

MAZDA

DC 3/HL

D.C. Mains Receiving Valve



RATING.

Filament Volts (Approx.)	25
Filament Amps.	0.1
Maximum Anode Voltage	200
*Amplification Factor	35
*Mutual A.C. Conductance (mA/V)	3.0
*Anode A.C. Resistance (ohms)	11,700
*at $E_a=100$; $E_g=0$.	

INTER-ELECTRODE CAPACITIES.

Anode to Grid	4.5 $\mu\mu\text{F}$.
Anode to Cathode	8.0 $\mu\mu\text{F}$.
Grid to Cathode	6.0 $\mu\mu\text{F}$.

DIMENSIONS.

Maximum overall length	125 m.m.
Maximum diameter	50 m.m.

PRICE 13/6

GENERAL.

The Mazda DC 3/HL Valve is an indirectly-heated 3-electrode valve for D.C. Mains operation. Mazda D.C. Valves are operated with their cathodes connected in parallel. Heaters are run in series being connected to the supply mains through a voltage dropping resistance. The DC 3/HL has a high amplification factor and a low A.C. resistance, rendering it suitable for use in any position in the set with the exception of the last or output stage. The bulb is metal coated the coating being connected to the centre pin (cathode). This coating should be connected to earth directly or through a non-inductive condenser.

APPLICATION.

Detector.

The DC 3/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 and a grid leak of 1 to 2 megohms will be found suitable. The valve is particularly suitable for use as a power-grid detector with a condenser of 0.0001 μF . and a grid leak of 100,000 to 250,000 ohms. The anode voltage should be not less than 100 volts. With either of the foregoing methods of detection the grid return should be connected to cathode. The low impedance of this valve makes it particularly suitable for use as an anode-bend detector.



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DC3/HL

AMPLIFIER.

The DC 3/HL may be used as a low-frequency amplifier with either transformer, choke, or resistance-capacity coupling. With R.C. coupling an anode-coupling 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	-4.5	-6
Bias Amplifier	-1.5	-1.5 to -3.0	-3.0 to -4.5
Self-bias Resistance	600 ohms.	600 ohms.	600 ohms.

HEATER SUPPLY.

In general, apart from the filament connections, circuits for use with these valves follow standard practice. The diagram (Fig. 1) shows the required connections to the mains. The heater of this valve is rated at 0.1 amps. and the current should be adjusted by the suitable choice of R3, which must be able to carry this current continuously without overheating. The heater voltage may vary between individual valves of the same type and should not, therefore, be used for providing bias.

GRID BIAS.

The values of grid bias required for various anode voltages are given above. This bias should be obtained by the self-biasing method using a resistance in series with the cathode lead.

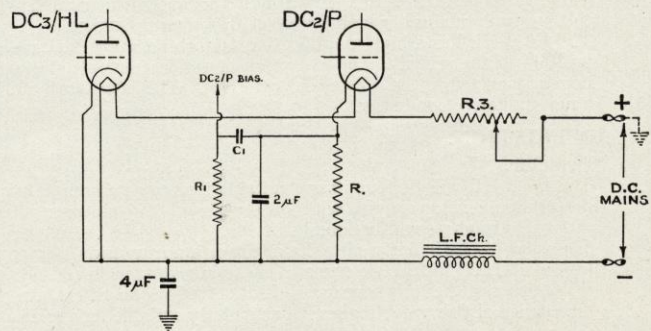
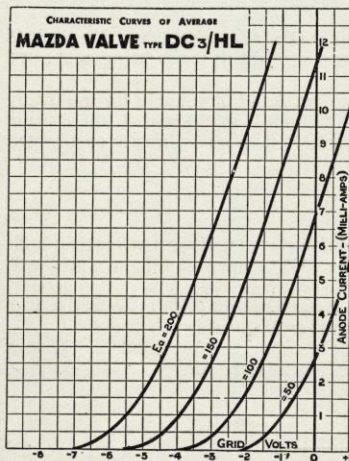


FIG. 1.