

MAGNETRON

JP9-7D

Frequency: 'X' band, fixed
 Power: 8kW, pulsed
 Construction: Packaged, forced-air cooled

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS - MICROWAVE DEVICES included in this volume of the handbook.

CHARACTERISTICS

	Min.	Max.	
Frequency (measured with the anode block at 45°C.)	9345 to 9405		Mc/s
Fixed within the band			
Pulse voltage ($I_{\text{pulse}}=5.5\text{A}$)	5.4	5.9	kV
R.F. pulse power output ($I_{\text{pulse}}=5.5\text{A}$)	8.0		kW
Frequency pulling factor (v.s.w.r.=1.5)		15	Mc/s
Distance of v.s.w. minimum from mounting plate into valve	16.5	21.5	mm
Input capacitance		8	pF

CATHODE

V_h	6.3	V
I_h	600	mA

Heating time. At ambient temperatures above 0°C the cathode must be heated for at least 2 minutes before the application of h.t. Below this temperature the heating time must be increased to at least 3 minutes. For mean input powers greater than 25 watts it is necessary to reduce the heater voltage immediately after the application of h.t. in accordance with the input power/heater rating chart.

TYPICAL OPERATION

Heater voltage (running)	6.3	6.3	5.8	V
Pulse duration	0.05	0.1	1.0	μs
Pulse repetition frequency	4000	1000	1000	p/s
Duty cycle	0.0002	0.0001	0.001	
Pulse current	7.0	6.0	5.5	A
Pulse voltage	5.9	5.7	5.6	kV
Pulse input power	41.3	34.2	30.8	kW
R.F. pulse output power	10.5	9.5	9.0	kW
Mean input current	1.4	0.6	5.5	mA
Mean input power	8.3	3.4	31	W
Mean r.f. output power	2.1	0.95	9.0	W
Frequency pulling (v.s.w.r.=1.5)	14.0	14.0	14.0	Mc/s
Rate of rise of pulse voltage	110	110	80	kV/ μs

COOLING

In normal circumstances natural cooling is adequate, but where the ambient temperature is abnormally high a flow of cooling air between the radiator fins may be necessary to keep the block temperature below the permitted maximum.

JP9-7D

MAGNETRON

Frequency: 'X' band, fixed
Power: 8kW, pulsed
Construction: Packaged, forced-air cooled

LIMITING VALUES (absolute ratings)

	Min.	Max.	
Pulse current			
$t_p < 1.0\mu s$	4.5	6.0	A
$t_p < 0.1\mu s$	4.5	7.0	A
Pulse voltage	5.2	6.2	kV
Pulse duration	0.05	1.0	μs
Duty cycle		0.002	
Mean input power		83	W
Rate of rise of voltage pulse		120	kV/ μs
Load mismatch (v.s.w.r.)		1.5	
Temperature of anode block		100	$^{\circ}C$

