

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

CV 6171

Specification AD/CV6171		<u>SECURITY</u>	
Issue 1 dated 6.1.66		<u>Specification</u>	<u>Valve</u>
To be read in conjunction with K1001 and BS448		Unclassified	Unclassified

  

<u>TYPE OF VALVE</u> - Cathode-Ray Tube		<u>MARKING</u>	
<u>DEFLECTION</u> - Magnetic		See K1001/4	
<u>FOCUS</u> - Electrostatic		<u>BASE</u>	
<u>BULB</u> - Glass with internal conductive coating		BS448/B12A	
<u>SCREEN</u> - RR5			
<u>PROTOTYPE</u> - M6SR-303			

  

<u>RATINGS</u>				<u>CONNECTIONS</u>																																							
All limiting values are absolute				<table border="1"> <thead> <tr> <th>Pin</th> <th colspan="3">Electrode</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Heater</td> <td></td> <td>h</td> </tr> <tr> <td>2</td> <td>Grid</td> <td></td> <td>g</td> </tr> <tr> <td>6</td> <td>Anode 2</td> <td></td> <td>a2</td> </tr> <tr> <td>7</td> <td>External coating</td> <td></td> <td></td> </tr> <tr> <td>10</td> <td>-</td> <td></td> <td></td> </tr> <tr> <td>11</td> <td>Cathode</td> <td></td> <td>k</td> </tr> <tr> <td>12</td> <td>Heater</td> <td></td> <td>h</td> </tr> <tr> <td>S.C.</td> <td>Anodes 1 and 3</td> <td>a1,3</td> <td></td> </tr> </tbody> </table>				Pin	Electrode			1	Heater		h	2	Grid		g	6	Anode 2		a2	7	External coating			10	-			11	Cathode		k	12	Heater		h	S.C.	Anodes 1 and 3	a1,3	
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Heater Voltage	(V)	6.3	Note																																								
Heater Current	(A)	0.5																																									
Max. Anode 1 and Anode 3 voltage	(kV)	10	A																																								
Max. Anode 2 voltage range for focussing	(V)	+100	A																																								
Max. negative Anode 2 voltage	(V)	150																																									
Max. negative heater-cathode voltage	(V)	150																																									
Typical Operating Conditions:				<u>SIDE CONTACT</u>																																							
Anodes 1 and 3 voltage	(kV)	8		BS448/CT8																																							
Anode 2 voltage	(V)	0																																									
Grid voltage for cut-off	(V)	-50																																									

  

<u>CAPACITANCES</u>				<u>DIMENSIONS</u>			
Cg-all (nom)	(pF)	9.5		See drawing on Page 4			
Ck-all (nom)	(pF)	6.5					

  

<u>NOTES</u>			
A. Absolute Maximum Value			
B. The Joint Services Catalogue Number is 5960-99-037-4459			

To be performed in addition to those applicable in K1001

An interlaced 405 line TV raster may be used when required

Test conditions - unless otherwise stated:-

Vh (V)  
6.3

Va1, 3 (kV)  
8

Va2  
Adjust

Vg  
Adjust

Vhk (V)  
0

Test No	K1001 Issue 6	Test	Test Conditions	Insp. Level	Sym-bol	Limits		Units
						Min.	Max.	
(a)	5A.4.1.1	Electrode Insulation	No voltages	100%				
(b)	5A.4.1.1	Grid Insulation	Vg = -75V	100%	Ig	-	10	/μA
(c)	5A.4.1.3	Heater Cathode Leakage	Vhk = -150V Va1, 3 = 0	100%	Ihk	-	100	/μA
(d)		Heater Current		100%	Ih	0.45	0.55	A
(e)	5A.4.3	Negative Grid Cut-off Voltage	Focussed Spot	100%	Vg	37	75	V
(f)	5A.4.4	Grid Drive	Ik = 100 μA Screen over-scanned Measure Change of grid voltage from that in test (e)	100%		15	35	V
(g)	5A.5.7.2.2	Focus (i) Line Width	Pulsed line 45mm long. Grid drive 100 μS pulses, 250 p.p.s. max. Peak Ik = 100 μA. Optimum focus.	100%		-	0.55	mm
		<u>OR</u> Pulsed Spot Diameter	Grid drive 0.2 μS pulses, 50 p.p.s. Peak Ik = 100 μA. Optimum focus.			-	0.65	mm
		(ii) Focus Voltage	As for test (1) above.		Va2	-100	100	V
(h)	5A.5.1.1	Light Intensity	Focussed Raster of convenient size. Ik = 10 μA. Note 1	100%		0.037	-	Candela

Test No.	K1001 Issue 6	Test	Test Conditions	Insp. Level	Sym-bol	Limits		Units
						Min.	Max.	
(j)	5A.6.3	Useful Screen Area		100%		108 x 108	-	mm <sup>2</sup>
(k)	5A.4.2	Flashover and Stray Emission	Va1, 3 = 10kV through 1Mohm Vg = -100V Va2 = 100V Tapping rate 4 per sec. for 10 secs	100%				
(l)	AXV	Screen and Faceplate Defects. Size 0.25 to 0.6 mm Size 0.6 to 1 mm Size above 1mm	Scan over useful area with defocussed raster of convenient brightness		No.  No.  No.		10 5 0	

NOTES

1. Measured using an eye corrected EEL Cell, calibrated with a 2600  $\pm 50^\circ\text{K}$  colour temperature source, in contact with the cathode-ray tube faceplate.

