

Specification MOSA/CV1547 Issue 3 Dated 11.5.53 To be read in conjunction with K.1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

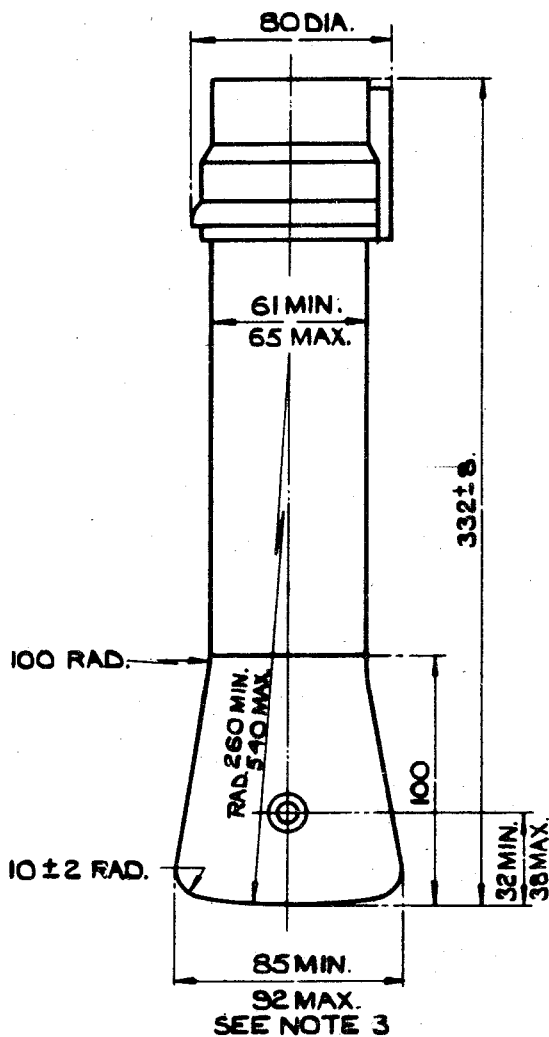
—————> Indicates a change

TYPE OF VALVE - Cathode Ray Tube TYPE OF FOCUS - Electrostatic TYPE OF DEFLECTION - Electrostatic: symmetrical BULB - Internally coated with conductive coating SCREEN - OOM52 PROTOTYPE - VCR 524A		<u>MARKING</u> See K.1001/4.	
		<u>BASE</u> 12 contact key.	
		<u>CONNECTIONS</u>	
<u>RATING</u>		Pin	Electrode
		Note	
Heater Voltage	(V) 4.0	1	G
Heater Current	(A) 1.1	2	C
Max. Fourth Anode Voltage	(kV) 6.0	3	H
Max. Third Anode Voltage	(kV) 4.0	4	H
Max. First Anode Voltage	(kV) 2.5	5	A1
		6	A2
		7	Internally coated (See Note D)
		8	Y2
		9	X2
		10	A3
		11	X1
		12	Y1
		Side Contact	A4
<u>TYPICAL OPERATING CONDITIONS</u>			
Fourth Anode Voltage	(kV) 4.0		
Third Anode Voltage	(kV) 2.0		
Second Anode Voltage	(V) 150		
First Anode Voltage	(kV) 2.0		
X-plate Sensitivity	(mm/V) .18		
Y-plate Sensitivity	(mm/V) .24		
		<u>SIDE CONTACT</u>	
		Snap Terminal.	
		<u>DIMENSIONS AND CONNECTIONS</u>	
		See drawing on page 4.	
<u>NOTES</u>			
A - The tube shall operate satisfactorily with Va1 = 2.5 kV, Va3 = 3 kV and Va4 = 6 kV under conditions of reduced pressure equivalent to 6" of mercury at 15°C.			
B - The tube shall be adequately free from microphony.			
C - The tube shall be of the post deflector accelerated type, and the design shall be such that with Va1 = 2.5 kV the focus shall be substantially unaffected by varying Va4 down to the value of Va3. A change of $\pm 10\%$ in Va2 shall not produce an appreciable change in out-off voltage.			
D - The tube will normally be operated with A3 and conductive coating tied and if a manufacturer so desires these electrodes may be strapped internally with the connection omitted from contact marked "internal coating".			

