

Mullard

ELECTROMETER TRIODE

4060

The 4060 is a triode with a very low anode current. The special characteristics of this valve open up wide fields of measurements in Physical and Electro-medical Laboratories, for which the ordinary triode is unsuited by reason of its appreciable leakage and rather large inter-electrode capacity.

The chief applications at present are for the measurement of Hydrogenion concentration in solutions, and the measurement of X-ray intensities with an ionisation chamber, or the measurement of small light intensities (small photo electric currents).

FILAMENT CHARACTERISTICS

Filament Voltage ... $V_f = 0.7$ volt (approx.)
Filament Current ... $I_f = 0.6$ amp

DIMENSIONS

Overall Length = 160 mm.
Overall Diameter = 58 mm.

SPECIAL NOTE

The values of filament voltage and current for operating the 4060 are rather critical; the correct values are etched on each valve.

OPERATING CHARACTERISTICS

Anode Voltage	V_a	= 4 volts
Grid Current	I_g	= 10-14 amps
Mutual Conductance ($-V_g = 2.5$ V)	S	= 28 $\mu A/V$
Maximum Anode Voltage	$V_{a_{max}}$	= 6 volts
Positive Grid Current commences at	$-V_g$	= 1.3 volts approx.

GENERAL DESCRIPTION

The electrometer valve resembles an ordinary screened grid valve in external appearance and dimensions. It has a four-pin base carrying the filament and ANODE connections, and a terminal at the top FOR THE GRID CONNECTION. This difference in anode and grid connections should be specially noted.

The arrangement of the electrodes in the valve is also unusual, the filament being arranged in a horizontal plane with a flat anode below it, supported from the filament foot, and a flat plate control electrode "Grid" arranged above the filament, supported on long glass insulators so that the leakage between the control electrode and the other electrodes is reduced to the lowest possible value.

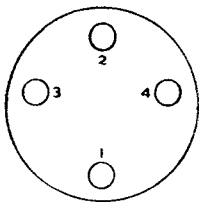
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PRECAUTIONS TO BE OBSERVED IN USE

To obtain the full benefit of the very high insulation of this valve, it must be thoroughly cleaned outside to remove any trace of moisture, and precautions should be taken to keep the bulb and surrounding air quite dry during use by means of a suitable drying agent such as calcium. The valve should be used in a light-proof box to prevent photo-electric emission from the control electrode, and for the same reason the filament must be run as dull as possible consistent with proper operation.

CONNECTIONS



Pin No. 1 Anode
 „ 2 Filament
 „ 3 Filament
 „ 4 —
Top Cap—Grid

Viewed from free end of pins.

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CRID VOLTS V } ANODE CURRENT
GRID CURRENT -----

