New Products

A neutron monitor, the 9120 spherical Dosimeter, which provides a close approximation of total human body dosage, is designed for monitoring personnel areas in reactor or accelerator facilities, or around any type of neutron source. It is sensitive to all neutrons within the energy range of thermal to 15 Mev. Dose rate or cumulative dose is obtained in a single, immediate reading. The measurement is omnidirectional. The instrument consists of a $Li^6I(Eu)$ scintillation detector surrounded by a 12-inch sphere of polyethylene, a transistorized preamplifier, mobile stand, and decade scaler. The detector assembly is also equipped with hardware for wall or ceiling installation. The advantages of the instrument result from its detector-moderator geometry which provides a response approximating that of the human body. Deviation is less than the uncertainty of the neutron flux equivalent of amrem. Readings are independent of the energy distribution of the incident neutrons. Since all neutrons from thermal to 15 Mev are detected, no knowledge of the energy spectrum is required. Multiple readings, graphical interpretations, or instrument geometry considerations are unnecessary. Unlike other neutron monitors, such as films, proportional detectors, tissue equivalent detectors, or fission threshold detectors, the 9120 spherical Dosimeter has no gaps in its energy response. The intermediate energy range from epicadmium to 100 kev is also efficiency detected. The sensitivity of the unit is approximately 3000 counts/mrem. Readings may be made from 0.1 to 1000 mrem/hr. Models with a range up to 10,000 mrem/hr are also available on request. Background count is approximately 2 count/min. The instrument is insensitive to gammas.—R.L.B. (Texas Nuclear Corp., 359 E. Howard Ave., Des Plaines, Ill.)

Circle 1 on Readers' Service card

X-ray-tube driver is a variable pulse width and slope hard tube modulator equipped with a −75-kv output transformer to drive an x-ray tube. The modulator is capable of producing pulse shapes with variable rise times and pulse widths as follows: peak voltage, 0 to 15 kv negative; peak current, 25 amp; pulse width, 2 to 5 μsec; rise time 0.5 to 5 μsec; pulse repetition rate, 180 ±10 percent per second; pulse rises quickly to a predetermined pedestal from 50 to 100 percent of peak, and then slopes up to the full voltage. The modulator can be externally triggered. Output of the pulse transformer is 75 kv peak voltage and 5 amp peak current. The transformer is oil impregnated and its bifilar winding is rated for 4 amp r.m.s.—J.S. (Sperry Gyroscope Co., Great Neck, N.Y.)

Circle 2 on Readers' Service card

Peristaltic pumps are designed to transfer liquids and semi-liquids by means of peristaltic action on plastic or rubber tubing. Tubing is inserted into two tube-holding channels, one on either side of the pumping mechanism. Thus the pumps can be used for multiple as well as single-tube operation, making it possible to multiply the capacity of the pumps or to feed multiple circuits simultaneously. Since the action on one side of the mechanism is 180° out of phase with the other, it is possible to accomplish virtually pulse-free pumping by using two tubes in parallel. All motion is at right angles to the tubing, eliminating the tendency for the tubing to creep. A pair of screw-driven compression plates is used to occlude the tubing and to adjust for various diameters. Maximum tube capacity is two ½ by ⅜ inch plastic tubes, one on each side. The pumps will accommodate as many smaller tubes as circumstances permit. The design of the pumps is such that flow rate is directly proportional to speed over a wide range of pressure. Model 600-1200, designed for low-volume, high-accuracy work, features a synchronous reversible motor and accurate gearbox with 12 gearshift positions. In operation, any speed over a 5000-to-1 range can be selected simply by turning the gearbox knob. Average reproducibility is 0.1 percent. Flow rates are obtained from 0.0042 to 228 ml/min. Output pressure is in excess of 200 mm-Hg. Tests indicate negligible hemolysis. Model 500-1200, designed for high-flow rates, is driven by a heavy-duty, high-speed, variable-speed motor which is controlled by a solid-state speed control producing rates over a 50-to-1 range with a given size tube. Feedback circuit assures excellent reproducibility. Tests indicate negligible hemolysis. Flow rates are obtained from 1.4 to 760 ml./min. Output pressure is in excess of 700 mm-Hg.—R.L.B. (Harvard Apparatus Co., Inc., Dover, Mass.)

Circle 3 on Readers' Service card

Portable salinometer (model 621) uses magnetic induction to sense the ratio of conductivity of a sample of seawater under test to the conductivity of standard seawater. Any temperature difference between the sample and the standard is compensated by a double-bridge circuit using platinum resistance thermometers immersed in the samples. The compensator is said to eliminate the need for controlling the temperature of the sample. Range of conductivity ratio is 0 to 1.5, corresponding to salinities of 0 to 53 percent. The volume of sample required by the measurement is 50 ml. Accuracy of measurement is said to be ±0.003 percent. Temperature compensation range is 0 to 40°C.—J.S. (Hytech Div. of Bissett-Berman Corp., G Street Pier, San Diego, Calif.)

Circle 4 on Readers' Service card

Magnetic tape delay system (model 102-DR) provides a time lag of 0.3 to 10 sec. The system comprises a tape delay transport mechanism and two data converters. Time delay is accomplished

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The material in this section is prepared by the following contributing writers:

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The information reported here is obtained from manufacturers and from other sources considered to be reliable. Neither *Science* nor the writers assume responsibility for the accuracy of the information. A Readers' Service card for use in mailing inquiries concerning the items listed is included on page 979. Circle the department number of the items in which you are interested on this card.

Erratum. The sensitivity and accuracy of the Mettler ultramicro balance described in New Products [18 Jan. 1963, item 5, p. 254] are measured in micrograms rather than milligrams.