

# Osram Valves

Made in England.



*Maximum Dimensions :*  
Overall length (including pins)  
140 m/m.  
Diameter of bulb  
45 m/m.

## TYPE W31

### UNIVERSAL RANGE VARIABLE MU SCREEN PENTODE

(With Indirectly Heated Cathode).

The OSRAM W31 is a Variable Mu Screen Pentode suitable for use in the High Frequency or Intermediate Frequency Amplifying portions of a receiver. Its filament rating of 0.3 amp. makes it suitable for operation in D.C. and Universal Receivers employing valves having filaments of a similar current rating in series. An important feature of the W31 is the low value of anode-grid interelectrode capacity.

#### CHARACTERISTICS.

|                |    |    |    |    |    |          |
|----------------|----|----|----|----|----|----------|
| Heater Current | .. | .. | .. | .. | .. | 0.3 amp. |
| Heater Volts   | .. | .. | .. | .. | .. | 13.0     |

|                        |    |    |    |    |    |      |
|------------------------|----|----|----|----|----|------|
|                        |    |    |    |    |    | Max. |
| Anode Volts            | .. | .. | .. | .. | .. | 250  |
| Screen Volts           | .. | .. | .. | .. | .. | 100  |
| Control Grid Volts     | .. | .. | .. | .. | .. |      |
| Anode Current average  | .. | .. | .. | .. | .. |      |
| Screen Current average | .. | .. | .. | .. | .. |      |
| Fixed Bias Resistance  | .. | .. | .. | .. | .. |      |
| Mutual Conductance     | .. | .. | .. | .. | .. |      |

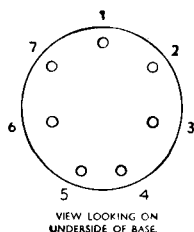
Recommended Operating  
Condition.  
180-200  
100

|             |                  |
|-------------|------------------|
| -2          | -20              |
| 8.0 ma.     | —                |
| 5.0 ma.     | —                |
| 150 ohms.   | —                |
| 2.7 ma/volt | 0.01<br>ma/volt. |

#### Interelectrode Capacities :—

|                             |    |    |    |    |                                 |
|-----------------------------|----|----|----|----|---------------------------------|
| Grid-Anode (others earthed) | .. | .. | .. | .. | 0.0026 micro-microfarad approx. |
| Anode—other electrodes      | .. | .. | .. | .. | 8.7                             |
| Grid—other electrodes       | .. | .. | .. | .. | 14.0                            |

For prices see  
pages 126-129.



#### BASE, 7-PIN.

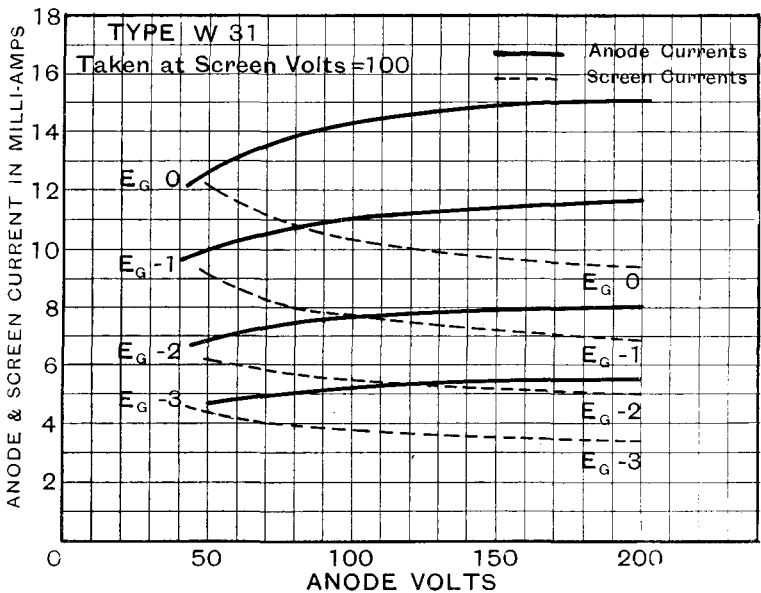
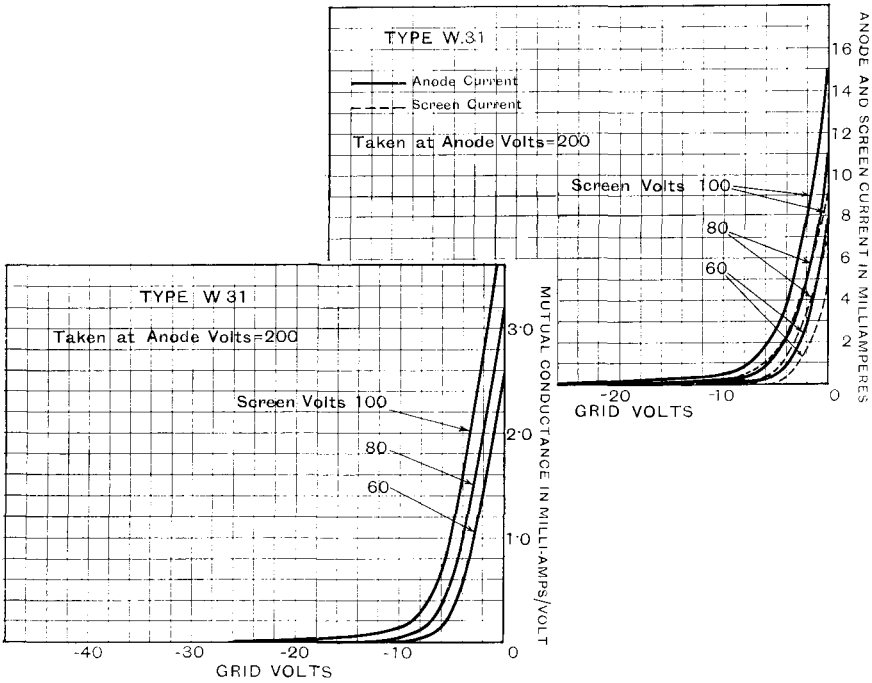
1: Metallising.  
2: Grid.  
3: Suppressor Grid.  
4: Heater.  
5: Heater.  
6: Cathode.  
7: Screen Grid.  
Top Cap: Anode.

Supplied in metallised bulb only.

#### TYPICAL OPERATING CONDITIONS.

It is recommended that a potentiometer network should be employed in order to maintain the screen voltage sensibly constant. This may conveniently be used also to supply the necessary screen voltage for a frequency changer such as type X31. Should a greater voltage output be required, as for example when used in the second stage of an I.F. amplifier, the screen voltage may be obtained by employing a dropping resistance in place of a potentiometer. This results in an increase in screen voltage and output, as the signal voltage and negative grid bias are increased.

# TYPE W31



CHARACTERISTIC CURVES OF AVERAGE VALVE.