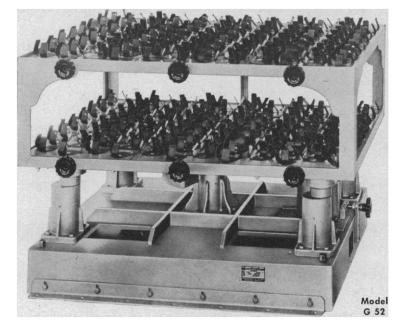


GYROTORY® TIER SHAKER

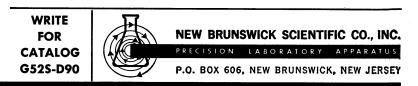
Powerful, Large Capacity Rotary Shaker Precision Built for Continuous Duty

This double tier shaker accommodates large numbers of various size flasks on 6 removable trays. Trays lock into a sturdy steel shaking frame which is uniformly rotated to describe a 2" circle. A continuously adjustable speed range of 150 to 300 rpm is achieved mechanically without variation. Heavy duty, 5-eccentric-shaft stabilizing system assures smooth, positive, reproducible agitation.

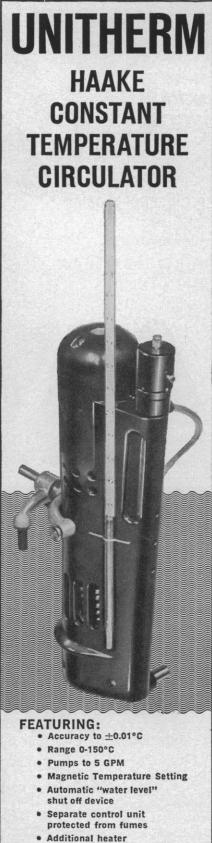
This massive laboratory workhorse can handle extremely heavy loads under continuous operation. Other models are available with 1, 3, and 4 tiers, for bottles, jugs and other containers. Multiple tier shakers are also available with reciprocating motion.



Overall Dimensions 51" long x 40" wide x 35" high



9 DECEMBER 1960



- Additional heater may be connected
- Cooling coil
- · Cooling coll
- Suitable for open tank or closed circuit pumping.
- SEND FOR COMPLETE DESCRIPTIVE CATALOG BRINKMANN Brinkmann Instruments, Inc., Cutter Mill Road, Great Neck, L. I., N. Y.

New Products

The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither Science nor the writer assumes responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to the manufacturer. Include the department number in your inquiry.

■ HIGH-VACUUM PUMPING STATION switches automatically from roughing setting to high-vacuum setting upon reaching a predetermined pressure. The 4-in. system is said to achieve pumpdown to 5×10^{-6} mm-Hg in less than 35 sec and ultimate pressure less than 5×10^{-7} mm-Hg. Manual control is also provided. (Veeco Vacuum Corp., Dept. Sci951, Terminal Drive, Plainview, N.Y.)

• TURBIDIMETER of Wagner type determines the fineness of Portland cement. Included is all apparatus needed in the test as specified by ASTM. Included are photoelectric cell, approximately collimated light source, timing burette and stand, microammeter, wet screening assembly, sedimentation tanks, flasks, test tubes, and a stirring apparatus. (Soiltest, Inc., Dept. Sci953, 4711 W. North Ave., Chicago 39, Ill.)

• THERMOCOUPLE for measurement of surface temperature is said to have a response time less than 10 μ sec. Thinribbon thermocouple wire and mica insulation 0.002 in. thick are used. Sensing tip extension up to 4 in. permits access through thick container walls. Operating temperature range for continuous service is 2000°F and operating pressure ranges to 25,000 lb/in.² Models are available in all standard thermocouple elements. (Nanmac Corp., Dept. Sci954, P.O. Box 8, Indian Head, Md.)

■ PROXIMITY SWITCH responds to any metal part that remains within range of the pickup for 50 msec or more. Input is 117 volts, 50 to 60 cy/sec at 15 watts; output is a single-pole, double-throw relay rated at 5 amp, noninductive. A sensitivity control permits adjustment of operating range. Size is 6 by 8 by 4 in. (Electro Products Laboratories, Inc., Dept. Sci961, 4500 N. Ravenswood Ave., Chicago 40, Ill.)

