

# New Products

**Fiber optics and light wires** are explained and applications suggested in an information package supplied by the manufacturer. Inspection and illumination applications are described which suggest a multitude of applications in biological and medical research. Standard light wires that do not transmit images are available at low cost.—R.L.B. (Bausch & Lomb, Dept. S291, 635 St. Paul St., Rochester, N.Y.)

**Filter colorimeter** uses silicon photo-cells, coupled directly to the indicating meter, eliminating electronic amplification. The optical and measuring system is double-beam for stability, eliminating effects of line-voltage changes. Intensity of a light beam passing through the sample is electrically compared with the intensity of an identical beam passed through a reference solution. The same tungsten lamp is the source of both beams, so any change in source affects both equally. Line-voltage changes of + 10 percent produce only  $\pm 0.5$  percent transmittance variation in the reading. Photocell outputs are compared in a potentiometer circuit, which uses a zero-centered taut-band null meter instead of a galvanometer as its balance indicator. Supplied with each instrument is a new six-place filter wheel that permits change of filters in a few seconds. The same filter modifies both sample and reference beams, eliminating the possibility of mismatching. The wheel comes supplied with three optical-glass filters—red, green, and blue—with maximum transmittance at  $650\text{ m}\mu$ ,  $525\text{ m}\mu$ ,

and  $425\text{ m}\mu$ , respectively. These filters cover more than 90 percent of all standard industrial and clinical tests. Yellow and blue-green filters are available as accessories, but any  $1\frac{1}{4}$ -inch diameter disk-type filter can be used. A push button on the front panel can be used to override the normal lamp intensity, providing high intensity for narrow band-pass filters. The 7-inch dual-scale dial shows transmittance directly from 10 to 100 percent, absorbance from 0 to 1, with a reproducibility of better than  $\pm 0.5$  percent. The instrument uses standard round, square, and rectangular cells and cuvettes ranging from 4 to 60 ml. Optical paths from 2 mm to 50 mm are available. A flow-thru cell permits a sample to be read and pumped out of the cuvette and the next sample poured in and read in seconds. Drainage is complete: there is no measurable carry-over to the next sample. A magnetic stirrer assembly (accessory) enables the user to utilize the sensitivity of the instrument to detect indicator color-change at titration end points more reproducibly and accurately than the unaided eye. This assembly is easily installed under the sample cuvette well, for operation by a switch on the rear of the case. The Electrophotometer II comes in models for 115-volt 50/60 cy and 230-volt 50/60 cycle a-c.—D.J.P. (Fisher Scientific Co., Dept. S281, 415 Fisher Bldg., Pittsburgh 19, Pa.)

**Soundproof chamber** is designed for the acoustical isolation of birds (or other small animals) for experimental purposes, particularly for investigations of the development of vocalizations. The chamber consists of three nested units, each constructed from  $\frac{3}{4}$ -inch hardwood veneer plywood. All joints are rabbeted, glued, and nailed for rigidity, except that the backs of the units are removable for assembly and disassembly. The three doors are fitted with  $\frac{1}{4}$ -inch plate glass windows so that all parts of the interior are visible.

The windows and doors are sealed with sponge-rubber gaskets. The inner unit is illuminated by two 6-watt fluorescent lamps mounted at the sides between the walls of the inner and middle units to minimize heating of the interior. The lamps and wiring are shielded to attenuate radiated radio frequencies. A screen-covered shelf is built into the inner unit at the upper rear to provide protected space for the location of microphones and speakers. Cables for this equipment are installed in the ventilation system, with receptacles in the walls of the outer baffle. The inner unit is also provided with a drawer which facilitates feeding, watering, and cleaning. The ventilation system is composed of two lined baffles (one on top of the inner unit, the other on the back of the outer unit), two pairs of baffle connectors, a wall-mounted fan cabinet, and a 6-ft plastic hose that conducts air from the outer baffle to the fan cabinet. The fan is a 10-inch axial flow model with a capacity of  $450\text{ ft}^3/\text{min}$  at zero static pressure. All surfaces of the chamber are treated with wood sealer, and all surfaces that are visible after assembly are finished with two coats of flat enamel. For standard chambers, the internal dimensions of the inner unit are  $12\frac{1}{4}$  inches high by  $19\frac{1}{2}$  inches wide by  $18\frac{1}{2}$  inches deep; the outside dimensions of the outer unit are 26 by 32 by 37 inches. Caster-mounted bases are supplied for groups of chambers.—R.L.B. (William R. Fish, Dept. S285, 5548 Linda Lane, Carmichael, Calif.)

**Syringe pumps** with continuously variable flow rates are reproducible to within  $\pm 0.5$  percent regardless of changes in back pressure and line voltage. The Model 237 accepts syringes up to 10 ml in capacity. The Model 255 accepts syringes of up to 100-ml capacity and covers a flow-rate range of 48 to 1 with a single syringe. By using syringes of different sizes, additional flow-rate ranges may be covered, and a single pump can encompass an overall range of 5000 to 1. Three different versions of the Model 255 thus offer flow ranges from 0.02 to 118 ml/day, 0.02 to 98 ml/hr, and 0.005 to 29 ml/min. Each pump comes complete with its own separate control box. The controller has a ten-turn potentiometer dial with readings linear, proportional, and precise. A setting of 1000 thus yields the maximum flow rate for a particular syringe, a setting of 500 gives 50 percent of that flow,

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and so forth. Clinical applications include chemotherapy, intravenous feeding, lymphangiography, and similar uses where precise control of uniform flow is necessary. Research and laboratory applications include analytical techniques such as atomic absorption spectrophotometry, chromatography, and titration. A chief virtue of the syringe pump is its ability to drive easily sterilized, quickly interchanged syringes.—D.J.P. (Sage Instruments, Inc., Dept. S286, 2 Spring St., White Plains, N.Y.)

**Three-way, disposable stopcocks** of polypropylene designed for clinical application have luer tapers for attachment to infusion sets and hypodermic needles. The design, however, is extremely versatile, so that it may be used with ordinary small-bore plastic tubing and applied to the large number of applications where the standard grease-sealed, brass-body medical stopcocks found limited application. In addition to the usual selection and regulation of either of two flow paths, a rubber septum for needle sampling injection connects to the common paths. Removal of the septum provides an additional port to the common path. The stopcocks are supplied capped and sterile in peel-apart containers. The taper seal is adjustable by means of a collar, and an arrow point on the handle clearly indicates the open channel.—R.L.B. (Becton, Dickinson and Co., Dept. S290, Rutherford, N.J.)

**Hot plate accessory** consists of a hot plate assembly with a bimetallic thermostat control which may be mounted on the standard Cenco-Lerner Lab-Jack. Mounting is accomplished by means of four projecting studs which fit into four holes on the Lab-Jack top-plate, or the hot plate may be permanently installed with the use of screws. The 6- by 5½-inch heating surface may be continuously operated at its maximum temperature of 800°F without melting or warping. The unit operates off 115 volts a-c/d-c with a maximum power consumption of 400 watts. It can be used for laboratory tasks where a combination heat source and adjustable laboratory support are required. The Lab-Jack support is continuously adjustable from 2¾ to 10¼ inches and will rigidly support 100 pounds.—D.J.P. (Central Scientific Co., Dept. S283, 1700 W. Irving Park Rd., Chicago, Ill. 60613)

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