MINISTRY OF SUPPLY (S.R.D.E.)

VALVE ELECTRONIC CV238

Specification MOS/CV238/Issue 4 Dated:- 25.9.46 To be read in conjunction with K1001 ignoring clauses:- 5.2, 5.3 and 5.8	SECURITY	
	Specification	Valve
	Restricted	unclassified

→ indicates a change

TYPE OF VALVE:- Velocity modulated local oscillator
CATHODE:- Indirectly heated
ENVELOPE:- Copper/glass
PROTOTYPE:- KR6/3

MARKING

As in K1001/4, ignoring all reference to a frame.

RATING		Note
Heater voltage (V)	4.0	
Heater current (A)	1.5	
Tuning range (Mc/s)	2930-3130	
Max. res. dissipation (W)	8	
Mean res. voltage (V)	250	
Refl. voltage range (V)	100-175	C & F
Grid voltage (V)	0	
Min. A.F.C. range (Mc/s)	20	A
Refl. voltage change for above frequency change (V mean)	25	B
Max. permissible series resistance in target circuit (Ω)	25,000	

BASE
IO

Pin	Electrode
1	Grid
2	Heater
3	No connection
4	Resonator *
5	No connection
6	No connection
7	Heater
8	Cathode
T.C	Reflector

TOP CAP

See K1001/A1/D5.2

DIMENSIONS

See page 3.

NOTES

A. By variation of reflector voltages from $\frac{1}{2}$ power to $\frac{1}{2}$ power at any mean frequency in the range.

B. Superimposed on optimum setting but not necessarily disposed symmetrically about this setting.

C. This range applies to the 50Ω loaded condition. Unloaded the reflector volts are about 10 volts higher.

D. The valve is designed to be used with grid connected to cathode.

E. The tuners should not be screwed out more than 7 turns from the fully screwed in position otherwise the retaining clips may become detached and these are difficult to replace.

F. Reflector volts negative to cathode.

* The resonator is not brought out to the base in early samples.

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TESTS

To be performed in addition to those applicable in K1001

	Test conditions				Test	Limits Min.	Limits Max.	No. tested
	Vf	Vg	Va	Vr				
a	4.0	0	0	0	If (A)	1.0	1.6	100% or S
b	4.0	0	adjusted	adjusted	(i) Range over which oscillations can be obtained (Mc/s)	3130	2930	100%
	Va is adjusted for Wa not greater than 8W. The frequency of oscillation is varied by means of preset tuners. The valve is to be fully loaded resistively				(ii) Vr over range	95	170	100%
					(iii) Va over range	230	270	100%
					(iv) Power output at 3130 Mc/s (mW)	100	-	100%
					(v) Power output at 2930 Mc/s (mW)	100	-	100%
c	4.0	0	As in test 'b'	Initially as in 'b'				
	With the valve tuned to 3130 Mc/s reduce the resistive loading (e.g. by rotating the coupling loop) so that 50% of the maximum power is obtained. Then vary Vr from a value greater than to a value less than the optimum such that the power output does not fall to less than 50% of that at optimum Vr. Observe change in frequency and in Vr.				(i) Total frequency change (Mc/s)	20	40	100%
					(ii) Total reflector voltage change (V)	25	50	100%
d	4.0	0	As in test 'b'	Initially as in test 'b'	(i) Total frequency change (Mc/s)	20	40	5% (10)
	Test clause (c) to be repeated at 2930 Mc/s.				(ii) Total reflector volts change (V)	25	50	5% (10)