■ DECADE COUNTER element provides digital display of 1½ in. numerals, zero through nine, said to be readable at 30 ft. Counting rate is 100 kcy/sec. Power requirements are 12 volts d-c at 240 ma and 20 volts d-c at 10 ma. Triggering pulse may be positive or negative (4 volts minimum, 12 volts maximum). Output impedance is 330 ohms. The elements, measuring 2¾ by 1½ by 8½ in., can be combined as a preset counter. (Telemetrics, Inc., Dept. Sci962, 12927 S. Budlong Ave., Gardena, Calif.) ■ PROGRAMMED CALIBRATION SUPPLY delivers preselected calibration voltages over the range 0 to 10 volts from a constant-impedance output of 10 ohms. Absolute accuracy is said to be better than ± 0.01 percent for line voltage variations of ± 10 percent over the temperature range from 40° to 125°F; tracking accuracy better than ± 0.005 percent; and 30-day stability better than ± 0.005 percent. Selection of 10 programmed voltages is provided by mercury contactors. (Owen Laboratories, Inc., Dept. Sci955, 55 Beacon Place Pasadena, Calif.)

■ EPOXY ADHESIVES are offered in small packages for mixing and using in small quantities without waste. The packages are small plastic containers each holding a premetered quantity of adhesive and catalyst. Types offered are metal-to-metal adhesive, glass-toceramic bonding adhesive and Teflon treating agent. (Plastic Associates, Dept. Sci964, 2900 S. Coast Ave., Laguna Beach, Calif.)

■ BEARING ANALYZER, for nondestructive inspection of ball and roller bearings, operates on the basis of vibrations produced by the rotating bearing. Indication is provided by a meter, a cathode-ray-tube display, and a loudspeaker. Average test time is said to be less than 30 sec. Bearings from ½ in. to 10 in. outside diameter are accommodated. (Bearing Inspection, Inc., Dept. Sci965, 3311 E. Gage Ave., Huntington Park, Calif.)

■ GROUND DETECTOR senses the presence of a ground in isolated a-c systems used in anesthetizing areas. Both visible and audible warnings are given. The detector is housed in a single ventilated enclosure that may be located for best access. Units are said to conform to the 60,000 ohm capacitive reactance specification recommended by the National Electrical Code. (Custom Control & Manufacturing Co., Dept. Sci958, P.O. Box 291, Buena Park, Calif.)

• LOW-NOISE AMPLIFIER has a nominal band width of 0.1 cy to 320 kcy/sec, adjustable in steps. Gain is adjustable in 3-db steps from 100 to 10,000. Noise developed with input shorted is less than that developed across a 1000-ohm resistor at room temperature. Noise at full band width is less than 3 μ v; it drops to 1.5 μ v at 80 kcy/sec band width. Hum is less than 0.25 μ v, distortion less than 0.5 percent. Maximum output is 30 volts (peak). Output impedance is less than 100 ohms. (Electronic Instruments, Dept. Sci957, 1130 Mission St., South Pasadena, Calif.)

JOSHUA STERN National Bureau of Standards, Washington, D.C.

SCIENCE, VOL. 132

WATER AND AGRICULTURE

A symposium presented at the AAAS Washington Meeting, December 1958. Published June 1960.

Roy D. Hockensmith, Editor 6 x 9, 206 pp., 21 illus., cloth \$5.00 AAAS members' cash orders, \$4.50

CONTENTS

Water for the future: E. A. Ackerman, C. A. Davis, C. B. Brown, and R. L. Nace

Water sources: W. C. Ackermann, H. T. Orville, C. H. M. Van Bavel, and G. L. Barger

Water planning and use: C. H. Wadleigh, H. C. Storey, W. D. Criddle, and W. I. Palmer

Water control: T. W. Edminster, F. L. Timmons, D. L. Klingman, G. E. Harbeck, Jr., and C. B. Tanner

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POSITIONS WANTED **Biologist, Ph.D.;** 7 years' college teaching experience. Seeks teaching position, preferably with research opportunity. Box 221, SCIENCE. X

Employed Reporter Editorial Assistant available after 1 January 1961. Education included botany B.A. and journalism, now assistant to editor of 7000 circulation horticultural monthly and have had newspaper science reporting experience. Will-ing to relocate. Résumé or particulars from Al-vin Miller, 71 Claremont Ave., Arlington Heights, Mass. 12/16, 23

Research Biochemist; Ph.D. organic chemistry 1948, woman. Experience proteins, amino acids, estrogens, chromatography, and so forth. Inter-ested in cellular metabolism. Seeks position in California. Box 216, SCIENCE. 12/9

9 DECEMBER 1960

POSITIONS WANTED

(a) Bacteriology Ph.D., biochemistry minor; 5 years microbiology group leader with drug firm; available for science information or research-de-velopment appointment. (b) D.V.M.-Ph.D. Blo-chemistry-Nutritlon major; 4 years of chemistry college teaching; interested in clinical or agri-cultural chemistry teaching and research or pharmaceutical position. Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago.

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A challenging position is open on our expanding research staff for a man with a Ph.D. in Biophysics and experience in Physiology to conduct investigations in cellular membrane structure, and nerve conduction.

