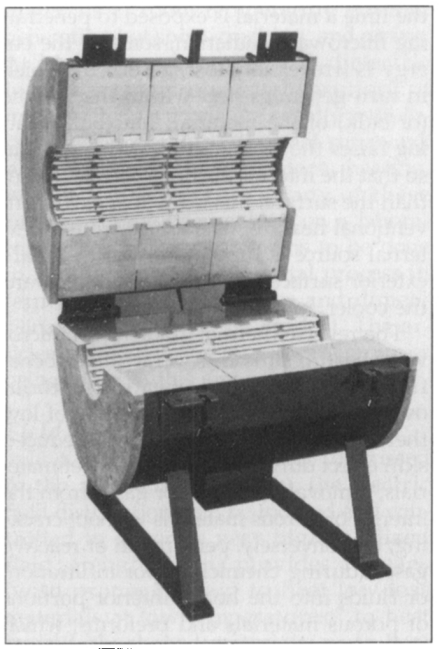


Hinged Tube Lab Furnace: The M6018 single-zone hinged tube furnace from Lindberg/Blue M features graded insulation, reinforced hinges, and end vestibules for thermal uniformity and reduced heat losses. The furnace is rated at 5,600 W for operation on 240 V, 50/60 Hz, single phase; maximum operating temperature is 1100°C.
Circle No. 80 on Reader Service Card.

Metal Injection Molding Standard: 12-page 1993-1994 standard from the Metal Powder Industries Federation covers commonly used materials in the metal injection molding industry. Minimum and typical ultimate tensile yield strengths and elongation are listed for low-alloy steel, 316L stainless steel, 17-4PH stainless steel, and more.
Circle No. 86 on Reader Service Card.

Focused Ion Beam System: Micrion's 9800 system features an eight-inch wafer capacity with differential laser-interferometer-controlled X-Y stage. The stage can navigate with an accuracy of ±1.0 μm to any chip on an eight-inch wafer. Following a three-point chip-registration routine, the stage can then navigate with an accuracy of better than ±0.25 μm to any location within the particular chip. Wafermap software in the Unix-based system allows users to create a pictorial view of the wafer layout; users point to a die on the wafer, and the stage moves to a predetermined location in the die.
Circle No. 87 on Reader Service Card.

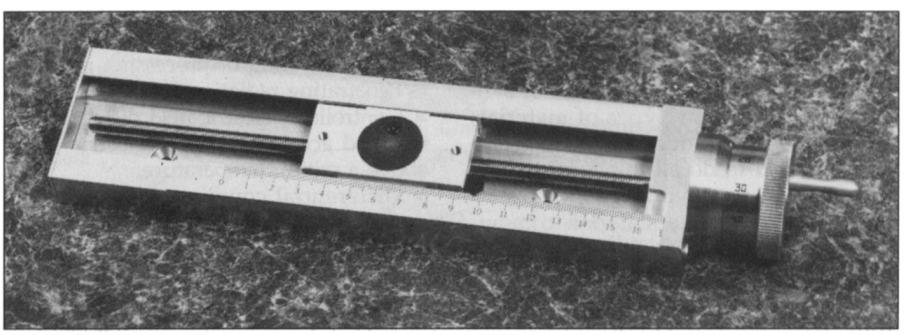
Sample Preparation Supplies: Catalog from Allied High Tech Products details equipment and consumables for metallographic, SEM, and TEM analysis, and lists products for sectioning, mounting, grinding, polishing, cleaning, and documenting. The catalog also includes tips for microstructural evaluation.
Circle No. 88 on Reader Service Card.

Thin Oxide Wafers: SIMOX (Separation by IMplanted OXygen) wafers from Silicon On Insulator Technologies may be used for manufacturing submicron CMOS devices, and particularly for circuits requiring high levels of integration where complete isolation by an insulating oxide layer is desirable. The thin oxide layer wafers are formed by implanting a $4 \times 10^{17}/cm^2$ dose of oxygen ions into a bulk silicon wafer, followed by high-temperature annealing. Pinhole density is $<2/cm^2$, and the substrates have an 80–250 nm surface layer of silicon over an 85 nm buried oxide layer.
Circle No. 89 on Reader Service Card.

U.S. Government Software Directory: 1993 software directory published by the National Technical Information Service describes more than 800 software programs developed by federal agencies. The directory lists applications software, graphics software, software tools, and modeling and simulation programs for mainframes and microcomputers. Each entry summarizes the software package and provides details on the programming language, the operating system, hardware, and memory requirements. A subject index and federal agency index are also included.
Circle No. 83 on Reader Service Card.

Benchtop Refractometer: The Abbe Mark II Plus from Leica is designed for computerized data handling and quality-control applications involving an interface with an IBM-compatible computer. Testing is provided in three modes: percent solids, temperature compensated percent solids, and refractive index. Simultaneous use of standard communications programs allows data transfer, and customized programming and specialized software for transferring data directly to a spreadsheet are also available. The refractometer may be used with either transparent or translucent liquids and solids, and for medical, chemical, petrochemical, and plastic applications.
Circle No. 94 on Reader Service Card.

Solid-State Modeling Software: BIOSYM's *SolidState* software includes crystallographic and visualization tools, coupled with capabilities for manipulating inorganic and organic crystal structures, metals, and glasses. Structure editing tools have been designed for crystal structure models that have symmetry or translational periodicity. Users may obtain direct validation of atomistic models against experiment through interactive simulations of diffraction, scattering, composition, and NMR spectral data. Crystal structure optimizations and dynamics methods are also included.
Circle No. 95 on Reader Service Card.



Slide Assemblies: Precision UniSlides® from Velmex are general purpose slides designed for moving a probe, sensor, cutter, transducer, or other object a measured distance. Users record position from the combined reading of a linear scale and an engraved knob, and position resolution is 0.01 mm. Varying combinations of width, length, and lead screw pitch are possible, and base widths range from 1-1/2 to 9 inches. Maximum load is 400 lbs, and modular design permits XYZ axes configurations. Options include digital readout and locking screws, and custom modifications are possible.
Circle No. 96 on Reader Service Card.

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