

VALVE ELECTRONIC CV421
(CAT 20C)

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

<p>Specification MOS/CV421/Issue 2. Dated:- 24.1.49. To be read in conjunction with K1001, ignoring clauses:- 5.2., 5.8. & 7.2.</p>	<table border="1"> <tr> <th colspan="2">SECURITY</th></tr> <tr> <td>Specification</td><td>Valve</td></tr> <tr> <td>SECRET Unclassified</td><td>Unclassified</td></tr> </table>	SECURITY		Specification	Valve	SECRET Unclassified	Unclassified
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<u>TYPE OF VALVE:-</u> Water cooled transmitting triode			<u>MARKING</u> See K1001/4	
<u>CATHODE:-</u> Directly heated			<u>BASE</u> None	
<u>ENVELOPE:-</u> Metal-glass construction				
<u>PROTOTYPE:-</u> CAT 20C				
<u>RATING</u>			<u>CONNECTIONS AND DIMENSIONS</u>	
			Note	
Filament voltage (V)	31.5	A B C D D	See Drawing Page 3	
Filament current (A)	230			
Max. anode current (A)	10			
Max. anode voltage (kV)	18			
Total emission (A)	50			
Continuous maximum anode dissipation (kW)	75			
Amplification factor	35			
Anode impedance (kΩ)	1.45			
<u>CAPACITANCES (pF)</u>			<u>NOTES</u>	
Cag	40	E	A. During switching of filament, If must not exceed 110% of rated value.	
Caf	3.0	E	B. At frequencies not greater than 2 Mc/s.	
Cgf	54	E	C. At 90% saturation.	
			D. At Va = 15,000 V. Ia = 5A.	
			E. At 1 Mc/s.	

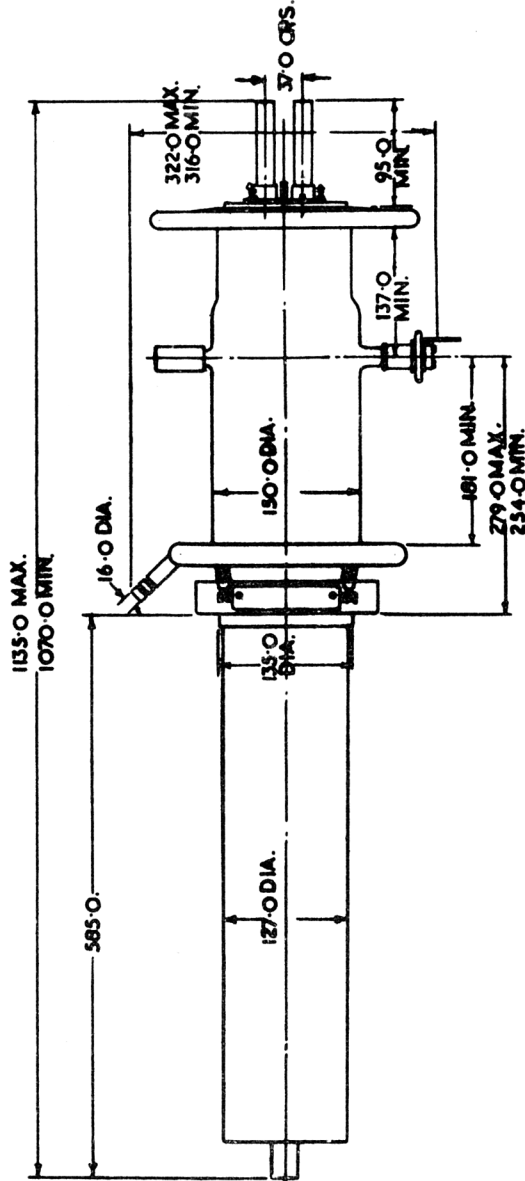
TESTS

To be performed in addition to those applicable in K1001.

Test Conditions					Test	Limits		No. Tested
						Min.	Max.	
	Vf	Va (kV)	Ia (A)	Vg (V)				
a	30	-	-	-	If (A)	217	227	100%
b	30	20	3.5	Adjust	(i) Record Vg (ii) Ig (μ A) initially (iii) Ig (μ A) after conditions maintained for 15 mins.	-	600	100%
						-	400	100%
c	30	Read	3.0	0	μ	55	65	100%
		Read	3.0	-100				
d	30	Read	2.0	-50	Ra (k Ω)	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). (ii) Ig (μ A)	-	5	100%
						-	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. (ii) M.V. for 50A.	29.5	32.0	100%
						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 8 cu.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.



TOLERANCES ± 10.0 UNLESS OTHERWISE STATED.
ALL DIMENSIONS IN MM.