

AMENDMENT NO.1

Page 2. Test j.

AMEND to read as follows:

j.	As for Test (c)	<u>Thermal Factor</u>	-	-0.25	T.A.	8
		(1) Change in frequency (Mc/s °C)				
		(2) Direction of change in frequency			100%	8 & 9

21.3.57
N.8774.R

T.V.C. Office
for Director R.R.E.

ELECTRONIC VALVE SPECIFICATION

CV2263, Issue 4, dated 23rd June, 1954.

Amendment No.2

Page 3 Note 9 Amend to read:

"The direction of the Thermal Factor shall be observed while operating the valve for a period not less than 5 minutes under the conditions specified in Test Clause (c). The valve shall then be cooled by any suitable external means and the direction of drift of frequency noted. During the test the resonator and reflector voltages shall remain constant. Valves shall be rejected if the frequency decreases while being cooled".

Royal Radar Establishment

April, 1962.

11835

Specification MOS(A)/CV2263 Issue 4 Dated 23. 6. 54 To be read in conjunction with K1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Velocity Modulated Oscillator CATHODE - Indirectly-heated ENVELOPE - Copper-glass with waveguide output PROTOTYPE - VX9040				<u>MARKING</u> See K1001/4	
				<u>BASE</u> International Octal	
<u>RATING</u>				<u>CONNECTIONS</u>	
		Note	Pin	Electrode	
Heater Voltage	(V)	6.3		1	No connection
Heater Current	(A)	0.56	-	2	Heater
Max. Resonator Voltage	(V)	400		3	Pin omitted
Max. Resonator Dissipation	(W)	20		4	Pin omitted
Reflector Voltage Range	(-V)	80 to 170	A	5	Resonator
				6	Pin omitted
Min. RF Power Output	(mW)	15		7	Heater and Cathode
Mechanical Tuning Range	(Mc/s)	9250 to 9500	C	8	No connection
				TC	Reflector
Min. Electronic Tuning Range	(Mc/s)	30			
Nominal Reflector Voltage				<u>TOP CAP</u>	
change to achieve 30 Mc/s electronic tuning	(V)	20		See K1001/A1/D5.2	
Max. Total Impedance in reflector to cathode circuit	(megohm)	0.5		<u>DIMENSIONS</u>	
				See Drawing on Page 4	
				<u>MOUNTING POSITION</u>	
				Any	

NOTES

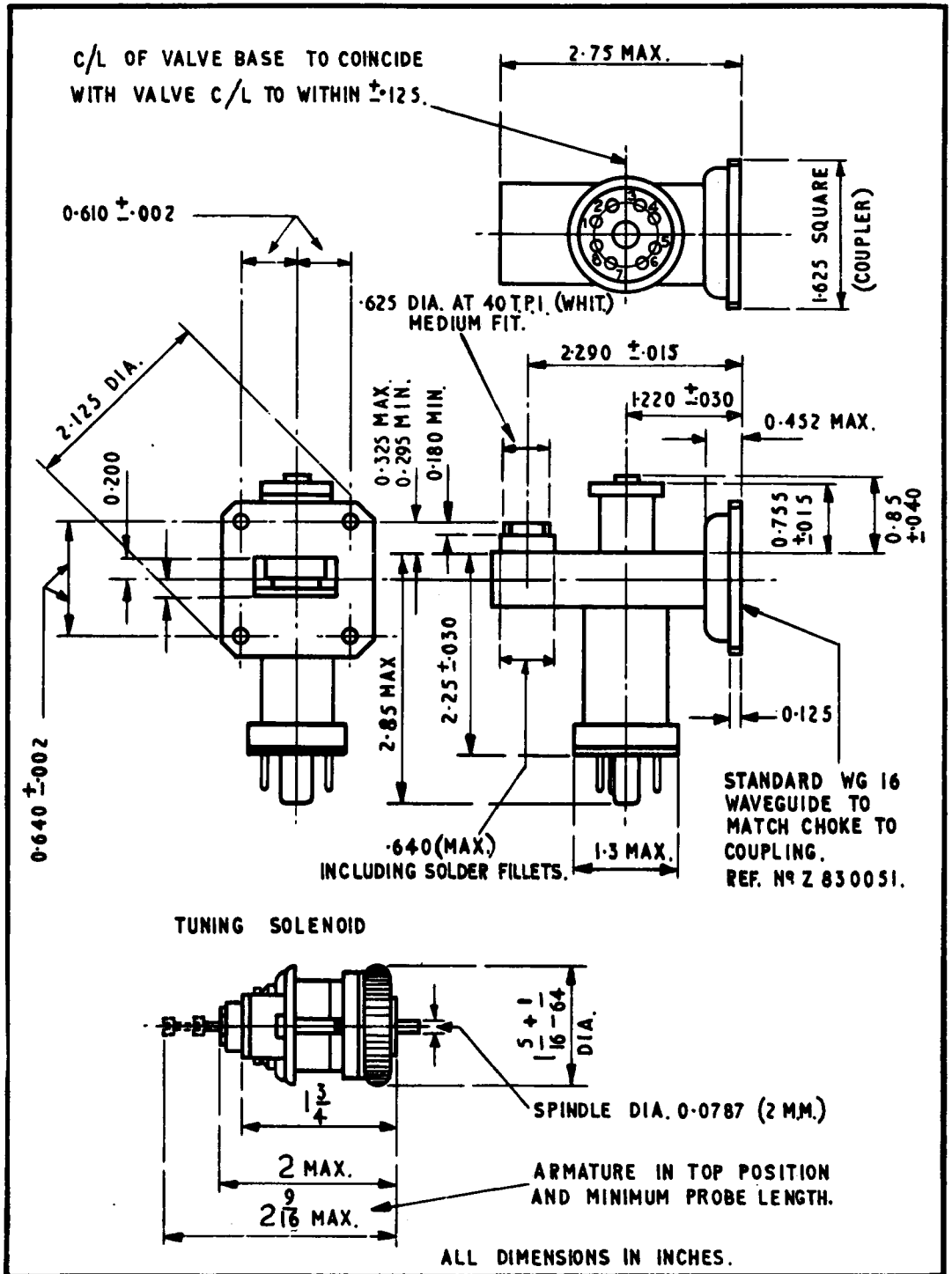
- A. Each valve is marked with the reflector voltage at which the valve will oscillate and give a power output of at least 10 mW over the whole band.
- B. The reflector voltage must never become equal to or more positive than the cathode; if under AFC working there is any chance of this happening, a protective diode must be used.
- C. Mechanical tuning is effected by means of a suitable plunger fitted externally. See Drawing on Page 4.

