

should be directed to Donn S. Gorsline.

Written comments received by the general chairman since the close of the conference have been overwhelmingly laudatory. Furthermore, unexpected interest in holding another meeting has been expressed by a large number of correspondents. In response to this interest, tentative plans have been made for a single-site conference on the Atlantic Coast to be held in the spring of 1963, possibly with the University of Georgia acting as host; this will be followed by a similar meeting at an as yet undesignated place on the Pacific Coast, in the fall of 1964.

WILLIS E. PEQUEGNAT

National Science Foundation,  
Washington, D.C.

### Forthcoming Events

#### March

24-31. Symbolic Languages in Data Processing, symp., Rome, Italy. (Secretary, Provisional Intern. Computation Center, Palazzo degli Uffici, Zona dell'EUR, Rome)

25-30. National Education Assoc., Dept. of Audio-Visual Education, Kansas City, Mo. (Chief of Information, Dept. of the Army, Washington 25)

26-27. High Energy Nuclear Physics, symp., London, England. (C. C. Butler, physics Dept., Imperial College, London, S.W.7)

26-29. Circum-Pacific Petroleum Exploration, Amer. Assoc. of Petroleum Geologists-Soc. of Economic Paleontologists and Mineralogists, annual, San Francisco, Calif. (G. B. Oakeshott, State Div. of Mines and Geology, Ferry Bldg., San Francisco 11)

26-29. Institute of Radio Engineers, intern., New York, N.Y. (E. K. Gannett, IRE, 1 E. 79 St., New York 21)

26-29. Recent Advances in Acarology, symp., Ithaca, N.Y. (J. Naegele, Dept. of Entomology, Cornell Univ., Ithaca)

26-29. World Meteorological Organization, Commission for Synoptic Meteorology, Washington, D.C. (WMO, 41, Avenue Giuseppe Motta, Geneva, Switzerland)

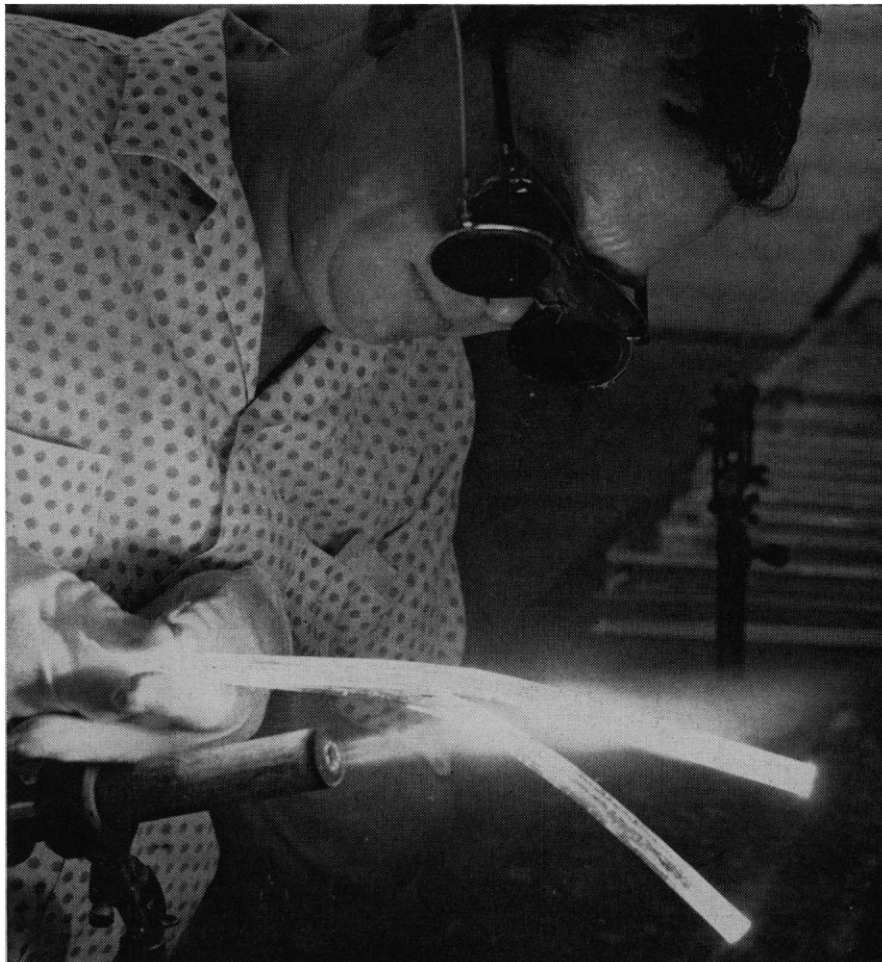
27-29. American Physical Soc., Div. of High-Polymer Physics, Baltimore, Md. (H. D. Keith, Bell Telephone Laboratories, Murray Hill, N.J.)

27-29. American Power Conf., American Soc. of Mechanical Engineers, Chicago, Ill. (A. B. Conlin, Jr., ASME, 29 W. 39 St., New York 18)

27-30. Cellular Basis and Aetiology of the Late Somatic Effects of Ionizing Radiations, symp., London, England. (P. Alexander, Chester Beatty Inst., Inst. of Cancer Research, Royal Cancer Hospital, Fulham Rd., London, S.W.3)

28-12. International Conf. on the Prevention of Pollution of the Sea by Oil, London, England (Intergovernmental Maritime Consultative Organization, Chancery House, Chancery Lane, London, W.C.2)

Tube made of imported materials sags alarmingly under heat, but G-E "ultra-pure" fused quartz (top) resists high temperature.



New G-E fused quartz is  
the best you can buy.  
It's 99.99% pure silica  
—and it's made from domestic materials

General Electric "ultra-pure" fused quartz withstands high temperatures for a longer time than ordinary fused quartz. At 1200°C, for instance, it deforms at less than one-half the rate of fused quartz previously available. In addition, it devitrifies much more slowly and remains more transparent at high temperatures.

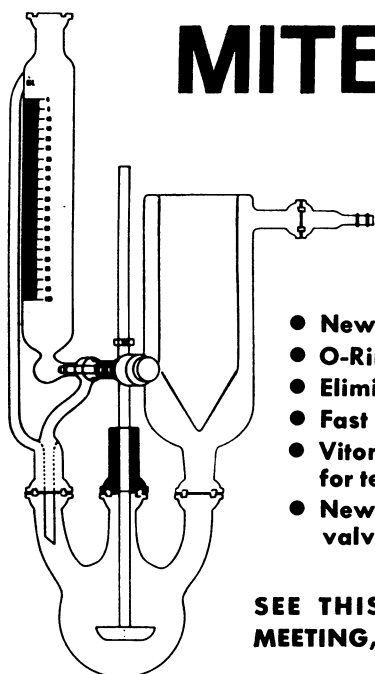
Two secrets lie back of this product's success. A new domestic source for the raw material, discovered by General Electric. A new process for purifying the raw material, developed by General Electric.

General Electric can supply new "ultra-pure" fused quartz in all sizes and at the same price as our previous fused quartz line. Or we can produce special shapes to your specifications. For complete information write: General Electric Company, Department S-24, Willoughby Quartz Plant, Willoughby, Ohio.

*Progress Is Our Most Important Product*

GENERAL  ELECTRIC

new concepts in scientific glassware



# MITE-O-WARE

## GREASE FREE MICRO-GLASS LAB WARE

- New unique joints are leakproof
- O-Rings made of Buna N or Viton A
- Eliminates contamination
- Fast easy assembly . . . no joints to grease
- Viton O-Rings hold pressures as low as  $10^{-6}$ , for temperatures from  $-40^{\circ}\text{F}$  to  $+500^{\circ}\text{F}$ .
- New design for O-Ring needle valve stop cocks

SEE THIS EQUIPMENT AT THE FASEB  
MEETING, BOOTH 51, APRIL 16 THRU 19



**Delmar**  
SCIENTIFIC LABORATORIES  
317 MADISON ST., MAYWOOD, ILL.  
A SUBSIDIARY OF COLEMAN INSTRUMENTS, INC.

For full details  
on Delmar's new  
MITE-O-WARE line  
ask for Catalog 61-MS.



IN STOCK LOW COST  
TEMPERATURE  
CHAMBERS

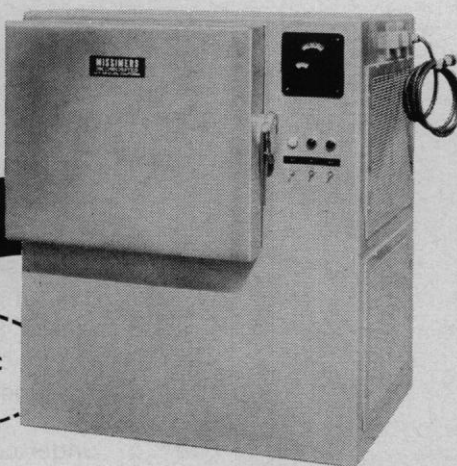
READY FOR  
IMMEDIATE DELIVERY

Model FT1-100X350

$-100^{\circ}\text{F}$  to  $+350^{\circ}\text{F}$  /  $-75^{\circ}\text{C}$  to  $+180^{\circ}\text{C}$

$\pm 3^{\circ}\text{F}$  ( $\pm 1.5^{\circ}\text{C}$ ) Accuracy

Plug-In Operation



This simple, reliable unit answers the needs for both high and low temperatures. It is easy to use. Needs only to be plugged into 115V outlet for full operation. Holds temperatures to  $\pm 3^{\circ}\text{F}$  or better over full range. Uniform temperatures provided throughout workspace by forced air circulation. One cubic foot workspace with full opening door. Overall dimensions 35"W x 24"D x 45"H. Includes indicating thermoregulators. Models also available in full line of sizes, temperature ranges, tolerances and instrumentation.

