MINISTRY OF AIRCRAFT PRODUCTION (D.C.D.

VALVE ELECTRONIC **CV108**

Specification MAP/CV108/Issue 3 Dated 29.1.46. To be read in conjunction with K1001 ignoring clauses:- 5.2, 5.3, 5.8.	SECURITY Specification: ~~RESTRICTED~~ Unclass Valve: ~~RESTRICTED~~ Unclass.

→ Indicates a change

TYPE OF VALVE - Magnetron

CATHODE - Indirectly heated

ENVELOPE - Copper

MARKING

See K1001/4

The individual valve packing shall be marked with the value of efficiency

RATING

		Note
Heater Voltage (V)	6.3	
Heater Current (A)	2.8	
Nom. Operating Frequency (Mc/s)	9375	
Max. Anode Dissipation (W)	200	A
TYPICAL OPERATING CONDITIONS		
Peak Anode Voltage (kV)	11.5	A
Peak Anode Current (A)	12.5	A
Field Strength (gauss)	2670	
Peak power output (kW)	17	A

BASE

None

DIMENSIONS AND CONNECTIONS

See drawing on page 3

PACKING

See K1001/4

NOTE

A:- When operating under these conditions the magnetron must be air-cooled such that the temperature of the block does not exceed 140°C.

This valve type is obsolete and this specification is for record purposes only.

To be performed in addition to those applicable in K1001

	Test Conditions			Test	Limits		No. Tested.	Note
	Field Strength (gauss)	Vh	Modulator HT Line Voltage (kV)		Min.	Max.		
a	0	6.3	0	Ih (A)	2.5	3.1	100%	
b	2670± 50	0	4.1 ± 0.1	Peak Va (kV)	10.0	13.0	100%	2 & 3
c	2670 ±50	0	4.1 ± 0.1	Output Frequency (Mc/s)	9225	9525	100%	3 & 4
d	2670 ±50	0	4.1 ± 0.1	There shall be no continuous baseline on the oscilloscope trace, corresponding to pulses on an incorrect frequency.			100%	3 & 4
e	2670 ±50	0	4.1 ± 0.1	Efficiency	9%	-	100%	3 & 5

NOTES

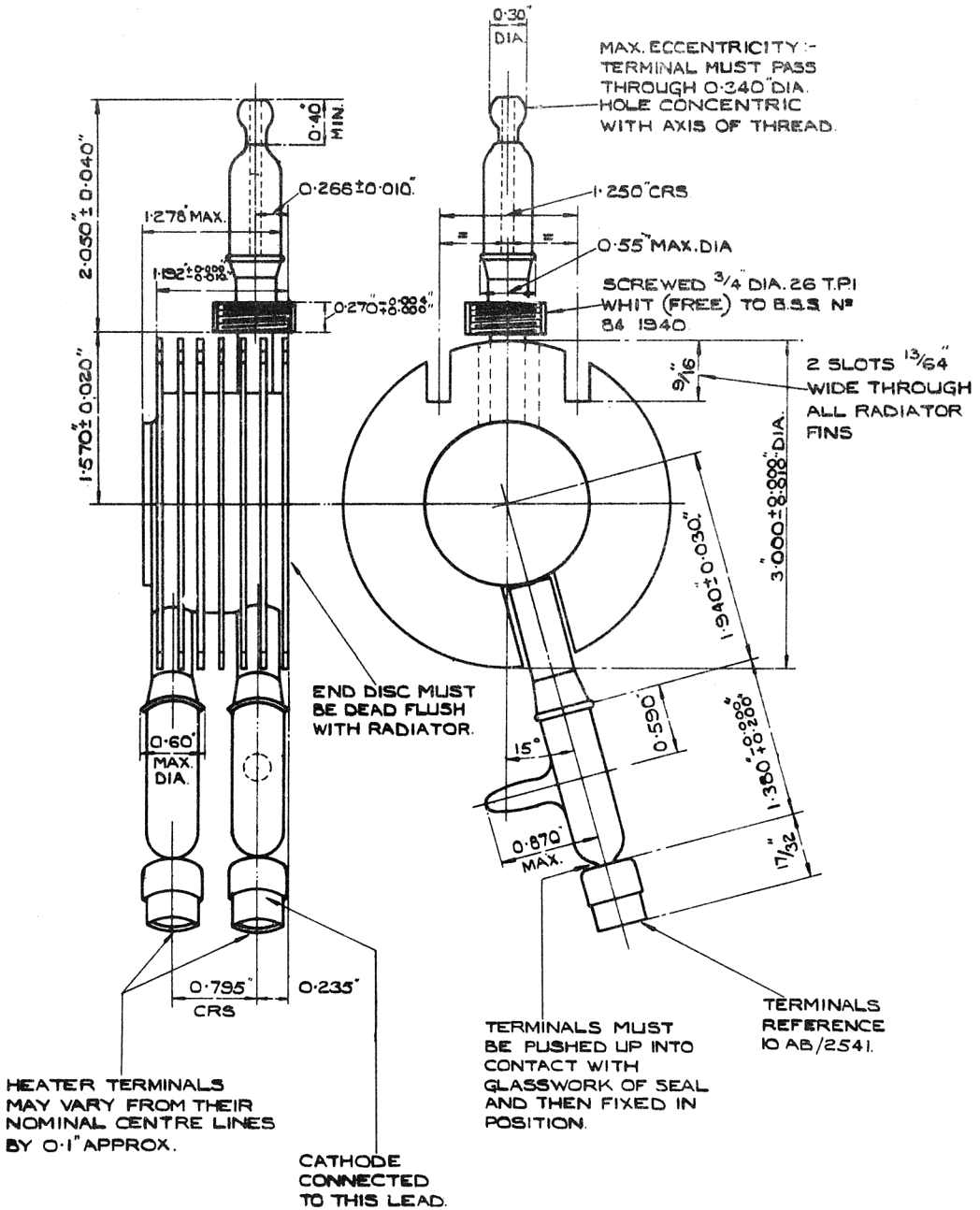
1:- For the above tests the temperature of the magnetron block shall not exceed 140°C.

2:- The valve shall be run for a period of between 0.5 and 2 minutes with Vh = 6.3V. At the end of that time the H.T. voltage shall be switched on and the heater voltage shall be switched off simultaneously. All subsequent tests shall be carried out with Vh = 0.

3:- This test shall be carried out using a modulator type 64 ref.No. 10DB/956, a transformer type 205 ref.No.10KB/6034, and a standard output circuit, as used in the H.F. box of TR.3529A ref. No.10DD/6085 or other approved equipment. The waveguide shall be terminated in a resistive load giving a standing wave voltage ratio better than 1.1 to 1.0. The matching shall be such as to give optimum power consistent with no mode jump. The waveguide shall be modified in such a manner as to allow for the attachment of the wavemeter. The modulator type 64 used must deliver 135 kW ± 10% to the valve under test when the H.T. line voltage is adjusted to 4.1 kV.

4:- To be measured using a high Q wavemeter with the output fed through a pulse amplifier into an oscilloscope sufficiently sensitive to give a reasonable indication on 5% missed pulses.

5:- If a valve which has once passed test clause (e) is re-tested for any reason, it shall be considered satisfactory if the measured efficiency on re-test is within ±10% of the original value.



NOTE :- NORMAL MAGNET AIR GAP IS 1·280" MIN. 1·300" MAX.