To be performed in addition to those applicable in K1001

Test Conditions					Test	Limits		No. Tested	Note
Vh (V)	Vres (V)	Vref (V)	Frequency (Mc/s)	Min.		Max.			
a	6.3	-	-	-	Heater Current (A)	0.52	0.61	Note 1	
b	6.3	350	Adjust	Random point within band 9250 to 9500.	1. RF Power Output (mW) 2. Reflector Voltage (-V)	10 80	- 170	Note 1	2 3
c	As for Test (b)			9375 ± 20	1. Frequency Drift (Mc/s) 2. Reflector Voltage (-V) 3. Beam Current (mA)	- 80 20	5 170 44	Note 1	3 & 4 3
d	As for Test (b)			9250	1. Electronic Tuning (Mc/s) 2. RF Power Output (mW) 3. Reflector Voltage (-V)	30 15 80	- - 170	100% 100% 100%	5 3
e	As for Test (b)			9500	1. Electronic Tuning (Mc/s) 2. RF Power Output (mW) 3. Reflector Voltage (-V)	30 15 80	- - 170	100% 100% 100%	5 3
f	As for Test (c)				Frequency Variation (Mc/s)	-	4	Note 1	3 & 6
g	6.3	350	Adjust to that value marked on valve	9250-9500	RF Power Output (mW)	10	-	100%	7
h	5.7	350	Adjust	9375 ± 20	1. RF Power Output (mW) 2. Decrease in Beam Current from value found in Test (c) (%) 3. Reflector Voltage (-V)	10 - 80	- 30 170	100% 100% 100%	3
j	As for Test (c)				<u>Thermal Factor</u> Change in frequency (Kc/°C)	-	-0.25	100%	8 & 9

NOTES

1. This test shall be performed on 6 valves per day or 10% of the day's production, whichever is the greater. If this sample batch passes the test then all valves will be acceptable. If there are any rejects in the sample batch, then all the valves in the day's production will be tested. The sample batch shall be selected at random from the day's production.
2. Measured within 3 minutes of switching on all supplies.
3. Reflector voltage shall be adjusted to give the maximum RF power output of the reflector mode.
4. With the valve inserted into an approved test mount, the frequency drift shall be measured between 4 mins and 15 mins after switching on all supplies.
5. Measured at 3 db points.
6. When a 2-megohm resistor is inserted in series with the reflector lead.
7. Each valve is marked with a reflector voltage at which it will oscillate and give an output power of at least 10 mW over the entire frequency range.
8. During this test the temperature shall be that of the resonator body.
9. The direction of drift of the Thermal Factor may be checked by operating the valve for 2 minutes under the conditions specified in Test Clause (c). The heater supply is then switched off and the direction of drift of the frequency with anode current is noted, the anode and reflector voltages remaining constant. Valves shall be rejected if $\frac{df}{dI_a}$ is negative.



CV2263/4/4.