A summary of new products and services for materials research...

Desktop SEM: XL Series scanning electron microscope from Philips uses a three-layer structure that maintains transparency between the functional elements. The user has a choice of stages, vacuum and imaging systems, electron sources, and processing power. Automation and compensation routines are performed at the intermediate layer by a distributed network of dedicated computer systems. The SEM employs application-defined software programs operating within an MS-DOS® Microsoft® Windows™ environment. The XL Series provides a high degree of "friendliness," and high-level user skills are no longer required to obtain high-level results. A text mode facility allows detailed reports, including diagrams and micrographs, to be prepared on-the-spot.
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Chemical Resistance Guide for Elastomers: Comprehensive hardback from Compass Publications lists chemical and environmental resistances of rubber and elastomeric compounds when exposed to various hostile media, and includes 35 compounds with more than 45,000 combinations of corrodents. Physical and mechanical properties of the materials are covered with rates of deterioration and time and temperature for selected compounds. Data are compiled in convenient matrix format, with synonyms and trade names of chemicals included.
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Cryogenic Scanning Tunneling Microscope: Low-temperature scanning tunneling microscope (LT-SCM) from Park Scientific provides atomic-resolution imaging and spectroscopy capabilities at regulated temperatures as low as 4.6 K and as high as room temperature (325 K). The system operates in a moderate vacuum and allows researchers to image materials where characteristics vary with temperature. Applications include atomic resolution topographic and electron characterization (spectroscopy) of superconductors, metals, and semiconductors; investigation of controlled molecular adsorption; and characterization of magnetic flux interactions of superconductors. The LT-STM can precisely regulate sample temperature and has a high-stability STM head with 2.5 microns of lateral scan range at 4.6 K. The system includes control electronics, software, a color graphics workstation, and a 60 liter helium storage dewar.
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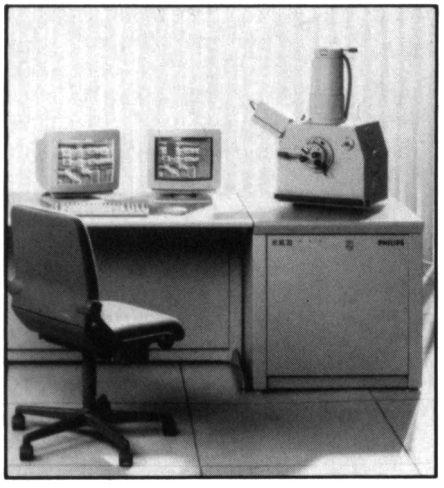

Desktop SEM

High-Temperature Lab Bench Furnace: Ultrasafe high-temperature UAF furnace series from Standard Instrumentation is designed to be supported on the laboratory bench. It offers a maximum operational temperature of 1800°C on standard ac power supply. The UAF 1800 measures 620 x 650 x 920 mm and has a programmable controller and an associated over-temperature protection controller to protect the furnace elements. The door includes a safety "stop" button, and a security key switch prevents unauthorized opening of the furnace door. A neon light indicates power to the furnace and to heating elements. Instructions are included on the control panel, at the lower front of the furnace. Furnace capacity is 5 liters.
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3D Scanning Probe/Atomic Force Microscope: MicroProbe 3D scanning probe/atomic microscope from WYCO Corp. scans surfaces from the atomic level to over 100 μm. It can be used in materials research, semiconductors, magnetics, tribology, and biology. The system has interchangeable PZT translator assemblies, STM/AFM capability with interchangeable probes, and flexible design for upgrading. A mouse-driven graphic control panel includes help screens, pop-up windows, slider dials, and pull-down panel bars. The software provides rapid data acquisition, powerful data display, and extensive analysis capabilities. The system includes a microscope, STM or AFM probe, interface electronics, Intel 486 computer system, printer, software, viewing microscope, and reference calibration sample.
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Encyclopedia of Medical and Dental Materials: Comprehensive, easily accessed guide to materials for medical and dental uses from MIT Press covers all types of materials, including polymers, composites, metals, alloys, ceramics, and natural materials. Emphasis is placed on their composition, structure, properties, and medical applications. Articles are included on material behavior, such as biocompatibility, biodegradation, and corrosion, and on some specific clinical uses such as dental implants, implantable sensors, and artificial arteries. New materials and materials treatments are also covered.
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Polarizing Microscopes: Polarizing microscopes from Nikon offer brighter images, enhanced observation, and photography of conoscopic images. The Optiphot-2 POL and Labophot-2 POL include a selection of eyepiece tubes, an ultrastable rotating stage, and ergonomic operation, with 100-watt and 30-watt illumination respectively. Coating technology and extra-low dispersion glass ensure ultrahigh contrast resolution images. A second Bertrand lens, focusable, centerable, and removable, allows photography and video projection of conoscopic of minute images. Four eyepieces tubes are available for each of the two new microscopes: A trinocular body tube with built-in Bertrand lens for photomicrography; a binocular body tube with built-in Bertrand lens for conoscopic imaging of ultrasmall crystals; a binocular body tube without a Bertrand lens; and a Jentch-type binocular body tube with a Bertrand lens.
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Fluorescence Photometry System: Photoscan™ system from Nikon includes hardware and software for measuring and analyzing low-level intracellular ions in living cells. It provides digital photometers for measuring photon counts per millisecond and software for single- or dual-channel data acquisition and data analysis and can be integrated with all fluorescence microscopes. Photoscan can also connect to IBM compatible personal computers for data acquisition, analysis, and publication-quality hard copy. Three versions are available: Photoscan 1, for studying single-emission fluorochromes; Photoscan 2, for studying dual excitation ratio fluorescence probes; and Photoscan 3, like Photoscan 2 with a 10-hole filter wheel for multiwavelength excitation.
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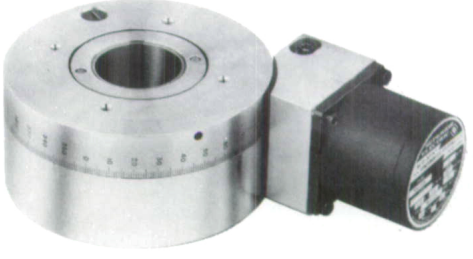

