Undassified

[redacted]

VALVE TYPE **CV50.**

MINISTRY OF AIRCRAFT PRODUCTION (D.C.D.)

Test Specification No.	Date	To be read in conjunction with K1001, ignoring clauses :- 5.2, 5.8.
D.C.D., W.T.1341 Issue No.2.	1st July, 1943	

→ Indicates a change.

TYPE OF VALVE :- Transmitting Tetrode.

CATHODE :- Directly Heated - Thoriated Tungsten.

ENVELOPE :- Silica.

MARKING

CV50
Serial No.

RATING		Note
Filament Voltage (V)	10.7	
Filament Current (A)	69.0	
Maximum Anode Dissipation (W)	200	A
CAPACITANCES (pF.approx.)		
Ca-all	27.5	
Cg-all	30.0	

DIMENSIONS AND CONNECTIONS
See Fig. 1.

PACKING
according to clause 7.3 of K1001.

NOTES

A. With unrestricted air circulation.

TESTS

To be performed in addition to those applicable in K1001.

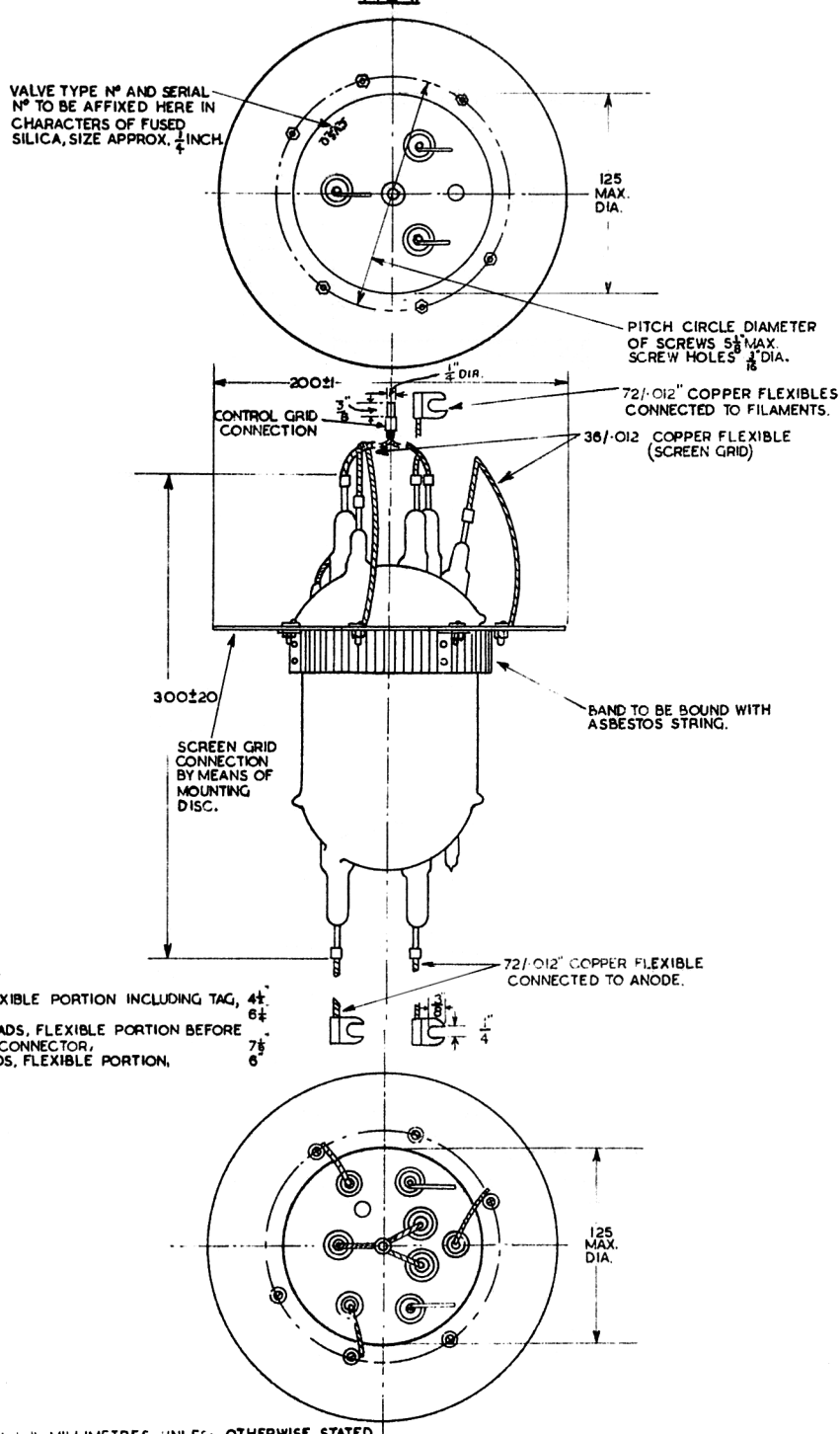
	Test Conditions					Test	Limits Min.	Limits Max.	No. Tested.
	Vf	Va	Vg2	Vg1	Ia + Ig2				
a	10.7	0	0	0	0	Filament Current (A)	67.0	71.0	100%
b	10.7	1000	1000	-	200 mA	Reverse Control Grid Current (mA)	-	1.0	100%
c	10.7	1000	1000	-	200 mA	Control Grid Voltage (V)	-70	-140	100%
d	10.7	1000 reduced to 700.	1000 reduced to 700.	Adjusted to maintain required Ia + Ig2	200 mA	Control Grid Voltage Change (V)	45	70	100%
e	-	300	300	300	Total Cathode Current 0.5 A.	Filament Current (A)	-	50	100%
f	10.7	150	150	150	-	Total Cathode Current (A)	0.8	1.5	100%
g	10.7	Anode, Screen and Control Grid Strapped. Peak applied volts = 6.0 kV. Test to be performed by an approved method.				Peak Cathode Current (A)	60	-	5% (4)
h	See Appendix III of W.T. Board Specification K1001.					Direct Capacitances (pF.)			2% (1)
						1. Anode to all other electrodes.	20.0	33.0	
						2. Control grid to all other electrodes.	23.0	37.0	
						3. Anode to control grid.	-	2.0	

