

Specification MOSA/CV.1523 Issue 3 Dated 12.6.1953 To be read in conjunction with K.1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

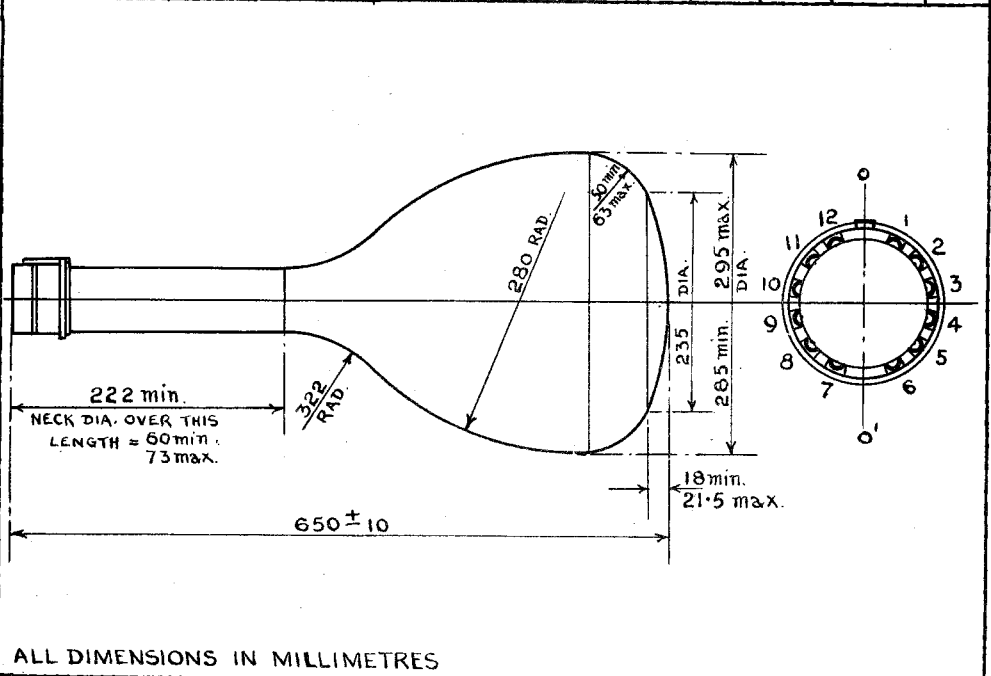
→ Indicates a change

TYPE OF VALVE - Cathode Ray Tube TYPE OF DEFLECTION - Electrostatic, suitable for symmetrical operation BULB - Glass - internally coated with conductive coating SCREEN - GGN/1/28/35 PROTOTYPE - VCR 523				<u>MARKING</u> See K.1001/4	
				<u>BASE</u> 12 Contact Key Base	
				<u>CONNECTIONS</u>	
<u>RATING</u>			Pin	Electrode	
Heater Voltage	(V)	4	Note	1	C
Heater Current	(A)	1		2	G
X-plate Sensitivity	(mm/V)	1345/Va3		3	H
Y-plate Sensitivity	(mm/V)	1300/Va3		4	H
Max. First Anode voltage	(KV)	2		5	A ₁ (See Note B)
Max. Final Anode Voltage	(KV)	7		6	A ₂
				7	Int. Coating (Note B)
				8	Y ₂
				9	X ₂
<u>TYPICAL OPERATING CONDITIONS</u>				10	A ₃
Final Anode Voltage	(KV)	6		11	X ₁
Second Anode Voltage	(KV)	1.6		12	Y ₁
First Anode Voltage	(KV)	1.8			
Beam Current	(μA)	20			
				<u>DIMENSIONS</u> See drawing on Page 3	
<u>NOTES</u>					
<p>A. When viewing the screen with the tube positioned so that the base spigot is uppermost, a positive voltage applied to the terminal X₁ shall deflect the spot to the right and a positive voltage applied to the terminal Y₁ shall deflect the spot downwards.</p> <p>B. The tube will normally be operated with A₃ and conductive coating tied and if a manufacturer so desires these two electrodes may be strapped internally and the connection to contact marked "Internal Conductive Coating" omitted. Also if desired A₁ may be strapped to another electrode and the connection to contact A₁ omitted.</p> <p>C. The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the required useful screen area.</p>					

To be performed in addition to those applicable in K1001

Test Conditions		Test				Limits		No. Tested	Note
						Min.	Max.		
a	See K1001/5A.13	<u>INTER-ELECTRODE CAPACITANCES</u> (pF) 1. Each X or Y plate to all other electrodes. 2. Grid to all other electrodes. 3. One X to one Y plate.				-	20	5% (10)	
Deflection Voltages shall be applied symmetrically in all cases.									
	Vh	Va3 (KV)	Va2	Va1 (KV)	Vg				
b	4	0	0	0	0	Ih (A)	0.8	1.3	100%
c	4	6	Adjust for optimum focus	1.8	Adjust to out off	Vg (V)	-30	-100	100%
d	4	6	ditto	1.8	Adjust	(1) Vg (2) Change in Vg from (c) (V)	-1 -	- 60	100% 100%
e	4	6	ditto	1.8	ditto	(1) Line width (mm) (2) Va2 (V)	- 800	0.8 1800	100% 100%
<p><u>DEFLECTION</u> - With a sine-wave time base of 10 kc/s nom. and line length of 200 mm. in the X direction and 100 mm. in the Y direction successively, the line width to be measured at the centre of the trace.</p> <p><u>GRID</u> - The grid will be pulsed positively from cut-off with amplitude equal to the value obtained in test d(2), the nominal values of pulse duration and recurrence being 100 μsecs. and 100 c/s respectively.</p>									
f	4	6	Any convenient value	1.8	-100	<u>GRID INSULATION</u> (1) Leakage current (μA) (2) Increase in voltmeter reading	- -	10 100%	100% 100%
Recommended method - See K1001/5A.3.2 Resistor = 10 megohms.									

Test Conditions					Test	Limits		No. Tested	Note
						Min.	Max.		
g	4	6	Adjust for optimum focus	1.8	Any convenient value	<u>DEFLECTION SENSITIVITIES</u>		5% (10)	
						(1) X plate (mm/V)	1090/Va3 / 1600/Va3		
						(2) Y plate (mm/V)	1000/Va3 / 1600/Va3	5% (10)	
h	4	6	ditto	1.8	ditto	Deviation of spot from centre of screen (mm)	- / 25	100%	
j	4	6	ditto	1.8	ditto	<u>USEFUL SCREEN AREA</u>		100%	
						(1) X deflection (mm)	±105		
						(2) Y deflection (mm)	±50	100%	
k	4	6	ditto	1.8	ditto	(1) Orientation of X axis of deflection relative to 00' on drawing.		5% (10)	
						80°	100°		
						(2) Angle between X and Y axes of deflection.	85° / 95°		



ALL DIMENSIONS IN MILLIMETRES