

ADMIRALTY SIGNAL AND RADAR ESTABLISHMENT

Specification AD/CV2380 Issue No. 1 dated 15th October, 1955 To be read in conjunction with K1001, B.S.448 and B.S.1409	<u>SECURITY</u> <u>Specification</u> <u>Valve</u> Unclassified Unclassified
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<u>TYPE OF VALVE:-</u> Magnetron; low power pulse type using spatial harmonic operation.			<u>MARKING</u> See K1001/4	
<u>CATHODE:-</u> Indirectly heated, oxide coated.			<u>BASE</u> B.S.448/B7G	
<u>ENVELOPE:-</u> Glass.				
<u>PROTOTYPE:-</u> VX3197				
<u>RATINGS</u>			Note	<u>CONNECTIONS</u>
Heater Voltage (V)	6.3			Pin Electrode
Heater Current (A)	0.2			1 a
Nom. operating frequency (Mc/s)	9400	B		2 a
Magnetic field strength (Oersteds)	2450	C		3 k, h,
Max. pulse anode voltage (V)	1000	A		4 h
Max. pulse anode current (mA)	100	A		5 a
Max. mean input power (W)	2	A		6 a
Min. pulse output power (mW)	100			7 NC
Max. mean anode current (mA)	20	A		
Max. "pedestal" voltage (V)	400	A, D		
<u>DIMENSIONS</u> See drawing on Page 3.				

NOTES

A. Absolute maximum value.

B. Each magnetron operates at some fixed frequency in the range 9400 ± 200 Mc/s.

C. The magnetic field strength for satisfactory operation is 2450 ± 50 oersteds.

D. Under pulse conditions, the maximum "pedestal" voltage is the maximum permitted d.c. component of the total applied anode voltage. The current from the "pedestal" voltage source shall be limited to 5 mA. The use of a "pedestal" voltage simplifies the modulator design so that a simple blocking oscillator may be used.