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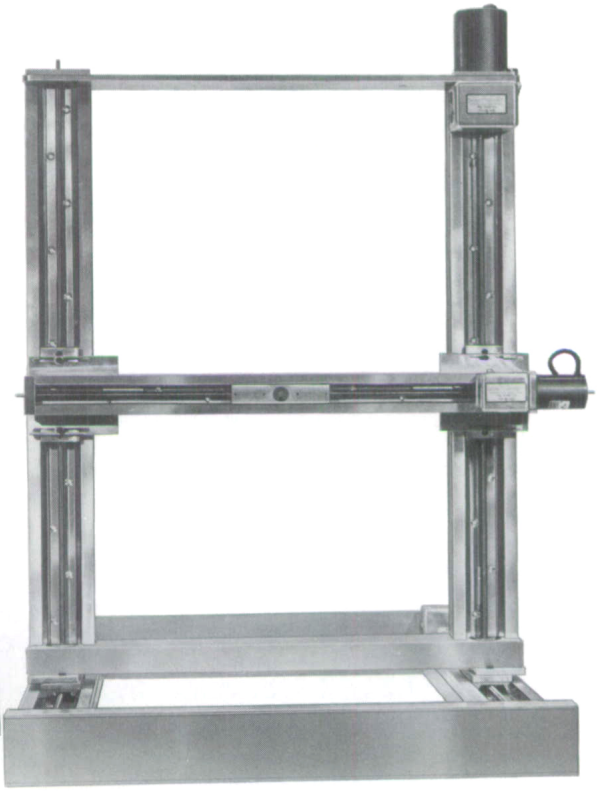

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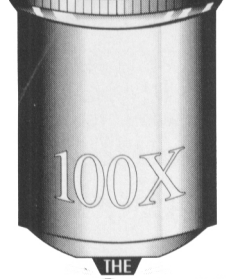

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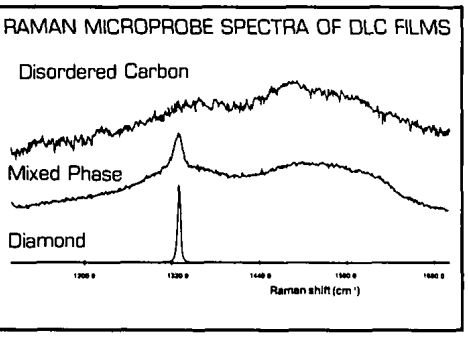

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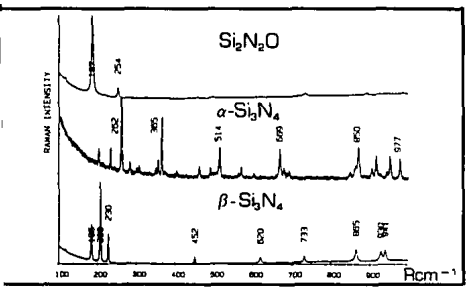

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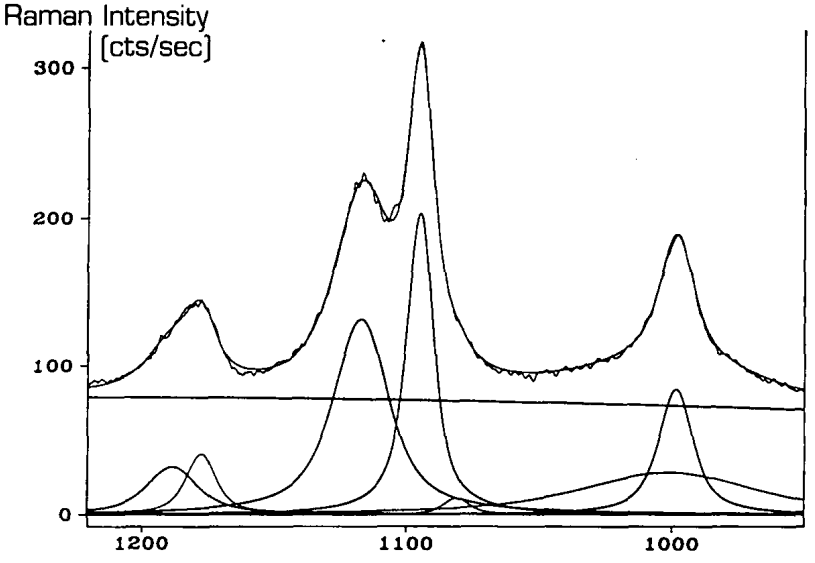

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