VALVE ELECTRONIC CV421
(CAT 20C)

MINISTRY OF SUPPLY (S.R.D.E.)

Specification MOS/CV421/Issue 2. Dated:- 24.1.49. To be read in conjunction with K1001, ignoring clauses:- 5.2., 5.8. & 7.2.	SECURITY Specification: Restricted Valve: Unclassified

TYPE OF VALVE:- Water cooled transmitting triode CATHODE:- Directly heated ENVELOPE:- Metal-glass construction PROTOTYPE:- CAT 20C	MARKING See K1001/4 BASE None

RATING			Note
Filament voltage	(V)	31.5	
Filament current	(A)	230	A
Max. anode current	(A)	10	
Max. anode voltage	(kV)	18	B
Total emission	(A)	50	C
Continuous maximum anode dissipation	(kW)	75	
Amplification factor		35	D
Anode impedance	(kΩ)	1.45	D
CAPACITANCES (pF)			
Cag		40	E
Caf		3.0	E
Cgf		54	E

CONNECTIONS AND DIMENSIONS

See Drawing Page 3

NOTES

A. During switching of filament, If must not exceed 110% of rated value.

B. At frequencies not greater than 2 Mc/s.

C. At 90% saturation.

D. At Va = 15,000 V.
Ia = 5A.

E. At 1 Mc/s.

TESTS

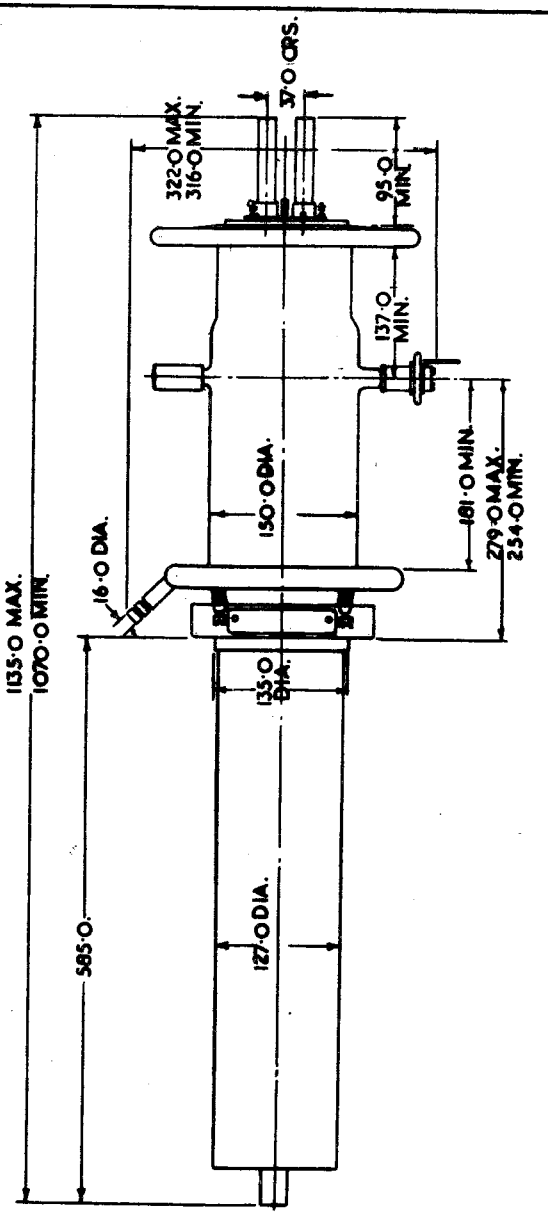
To be performed in addition to those applicable in K1001.

	Test Conditions				Test	Limits		No. Tested
	Vf	Va (kV)	Ia (A)	Vg (V)		Min.	Max.	
a	30	-	-	-	If (A)	217	227	100%
b	30	20	3.5	Adjust	(i) Record Vg			100%
					(ii) Ig (μA) initially	-	600	100%
					(iii) Ig (μA) after conditions maintained for 15 mins.	-	400	100%
c	30	Read	3.0	0	μ	55	65	100%
		Read	3.0	-100				
d	30	Read	2.0	-50	Ra (kΩ)	2.4	3.15	100%
		Read	4.0	-50				
e	30	20	3.5	Adjust	(i) Difference in value between Vg here and as recorded in test (b).	-	5	100%
					(ii) Ig (μA)	-	400	100%
f	Values of marked volts (M.V) for 35A and 50A emission at 90% saturation are calculated and recorded.				(i) M.V. for 35A.	29.5	32.0	100%
					(ii) M.V. for 50A.	31.0	33.5	100%
g	Read	Set If at 40A and maintain for 30 mins.			Final value of Vf (Note 1) (V).	0.48	0.62	100%

NOTES

1. This is a Pirani Test.
2. The anode must be surrounded by a water jacket, through which the rate of flow should be not less than 20 gals/min. The filament seals are air-cooled at a rate of flow of 6 to 8cu.ft/min. at a head of 5" of water. An air supply to the blower ring cooling the glass envelope is also required; a flow of 4 cu.ft/min. is adequate for this purpose.

CV421



TOLERANCES ± 10·0 UNLESS OTHERWISE STATED.
ALL DIMENSIONS IN M.M.