

### Electrophoresis Standard

The electrophoresis standard is a photographically prepared stable strip whose values are traceable to the U.S. National Bureau of Standards and the Japanese Society of Electrophoresis. This standard will help determine linearity and it can check computers for peak selection, integrators for accurate calibration, and pens for correct response. The strip contains five fractions of known optical densities and percentage values. Helena Laboratories. Circle 717.

### pH Meter

Model 607 measures between 0 and 14 pH units. Resolution is within 0.05 pH unit and accuracy is  $\pm 0.03$  unit when standardized within 3 pH units. Temperature is compensated for between 0° and 100°C. The device is read with a digital display. This model may be battery operated for field use. Extech International. Circle 712.

### Wind Turbines

Turbines packaged in kits will be available in diameters of 8, 12, and 16 feet. These are suitable for harnessing wind power for performing mechanical tasks such as driving pumps. Towers, gear boxes, generators, and other accessories are also offered. The turbines are of the bicycle-wheel type with a rigid outer rim and 48 blades threaded by spokes for attachment to a hub. The design is such that even a 2-mile-per-hour breeze will cause rotation and an 80-mile-per-hour gale may be withstood. American Wind Turbine. Circle 716.

Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (on pages 242A and 314A) and placing it in the mailbox. Postage is free. —RICHARD G. SOMMER

### Electronic Balance

Model AD-2Z features an automatic zero setting which enables rapid operation. The operator places the empty sample container on the balance pan, presses the auto-zero button, adds the sample, and reads the weight of the sample. Capacity is 5 grams and sensitivity is  $\pm 0.1$  microgram. Perkin-Elmer. Circle 710.

### Scanning Transmission Electron Microscope

Elmiskop ST 100 F (Fig. 1) features 100-kilovolt accelerating voltage, illumination with a scan-controlled electron beam, reproduction of scan image on a television monitor, and maximum resolution of 0.2 nanometer. Because of the field emission system and line-by-line scanning, both bright- and dark-field techniques can be used. Signals may be differentiated as to elastic dispersion properties as well. Data storage and processing is also possible. The probe is formed by an electromagnetic lens for high magnifications or by an integrated miniature lens for low magnifications. The beam scans the image field line by line with

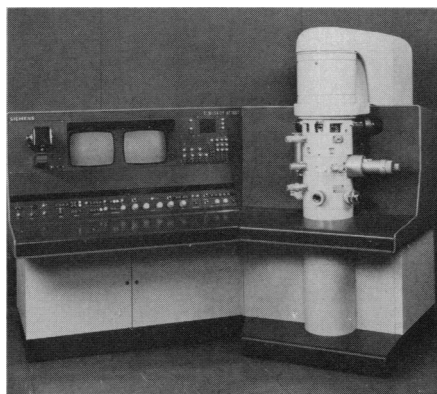


Fig. 1. The Siemens Elmiskop ST 100 F derives its name from Scanning Transmission 100-kilovolt accelerating voltage Field emitter. At a magnification of 10 million to one, a ball 35 centimeters in diameter would have the same diameter as the moon. Elmiskop ST 100 F offers magnification from 50 power to 10 million power with a resolution of 0.2 nanometer.

deflector systems and between 400 and 3200 lines may be selected with and without line jump as the scan frequency. Point screens may also be formed. Vacuums of more than  $10^{-9}$  millibar in the cathode chamber and  $10^{-7}$  millibar in the specimen chamber are attained. A two-stage air lock facilitates specimen exchange without vacuum interruption. Siemens. Circle 705.

### Ion Chromatograph

This device combines ion exchange chromatography with conductivity detection to determine trace concentrations of ionic species in aqueous solutions. This facilitates analysis of biological fluids such as plasma, urine, tissue extracts, or cerebrospinal fluid. Model 10 will analyze either anions or cations and model 14 will analyze both anions and cations. Analyses require approximately 3 minutes per ionic species. Detection limits are better than one part per million. Durrum Instrument. Circle 708.

