

ANNOUNCING THE ONLY EXPLOSION-PROOF BLENDOR



New WARING LABORATORY BLENDOR BASE for use in HAZARDOUS LOCATIONS

Wherever hazardous lab atmospheres exist, you can safely blend materials at high speed—even on your toughest research and development projects. This new Waring Laboratory Blendor provides the protection of a 1/5 hp explosion-proof GE motor which carries a Class 1—Group D rating. Two speed explosion-proof switch also available.

The Waring explosion-proof base (Model EP-1) accommodates the standard 37½ oz. Pyrex container. Same capacity stainless steel container Model SS-510 (pictured) comes with lid and stainless steel cutting assembly; meets every requirement of the severest lab service.

Blend fast . . . blend thoroughly . . . blend *safely*. When you invest in a Waring Explosion-Proof Blendor Base, you can be sure you have the ultimate in the elimination of laboratory fire hazards.

WARING PRODUCTS CORPORATION

25 West 43rd St., New York 36, N. Y.
Subsidiary of Dynamics Corporation of America



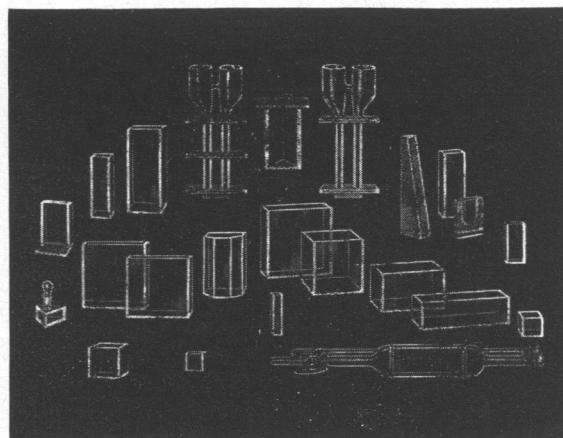
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GENTLEMEN:

I want full specification data on the new Explosion-Proof Waring Laboratory Blendor Base.

NAME _____
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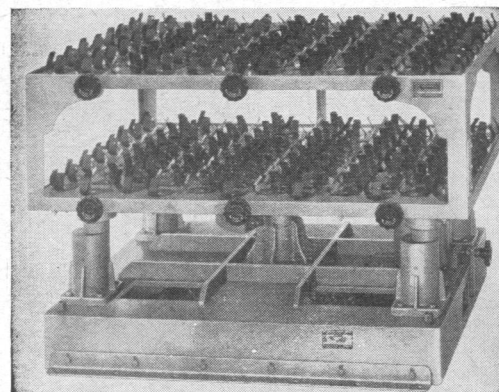


SCIENTIFIC APPARATUS
Klett-Summerson Photoelectric Colorimeters—
Colorimeters — Nephelometers — Fluorimeters—
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Klett Manufacturing Co.
179 East 87 Street, New York, New York

GYROTORY® SHAKER

MODEL
G52



Large Capacity, Powerful Rotary Shaker
Precision Built for Continuous Duty

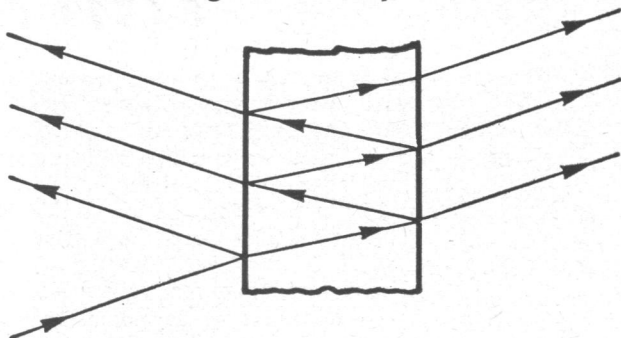
- Variable speeds of 150-350 rpm, with 2" stroke.
- Heavy duty, 5 eccentric shaft stabilizing system.
- Positive, uniform shaking to ALL flasks.
- Continuous, quiet, cool and dependable operation.
- Holds a variety of flasks on 6 removable trays.
- Other model available with reciprocating motion.