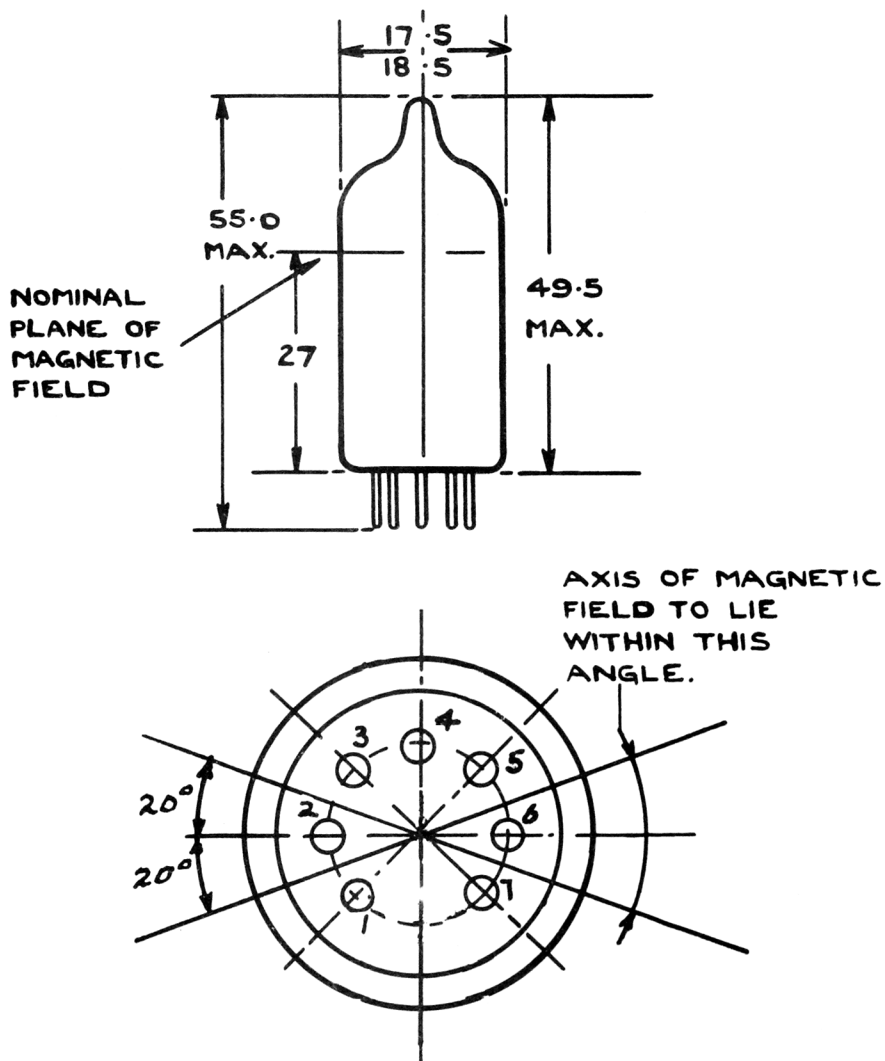
TESTS

To be performed in addition to those applicable in K1001

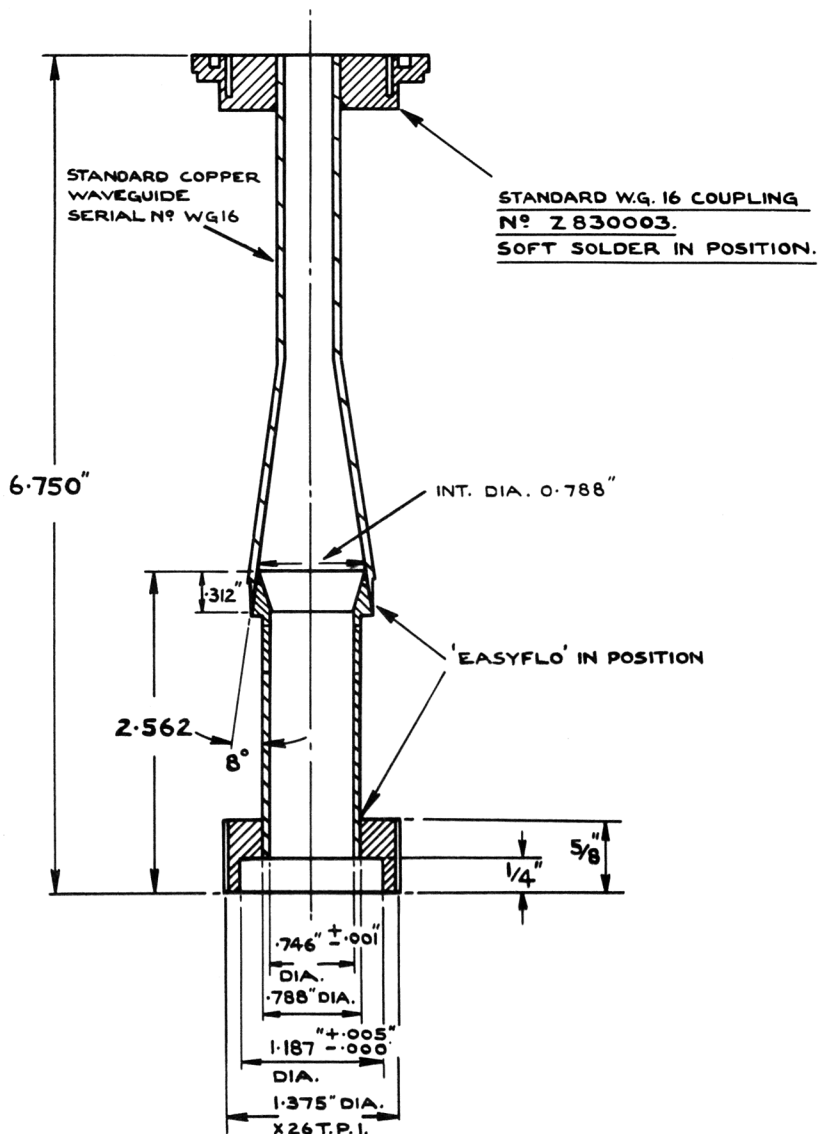
	Test Conditions			Test	Limits		No. Tested	Note
	Vh (V)	H (Oersteds)	Va (mA)		Min.	Max.		
a	6.3	0	0	Ih (A)	0.17	0.23	100%	
b	6.3	2400	400 d.c.	Ia (d.c.) (mA)	-	2	100%	1
c	6.3	2400	Pulsed. Adjusted for max. output power.	1. Peak pulse Va (V) 2. Frequency (Mc/s) 3. Peak pulse output power (mW)	- 9200 100	1000 9600 -	100% 100% 100%	1, 2
d	6.3	2500	- do -	1. Peak pulse Va (V) 2. Frequency (Mc/s) 3. Peak pulse output power (mW)	- 9200 100	1000 9600 -	100% 100% 100%	1, 2

NOTES

1. The position of the magnetron in the magnetic field in test (b) shall be adjusted to give minimum anode current. The magnetron shall retain this position in the magnetic field during tests (c) and (d).
2. For these tests the magnetron shall be mounted in the "launching" section of the waveguide shown in the drawing on Page 4. The pulse duration and the repetition rate shall be such that the mean input power to the magnetron shall not exceed 2 Watts.



ALL DIMENSIONS ARE IN MILLIMETRES



WAVEGUIDE MOUNTING

MATERIAL - BRASS UNLESS OTHERWISE INDICATED

TOLERANCES- DECIMAL DIMENSIONS $\pm .005$ "
FRACTIONAL DIMENSIONS $\pm 1/64$ UNLESS OTHERWISE STATED.