PHYSICAL DATA

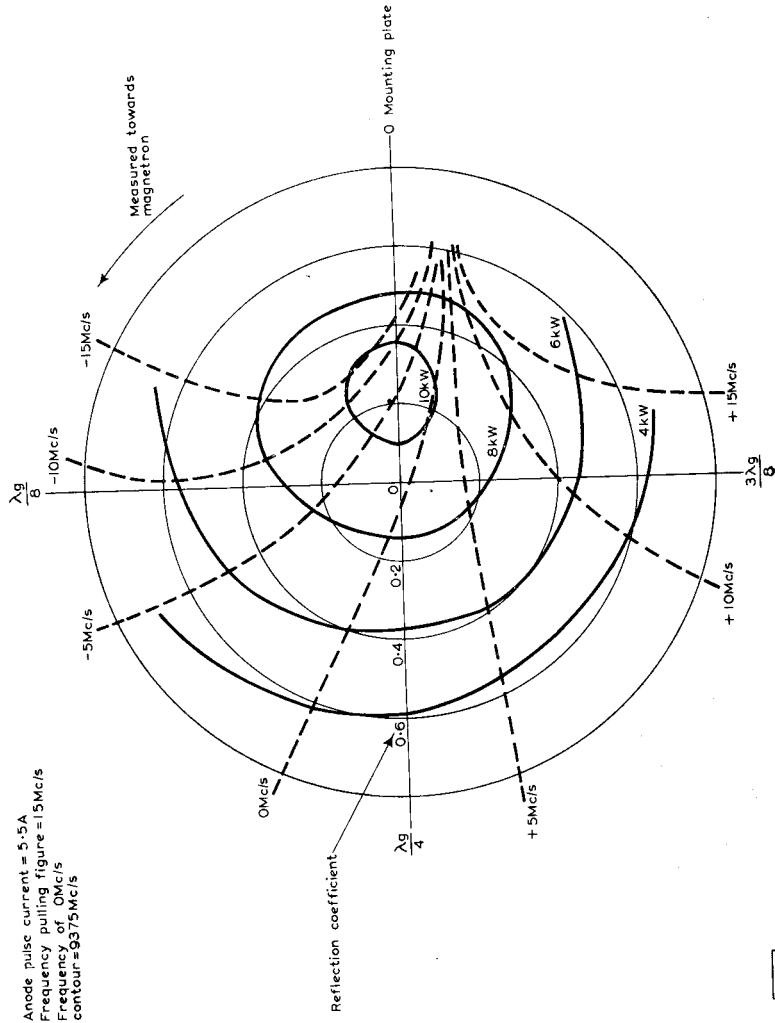
Weight of magnetron		{ 3.0 lb 1.4 kg
Weight of magnetron in carton		{ 5.7 lb 2.5 kg
Dimensions of storage carton	{ 7.75 × 8 × 9.75 in 200 × 210 × 250 mm	



MAGNETRON

JP9-7D

Frequency: 'X' band, fixed
 Power: 8kW, pulsed
 Construction: Packaged, forced-air cooled