Write for Catalog G52-S030
NEW BRUNSWICK SCIENTIFIC CO., INC.
PRECISION LABORATORY APPARATUS
P.O. BOX 606, NEW BRUNSWICK, NEW JERSEY

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for isolating narrow spectral bands



Spectral Range: 340-900 millimicrons

Peak Transmission: 40%

Half Peak Width: 8-12m μ

Size: 2" x 2"

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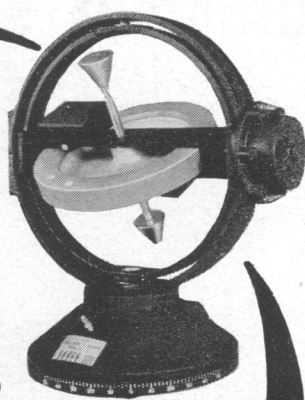
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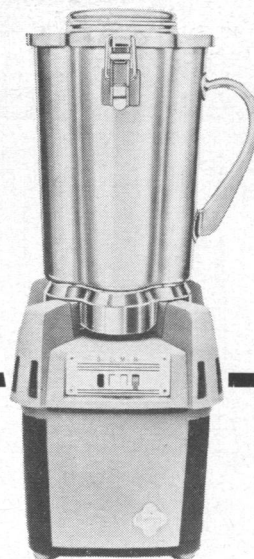
INTRODUCING...

THE **IMPROVED**
GALLON-SIZE

WARING BLENDOR®

(MODEL CB-4)

WITH NEW
POWER AND
EXTRAORDINARY
PERFORMANCE



Greater motor power, torque and amperage, plus an increased RPM range make Waring's newest, large capacity Blender more valuable than ever in the lab. It does hundreds of diverse mixing, grinding and blending jobs with liquids or solids. Examples: macerating plant material, pulping wood fibers, mixing heavy paint pigments, and preparing dispersions, emulsions, polymers and slurries. *And most operations take only seconds!* Of special importance is the fact that this improved CB-4 model *will not overheat* over prolonged periods of use.

NAME YOUR BLENDING PROBLEM.

Waring engineers will gladly help you solve it.

CHECK THESE ADVANTAGEOUS SPECIFICATIONS:

Mixing capacity: One full gallon.

Revolutions per minute: (free running) low 14,000; medium 17,000; high 19,000.

Motor: 115 volts—60 cycles—single phase—AC only—15 amps.

Switch settings: Off, Low, Medium, High.

Container: Stainless steel with stainless steel blades and handle

—two-piece clamp-on splash cover with sealing gasket and stainless steel cover for sampling and adding ingredients.

Cord: 7 foot—14 gauge. Three conductor ground cord with strain relief bushing in base.

Overall height: 23 inches.

Weight: 36 lbs. net. Shipping weight 40 lbs.



*Underwriters' Laboratories Approval
Canadian Standards Association Approved*

NOW AVAILABLE SEPARATELY—37½ oz. stainless steel container that withstands rough handling. For standard Waring Blender.

WARING PRODUCTS CORPORATION

25 West 43rd St., New York 36, N. Y.
Subsidiary of Dynamics Corporation of America



**MAIL THE
COUPON**

GENTLEMEN:

*Send me specifications on the improved
Gallon-Size Waring Laboratory Blender.*

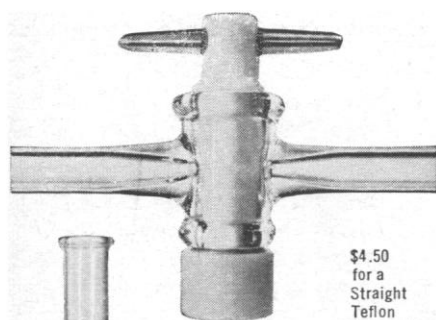
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\$4.50
for a
Straight
Teflon
Stopcock,
Size 2A,
K-81100

\$7.05 for a Laboratory Grade Burette,
10 ml., K-35178

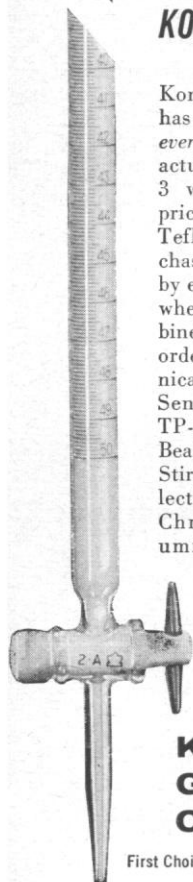
Not illustrated—\$14.80 for a Separatory
Funnel with Teflon Stopcock,
125 ml., K-63353

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enthusiasm for
Teflon products?*

*Check these low
KONTES prices!*

Kontes, the company that has made Teflon products *everyday* laboratory items, actually saves you money 3 ways: by lower unit prices, by discounts when Teflon items are purchased in quantity, and by even greater discounts when these items are combined with your regular orders for Kontes Technical Glassware.

