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).*

■ DYNAMIC ACCELEROMETER operates from 3 cy/sec to 60 kcy/sec with response ± 6 percent between 5 cy/sec and 40 kcy/sec. Acceleration range is 0.01 to 1000 *g*. Transverse response is within 5 percent. The transducer operates on an electrokinetic principle. A polar liquid, when forced through a porous substance, creates an electric potential across the substance. The response is free from natural resonances. Shocks of 5000 *g* leave the instrument undamaged. (Consolidated Electrodynamics Corp., Dept. S879)

■ ELECTROMAGNETIC FLOWMETER overcomes the requirement for constancy of magnetic field by utilizing a reference voltage proportional to the magnetic field. Comparison of the reference signal with the voltage induced in the flowing liquid provides an actuating signal for operating an indicating servo. Unobstructed-bore metering sections range in diameter from ½ to 8 in. Full-scale range is manually adjustable. Accuracy for flows 0 to 3 ft/sec and above is ± 1 percent. (Fischer and Porter, Dept. S880)

■ CRYSTAL OVEN uses proportional control to maintain temperature constant to 0.1 percent of ambient-temperature change. A temperature-sensitive resistance bridge is used for both heating and temperature sensing. The control point can be preset at any temperature between 10° and 100°C above ambient. An accessory one-tube oscillator controlled by the thermostatted crystal furnishes a 1 Mcy/sec signal stable to ± 1 part in 10^8 per day. (Manson Laboratories Inc., Dept. S895)

■ ELECTRONIC TACHOMETER measures rotational speeds from 0.1 to 10,000 rev/min. Radial lines scribed on a rotating disc interrupt a light beam in the transducer, producing 360 pulses/rev. The pulse rate is indicated on a meter. (Southwestern Industrial Electronics Co., Dept. S896)

■ AUTOMATIC FILM PROCESSOR develops and dries 16-mm film at the rate of up to 10 ft/min. The processor, about the size of a standard file drawer, will handle film lengths from 1 ft to 400 ft without changing or replenishing chemical solutions. After insertion of the first 2 in. in a slot, the film travels automatically through a series of chemical baths.

After leaving the last tank, it enters a drying compartment; when it emerges, it is wound on a roller ready for projection. (Fairchild Camera and Instrument Corp., Dept. S898)

■ COLORIMETRIC TITRATION KIT, for installation in the manufacturer's electronic colorimeter, permits colorimetric titrations to be carried out directly in the instrument. The kit consists of a magnetic stirrer for sample stirring and a hinged lid assembly for introducing a burrette into the cell compartment. (Fisher Scientific Co., Dept. S909)

■ THERMAL RIBBON consists of a resistance element of high-nickel-content alloy wire encased in a flexible outer covering. Less than 0.02 in. thick, the ribbon may be cemented to surfaces to permit detection of surface temperature. Thermal lag is said to be negligible. Self-adhering types are available. (Minco Products, Inc., Dept. S904)

■ INFRARED HEATER of quartz is available in lengths up to 72 in. and in wattages to 6000. Peak emission of infrared radiation occurs at a wavelength of 2.3 μ. (Quartz Products Corp., Dept. S912)

■ ELECTRONIC INTEGRATOR accepts analog voltage signals, digitizes them by a heterodyne technique, and integrates the area under the signal curve by counting at the rate of 10,000 counts per second. The integral can be the total area under the curve, the area above a preselected signal level, or the area under the curve between selected limits. Both the integral and the elapsed time are displayed digitally. (Allegany Instrument Co., Inc., Dept. S897)

