

**ESA5000**  
**FORCED AIR COOLED TRIODE**  
 (Previously EHA.5000)

**GENERAL**

The ESA5000 is a three electrode valve designed for use as a Radio Frequency Amplifier or Oscillator. The anode is fitted with a special radiator and cooling is obtained by forced air. The design minimises lead inductance and this valve is particularly suitable for use in R.F. heating equipments. It is the direct equivalent of the American type 889R.

**RATING**

|                                            |                   |           |
|--------------------------------------------|-------------------|-----------|
| Filament Voltage (volts)                   | $V_f$             | 11.0      |
| Filament Current (amps)                    | $I_f$             | 125       |
| Maximum Anode Voltage (volts)              | $V_a(\text{max})$ | 8,500     |
| Maximum Filament Emission (amps)           | $F_{em}$          | 9 ←       |
| Maximum Anode Dissipation (kW)             | $W_a(\text{max})$ | 5.0       |
| Mutual Conductance (mA/V)                  | $g_m$             | * 10      |
| Amplification Factor                       | $\mu$             | * 20      |
| Anode Impedance (ohms)                     | $r_a$             | * 2,000   |
| Maximum Operating Frequency at full rating |                   | † 25 Mc/s |

\* Taken at  $V_a = 5,000\text{v}$  ;  $I_a = 1,000\text{mA}$ .

† At higher frequencies the maximum permissible anode voltages and inputs must be reduced.

**INTER-ELECTRODE CAPACITANCES**

|                                     |           |      |
|-------------------------------------|-----------|------|
| Anode/Grid ( $\mu\mu\text{F}$ )     | $c_{a-g}$ | 20.7 |
| Anode/Filament ( $\mu\mu\text{F}$ ) | $c_{a-f}$ | 2.5  |
| Grid/Filament ( $\mu\mu\text{F}$ )  | $g_{l-f}$ | 19.5 |

**AIR FLOW (MAIN)**

500 cubic feet per minute. In addition, 15 cubic feet per minute should be directed on to the seals.

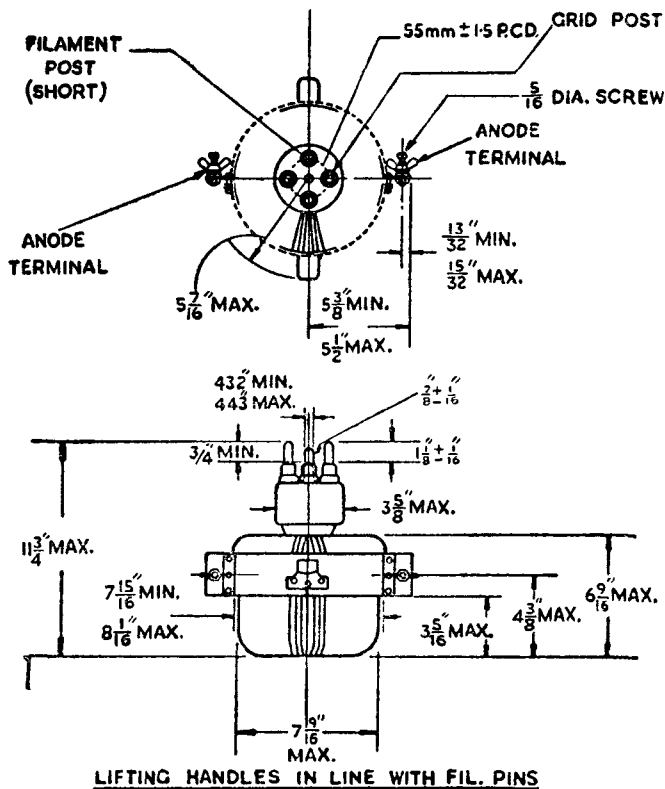
**DIMENSIONS**

|                                 |       |
|---------------------------------|-------|
| Maximum Overall Length (mm)     | 298.5 |
| Maximum Diameter (mm)           | 192.0 |
| Approximate Nett Weight (lbs)   | 34.0  |
| Approximate Packed Weight (lbs) | 72.0  |