Send for free Bulletin TP-1 describing Teflon Beakers, Burettes, Dishes, Stirrer Blades, Gas Collecting Tubes, Pipettes, Chromatographic Columns, Funnels, Stopcocks, Stoppers.



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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 Science, Room 740, 11 West 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).

■ **STANDING-WAVE INDICATOR** for measurement of voltage-standing-wave ratio and reflection-coefficient angle operates by means of a probe rotating in the plane of circular polarization of a waveguide. A low-power broad-band model is designed for laboratory applications; a high-power, 12-percent bandwidth unit operates in the kilowatt and megawatt ranges. Insertion length is 10 in. (Polytechnic Research and Development Co., Dept. 155)

■ **MICRODOSIMETER SYSTEM**, for measurement of x-ray and γ radiation, is composed of a detector and a reader. The detector is a cylindrical rod, 1 by 6 mm, of silver-activated phosphate glass. The reader is a special fluorimeter designed to measure change in fluorescence caused in the detector rods by high-energy radiation. Range is 10 to 10,000 rad. (Bausch & Lomb Optical Co., Dept. 171)

■ **VOLTMETER** measures a-c or d-c voltages from 1 mv to 1000 v (full scale) in 14 ranges, and resistance from 10 ohm to 10 megohm in 7 decade ranges. Accuracy is said to be better than ± 1 percent on direct current; ± 2 percent from 20 cy to 100 kcy/sec; and ± 5 percent from 10 cy to 1 Mcy/sec. A scale-expansion feature permits the upper 10 percent or 1 percent d-c voltage to cover the full meter scale. (Southwestern Industrial Electronics Co., Dept. 175)

■ **AIR OPERATED PUMP**, for application where electrical power is not available or where its use is undesirable, develops liquid pressures up to 50,000 lb/in.² (gage) at temperatures up to 500°F. Operation requires air at a maximum pressure of 100 lb/in.² (gage). Suction as well as pressure is provided. Various packings are available. (American Instrument Co., Dept. 170)

■ **REFRIGERATOR-FILTER** is designed to safeguard pneumatically operated equipment, in locations where cooling water is not available, by removing moisture, oil, and contaminants. The unit lowers dewpoint to approximately 35°F at pressure. Condensed moisture and other entrained liquids are removed by filter. Capacity is 100 standard ft³/min at 100 lb/in.² (gage) and 100°F. (Hankison Corp., Dept. 185)

■ **CONTROLLED RECTIFIER** is a three-junction silicon device capable of switching rapidly (in the order of microseconds) to a conducting state either when a signal is applied to its third (gate) terminal or when its critical forward breakover voltage is exceeded. After firing, the device exhibits forward voltage drop of approximately 1.5 volts at 25°C. Current ratings are up to 10 amp (av.), and inverse-voltage ratings range from 20 to 200 volts. Leakage currents are 12 ma in both directions. (International Rectifier Corp., Dept. 180)

■ **PLASTIC DEFLECTION TESTER** indicates deflection of thermoplastics subjected to various loads and temperatures in accordance with ASTM test D648-56. Four samples can be tested simultaneously, deflection being indicated on dials mounted on the specimen holders. Bath temperature can be increased at a rate of 2°C/min from ambient temperature to 260°C, or it can be maintained constant at any point in this range. (American Instrument Co., Dept. 176)

■ **SAMPLE CHANGER** for assay of radioactive samples in liquid solution accommodates 50, 5-ml glass or plastic sample vials in a circular turntable. Samples are grasped for transport by a magnet acting on nickel-plated steel vial caps. The sample is automatically inserted into the well of a shielded scintillation detector, counted, and removed to a storage rack. Cycling may be continuous or may be terminated after one, two, or three cycles. (Tracerlab-Keleket, Dept. 177)

■ **DIGITAL TRANSDUCER** for process variables employs a mechanical force amplifier, actuated by standard measuring elements, to position the shaft of an analog-to-digital converter. Instruments are available for pressure ranges to 10,000 lb/in.², temperature to 600°F, and with mercury- or bellows-type manometers for applications to liquid level or flow. Accuracy is said to be ± 1.0 percent of span. (American Meter Co., Dept. 179)

■ **SERVOANALYZER** covers the frequency range 0.25 to 100 cy/sec in one model and 0.0008 to 100 cy/sec in another. Frequency stability is ± 1.0 percent. Output waveforms include sine wave (20 volts peak-to-peak); modulated sine wave; square wave (20 volts peak-to-peak); trigger pulse. The cathode-follower output is provided with a 100-to-1 attenuator. Phase is measured ± 180 deg. An internal carrier source furnishes 5000 cy/sec. (Aetna Electronics Corp., Dept. 184)

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

GET YOUR ADVANCE COPY

of the General Program of the AAAS Chicago Meeting

by first class mail – early in December

The General Program of the 126th Meeting of the AAAS in Chicago, 26-31 Dec., 1959, will be available to you within the first week in December—whether you can attend the Meeting or not.

