

ADMIRALTY SURFACE WEAPONS ESTABLISHMENT

Specification AD/CV8730 Issue 1 Dated 15.4.65 To be read in conjunction with K1001				<u>SECURITY</u> <u>Specification</u> <u>Valve</u> Unclassified Unclassified	
<u>TYPE OF VALVE:</u> Forced air cooled power triode <u>CATHODE:</u> directly heated, thoriated <u>ENVELOPE:</u> metal-glass <u>PROTOTYPE:</u> BR1160, TY6-5000B				<u>MARKING</u> See K1001/4	
<u>RATINGS</u>		<u>Notes</u>		<u>CONNECTIONS AND DIMENSIONS</u>	
Filament voltage (V)		12.6		See Drawing on Page 4	
Filament current (A)		32.0	B	<u>MOUNTING POSITION</u> Vertical, with filament terminals above the anode.	
Max. anode voltage up to 75 Mc/s (kV)		6.0	A		
Max. anode dissipation (1) (kW)		3.0	A.C.		
Max. anode dissipation (2) (kW)		5.0	A.D.		
Max. anode current (A)		1.40	A		
Max. grid dissipation (W)		120	A		
Amplification factor		34	E		
Mutual conductance (mA/V)		15	F		
Max. filament seal temperature (°C)		220	A		
Max. grid and anode seal temperature (°C)		180	A		
<u>CAPACITANCES (pF)</u> C _{gf} 16.0 C _{af} 0.3 C _{ag} 11.0					
<u>NOTES</u> A. Absolute maximum value. B. Filament starting current must never exceed 175A even momentarily. C. With forced air cooling of at least 135 cu.ft./min. through the radiator D. With forced air cooling of at least 325 cu. ft./min. through the radiator E. For I _a = 0.5A, V _g = -25V. F. For V _a = 2.5 kV, I _a = 0.7A. G. The Joint Services Catalogue No. is 5960-99-037-3996					

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TESTS

Page 2.

To be performed in addition to those applicable in K1001.

In all tests where the filament is heated the filament voltage shall be 12.6V, 50 c/s a.c. There shall be an air flow of at least 135 cu.ft./min. through the radiator. An air flow may also be directed into the filament header.

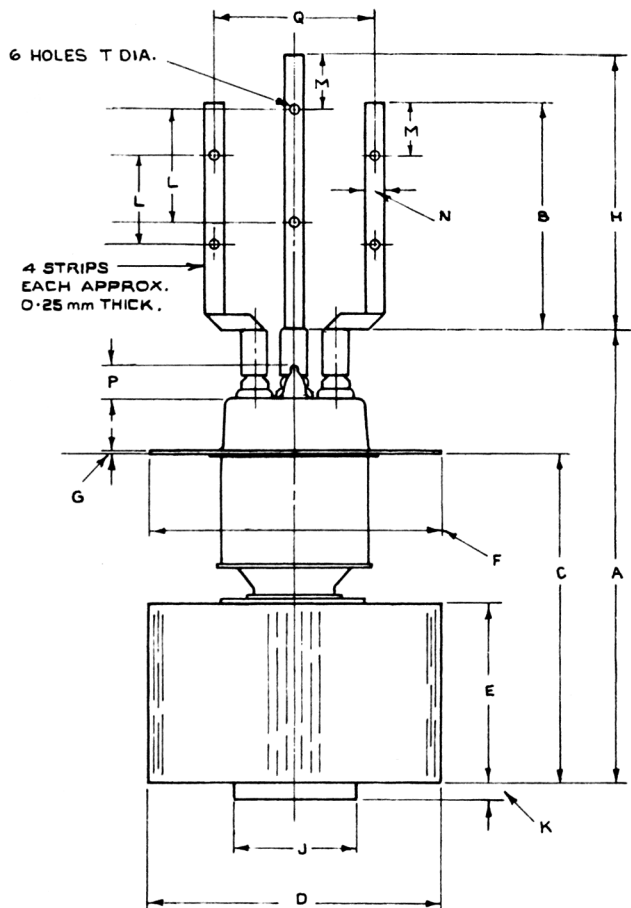
	Test	Test Conditions	Insp. Level	Symbol	Limits		Units
					Min.	Max	
a.	Capacitances		Q.A.	C _{gf} C _{ag} C _{af}	13.6 9.9 0.23	18.4 12.1 0.37	pF pF pF
b.	Filament Current		100%	I _f	30	34	A
<i>Amult²</i> c.	Reverse Grid Current (1)	V _a = 4 kV, I _a = 0.8A <i>N₀k 1</i>	100%	-I _g	-	40	μ A
d.	Reverse Grid Current (2)	V _a = 4 kV, I _a = 25 mA	5% (2)	-I _g	-	15	μ A
e.	Peak Emission	V _a = V _g = 1.5 kV peak See K1001/AV	100%	I _k pk	20	-	A
f.	Power Output (i)	V _a = 4.5 kV, I _a = 1.3A I _g = 400 mA Note 2	100%	P _o	3.8	-	kW
	<u>or</u> (ii)	V _a = 6.0 kV, I _a = 1.25A I _g = 320 \pm 30mA Note 3	100%	P _o	4.9	-	kW
g.	Negative Grid Voltage	V _a = 4.0 kV, I _a = 50 mA	100%	-V _g	85	150	V
h.	Anode Voltage	I _a = 0.5A, V _g = -50V	100%	V _a	3.1	3.9	kV
j.	Amplification Factor	I _a = 0.5A (i) V _g = -45V Record V _{a1} (ii) V _g = -5V Record V _{a2} $\mu = (V_{a1} - V_{a2}) / 40$	Q.A.	μ	30	38	-
k.	Mutual Conductance	V _a = 3.0 kV (i) I _a = 0.8A Record V _{g1} (ii) I _a = 0.6A Record V _{g2} $g_m = 200 / (V_{g2} - V_{g1})$	Q.A.	g_m	12.5	20	mA/V
l.	Grid Voltage	V _a = 660 V pk, I _a = 4.35A pk	100%	V _g	220	280	V pk
m.	Grid Current	V _a = 660V pk, I _a = 4.35A pk	100%	I _g	-	1.5	A pk
N.	High Voltage (Flashover)	V _a = 18 kV, No other voltages. Note 4	100%				

