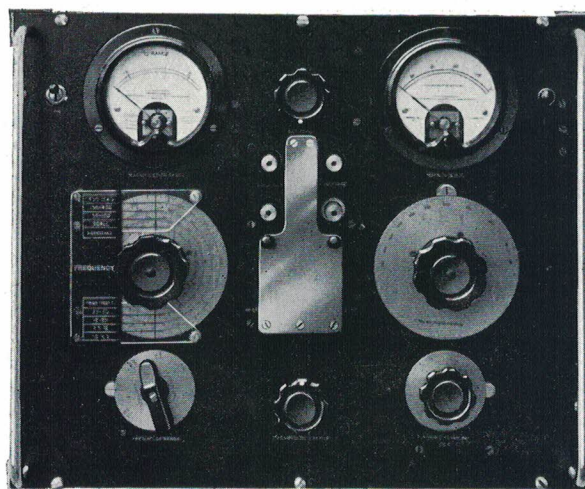


CIRCUIT MAGNIFICATION METER

Type TF329.



A versatile instrument for the measurement of magnification and inductance of coils, the power factor, capacity and inductance of condensers, the dielectric loss of insulating materials, and the effective resistance and phase angle of resistors. All these measurements may be made in the range 50 k/cs. to 50 M/cs.

DESIGN

A triode oscillator is used to inject a small known voltage into a tuned circuit comprising the coil under test and a low loss condenser which is integral to the instrument. The voltage developed across the condenser at resonance is indicated by a valve voltmeter.

FEATURES

The voltmeter is scaled to read directly the magnification of the circuit under test in the range 10 to 500. A panel jack permits the connection of an external meter for incremental determinations. The wide frequency range is covered by a rotating turret of seven coils. The oscillator and tuning condenser are directly calibrated in frequency and capacity respectively. An auxiliary condenser is fitted for fine tuning.

The magnification, inductance and self-capacity of coils, and the capacity and power factor of small condensers may be determined without any auxiliary apparatus, and two simple accessories provide for further measurements.

The Dielectric Loss Test Jig, Type TJ155, in conjunction with TF329, provides a means of accurately determining the power factor and effective shunt resistance of insulating materials, and may be used for measurements on the effective resistance and reactance of high resistances over a wide range.

The Series Loss Test Jig, Type TJ172, in conjunction with TF329, provides for the measurement of the capacity, effective series inductance and resistance of large condensers, and may also be used for the determination of low resistances and inductances over a wide range.

Each of these jigs plug directly into the Circuit Magnification Meter and a range of coils is available which also fit the sockets of the Meter.

The instrument is mains operated and arranged with a sloping panel forming a convenient working desk.

SPECIFICATION OVERLEAF

SPECIFICATION OF CIRCUIT MAGNIFICATION METER

Type TF329.

FREQUENCY

The standard inductor assembly provides a continuous frequency range of 50 kc/s to 50 Mc/s.

The variable condenser is fitted with an accurately divided 180° scale 4 ins. in diameter.

FREQUENCY CALIBRATION

Direct reading to an accuracy of 2% over entire range.

MAGNIFICATION

Range : Coil magnifications between 10 and 500 are directly indicated. The meter is scaled from 10 to 250 and provided with multipliers of x1 and x2.

Accuracy : Up to 10 Mc/s the accuracy is $\pm 5\% \pm 5$. The accuracy falls somewhat at higher frequencies.

TUNING CAPACITY

Range : The internal condenser is scaled directly in capacity from 50 to 490 $\mu\mu\text{F}$.

Accuracy : $\pm 1\% \pm 1 \mu\mu\text{F}$.

VERNIER CONDENSER

Range : $\pm 2 \mu\mu\text{F}$ directly calibrated.

Accuracy : $\pm 0.1 \mu\mu\text{F}$.

TESTS ON COMPONENTS OTHER THAN COILS

The accuracy with which such measurements may be made depends largely on the nature of the component. Over a wide range of

values, capacity may be determined to about $\pm 2\% \pm 2 \mu\mu\text{F}$ and effective resistance to about $\pm 10\%$.

POWER SUPPLY

200-250 volts. 40-100 c.p.s. Consumption approximately 50 watts.

MOUNTING

All controls are conveniently disposed on a sloping aluminium panel. The chassis and screens are built on this panel, the whole unit being mounted in a welded steel case. A keromot platform is provided which enables components to be supported clear of the metal platform.

FINISH

Panel—Black crackle lacquer.
Case—Grey cellulose enamel.

DIMENSIONS

18 $\frac{1}{4}$ " \times 15" \times 12" (over projections).
24" \times 21" \times 18" (approx.) packed.

WEIGHT

48 lbs. nett.
88 lbs. gross (approx.) packed.

PRICE

See price list.

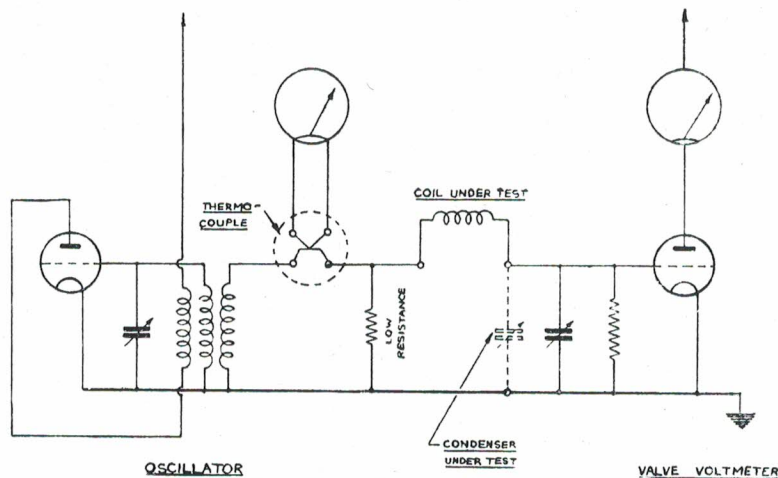
ACCESSORIES—details on application

Dielectric Loss Test Jig, Type TJ155.

See Leaflet Com.-F-5(a)

Series Loss Test Jig, Type TJ172.

See Leaflet Com.-F-5(b)



SCHEMATIC DIAGRAM OF TYPE TF329.