### Aquatic Temperature and Depth Telemetry

The 904S Temp/Depth system consists of readout modules housed in a splash-proof aluminum case, field-tested sensors, an analog or digital recorder, and interconnecting electrical cable. The sensors may be hand-lowered, mounted in transducer arrays, or secured to underwater stations. Readout modules offer direct display on panel meters. Hydro Products. Circle 718.

### Rotator

TekTator V is available in platform sizes of 5 by 6.5 inches or 12 by 12 inches. Speed is controllable from 20 to 220 revolutions per minute. Accuracy is to within 5 revolutions per minute. A tachometer indicates speed of rotation independent of platform load. An integral timer offers control from 0 to 35 minutes of operation. Scientific Products Division, American Hospital Supply. Circle 719.

### Iodine-Labeling Service

Iodination by any of three methods is available. Chloramine-T with sodium iodide is used in applications where proteins and peptides have been successfully labeled previously. The second method uses lactoperoxidase enzyme immobilized on Sepharose resin, hydrogen peroxide, and labeled sodium iodide for surface-exposed

tyrosine. This is particularly suited to preparation of labeled antigens for radioassay. The third method involves iodinating *N*-succinimidyl 3-(4-hydroxyphenyl) propionate with  $^{125}\text{I}$  or  $^{131}\text{I}$  and using the derivative as an acylating agent to react with free amino groups. Biochemical and Nuclear. Circle 715.

### Gel Electrophoresis System

Polyslab (Fig. 2) enables the operator to perform general analyses, preparative, two-dimensional, and polyacrylamide gel gradient electrophoresis. Polyslab is a temperature-regulated unit that accepts two sizes of gel slabs or columns. Features include a buffer-saving design, a safety interlock system, a centrifugal cooling pump, and three-way buffer circulation. Buchler Instruments. Circle 706.

### Blood pH/Blood Gas Analyzer

The BGA3 (Fig. 3) makes determinations with samples as small as 130 microliters. It features a gas-mixing apparatus and simultaneous digital display of pH and partial pressure of oxygen and carbon dioxide. Hard copy is available in card or strip-chart form. The entire system is modular for adaptation to a variety of needs. London. Circle 707.

### Aquatic Marking Beacon

The ECO-M/L-38 is an ultrasonic marking-relocating signal. Its basis is a pinger that operates at 38 kilohertz. It is attached to any marine instrument and will operate for up to 6 months on a single replaceable electrode. It operates at depths exceeding 300 feet and is detectable up to 0.5 nautical mile. Detection is facilitated by a compact receiver and a directional hydrophone. Johnson Laboratories. Circle 713.

### Reciprocating Shaker

The R2 shaker accepts up to 18 different platforms for various types of glassware. Speed is controlled from 40 to 300 strokes per minute. Speed is read on a tachometer. Stroke amplitude is variable from 0.5 to 1 inch. An integral timer regulates the length of operation with automatic shutdown. The motor and drive are designed for quiet operation 24 hours a day. A selection of 18 different platforms is available for flasks, test tubes, and beakers. New Brunswick Scientific. Circle 711.

### Liquid Column Fluorometer

Spectra/Glo is suitable for monitoring fluorescein-labeled compounds in liquid chromatography. Fluorophors created by fluorescein labeling are stable for several hours and may be detected in concentrations as low as 10 to 40 nanograms. This method of detection is more sensitive than monitoring of ultraviolet or visible absorption. Gilson Medical Electronics. Circle 709.

### Freeze-Drying Flasks

Safety-Flasks feature a vacuum break system that operates through the filter system. This ensures gentle release of vacuum and prevents loss of dried material due to turbulence. Round- and flat-bottom designs are available. Flat-bottom flasks come in 650- and 1750-milliliter capacities. Round-bottom flasks are available in 750-milliliter size. They are available with either 0.5- or 0.75-inch straight adapters. Flasks, caps, and adapters are made of polycarbonate; gaskets are made of silicone rubber. Spectroderm International. Circle 714.

