

♦ Good Sensitivity ♦ High Stability ♦ Long Service ♦ Low Maintenance

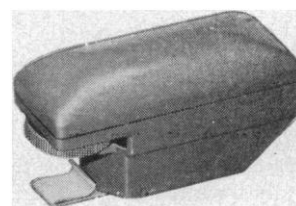
Makes Precision Light Measurements—Quickly—Accurately



No. 3830A

Patent No. 2424933

Welch
DENSICHRON
®
ELECTRONIC DENSITOMETER



No. 3832A

The Densichron consists essentially of a probe unit containing a photoelectric tube for detecting luminous flux and an amplifier to which it is connected by a flexible cable. The amplifier incorporates a milliammeter calibrated to indicate optical density from 0 to 1.5, and which can be read to 0.01. A three-step range switch increases the range to a maximum density of 4.5 with no loss in sensitivity. This represents a maximum ratio of incident light intensity to transmitted light intensity of more than 30,000 to 1.

The amplifier also produces an A.C. output signal, the voltage of which is a measure of the light intensity, and provision is made for utilizing the direct current of the ammeter circuit in an external circuit. The instrument can therefore operate either a control mechanism or a standard ink recorder.

The outstanding feature of the Densichron is its patented system for magnetically modulating the space current in a phototube.* This is accomplished by applying a 60-cycle alternating magnetic field across the path of the electron beam, thereby deflecting the electrons from their path to the anode 120 times per second. The output current of the tube is thus changed from its normal steady value to a pulsing, or A.C., output with a frequency of 120 cycles per second. When the usual direct current output of a phototube is amplified, it is subject to severe zero drift necessitating frequent recalibration, and its response is slow. The modulated A.C. output from the Densichron phototube is capable of stable, high-gain amplification with rapid response.

* Henry P. Kalmus and George O. Striker, Rev. Sci. Inst., 19, 79 (1948).

The DENSICHRON is supplied complete with a blue-sensitive light probe (or red if specified), amplifier with logarithmic scale meter, five measuring apertures, a cone with $\frac{1}{8}$ inch aperture, and metal support for the probe unit. The current consumption is 30 watts. For operation on 115 volts—60 cycle AC only.

WRITE FOR SPECIFIC INFORMATION ON TRANSMISSION AND REFLECTION DENSITOMETERS, AND LITERATURE ON A COMPLETE UNIT FOR QUANTITATIVE PAPER CHROMATOGRAPHY.

No. 3832A. Reflection Unit Accessory with Voltage Regulated Transformer—\$135.00

EACH
\$225.00

*Manufacturers of
Scientific Instruments and
Laboratory Apparatus*

W. M. WELCH SCIENTIFIC COMPANY

DIVISION OF W. M. WELCH MANUFACTURING COMPANY

ESTABLISHED 1880

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