4079-A VALVE

HALF WAVE, HOT CATHODE MERCURY VAPOUR RECTIFIER.

SPECIFICATION.

Cathode.

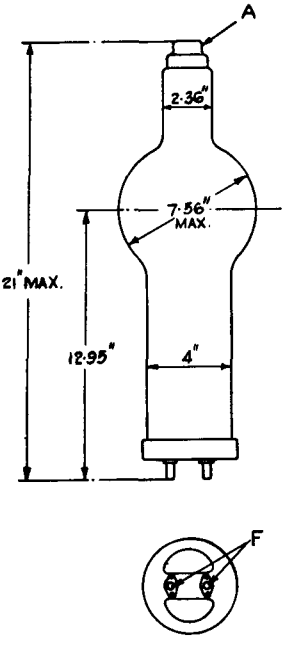
Shielded, Oxide coated filament.
Constant voltage type.

Base.

Special 2-pin.

Dimensions.

Maximum overall length	21″ (53·4 cms.)
Maximum bulb diameter	7·56″ (19·2 cms.)
Net weight	3 lbs. (1350 gms.)
Anode cap diameter	1·42″ (3·6 cms.)



Constants.

Filament voltage	5 volts
Filament current	40 amps.
Maximum peak anode current	20 amps.
Maximum peak inverse voltage	20,000 volts
Maximum average anode current	7·5 amps.
Ambient temperature range	10°C. min. 60°C. max.
Condensed mercury temperature range	25°C. min. 60°C. max.

Recommended Ambient Temperature Conditions.

	Peak Inverse Voltage			
	Less than 7,500 v.	7,500—10,000 v.	10,000—12,500 v.	*Greater than* 12,500 v.
Natural ventilation	15°C.—45°C.	15°C.—35°C.	—	—
Forced ventilation	15°C.—60°C.	15°C.—50°C.	15°C.—40°C.	15°C.—35°C.

Cathode Heating Time.

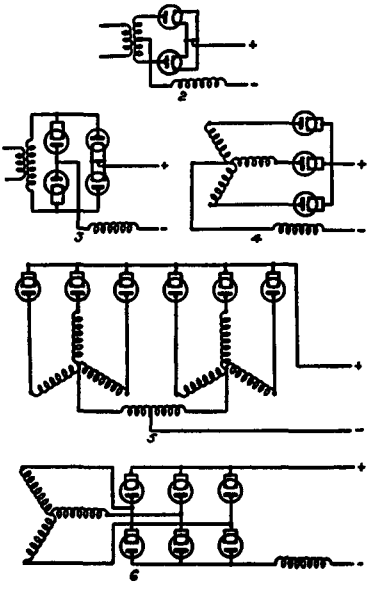
Ambient temperature	10°C.—15°C.	15°C.—20°C.	20°C. and above
Heating period	30	15	5 mins.

Note :—After shipment the filament must be run at full voltage for 30 minutes before any anode voltage is applied, so that the mercury shall be distributed correctly.

—Standard Valves—

TYPICAL OPERATING CONDITIONS.

Circuit	Number of Valves	Approx. D.C. Output Volts	Maximum D.C. Load Current
2	2	6,400 volts	12·5 amps.
3	4	12,800 volts	12·5 amps.
4	3	9,100 volts	15·4 amps.
5	6	9,100 volts	30·8 amps.
6	6	18,200 volts	18·8 amps.



Important.

This rectifier being directly heated, the output circuit must be connected to the mid-point of the filament transformer. The filament transformer should be so connected that the anode and filament voltages are 90° out of phase. The maximum peak anode current and output current should be reduced by 50 per cent. if quadrature operation of the filament and anode voltages is not possible.

Temperature limits given under " Natural Ventilation " are only valid for unrestricted natural ventilation which causes the condensed mercury temperature to be about 15°C.—20°C. above the ambient temperature, forced air blast being required for operation up to the maximum condensed mercury temperature limit.

For further information on H.C.M.V. rectifiers, see sheet G.1.

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