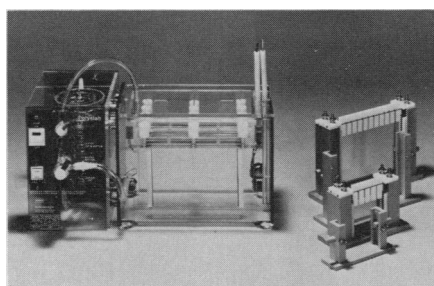


Fig. 2. The Buchler Polyslab polyacrylamide slab gel electrophoresis system accepts two sizes of gel slabs as well as analytical columns. The unit is designed to operate with a smaller amount of buffer than is normally needed for small gels.

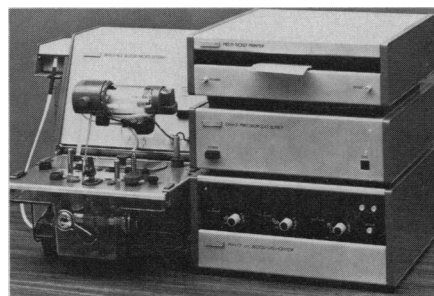


Fig. 3. The Radiometer BGA3 Blood pH/Blood Gas Analyzer from London Company features simultaneous digital display of pH, partial pressure of carbon dioxide, and partial pressure of oxygen. The unit provides output suitable for electronic data processing and storage in research or clinical applications.

### Literature

*Organic Chemicals (No. 48)* lists items for all chemical applications in over 200 pages. Formulas and key physical properties are included for thousands of entries. Eastman Organic Chemicals. Circle 720.

*Membrane Filtration Products* includes chemical compatibilities and specifications. Gelman Instrument. Circle 721.

*Airless-ware Portable Vacuum Rack* is devoted to a line of vacuum components including pumps, glassware, and frameworks. Kontes. Circle 722.

*UV Performance Specification for the High-Intensity Tungsten-Halogen Source* illustrates proper mode of operation in spectroscopy. Varian Instrument Division. Circle 723.

*Scintillation Vials* in a variety of materials and configurations are described in a brochure. VWR Scientific. Circle 724.

*Tecam Water Baths* features a line for laboratory and industrial applications that require controlled temperature in dry or liquid media. Techne. Circle 725.

*What's New for the Laboratory* is a 16-page catalog supplement devoted to over two dozen new items from various sources. SGA Scientific. Circle 726.

*Automatic Pressure-Flow Controller* describes an electromechanical instrument for test or regulatory applications. Granville-Phillips. Circle 727.

*Micro-Positioning Components and Modules* are featured in Catalog 405. Klinger Scientific Apparatus. Circle 728.

*Liquid Ring Vacuum Pumps* is a 52-page manual that describes applications and modes of operation as well as specifications. Kinney Vacuum. Circle 729.

*Fume Hoods* are described in a new 12-page bulletin. Fisher Scientific. Circle 730.

*Infiltrimeter* details a portable system for ventilation and air exchange in laboratories based on a microprocessor-controlled, continuous sampling, electron-capture gas chromatograph. Systems, Science and Software. Circle 731.

*Fluid Densitometer* describes a device for determining density and specific gravity of liquids and gases. FluidDynamic Devices. Circle 732.

*Laboratory Chromatograph Data System* is a computer-based data reduction and processing array. Electronic Associates. Circle 733.

*RIA Products and Services* lists test kits, reference serums, antisera, standards, reagents, chemicals, and laboratory test capabilities. Nuclear Medical Systems. Circle 734.

*Foto-UV Lighting System for Ultraviolet Photography* is devoted to an illumination system for specific applications. Camag. Circle 735.

# Science

## PRODUCTS and MATERIALS

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