Write for Bulletins # FT3601 and 8601 and price lists

**\$1350** fob Los Angeles  
add \$35.00 for caster base

**M|I|S|S|I|M|E|R|S**

3739 San Fernando Road / Glendale 4, California / CHapman 5-8471

28-29. Engineering Aspects of Magneto-hydrodynamics, symp., Rochester, N.Y. (G. W. Sutton, Massachusetts Inst. of Technology, Room 3-254, Cambridge 39)

29-30. Electron Beam Symp., annual, Boston, Mass. (Dr. Bakish, c/o Alloyd Electronics Corp., 35 Cambridge Pkwy., Cambridge 42, Mass.)

29-31. Kappa Delta Pi, Lafayette, Ind. (E. I. F. Williams, 238 E. Perry St., Tiffin, Ohio)

30-1. American Psychosomatic Soc., annual, Rochester, N.Y. (S. Wolf, APS, 265 Nassau Rd., Roosevelt, N.Y.)

30-1. American Soc. for the Study of Sterility, annual, Chicago, Ill. (Scientific Liaison Office, Natl. Research Council, Sussex Dr., Ottawa, Ont., Canada)

### April

1-3. International College of Surgeons, Las Vegas, Nev. (Secretary, ICS, 1516 Lake Shore Dr., Chicago 10, Ill.)

1-4. American Radium Soc., annual, New York, N.Y. (C. G. Stetson, Dept. of Radiology, Englewood Hospital, Englewood, N.J.)

1-6. American Soc. of Abdominal Surgeons, clinical congr., Chicago, Ill. (B. F. Alfano, ASAS, 663 Main St., Melrose 76, Mass.)

2-5. American College of Obstetricians and Gynecologists, Chicago, Ill. (Chief of Information, Dept. of the Army, Washington 25)

2-5. Instrument Soc. of America, instrument-automation conf. and exhibit, Pittsburgh, Pa. (W. H. Kushnick, ISA, 313 Sixth Ave., Pittsburgh 22)

2-13. Photogrammetry Week, Munich, Germany. (H. Bischoff, Zeiss-Aeropotograph G.M.P.H., Ismaninger Str. 57, Munich 27)

3-5. Organic, Inorganic, and Physical Chemistry, symp., annual, Chemical Soc., Sheffield, England. (General Secretary, Burlington House, London; W.1, England)

3-5. Plasma Sheath, symp., Boston, Mass. (C. Ellis, Air Force Electronics Research Directorate (CRRD), L. G. Hanscom Field, Mass.)

3-6. Society of Automotive Engineers, natl. aeronautic, production forum and engineering display, New York, N.Y. (R. W. Crory, SAE, 485 Lexington Ave., New York 17)

3-7. Inter-American Nuclear Energy Commission, Mexico City, Mexico. (IANEC, Pan American Union, Washington 6)

4-6. Institute on Rehabilitation of the Mentally Ill, New York, N.Y. (B. J. Black, Altro Health and Rehabilitation Services, Inc., New York)

4-6. Physics of Graphite-Moderated Reactors, symp., Bournemouth, England. (Inst. of Physics and the Physical Soc., 47 Belgrave Sq., London, S.W.1, England)

4-6. Short Run Production Techniques, intern. seminar, American Soc. of Tool and Manufacturing Engineers, Mexico City, Mexico. (Conf. Director, ASTME, 10700 Puritan Ave., Detroit 38, Mich.)

5-7. Pacific Sociological Assoc., annual, Sacramento, Calif. (R. Nisbet, Univ. of California, Riverside)

6-8. American Soc. of Internal Medi-

cine, annual, Philadelphia, Pa. (S. O. Krasnoff, ASIM, 3410 Geary Blvd., San Francisco 18, Calif.)

6-8. Association of Clinical Scientists, Chicago, Ill. (R. P. MacFate, 323 Northwood Rd., Riverside, Ill.)

6-8. Biological Photographic Assoc., midwestern sectional, Des Moines, Iowa. (BPA, 551 W. Grant Place, Chicago 14, Ill.)

7. New Jersey Acad. of Science, annual, West Long Branch. (H. L. Silverman, NJAS, 361 Highland Ave., Newark 4, N.J.)

7. New Mexico Acad. of Science, Socorro. (K. G. Melgaard, P.O. Box 546, Mesilla Park, N.M.)

7. Paleontological Research Institution, Ithaca, N.Y. (R. Harris, PRI, 109 Dearborn Pl., Ithaca)

7-9. Impact of Physical Metallurgy on Technology, symp., San Carlos de Bariloche, Argentina. (J. A. Sabato, National Atomic Energy Commission, Avda. Libertador General San Martin 8250, Buenos Aires, Argentina)

9-10. Chemical and Petroleum Instrumentation Symp., natl., Instrument Soc. of America, Wilmington, Del. (C. W. Sanders, E. I. du Pont de Nemours & Co., Louviers Bldg., Newark, Del.)

9-12. Aerospace Medical Assoc., annual, Atlantic City, N.J. (W. J. Kennard, c/o Washington National Airport, Washington, D.C.)

9-12. American Acad. of General Practice, annual, Las Vegas, Nev. (AAGP, Volker Blvd., Kansas City 12, Mo.)

9-12. International Feigl Symp. on Analytical Chemistry, Birmingham, England. (M. L. Richardson, c/o John & E. Sturge Ltd., Lifford Chemical Works, Kings Norton, Birmingham 30)

9-13. American College of Physicians, Philadelphia, Pa. (Chief of Information, Dept. of the Army, Washington 25)

9-13. American Welding Soc., annual, Cleveland, Ohio. (F. L. Plummer, AWS, 33 W. 39 St., New York 18)

9-13. Greater New York Safety Council, annual regional convention and exposition, New York, N.Y. (A. F. Fuller, Aetna Insurance Co., 161 Millburn Ave., Millburn, N.J.)

9-13. Inter-American Symp. on the Peaceful Application of Nuclear Energy, Mexico City, Mexico. (J. D. Perkinson, Jr., Inter-American Nuclear Energy Commission, c/o Pan American Union, Washington 6)

9-13. International Soc. for Fat Research, London, England. (Soc. of Chemical Industry, 14 Belgrave Sq., London, S.W.1)

9-13. Physiology, Behavior, and Ecology of Orthoptera in Relation to Metamorphosis, intern. colloquium, Paris, France. (F. O. Albrecht, Laboratory of Natural Evolution, Natl. Scientific Research Center, 16 rue Pierre Curie, Paris)

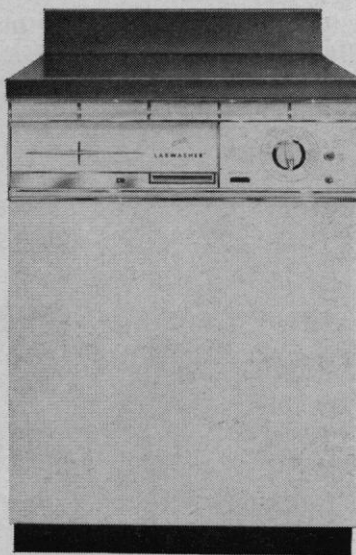
9-14. Nutritional Absorption in Vegetables, intern. symp., Pisa, Italy. (Istituto di Chimica Agraria, Università degli Studi di Pisa, Via S. Michele degli Scalzi, 2, Pisa)

10-12. American Industrial Health Conf., Chicago, Ill. (M. E. Fairbank, Eastman Kodak Co., Rochester 4, N.Y.)

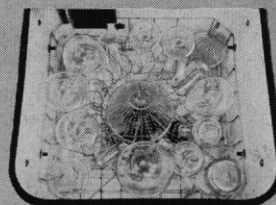
10-13. European Symp. on Size Reduction, European Federation of Chemical

# Introducing **NEW** **C.R.C.** **LABWASHER®**

**WASH & DRY GLASSWARE AUTOMATICALLY**



Engineered for under-counter or free-standing installation.



Accommodates 90% of all lab glassware.

Only the C.R.C. LABWASHER provides automatic programming and a choice of tap water or distilled water rinses.

- New model with added features.
- Fully automatic . . . set it and forget it.
- Saves up to 50% on glassware breakage.
- Accommodates over 90% of all lab glassware.
- Effectively removes oil-soluble material.
- Operates during lunch hour or after you leave at night.
- Designed for under-counter or free-standing installation.
- Low initial cost . . . pays for itself in weeks!
- Low operating and maintenance costs.

Accessory racks available for VOLUME WASHING of petri dishes, culture tubes, sample bottles and other glassware used in large quantity.



