LOW-TEMPERATURE PROBES designed for measurement of temperature gradients in liquid oxygen provide output 0 to 5 v for a temperature span of 20°F in the liquid-oxygen range. Probes are also available for use with liquid argon, liquid nitrogen, or other liquids in the range from -240° to -320°F. Semiconductor sensing elements are used. Nominal resistance is 12 kohm, maximum current rating 3.0 ma, and calibration accuracy 0.1°F. (Arnowx Corporation, Dept. 188)

STROBOSCOPIC DEVICE may be used with a motion-picture camera to take slow-motion pictures of vibration tests with film running at normal speeds. The device combines a stroboscopic illuminator with a pulse-type camera synchronizer so that one exposure is made per frame. For viewing, the film is projected at normal speeds to display the same slow-motion effect as is provided by visual stroboscopic observation. (Chadwick-Helmuth Co., Dept. 212)

COULOMETRIC ANALYZER is a titration equipment in which a measured quantity of electricity is used to reach the end point of an analytical reaction. Results are read in digital form as micro-equivalents of the sample. Current is held constant within ±0.05 percent for line-voltage variation between 107 and 127 v a-c. (Leeds and Northrup Co., Dept. 213)

AMMETER, for ranges to 100 amp (d-c), provides accuracy of 0.2 percent. Ranges are selected by means of tapered plugs and holes. The instrument movement features diamond pivots and shock-mounted jewels. Scale is hand drawn 6.3 in. long and is mirrored to avoid parallax. Period is 1 sec. (Sensitive Research Instrument Corp., Dept. 216)

LIQUID DISPENSER delivers with reproducibility of ±0.15 percent with a glass system or 1.0 percent with a rubber system. The device may be set to operate in a continuous repetitive mode, 36 per minute, or for single deliveries. Volume to be delivered is adjustable to 12-ml capacity. (Fisher Scientific Co., Dept. 203)

FLOW VISUALIZATION APPARATUS uses petroleum fuel to generate smoke that is ejected from a manifold in equally spaced jets to produce a laminar pattern of alternate smoke and clean-air streams between two heavy glass plates. Models representing sections of structures to be studied are placed between the glass plates. The air streams can be adjusted in speed through a wide range. (Design Engineers, Dept. 204)

JOSEPH STERN
National Bureau of Standards

Displaying induction motor performance graphically with the Donner Model 3000

The simultaneous equations describing the mesh currents in the induction motor equivalent circuit are used to create the computer programming schematic shown on the left-hand side of the blackboard. The Donner Model 3000 Analog Computer solves the equations with an arbitrary choice of parameters and displays the solution on the oscilloscope or recorder. Shown on the recorder are traces representing torque, slip, and efficiency as a function of the power developed in a squirrel cage induction motor. Effects of parameter variations on motor performance are readily investigated and graphically displayed. The computer is also appropriate for study of transient recovery and polyphase motor or transformer fundamentals.

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