VALVE ELECTRONIC

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

CV279

Specification AD/CV279 Issue 7 dated 27.11.61 To be read in conjunction with K1001.	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE: Cathode-ray Tube

TYPE OF DEFLECTION: Electrostatic Symmetrical

TYPE OF FOCUS: Electrical

ENVELOPE: Glass. Internally coated with conductive coating.

SCREEN: GG5.

PROTOTYPE: CV964.

MARKING

See K1001/4

BASE

B12B
See B.S.448/B12B/1.1.

CONNECTIONS

PIN	ELECTRODE	
1	Cathode	k
2	Grid	g
3	Heater	h
4	Heater	h
5	2nd Anode	a_2
6	Pin omitted	
7	Y2 plate	
8	X2 plate	
9	3rd Anode and coating	a_3
10	X1 plate	
11	Y1 plate	
12	Pin omitted	

RATING

(All limiting values are absolute)

			Note
Heater Voltage	(V)	4.0	
Heater Current	(A)	1.1	
Max. Final Anode Voltage	(kV)	1.5	
→ Average working 2nd Anode Voltage	(V)	200	

NOTE

A. The design of the tube is to be such that the focus ratio is substantially independent of beam current. This feature will be checked at Type Approval.

TESTS

To be performed in addition to those applicable in K1001

Tests are to be performed in the specified order unless otherwise agreed with the Inspecting Authority.

Test conditions - unless otherwise stated:-

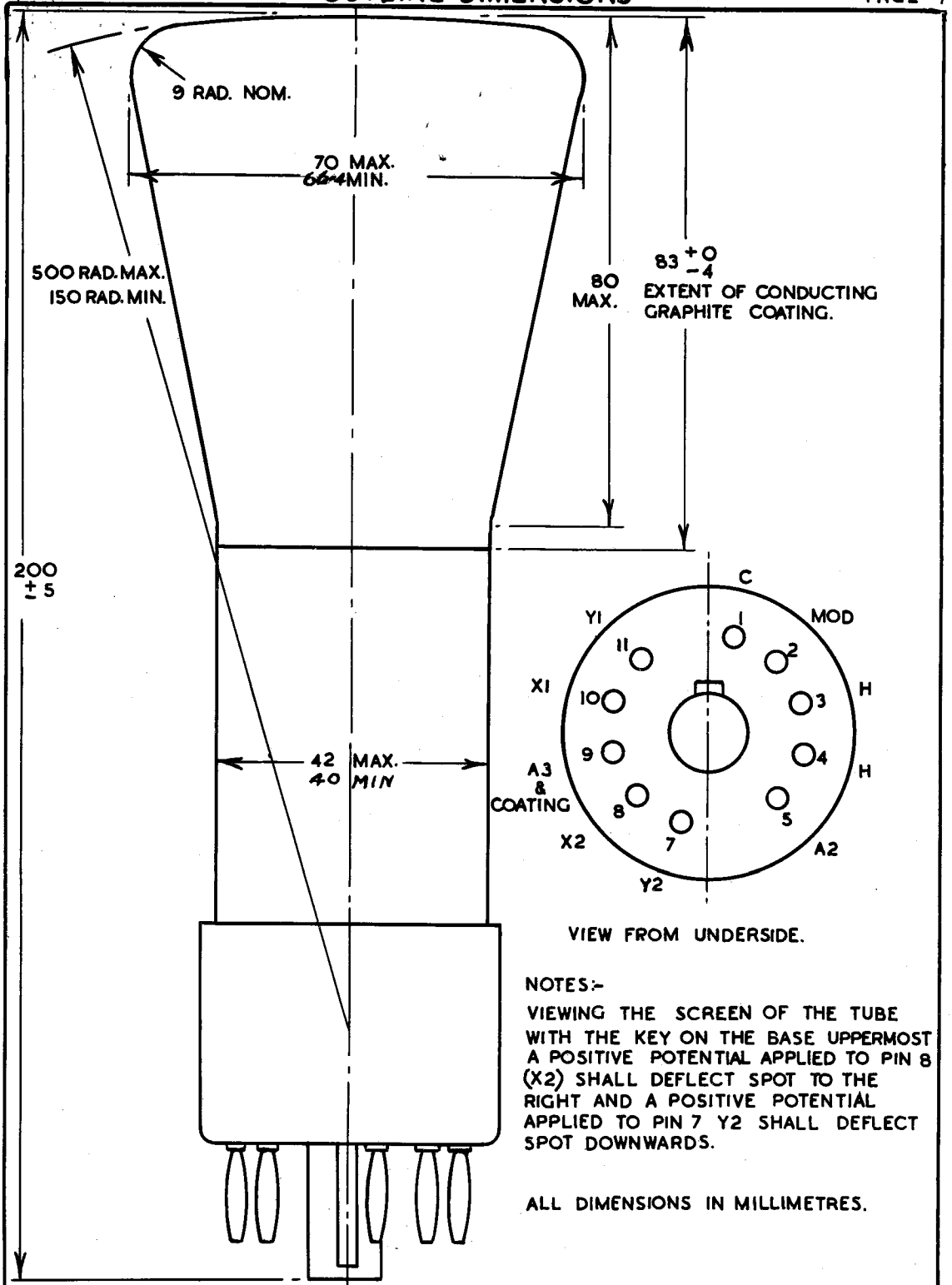
V_h (V)	V_g (V)	Va1 (V)	Va2 (V)	Va3 (kV)
4.0	Adjust	As Va3	Adjust for focus	1.5