**WRITE FOR BULLETIN 362-B**

**THE CHEMICAL RUBBER CO.**

2310 Superior Ave.  
Cleveland 14, Ohio

4907 Cordell Ave.  
Washington 14, D.C.

9074 Springfield Pike  
Cincinnati 15, Ohio



Engineering-Processing Technology Soc., Frankfurt am Main, Germany. (Verfahrenstechnische Gesellschaft im V.D.I., Rheingau-Allee 25, Frankfurt am Main 7)

10-14. International Conf. on Stress Analysis, Paris, France. (Secretary, 10, rue Vauquelin, Paris 5\*)

11-13. Institute of Environmental Sciences, annual meeting and equipment exposition, Chicago, Ill. (J. P. Monroe, Lear, Inc., Grand Rapids, Mich.)

11-13. Institute of Radio Engineers, southwest conf. and electronic show, Houston, Tex. (IRE, 1 E. 79 St., New York 21)

12. Symposium on Non-Conventional Nuclear-Engineering Lubricants and Bearing Materials, symp., London, England. (Institution of Mechanical Engineers, 1 Birdcage Walk, London, S.W.1)

12-13. Histochemical Soc., annual, Atlantic City, N.J. (M. Wachstein, St. Cath-

erine's Hospital, Bushwick Ave., Brooklyn 6, N.Y.)

12-13. International Assoc. for Dental Research, British Div., annual, Sheffield, England. (C. H. Tonge, c/o Dept. of Anatomy, King's College Medical School, Newcastle-upon-Tyne, England)

12-14. Association of Southeastern Biologists, Wake Forest, N.C. (H. J. Bennett, Dept. of Zoology, Louisiana State Univ., Baton Rouge 3)

12-14. Experimental Arithmetic, symp., American Mathematical Soc., Chicago, Ill. (N. C. Metropolis, Inst. for Computer Research, Univ. of Chicago, Chicago)

13-14. American Soc. for Artificial Internal Organs, annual, Atlantic City, N.J. (E. C. Peirce, II, ASAIO, 514 W. Church Ave., Knoxville 1, Tenn.)

13-14. Iowa Acad. of Science, Waverly. (P. F. Romberg, Iowa State Univ., Ames)

13-14. Nebraska Acad. of Sciences, Lincoln. (C. B. Schultz, Univ. of Nebraska, Lincoln 8)

13-15. Alabama Acad. of Science, Inc., Troy. (W. B. DeVall, Forestry Dept., Auburn Univ., Auburn, Ala.)

13-15. American Assoc. for Cancer Research, annual, Atlantic City, N.J. (H. J. Creech, Inst. for Cancer Research, Fox Chase, Philadelphia 11, Pa.)

13-19. Federation of American Societies for Experimental Biology, Atlantic City, N.J. (M. O. Lee, 9650 Wisconsin Ave., Washington 14)

14-16. Kinetics, Equilibria, and Performance of High Temperature Systems, 2nd conf., Los Angeles, Calif. (G. S. Bahn, 16902 Bollinger Dr., Pacific Palisades, Calif.)

14-19. American Inst. of Nutrition, Atlantic City, N.J. (A. E. Schaefer, Bldg. 16-A, Natl. Institutes of Health, Bethesda 14, Md.)

14-19. American Soc. of Biological Chemists, Inc., Atlantic City, N.J. (F. W. Putnam, Dept. of Biochemistry, Univ. of Florida College of Medicine, Gainesville)

15-18. American College Personnel Assoc., Chicago, Ill. (B. A. Kirk, Counseling Center, Univ. of California, Berkeley)

15-18. National Education Assoc., Council of Mathematics Teachers, San Francisco, Calif. (Chief of Information, Dept. of the Army, Washington 25)

16-18. Flight Test Instrument Symp., intern., Cranfield, England. (College of Aeronautics, Cranfield)

16-18. Reactor Safety and Hazards Evaluation Techniques, symp., Vienna, Austria. (Intern. Atomic Energy Agency, 11 Kaerntnerring, Vienna 1)

16-18. Spins and Phonons, conf., Bristol, England. (P. M. Llewellyn, H. H. Sills Physics Laboratory, Royal Fort, Bristol 8)

16-19. American Personnel and Guidance Assoc., annual, Chicago, Ill. (J. Fishbein, Science Research Associates, 259 E. Erie St., Chicago 11)

16-19. Interactions between Mathematical Research and High-Speed Computing, symp., American Mathematical Soc.-Assoc. for Computing Machinery, Atlantic City, N.J. (E. Pitcher, AMS, 190 Hope St., Providence 6, R.I.)

16-19. Paleoclimatology and Paleopedology, symp., International Soc. for Plant Geography and Ecology, Stolzenau, Germany. [R. Tüxen, Intern. Vereinigung für Vegetationskunde, Stolzenau (Weser)]

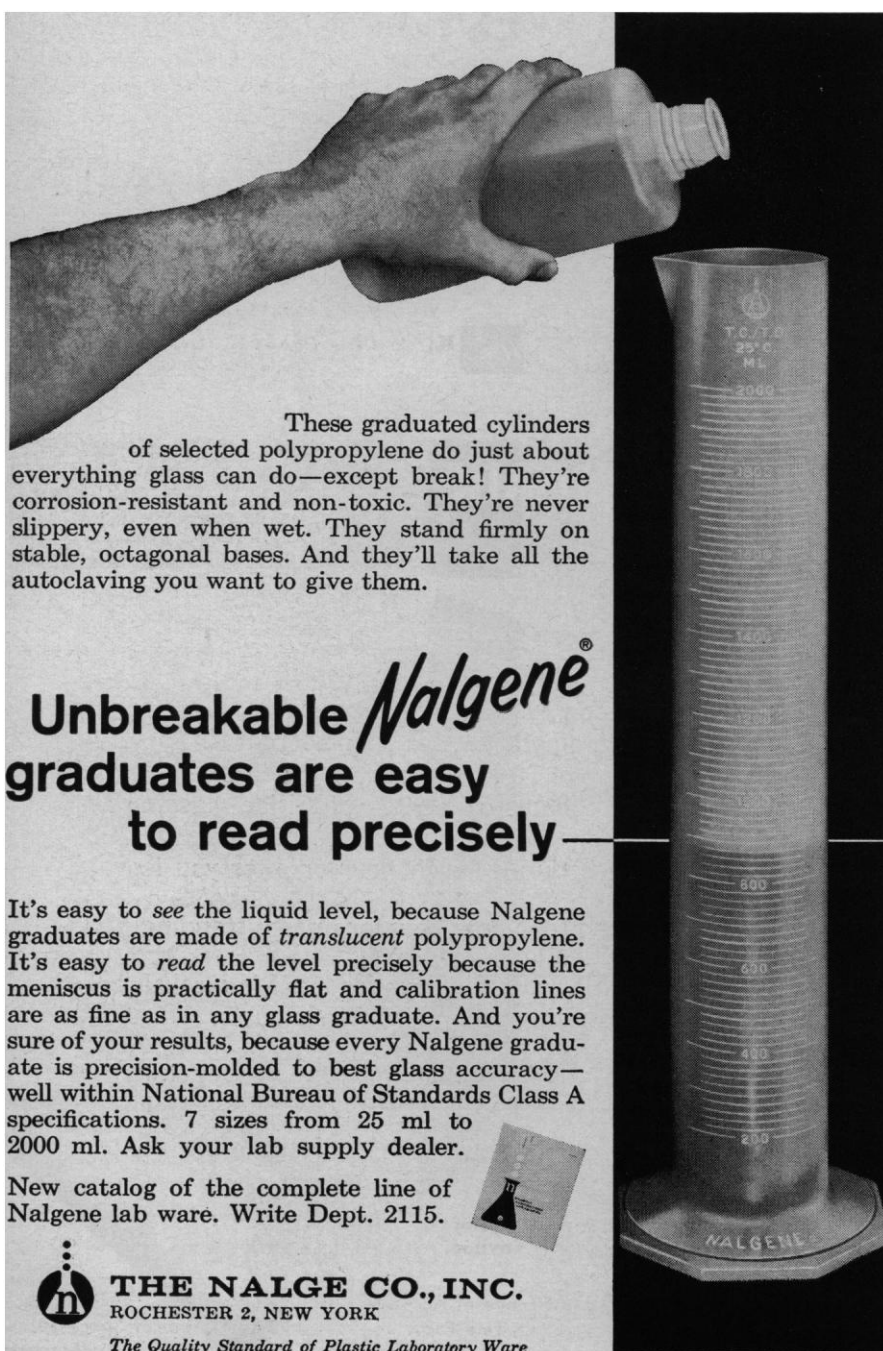
16-19. Vacuum Ultraviolet Radiation Physics, intern. conf., Los Angeles, Calif. (G. L. Weissler, Univ. of Southern California, Los Angeles 7)

16-20. American Physiological Soc., Atlantic City, N.J. (R. G. Daggs, APS, 9650 Wisconsin Ave., Washington 14)

16-20. American Soc. for Pharmacology and Experimental Therapeutics, Atlantic City, N.J. (H. G. Mandel, George Washington Univ. School of Medicine, 1337 H St., NW, Washington 5)

17-18. Conference on Permafrost, Ottawa, Ont., Canada. (R. J. E. Brown, Div. of Building Research, Natl. Research Council, Ottawa 2)

17-20. International Mineralogical Assoc., Washington, D.C. (D. J. Fisher, Dept. of Geology, Univ. of Chicago, Chicago 37, Ill.)




These graduated cylinders of selected polypropylene do just about everything glass can do—except break! They're corrosion-resistant and non-toxic. They're never slippery, even when wet. They stand firmly on stable, octagonal bases. And they'll take all the autoclaving you want to give them.

