VALVE ELECTRONIC **CV1475-8** (CV69)

ADMIRALTY SIGNAL & RADAR ESTABLISHMENT

Specification AD/CV1475-8/Issue 4. Dated : 3. 7. 53. To be read in conjunction with K1001.	SECURITY Specification: Unclassified Valve: Unclassified

→ Indicates a change

TYPE OF VALVE : Magnetron.

CATHODE : Indirectly heated, oxide-coated.

ENVELOPE : Copper and glass.

PROTOTYPE : E1326

MARKING

See K1001/4.

Additional Marking :-

Serial No. .....

See also Note C.

RATING			Note
Heater Voltage (AC or DC)	(V)	5	E
Heater Current	(A)	2.6	
CV1475 Nominal Frequency	(cm)	8.96	
→ CV1476 " "	(cm)	9.05	
CV1477 " "	(cm)	9.14	
CV1478 " "	(cm)	9.23	
Max. Anode Dissipation	(W)	400	B
TYPICAL OPERATING CONDITIONS			
Peak Anode Voltage	(kV)	26	A
Peak Anode Current	(A)	40	A
Peak Power Output	(kW)	450	A

DIMENSIONS AND CONNECTIONS

See Drawing, Page 3.

PACKAGING

See K1005.

NOTES

A. These figures are for pulse operation with :-

(i)	Recurrence frequency	:	500 pps.
(ii)	Pulse length	:	0.5 micro-sec.
(iii)	Pulse shape	:	Sensibly square.
(iv)	Field strength	:	2,100 oersteds, see Note D.

B. During operation and testing, air must be blown through a suitable fitting enclosing the cooling fins of the anode so that the block temperature does not rise above 140°C.

C. No technical information shall appear on the valve or packing.

D. The valve is expected to operate with any field in the range 2,100 ± 100 oersteds. This point will be checked at Type Approval.

E. Vh = 5 V for starting only. For normal running Vh = 0.

F. The magnetron shall be processed so as to ensure, as far as possible, that only brief ageing (of the order of 5 mins. or less) is necessary when it is put into service.

G. In use, the cathode lead side of the valve shall be adjacent to the north pole of the magnet.

TESTS

To be performed in addition to those applicable in K1001.

	Test Conditions		Test	Limits		No. Tested	Note
	Vh (V)	Ia Peak (A)		Min.	Max.		
a	5.0	-	Ih (A)	2.3	2.9	100%	E
b	0	40	Va peak (kV)	25	29.5	100%	1
c	0	40	Frequency CV1475 (Mc/s) CV1476 (Mc/s) CV1477 (Mc/s) CV1478 (Mc/s)	3340 3305 3270 3230	3380 3340 3305 3270	100%	1, 2. ←
d	0	40	Peak output power (kW)	360	-	100%	1, 3.
	Output power is to be measured by an approved method.						
e	0	Ia peak to be varied from 30 A to 45 A, with loading for optimum output at 40 A. The change of frequency is to be observed.	Frequency continuity.	The frequency shall vary smoothly and without discontinuity, and by not more than 5 Mc/s.		100%	1

NOTES

1. The valve is to be pulse-tested according to the above table, (tests 'b' to 'e') in an approved circuit, and with the following test conditions :-

