



# Hot Cathode Mercury Vapour Rectifier

2V/530E  
(4078A)

4078A

## CATHODE.

Oxide-coated shielded filament

Voltage 5 V

Nominal current 20 A

## DIMENSIONS.

Maximum overall length 412 mm.

Maximum bulb diameter 157 mm.

Net weight 900 g.

Base—Special 2-pin—(see *drawing*)

Top cap—Special—(see *drawing*)

## MAXIMUM RATINGS.

Maximum peak inverse voltage 20 kV

Maximum peak anode current 10 A

Maximum average anode current 2.5 A

Condensed mercury temperature  
range with forced ventilation 15°C. to 65°C.  
maximum

The above ratings apply to operation with a choke input filter and a supply frequency of 50 c/s.

## MAXIMUM PEAK INVERSE VOLTAGE RATINGS.

|                      |                   |                   |                    |                       |
|----------------------|-------------------|-------------------|--------------------|-----------------------|
| Natural Ventilation  | 15°C. to 50°C.    | 15°C. to 40°C.    | —                  | —                     |
| Forced Ventilation   | 15°C. to 65°C.    | 15°C. to 55°C.    | 15°C. to 45°C.     | 15°C. to 40°C.        |
| Peak inverse Voltage | Less than 7,000 V | 7,500 to 10,000 V | 10,000 to 12,500 V | Greater than 12,500 V |

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## TYPICAL OPERATION.

| Circuit No. | No. of Valves | Maximum DC<br>Output Volts | Maximum DC<br>Output Amps |
|-------------|---------------|----------------------------|---------------------------|
| 2           | 2             | 6,400 V                    | 5 A                       |
| 3           | 4             | 12,500 V                   | 5 A                       |
| 4           | 3             | 9,500 V                    | 7.5 A                     |
| 5           | 6             | 9,500 V                    | 15 A                      |
| 6           | 6             | 18,500 V                   | 7.5 A                     |

This rectifier being directly heated, it is recommended that the output circuit be returned to the mid-point of the filament transformer secondary.

## CATHODE HEATING TIME.

|                         |                |                |                 |
|-------------------------|----------------|----------------|-----------------|
| Ambient temperature     | 10°C. to 15°C. | 15°C. to 20°C. | 20°C. and above |
| Min. pre-heating period | 30 min.        | 15 min.        | 5 min.          |

After shipment or transit the valve must be pre-heated not less than 30 minutes before any anode voltage is applied so that the mercury may be distributed correctly. Temperature limits given under "Natural Ventilation" are only valid for unrestricted natural ventilation, forced air blast being required for operation up to the maximum condensed mercury temperature limit.

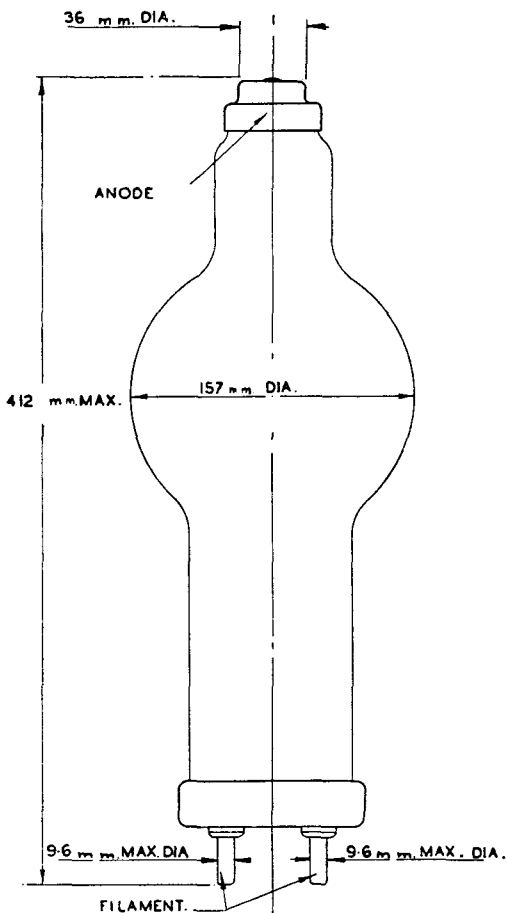
**Note.**—Before putting a valve of this type into service it is recommended that reference be made to the General Information Sheet K.



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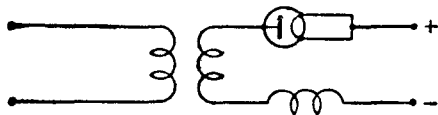
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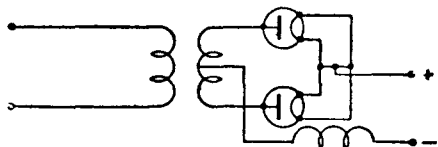


Circuit  
No.

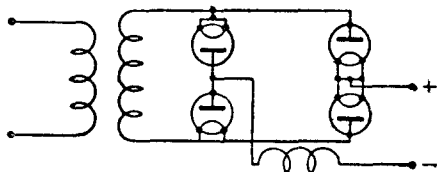
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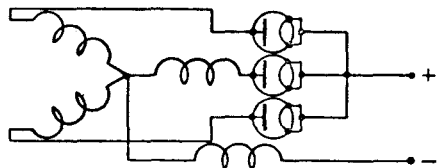
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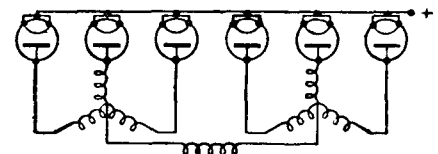
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4



5



6