This position offers an opportunity to use initiative and creative ability on interesting and varied programs.

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Department of Botany Applications are invited for the post of Lec-turer, or Assistant Professor, depending on qualifications and experience (salary ranges \$5500 to \$6500 and \$6500 to \$8500, respectively), for teaching and research in the general field of genetics with particular emphasis on cytogenetics. The appointment will date from 1 July 1961. Applications, together with the name of two referees, should be sent to Professor C. J. Hickman, Head, Department of Botany, Uni-versity of Western Ontario, London, Ontario, from whom further information can be ob-tained. 12/9

tained. 12/9 (a) Organic Chemist; young Ph.D. to establish, develop basic research program in polyamino acids; superior facilities, faculty appointment if desired; government research laboratory; Mid-south. (b) Biochemist, Ph.D. preferred to head very busy laboratory, new pathologist to take over January 1961; 700-bed voluntary hospital; South-west; to \$10,000. (c) Bacteriologist; M.S., clinical experience required; 350-bed general hospital all new facilities; \$6000; beautiful California coastal city. (d) Laboratory Director; qualified chemist experienced pharmaceutical, toxicological labora-tory to head this phase, statewide public health laboratory; major responsibilities testing, labeling of toxic household substances; excellent oppor-unities qualified administrator; Midwest. (e) Bacteriologists; opportunity for new graduates, state board of health laboratory; state capital, Northwest. (f) Pharmacologist; M.D., Ph.D., car-diovascular drug screening program; also (g) Bio-chemist; Ph.D. experienced enzymes, enzyme metabolism, allergy related; to \$13,000 for both; prominent eastern company. (h) Chemist; M.S. for research position, chromatography of amino acids, enzyme studies; outstanding southwestern teach-ing hospital. (i) Bacteriologist; B.S., M.D., to head very busy department, 500-bed general hos-pital; \$6000 up; midwestern city 250,000. Science Division, Woodward Medical Bureau, Ann Wood-ward, Director, 185 North Wabash, Chicago. X

POSITIONS OPEN

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Opportunity for B.S. or M.S., male, with 1 to 3 years' experience in research group studying the metabolism of tumors. Enzy-mology experience desirable but not essential. Send résumé to

Box 213, SCIENCE

Botanist technician with thorough knowledge of plant microtechnique methods for preparation of slides and to qualify as assistant laboratory di-rector. Experience in large-scale slide preparation essential. Starting annual salary \$7000 to \$8500, depending upon training and experience. Gener-ous employee benefits include company-paid life insurance and retirement pension. All applicants held confidential. Write to President, General Biological Supply House (Turtox Products), 8200 South Hoyne Avenue, Chicago 20, Illinois. 12/9

DROSOPHILA TECHNICIAN

Must be experienced. Knowledge of *Drosophila* genetics and terminology essential. Knowledge of histological and salivary gland techniques help-ful but not essential. Location is Chapel Hill, North Carolina. Salary open, commensurate with experience and ability.

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Gas Chromatographer. Physical-Organic Chemist, recent graduate, B.Sc. or M.Sc., to operate high-temperature gas chro-matograph. Successful applicant will receive training in use and application to biochemical and organic problems. Apply to Dr. Neal McNiven, Worcester Foun-dation for Experimental Biology, Shrews-bury, Mass. bury. Mass.

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Write Dr. R. E. Olson, Chairman, Department of Biochemistry and Nutrition, Graduate School of Public Health, University of Pittsburgh, Pitts-burgh 13, Pa. 12/9, 16

(a) Group Leaders with intensive pharmaceutical chemistry experience to organize and implement new research programs for diversified drug firm; over \$12,000; East. (b) Energy Cost and Pulmo-mary Function Research Scientist for large chronic disease and rehabilitation hospital; East. (c) Vi-pologist for human virus disease studies, inde-pendent research, and teaching at medical school; to \$10,000; South. (d) Head of Pharmaceutical R&D Laboratory of drug manufacturer; salary open for highly qualified scientist; East. (e) Bio-chemist to serve hospitals and private laboratories of pathology group; \$9000-\$12,000; California. (f) Pharmacologist to establish new information serv-ice for physicians and colleges; freedom of ini-tiative, liaison duties, organizational ability needed for exceptional career appointment; East. (g) En-vironmental Health Chief for active health de-partment with university affiliation; around \$10, 000; Midwest. (h) Senior Research Virologist to conduct virial chemotherapy research and direct unit with several junior scientists of large drug firm; \$10,000-\$15,000; East. (i) Physiologist/Neu-rophysiologist to conduct advanced research at leading university; \$9000-\$11,000; South. (j) Bio-chamist for cardiovascular disease research for Arimal Physiologist for radiation research pro-gram; West. (l) Pharmacologist for cardiovascu-lar research at large hospital and medical school with limited seminar teaching; \$10,000-\$12,000; East. (Please write for details; also many other positions available through our nationwide serv-ice.) S12-2 Medical Bureau, Inc., Science Division, Burneice Larson, Chairman, 900 North Michigan Avenue, Chicago. X (a) Group Leaders with intensive pharmaceutical

