

VALVE ELECTRONIC

MINISTRY OF SUPPLY, D.L.R.D.(A)/R.A.E.

Specification M.O.S.(A)CV.2342 Issue 2      Date 18.2.56 To be read in conjunction with BS.1409 and K.1001 excluding Clause 11.2	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

→ indicates a change

TYPE OF DEFLECTION - Magnetic  TYPE OF FOCUS      - Electrostatic  BULB                    - Special concave face  SCREEN                - G.G.5  PROTOTYPE            - VCRX.364	<u>MARKING</u> See K1001/4
	<u>BASE</u> B9A Modified See Note B

<u>RATING</u>				Note	<u>CONNECTIONS</u>	
					Pin	Electrode
Heater Voltage	(V)	6.3			1	a2
Heater Current	(A)	0.65			2	NC
Max. First and Third Anode Voltage	(kV)	2.5	A		3	g
Max. Peak Cathode Current	(mA)	1.0	A		4	h
Max. Heater to Cathode Voltage					5	h
Cathode Negative	(V)	100	A		6	g
					7	k
<u>Typical Operating Conditions</u>					8	NC
First and Third Anode Voltage	(kV)	1.5			9	a1 and a3
Second Anode Voltage (approx.)	(V)	300				
Peak Cathode Current	(mA)	60				
					<u>DIMENSIONS</u> See drawings pages 4 & 5	

NOTES

A. Absolute value.

B. This tube will enter a B9A radio valve holder with central hole 0.256 inch diameter to admit exhaust pipe.

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To be performed in addition to those applicable in K.1001

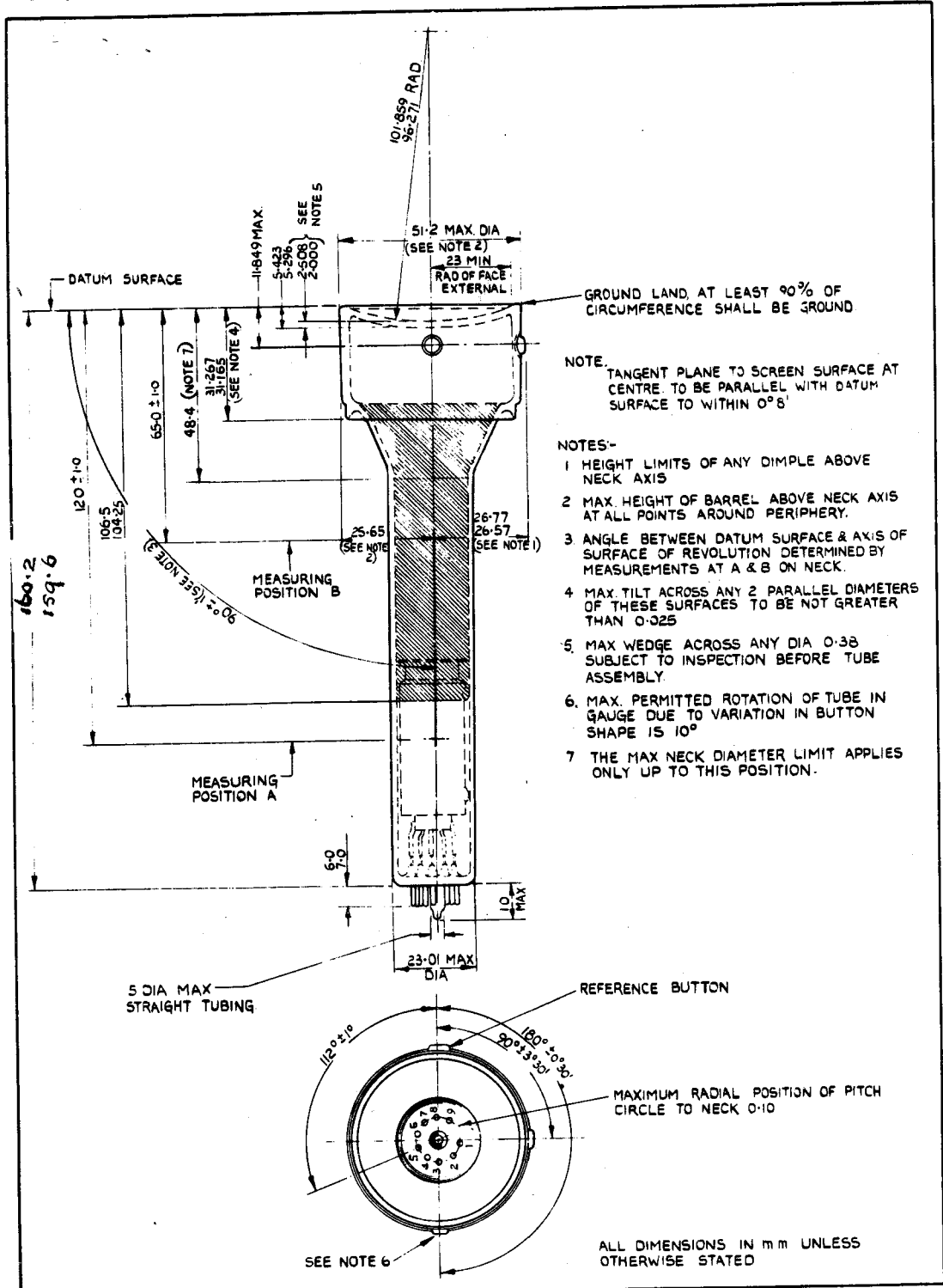
Test Conditions					Test	Limits		No. Tested	Note
Vh (V)	Va1 and Va3 (kV)	Va2 (V)	Vg (V)	Min.		Max.			
a	See K1001/AlII				Capacitance (pF) (1) Cathode-all (2) Grid-all	4.0 12.5	6.0 17.5	TA	
b	6.3	0	0	0	Ih (A)	0.55	0.65	100% or S	
c	7.0	0	0	0	Ihk (μA)	-	100	100%	
Cathode 100 volts negative with respect to heater									
d	6.3	1.5	Adjust for optimum focus	Adjust for cut-off	(1) Vg, value to be noted (V) (2) Va2 (V)	+30 288	-45 -	100% 100%	
e	6.3	1.5	Ditto	Adjust to Spot brightness = 570 ft. lamberts	(1) Change in value of Vg from test (d) (V) (2) Ia2 (μA) (3) Va2 (V) (4) Spot diameter (mm)	8.0 - - 0.3	25 2.0 313 0.6	100% 100% 100% 100%	3
f	6.3	1.5	Any convenient value	Any convenient value	(1) The variation of the brightness over any part of the area shall not exceed a 2:1 ratio (2) Screen blemishes			100% 100%	5 4
Deflecting voltages to give a raster covering the useful screen area. The spot shall be defocussed such that separate lines shall not be discernable on the raster									
g	6.3	1.5	Ditto	Adjust for cut-off	<u>Grid Insulation Leakage Current</u> (μA)	-	5.0	100%	
<u>Alternative Method</u> See K1001/5A.3.2 Resistor = 10 MΩ. Increase in Voltmeter reading = 100%									
h	0	1.5	0	0	<u>First and Third Anode Insulation</u> Ia (μA)	-	1.5	100%	
j	6.3	1.5	Any convenient value	Any convenient value	Deviation of spot from axis of tube (mm)	-	1.25	100%	2
k	6.3	1.5	Ditto	Ditto	<u>Useful Screen Area Diameter</u> (mm)	45	-	100%	
l					Vibration			T.A.	1

