

Specification MOSA/CV.2810 Issue 3, Dated 25.1.55 To be read in conjunction with B.S.448, B.S.1409 & K1001	<u>SECURITY</u>	
	<u>Specification</u>	<u>Valve</u>
	UNCLASSIFIED	UNCLASSIFIED

—————> Indicates a change

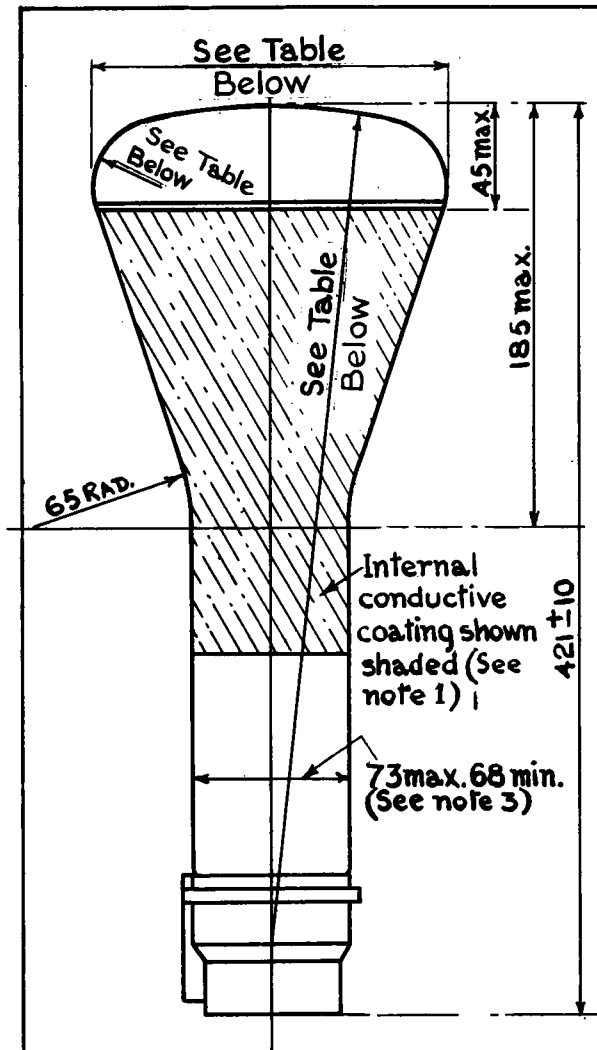
TYPE OF VALVE - Cathode Ray Tube  TYPE OF DEFLECTION - Electrostatic suitable for asymmetrical or assymmetrical operation.  TYPE OF FOCUS - Electrostatic  BULB - Internally coated with conductive coating.  SCREEN - B.Y.8  PROTOTYPE - VCRX.263. CV.2137.	<u>MARKING</u>  See K.1001/4 with the addition of a serial number  <u>BASE</u>  BS.448/B12D  <u>CONNECTIONS</u>																																												
	<table border="1"> <thead> <tr> <th style="width: 50px;">Pin</th> <th>Electrode</th> </tr> </thead> <tbody> <tr><td>1</td><td>g<sup>1</sup></td></tr> <tr><td>2</td><td>k</td></tr> <tr><td>3</td><td>h</td></tr> <tr><td>4</td><td>h</td></tr> <tr><td>5</td><td>a1</td></tr> <tr><td>6</td><td>a2</td></tr> <tr><td>7</td><td>m</td></tr> <tr><td>8</td><td>y2</td></tr> <tr><td>9</td><td>x2</td></tr> <tr><td>10</td><td>a3</td></tr> <tr><td>11</td><td>x1</td></tr> <tr><td>12</td><td>y1</td></tr> </tbody> </table>	Pin	Electrode	1	g <sup>1</sup>	2	k	3	h	4	h	5	a1	6	a2	7	m	8	y2	9	x2	10	a3	11	x1	12	y1																		
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<u>NOTES</u>  A. This rating applies at normal atmospheric pressure.  B. The tube shall be adequately free from microphony.  C. The neck diameter may be reduced provided that rubber rings or other approved packing is supplied with the tube to bring the overall diameter within the stated tolerance.  D. When viewing the screen with the tube positioned such that the base spigot is uppermost, a positive voltage applied to the terminal x <sup>1</sup> shall deflect the spot to the left, and a positive voltage applied to y <sup>1</sup> shall deflect the spot upwards.  E. The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the useful screen area.																																													