## Unbreakable *Nalgene*<sup>®</sup> graduates are easy to read precisely

It's easy to *see* the liquid level, because Nalgene graduates are made of *translucent* polypropylene. It's easy to *read* the level precisely because the meniscus is practically flat and calibration lines are as fine as in any glass graduate. And you're sure of your results, because every Nalgene graduate is precision-molded to best glass accuracy—well within National Bureau of Standards Class A specifications. 7 sizes from 25 ml to 2000 ml. Ask your lab supply dealer.

New catalog of the complete line of Nalgene lab ware. Write Dept. 2115.

 **THE NALGE CO., INC.**  
ROCHESTER 2, NEW YORK  
*The Quality Standard of Plastic Laboratory Ware*

NEW...

- Portable
- Light Weight
- Large Capacity
- Self-Emptying



RONAN & KUNZL

"54"

**Cryotainer®**

HANDLES LIQUID OXYGEN,  
NITROGEN AND ARGON  
Rolls from Room-to-Room and  
Laboratory-to-Laboratory

- Have a larger, more convenient supply of liquid always available, with this big 200-liter (54-gal.) R&K Cryotainer. Reduces storage space, handling time, inventory control, frequency of orders. Fully meets ASME and ICC specs — backed by 10 years of top-flight engineering know-how in the cryogenic field. Width 32", Height 67", Weight 400 lbs.

■ **Cryotainer SPECIFICS**

Models from 54 to 2,000 gal. capacity. Choice of mounting options. Vacuum and powder insulated—low evaporation rate, low vacuum loss. Complete self-pressurizing — no lifting, pouring, tilting. Simpler, more economical transfers. Positive 2-way pressure relief protection. All units factory tested before shipment.

- Write today for complete specifications and prices.

**RONAN & KUNZL, INC.**  
MARSHALL, MICHIGAN



17-20. Sector-Focused Cyclotrons, conf., Los Angeles, Calif. (B. T. Wright, Dept. of Physics, Univ. of California, Los Angeles 24)

18-20. American Inst. of Electrical Engineers, Fort Wayne, Ind. (R. S. Gardner, AIEE, 33 W. 39 St., New York 18)

18-20. Information Retrieval in Action, conf., Cleveland, Ohio. (Center for Documentation and Communication, Western Reserve Univ., 10831 Magnolia Dr., Cleveland 6)

18-28. World Seed Congr., Rome, Italy. (Intern. Agency Liaison Branch, Office of the Director General, Food and Agriculture Organization of the U.N., Viale delle Terme di Caracalla, Rome)

19. Southern California Acad. of Sciences, Los Angeles. (G. Sibley, Los Angeles County Museum, 900 Exposition Blvd., Los Angeles 7)

19-20. Southern Municipal and Industrial Waste Conf., Chapel Hill, N.C. (Dept. of Sanitary Engineering, Univ. of North Carolina, Box 899, Chapel Hill)

19-21. Southern Soc. for Philosophy and Psychology, Memphis, Tenn. (D. R. Kenshalo, Dept. of Psychology, Florida State Univ., Tallahassee)

20-22. Czechoslovak Soc. of Arts and Sciences in America, 1st natl. congr., Washington, D.C. (M. Rechcigl, Jr., 1703 Mark Lane, Rockville, Md.)

21. Pennsylvania Acad. of Science, Pittsburgh. (K. B. Hoover, Messiah College, Grantham, Pa.)

21-21 Oct. World's Fair of Science, Century 21 Exposition, Seattle, Wash. (J. Rocky, c/o Seattle World's Fair, Seattle)

22-26. Association of American Geographers, Miami Beach, Fla. (M. F. Burrill, AAG, 1785 Massachusetts Ave., NW, Washington, D.C.)

23-25. Canadian Inst. of Mining and Metallurgy, annual, Ottawa, Ont. (C. Gerow, CIMM, 1117 St. Catherine St., W. Montreal 2, Quebec, Canada)

23-25. Meteorological Uses of Rockets and Satellites, symp., Washington, D.C. (World Meteorological Organization, 41, Avenue Giuseppe Motta, Geneva, Switzerland)

23-25. Pan American Congr. of Gastroenterology, New York, N.Y. (C. A. Flood, 180 Fort Washington Ave., New York 32)

23-26. American Physical Soc., Washington, D.C. (K. K. Darrow, APS, Columbia Univ., New York 27)

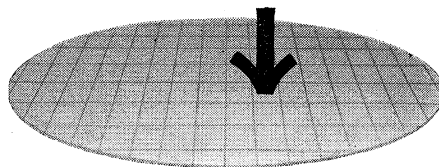
23-27. International Conf. on Palynology, Tucson, Ariz. (G. O. W. Kremp, Geochronology Laboratories, Univ. of Arizona, Tucson)

23-5. Television Arts and Sciences, intern. symp. and festival, Montreux, Switzerland. (Intern. Television Symp., 8, Grand-Rue, Montreux)

24-25. Managing Petroleum and Petrochemical Operations, conf., San Antonio, Tex. (J. Harmon, Southwest Research Inst., 8500 Culebra Rd., San Antonio 6)

24-26. Building Research Inst., spring conf., Washington, D.C. (M. C. Coon, Jr., BRI, 2101 Constitution Ave., NW, Washington 25)

24-26. Mathematical Theory of Automata, intern. symp., New York, N.Y. (Symposium Committee, Polytechnic Inst. of Brooklyn, 55 Johnson St., Brooklyn 1, N.Y.)



Speaking  
of

**Millipore®**

Filters

RED CELL FILTRATION  
AND THE PATHOGENESIS  
OF CERTAIN HEMOLYTIC ANIMALS

Sickled and anti-A agglutinated red cells were selectively removed from suspensions of mixed normal and abnormal red cells utilizing on SM Millipore filter under pressure. Only with rouleaux-producing agents present were red cells coated with Rh agglutinin, red cells from hemolytic anemic patients retained at low perfusion pressures. Authors discuss results in relation to red cell sequestration in vivo.

Jandl, J. H., 1961  
Blood, 18:133-148, August

Millipore® filters are available in eleven pore-size grades from 5  $\mu$  down to 10 m $\mu$ . They retain on their surfaces all particles larger than rated pore size.

When writing for technical information please state your fields of interest.

**Millipore®** FILTER  
CORPORATION  
Dept. S, Bedford, Massachusetts

**Dajac** LABORATORIES

Over 300 New Reagents for  
Medical Research and Biochemical Testing

Trimethylamine Sulfur Trioxide  
Sulfonating agent

5-Bromoindoxyl acetate  
Esterase

2-Hydroxy-3-Naphthaldehyde  
Amino groups

Fluorescein Isothiocyanate  
Fluorescence microscopy

Nitro BT®  
Dehydrogenase

2-[4-Hydroxybenzenazo] benzoic acid  
Albumen in plasma

LNA®, Leucine Amino Peptidase Substrate  
Liver function test

PAM Iodide, PAM Chloride  
Anti-cholinergic agent

6-Bromo-2-Naphthyl- $\beta$ -D-Glucuronide  
B-Glucuronidase

1, 4-Naphthoquinone Sulfonate, Potassium  
Creatinine

Carbonathoxy Choline Chloride  
Choline esterase

DDD, [2,2-Dihydroxy-6,6-Dinaphthyl  
Disulfide]  
Sulphydryl groups

Tetrazolium Salts  
Enzyme systems

Write for catalog SD-32 today.  
Custom Syntheses Invited.

THE **Borden** CHEMICAL COMPANY  
5000 LANGDON STREET • P. O. BOX 9522  
PHILADELPHIA 24, PA.

25. Rocket Propulsion, symp., Cranfield, Bletchley, England. (Secretary, British Interplanetary Soc., 12 Bessborough Gardens, London, S.W.1, England)

25-27. International Federation of Associations of Textile Chemists and Colorists, annual, Amsterdam, Netherlands. (J. Boulton, Dean House, 19, Piccadilly, Bradford 1, Yorks, England)

25-27. Present Status and Future Prospects of Television and Motion Pictures as Media for Medical Education, intern. conf., Milan, Italy. (L. L. Leveridge, Medical Television Unit, New York Univ. Medical Center, 550 First Ave., New York 16)

25-27. Pulp and Paper Instrumentation Symp, natl., Jacksonville, Fla. (L. G. Good, Systems Service Corp., P.O. Box 952, Charlotte, N.C.)

27-28. Idaho Acad. of Science, annual, Moscow. (L. M. Stanford, College of Idaho, Caldwell)

27-29. Oklahoma Acad. of Science, Woodward. (A. D. Buck, Northern Oklahoma Junior College, Tonkawa)

27-29. West Virginia Acad. of Science, Bethany. (J. D. Draper, Dept. of Chemistry, West Virginia Univ., Morgantown)

28. Mississippi Acad. of Sciences, Inc., Jackson. (C. Q. Sheely, Mississippi State Univ., State College)

29-2. International Acad. of Pathology-American Assoc. of Pathologists and Bacteriologists, Montreal, Canada. (F. K. Mostofi, c/o Armed Forces Inst. of Pathology, Washington 25)

29-2. National Workshop on Aging, American Home Economics Assoc., Lafayette, Ind. (A. J. Bricker, AHEA, 1600 20th St., NW, Washington 9)

29-3. American Ceramic Soc., annual, New York, N.Y. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio)

30-1. International Acad. of Pathology, annual, Montreal, Canada. (M. Davis, Intersociety Committee on Pathology Information, 1785 Massachusetts Ave., NW, Washington 6)

30-1. International Acetylene Assoc., annual, Toronto, Canada. (L. Matthews, 30 E. 42 St., New York 17)

30-2. American Soc. of Mechanical Engineers, Design Engineering Div., Philadelphia, Pa. (A. B. Conlin, Jr., ASME, 29 W. 39 St., New York 18)

30-2. Association of Iron and Steel Engineers, Detroit, Mich. (T. J. Ess, AISE, 1010 Empire Bldg., Pittsburgh 22, Pa.)

