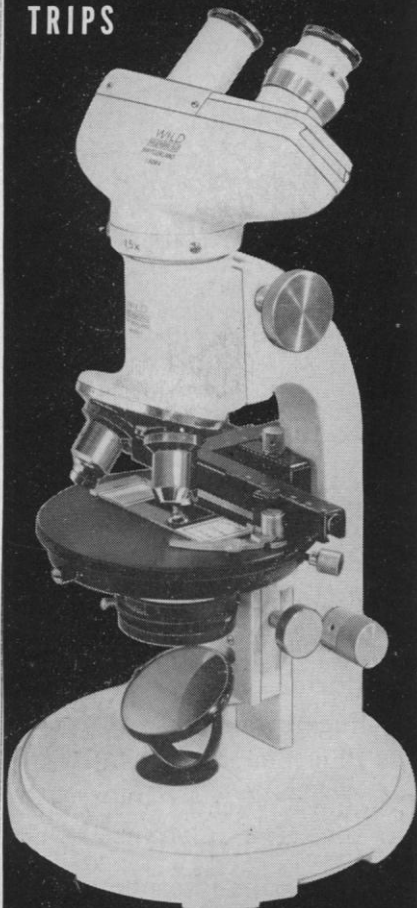


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## EQUIPMENT NEWS

*The information reported here is obtained from manufacturers and from other sources considered to be reliable. Science does not assume responsibility for the accuracy of the information. All inquiries concerning items listed should be addressed to Science, Room 740, 11 W. 42 St., New York 36, N.Y. Include the name(s) of the manufacturer(s) and the department number(s).*

■ **FRACTION COLLECTOR**, manufactured by LKB-Produkter of Sweden, takes 240 tubes directly in one turntable disk or in ten groupings of 24 tubes each. The basic assembly can collect, on a preset-time basis, fractions from one to four columns. Addition of related subunits permits both preset-time and preset-volume collection to be made. Individual racks of 24 tubes can be removed as collection is completed; these racks can then be replaced with racks containing empty tubes. The switches are of sealed mercury type. (Ivan Sorvall, Inc., Dept. S848)

■ **PORTAL RADIATION MONITOR** is designed to fit into a conventional doorway without obstructing traffic. The unit contains separate visual and audible alarms that indicate presence of contamination on the left or right side, head, or feet, of the person passing through the doorway. Gamma and hard beta radiation are detected. Response time is 1 to 2 sec. (Nucleonic Corporation of America, Dept. S849)

■ **RATIOMETER** is capable of measuring a-c voltage ratios between  $10^{-6}$  and 1.111111 with accuracy of 5 per million at unity ratio or 500 per million at a ratio of 100 to 1. Two models provide an overall frequency range of 40 to 2000 cy/sec. The instrument employs an a-c bridge circuit with a variable transformer in the balance arm. A transistorized amplifier feeds the output signal to the deflection plates of an external oscilloscope for null indication. The effects of quadrature and harmonics are eliminated by quadrature-voltage injection and filtering. (Transformers Inc., Dept. S858)

■ **VAN DE GRAAFF ACCELERATOR** produces 1.5 Mv of ionizing radiation at a cost of less than \$20,000 per kilowatt. Power rating is 2.5 kw, but peak power of 4 to 5 kw is obtainable. The generator's electron beam is scanned through a thin aluminum window located 66 in. below the unit's base plate. (High Voltage Engineering Corp., Dept. S861)

■ **COUNTERS** based on magnetic cores and transistors require no auxiliary drivers. They require one voltage supply and consume no stand-by power. Counting can be done to any base; the base can

New  
source calibrator  
gives  
direct readings of  
isotope  
strength

...between  $5\mu\text{c}$   
and 500 mc



SC-56 SOURCE CALIBRATOR provides for dial selection of six radioactive sources and activity range between  $5\mu\text{c}$  and 500 mc for direct readings on  $4\frac{1}{2}$  inch panel meter.

### EASY AS 1-2-3...

1. Select Isotope
2. Set Range
3. Read The Answer

Tracerlab's new SC-56 Source Calibrator speeds and simplifies assay of various liquid or solid radioactive materials.