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

	Test Conditions					Tests	Limits		No. Tested	Note
	Vh(V)	Va3 (kV)	Va2 (V)	Va1 (kV)	Vg (V)		Min.	Max.		
a	See K.1001/5A.13.					<u>Inter-electrode Capacitances (pF)</u> 1. Each x Plate to all others 2. Grid to all others. 3. One x Plate to one y Plate	-	25	5%	(20)
b	4.0	0	0	0	0	Ih (A)	0.7	1.3	100% or S	
c	4.0	3.0	Adjust for optimum focus	2.0	Adjust to cut-off	Vg (V)	-	-80	100%	
d	4.0	3.0	Adjust for optimum focus	2.0	-	1. Vg (V) 2. Change in Vg from value found in Test c 3. Within the range of Grid Voltage from out-off to standard light the beam current shall increase continuously	-	-1	100%	100%
e	4.0	3.0	Adjust for optimum focus	2.0	As in Test (d)	1. Line Width (mm) 2. Va2 (V)	-	1.2	100%	100%
f	4.0	3.0	Any convenient value	2.0	-80	<u>Grid insulations Leakage</u> (μA)  Voltmeter Reading	-	16	100%	
Recommended method - K.1001/5A.3.2 Resistor = 5 megohms								100%		

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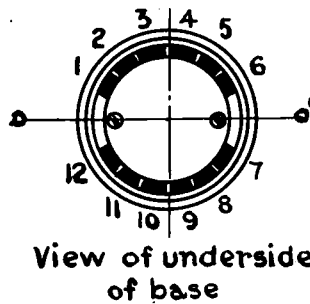
Test Conditions						Tests	Limits		No. Tested	Note
							Min.	Max.		
	Vh(V)	Va3 (kV)	Va2 (V)	Va1 (kV)	Vg (V)					
g	4.0	3.0	Any convenient value	2.0	Any convenient value	<u>Deflection Sensitivities</u> 1. x Plate (mm/V) 2. y Plate (mm/V)	$\frac{650}{Va3}$ $\frac{790}{Va3}$	$\frac{790}{Va3}$ $\frac{970}{Va3}$	5% (20)	
h	4.0	3.0	Ditto	2.0	Ditto	Deviation of Spot from centre of screen (mm)	-	10	100%	
j	4.0	3.0	Ditto	2.0	Ditto	<u>Useful Screen Area Diameter</u> (mm)	130	-	100%	
k	4.0	3.0	Ditto	2.0	Ditto	<u>Orientation of Axis of Deflection</u> 1. Orientation of x axis of deflection relative to 0.0' on drg. on page 4. 2. Angle between x and y axes of deflection	80° 85°	100° 95°	100% 100%	
l	4.0	3.0	-	2.0	Ditto	Deflecting field to give a raster covering the useful screen area. The spot shall be defocussed such that separate lines shall not be discernible on the raster			100%	
m	4.0	3.0	Any convenient value	2.0	Ditto	Afterglow (Secs)	8	-	100%	
						Test to be performed in Test Set 331.				
n	4.0	See K.1001/5A.3.3.				<u>Heater-Cathode Insulation</u> Leakage Current ( $\mu A$ )	-	200	100%	