30-2. Instrumental Methods of Analysis, natl. symp., Instrument Soc. of America, Pittsburgh, Pa. (E. E. Buckston, Works Engineering Dept., Union Carbide Chemicals Co., P.O. Box 8004, S. Charleston 3, W.Va.)

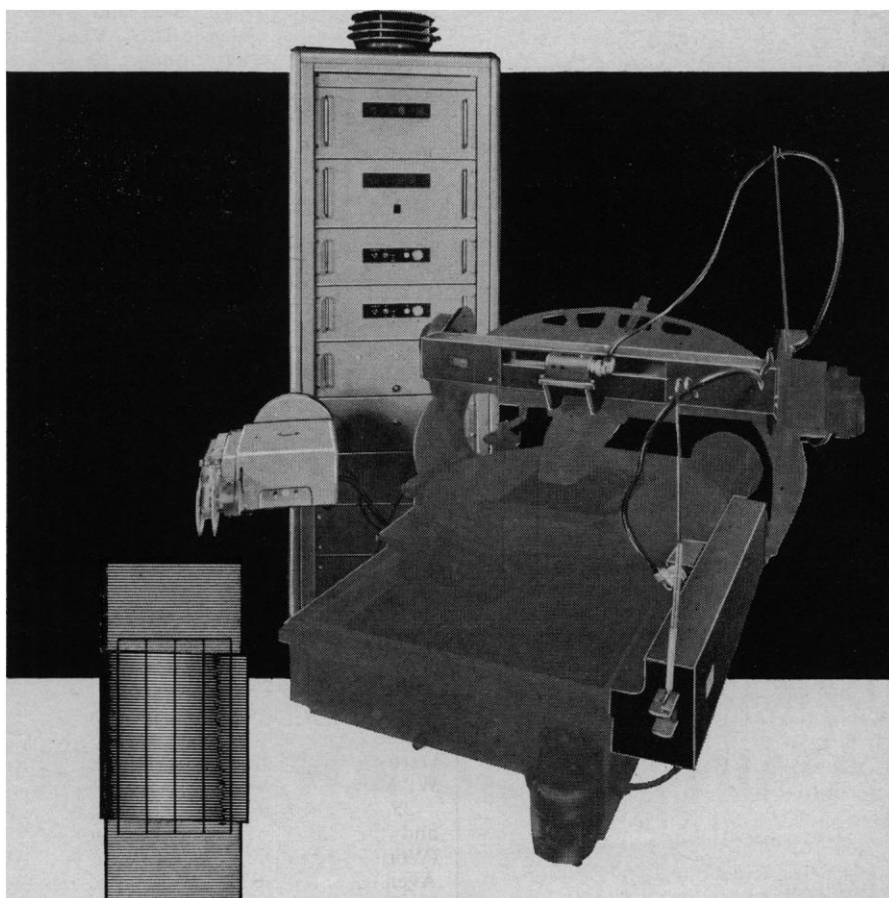
30-2. Role of Food in World Peace, intern. symp., Columbus, Ohio. (R. M. Kottman, College of Agriculture, Ohio State Univ., Columbus 10)

30-3. Mid-America Spectroscopy, annual symp., Soc. for Applied Spectroscopy, Chicago, Ill. (J. R. Ferraro, Argonne, Natl. Laboratory, 9700 S. Cass Ave., Argonne, Ill.)

30-4. Compressed Air and Hydraulics, intern. conf. and exhibition, London, England. (W. G. H. Chesher, c/o John Trundell and Partners Ltd., St. Richard's House, Eversholt St., London, N.W.1)

## For Precision Linear Measurement

# The **FERRANTI** MOIRÉ FRINGE MEASURING SYSTEM



This precise measuring technique was invented at Ferranti and is covered by U.S. patents. It is used in many scientific applications including evaluation of bubble chamber photographs, aerial and other film analysis, photogrammetry, spectrum analysis, remote measurement of radioactive specimens and the automatic setting of X-ray and neutron diffractometers.

The equipment provides:

- ACCURACIES TO 1 MICRON
- VISUAL DISPLAY OF COUNT
- BUILT-IN STORAGE
- BUILT-IN ERROR CHECKING
- READ-OUT FACILITIES

(Hard Copy, Punched Tape or Punched Card)

The measuring elements are readily integrated with the mechanical motions to provide a completely independent reference, unaffected by backlash or wear and capable of high slewing rates.

WRITE FOR DETAILED DESCRIPTIVE LITERATURE

# **F**erranti

**FERRANTI ELECTRIC, INC.**

INDUSTRIAL PARK NO. 1 • PLAINVIEW, LONG ISLAND, N. Y.  
Tel. 516 WElls 8-7500 • TWX HKVL 2381 • WUX LBI Plainview, N. Y.

## EVAPORATE MULTIPLE FRACTION CUTS DIRECTLY FROM TEST TUBES IN 10-20 MINUTES!

*New!*



### ROTARY EVAPO-MIX

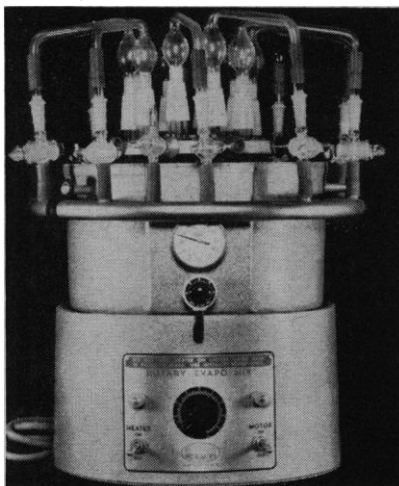
#### FEATURES

- Internal variable voltage transformer controls vibration rate.
- Simultaneously evaporates 10 test tubes or centrifuge tubes, 16-25 mm. diameter.
- Connects to efficient water aspirator as vacuum source.
- Automatic thermoregulator controls temperature of water bath.
- Controlled circular vibration creates deep swirling to prevent "bumping" during heating under vacuum.

With the Rotary Evapo-Mix it is possible to achieve in a single test-tube evaporation rates for water of 1.0 ml/min; ethanol, 4.2 ml/min; methanol, 4.5 ml/min; ethyl acetate, 7.2 ml/min; and for acetone 10.0 ml/min., with all 10 test tubes attached, evaporation decreases approximately 25%.

Price complete.....\$436.00

Request Bulletin 53-2100 for complete details.



LABORATORY APPARATUS



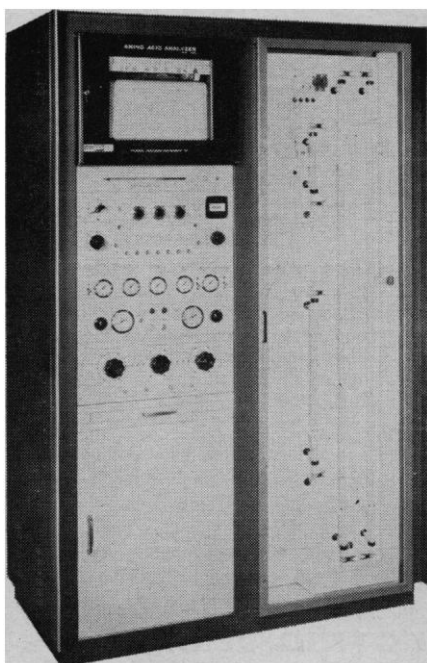
PRECISION INSTRUMENTS

**BUCHLER INSTRUMENTS, INC.**

514 West 147th Street, New York 31, N. Y.

ADirondack 4-2626

## New PHOENIX AMINO ACID ANALYZER



### Model K-8000

Automatic Analysis of Amino  
Compounds in

- Protein Hydrolysates
- Protein-free plasma and other
- Physiological fluids
- Tissue extracts
- Hydroponic solutions
- Foods
- Culture media
- Pharmaceuticals
- Adaptable to Phoenix  
Stream Splitting System 5500

Sensitivity: 0.1 to 3.0 micromoles of amino  
acid with a precision of  $100 \pm 3\%$ . Use-  
ful results at even lower levels.



PHOENIX PRECISION INSTRUMENT COMPANY  
3803-05 NORTH FIFTH ST., PHILADELPHIA 40, PENNSYLVANIA

30-4. Society of Motion Picture and  
Television Engineers, annual, Los Angeles,  
Calif. (H. Teitelbaum, SMPTE, 55 W. 42  
St., New York 36)

30-5. Automobile Technical Congr.,  
intern., London, England. (Automobile  
Div., Institution of Mechanical Engineers,  
1 Birdcage Walk, London, S.W.1)

#### May

1-3. Biologistics for Space Systems,  
symp. and workshop, Dayton, Ohio. (Col.  
A. I. Karstens, Aerospace Medical Re-  
search Laboratories, Aeronautical Sys-  
tems Div., Wright-Patterson AFB, Ohio)

1-3. Joint Computer Conf., San Fran-  
cisco, Calif. (R. I. Tanaka, Computer  
Systems-Logical Design, Lockheed Mis-  
siles & Space Co., Palo Alto, Calif.)

