

# —Standard Valves—

4081-A  
Valve

## 4081-A VALVE

SINGLE ENDED WATER COOLED TRIODE.

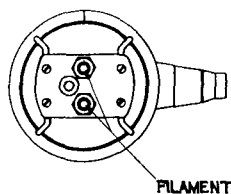
### SPECIFICATION.

#### Cathode.

Pure tungsten filament.  
Constant voltage type.

#### Dimensions.

Max. overall length      $23\frac{3}{4}"$  (60.2 cms.)  
Bulb diameter             5" (12.7 cms.)



#### Water Jacket.

Type PL 122.676.

#### Water Circulation.

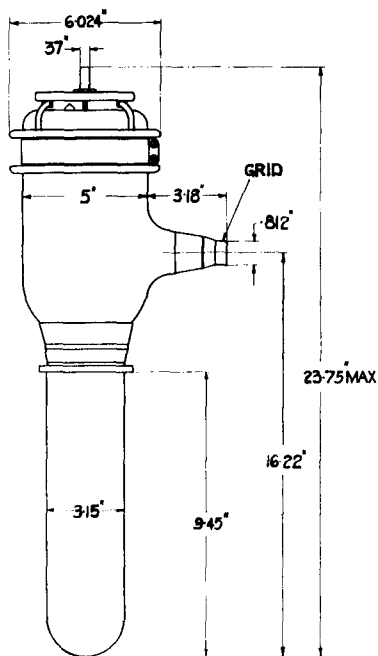
Normal water flow—11 gallons per minute  
(50 litres per minute).

Pressure drop for normal flow—14 lbs. per  
sq. in. (1.0 Kg. per sq. cm.)

Maximum water pressure—50 lbs. per sq. in.  
(3.5 Kg. per sq. cm.)

#### Constants.

|                                            |                  |
|--------------------------------------------|------------------|
| Filament voltage                           | 20 volts         |
| (exact filament voltage marked<br>on bulb) |                  |
| Nominal filament current                   | 59 amps.         |
| Total emission                             | 7.5 amps.        |
| *Amplification factor                      | 33               |
| *Impedance                                 | 6,000 ohms       |
| *Mutual conductance                        | 5.5 mA. per volt |
| Grid-anode capacity                        | 18.6 $\mu$ F.    |
| Grid-filament capacity                     | 18.4 $\mu$ F.    |
| Anode-filament capacity                    | 3.8 $\mu$ F.     |
| * $V_p = 16,000$ volts, $I_p = 1.0$ amp.   |                  |



### LIMITING CONDITIONS FOR SAFE OPERATION.

|                                     |              |
|-------------------------------------|--------------|
| Maximum direct anode voltage        | 17,500 volts |
| Maximum anode dissipation           | 20 kW.       |
| Maximum grid dissipation            | 1.2 kW.      |
| Maximum frequency for above ratings | 5 Mc.        |

Tentative data.

V.4081-A.1  
Sept., 1938

# *—Standard Valves—*

## TYPICAL OPERATING CONDITIONS.

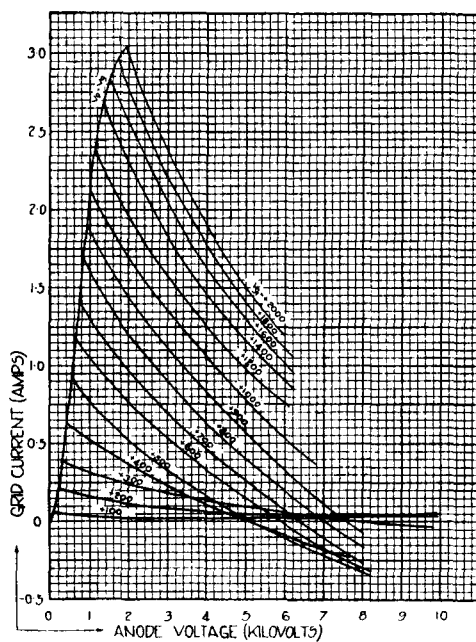
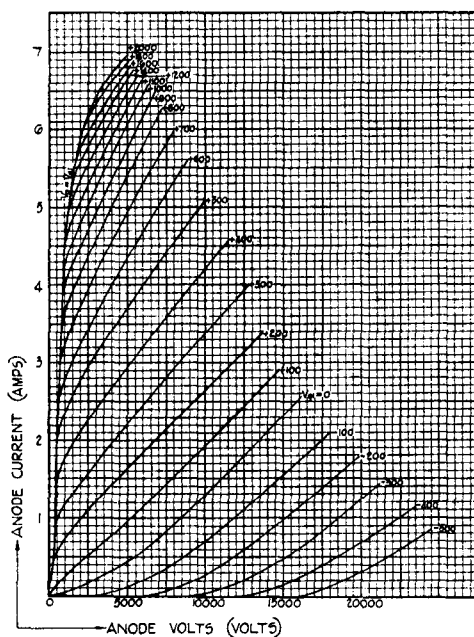
|                                                | Class B. A.F. Amp or Mod.            |
|------------------------------------------------|--------------------------------------|
| Anode voltage<br>Anode current<br>Power output | 17,500 volts<br>1.05 amps.<br>11 kW. |

|                                                               | Class B Telephony<br>Modulated carrier applied to grid. |                              |                                                  |
|---------------------------------------------------------------|---------------------------------------------------------|------------------------------|--------------------------------------------------|
| Anode voltage<br>Anode current<br>Carrier output<br>Frequency | 17,500<br>0.83<br>5<br>5                                | 15,000<br>0.83<br>3.75<br>25 | 13,000 volts<br>0.83 amps.<br>2.75 kW.<br>50 Mc. |

|                                                               | Class C Telephony<br>Subject to anode modulation. |                              |                                                 |
|---------------------------------------------------------------|---------------------------------------------------|------------------------------|-------------------------------------------------|
| Anode voltage<br>Anode current<br>Carrier output<br>Frequency | 12,500<br>0.83<br>6.75<br>5                       | 10,600<br>0.83<br>5.25<br>25 | 9,100 volts<br>0.83 amps.<br>3.75 kW.<br>50 Mc. |

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