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

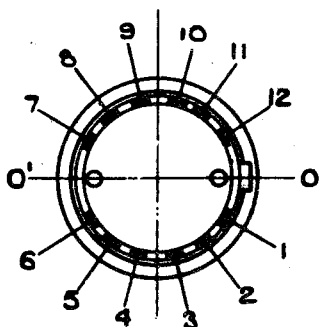
	Test Conditions						Test	Limits		No. Tested	Note
								Min.	Max.		
a	See K.1001/5A.13						<u>CAPACITANCES (pF)</u> (1) Each X or Y plate to all other electrodes (2) One X to one Y plate (3) Grid to all other electrodes	-	25	5%(10)	
Deflection voltages shall be applied symmetrically in all cases.											
	Vh	Va4 (kV)	Va3 (kV)	Va2	Va1 (kV)	Vg					
b	4	0	0	0	0	0	Ih (A)	0.8	1.3	100%	
c	4	4	2	Adjust for optimum focus	2	Adjust to out off	Vg (V) Value to be noted	-	-100	100%	
d	4	4	2	ditto	2	-	Ib (μA)	-	10	100%	
e	4	4	2	ditto	2	-	(1) Vg (V)	-1	-	100%	
							(2) Change in Vg from test (c) (V)	-	35	100%	
f	4	4	2	ditto	2	-	(1) Line width (mm)	-	1.0	100%	
							(2) Va2 (V)	50	250	100%	
g	4	4	2	Any convenient value	2	-80	<u>GRID INSULATION</u> 1. Leakage Current (μA) 2. Increase in voltmeter reading	-	8	100%	
Recommended method:- See K.1001/5A.3.2 Resistor = 10 MΩ.											
h	4	4	2	ditto	2	Any convenient value	<u>DEFLECTION SENSITIVITIES</u> 1. X-plate (mm/V) 2. Y-plate (mm/V)	.16 .21	.20 .27	5%(10) 5%(10)	

Test Conditions							Test	Limits		No. Tested	Note
								Min.	Max.		
j	Vh 4	Va4 (kV) 4	Va3 (kV) 2	Va2 Any con- venient value	Va1 (kV) 2	Vg Any con- venient value	Deviation of spot from centre of screen (mm)	-	6	100%	
k	4	4	2	ditto	2	ditto	<u>USEFUL SCREEN AREA</u> 1. Deflections to cover stated rectangle 2. Deviation of centre of boundary lines of raster from a true rect- angle (mm)	-	±2	100%	5%
l	4	4	2	ditto	2	ditto	1. Orientation of X-axis of deflec- tion relative to 00' on drawing	80°	100°	100%	
							2. Orientation of the diameter through the centre of the snap terminal relative to 00'	80°	100°	100%	
m	4	4	2	ditto	2	ditto	Angle between X and Y axes of deflection	88°	92°	100%	
n	4	4	2	ditto	2	ditto	The variation of brightness over any part of the area shall not exceed a 2:1 ratio			100%	
o	Test to be performed in Test Set 331.						Afterglow (secs)	12	-	10%	



NOTES

1. THE INTERNAL CONDUCTIVE COATINGS SHALL BE OF SUCH DIMENSIONS THAT THEY FUNCTION EFFECTIVELY BUT DO NOT OBSCURE THE REQUIRED USEFUL SCREEN AREA.
2. WHEN VIEWING THE SCREEN WITH THE TUBE POSITIONED SUCH THAT THE SPIGOT IS UPPERMOST, A POSITIVE VOLTAGE APPLIED TO TERMINAL X₁ SHALL DEFLECT THE SPOT TO THE LEFT, AND A POSITIVE VOLTAGE APPLIED TO TERMINAL Y₁ SHALL DEFLECT THE SPOT UPWARDS.
3. THIS DIA. SHALL INCLUDE ANY PROTRUSION DUE TO SIDE CONTACT.
4. WHEN VIEWING THE SCREEN UNDER THE SAME CONDITIONS AS IN NOTE 2, THE SNAP TERMINAL SHALL BE ON THE LEFT HAND SIDE OF THE TUBE.

VIEW OF UNDERSIDE
OF BASE.

ALL DIMENSIONS IN MILLIMETRES.