NOTES

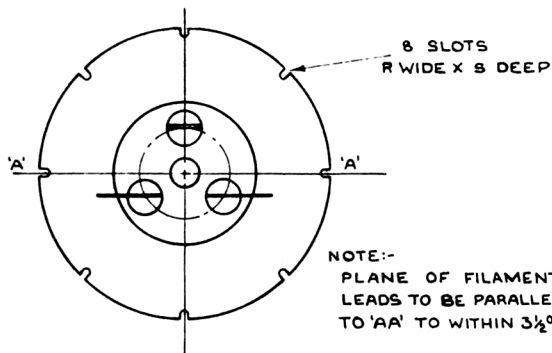
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1. Take reading after 5 minutes.
2. The valve is to be tested as a Class B amplifier at 20 ± 2 Mc/s with the quiescent anode current set to 0.25A. Duration of test to be 30 mins. After completion of this test the valve must satisfy the requirements of tests c and e.
3. The valve is to be tested as an oscillator at 30 ± 1 Mc/s with $R_g = 1250$ ohms. Duration of test to be 30 mins. After completion of this test the valve must satisfy the requirements of tests c and e.
4. The anode voltage shall be increased to 186V and held at that value for 45 seconds. During the first 15 seconds there shall not be more than one flashover and there shall be no flashovers in the remaining 30 seconds.

Amble 1



REF	MILLIMETRES	
	MIN.	MAX.
A		188.88
B	88	90
C	130.2	136.6
D	115.9	119.1
E		73.0
F	115.5	116.5
G	1.4	1.8
H	106	110
J		57.15
K		4.8
L	33	37
M	20	24
N	7.5	8.5
P		20
Q		63.5
R	4.52	4.72
S	5.00	5.40
T	3.56	3.75



ELECTRONIC VALVE SPECIFICATIONS

SPECIFICATION AD/CV8730, ISSUE 1, DATED 15.4.65

AMENDMENT NO. 1

Page 3 Add Note 4 as follows:

4. The anode voltage shall be increased to 18 kV and held at that value for 45 seconds. During the first 15 seconds there shall not be more than one flashover and there shall be no flashovers in the remaining 30 seconds.

June 1965
N.229228

T.V.C. for A.S.W.E.

1775 19/6/65

ELECTRONIC VALVE SPECIFICATIONS
SPECIFICATION AD/CV8730, ISSUE 1, DATED 15.4.65
AMENDMENT NO. 2

Page 2. Test Clause 'C'.

Add "Note 1" in Test Conditions column

T.V.C. for A.S.W.E.

September, 1965.

N.319493

✓ AR 15/6