

Equipment

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■ **NUMERICALLY CONTROLLED POSITIONING SYSTEMS** for machine tools are available in push-button keyboard types and in fully automatic versions controlled by standard 1-in. punched paper tape. Positional distances in translation are measured and set in inches and decimals. Typical performance provides a range of 99.999 in. in steps of 0.001 in. with accuracy and repeatability within ± 0.00025 in. Backlash is automatically taken up. (Wang Laboratories Inc., Dept. 480)

■ **MAGNETIC POSITION CONVERTER**, designed for flowmeter read-out, converts linear motion into rotary indication. An iron strip formed into a helix is encapsulated in a nonmagnetic tube that floats on two miniature-bearing races. The flowmeter float carries an extension in which a small magnet is imbedded. The helix is attracted to the magnet, thus rotating in response to linear displacement of the magnet. A pointer indicates helix rotation. (Brooks Rotameter Co., Dept. 485)

■ **MASS FLOWMETERS** are calibrated directly in milligrams of air per minute. Flow measurement is accomplished by incorporating a heated thermopile element in a flow tube. The thermopile circuit is self-compensating for both ambient temperature and rate of change of temperature. Various ranges are available. Typical are model MF-1, with range from 0 to 10,000 mg/min, and model SM-1, with range from 0 to 500 mg/min. (Hastings-Raydist, Inc., Dept. 486)

■ **RELAY TEST SET** automatically tests ten relays simultaneously for normal operate time, saturate release time, or release time after predetermined heating. Time intervals are read to 0.1 sec on digital timing clocks. Energizing voltage is continuously adjustable between 2.5 and 230 v. (G. V. Controls Inc., Dept. 490)

■ **ELECTRIC MONITORING SYSTEM** detects variations in voltage, frequency, and phase in power sources and operates devices in response to these changes to protect loads by deenergizing or by switching to another source. Capacitive delays up to 15 sec prevent actuation by transients. Voltage range is 6 to 440 v, frequency 25 to 1600 cy/sec. Response time is 0.2 sec. Accuracy of setting is ± 2 percent or better. (Electric Regulator Corp., Dept. 492)

■ **RECORDER** is an eight-channel instrument featuring a rectilinear record and thermal writing. A choice of two plug-in amplifiers is offered. One features sensitivity of 10 mv/mm and stability better than 0.5 mm/hr; the other, sensitivity of 50 mv/mm and stability better than 0.1 mm/hr. Eight chart speeds from 0.4 to 100 mm/sec may be selected. An accessory provides eight additional speeds from 0.4 to 100 cm/hr. Frequency response is from d-c to 100 cy/sec. Trace contrast is automatically adjusted to chart speed. (Brush Instruments, Dept. 487)

■ **SCINTILLATION ANALYZER** is designed for analytical measurement of isotopes emitting either gamma or hard beta rays or a mixture of both in solid or liquid samples. Separation of gamma emission is effected by means of a pulse-height selector that determines the spectrum operating point. The instrument permits scintillation well counting of betas of higher than 1-Mev energy without source preparation. (Baird-Atomic Inc., Dept. 494)

■ **ACCELEROMETER** consists of a nonpendulous seismic mass supported on a frictionless spring suspension. Displacement of the mass is sensed by an a-c variable-reluctance pickup. Magnetic damping ratio is nearly constant from -65° to $+250^\circ$ F. Full-scale range is ± 0.5 to ± 40 g. Full-scale output is up to 10 v at 400 cy/sec. Cross-axis sensitivity is less than 0.5 percent. (Minneapolis-Honeywell, Dept. 500)

■ **LIQUID-NITROGEN GENERATOR** consists of a nitrogen separation column, a gas liquefier, and a 200-lit. storage tank. The equipment, automatic in operation, provides up to 95 lit. of 99.5 percent liquid nitrogen daily. Water and CO_2 are removed from intake air in a heat exchanger, oxygen is separated in the packed column, and nitrogen gas is passed into the liquefier. Noncondensable gases are bled off. (Arthur D. Little, Inc., Dept. 509)

■ **DIODE BOX** permits rapid selection of Zener diodes for experimental breadboard circuits. Eleven basic 1-watt silicon Zener diodes covering the range from 3.6 to 30 v are selectable by a turn of the switch of the decade-type substitution box. (International Rectifier Corp., Dept. 493)

■ **CONTAINERS FOR LIQUEFIED GASES** or other cold liquids are wide-mouth stainless-steel tanks covered with $1\frac{1}{2}$ -in. foam insulation and protected by stainless-steel jackets. Five sizes from 1 to 8 qt are available (Labline, Inc., Dept. 507)

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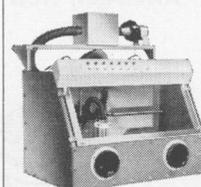
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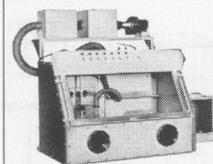
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