MINISTRY OF SUPPLY (D.C.D.)

VALVE ELECTRONIC **CV29**

Specification MAP/CV29/Issue 4 Dated 21.7.49. To be read in conjunction with K1001, ignoring clauses: 5.2, 5.8.	SECURITY Specification: ~~RESTRICTED~~ Unclassified Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Air-cooled transmitting triode

CATHODE - Directly heated, tungsten filament

ENVELOPE - Metal-glass construction

PROTOTYPE -

MARKING

CV.29
Ø
Ø This space to contain the marked voltage as found in test clause (e).

RATING		Marked value	Note
Filament Voltage	(V)		A
Filament current	(A)	58	
Max. Anode Voltage	(kV)	5.0	
Max. Anode Dissipation	(kW)	1.0	B
Mutual Conductance	(mA/V)	3.0	C
Anode Impedance	ohms	14,500	C
Amplification Factor		40	
Max. total emission at 90% Saturation	(A)	12	
Max. frequency of operation at full rating	(Mc/s)	100	
Max. frequency of operation at reduced rating	(Mc/s)	250	

CAPACITANCES (pF)

Cag	6.8
Cgf	8.1
Caf	2.0

DIMENSIONS AND CONNECTIONS

See drawing on page 4.

BASE

None

PACKING

See K1005.
Additional marking
Glass - Fragile

NOTES

A. The marked value of filament voltage will be the value as determined from test clause (e).

B. With forced air cooling provided by 90 cu.ft. of air per minute with a pressure drop across the valve equivalent to about 2 inches of water.

C. At Va = 5.0 kV, Ia = 150 mA.

CV 29

TESTS

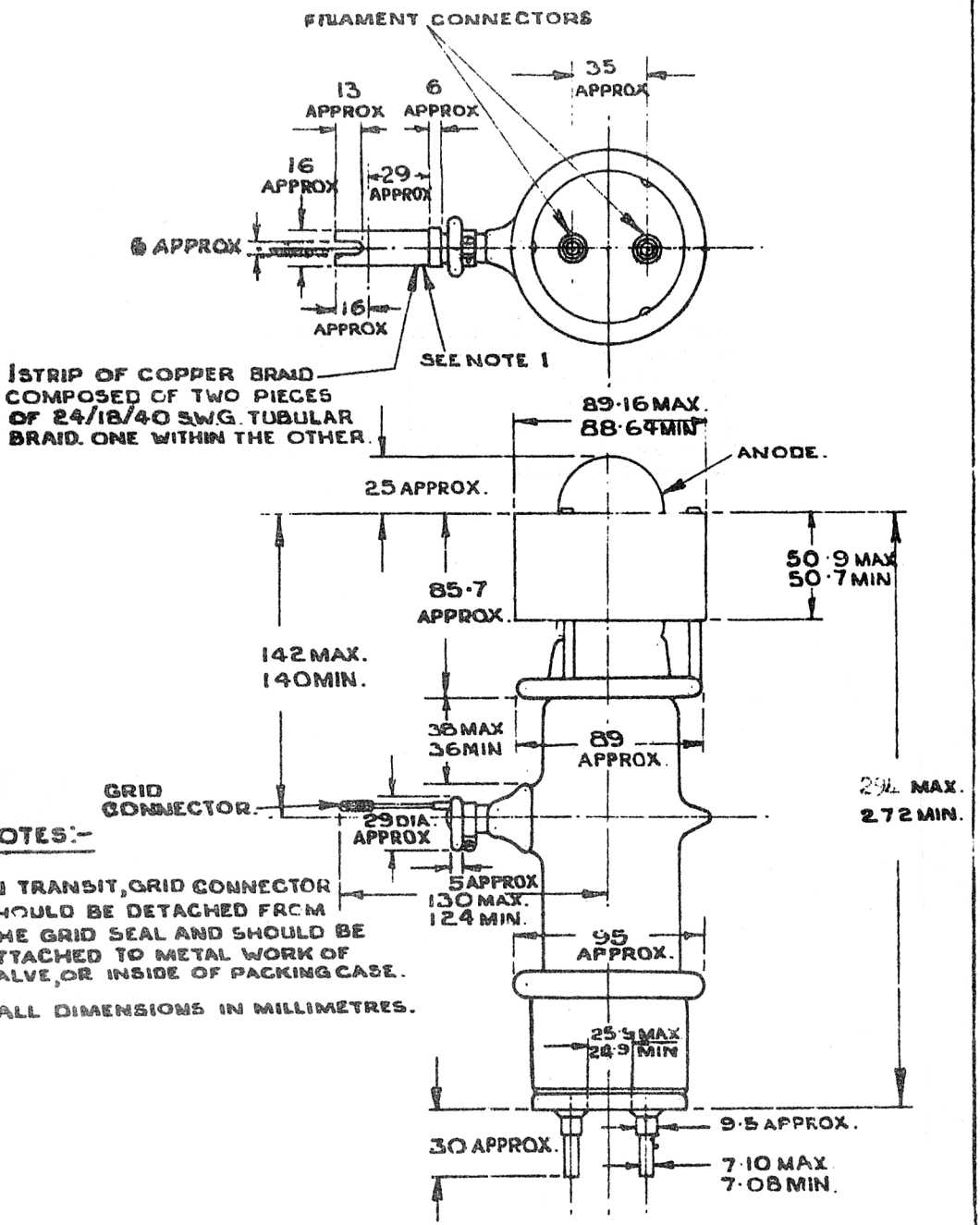
To be performed in addition to those applicable in K1001.