NOTES

1. Va = Resonator voltage.
   Vr = Reflector voltage.

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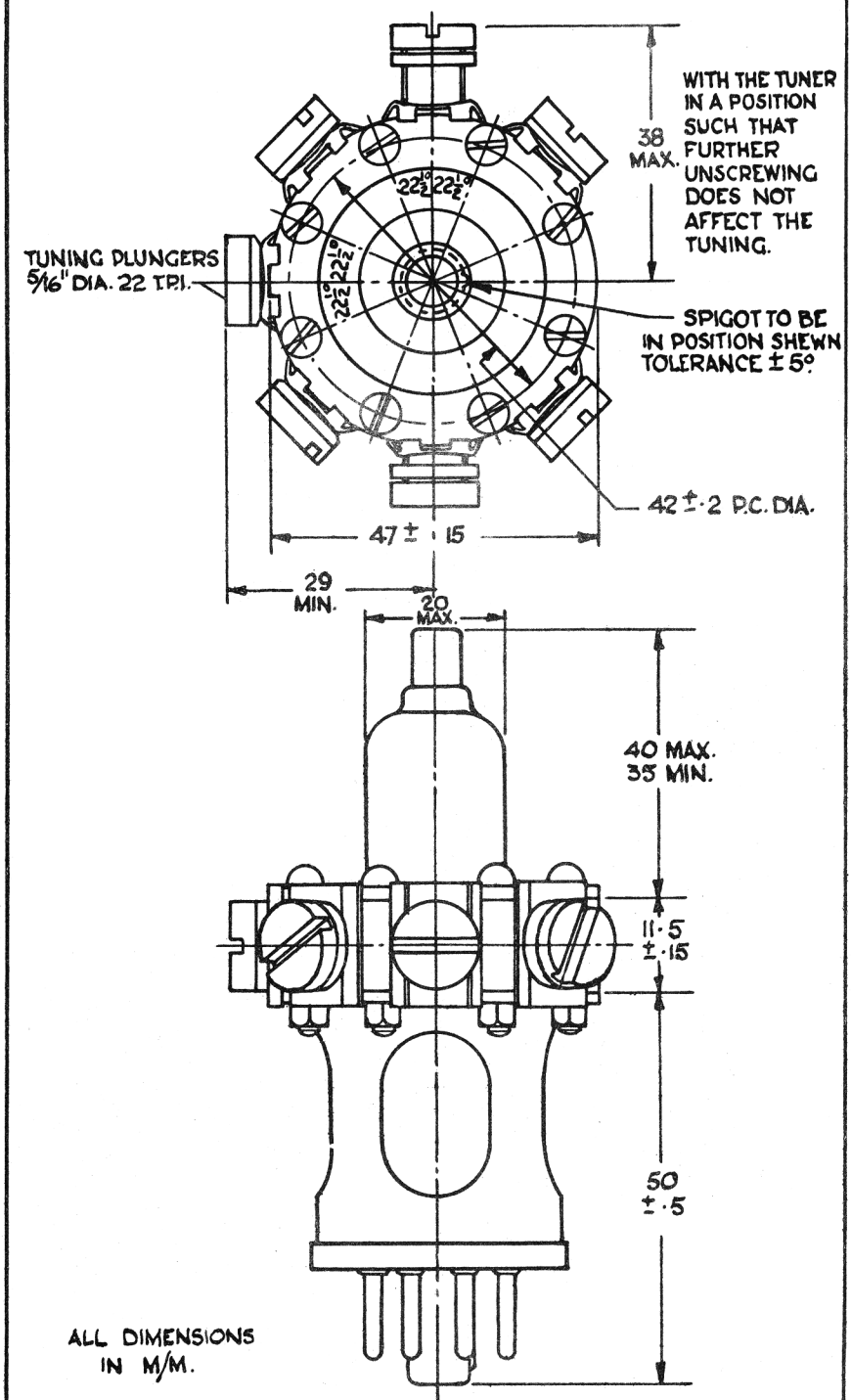
WITH THE TUNER IN A POSITION SUCH THAT FURTHER UNSCREWING DOES NOT AFFECT THE TUNING.
38 MAX.
TUNING PLUNGERS 5/16" DIA. 22 T.P.I.
SPIGOT TO BE IN POSITION SHEWN TOLERANCE ± 5°
42 ± ·2 P.C. DIA.
47 ± ·15
29 MIN.
20 MAX.
40 MAX. 35 MIN.
11·5 ± ·15
50 ± ·5
ALL DIMENSIONS IN M/M.