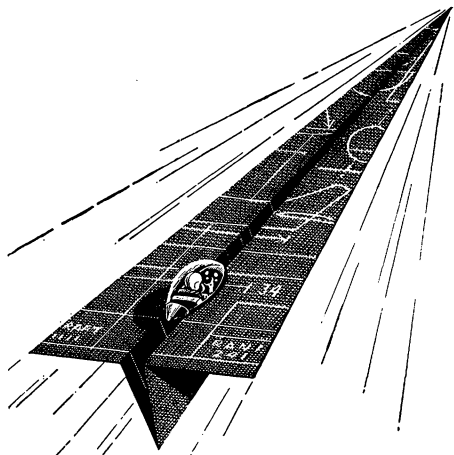
In about 20 seconds, you can determine the activity of Sodium-24, Cobalt-60, Radium, Iron-59, Gold-198 and Iodine-131. Calibration accuracy is  $\pm 5\%$ , based on NBS standards.

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### Kennametal\* could abandon its quest for new materials

A lot of the "New" equipment in the field of aviation has been on the drawingboard for months and even years.

Designers knew how to build it. But they did not have the materials with the necessary properties to do the job. And so these new advances had to wait for the research departments of companies like Kennametal to develop and produce the needed materials.

The same applies to much "new" equipment in other fields where severe abrasion, corrosion, erosion or high temperatures are service hazards, and superior stiffness is required. Engineering imagination has had to wait for engineering materials to catch up.

Kennametal's long-continued research in the field of hard carbides has produced new materials with remarkable combinations of characteristics, that are serving in a wide variety of applications.

Some—like Kentanium, which combines lightness with unusual resistance to high temperatures—are being used for components and for instrumentation in power plants for supersonic flight. Some—like K501—combat destructive combinations of corrosion and abrasion that speedily reduce ordinary materials to an eroded ruin. And some are serving up to 100 times as long as the hardest steel in applications where abrasive action is a problem.

If your brain-child needs a part that is resistive to abrasion, corrosion or high temperatures, or that withstands heavy loads without distortion or deformation, please check on Kennametal. Write KENNAMETAL INC., Dept. S, Latrobe, Pennsylvania.

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24 JANUARY 1958

be changed under high-speed control. Compact forms down to  $\frac{1}{4}$  in.<sup>3</sup> per binary stage or 1 in.<sup>3</sup> per decade stage are available. Operating temperature range is  $-55^{\circ}$  to  $+125^{\circ}\text{C}$ . (Mack Electronics, Dept. S864)

■ **AUTOMATIC FILTER** uses pressure to cut filtration time. The unit consists of two 3.5-lit tanks which may be used independently or together. Pressure is obtained from laboratory supply lines, bottled gas, or a separate compressor. A single regulatory valve sets pressure at a predetermined level within a range from 0 to 125 lb/in<sup>2</sup>. A mercury switch shuts off air pressure when filtration is complete. Surfaces in contact with specimens are stainless steel. (American Hospital Supply Corp., Dept. S866)

■ **LINEAR FORCE MOTOR** is available with strokes to 0.1 in. and force outputs to 2 lb. Accuracy of the relationship between current and force is better than  $\pm 1$  percent. Standard coil resistances from 200 to 4000 ohm, and resonant frequencies from 10 to 100 cy/sec are available. The motors, measuring 2 in. long and  $1\frac{1}{8}$  in. in diameter, can be supplied completely sealed. (Mandrel Industries, Inc., Dept. S868)

■ **MUSCLE POWER AND FATIGABILITY** can be measured by new equipment. Repeated contractions of the leg muscles are induced involuntarily, and the motion of the foot against an adjustable load is recorded. The graph obtained of the individual contractions and the fatigue curve resulting from repeated rhythmic contractions permit detailed analysis of muscle contraction. The average evaluation of both legs takes 30 min. (Medical Development Corporation, Dept. S870)

