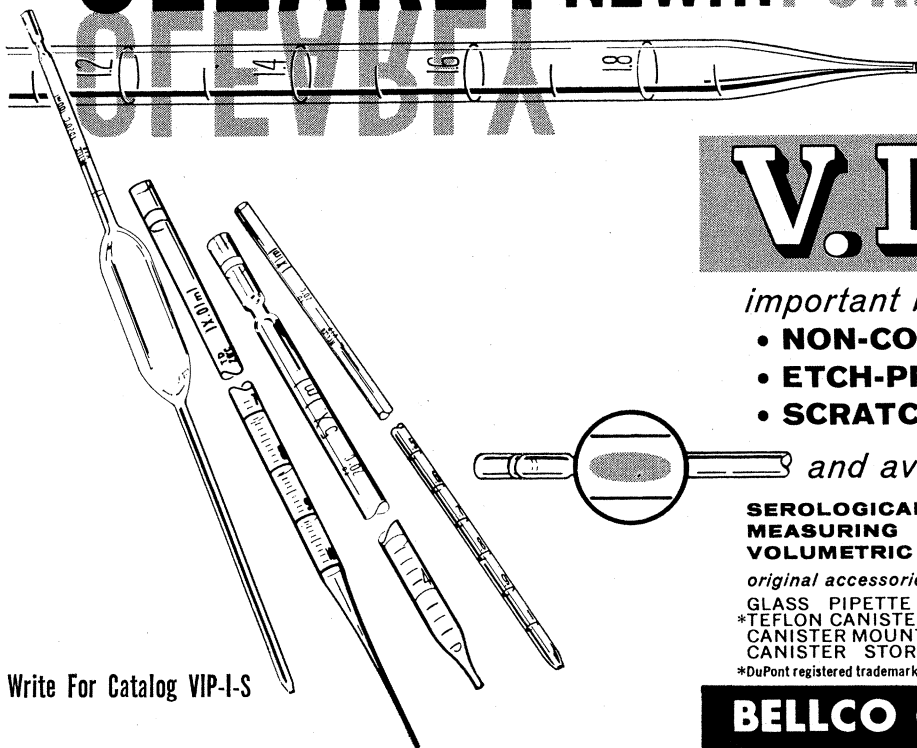


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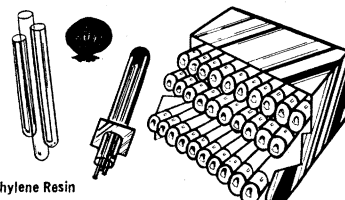
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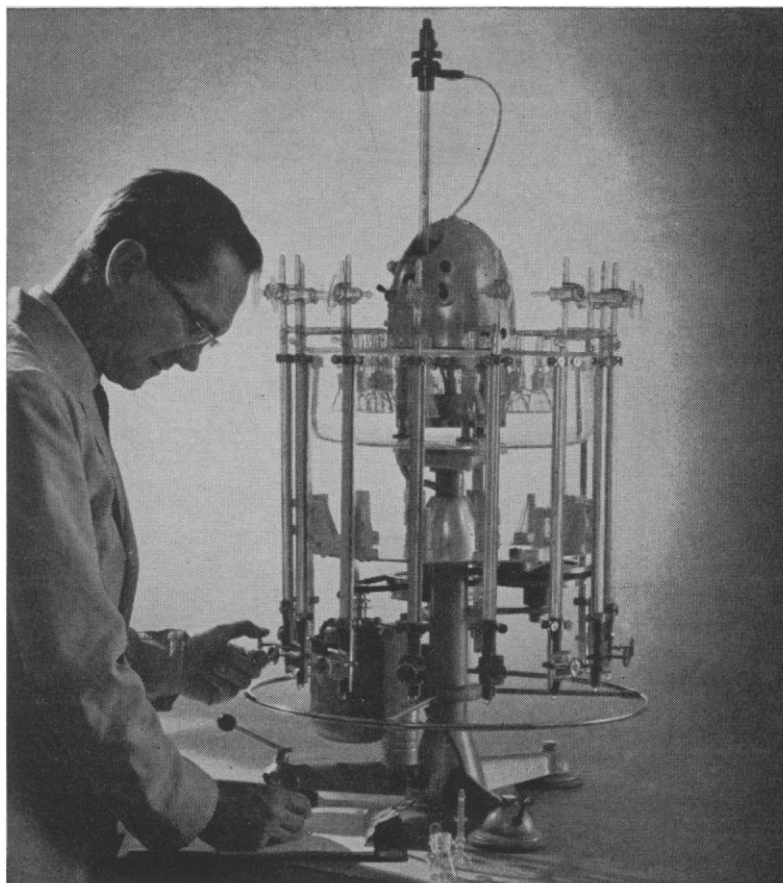
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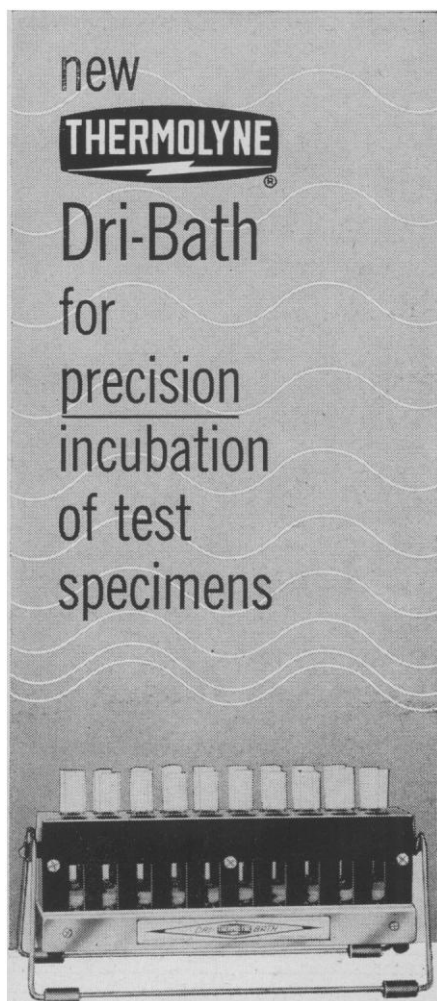
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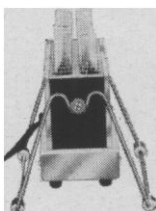


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■ **CONTINUOUS GAS-DENSITY BALANCE** consists of a measuring cell, amplifier, power supply, and temperature controls. The sensitive element in the gas-density sample cell is a dumbbell supported on a quartz fiber and constructed so that the two spheres have different buoyancy. A mirror fixed to the dumbbell's axis reflects a light beam to a dividing mirror and thence to two photocells. Rotation of the dumbbell results in an unbalance signal that is used to oppose the rotation. Two fixed-potential electrodes create an electrostatic field around one sphere. A variable potential obtained by amplification of the unbalance signal is applied to this sphere, which is made conductive by a coating of rhodium, to stabilize the dumbbell.