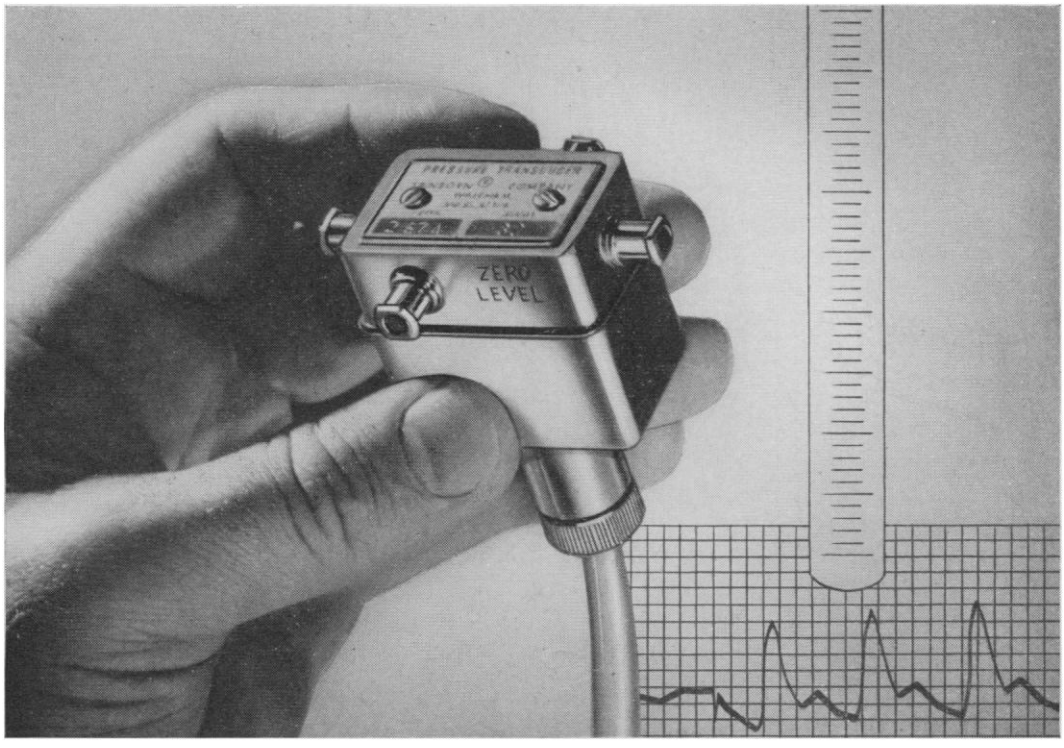
■ SCALER-RATEMETER features a wide choice of slide-out plug-in sections that allow the instrument to be assembled to fit specific needs. Maintenance requires only replacement of faulty units with quickly available modular units. Units include amplifiers for various inputs, binary and decade scales, electromechanical registers, timers, power supplies, ratemeter, chassis, and cabinets. (Nucleonic Corporation of America, Dept. S899)

■ RECORDER provides up to 8 full-scale, 11-inch traces with ± 1 percent accuracy and transient response up to 3000 cy/sec. The record is made on electrosensitive paper which passes between a metal plate and a rotating cylinder carrying a number of helical electrodes. Pulses are applied to the helix at the moment its position with respect to the paper is correct for the signal magnitude being recorded. Paper motion provides the other coordinate. Calibration marks are recorded simultaneously with input signals. Time markers are provided at 1-, 0.1- or 0.0167-sec intervals. Individual channel traces may be coded for identification by varying the width and darkness of traces. (Consolidated Avionics Corp., Dept. S900)

■ TIME COUNTERS are designed to count at rates specifically matched to the rate of heating specified by particular ASTM tests. The counters therefore indicate at all times the temperature which should exist in the conduct of the test. The task of maintaining the prescribed constant rate of increase of temperature thereby reduces to equating the temperature reading to the indicated count. (Apex Scientific Co., Dept. S902)

■ TISSUE HOMOGENIZERS operate hydraulically to permit controlled release of cellular components from various tissues. Complete disruption of nuclei can also be accomplished. Tissue fragments, suspended in buffer, are introduced into the cylinder of the device and are ejected at high velocity through an orifice by a piston. The orifice opening can be varied. (Microchemical Specialties Co., Dept. S903)

JOSHUA STERN
National Bureau of Standards



New Precision and Compactness in Pressure Pickups

SANBORN Series 267, 467 Pressure Transducers

Sanborn physiological pressure transducers provide the valuable combination of highly accurate performance and extreme convenience of use. Frequency response depends on physical dimensions of tubing and needle or catheter. Typical performance: with a #18 or larger needle and a direct writing Sanborn recorder, 100 cps flat response is attainable, or 300 cps with a high natural frequency oscilloscope or optical recorder. Sensitivity, with Sanborn Carrier Amplifier and Recorder, is 1 cm deflection/mm Hg; nominal working range is —100 to +400 mm Hg.

