

Specification MAP/CV109/Issue 4 Dated 31.12.48. To be read in conjunction with K1001 ignoring clauses:- 5.2, 5.3.		<u>SECURITY</u>	
		<u>Specification</u> RESTRICTED	<u>Valve</u> UNCLASSIFIED
→ Indicates a change			
<u>TYPE OF VALVE</u> - Transmitting Klystron		<u>MARKING</u>	
<u>CATHODE</u> - Indirectly heated		See K1001/4	
<u>ENVELOPE</u> - Glass-unmetallised		<u>PACKING</u>	
<u>PROTOTYPE</u> - 9.P.K.5.		See K.1005	
<u>RATING</u>		<u>BASE</u>	
		I.O.	
		Note	
Heater Voltage (V)	4.0	Pin	Electrode
Heater Current (A)	2.5	1	No connection
Max. Peak Anode Voltage (kV)	10.0	2	Heater
Max. Collector Dissipation (W)	170	3	No connection
Operating Frequency for which valve is set up (Mc/s)	3280	4	No connection
		5	No connection
		6	No connection
		7	Heater & Cathode
		8	No connection
		Connection to collector electrode is made via the diffuser.	
		<u>DIMENSIONS</u>	
		See drawing on page 4.	
<u>NOTES</u>			
A. - The terms anode and resonator are synonymous.			
B. - In operation this valve should be supplied with forced air cooling such that the temperature of the edge of the collector disc does not exceed 100°C.			

To be performed in addition to those applicable in K1001.

	Test Conditions			Test	Limits		No. Tested	Note
	Vh	Vc(kV)	Vr(kV)		Min.	Max.		
a	4.0	0	0	Ih (A)	2.25	2.75	100%	
b,1	4.0	7.0	7.0	Collector + resonator current say Ia Value to be noted (mA)	280	380	100%	
2	4.0	7.0	7.0	Note value of collector current say Ib (mA)				
c	From measurements made in test b.			Value of Ib/Ia	0.9 ± 4%		100%	
d	4.0	7.0	7.0	Peak power output at frequency of 3280 Mc/s. (W)	250	-	100%	1, 2.
e	4.0	-0.1	Adjusted to give 10mA resonator current.	Change in collector current (µA)	-	2.0	100%	
Current in collector circuit read on sensitive galvanometer (say 30µA full scale reading) with valve cold (Vh = 0) and then with valve hot, Vr being left on.								
f	4.0	2.5 approx.	2.5 approx.	No beam or other signs of softness shall be visible.			10%	
Vc=Vr= value required to give 170W. dissipation in collector.								
g	4.0	7.0	7.0	Other conditions as in test clause 'd' except that P.R.F. = 13,000 per second.				
1. After setting up, the H.T. supply is switched off for a period of 10 mins. The H.T. supply is then reapplied and the P.R.F. re-set to 18,000 per second.				1. Frequency of oscillation (Mc/s) 30 secs. after applying H.T.	3280 ± 2		100%	
2. The H.T. supply is again switched off for a period of 10 mins. and then re-applied with P.R.F. re-set to 1000 per second.				2. Frequency of oscillation (Mc/s) 30 secs. after applying H.T.	3280 ± 2			
				5 mins. after applying H.T.	3280 ± 2		100%	
				5 mins. after applying H.T.	3280 ± 2			

NOTES

- 1 - In test 'd' above, the anode voltage shall be pulsed with a pulse length of 3/usec. and a P.R.F. of 18,000 per second. In tests 'b' and 'c' modulation conditions may be similar to those in test 'd' or other conditions may be submitted for approval.
- 2 - Comparative measurements of output should be made by means of a lamp. For this measurement the size of coupling loop should be such that maximum output is obtained with the loop oriented to a position such that its plane is at an angle of  $10^{\circ}$  to a plane containing the principal axis of the resonator and the centre line of the coupling loop entry.
- 3 -  $V_c$  = collector voltage,  $V_r$  = resonator voltage.

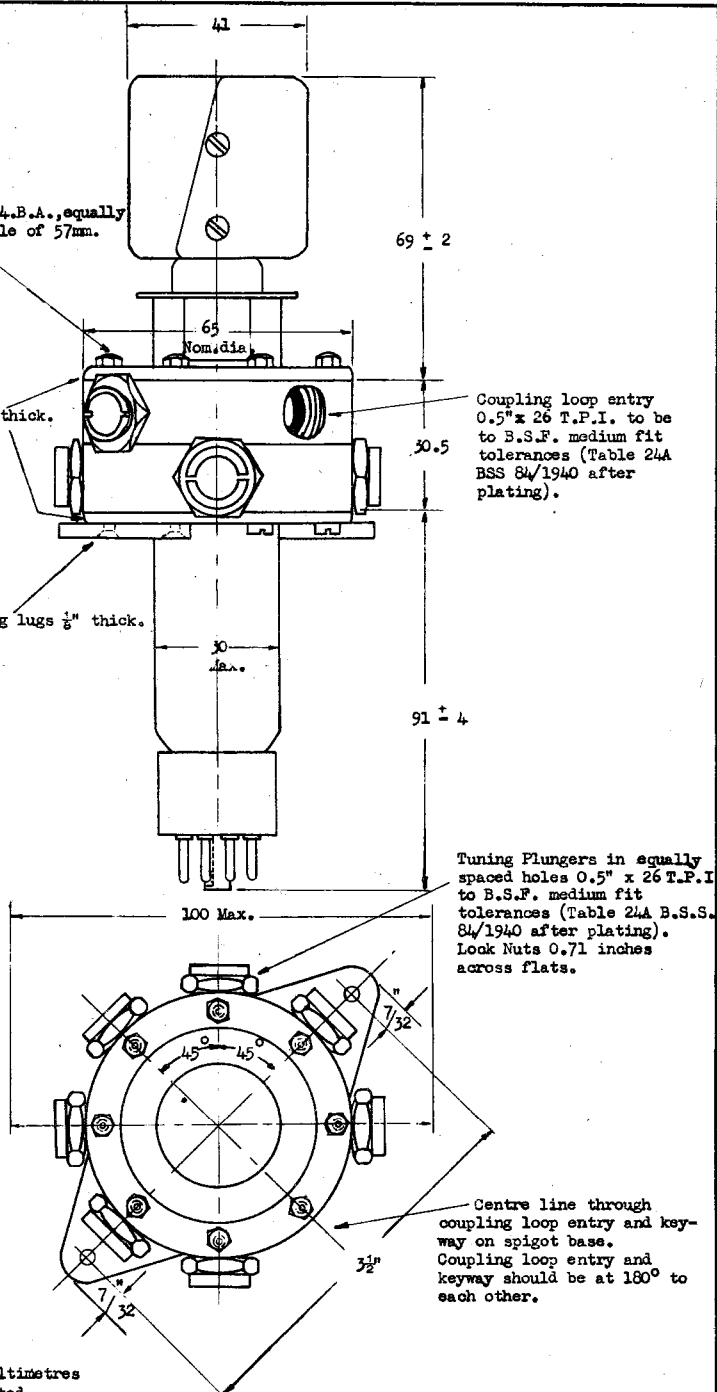
3

C.V109.

8 Fixing Bolts, size 4.B.A., equally spaced on pitch circle of 57mm. diameter.

Clamping rings 3mm. thick.

Fixing lugs  $\frac{1}{8}$ " thick.



All dimensions in millimetres unless otherwise stated.