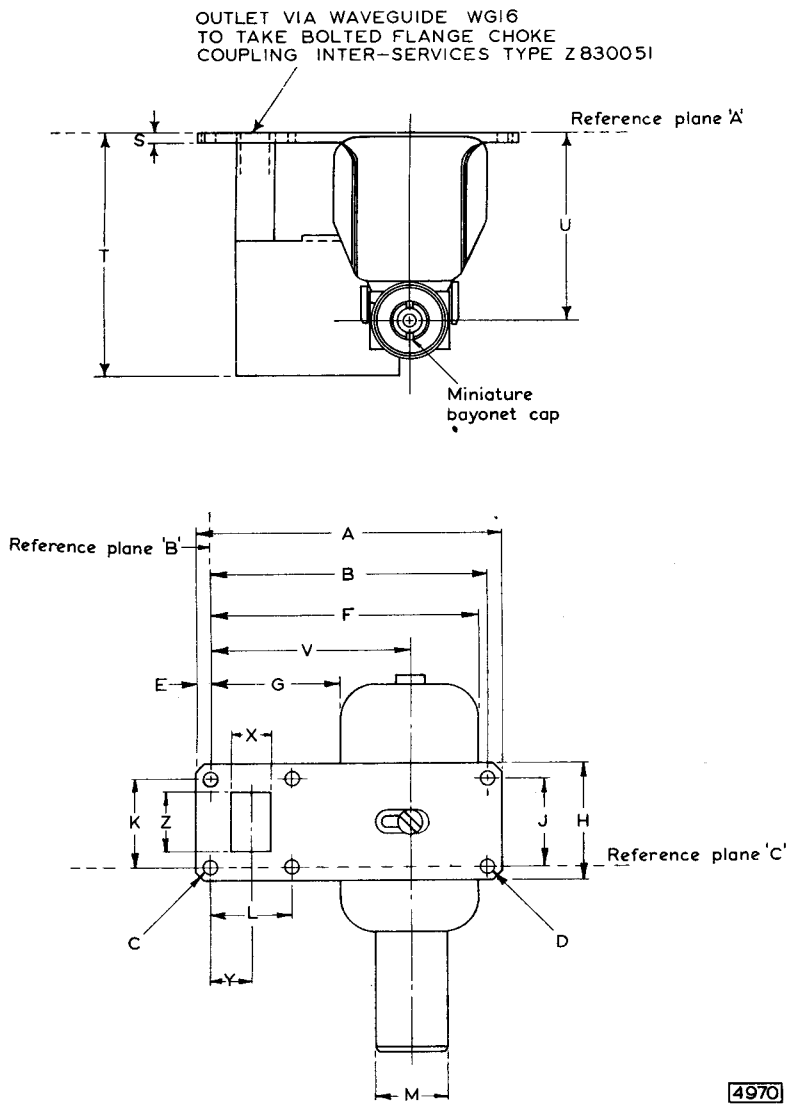
REIKE DIAGRAM



JP9-7D

MAGNETRON

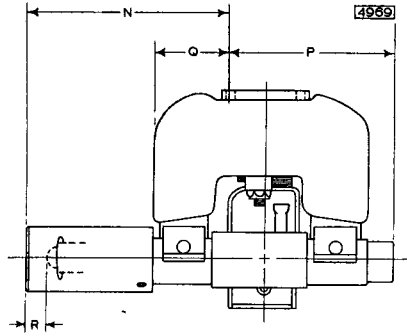
Frequency: 'X' band, fixed
Power: 8kW, pulsed
Construction: Packaged, forced-air cooled



MAGNETRON

JP9-7D

Frequency: 'X' band, fixed
 Power: 8kW, pulsed
 Construction: Packaged, forced-air cooled

