

Test Specification No.	Date	To be read in conjunction with K1001, ignoring clauses :- 5.2, 5.8.
D.C.D., W.T. 1147 Issue No.3	18th July 1943.	

<u>TYPE OF VALVE</u> : Transmitting Tetrode		<u>MARKING</u> VT114 10E/163 Serial Number
<u>CATHODE</u> : Directly Heated - Thoriated Tungsten		
<u>ENVELOPE</u> : Metal-Glass Construction		<u>DEGREE OF SECRECY OF VALVE</u> NON-SECRET
<u>COMMERCIAL PROTOTYPE</u> : E.1024.		
<u>RATING</u>	Note	<u>DIMENSIONS & CONNECTIONS</u> See Fig.1
Filament Voltage (volts)	10.0 A	
Filament Current (amps.)	70.0 A	<u>PACKING</u> See clause 7.3 of K1001 Additional marking :- "Glass - Fragile"
Maximum Anode Dissipation (watts)	200 B	
Maximum Operating Frequency (Mc/s)	60	
<u>CAPACITANCES</u> (PF)		
Anode to all other electrodes	20	
Grid to all other electrodes	35	
Anode to grid (max.)	2	
<u>NOTES</u>		
A:- Cooling of the filament leads and adjacent re-entrant portion of the envelope shall be provided by not less than 10 cu.ft. of air per minute with a pressure drop of the order of 2 inches of water.		
B:- For this dissipation forced air cooling shall be provided by not less than 85 cu.ft. of air per minute with a pressure drop across the valve of the order of 2 inches of water.		

TESTS

To be performed in the order specified, and are additional to those applicable in K1001.

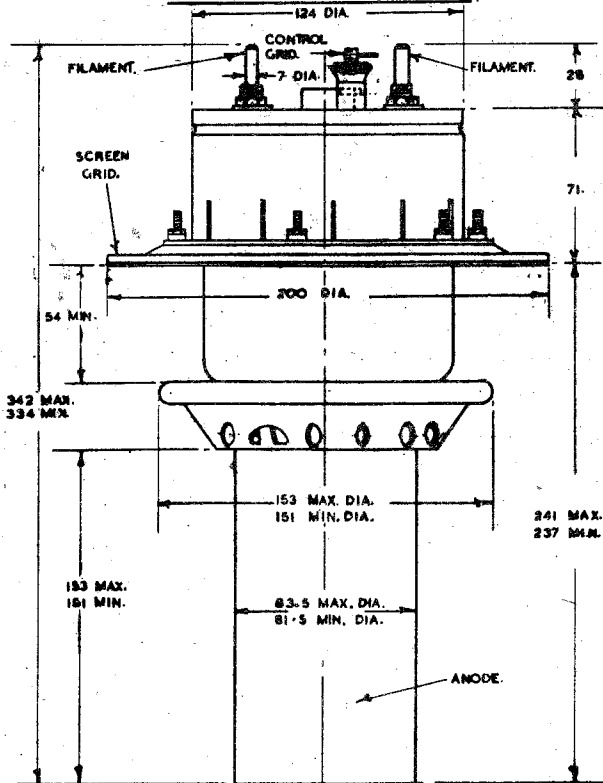
Clause	Test Conditions					Test	Limits		No. Tested
	Min.		Max.						
	Forced air cooling for the filament leads and the anode shall be provided by not more than 10 cu. ft. and 85 cu. ft. of air per minute, respectively, with a pressure drop across the valve of the order of 2 inches of water.								
a	Vf	Va	Vg2	Vg1	Ia(mA)				
	10.0	Raised slowly to 27.5 kV and maintained till flashing ceases. See Note 1	Strapped		a trace	Hot Flash Process Anode voltage maintained at 27.5 kV for a period of 5 mins. without further flashing. See Note 1.			100%
b	10.0	0	0	0	-	Filament Current (amps.)	66.5	73.5	100%
c	10.0	1 kV	1 kV	-	200	Reverse Control grid current (milliamps)	-	1.0	100%
d	10.0	1 kV	1 kV	-	200	Grid Voltage (volts)	-85	-120	100%
e	10.0	1 kV to 700v.	1 kV to 700v.	-	Main tained at 200	Grid Voltage change (volts)	48	64	100%
f	-	300	300	300	Total cathode current 0.5amp	Filament Voltage (volts)	-	6.0	100%
g	10.0	150	150	150	-	Total Cathode current (amps.)	0.9	1.5	100%
h	10.0	Strapped pulse of peak value 6 kV., half sine wave shape, duration 2 μ secs. and recurrence frequency 50 c.p.s. to be applied.			-	Emission Current (amps.)	70	-	5% (4)

(Tests continued on page 2).

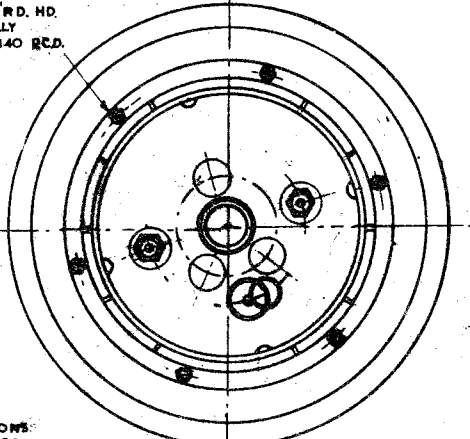
VT114/3/1.

	Test Conditions				Test	Limits		No. Tested
	V _f	V _a	V _{g2}	V _{g1}		I _a (mA)	Min.	
j	See Appendix III of K1001				Capacitance (pF) 1. C _a - all. 2. C _g - all. 3. C _{g2}	16 26.3 -	24 43.7 2	25 (1)
k	Life - A minimum life of 4000 hours is expected, life failure being considered to occur when the emission of the valve has fallen below 0.5 amp. at V _f = 6.6 volts, other conditions as in test clause (f)							
NOTE 1. Once the conditions specified in test clause (a) have been met, the test conditions need not be repeated for acceptance testing. For this hot flash process there shall be a 300 ohm resistor in series with the applied volts and a capacitance of 0.25 μF in parallel with the supply volts on the supply side of the resistor.								

OUTLINE DIMENSIONS FIG. 1.



6 No. 4 BA.1 RD. HD. SCREWS EQUALLY SPACED ON 140 RCD.



ALL DIMENSIONS IN MILLIMETRES.