**NOTES**

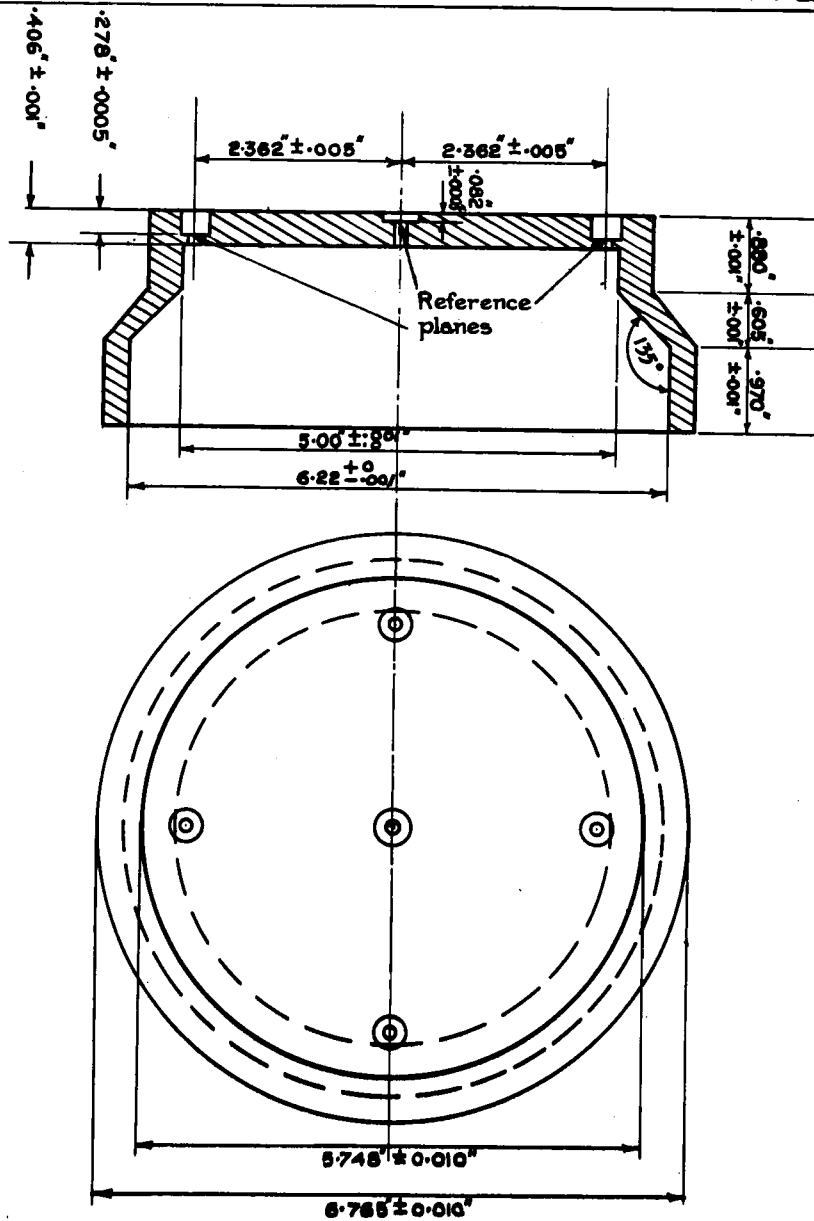
- 1 The internal conductive coating shall be of such dimensions that it functions effectively but does not obscure the required useful screen area.
- 2 When viewing the screen with the tube positioned such that the base spigot is uppermost, a positive voltage applied to the terminal X<sub>1</sub> shall deflect the spot to the left and a positive voltage applied to the terminal Y<sub>1</sub> shall deflect the spot upwards
- 3 The neck diameter may be reduced provided that rubber rings or other approved packing is supplied with the tube to bring the overall diameter within the stated tolerances.

All dimensions in millimetres



Face - Cone radius (mm)	Overall diameter (mm)	Face radius (mm)
23 - 26	155 - 156	300 - 400
24 - 26	155 - 158	300 - 400
26 - 27	155 - 158	350 - 400
24 - 27	156 - 158	400 - 450

An alternative method of checking these dimensions may be made by using the gauge as shown on page 5.



**METHOD OF OPERATION OF GAUGE:-** Insert C.R.T. into body of gauge. By means of a suitable dial gauge, the design of which must be approved by the T.A. Authority, measure the distance of the screen from the five reference planes. The dimensions at the centre and the average of the four other dimensions must be within the limits of 8.7 mm (min) to 10.7 mm (max). The size of the holes will depend upon the design of the dial gauge.

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