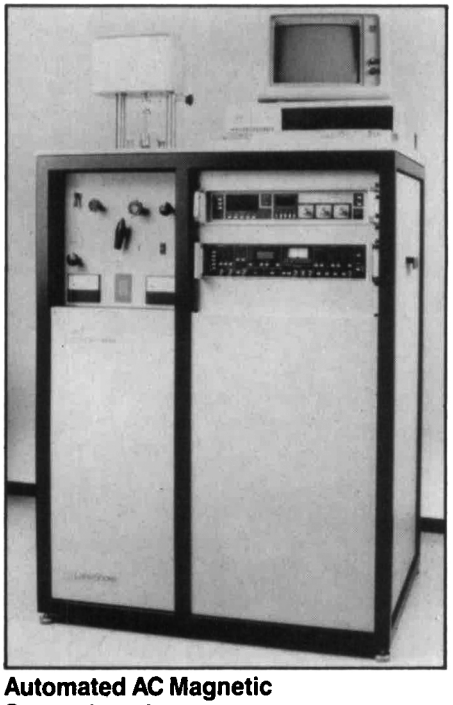
A summary of new products and services for materials research...

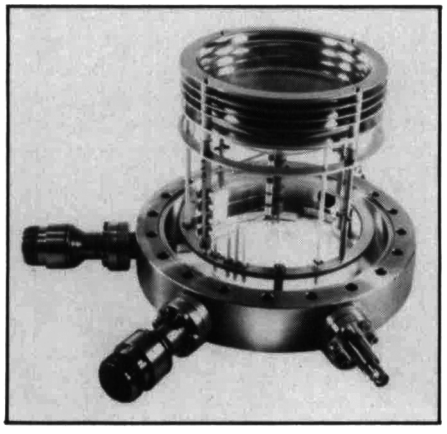


Automated AC Magnetic Susceptometer

Automated AC Magnetic Susceptometer: Model 7000 AC Susceptometer measures ac magnetic susceptibility of paramagnetic, ferromagnetic, and superconducting materials as a function of temperature, frequency, and field. The system can measure susceptibility in small fields ranging from 0.001 to 10 gauss RMS, with or without a dc bias field. Temperature can be controlled in the range from 4.2 K to 330 K to an accuracy of 0.1 K. Lake Shore Cryotronics, 64 East Walnut Street, Westerville, OH 43081; (614) 891-2243.

UniSlide Assemblies: Expanded catalog describes over 400 manual assemblies which provide precise linear and rotary motions. Potential uses are positioning, measuring, and scanning operations in experimental research, prototypes, and OEM automated equipment for assembly of small parts. UniSlides are constructed of 2024-T3 hard alloy, and carriages have four bonded low-friction polymer bearings. Maximum linear travels are 86 inches; maximum loads are 400 lb. Velmex, Inc., P.O. Box 38, East Bloomfield, NY 14443; (716) 657-6151.

Superconducting Thin Film Service: One cm^2 samples of one-micron-thick YBCO-coated zirconium substrates, guaranteed to be fully superconducting above 77 K, are now available for purchase at $2,000. Other sizes and substrates can be custom ordered. Thin film process was developed jointly with University of Rochester's Electrical Engineering Department. CVC Products, Inc., 525 Lee Road, P.O. Box 1886, Rochester, NY 14603; (716) 458-2550.



Miniaturized Reverse View LEED System

High Surface Area Materials: Study titled *Preparation, Properties, and Use of High Surface Area Materials* examines current nontraditional applications and issues concerning their growth in the electronics, biotechnology, and ceramics industries. The study focuses on new synthesis methods from a molecular perspective and discusses metal oxides, carbides, and nitrides. Sophisticated preparation methods are described in depth and related to properties obtained. Drying and calcining operations, surface alteration, and chemical purity are covered, as well as areas worthy of further research. Price: $7,000. Catalytica Studies Division, 430 Ferguson Drive, Building 3, Mountain View, CA 94043; (415) 960-3000.

