and diode lasers with a spectral range of 10.6 μm for CO_2



lasers and 800 to 1,064 nm for YAG-type lasers. Linearity with power is $\pm 2\%$ from 1 to 10 kW. For ease of use, the probe handle turns $\pm 90^\circ$ relative to the absorber head. The liquid-crystal display, which is integrated into the handle, has 5-mm-high characters. The Comet, which is powered by two AA batteries, can make several measurements before it needs to be cooled, and it stores the last three readings taken.

Ophir Optronics, Inc.
260-A Fordham Road
Wilmington, MA 01887
Circle No. 183 on Reader Service Card

Vacuum Components

Key High Vacuum has introduced its new line of Key Speedy 316L ISO high-vacuum components for high-temperature or corrosive applications in a wide range of media. The company's integrated system of components enables the construction of entire downstream manifolds from durable 316L stainless steel. The versatile components—which include flanges, adapters, fittings, flexible hoses, tees, crosses, and elbows—are useful in vacuum-system roughing and foreline plumbing



compact, easy-to-use instrument configured for research, industrial quality control, and education. The desktop MiniSIMS maintains all the essential features of the SIMS technique, including high sensitivity and trace-element detection, in three different operational modes. Static SIMS provides the classic elemental surface science technique using a high-energy ion beam focused onto a sample and analyzes the mass spectrum of the resulting secondary ions. Scanning SIMS works the same way

except the beam is rastered over the sample. Dynamic SIMS uses the primary ion beam's high energy to etch away surfaces in a small area, which enables the Mini-

manifolds, as well as in systems that require frequent cleaning. They are fully rotatable, and crews can assemble them quickly without welding.
Key High Vacuum Products, Inc.
 36 Southern Boulevard
 Nesconset, NY 11767
 Circle No. 184 on Reader Service Card

Process Monitor

International Light has introduced a new on-line process monitor for use with optical systems such as ultraviolet (UV) curing, accelerated weathering, and solar simulation. The fully integrated IL OPM200, which provides constant feedback for any light source used on-line, includes a 4.5-digit liquid-crystal display with direct calibrated output in units such as mW/cm². The easily installed instrument comes with a remote cable and a detector head or a box-mounted detector with a fiber-optic coupling. The IL OPM200's control meter has a powder-coated, die-cast aluminum housing and a PLC 4-20 mA interface, and it can be either external- or loop-powered. The NIST-traceable monitor is available with UVA, UVB, UVA + B, phototherapy blue, and photopic filters.

International Light, Inc.
 17 Graf Road
 Newburyport, MA 01950
 Circle No. 185 on Reader Service Card

MiniSIMS

Micro Photonics' new secondary-ion mass spectrometer (SIMS) provides a com-

pleted device yield excellent picture quality. Complete manual control over aperture, shutter speed, and focus gives users maximum flexibility for photomicrography while allowing them to leave sharpness control to the C-5050's automatic contrast-detection focusing system. Digital spot and multispot light metering are available to regulate exposure, and the histogram function makes it possible to check the brightness distribution during shooting.

coupled device yield excellent picture quality. Complete manual control over aperture, shutter speed, and focus gives users maximum flexibility for photomicrography while allowing them to leave sharpness control to the C-5050's automatic contrast-detection focusing system. Digital spot and multispot light metering are available to regulate exposure, and the histogram function makes it possible to check the brightness distribution during shooting.

Olympus America, Inc.
 2 Corporate Center Drive
 Melville, NY 11747-3157
 Circle No. 187 on Reader Service Card



SIMS to ascertain a material's composition in depth.

Micro Photonics, Inc.
 P.O. Box 3129
 Allentown, PA 18106-0129
 Circle No. 186 on Reader Service Card

Photomicrography

Olympus has introduced the Camedia C-5050, a high-performance camera suitable for photomicrography recording and archiving in microscopy. High-end optics combined with four new image-processing technologies and a five-megapixel charge-

Measurement System

Optical Gaging has added the Flash 500 to its line of SmartScope measurement systems to satisfy the needs of budget-conscious customers with large measurement volumes. The compact Flash 500 provides a 500 × 450 × 200-mm XYZ travel path. The system's optical assembly, which includes an AccuCentric 12× zoom lens, moves in the X axis across an angled steel crossbeam while the part moves in the Y axis on a precision servo-driven stage. A stable granite platform ensures proper damping and structural integrity. Illumination includes a SmartRing light, a coaxial surface illuminator, a fiber-optic ring light, and a liquid-crystal-display backlight. Users have the option of Optical Gaging's Measure-X or MeasureMind 3D MultiSensor software, which provide point-and-click tools to simplify the creation and operation of automatic measurement routines.