**MOUNTING POSITION**—Vertical.

Indicates a change ←  
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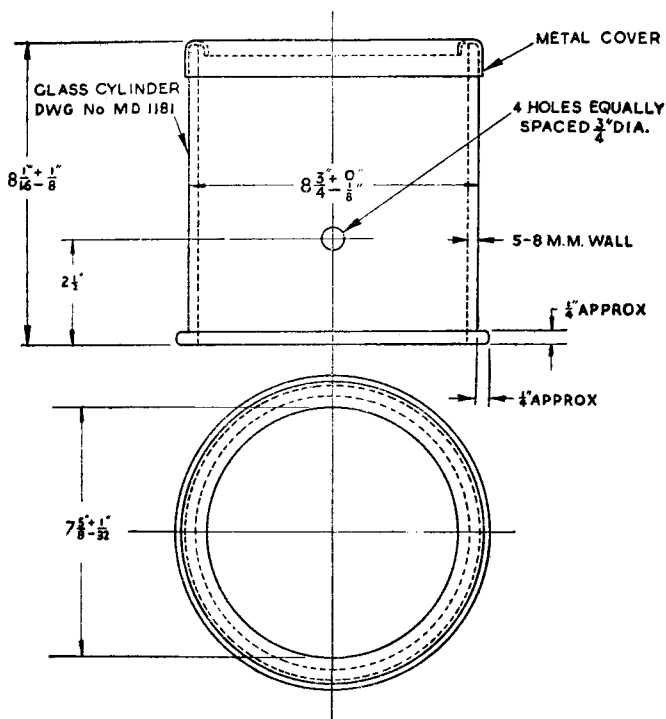
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ALL DIMS IN ins UNLESS  
 STATED OTHERWISE

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**SUPPORT TYPE G.C.4.**

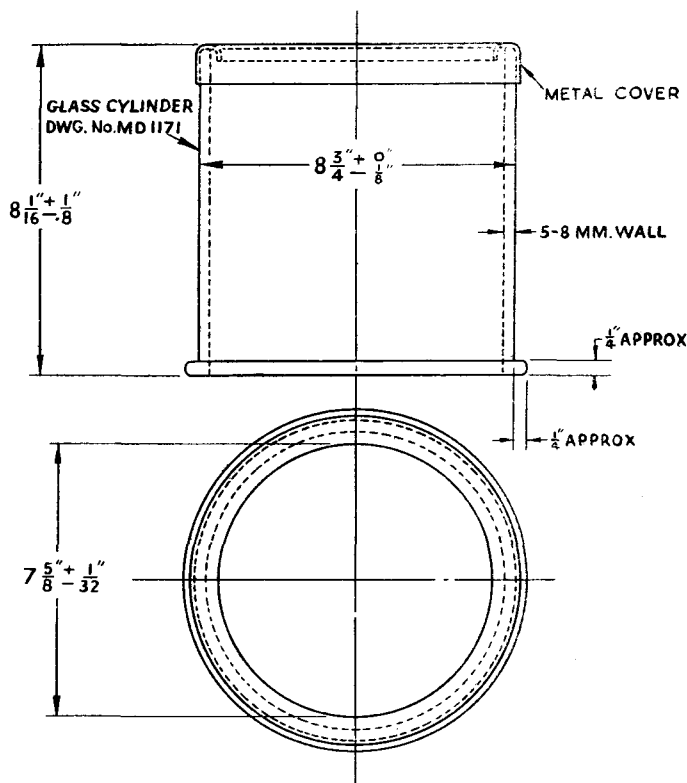


NOTE THIS SUPPORT IS USED WHEN VALVE IS OPERATED  
IN AN INVERTED POSITION

ALL DIMS IN ins UNLESS  
STATED OTHERWISE

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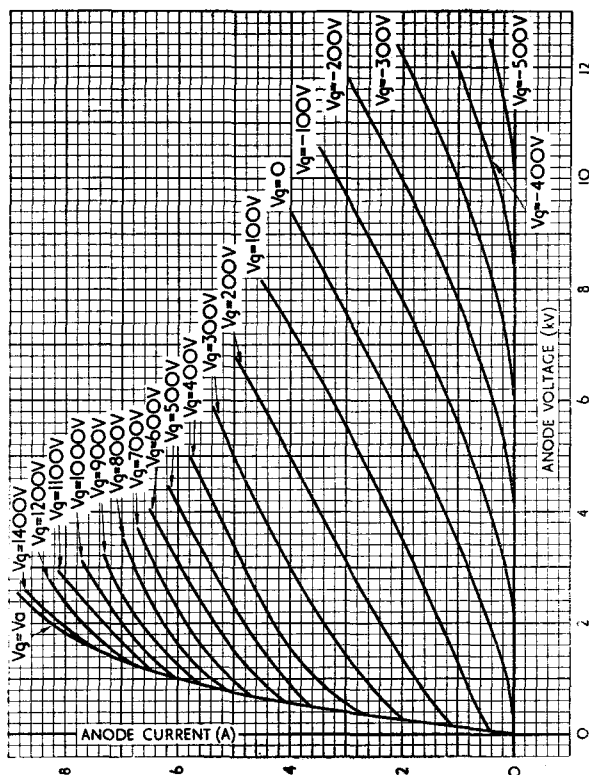
SUPPORT TYPE G.C.3.