Effective this year, the former General Program-Directory, which had become an unwieldy book of more than 400 pages, has been separated into *two* publications, namely:

- a) The Directory of AAAS Officers and Activities, 96 pp., already published; and
- b) The General Program of the Annual Meeting, c. 200 pp., which will appear early in December

Both of these, sold at cost, may be purchased separately—in advance (see coupon below), or at the meeting. Some of their *respective* contents are:

The General Program

1. The two-session general symposium "Moving Frontiers of Science IV," arranged by the Committee on AAAS Meetings.
2. Programs of the 18 AAAS sections (symposia and contributed papers).
3. Programs of the more than 80 participating societies.
4. Sessions of the Conference on Scientific Communication, Conference on Scientific Manpower, and the Academy Conference.
5. The Special Sessions: AAAS Address and Reception, National Geographic Society, Phi Beta Kappa, Sigma Xi, RESA, Tau Beta Pi Association.
6. Details of the Morrison Hotel—center of the Meeting—and of the other session sites.
7. Titles of the latest foreign and domestic scientific films to be shown in the AAAS Science Theatre.
8. Exhibitors in the 1959 Annual Exposition of Science and Industry and descriptions of their exhibits.

The Directory

1. AAAS officers, staff, committees, for 1959.
2. Section committees and other AAAS Council members.
3. The 285 affiliated organizations.
4. Historical sketch and organization of the Association.
5. Complete roll of AAAS presidents and their fields.
6. Publications of the Association, including all symposium volumes.
7. AAAS Awards—including all past winners.
8. Future Meetings of the AAAS through 1963.
9. New and current activities of the AAAS.
10. Constitution and Bylaws.

Advance Registration

Advance registration has these decided advantages: 1) You avoid delay at the Registration Center upon arrival; 2) You receive the General Program in ample time to decide, unhurriedly, which events and sessions you particularly wish to attend; 3) Your name is posted in the Visible Directory as the Meeting opens.

The following coupon may be used both by advance registrants and by those who wish only the advance copy of the General Program; the Directory may also be ordered.

—THIS IS YOUR COUPON FOR AN ADVANCE COPY OF THE GENERAL PROGRAM— (AND FOR THE DIRECTORY, IF ALSO DESIRED)

- 1a. ☐ Enclosed is \$3.00 for my advance Registration Fee which brings me the General Program, Convention Badge, and all privileges of the Meeting.
- 1b. ☐ Enclosed is \$2.00 for only the General Program. (It is understood that, if I should attend the Meeting later, the Badge—necessary for the privileges of the Meeting—will be secured for \$1.00 more.)
(Check 1a or 1b)
- 1c. ☐ Enclosed is \$1.00 for the Directory of AAAS Officers and Activities to be sent now.

Total amount enclosed \$

2. FULL NAME (Dr., Miss, etc.)
(Please print or typewrite) (Last) (First) (Initial)
ACADEMIC, PROFESSIONAL, OR
BUSINESS CONNECTION

4. OFFICE OR HOME ADDRESS
(For receipt of General Program and/or Directory)

5. FIELD OF INTEREST

6. CONVENTION ADDRESS
(May be added later, after arrival)

Please mail this Coupon and your check or money order for the total amount to the
AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
1515 Massachusetts Avenue, NW, Washington 5, D.C.

Kodak reports on:

microfilming brought down to the scientist's level... the restraining effect of our inhibitions... keeping the columns packed

Less than a laundry



Our subsidiary, Recordak Corporation, has recently come out with a portable microfilmer that weighs only 24 pounds and lists for only \$845. If you fail to grasp what this has to do with science, we are wracked by ambivalent feelings toward you. On the one hand, we feel extra respectful in your presence; a mind so obviously unaccustomed to seek solace in gadgetry is scarce. At the same time, we want to turn you gently toward the light. Certainly you're not the type to seek your solace in paper-shuffling, but you have to prove that, if only to yourself.

