

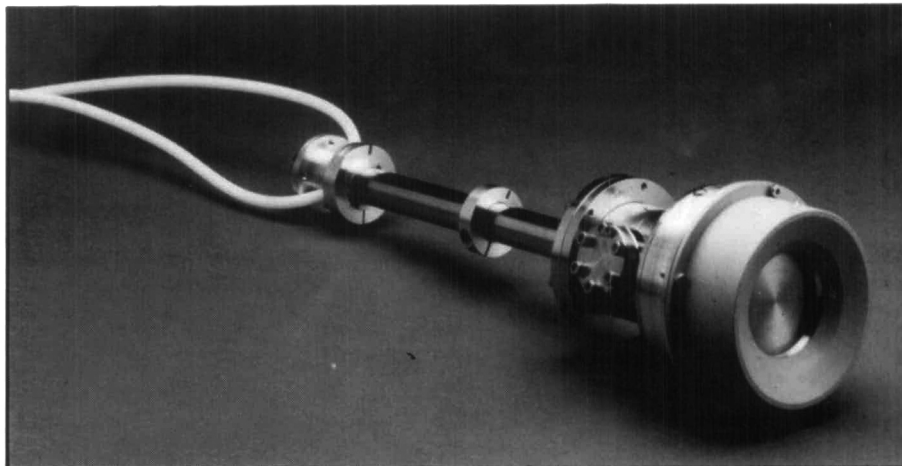
RESEARCH RESOURCES

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

High Pressure Magnetron Sputtering: A new version of a high pressure sputtering gun will operate between 2 and 200 microns. The use of higher pressure greatly increases gas scattering and the thermalization of the sputtered atoms. The new design requires no special equipment and operates as a conventional sputtering source. US, Inc., The Pruneyard Tower Two, Suite 405, Campbell, CA 95008; (408) 371-6900.

Sol-Gel Ceramics and Glasses: Two-volume 517-page study outlines the growth forecast for high performance ceramics and glasses using sol-gel technology. The final products are targeted for applications ranging from optoelectronics and optics to structural glass and ceramic fibers for high temperature insulation. Also identified are the leading producers and users of sol-gel consumables, status of sol-gel R&D, and a detailed review of patents and literature. Price: \$8,500 (includes full day of consulting). Gorham Advanced Materials Institute, P.O. Box 250, Gorham, ME 04038-0250; (207) 892-5445.

Flip-Chip Aligner/Bonder for High-Density Interconnects: Flip-chip aligner/bonder features a fully motorized machine designed to precisely and accurately bond die-to-die components, multichip packages and focal plane arrays. A separate version of the SC-940 can be used for inner lead bonding of TAB packages. A split-field microscope operates with visible light to allow alignment and bonding of flip-chip devices with an accuracy of $\pm 2\mu$. A heated chuck and a motor-driven IR furnace are used to solder reflow devices directly. The machine operates either manually or fully automatically. Micro-Controls USA, Fourth Floor, Six Landmark Square, Stamford, CT 06901-2792; (203) 359-5619.



High Pressure Magnetron Sputtering

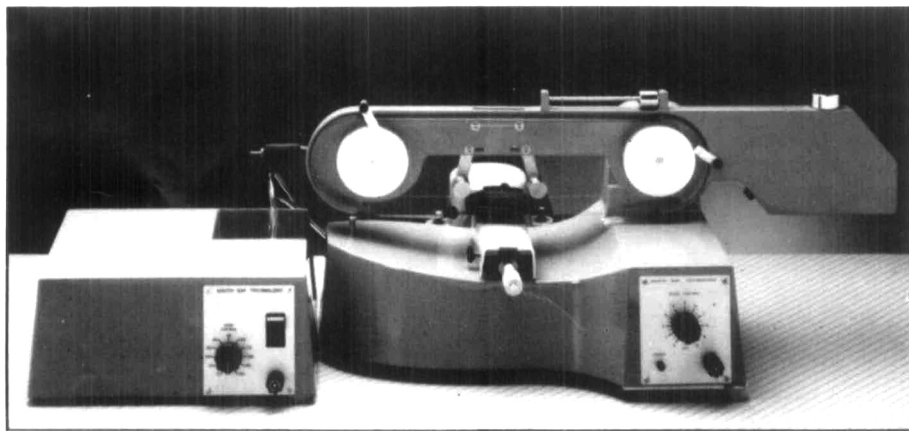
Vacuum Products Catalog: Free 88-page catalog describes product information including operating principles, applications, specifications, and ordering information. Products covered include mechanical and diffusion vacuum pumps; fluids and greases; valves, baffles, and traps; power supplies; vacuum process controllers; vacuum gauges and tubes; pumping systems; sputtering sources; bell jars; and vacuum feedthroughs. New products featured include single, multi, and mini electron beam guns and power supplies. CVC Products, Inc., 525 Lee Rd., P.O. Box 1886, Rochester, NY 14603; (716) 458-2550.

Thermal Diffusivity/Conductivity Analyzer: Fully automatic thermal diffusivity/conductivity analyzer (DCA) features computerized operation, data acquisition, analysis, and hard copy results. The analyzer is applicable to materials with thermal conductivities of 0.05 cal/s cm²C (21 w/m²K) or less, including ceramics, plas-

tics, low conductivity metals, glass, and composites. Typical research and quality assurance applications include those where materials are used as either thermal insulators or conductors; and melting operations, where thermal shock resistance is critical, or where high temperature processing and material behavior are involved. Edward Orton Jr. Ceramic Foundation, 6991 Old 3C Highway/P.O. Box 460, Westerville, OH 43081-0460; (614) 895-2663.

Catalyst Characterization System: Updated computer-controlled system, AMI-1, automatically performs multiple temperature programmed techniques used in catalyst characterization. The system can also perform flow BET surface area measurements and adsorption isotherm determinations in addition to its other flow and pulse techniques. Updated software can handle additional data plus dispersion crystallite calculations. The instrument controls have been repositioned and the front panel has been redesigned for pulse loop and TCD filament changes. Altamira Instruments, Inc., 2090 William Pitt Way, Pittsburgh, PA 15238; (412) 826-3080.

Wire Saw: Offering the most gentle mechanical method for slicing materials, the Model 850 wire saw can cut virtually any material using either a plain wire with an abrasive slurry or a diamond-impregnated wire blade. Most useful for cutting fragile and delicate materials such as brittle crystals, this wire saw can also accommodate a two-axis goniometer which can be transferred from an x-ray track for cutting oriented crystals, and can also be used as a string saw for cutting water-soluble crystals. South Bay Technology Inc., 5209 Tyler Ave., Temple City, CA 91780-3698; (818) 442-1839. □



Wire Saw

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