1-4. Conference on Radiodiagnosis and  
Radiotherapy, Southern Rhodesia. (P. E.  
S. Palmer, P.O. Box 958, Bulawayo,  
Southern Rhodesia)

1-4. Gamma Alpha Graduate Scientific  
Fraternity, St. Paul, Minn. (W. T. Keeton,  
Dept. of Entomology, Cornell Univ.,  
Ithaca, N.Y.)

2. International Symp. on Crop Pro-  
tection, Ghent, Belgium. (I. J. Van den  
Brande, Institut Agronomique de l'Etat,  
Coupure Gauche 233, Ghent)

2-3. Iron and Steel Inst., annual,  
London, England. (ISI, 4 Grosvenor Gar-  
dens, London, S.W.1)

2-4. American Assoc. of Pathologists  
and Bacteriologists, annual, Montreal,  
Canada. (Intersociety Committee on  
Pathology Information, 1785 Massachu-  
setts Ave., NW, Washington 6)

2-4. European Corrosion Conf., Paris,  
France. (Société de Chimie Industrielle,  
28, rue St. Dominique, Paris 7<sup>e</sup>)

2-4. Institute of Management Sciences,  
Toronto, Canada. (T. Fabian, c/o *Mathe-  
matica*, 76 Nassau St., Princeton, N.J.)

2-5. Air Force Systems Command  
Management Conf., Monterey, Calif.  
(Office of Information, AFSC, Andrews  
AFB, Washington 25)

2-5. Midwestern Psychological Assoc.,  
Chicago, Ill. (D. R. Meyer, 1314 Kinnear  
Rd., Columbus 12, Ohio)

2-5. National Science Fair-International,  
Seattle, Wash. (Science Service, 1719 N  
St., NW, Washington 6)

2-6. Film Techniques, conf., Budapest,  
Hungary. (Hungarian Soc. of Optics,  
Acoustics and Film Techniques, Szabad-  
ság tér 17, Budapest V)

2-8. Space Science Symp., intern.,  
Washington, D.C. (Secretary, Committee  
on Space Research, 28 Nieuwe School-  
straat, The Hague, Netherlands)

3. Electronic Marketing Seminar, in-  
tern., San Diego, Calif. (E. T. Clare,  
Cohu Electronics, Inc., Box 623, San  
Diego)

3-4. Human Factors in Electronics, in-  
tern. congr., Long Beach, Calif. (C. Hop-  
kins, Hughes Aircraft Co., Culver City,  
Calif.)

3-5. Institute of Hospital Administra-  
tors, annual, Cardiff, Wales, England.  
(J. F. Milne, 75 Portland Pl., London,  
W.1)

3-5. Kansas Acad. of Science, Pitts-  
burgh. (G. A. Leisman, Dept. of Biology,  
Kansas State Teachers College, Emporia)

3-5. Ohio Acad. of Science, Toledo.



(G. W. Burns, 505 King Ave., Columbus 1, Ohio)

3-5. Society for American Archaeology, Tucson, Ariz. (J. B. Wheat, Univ. of Colorado Museum, Boulder)

3-5. University Computing Centres, intern. conf., Mexico, D.F., Mexico. (Centro Electrónico de Cálculo, Universidad Nacional Autónoma de México, México, D.F.)

4. North Carolina Acad. of Science, Winston-Salem. (J. A. Yarbrough, Meredith College, Raleigh, N.C.)

4-5. Colorado-Wyoming Acad. of Science, Greeley, Colo. (R. G. Beidleman, Zoology Dept., Colorado College, Colorado Springs)

4-5. Minnesota Acad. of Science, annual, Winona. (J. P. Emanuel, 206 E. Howard, Winona)

4-5. North Dakota Acad. of Science, Fargo. (B. G. Gustafson, Box 573, Union Station, Grand Forks, N.D.)

4-5. Population Assoc. of America, Madison, Wis. (K. B. Mayer, Dept. of Sociology and Anthropology, Brown Univ., Providence, R.I.)

4-5. South Dakota Acad. of Science, Vermillion. (T. Van Bruggen, Dept. of Botany, Univ. of South Dakota, Vermillion)

4-6. Protides of the Biological Fluids, colloquium, Bruges, Belgium. (H. Peeters, Sint Jans Hospitaal, Bruges)

4-6. Wisconsin Acad. of Sciences, Arts and Letters, La Crosse. (T. J. McLaughlin, Univ. of Wisconsin, 3203 N. Downer Ave., Milwaukee 11)

5-6. Academy of Psychoanalysis, annual, Toronto, Canada. (J. H. Merin, 125 E. 65 St., New York 21)

5-6. Society of Biological Psychiatry, annual, Toronto, Canada. (G. N. Thompson, 2010 Wilshire Blvd., Los Angeles 57, Calif.)

5-7. International Congr. of Medical Laboratory Technologists, Cologne, Germany. (M. Gesundheitsverwaltung, Intern. Assoc. of Medical Laboratory Technologists, Cologne)

6-9. Bockus Alumni Intern. Soc. of Gastroenterology, annual, Geneva, Switzerland. (J. L. A. Roth, Graduate Medical Bldg., Suite 302, 419 S. 19 St., Philadelphia 46, Pa.)

6-9. National Power Instrumentation Symp., Fort Worth, Tex. (C. W. Macune, Westronics, Inc., 3605 McCart, Fort Worth 10)

6-10. American Soc. for Microbiology, annual, Kansas City, Mo. (P. Gerhardt, Dept. of Bacteriology, Univ. of Michigan, Ann Arbor)

6-10. Electrochemical Soc., annual, Los Angeles, Calif. (R. K. Shannon, 1860 Broadway, New York 23)

6-10. French Soc. of Ophthalmology, Paris. (M. A. Dollfus, FSO, 27, rue du Faubourg-Saint-Jacques, Paris 16°)

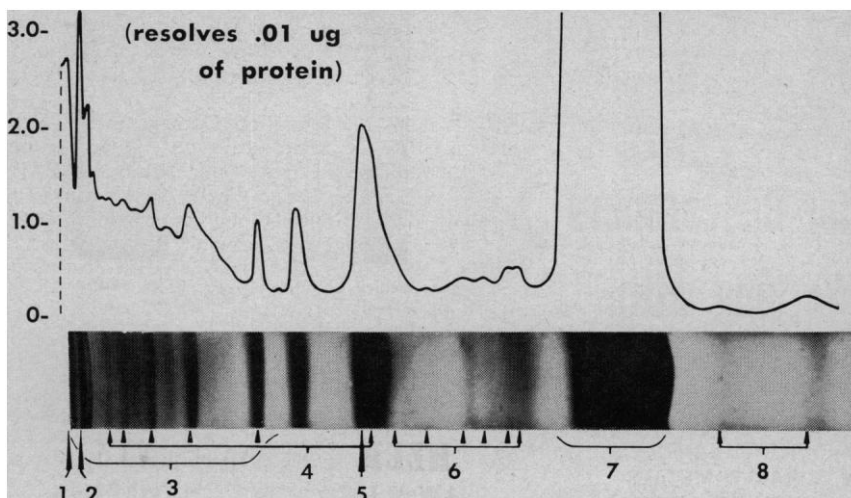
6-12. World Congr. of Gastroenterology, Munich, Germany. (G. A. Martini, Martinstr. 52, Hamburg 20, Germany)

7-8. American Inst. of Mining, Metallurgical and Petroleum Engineers, Soc. of Petroleum Engineers' Secondary Recovery Symp., Wichita Falls, Tex. (E. O. Kirkendall, AIME, 29 W. 39 St., New York 18)

7-9. American Oil Chemists' Soc., annual, New Orleans, La. (W. O. Lundberg,

## 20-30 PROTEIN FRACTIONS IN HUMAN SERUM BY

# DISC ELECTROPHORESIS\*

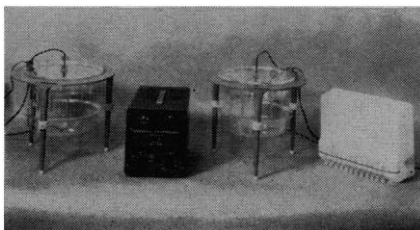


Proteins of a 3 ul sample of human serum (haptoglobin type 2-1, no free hemoglobin or hemoglobin-haptoglobin complexes): (1) slow beta 1 lipoprotein; (2) slow alpha 2 macroglobulin; (3) region of "7S" gamma globulins; (4) haptoglobins; (5) transferrin; (6) post-albumins; (7) albumin; (8) pre-albumins. Optical density traced by CANALCO Model E Microdensitometer.