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University appointment as assistant professor of physiology-biophysics, salary dependent on quali-fications, \$6000 minimum. Good opportunity for research. Teaching duties not excessive. Apply Dr. C. B. Weld, Head, Department of Physiology, Faculty of Medicine, Dalhousie University, Hali-for Concedent fax. Canada. 12/9

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Applicants with experience in any of the follow-ing fields of Medicine-Epidemiology, Internal Medicine, Occupational Health and Medicine, Pathology, Preventive Medicine, Public Health; directs research in the field of infectious diseases including (a) developing and assessing prophy-lactic, diagnostic, and therapeutic measures; (b) laboratory and clinical investigations of diseases; and (c) investigations to elucidate the pathology of diseases and to identify the fundamental host-organism relationships; salary \$13,730 per an-num; vacancy will be filled in accordance with Federal Government competitive appointment procedures. Send resume to: Civilian Personnel Officer, Chemical Corps Biological Laboratories, Fort Detrick, Frederick, Maryland.

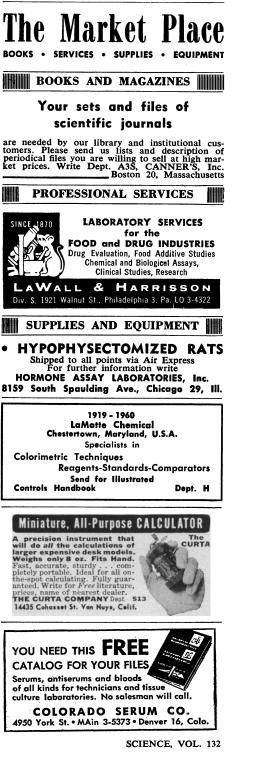
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GET YOUR ADVANCE COPY of the General Program of the AAAS New York Meeting by first class mail – early in December

The General Program of the 127th Meeting of the AAAS in New York, 26–31 December 1960, will be available to you, at cost, within the first week in December–whether you can attend the Meeting or not.

Program Content

- The two-session AAAS General Symposium, "Moving Frontiers of Science V"-Speakers: Edward Anders, H. W. Magoun, George Wald, and H. H. Goldstine; Thomas Park, presiding.
- 2. The "Challenge to Science" evening with Sir Charles P. Snow, Theodore M. Hesburgh, and W. O. Baker; Warren Weaver, presiding.
- 3. On "AAAS Day," the three broad, interdisciplinary symposia-Plasma: Fourth State of Matter; Life under Extreme Conditions; and Urban Renewal and Development, arranged by AAAS Sections jointly.
- 4. The Special Sessions: AAAS Presidential Address and Reception; Joint Address of Sigma Xi and Phi Beta Kappa by Polykarp Kusch; the Tau Beta Pi Address; National Geographic Society Illustrated Lecture; and the first George Sarton Memorial Address by René Dubos.
- 5. The programs of all 18 AAAS Sections (specialized symposia and contributed papers).
- 6. The programs of the national meetings of the American Astronomical Society, American Nature Study Society, American Society of Zoologists, History of Science Society, National Association of Biology Teachers, Scientific Research Society of America, Sigma Delta Epsilon, Society for General Systems Research, Society for the Study of Evolution, Society for the History of Technology,

Society of Systematic Zoology, and the Society of the Sigma Xi.

- 7. The multi-sessioned special programs of the American Association of Clinical Chemists, American Astronautical Society, American Geophysical Union, American Physiological Society, American Psychiatric Association, American Society of Criminology, Association of American Geographers, Ecological Society of America, Mycological Society of America, National Science Teachers Association, New York Academy of Sciences-and still others, a total of some 90 participating organizations.
- 8. The four-session program of the Conference on Scientific Communication: The Sciences in Communist China, cosponsored by the AAAS, NSF, and ten societies.
- 9. The sessions of the Academy Conference, the Conference on Scientific Manpower, and the conference of the American Council on Women in Science.
- 10. The sessions of the AAAS Cooperative Committee on the Teaching of Science and Mathematics, and of the AAAS Committee on Science in the Promotion of Human Welfare.
- 11. Titles of the latest foreign and domestic scientific films to be shown in the AAAS Science Theatre.
- 12. Exhibitors in the 1960 Annual Exposition of Science and Industry-103 booths-and descriptions of their exhibits.

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