



## AC4/PEN

### BEAM POWER OUTPUT VALVE FOR A.C. MAINS

#### RATING.

Heater Voltage	...	...	...	...	...	...	4.0
Heater Current (amps)	...	...	...	...	...	...	1.75
Maximum Anode Voltage	...	...	...	...	...	...	250
Maximum Screen Voltage	...	...	...	...	...	...	250
Maximum Dissipation (watts)	...	...	...	...	...	...	16
*Mutual Conductance	...	...	...	...	...	...	11

\*At  $V_a=100$  ;  $V_s=100$  ;  $V_g=0$ .

#### OPERATING CONDITIONS.

Anode Voltage	...	...	...	...	...	225	250
Screen Voltage	...	...	...	...	...	225	250
Grid Bias	...	...	...	...	...	8.0	8.75
Anode Current (mA)	...	...	...	...	...	52	64
Screen Current (mA)	...	...	...	...	...	10	13
Anode Load (ohms)	...	...	...	...	...	3,700	3,300
Input Swing (r.m.s.)	...	...	...	...	...	4.25	4.85
Bias Resistance (ohms)	...	...	...	...	...	118	114
*Power Output (watts)	...	...	...	...	...	5.1	6.9

\*For no individual harmonic exceeding 5 per cent.

#### DIMENSIONS.

Maximum Overall Length	...	...	...	...	...	129 mm.
Maximum Diameter	...	...	...	...	...	54 mm.

#### GENERAL.

The AC4/Pen. is an indirectly heated "beam power" output valve giving a power output greater than that of the AC5/Pen, with anode and screen voltages of 250. It is primarily intended for use in radio receivers requiring greater volume than that given by the normal output pentode.

The valve is a tetrode in which the secondary emission from the anode is suppressed by the space charge of the anode current. The absence of a suppressor grid enables very efficient operation of the valve to be obtained with decreased harmonic distortion. The valve is fitted with a standard 7-pin base, the connections to which are given overleaf.

#### OPERATION.

In the case of speakers with good bass response it will be necessary to provide good smoothing for the H.T. supply or extra smoothing for the screen. The valve should always be self-biased and the grid-cathode circuit should not exceed 150,000 ohms.

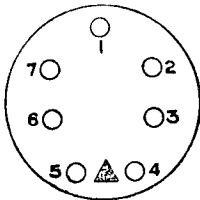
The anode load should not be less than that specified for the operating conditions or the second harmonic distortion will be increased at all power levels. The load may be kept constant by means of a condenser resistance filter but in speakers having an attenuated upper register, the rise of load at frequencies above 4,000 cycles is not of great importance.

The voltage applied to the heater terminals must be 4.0 volts when the transformer is operating at the average voltage of the primary tapping used.

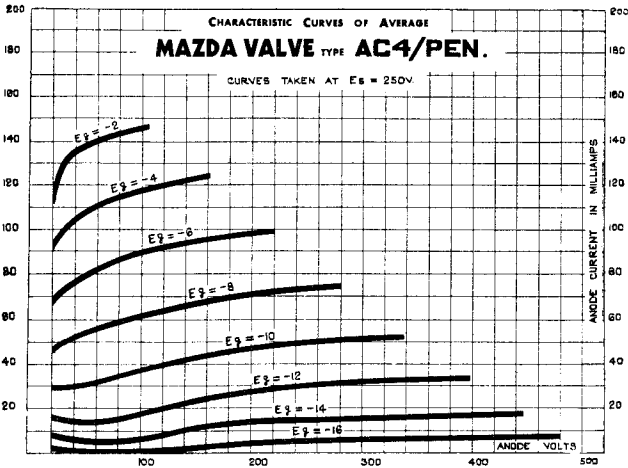
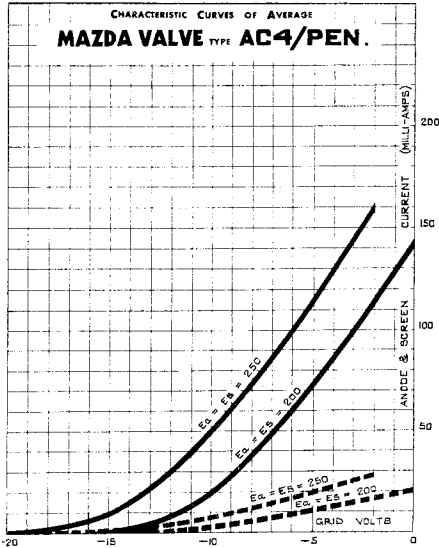


**BASING.**

- Pin No. 1. ———
2. Control Grid.
  3. Screen.
  4. Heater.
  5. Heater.
  6. Cathode.
  7. Anode.



Viewed from the free end of the base.



*Mazda Radio Valves are manufactured in Great Britain for the British Thomson-Houston Co. Ltd., London and Rugby.*