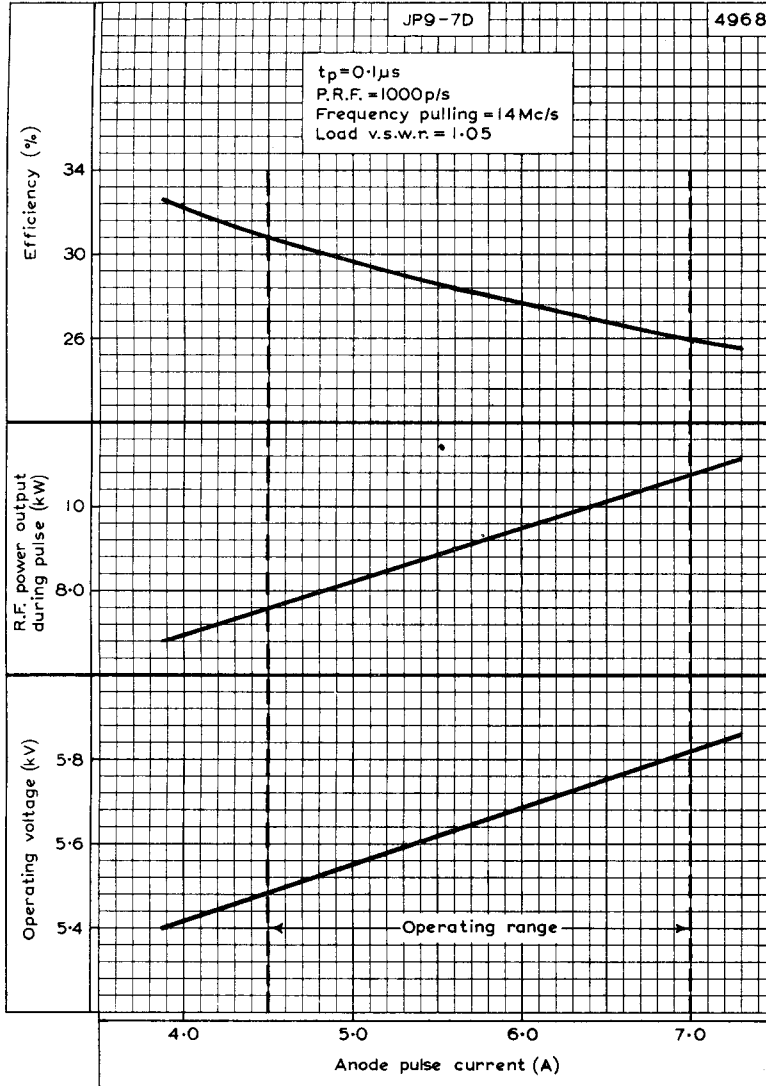


	inches	mm	
A	4.47	113.5	max.
B	4.103 ± 0.004	104.2 ± 0.1	
C	0.17 ± 0.003	4.32 ± 0.08	
D	0.175 ± 0.003	4.45 ± 0.08	
E	0.19	4.8	max.
F	4.0	102	max.
G	1.93	49	min.
H	1.64	41.7	max.
J	1.22 ± 0.003	30.99 ± 0.08	
K	1.22 ± 0.004	30.99 ± 0.1	
L	1.28 ± 0.004	32.51 ± 0.1	
M	1.0	25.4	max.
N	3.19	81.0	max.
P	2.19	55.6	max.
Q	1.19	30.2	max.
R	0.25	6.4	max.
S	0.125 ± 0.01	3.18 ± 0.25	
T	3.25	82.6	max.
U	2.52 ± 0.13	64 ± 3	
V	3.0 ± 0.13	76 ± 3	
X	0.400 ± 0.003	10.16 ± 0.08	
Y	0.640 ± 0.004	16.25 ± 0.10	
Z	0.900 ± 0.003	22.86 ± 0.10	

JP9-7D

MAGNETRON

Frequency: 'X' band, fixed
Power: 8kW, pulsed
Construction: Packaged, forced-air cooled

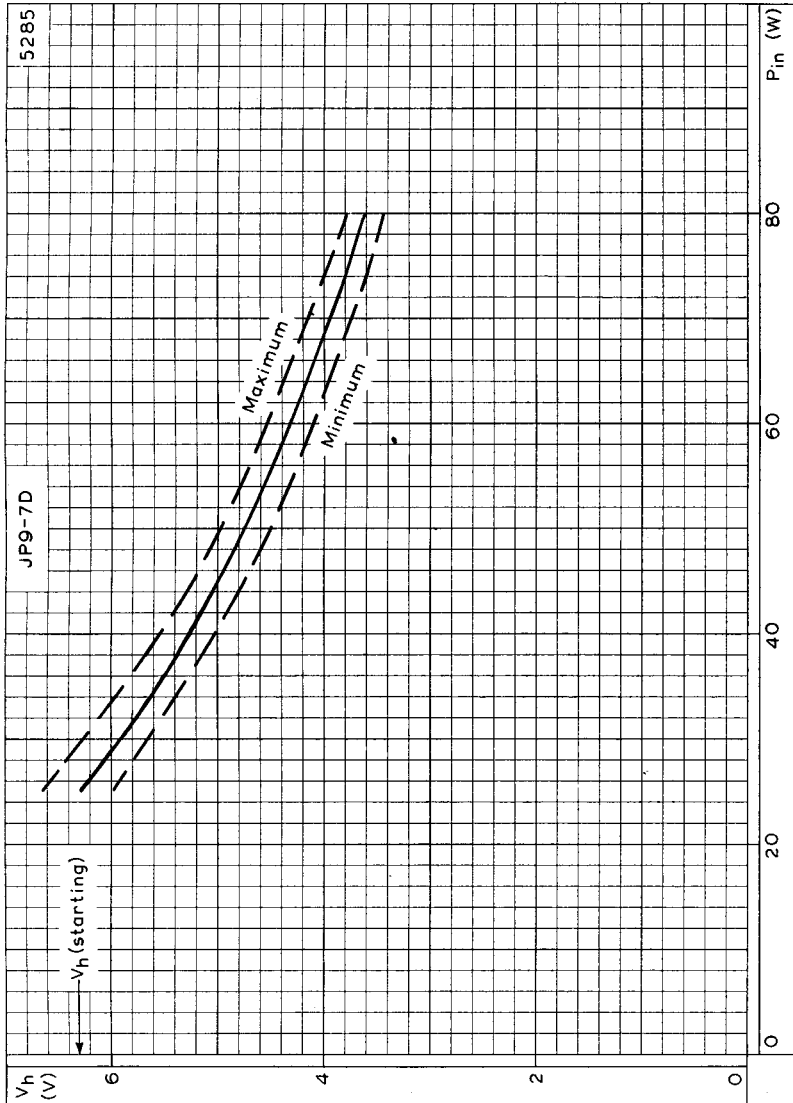


OPERATING VOLTAGE, R.F. POWER OUTPUT DURING PULSE AND EFFICIENCY PLOTTED AGAINST ANODE PULSE CURRENT.

MAGNETRON

JP9-7D

Frequency: 'X' band, fixed
Power: 8kW, pulsed
Construction: Packaged, forced-air cooled



HEATER VOLTAGE PLOTTED AGAINST INPUT POWER