Two basic series are available: single-ended —to measure the pressure under study with respect to atmospheric pressure, and differential —to measure the difference between two applied pressures (liquid, gas or one of each). Within the two series, four models provide a type for use with each Sanborn recording system. Models 267A and 267B are designed for use with "150" systems equipped with Model 1100 or 3000 Carrier Preamplifiers; Models 467A and 467B are for use with other Sanborn one-channel, Twin-Viso and Poly-Viso systems (with Strain Gage Amplifiers).

Sanborn physiological pressure transducers are encased in durable Monel, and are resistant to corrosion by normal saline, alcohol or other solutions used in physiological measurement or chemical sterilization. Connections are standard luer female fittings that accept standard lock or sleeve fittings, from catheter, needle or valve. Small size (body measures 1 9/16" x 1 1/2" x 1"), permits simple, easy mounting on a ring stand clamp or similar device close to the subject.

Descriptive data, typical uses and prices of Sanborn pressure transducers, and many other Sanborn instruments for measurement, recording and monitoring of biophysical phenomena, may be found in the new catalog of Sanborn Instruments for Biophysical Research. Write for your copy.

SANBORN COMPANY

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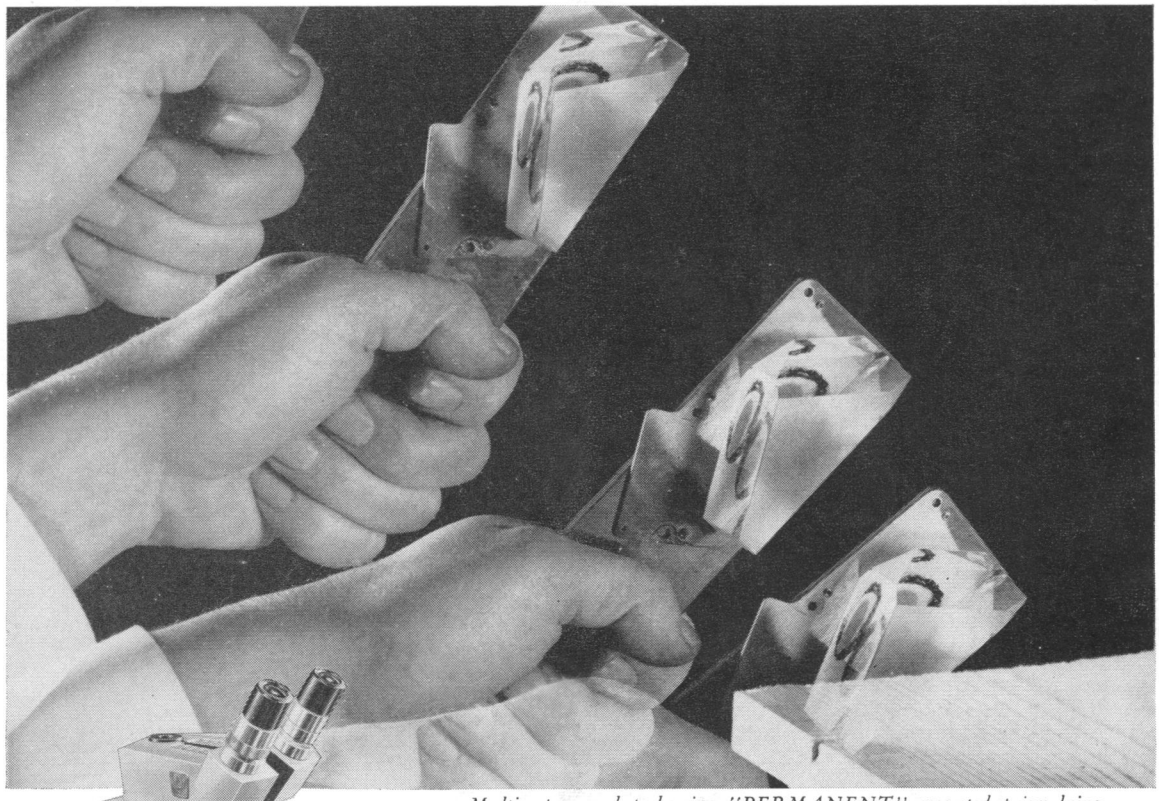

Multi-exposure shot showing "PERMANENT" mounted prism being crashed into a piece of wood. Bond was not affected in any way. Your AO Sales Representative will perform this demonstration right before your eyes.

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