ALL DIMS. IN ins UNLESS  
STATED OTHERWISE

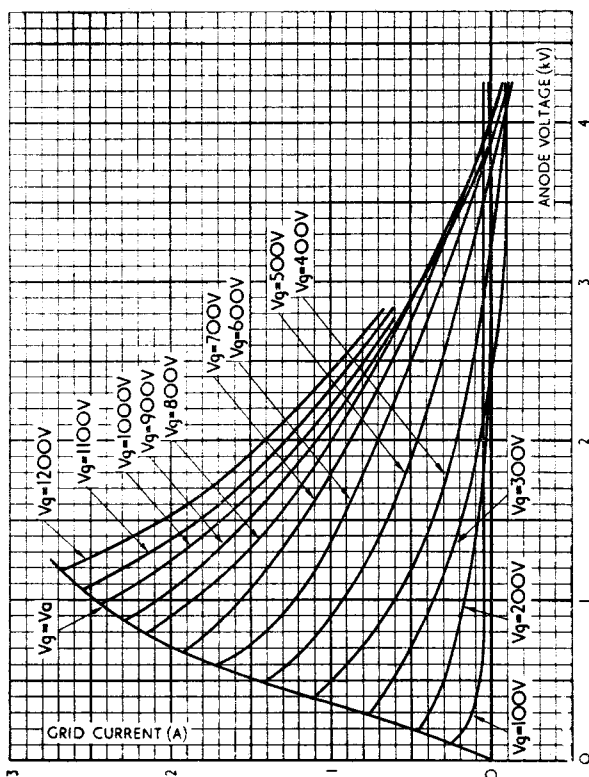
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AVERAGE CHARACTERISTIC CURVES:  $I_a/V_a$   
 ( $V_f = 11$  Volts A.C.)



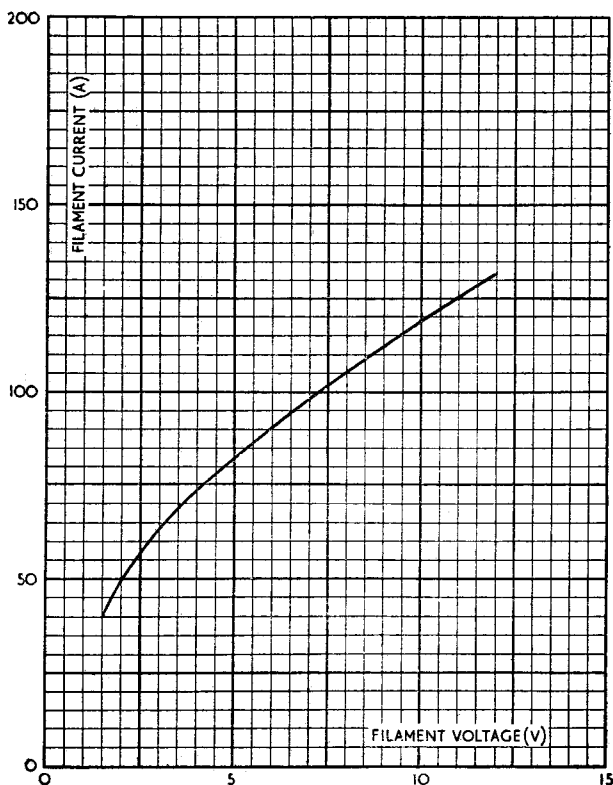
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**CHARACTERISTIC CURVES:  $I_g/V_a$**   
( $V_f = 11$  Volts A.C.)



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**AVERAGE CHARACTERISTIC CURVE:  $I_f/V_f$**   
(Cold resistance =  $0.0003 \Omega$ )



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CHARACTERISTIC CURVE:  $I_{em}/V_f$