	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits Min.	Limits Max.	Units
a	Capacitances	See K1001/5.A.13	6.5	1B	Cx or Cy - all	-	15	pF
					Cg-all	-	20	pF
					Cx-y	-	3	pF
b	Heater Current	No voltages except V_h		100%	I_h	0.85	1.25	A
c	Negative Grid Voltage	V_g = Adjust to cut-off		100%	V_g	25	45	V
d	Light Output	V_g = 12V		100%		0.035		Candela
e	i) Line width	Deflection - With a sine wave time base of 10 kc/s nom. and a line length of 55 mm. in the x and y axes successively, the line width shall be measured at the centre of the trace.		100%		-	1.0	mm
	ii) 2nd Anode Voltage	Grid - The Grid will be pulsed positively from cut-off with amplitude equal to the value obtained in test "d", the nominal value of pulse duration and recurrence rate being 100 μ secs. and 100 p.p.s. respectively		100%	V_{a2}	165	235	V

TESTS (Cont'd.)

CV279

	Test	Test Conditions	AQL %	Insp. Level	Sym-bol	Limits Min.	Limits Max.	Units
f	Grid Insulation i) Leakage Current or ii) Increase in Voltmeter reading	Va2 = as in test "e(ii)" Vg = -45V. or with recommended method in K1001/ 5A.3.2 using a 5M resistor.		100% 100%	I_g	- -	9 100%	uA
g	Deflection Sensitivities x and y plates	Vg = Adjust to give a just visible spot.		100%		$\frac{145}{Va3}$	$\frac{195}{Va3}$	mm/v
h	Deviation of Spot from centre of screen	Vg = Adjust to give a just visible spot.		100%		-	5	mm
j	Useful Screen Area	Vg = Adjust to give a just visible spot. Deflection to cover stated circle centred on centre of screen.		100%		55	-	mm
k	Angle between x and y plate axes	Vg = Adjust to give a just visible raster of 40 mm x 40 mm.		100%		85°	95°	
l	Angle between y axis and diameter of base passing through spigot.	Vg = Adjust to give a just visible line in the y direction 40 mm long.		100%		-	10°	



VIEW FROM UNDERSIDE.

NOTES:-

VIEWING THE SCREEN OF THE TUBE WITH THE KEY ON THE BASE UPPERMOST A POSITIVE POTENTIAL APPLIED TO PIN 8 (X2) SHALL DEFLECT SPOT TO THE RIGHT AND A POSITIVE POTENTIAL APPLIED TO PIN 7 Y2 SHALL DEFLECT SPOT DOWNWARDS.

ALL DIMENSIONS IN MILLIMETRES.