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■ **B-H METER** graphically displays the hysteresis loop of tape or pigment on an oscilloscope. Measurements on samples as small as four strands of ¼-in. tape fall within the direct-reading calibrated range of the instrument; display adequate for qualitative inspection can be obtained from a single strand. Direct-reading calibrated range of sample flux is from 3 to 1000 max with a maximum sample-chamber diameter of ⅜ in. The instrument can measure coercive force and remanence or flux at an arbitrary point. (Scientific Atlanta, Inc., Dept. Sci102, 2162 Piedmont Rd., NE, Atlanta 9, Ga.)

■ **HIGH TEMPERATURE FURNACE** is designed for continuous operation at temperatures up to 4800°F and for intermittent use up to 5100°F. Working volume is 8 in. high and 4 in. in diameter. Atmospheric control in the working chamber is provided by a flow of helium or reducing gas for protection of the charge and graphite heating element. Graphite electrodes and aluminum exterior shell are water cooled; coolant flow rate is 1.5 gal/min at maximum temperature. Standard power supply is 16 kw, 3 phase, 440 and 220 volts. The furnace can be supplied with a saturable reactor and stepdown transformer to facilitate automatic temperature control. (Curtiss-Wright Corp., Dept. Sci93, P.O. Box 110, Princeton, N.J.)

