

MAZDA

AC/HL

A.C. Mains Receiving Valve



RATING.

Filament Voltage	4.0
Filament Amps.	1.0
Maximum Anode Voltage	200
Maximum Anode Current (mA)	12
*Mutual A.C. Conductance (mA/V)	3.0
*Amplification Factor	35
*Anode A.C. Resistance (ohms)	11,700

*at $E_a=100\text{ V.}; E_g=0.$

INTER-ELECTRODE CAPACITIES.

	Clear.	Metallised.
Anode—Grid	4.5 $\mu\mu\text{F.}$	4.5 $\mu\mu\text{F.}$
Anode—Cathode	5.25 $\mu\mu\text{F.}$	7.5 $\mu\mu\text{F.}$
Grid—Cathode	5.5 $\mu\mu\text{F.}$	5.5 $\mu\mu\text{F.}$

DIMENSIONS.

Maximum overall length	125 m.m.
Maximum overall diameter	56 m.m.

PRICE ~~15/-~~ 13/6

GENERAL.

The Mazda AC/HL Valve is an indirectly-heated, 4-volt, 3-electrode valve, for A.C. Mains operation. It has a high amplification factor as well as a low anode A.C. resistance, and is suitable for use in any position in the set with the exception of the last or output stage. The valve is available with clear or metallised bulb, the coating of the latter being connected to the cathode (centre) pin.

APPLICATION.

Detector.

The AC/HL will be found very suitable for use as a cumulative-grid detector; it has a particularly high-detection efficiency coupled with low damping. A condenser of 0.0001 to 0.0002 micro-farad with a grid leak of 1 to 2 megohms will be found suitable.

This valve is especially suitable for use as a power-grid detector, a condenser of 0.0001 $\mu\text{F.}$, and a leak of 100,000 to 250,000 ohms being required. The anode voltage should be at least 100 volts. With either type of detection the grid return should be connected to the cathode.

The low impedance of this valve makes it particularly suitable for use as an anode-bend detector.



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Amplifier.

The AC/HL may be used as a low-frequency amplifier with either transformer, choke, or resistance-capacity coupling. With resistance-capacity coupling an anode resistance of 50,000 to 100,000 ohms will be found suitable.

When using transformer or choke coupling the primary inductance need not be excessively high.

Anode Volts	...	...	...	...	100	150	200
Bias Anode-bend Detector	...	...	...	...	-3 to -4.5	-3 to -6	-4.5 to -7.5
Bias Amplifier	...	...	...	...	-1.5	-1.5 to -3	-3 to -4.5

BIAS.

The above table may be used as a guide for choosing bias for a given anode voltage. In the case of the metalised valve care should be taken to ensure that the cathode is connected to earth either directly or through a non-inductive condenser.

HEATER SUPPLY.

The step down transformer supplying the heater must be so designed that the voltage at the valve pins is 4 volts \pm 5%.