■ **EVENT RECORDERS**, available in units of up to 32 channels, consist of the manufacturer's 150 series oscillographic recording systems with a four-stylus marker in place of each conventional galvanometer. A series of transistor amplifiers powers the marking channels. Minimum input impedance is 3000 ohm. Rise time of the combination of amplifier and marker is approximately 10 msec. (Sanborn Co., Dept. S871)

■ **MICROCOMBUSTION FURNACE** can be used in the determination of carbon, hydrogen, nitrogen, sulfur, fluorides, and oxygen. Operating-temperature range is  $150^{\circ}$  to  $1130^{\circ}\text{C}$ . The Nichrome heater helix is designed to provide uniform temperature along the entire length of the tube. Heating to  $1125^{\circ}\text{C}$  requires 10 minutes. (Fisher Scientific Co., Dept. S881)

JOSHUA STERN

National Bureau of Standards

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**Extreme sensitivity** — 5 mr for soft x and gamma rays; 10 mr for hard x and gamma rays

**Wide exposure range** — from 5/10 mr to 600R

**Complete coverage**—beta-gamma, x-ray, and neutron film packets are held in one badge

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**Combined film and security badge** — has space for standard  $1\frac{1}{2} \times 2$  identification photo

**Lightweight** — sturdy, moulded plastic badge weighs less than 1 oz.

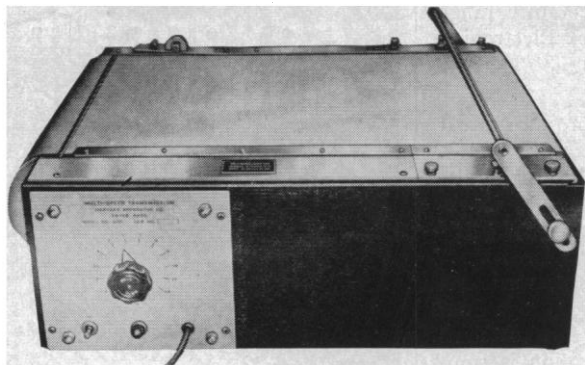
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**A multi-speed, flat-bed chart mover for general non-electronic recording.**

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2-(4-Hydroxybenzeneazo) benzoic acid  
Carbonaphthoxy choline iodide  
6-Bromo-2-naphthyl-beta-D-glucuronide  
Indoxyl acetate  
N-Benzoyl-DL-phenylalanine beta naphthol ester  
L-Leucyl-beta-naphthylamide hydrochloride  
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Thioacetamide  
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2,4,7-Trinitrofluorenone  
2,3,5-Triphenyltetrazolium chloride

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Clinical Physiologist experienced in respiratory physiology; preferably physician, Ph.D. eligible; duties, research teaching at graduate and post-graduate levels; university medical school; new research department, West. (b) Biophysicist or Biochemist, Ph.D., to serve as consultants, research institute specializing in cardiovascular research; plans complete for increasing scope into other research fields, \$10,000-\$12,000; medical center, Midwest. (c) Director of Market Research and Development; former would be responsible for conducting market research on products which are now on the market; latter would be responsible for research on products not as yet on the market; large city, Midwest. (d) Biochemist, full-time research; Florida. S1-4 Medical Bureau, Burneice Larson, Director, 900 North Michigan, Chicago. X

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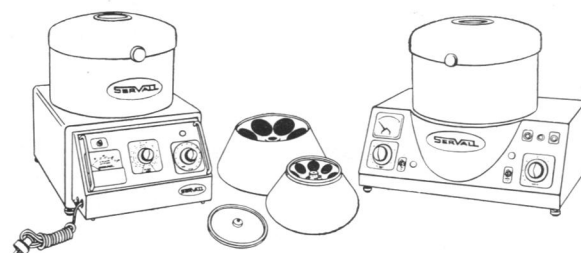
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SERVALL ENCLOSED CENTRIFUGE

SERVALL AUTOMATIC CENTRIFUGE

SERVALL SS-4 ENCLOSED SUPERSPEED CENTRIFUGE has same rotor versatility as SS-3 and same Gyro-Action Drive, but is manually controlled.