■ **ULTRASONIC IMPACT GRINDER** can machine an area up to 1⅜ in. in diameter. The device features an air-cooled, 300-watt magnetostrictive transducer so that plumbing associated with water cooling is absent. The transducer is an insert type; either the coil or the transducer can be removed without disturbing the other. (Raytheon Company, Dept. Sci25, 1415 Providence Turnpike, Norwood, Mass.)

■ **PARAMETRIC AMPLIFIER ASSEMBLY** for the S band consists of a three-part ferrite circulator, a reflection-type diode amplifier, a pump klystron, a variable attenuator, and a directional coupler monitor. Typical specifications include a tuning range of 100 Mcy/sec, operating gain of 17 db, band width of 20 Mcy/sec at 3-db points, and system noise figure of 2.5 to 3.0 db, operating into a mixer with noise figure of 10 db. (Micromega Corp., Dept. Sci73, Venice, Calif.)

■ **HIGH RESISTANCE BRIDGE** measures resistance in the range 10<sup>5</sup> to 10<sup>15</sup> ohms with accuracy said to be  $\pm 0.05$  percent up to 10<sup>8</sup> ohms, decreasing to  $\pm 0.25$  percent at 10<sup>12</sup> ohms and to  $\pm 1.0$  percent at 10<sup>14</sup> and 10<sup>15</sup> ohms. An electrometer null detector is an integral part of the instrument. Input resistance of the electrometer is greater than 10<sup>14</sup> ohms; maximum voltage sensitivity is greater than 1 millivolt per division of deflection. Self-contained bridge potentials up to 10 volts are supplied by a transistorized power source. A remote test chamber with Teflon insulated triaxial cable is available for testing insulation or making other external measurements. One terminal of the resistance being measured is at ground potential. (Keithley Instruments Inc., Dept. Sci104, 12415 Euclid Ave., Cleveland 6, Ohio)