Think for a moment like that fabled monster, the efficiency expert. His baleful eye casts about for concentrations of paper. When he sees information being extracted from one pile of papers for summary on yet another piece of paper, his mouth waters. When he sees some poor soul toiling at a task that could go undone but for the necessity of preserving proof of the finer details, he pounces. Our subsidiary, Recordak Corporation, watches from the bushes and purrs benevolently. Get the picture?

It all began in banks a generation ago, spread to department stores and phone companies, and in the last decade has reached enterprises like dry-cleaning establishments, dairies, and medical clinics. Now the idea of microfilming while summarizing has been brought down to the scientist's level. The Recordak Portable Microfilmer is of the right scale in size and cost for work of lesser magnitude (from Recordak's special viewpoint) than getting out the monthly statements of a prosperous laundry.

Documents are fed into the machine face up and returned face down in their original sequence. They are freed for other use, or they can be dumped and yet remain retrievable. They can be up to 12 inches wide and of any length. Reduction ratio is 20:1. Forty-six 8½" x 11" sheets can be microfilmed in a minute, smaller documents proportionally faster. Two 100-foot rolls of film can be exposed simultaneously to the same subject matter. Film units are readily removable so that "one subject" records can be kept separate even though

microfilming be done intermittently.

Recordak Corporation, 415 Madison Avenue, New York 17, N. Y., has a nation-wide chain of branch offices and processing stations. It is just possible that your problem will remind the salesman of one he solved for the wholesale chicken business and that he will take you out and show you how it works there.

Color for facts, not kicks

If we wanted to, we could in good conscience call "S.O. 260" the fastest color film ever made. We don't want to.

There are other reversal color films you can expose on the assumption of an outrageously high index, force-develop, and obtain an image out of. All we're saying is that outrage for outrage, "S.O. 260" loses less in color saturation, maximum density, and fineness of grain than others. This advantage can be so important in data acquisition—flame studies, aerodynamic studies, attitudes of informatively painted flying objects, for example—that we had better not rely on rumor and word of mouth to spread the news of its existence.

This is not intended for the photo-hobbyist who gets his thrills by bragging to his buddies, "I shot this at an Exposure Index of 600."* Wise or foolish, we dislike to see him sacrifice the potentiality of pictorial excellence instead of contriving to put a little more light through his lens. Maybe it's none of our business, but such are our inhibitions. We draw to his attention Kodak High Speed Ektachrome Film, Kodak Ektachrome Film (Process E-3), Kodak Ektachrome Film (Process E-2), and Kodachrome Film, any of which can yield him beautiful and impressive transparencies.

"S.O. 260" currently takes the form of 16mm film with a perforation pitch of .3000" in 100', 200', and 400' lengths and 35mm film of .1870" perforation pitch in 100' and 400' lengths. These are pitches for high speed motion picture cameras. If you recognize that and have a need for data from color changes (changes, not so much the colors themselves) photographed under very unfavorable conditions, initiate an inquiry about "S.O. 260" with Eastman Kodak Company, Photorecording Methods Sales Division, Rochester 4, N. Y. You will be put in touch with the proper parties.

They shall trickle!

Resolved that the chromatographic columns of western civilization shall not stand unpacked for lack of capital to invest in proper acid- and alkaline-purified cellulose ion-exchange adsorbents in full-pound minima, we make you this proposition—

For \$2.75, 10 grams of Cellulose-ECTEOLA (Eastman 7798), useful in fractionation of DNA (J.A.C.S., 80,6223).

For \$4.35, 25 grams of N,N-Diethylaminoethylcellulose ("DEAE-cellulose," Eastman 7392), another anion exchanger recommended for such use.

For \$2.75, 10 grams of Carboxymethyl Cellulose Ether ("CM-cellulose," Eastman 7796), a cation exchanger.

For \$9.85, all three. Now you can afford to be a well-equipped sport. As ethers they are regenerable, even after use with strongly acid or basic solutions.

Send your order, please. We are waiting. Write to Distillation Products Industries, Eastman Organic Chemicals Department, Rochester 3, N. Y. (Division of Eastman Kodak Company). This is also where you write for a copy of Eastman Organic Chemicals, List No. 41, which catalogs some 3700 organic chemicals we have on hand.

*The fastest black-and-white instrumentation film we currently recommend for esoteric conditions of short exposure is often handled on the basis of an Exposure Index of 1600. It comes in 16mm, 35mm, and 70mm widths as Kodak Royal-X Pan Recording Film.

Prices are list and subject to change without notice.

This is another advertisement where Eastman Kodak Company probes at random for mutual interests and occasionally a little revenue from those whose work has something to do with science

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