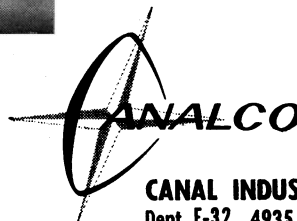
\* pat. pending

Disc Electrophoresis, the remarkably powerful new technique that is now creating analytical breakthroughs in a wide variety of protein separations. For instance:

- \* 14 in brain extract (previously 3 by starch)
- \* 26 in neurospora
- \* 9 in semi-purified skin protein (previously 1 by starch)
- \* 18 in unconcentrated spinal fluid
- \* 7 in connective tissue (previously 3 by starch)
- \* 6 nucleic acids (previously 3 by starch)
- \* 4 sharp major hemoglobins (prev. 3 blurred by paper)
- \* 6 tagged fractions (previously 1 by paper)
- \* 4 in frog embryo (previously 1 by starch)
- \* Complete run in 1 hour class demonstration (previously impossible)



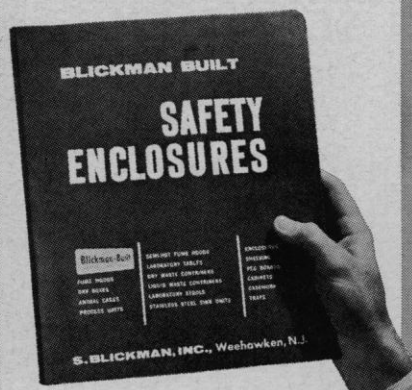
These are typical true case histories from the several hundred laboratories now using this technique. Put it to work now for yourself, using the Model 12 apparatus shown at left. For details write:



**CANAL INDUSTRIAL CORP.**  
Dept. E-32 4935 Cordell Avenue  
Bethesda 14, Maryland



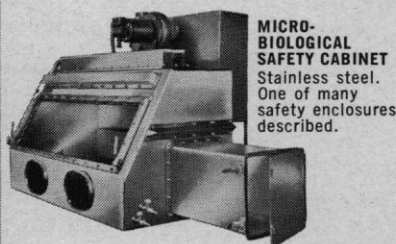
## Valuable Reference



## for Researchers Working with

- LIVE VIRUSES, BACTERIA
- TOXIC CHEMICALS
- RADIOACTIVE MATERIALS
- CONTAMINANTS
- MIRACLE METALS
- INFECTED ANIMALS

This new book is a comprehensive reference on safety enclosures for handling a wide variety of hazardous substances. Profusely illustrated, it contains detailed descriptions of regular and vacuum dry boxes, biological safety cabinets, fume hoods, pressurized enclosures, controlled-atmosphere boxes, waste containers, laboratory furniture and sinks, process units and unitized dry box systems. You'll find an enclosure to meet almost any contamination or safety problem. Send for your copy now.



**MICRO-BIOLOGICAL SAFETY CABINET**  
Stainless steel.  
One of many safety enclosures described.

### S. BLICKMAN, INC.

6903 Gregory Ave. • Weehawken, N. J.

- ☐ Please send book on safety enclosures  
☐ Also send catalog on laboratory furniture

NAME \_\_\_\_\_

TITLE \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

**Blickman-Built** for Years of Reliable Service

Hormel Inst., Univ. of Minnesota, 801 16 Ave., NE, Austin)

7-9. Implications of Organic Peroxides in Radiobiology, intern. symp., Argonne, Ill. (R. N. Feinstein, Div. of Biological and Medical Research, Argonne Natl. Laboratory, Argonne)

7-9. National Watershed Congr., annual, Columbus, Ohio. (C. R. Gutermuth, Wildlife Management Inst., Washington, D.C.)

7-11. American Psychiatric Assoc., Toronto, Canada. (C. H. H. Branch, 156 Westminster Ave., Salt Lake City, Utah)

7-11. American Soc. of Tool and Manufacturing Engineers, annual convention and tool exposition, Cleveland, Ohio. (A. Cervenka, Vanderbilt Blvd., Oakdale, N.Y.)

7-11. Radiation Damage in Solids and Reactor Materials, symp., Intern. Atomic Energy Agency, Venice, Italy. (IAEA, 11 Kärntner Ring, Vienna 1, Austria)

7-11. Society of Photographic Scientists and Engineers, annual, Boston, Mass. (E. S. Cobb, Box 1609, Main Post Office, Washington, D.C.)

7-12. International Conf. of Marine Engineers, London, England. (Inst. of Marine Engineers, Memorial Bldg., 76 Mark Lane, London, E.C.3)

7-12. International Seed Testing Assoc., annual congr., Lisbon, Portugal. (A. F. Schoorel, ISTA, Binnenhaven 1, Wageningen, Netherlands)

8. American Soc. of Safety Engineers, Chicago, Ill. (A. C. Blackman, ASSE, 5 N. Wabash Ave., Chicago 2)

8-10. American Soc. of Lubrication Engineers, annual, St. Louis, Mo. (A. E. Cichelli, Bethlehem Steel Co., 701 E. Third St., Bethlehem, Pa.)

8-10. World Commission on Vocational Rehabilitation, annual, Washington, D.C. (D. Warms, Intern. Soc. for Rehabilitation of the Disabled, 701 First Ave., New York 17)

8-19. Latin American Meeting on Higher Agricultural Education, Medellín, Colombia. (Intern. Agency Liaison Branch, Office of Director General, U.N. Food and Agriculture Organization, Viale delle Terme di Caracalla, Rome, Italy)

8-26. World Health Assembly, annual, Geneva, Switzerland. (World Health Organization, Palais des Nations, Geneva)

9-11. Conference on Mucous Secretions, New York, N.Y. (S. Jakowska, Natl. Cystic Fibrosis Research Foundation, 521 Fifth Ave., New York 17)

9-11. Operations Research Soc. of America, Washington, D.C. (G. D. Shellard, New York Life Insurance Co., 51 Madison Ave., New York 10)

9-12. Science Writers Seminar, intern., Seattle, Wash. (Intern. Press Inst., Münsterstrasse 9, Zurich 1, Switzerland)

9-12. Virginia Acad. of Science, Norfolk. (P. M. Patterson, Hollins College Branch, Roanoke)

10-12. Meetings on Diabetes, University of Paris, Paris, France. (M. Rathery, Hotel-Dieu, Paris)

10. Glass Container Technology, seminar, New York, N.Y. (Packaging Inst., 342 Madison Ave., New York 17)

10. Vitamins and Transplantation Immunity, Assoc. of Vitamin Chemists, Chi-

## TISSUE CULTURE

Cells • Media • Sera  
Reagents

### Flow Laboratories . . .

. . . produces primary and serially propagated cell cultures, tissue culture media, sera and reagents.

. . . employs latest techniques to maintain rigid standards of quality on all cell cultures and related products, insuring typical cell morphology, viability, plating efficiency and sterility.

. . . invites your specific inquiries. Descriptive catalog and prices also available upon request.



**FLOW LABORATORIES**

INCORPORATED

1801 N. MOORE ST., ARLINGTON, VIRGINIA

Telephone 525-8800

cago, Ill. (H. S. Perdue, Abbott Laboratories, N. Chicago)

10-11. American Inst. of Chemists, Inc., Chicago, Ill. (J. Kotrady, c/o AIC, 60 E. 42 St., New York 17)

10-12. Food Protection, intern. symp., Ames, Iowa. (J. C. Ayres, Dept. of Dairy and Food Industry, Iowa State Univ., Ames)

12. International College of Surgeons, clinical meeting, London, England. (Secretary, ICS, 1516 Lake Shore Dr., Chicago 10, Ill.)

13-16. American Acad. of Dental Medicine, annual, Baltimore, Md. (P. Block, 36 N. Luzerne Ave., Baltimore)

13-16. Transfer of Calcium and Strontium across Biological Membranes, conf., Ithaca, N.Y. (R. H. Wasserman, Dept. of Physical Biology, New York State Veterinary College, Cornell Univ., Ithaca)

13-17. American Industrial Hygiene Assoc., conf., Washington, D.C. (W. S. Johnson, Bethlehem Steel Co., Bethlehem, Pa.)

14-16. National Aerospace Electronics Conf., Dayton, Ohio. (Inst. of the Aerospace Sciences, 2 E. 64 St., New York 21)

14-16. Technical Assoc. of the Pulp and Paper Industry, coating conf., annual, Cincinnati, Ohio. (TAPPI, 155 E. 44 St., New York 16)

14-18. American Soc. of Civil Engineers, convention, Omaha, Neb. (W. H. Wisely, 345 E. 47 St., New York 17)

14-18. Hormonal Steroids, intern. congr., Milan, Italy. (L. Martini, Istituto de Farmacologia e Terapia, 21 Via A. del Sarto, Milan)

14-18. Reactor Safety and Hazards Evaluation Techniques, symp., Vienna, Austria. (IAEA, 11 Kärntner Ring, Vienna)

15-16. Council on Medical Television, annual, Bethesda, Md. (J. F. Huber, CMT, Inst. for Advancement of Medical Communication, 33 E. 68 St., New York 21)

15-17. World Food Forum, Washington, D.C. (J. K. McClarren, U.S. Dept. of Agriculture, 409 Administration Bldg., Washington 25)

15-19. International College of Surgeons, European federation, surgical congr., Amsterdam, Netherlands. (J. Blazenbourg, ICS Netherlands Section, A. Perkstraat 57, Hilversum, Netherlands)

16-17. Navy Medical-Dental TV Workshop, Bethesda, Md. (Inst. for Advancement of Medical Communication, 33 E. 68 St., New York 21)

16-26. Large Electric Systems, intern. conf., Paris, France. (ICLES, 112 Boulevard Haussmann, Paris 8°)

17-19. American Inst. of Industrial Engineers, annual, Atlantic City, N.J. (W. J. Jaffe, Newark College of Engineering, Newark, N.J.)