NOTES - See Overleaf

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NOTES

1. With the tube operating with normal electrode potentials applied, the vibration test will be performed in accordance with:- R.A.E. Technical Note Vib.13. "Aircraft Equipment and Instrument Vibration Panel" in equipment which shall be approved by the Design Authority.
2. The centre of the undeflected focussed spot is to lie within the specified distance of the intersection of the extended gun neck axis with the screen.
3. When energised by pulsed electron beam in the following fashion. Square pulses of 1.25 millisecond duration to a P.R.F. of 400 per second applied to the grid for three such consecutive pulses, followed by a waiting time of six consecutive pulses giving a mark to space ratio, overall, of 1 : 6. The spot diameter must be within the specified limits everywhere within the useful screen area.
4. Within a central circle 12.5 mm diameter, there shall be no dead spots greater than 0.125 mm diameter, with a maximum of three in the circle. In any other area of the screen, there shall be no dead spot, greater than 0.15 mm diameter, with a maximum total density of 1.5 dead spots per sq. cm.  
  
Within a central circle of 27 mm diameter, no bubble shall exceed 0.38 mm diameter, and there shall not be more than 5 bubbles greater than 0.25 mm diameter, and not more than 10 greater than 0.13 mm diameter.  
  
Elsewhere on the screen, no bubble shall exceed 0.51 mm diameter, and there shall not be more than 10 greater than 0.38 mm diameter, and not more than 30 greater than 0.13 mm diameter.  
  
If two or more blemishes are separated by a distance not greater than the maximum dimension of the largest blemish, then the group of blemishes shall be considered as one blemish of diameter equal to the maximum overall diameter of the group.
5. Visual estimation will normally satisfy this requirement.



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