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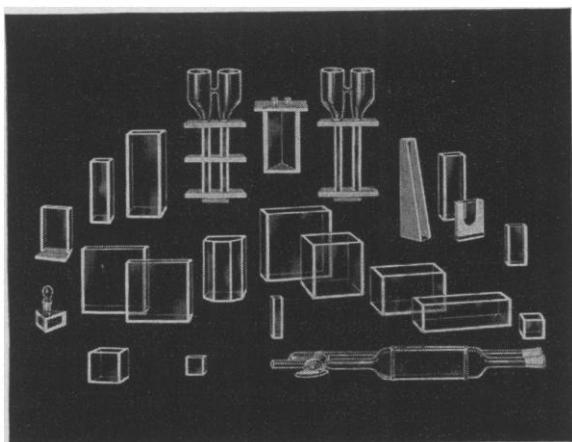
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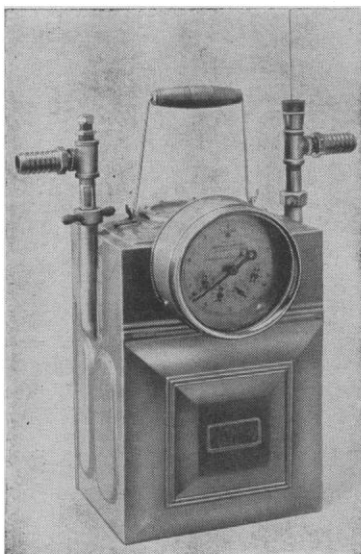
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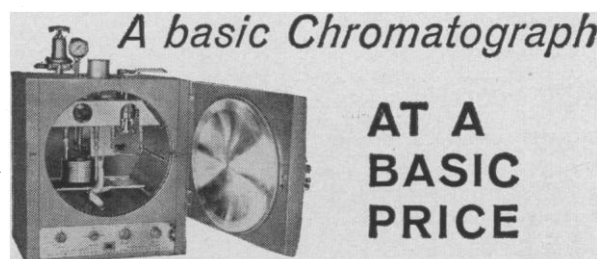
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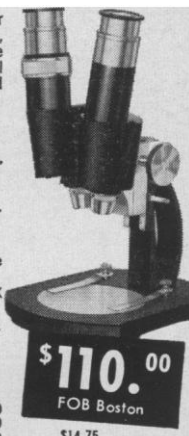
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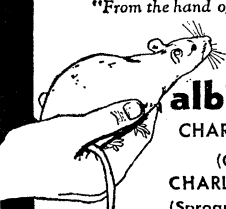
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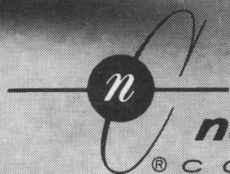
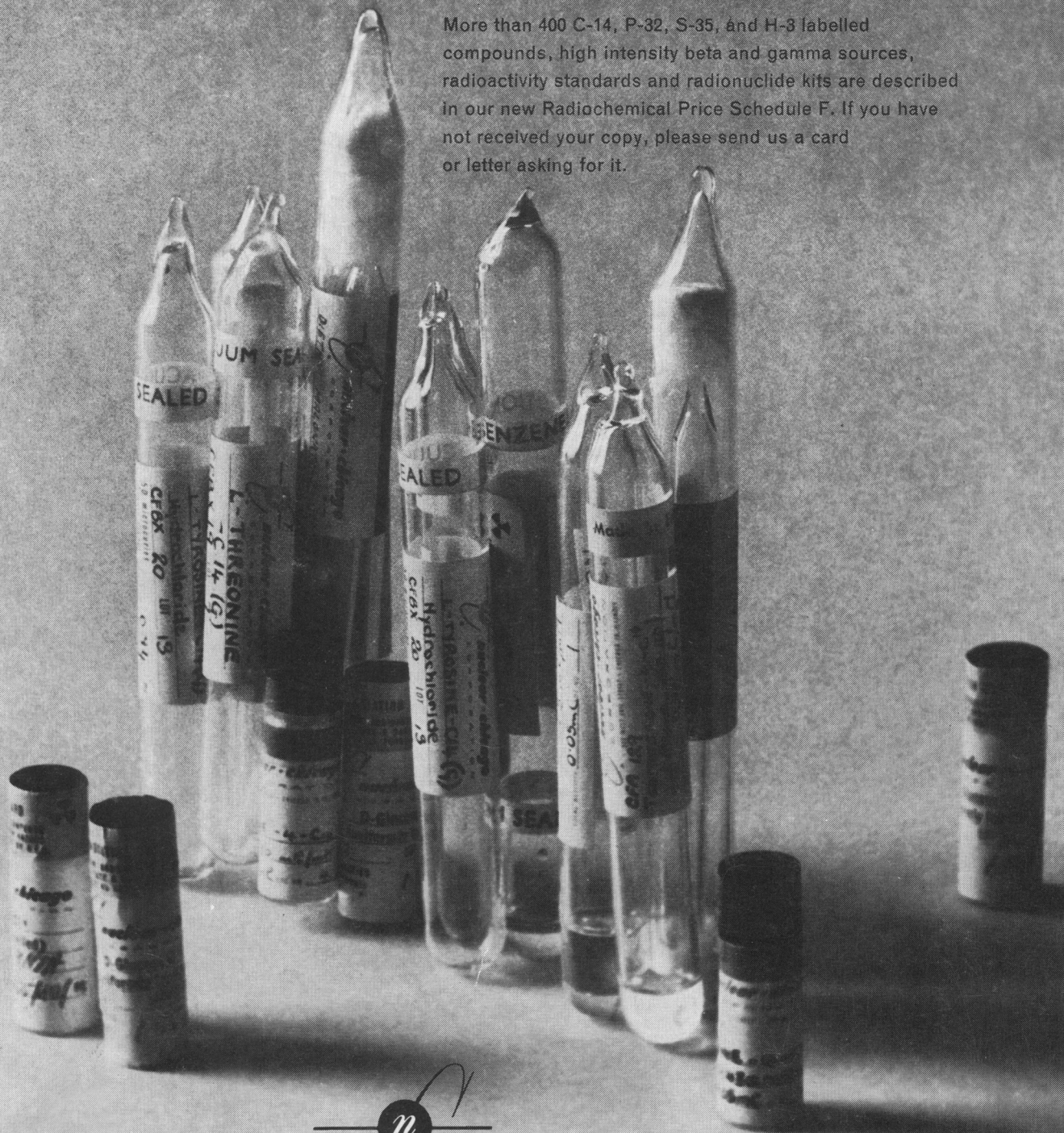
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