Both the SS-3 and SS-4 have the unique SERVALL Noise-Suppression and Dual Cooling Systems, Safety Interlock to break circuit should roto-imbalance occur, Direct-Reading Tachometer—Ammeter, Timer, Remote-Control facility, and Low Silhouette for convenient accessibility.

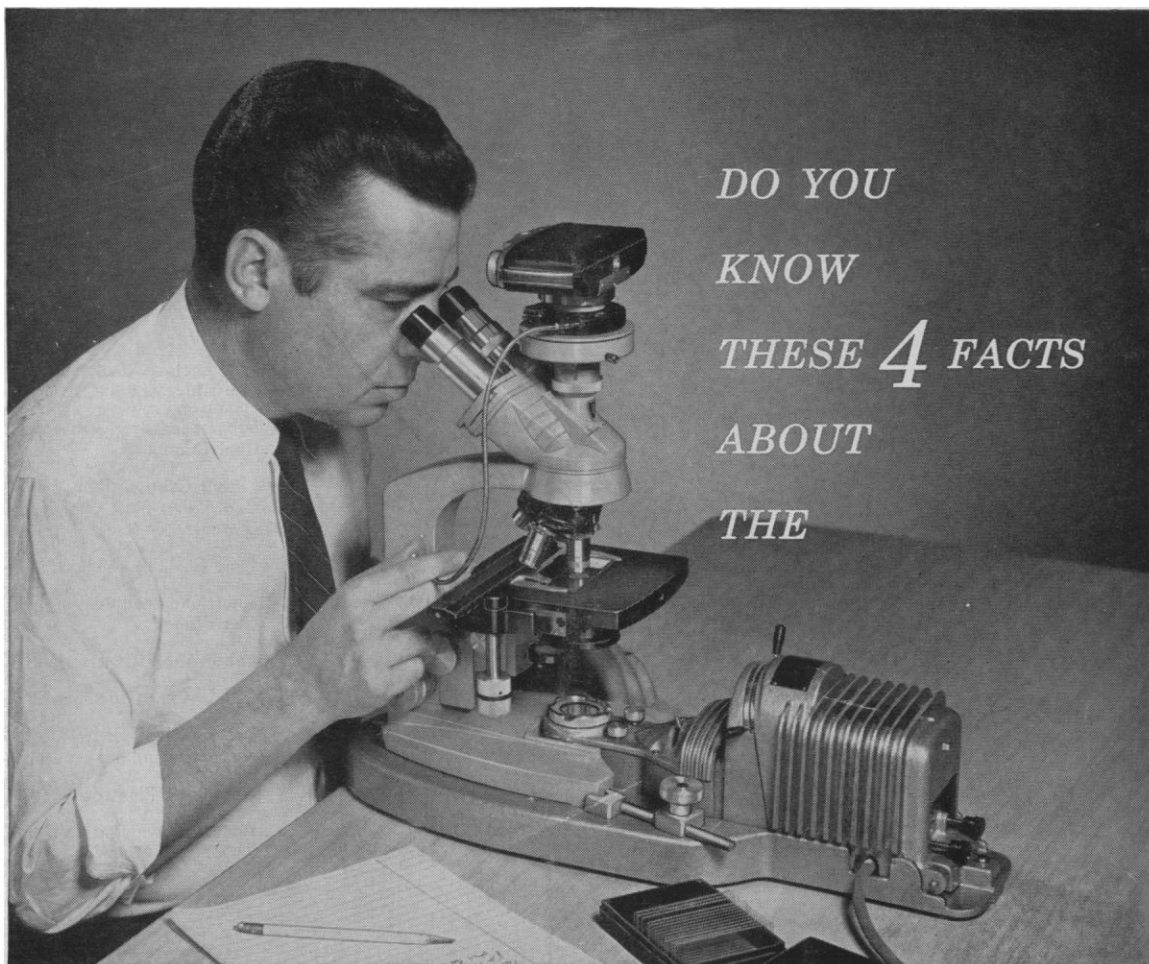
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