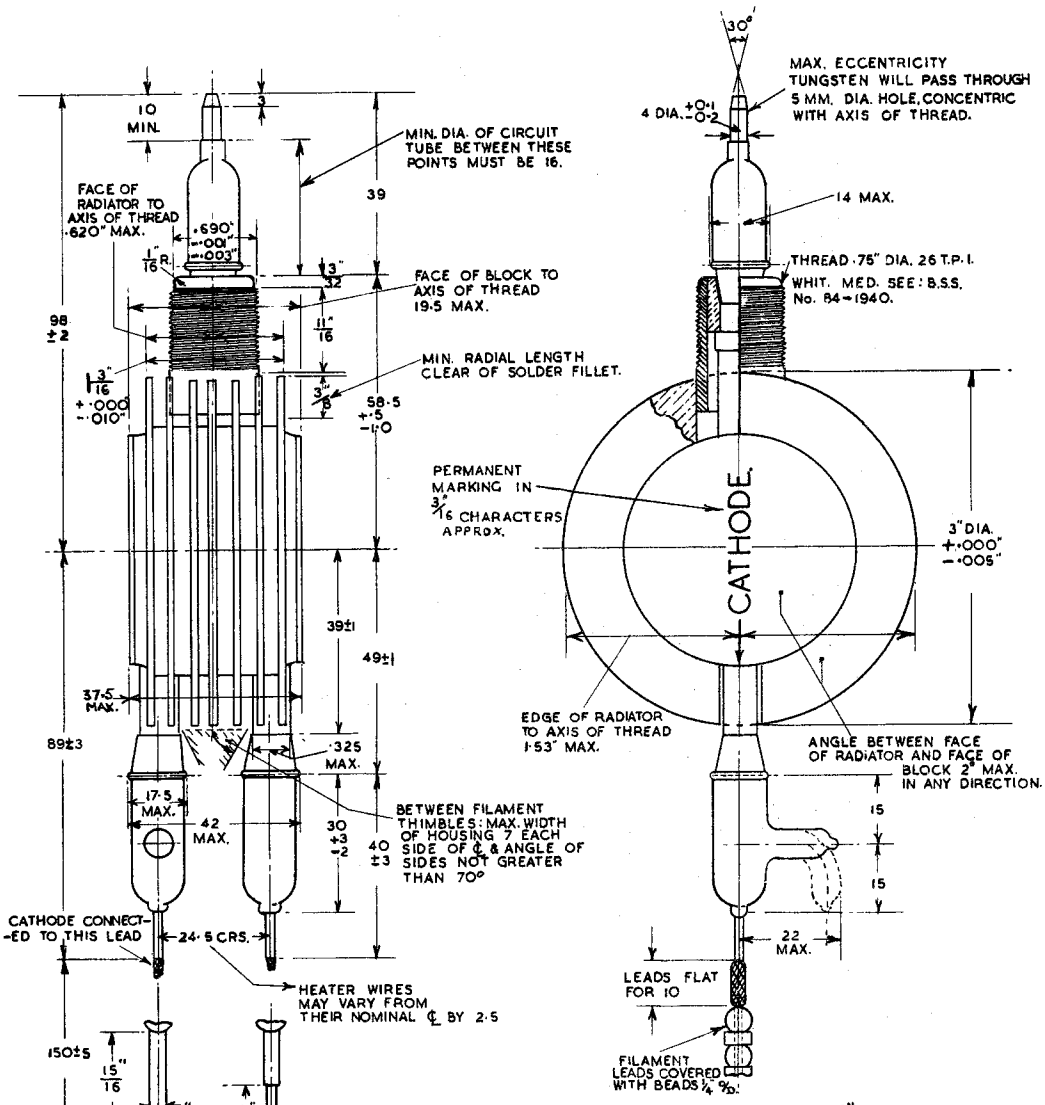
1.1.	Recurrence frequency	:	500 pps.
1.2.	Min. pulse length	:	0.5 micro-sec.
1.3.	Duty cycle, min.	:	1/4000
1.4	Pulse shape	:	Sensibly square.
1.5.	Field strength	:	2,100 ± 20 oersteds.

No serious or continued flashing (internal or external) must occur during the tests.

2. GROUPING AND RE-MEASUREMENT. If, on a single measurement, a valve falls within an adjacent group, action shall be taken according to the extent of the discrepancy:-

(a) By not more than 6 Mc/s. Grouping remains unchanged.
(b) By more than 20 Mc/s. Re-group accordingly.
(c) By an amount between 6 and 20 Mc/s. Make 3 or more re-measurements; if the average of the 4 measurements shows a discrepancy of less than 6 Mc/s., grouping remains unchanged; if more than 6 Mc/s., re-group accordingly.

OUTLINE DIMENSIONS



ALL DIMENSIONS IN MILLIMETRES EXCEPT WHERE OTHERWISE STATED.