

MINISTRY OF SUPPLY - DLRD(A)/RRE

Specification MOS(A)/CV3659-62 Issue 1 Dated 29th January 1954 To be read in conjunction with K1001	<u>SECURITY</u>	
	<u>Specification</u> <u>UNCLASSIFIED</u>	<u>Valve</u> <u>UNCLASSIFIED</u>

TYPE OF VALVE - Magnetron		<u>MARKING</u>
CATHODE	- Indirectly-heated; oxide-coated; (See also Note A)	See K1001/4 (See also Note D)
ENVELOPE	- Copper and glass	
PROTOTYPE	- CV1479 (Booted version)	
<u>RATING</u>		<u>BASE</u>
	Note	See Drawing on Page 3.
Heater Voltage (AC or DC)	(V) 5.0 A	
Heater Current	(A) 2.6 A	
Max. Anode Dissipation	(W) 600 B	
Nom. Operating Frequency (Mc/s)		<u>CONNECTIONS AND DIMENSIONS</u>
- CV3659	3045	See Drawing on Page 3.
- CV3660	3017	
- CV3661	2992	
- CV3662	2960	
<u>TYPICAL OPERATING CONDITIONS</u> (See Note C)		<u>MOUNTING POSITION</u>
Peak Anode Voltage	(KV) 27	Any
Peak Anode Current	(A) 35	
Output Peak Power	(KW) 450	
<u>NOTES</u>		
A. Vh = 5V for starting only; for normal running Vh = 0.		
B. During operation and testing, the magnetron must be air-cooled to ensure that the temperature of the anode block does not exceed 140°C.		
C. These figures apply for pulse operation under the following conditions:		
PRF = 500 pps;		
Tp = 2 or 0.7 μsec;		
Pulse shape : Sensibly square;		
Field strength : 2300 ± 100 gauss.		
The magnetron is expected to operate with any field strength within this range. This point will be checked during Type Approval testing.		
D. In addition to the requirements of K1001/4, each magnetron shall be marked with a serial number.		
No technical information shall appear on the valve or its packaging.		
E. The magnetron shall be processed to ensure, as far as possible, that only brief ageing in the order of 5 mins or less is necessary when it is put into service.		
F. In use the cathode-lead side of the valve shall be adjacent to the north pole of the magnet.		