	Test Conditions				Test	Limits Min.	Limits Max.	% Test	Note
	Vf	Va	Vg	Ia(mA)					
	Forced air cooling shall be provided by not more than 90 cu. ft. of air per min. with a pressure drop across the valve of the order of 2 inches of water.								
a	13.0	Raised slowly from 10 kV. and maintained until flashing ceases	-	A trace	Hot Flash Process Anode voltage maintained at 31kV. for a period of 5 minutes without further flashing.			100%	1
b	13.0	5.0 kV.	-	200	1. Vg(V) at end of test period. Value of Vg must be steady during last three minutes.	20	35	100%	
	Conditions maintained for 10 minutes.				2. Ig(μA) at end of test period. Value of Ig must not be rising.	-	100	100%	
c	13.0	7.0 kV. reduced to 5.0 kV.	-	Maintained at 100	Vg change (V)	44	60	5% (4)	
d	13.0	275	275	-	Ic (A)	0.87	1.15	100%	
e	-	1.0 kV.	1.0 kV.	Ic = 450	Vf (V). This value of Vf times 1.45 is to be the marked voltage.	8.2	9.2	100%	
f	Marked Voltage	0	0	-	If (A)	52	64	100%	
g	HOT SPOT TEST - With the filament cold and strapped to grid an R.F. voltage shall be applied between anode and grid such as to pass a current of 4 amps. This condition shall be maintained for a period of 10 seconds. The applied voltage shall next be increased to give a current of 6 amps. and the condition maintained for 10 seconds. Finally the applied voltage shall be increased to give a current of 8 amps. and the conditions maintained for 30 seconds. At no time during the test shall there be appreciable heating of the glass.								
h					CAPACITANCES (pF) 1. Cag 2. Cgf	 5.1 6.9	 8.5 9.3	Type Approval	

TESTS Contd.

NOTES

Once the conditions specified in test clause (a) have been met, they need not be repeated for acceptance testing. This test shall be carried out with a 300 ohm resistor in series with the applied volts, and a capacitance not greater than 0.25 µF. in parallel with the supply volts on the supply side of the resistor.



NOTES:-

1. IN TRANSIT, GRID CONNECTOR SHOULD BE DETACHED FROM THE GRID SEAL AND SHOULD BE ATTACHED TO METAL WORK OF VALVE, OR INSIDE OF PACKING CASE.
2. ALL DIMENSIONS IN MILLIMETRES.