

# —Standard Valves—

4080-A  
Valve

## 4080-A VALVE

HALF WAVE, HOT CATHODE MERCURY VAPOUR RECTIFIER.

### SPECIFICATION.

#### Cathode.

Shielded, Oxide coated filament.  
Constant voltage type.

#### Base.

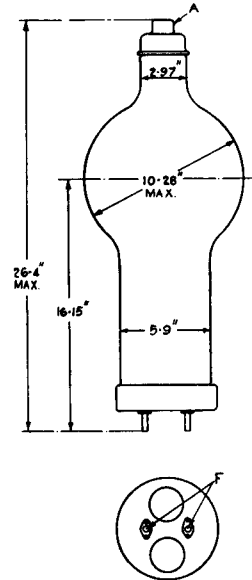
Special 2-pin.

#### Dimensions.

Maximum overall length 26.4" (67.1 cms.)  
Maximum bulb diameter 10.28" (26.1 cms.)  
Net weight 9 lbs. (4050 gms.)  
Anode cap diameter 1.42" (3.6 cms.)

#### Constants.

Filament voltage	5 volts
Filament current	100 amps.
Maximum peak anode current	50 amps.
Maximum peak inverse voltage	16,000 volts
Maximum average anode current	20 amps.
Ambient temperature range	15°C. min. 60°C. max.
Condensed mercury temperature range	30°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	15°C.—20°C.	20°C. and above
Heating period	30	10 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.

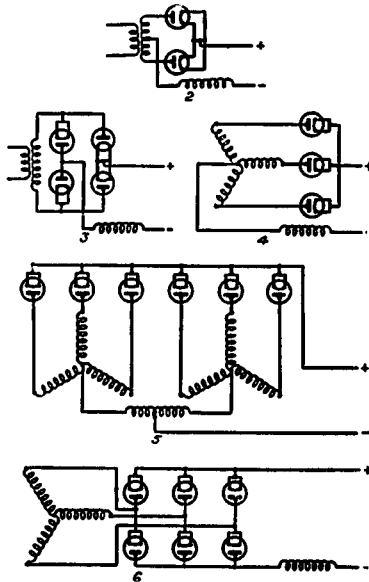
Tentative Data

V.4080-A.1  
Mar. 1939

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## TYPICAL OPERATING CONDITIONS.

Circuit	Number of Valves	Approx. D.C. Output Volts	Maximum D.C. Load Current
2	2	5,150 volts	31 amps.
3	4	10,300 volts	31 amps.
4	3	7,250 volts	38 amps.
5	6	7,250 volts	76 amps.
6	6	14,500 volts	47 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.