

Specification MOSA/CV1591 to CV1595 inclusive Issue 6 Dated 11.11.55 To be read in conjunction with B.S.448, B.S.1409 & K1001	<u>SECURITY</u>	
	<u>Specification</u> UNCLASSIFIED	<u>Valve</u> UNCLASSIFIED

-----> Indicates a change

TYPE OF VALVES - Cathode Ray Tube TYPE OF DEFLECTION - Electrostatic, suitable for either symmetrical or asymmetrical operation. TYPE OF FOCUS - Electrostatic. BULB - Internally coated with conductive coating. SCREENS - Afterglow YYM5 - CV1591 YYM36 - CV1592 GGM7 - CV1593 GGM27 - CV1594 YYM31 - CV1595 PROTOTYPES - VCR517A - CV1591 VCR517B - CV1592 VCR517C - CV1593 VCR517D - CV1594 VCR517E - CV1595	<u>MARKING</u> See K1001/4	
	<u>BASE</u> B.S.448/B12D	
	<u>CONNECTIONS</u>	
	Pin	Electrode
<u>RATINGS</u>	Note	
Heater Voltage (V) 4	A, C C	1 g
Heater Current (A) 1		2 k
Max. Final Anode Voltage (kV) 6		3 h
Max. First Anode Voltage (kV) 2		4 h
x plate Sensitivity (mm/V) 720/Va3		5 a1
y plate Sensitivity (mm/V) 880/Va3		6 a2
<u>TYPICAL OPERATING CONDITIONS</u>		7 IC
Final Anode Voltage (kV) 3		8 y2
Second Anode Voltage (V) 525		9 x2
First Anode Voltage (kV) 2		10 a3
		11 x1
		12 y1
		<u>DIMENSIONS</u> See Drawing on page 4
<u>NOTES</u>		
A. This rating applies only at normal atmospheric pressure.		
B. The tube shall be adequately free from microphony.		
C. Absolute Value.		

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>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	-	25	5% (10)	
	Vh	Va3 (kV)	Va2	Val (kV)	Vg					
b	4	0	0	0	0	Th (A)	0.7	1.3	100%	
c	4	3	Adjust for optimum focus	2	Adjust to out-off	Vg (V) Value to be noted	-	-80	100%	
d	4	3	ditto	2	-	(1) Vg (V) (2) Change in value of Vg from test (c) (V)	-1	-	100%	
e	4	3	ditto	2	-	(1) Line width (mm) (2) Va2 (V)	-	0.8	100%	
	<u>DEFLECTION</u> With a sine wave time base of 10 kc/s nom. and a line length of 130 mm. in the x and y directions successively.								100%	
f	4	3	Any convenient value	2	-80	<u>GRID INSULATION</u> (1) Leakage Current (μA) (2) Increase in Voltmeter reading	-	16	100%	
	Recommended method K1001/5A.3.2. Resistor = 5 Megohms								100%	
g	4	3	Adjust for optimum focus	2	Any convenient value	<u>DEFLECTION SENSITIVITIES</u> (1) x plate (mm/V) (2) y plate (mm/V)	650/Va3	790/Va3	10% (10)	
							790/Va3	970/Va3	10% (10)	
h	4	3	ditto	2	ditto	Deviation of spot from centre of screen (mm)	-	10	100%	
j	4	3	ditto	2	ditto	<u>USEFUL SCREEN AREA</u> Diameter (mm)	130	-	100%	
	Deflections to cover stated circle centred on centre of screen.									

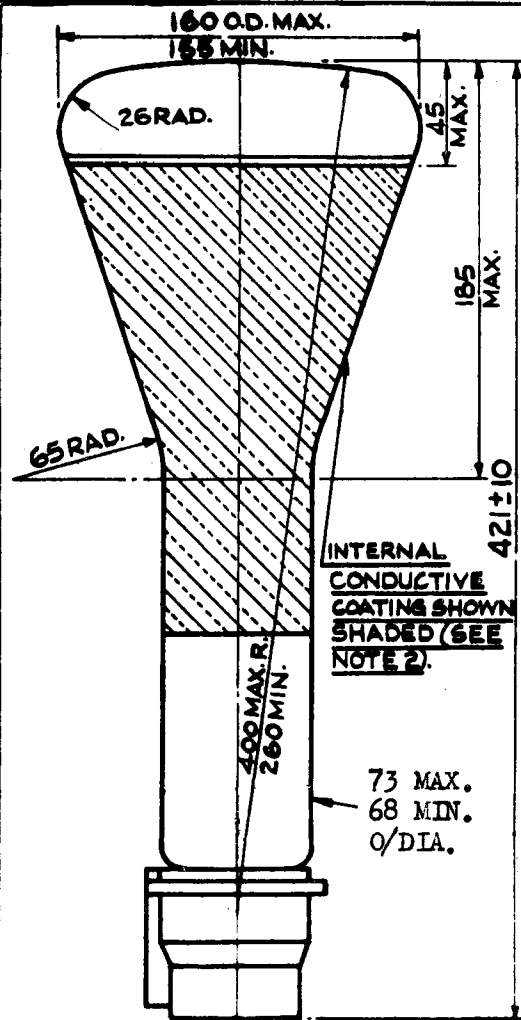
Test Conditions						Test	Limits		No. Tested	Note
							Min.	Max.		
	Vh	Va3 (kV)	Va2	Val (kV)	Vg					
k	4	3	Adjust for Optimum focus	2	Any convenient value	<u>TRAPEZOIDAL DISTORTIONS</u> (1) Angles between opposite sides. (2) Angles between adjacent sides	175° 85°	185° 95°	100% 100%	
l	4	3	ditto	2	ditto	(1) Orientation of x axis of deflection relative to OO' on the drawing. (2) Angle between x and y axes of deflection.	80° 85°	100° 95°	100% 100%	
m	4	3	Un-focussed	2	ditto	The screen shall not be worse for gaininess and non-uniformity than a standard tube or pattern			100%	
n	4	3	Adjusted for optimum focus	2	ditto	Afterglow (secs)	5	-	100%	2 ←
p	4	3	ditto	2	ditto	<u>SPECTRAL DISTRIBUTION</u> Ratio:- $\frac{\text{Light Output}}{\text{Light Output Thro' G2 Filter}} =$	-	3	100%	1

NOTE

- It will normally be satisfactory to make a visual examination of the colour of the screen and to apply Test "p" only in cases of doubt.
- This test shall be performed using an approved test set. The specified figure is for Test Set 331, A.M. Ref. No. 10S/696. ←

CV1591 TO CV1595

PAGE 4.



NOTE:

- 1 WHEN VIEWING THE SCREEN WITH THE TUBE POSITIONED SUCH THAT THE BASE SPIGOT IS UPPERMOST, A POSITIVE VOLTAGE APPLIED TO THE TERMINAL XI SHALL DEFLECT THE SPOT TO THE LEFT AND A POSITIVE VOLTAGE APPLIED TO THE TERMINAL YI SHALL DEFLECT THE SPOT UPWARDS.
- 2 THE INTERNAL CONDUCTIVE COATING SHALL BE OF SUCH DIMENSIONS THAT IT FUNCTIONS EFFECTIVELY BUT DOES NOT OBSCURE THE REQUIRED USEFUL SCREEN AREA.
- 3 THE NECK DIA. MAY BE REDUCED TO A MINIMUM OF 58 MM. PROVIDED THAT RUBBER RINGS OR OTHER APPROVED PACKING IS SUPPLIED WITH THE TUBE TO BRING THE OVERALL DIA. WITHIN THE STATED TOLERANCES.

ALL DIMENSIONS IN MILLIMETRES.