17-19. Eccrine, Apocrine, and Holocrine Glands, symp., Madison, Wis. (Div. of Postgraduate Medical Education, University of Wisconsin Medical School, Madison 6)

17-19. Nepiology, intern. conf., Catania, Sicily. (S. Rapisardi, Via Mavilla 37, Catania)

17-19. Paralanguage and Kinesics, conf., Bloomington, Ind. (T. A. Sebeok, Research Center in Anthropology, Ray House, Indiana Univ., Bloomington)



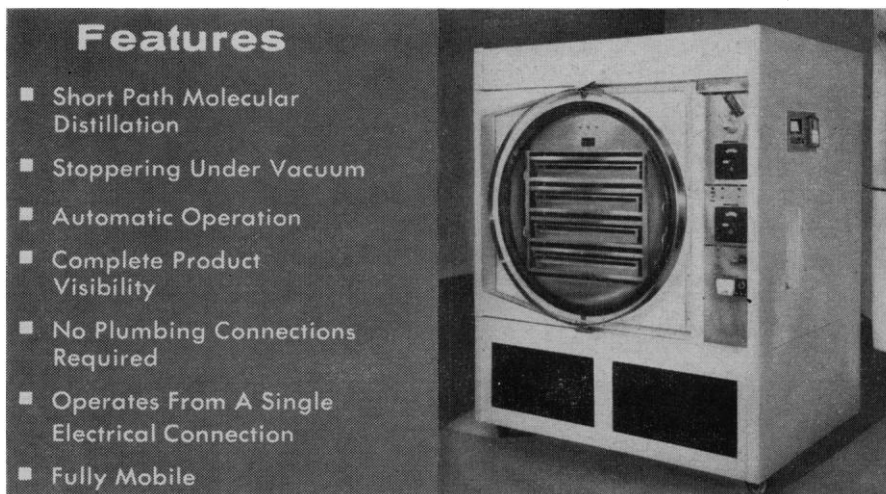
*For Research and Production*

## FREEZE-DRYING

Condensing coils and product are in the same vacuum chamber in the unique Sublimator design. Result — important savings in original equipment and operating costs PLUS increased drying efficiency.

Sublimators are fully mobile instruments, with the complete equipment housed in an unusually compact cabinet. To operate, simply connect the single electric cord to a suitable outlet — no plumbing connections are required.

Products are frozen on the automatically refrigerated shelves, and are then freeze-dried under the influence of the high vacuum obtained and controlled heat input to the shelves. Reverse cycle refrigeration provides ultra-rapid defrosting of the condensing coils at the conclusion of a dehydration.



Sterility is maintained by the automatic tray cover lift which raises the covers off each tray during freeze-drying and covers each tray before air is re-admitted to the vacuum chamber. Sublimators are equipped with internal stoppering plates for those applications which require sealing vials under the original vacuum.

Sublimators are available in three capacities — the 15, 40, and 100, ranging from 4.5 square feet to more than 30 square feet of total shelf area. Accessory equipment, including temperature and vacuum recorders, is conveniently built into the side of the cabinet.

*Write for full details on the modern, ECONOMICAL, Sublimator freeze-drying method.*

**RePP** Industries, Inc.

Gardiner, New York

17-31. Special Libraries Assoc., Washington, D.C. (J. B. North, Missile and Space Div., Lockheed Aircraft Corp., 50-14, Palo Alto, Calif.)

18-19. Indiana Acad. of Science, Mitchell. (W. W. Bloom, Valparaiso Univ., Valparaiso, Ind.)

18-29. European Plastics and Rubber Conf., Paris, France. (Du Mont Publicity Co., 18 Queensberry Place, London, S.W.7, England)

19-20. International Assoc. for the Study of the Liver, Munich, Germany. (G. A. Martini, c/o Universitäts Krankenhaus, Eppendorf, Hamburg, Germany)

20-23. American Inst. of Chemical Engineers, natl., Baltimore, Md. (F. J. Van Antwerpen, AICE, 345 E. 47 St., New York 17)

20-23. Radiation Research Soc., annual, Colorado Springs, Colo. (E. L. Powers, RRS, Argonne Natl. Laboratory, Argonne, Ill.)

20-24. Air Pollution Control Assoc., annual, Chicago, Ill. (D. A. Sullivan, APCA, 4400 Fifth Ave., Pittsburgh 13, Pa.)

20-24. American Assoc. of Cereal Chemists, Saint Louis Park, Minn. (B. S. Miller, Dept. of Flour and Feed Milling, Kansas State Univ., Manhattan)

21-22. Society of American Military Engineers, annual, Washington, D.C. (SAME, 808 Mills Bldg., Washington 6)

21-23. National Aerospace Instrumentation Symp., Washington, D.C. (C. Creveling, Goddard Space Flight Center, Greenbelt, Md.)

21-24. Air Pollution Instrumentation Symp., Chicago, Ill. (D. F. Adams, Div. of Industrial Research, Washington State Univ., Pullman)

21-25. Max Planck Inst. for the Advancement of Science, general assembly, Düsseldorf, Germany. (MPIAS, Kaiserwerther Str. 164, Düsseldorf)

21-25. Plastic and Reconstructive Surgery of the Eye and Adnexa, intern. symp., New York, N.Y. (R. Troutman, Manhattan Eye, Ear & Throat Hospital, 210 E. 64 St., New York 21)

21-25. Thermodynamics of Nuclear Materials, symp., Vienna, Austria. (Intern. Atomic Energy Agency, 11 Kärntner Ring, Vienna 1)

21-26. Ceramic Congr., intern., Copenhagen, Denmark. (Arbejdsgivere, Indenfor de Keramiske Industrier, Nørre Voldgade 34, Copenhagen K)

21-26. Rubber Technology Congr., annual, London, England. (Secretary, Institution of the Rubber Industry, 4, Kensington Palace Gardens, London, W.8)

21-1. Prediction of Volcanic Eruptions and the Relationship between Magmas and the Nature of Volcanic Eruptions, symp., Tokyo, Japan. (Secretary, Organizing Committee, c/o Science Council of Japan, Ueno Park, Tokyo)

22-24. National Microwave Theory and Techniques, symp., Inst. of Radio Engineers, Boulder, Colo. (L. G. Cumming, IRE, 1 E. 79 St., New York 21)

22-24. Self-Organizing Systems, conf., Chicago, Ill. (G. T. Jacobi, Armour Research Foundation, 10 W. 35 St., Chicago 16)

22-25. Rationalizing Consumption of Electric Power, intern. symp., Warsaw, Poland. (Ministry of Mines and Power, Krucza 36, Warsaw)

22-25. Rubber Technology Conf., Scarborough, England. (Institution of the Rubber Industry, 4 Kensington Palace Gardens, London, W.8)

22-26. Disposal and Utilization of Solid Domestic and Industrial Wastes, intern. congr., Essen, Germany. (Haus der Technik, Schliessfach 668, Essen)

23-24. Forming and Testing of Sheet Metal, intern. colloquium, Düsseldorf, Germany. (J. Hooper, Intern. Deep Drawing Research Group, John Adam St., Adelphi, London, W.C.2, England)

23-25. American Soc. for Quality Control, annual, Cincinnati, Ohio. (A. W. Wortham, Texas Instruments, Inc., P.O. Box 5474, Dallas 22)

24-25. Diseases in Nature Transmissible to Man, conf., annual, Dallas, Tex. (M. B. Starnes, Univ. of Texas Southwestern Medical School, 5323 Harry Hines Blvd., Dallas 35)

24-26. Institute of Radio Engineers, conf. on space communications, Seattle, Wash. (IRE, 1 E. 79 St., New York 21)

24-26. International Medico-Athletic Federation, congr., Santiago, Chile. (G. La Cava, Via A. Serra, 104, Rome, Italy)

26-30. International Federation for Hygiene and Preventive Medicine, intern. congr., Vienna, Austria. (E. Musil, IFHPM, Mariahilfer Strasse 177, Vienna XV)

27-30. Chemical Inst. of Canada, annual conf. and exhibition, Edmonton. (CIC, 48 Rideau St., Ottawa 2, Ont.)

# PICK A VOLUME SET THE PLUNGER TILT AND POUR

Scientists have been quick to accept tilting dispensers because they offer speed and convenience. Now here's a new dispenser with versatility and which saves you money, too!

Versatility because Kontes K-75920 dispensers have an exclusive adjustable plunger in the chambers, permitting a range of volumes from each chamber. It saves you money because you need buy only one to get a wide range of volumes.

**K-75920 Dispenser, Tilting**

	SIZE		
	A	B	C
Range, ml.	0-3.4	0-15	0-27
Reproducibility, ml.	$\pm 0.05$	$\pm 0.25$	$\pm 0.25$
Each	\$24.50	\$29.50	\$36.25

These products and approximately 200 others are completely described in a new Bulletin—TC-4. Write for your free copy.

(Patent applied for)

\*Viton is a Du Pont Trademark.

**KONTES GLASS COMPANY**

Vineland, New Jersey



Set and adjust volumes with movable plunger. Viton® "O" Ring holds plunger in position.