j **Operational Test.** 100%

The valves shall be tested individually in the power amplifier stage of a transmitter type T.3018; the second valve in this stage during tests shall be one that is known to meet all specification requirements.

For the purpose of this test the transmitter shall be operated on the lower frequency band, with the recurrence frequency set to 50 c.p.s. and the pulse width adjusted to 15 micro-seconds on the modulator monitor. The 'anode voltmeter', which actually indicates the R.M.S. secondary voltage of the H.T. supply transformer, shall read between 14 kV. and 16 kV., and the screen voltage shall be not greater than 2.5 kV. Either strip lamps or carbon lamps constitute a suitable load, but the output matching must be adjusted for the particular type of lamp chosen. The setting up of the apparatus shall be approved by The Royal Aircraft Establishment, and thereafter no adjustment is to be made to the transmitter, when testing valves, other than the grid tuning adjustment. The anode heating of the valve under test shall be uniform, with entire absence of hot spots, and during the test the transmitter circuit breakers must not come out repeatedly. The mean power output of the transmitter shall be not less than 190 watts.

FIG 1.



LENGH OF LEADS:-

ANODE LEAD, FLEXIBLE PORTION INCLUDING TAG,	4½"
FILAMENT LEADS,	6¼"
CONTROL GRID LEADS, FLEXIBLE PORTION BEFORE ATTACHMENT OF CONNECTOR,	7⅛"
SCREEN GRID LEADS, FLEXIBLE PORTION,	6"

ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.