Optical Gaging Products, Inc.
 850 Hudson Avenue
 Rochester, NY 14621-4896
 Circle No. 188 on Reader Service Card

Upright Microscope

Zeiss's new Axioskop 2 MAT upright microscope meets the special demands of materials microscopy research, quality assurance, and failure analysis for accurate,

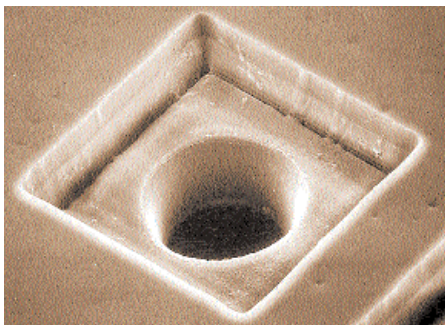


fast, and reproducible results. The instrument provides an improved reflected-light beam path, and its high-performance optics ensure ideal micrographs. In the motorized version, the microscope's reflector turret, Z-focus drive, brightness control, and switching mirror are automated. The microscope's ergonomic phototube furnishes a viewing angle of 20°, which permits the viewing height to be varied by 50 mm. Together with Zeiss's C-DIC interference contrast and TIC dual-beam interferometer, the Axioskop 2 MAT enables users to recognize more detail and to measure structures more precisely.

Carl Zeiss, Inc.
One Zeiss Drive
Thornwood, NY 10594
Circle No. 189 on Reader Service Card

Laser Drilling

JPSA Laser now provides ink-jet-nozzle and other high-precision laser drilling services in polymers, glass, ceramics, sapphire, and metals. Depending on a customer's needs, the company achieves high precision by one of two processes: drilling one hole at a time at a high repetition rate using ultraviolet diode-pumped solid-state lasers, or par-



allel processing of multiple nozzles per step-and-repeat using high-energy excimer lasers with special telecentric lenses and beam-shaping homogenizers. These approaches yield a drilling accuracy of more than

$\pm 0.5 \mu\text{m}$ hole-to-hole tolerance and telecentric holes to better than 10 arc sec.

JPSA Laser
17D Clinton Drive
Hollis, NH 03049
Circle No. 190 on Reader Service Card

Vacuum Chambers

Atlas Technologies' aluminum, ultra-high-vacuum (UHV) turnkey chambers offer many advantages over their stainless steel counterparts. Aluminum, for example, has 10 times the thermal conductivity, contains less hydrogen, and has one-third the weight of stainless steel. It also has a low



atomic number, is nonmagnetic, and can be machined 3 to 5 times faster. Atlas's full three-dimensional design, engineering, and manufacturing capacity enables users of its products to take full advantage of aluminum's physical vacuum properties. Its Atlas Flanges line provides a rugged, stainless knife-edge UHV sealing surface that can be used interchangeably with all stainless CF flanges.

Atlas Technologies
305 Glen Cove Road
Port Townsend, WA 98368
Circle No. 191 on Reader Service Card

New Software

OmniTrak


Field Precision has released OmniTrak, its integrated, three-dimensional software for the design of electron and ion guns, accelerators, electro-optical equipment, and field-emission devices. The package's capabilities include mixed-species generation from independent emission surfaces, electron secondary emission with angular dependencies, and precision tracing of electric and magnetic field lines. OmniTrak provides the unique capability to represent three-dimensional, self-consistent electric and magnetic fields from relativistic electron beams, and it covers the complete design process from mesh generation through analysis and plotting.

Field Precision
P.O. Box 13595
Albuquerque, NM 87192
Circle No. 192 on Reader Service Card

New Literature

Optical Components

Precision Optical, formerly Polaroid Optics, offers a free brochure that highlights its diverse selection of precision-molded plastic lenses, optical components, and subassemblies. The company produces custom optical assemblies and complete subsystems for use in original-equipment-manufacturer applications. The eight-page brochure describes the company's engineering and manufacturing techniques that enable it to produce lightweight plastic and hybrid glass-plastic optical components tailored to customers' specific needs.

Precision Optical Systems, Inc.
1 Upland Road N1
Norwood, MA 02062
Circle No. 193 on Reader Service Card 

The New Products section is based on information supplied by the manufacturers. The Industrial Physicist can assume no responsibility for its accuracy. To facilitate inquiries, a Reader Service Card is attached between pages 28 and 29. Only a few new product press releases can be selected for each issue. High-quality color art is taken into account in the selection process, as well as newsworthiness and relevance to physicists in industry. Mail releases to New Products, The Industrial Physicist, One Physics Ellipse, College Park, MD 20740, or e-mail ccumming@aip.org.