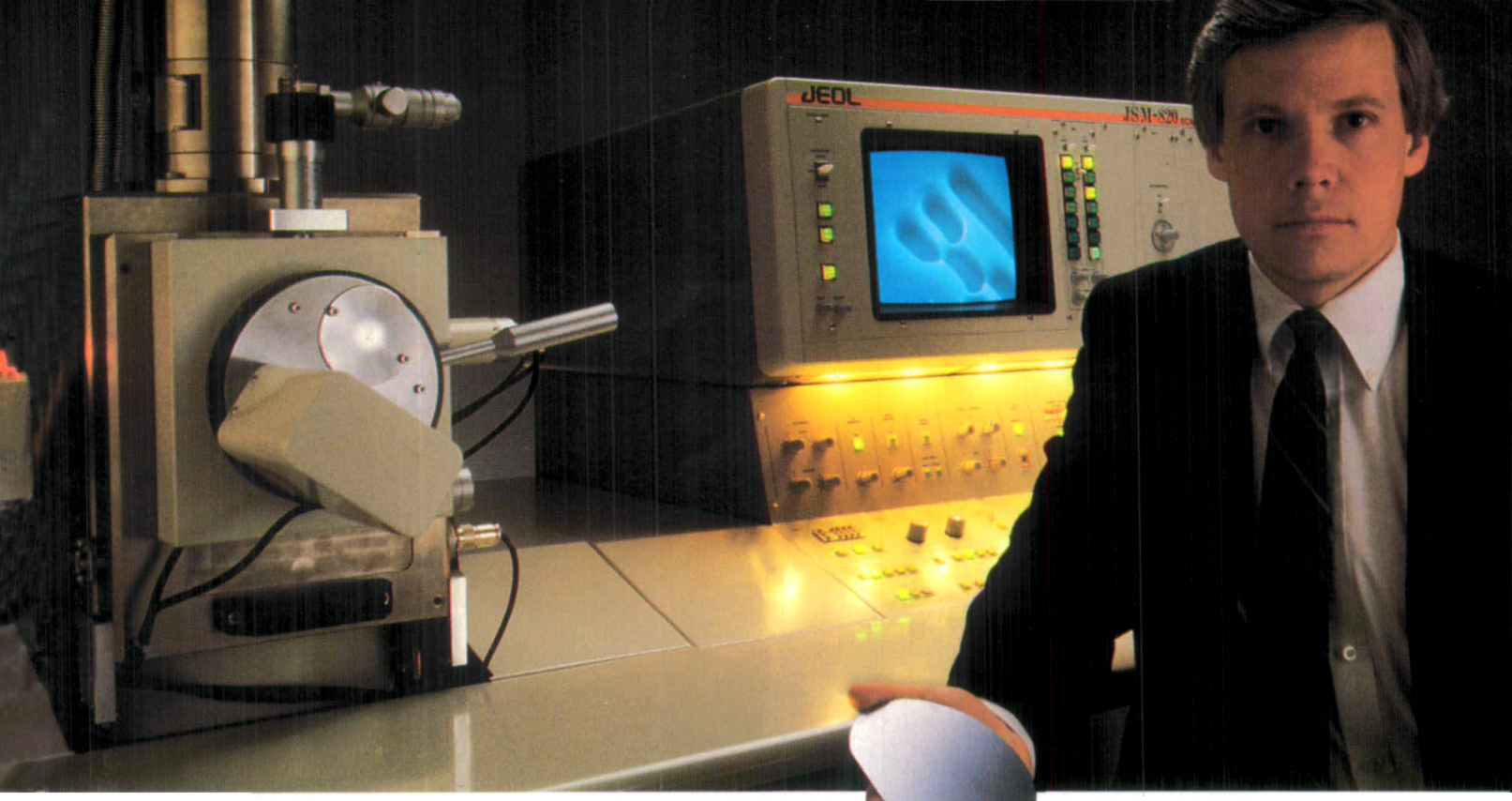
Superconductivity Proceedings: Proceedings of the "First Annual Cambridge Conference on Commercial Applications of Superconductivity," January 25-26, 1988, Boston, MA, offers the full text of all presentations, copies of transparencies and slides, and transcripts of the question-and-answer periods. Market analysis of commercial superconductivity is featured which highlights market sizes, growth rates, timing, and companies involved in commercial utilization of superconductivity. Price: $250. World Tech Press, One Kendall Square, Suite 2200, Cambridge, MA 02139; (617) 661-0510.

Miniaturized Reverse View LEED System: Rear view MICROLEED system with miniature electron gun (10 mm diameter) can operate up to 3 KV for AES studies. Controller includes back-lit LCD displays for beam current, filament current, suppressor voltage, focusing voltage, beam energy, and screen voltage. Beam energy is adjustable while viewing LEED pattern via remote control box, and optics are available with 3 or 4 grids for LEED and RFA modes. MICROLEED can be fitted to any 8-inch or 6-inch CF port. Microscience, Inc., 41 Accord Park Drive, Norwell, MA 02061; (617) 871-0308; fax (617) 871-0972.