To be performed in addition to those applicable in K1001

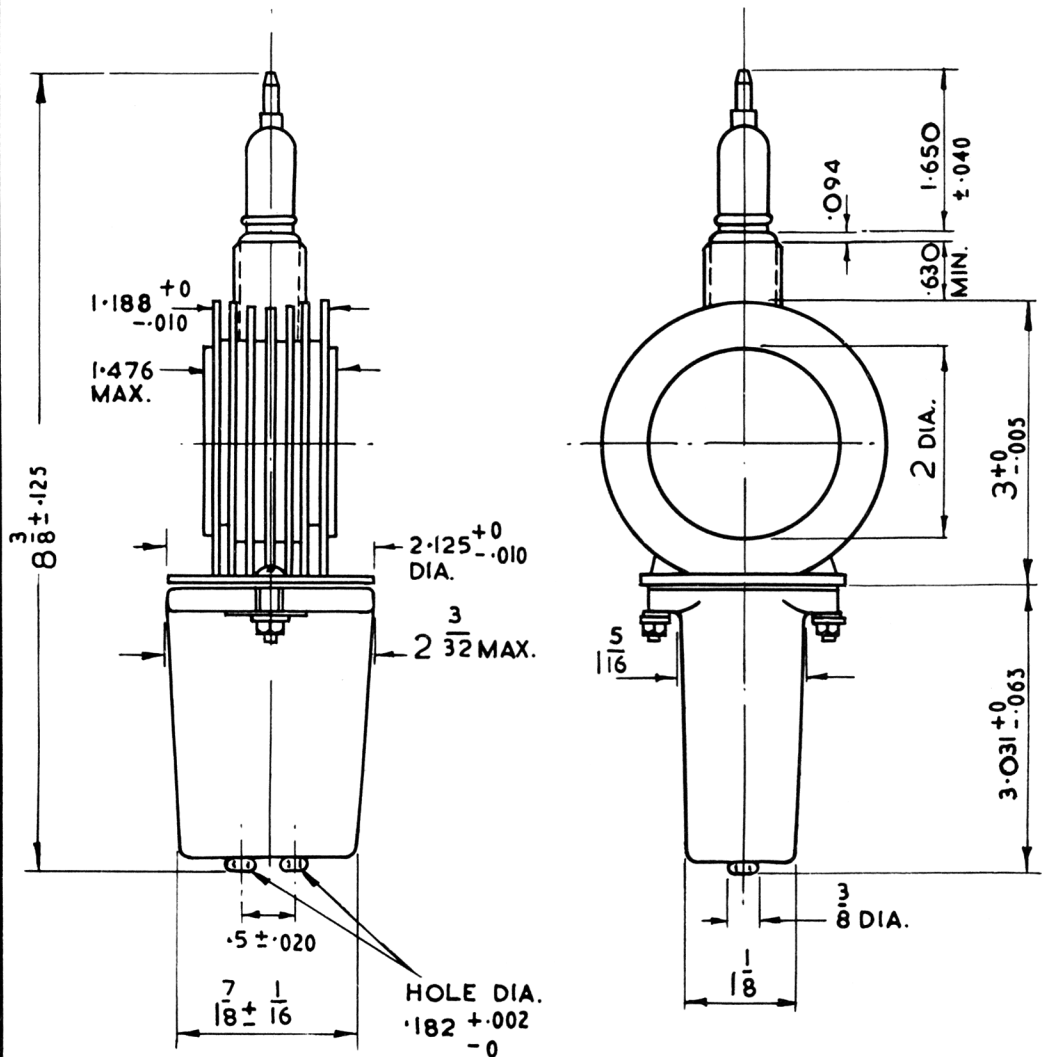
Test Conditions			Test	Limits		No. Tested	Notes
	Vh (V)	Peak Ia (A)		Min.	Max.		
a	5.0	-	Ih (A)	2.3	2.9	100%	1
b	0 PRF = 500 pps Min. Tp = 2 $\mu$ secs Pulse Shape: Sensibly square Field Strength = 2300 + 20 gauss Duty Cycle = 0.001 - 0.0009	35	1. Peak Va (kV) 2. Frequency (Mc/s) CV3659 CV3660 CV3661 CV3662 3. Peak Output Power (kW)	24 3030 3005 2980 2940 400	30 3060 3030 3005 2980 -	100% 100% 100%	2 2 & 3 2 & 4
c	0 Other conditions as for Test (b).	Varied over the range from 30A to 40A	Frequency Continuity Change in frequency (Mc/s)	-	5	100%	2 & 5
d	Waveguide plunger adjusted to produce the maximum possible frequency change.		1. Average batch frequency change (Mc/s) 2. Max. individual frequency change (Mc/s)	- -	28 35	5% or 5	2 6

NOTES

1. Vh = 5V for starting only; for normal running Vh = 0.
2. The valve is to be pulse-tested in an approved circuit.

No serious or persistent flashing, internally or externally, shall occur during the test.

3. Grouping and Re-measurement. If, on a single re-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, the grouping remains unchanged;
  - (b) by more than 20 Mc/s, re-group accordingly;
  - (c) by an amount between 6-20 Mc/s: make three more re-measurements. If the average of the four measurements shows a discrepancy of less than 6 Mc/s, the grouping remains unchanged; if the average is more than 6 Mc/s, re-group accordingly.
4. The output power shall be measured by an approved method. The apparatus used for the measurement of output power shall be checked after every 500 valves tested, or once a month (whichever is the shorter period), against the calorimetric method of measurement.
5. The frequency shall vary smoothly and without discontinuity.
6. If the average frequency change over one month of production exceeds 28 Mc/s correcting action shall be taken, and the Approving Authority notified. However, deliveries may continue.



ALL DIMENSIONS IN INCHES.