Metallographic Specimen Polisher

The Minimet polisher combines the advantages of hand lapping and mechanical polishing. Samples are prepared with a controlled motion in a bowl that contains the abrasive. Speed, load, and time are controlled by the operator. The Minimet is a benchtop device that operates on standard electric current. Specimens are prepared as for other polishing methods and the operation requires minimum attention. Buehler, Limited. Circle No. 370 on Readers’ Service Card.

Piezoelectric Chromatograph

The P/Z Chromatograph uses a highly selective piezoelectric crystal detector to achieve sensitivity in the parts per million range. The device provides increased response with increased molecular weight, can be used with compounds having boiling points up to 200°C, and it can use air as the carrier gas. It functions by changing frequency when the effluent from the column passes over a liquid substrate which is coated on the quartz crystal. The resonant frequency is converted to a direct current which is fed to a potentiometric recorder. Laboratory Data Control. Circle No. 380 on Readers’ Service Card.

Display and Scan Generator

With the model 303 (Fig. 1), a scanning electron microscope or microprobe can be used in elemental mapping for simultaneous visualization of element distribution and intensity information in a three-dimensional (isometric) presentation. The 303 is used in conjunction with an x-ray analyzer and the SEM or microprobe. The 303 provides: line analysis, in which one line is scanned while counts of a selected single element are stored in the multichannel analyzer; or display transfer, in which an x-ray spectrum in the multichannel analyzer is transferred to the SEM display. This results in a combination of x-ray spectral data with a micrograph of the sample. Princeton Gamma-Tech. Circle No. 372 on Readers’ Service Card.

Salinometer- Conductivity Meter

The model SMS is used for in situ measurements of salinity in seawater and conductivity in other bodies of water to depths of 300 meters. The system is portable (will also operate on standard current) and provides visual readout and signal output for telemetry or on-site recording. The sensor is a five-electrode cell with a cell constant of ten that permits measurement in any body of water and compensates for marine growth. The device is controlled by switches for function, for salinity-conductivity range, for temperature range, for depth, and for power. Martek Instruments, Incorporated. Circle No. 395 on Readers’ Service Card.

Viscometer for Polymers

Model 7.006 gives limiting viscosity numbers (formerly intrinsic viscosities) that are identical or nearly so to those given by capillaries when used in accordance with ASTM D2857-70 methods. Because the 7.006 measures at the same shear rate each time, higher concentrations may be used. The degree of non-Newtonian behavior of a polymer solution may be detected as a frequency shift. Viscosity is read directly from 0 to 100,000 centipoise in six ranges. The stainless steel tip is easily maintained and cleaned between determinations. Nametrie Company. Circle No. 382 on Readers’ Service Card.

Spectrophotometer

The PM 2 is designed for ease of operation. The analog and BCD outputs yield short- and long-term stability, even at high sensitivity. A precision grating monochromator coupled with quartz optics provides high efficiency from ultraviolet to near infrared wavelengths from 200 to 850 nanometers with the ultraviolet accessory. The range is 290 to 850 nanometers in the standard version. The device features 3½-digit display in percent transmittance, 0 to 2 optical density, and concentration. The PM 2 spectrophotometer has six sensitivity settings, automatic optical filtering, and digital wavelength display. Carl Zeiss, Incorporated. Circle No. 371 on Readers’ Service Card.
Salinometer-Conductivity Meter

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