Specialty Inorganic Materials: Brochure on the specialty inorganic materials supplied by EM Industries' sister company, BDH England, describes: (1) fluorotran, infrared glass materials for use in fiber and bulk optics; (2) fused halide salts for use in special technologies; (3) volatile halides for use in CVD processes for II-IV and III-V semiconductors and optical fiber; (4) chalcogenides for uses in various optical and electronic devices; (5) reactive oxides - high T_c superconductors; and (6) miscellaneous compounds prepared for high purity applications. EM Industries, Inc., Advanced Chemicals Division, 5 Skyline Drive, Hawthorne, NY 10532; (914) 592-4660.

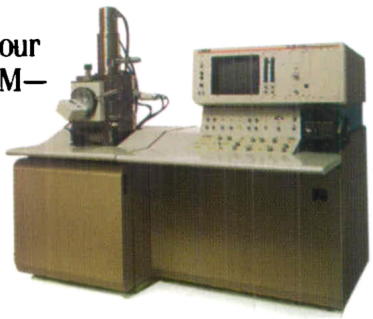
High Performance Lubricants: Comprehensive 438-page book, *High Performance Solid and Liquid Lubricants: An Industrial Guide* by E.L. McMurtrey, provides a ready reference to more than 500 high-performance solid and liquid lubricants. Based on work sponsored by the National Aeronautics and Space Administration, it was compiled from government reports, military and federal specifications, and supplier and manufacturer information. The book is divided into two major parts, one covering more than 250 solid lubricants, and another covering more than 250 liquid lubricants. Price: $54. Noyes Publications, Mill Road at Grand Avenue, Park Ridge, NJ 07656.

Superconductor Research Assistance: Capabilities folder explains the analytical systems and services available to researchers through the company's Superconductor Operations Center. The folder also cites capabilities in surface physics instrumentation, deposition systems, and superconductor powders. Perkin-Elmer Corporation, 761 Main Avenue, Norwalk, CT 06859-0205; (203) 762-1000. □

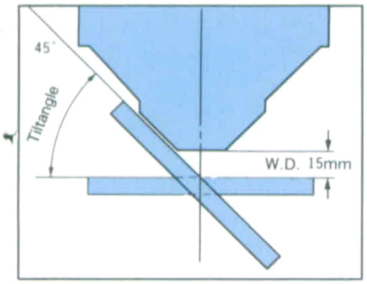


Any Way You Look At This, You Get Sharp Images.

When you put a specimen into our high performance, imaging SEM—the JSM-820—you are going to get bright, clear, sharp images with an absolute minimum of operator effort.



Its large specimen chamber accepts specimens up to 6″ in diameter. And with its motor-driven eucentric stage, you can examine those specimens, quickly and easily, at a wide variety of orientations, and they will remain in sharp focus over a wide range of operating conditions.



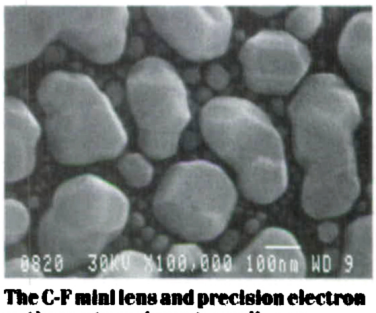
The small conical pole piece of the "mini lens" permits large specimens to be viewed at large tilt angles.

Images are sharp because the JSM-820 is equipped with computer controlled electron optics, a corrected field (C-F) mini lens and a zoom condenser system.

As the name "mini lens" suggests, the pole piece of the objective lens is physically small and conically shaped so that large specimens may be highly tilted even at short working distances.

And the "corrected field" feature of the mini lens means the electron probe size is minimized at all working distances and accelerating voltages. That will bring you sharp images for metal coated and non-conductive samples, even at low accelerating voltages—e.g. from 0.3 KV.

With the "zoom condenser," the focus point on the specimen stays the same as the spot size is altered, and, therefore, images remain sharp over a wide range of operating conditions.



The C-F mini lens and precision electron optics system give extraordinary resolution.

And with "computer control," the JSM-820 makes all of the interactive adjustments which accompany changes in operating conditions. In fact, with the instrument's auto focus, auto contrast/brightness and astigmatism monitor, even a novice operator can get sharp images every time.

The JSM-820 SEM is available with a full complement of options including a backscattered electron detector, EDS and WDS X-ray spectrometers, EBIC and voltage contrast, and it comes complete with installation, documentation, user training, applications assistance, warranty and field service.

For literature or a demonstration, call PEABODY, MA (617) 535-5900 or PALO ALTO, CA (415) 493-2600. Or write JEOL U.S.A., Inc., 11 Dearborn Road, Peabody, MA 01960.

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