NEW
CATALOG
describes
15 Mettler
top-loading
balances

Mettler’s high-speed, easy-to-use, top-loading balances are fully described in a new catalog. Included are units with performance levels ranging from semi-analytical to 11-kilo high capacity. All are precise, rapid-reading and offer improved precision-to-capacity relationships.

Most unusual is the new Model P160. It features a reversible scale for weight loss studies and gravimetric titrations. Most versatile is the widely-used P1200. Its 1200-gram capacity and ±10-milligram readability make it ideal for the vast majority of routine weighings.

All Mettler top-loaders can be used for five different types of weighings. Included are weighing of unknowns, batching, check-weighing, weighing-in, and below-balance weighing.


Two years ago Melabs introduced a significantly-improved instrument for measuring the osmotic pressures of large molecules (10,000 to 1,000,000 number average). Today, the Melabs osmometer still offers more advantages than any other instrument for molecular weight determinations—from proteins to polymers. For example:

- **Simplified Design.** Easier to operate and maintain. Direct-reading strain gauge detection system eliminates servo systems and air bubbles. Both sides of membrane may be flushed with solvent without disassembly.
- **Wide Pressure Ranges.** Four selectable ranges, 0-5 cm solvent; 0-10 cm solvent; 0-50 cm solvent; 0-100 cm solvent.
- **Wide Temperature Ranges.** 5°C to 130°C in Model CSM-2; 40°C to 130°C in Model CSM-1. Built-in variable temperature control.
- **Water or Organic Solvents.** Performs equally well using either. Only stainless steel, Teflon®, and membrane contact sample.
- **Competitive Pricing.** In most cases, Melabs will be lower-priced than competing instrumentation.

To learn more about these well-accepted instruments, write to Melabs, Scientific Instruments Department, 3300 Hillview Avenue, Palo Alto, California 94304.

In Europe, contact Melabs S.A., 393 Chausée de Stockel, Brussels, Belgium.
New
$26 University Kit
demonstrates
Gel Filtration.

Now, for the first time, all the materials necessary for teaching and demonstrating the gel filtration technique to chemistry students are together in a convenient, economical self-contained unit...the Sephadex® University Kit. Here's what you'll find when you open the handy carrying case:

2. Sephadex—one vial each of G-25 and G-100.
3. Six sample vials—each containing a mixture of three different molecular weight colored materials.
4. Instruction manual containing a full 45-minute lecture outline and suggested experiments.

This complete teaching aid is indispensable for universities, research institutions, and industrial laboratories interested in acquainting students and researchers with the Sephadex gel filtration technique so widely used in research and industry for the fractionation of biological materials.

To order your Sephadex University Kit, complete the coupon below and return it to us.

PHARMACIA FINE CHEMICALS INC.
509 Centennial Avenue, Piscataway, New Jersey 08854
Pharmacia (Canada) Ltd., 110 Place Crémazie,
Suite 412, Montreal H1 J 1 P 6.
Inquiries outside U.S.A. and Canada should be directed to
PHARMACIA FINE CHEMICALS AB, Uppsala, Sweden.

Gentlemen:

Please send me______Sephadex University Kits at $26.00 each.
Purchase order enclosed. Please bill me
Quantity discounts available on request.

Name________________________________________Title_________________________
Organization______________________________
Street______________________________________
City________________________State________Zip Code________

Field of Use____________________________________

A. M. Burt (Nashville). Plant tissue was found more difficult to prepare than animal tissue. The prevention of virus redistribution in plant cells during the preparation for autoradiography was discussed by D. E. Schlegel (Berkeley) and W. G. Langenberg (Lincoln). The superiority of section freeze-substitution in the preservation of certain enzyme reactions compared to classical fixation and embedding techniques was demonstrated by J. P. Chang (Houston). Although this method has been used for the tissue preparation in autoradiography, the application of an organic solvent, albeit at low temperature, may obviate its applicability in the autoradiography of diffusible compounds. The implications of freezing and thawing for maintaining tissue structure and viability were discussed in two papers by H. T. Meryman (Bethesda) and B. F. Trump (Durham). It was emphasized that ice crystal disruption and cryomosis probably cannot be eliminated but may be minimized by rapid freezing and maintenance of low or ultralow temperatures during tissue preparation. Preliminary data on the utilization of low-temperature tissue cutting for electron-microscopic autoradiography were shown by T. C. Appleton (London) with a cryo-ostat microtome and by A. K. Christensen (Stanford) with a freezing microtome. The subcellular morphology in the presented photomicrographs appeared different from those obtained by classical fixation and embedding procedures. Considerable improvement of technique will be needed, however, before judgments on authenticity can be made and classical pictures are challenged. Electron-microscope autoradiography of diffusible compounds will have to await the perfection of low-temperature tissue preparation and, as S. Ullberg (Stockholm) pointed out, the present situation is such that it is still not realizable but promising, as he stated 4 years ago at the conference on Isotopes in Pharmacology held at the University of Chicago, Center for Continuing Education, June 1964. Such hope is justified was eloquently demonstrated by M. M. Salpeter (Ithaca) who provided models for a quantitative approach to the evaluation of resolution and sensitivity based on progress made in EMAR with classical preparative techniques.

WALTER E. STUMPF
Department of Pharmacology,
University of Chicago, 947 East 58
Street, Chicago, Illinois 60637