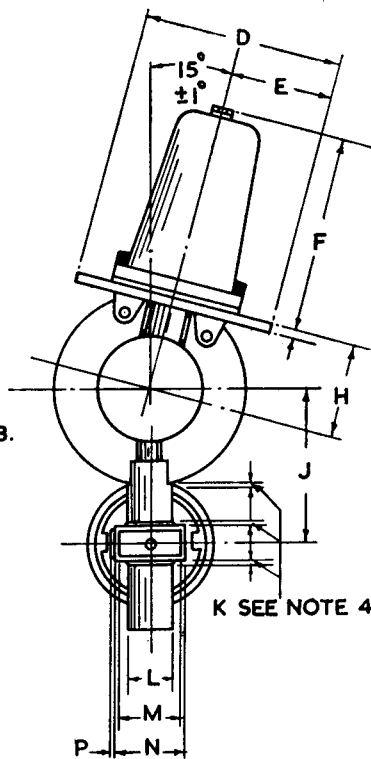
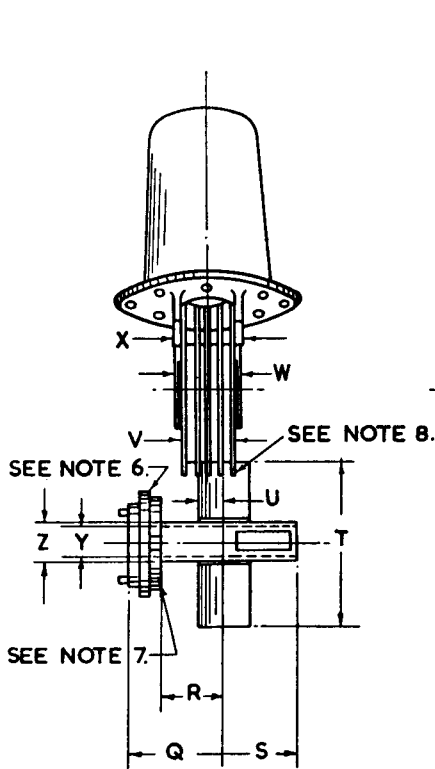
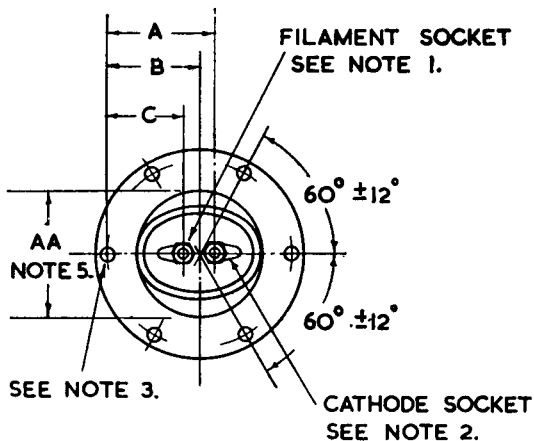




Magnetron Type M505

Dimension	Nominal	Minimum	Maximum	Remarks
A	1.687	—	—	Note 10
B	1.437	—	—	Note 10
C	1.187	—	—	Note 10
D	3.25	3.218	3.281	Di.
E	1.625	—	—	
F	2.984	2.922	3.046	
G	0.125	—	—	
H	1.500	1.480	1.520	
J	2.437	2.417	2.457	
K	—	—	0.125	Solder
L	0.875	—	0.880	Di.
M	1.0	—	—	Inside
N	1.094	1.075	1.116	
P	0.062	—	—	
Q	1.500	1.490	1.510	
R	—	0.938	—	
S	—	—	1.438	
T	—	—	2.812	
U	0.219	—	—	
V	0.807	0.8025	0.812	
W	—	—	0.974	
X	—	—	1.107	
Y	0.500	—	—	Inside
Z	0.594	0.581	0.611	
AA	—	—	2.218	Note 5



- Note 1. Filament hole in Pin Jack is 0.123-0.127 dia.
- Note 2. Cathode hole in Pin Jack is 0.167-0.171 dia.
- Note 3. 6-holes, 0.193 ± 0.003 dia., equally spaced on 2.875 ± 0.006 P.C. dia.
- Note 4. Allowances for solder fillets.
- Note 5. From this diameter to outer edge of Mounting Plate is flat to within 0.010.
- Note 6. Face of Flange may deviate 1° from nominal position relative to axis of Radiator Flange No. AP 54989.
- Note 7. No solder fillets.
- Note 8. Position of Radiator Fin assembly may vary ± 0.020 from centre-line through valve.
- Note 9. Radiator diameter equals 2.990-3.000.
- Note 10. Centre-line to be within 0.023 of nominal position and spacing between Pin Jacks to be 0.500 ± 0.010.
- Note 11. Normal Magnet air gap equals 0.984 minimum.
- Note 12. Radiator Housing width equals 0.8225 minimum.
- Note 13. All dimensions in inches.

MARCONI'S WIRELESS TELEGRAPH COMPANY LIMITED

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General. The M 505 is an air-cooled multi-resonator magnetron fitted with a pre-plumbed waveguide output circuit. The cathode is oxide coated and indirectly heated. It has been designed for operation in the 3 cm band and is for use with systems using the standard British waveguide; the internal dimensions of which are 1×0.5 in.

Cold Impedance. The impedance of the valve at its operating frequency when not oscillating will be such as to give a standing wave ratio of at least 8:1 with a minimum distance of 4.5–10.5 mm from the flange towards the anode.

APPROXIMATE DATA

V_h starting (a)	3.7–3.3	V
$V_{h(max)}$ oscillating at maximum input	2	V
I_h (at $V_h=3$ V)	3.5	A
f	9,360–9,460	Mc/s
$f_{pulling}$ (standing wave ratio 1.5:1 in all phases)	14	Mc/s
Rate of rise of voltage (max)	100	kV/ μ s
Duty cycle	0.001	
H	3,200–3,300	Oersteds
P_{in} (max)	150	W
I_a (pk)(max)	12	A
t_p (max)	1	μ s
T_a (max)	140°	C

Typical Operation

V_h	2	V
I_h	2.5	A
V_a (pk)	12	kV
I_a (pk)	12	A
H	3,250	Oersteds
t_p	1	μ s
PRF	1,000	pps
P_{out} (pk)	60	kW

NOTE

- (a) The heater voltage should be applied for at least 2 minutes before switching on the HT.