FOR MESSRS :

CUSTOMER'S ACCEPTANCE SPECIFICATIONS

MAGNETRON : **2M 290 – 24 (Jacket)**

DATE : May. 30.. 2022.

CONTENTS

SIGNATURES :

PROPOSED BY

MANAGER of MGT Group
Built-in/Cooking Division

SIGNATURES :

APPROVED BY

Please Return One Volume Of This Spec With Your Signature For Approval.

RECORD OF REVISION

Rev. No	DATE	REVISION CONTENTS	SHEET NO.
0	22. 05. 30.		-

TEST SPECIFICATION

Description : Continuous Wave Magnetron, 2450MHz, Fixed Frequency.

1. Absolute Maximum Ratings :

Item	Symbol	Min	Max	Unit	Note
Filament Voltage, Stand-by	Ef	4.40	4.80	Vac	
Filament Voltage, Operation	Ef	(See Fig . 1)		Vac	1, 2
Pre-heating Time	Tk	5	-	sec	1, 3
Average Anode Current	Ib	-	900	mAdc	1
Peak Anode Current	ibm	-	2.1	Ap	1
Peak Anode Voltage	ebm	-	5.4	kVp	1
Average Anode Input	Pi	-	4.8	kW	1
Load VSWR (continuous)	σL	-	1.5	-	1
Anode Core Temperature	Tp	-	160	℃	
Case Temperature	Tcase	-	100	℃	
Storage Temperature	-	-30	60	℃	

2. General Test Condition :

Item	Symbol	Value
Filament Voltage, Stand - by	Ef	4.6 Vac
Filament Voltage, Operation	Ef	3.1 Vac
Average Anode Current	Ib	840 mAdc
Load VSWR	σL	1.1 Max
Cooling Water Flow	Q	2.0ℓ/min or greater
Test Equipment		Page 11
Power Supply ·····		single-phase, full-wave rectifier without filter

3. Test Specifications :

Item	Symbol	Nominal	Min	Max	Unit	Note
Filament Current , Stand-by (Tk = 120secMin)	If	19.5	17.5	21.0	Aac	1, 4 ,5
Peak Anode Voltage	ebm	5.1	4.8	5.3	kVp	1,4,5,6
Average Output Power	Po	3000	2750	-	W	1,4,5,6
Frequency	fo	2455	2440	2470	MHz	1, 4 ,5
Stability (at σL ≤ 3)	STIb	-	700	-	mA	1,4,5,7,8
Breakdown Voltage	Et	-	10	-	kVdc	9

Notes :

1. Power supply should be single-phase, full-wave rectifier without filter.
2. Filament voltage should be regulated as shown in Fig. 1.
3. To apply to single phase full-wave rectifier without filter.
   If power supply is different, the figure shall be reviewed.
4. Block diagram of the test equipment is shown in Page No. 10.
5. Launcher and tapered waveguides are shown in Page No. 11.
6. These limits are defined as converted values to 20℃.
   Conversion should be done using the equation shown below.

   $ebm\ (T) = \{1-0.002(T-20)\}\ \ ebm$

   $Po\ \ (T) = \{1-0.002(T-20)\}\ \ Po$

   (Where, ebm(T), Po(T) : Values at ambient temperature T(℃))

   Measurement shall be done within 15 sec after ebm is supplied.
7. Any instability such as moding, run-away, should not be observed at any load phase of the specified VSWR.
8. Operate momentarily 5 sec maximum to avoid destruction of the tube.
9. No continuous spark at 10kVdc after gradual voltage up.
10. Load match may vary to higher VSWR in application, but must be reviewed by LG with regard magnitude, phase and dwell time.
11. Magnetron life should be lasted during 2000 hr under the general operating conditions which is shown in Page No.10 (Reflection: VSWR:1.1)
    (Because magnetron operating condition will have effect on the magnetron life time, user should secure a sufficient security situations as like the direction and volume of wind, Power on/off etc.)

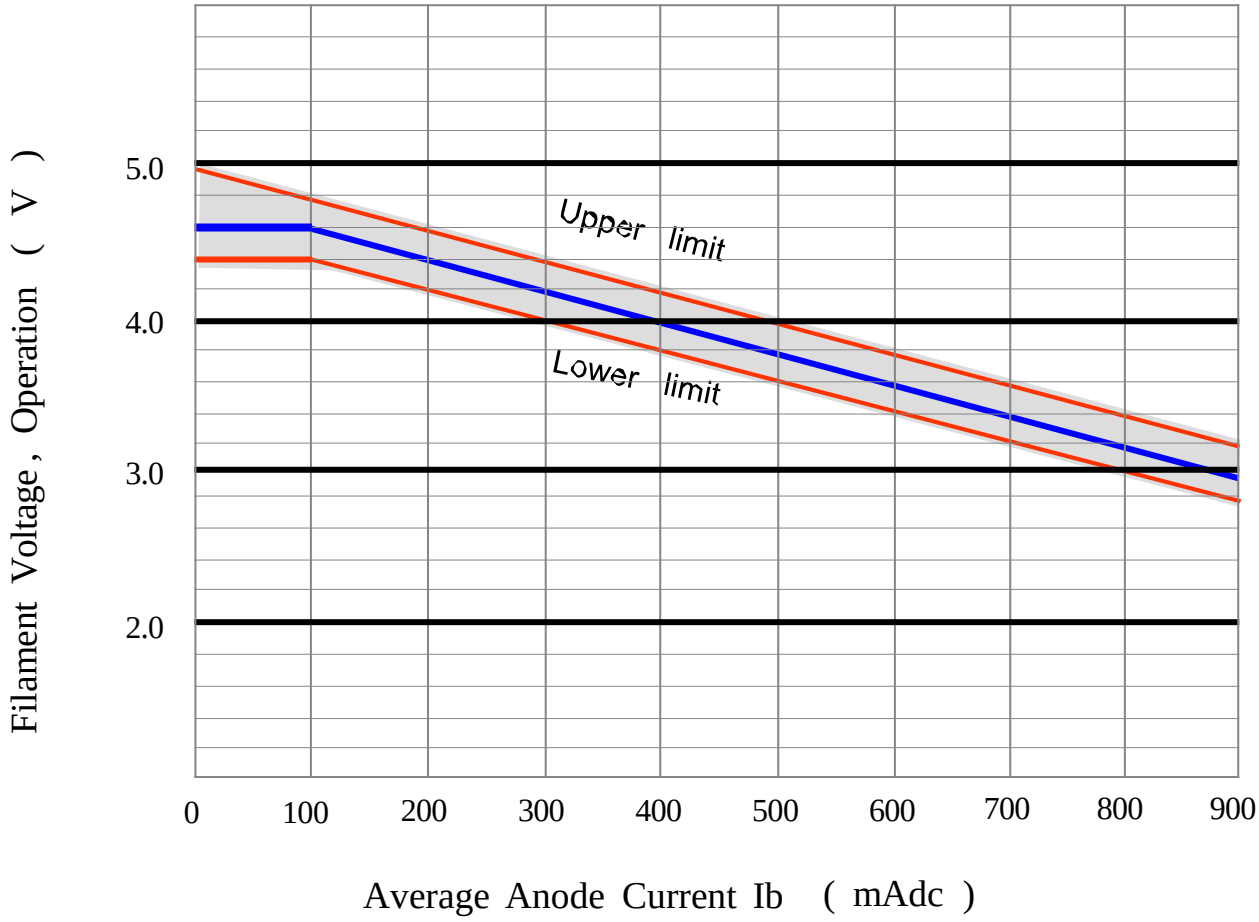
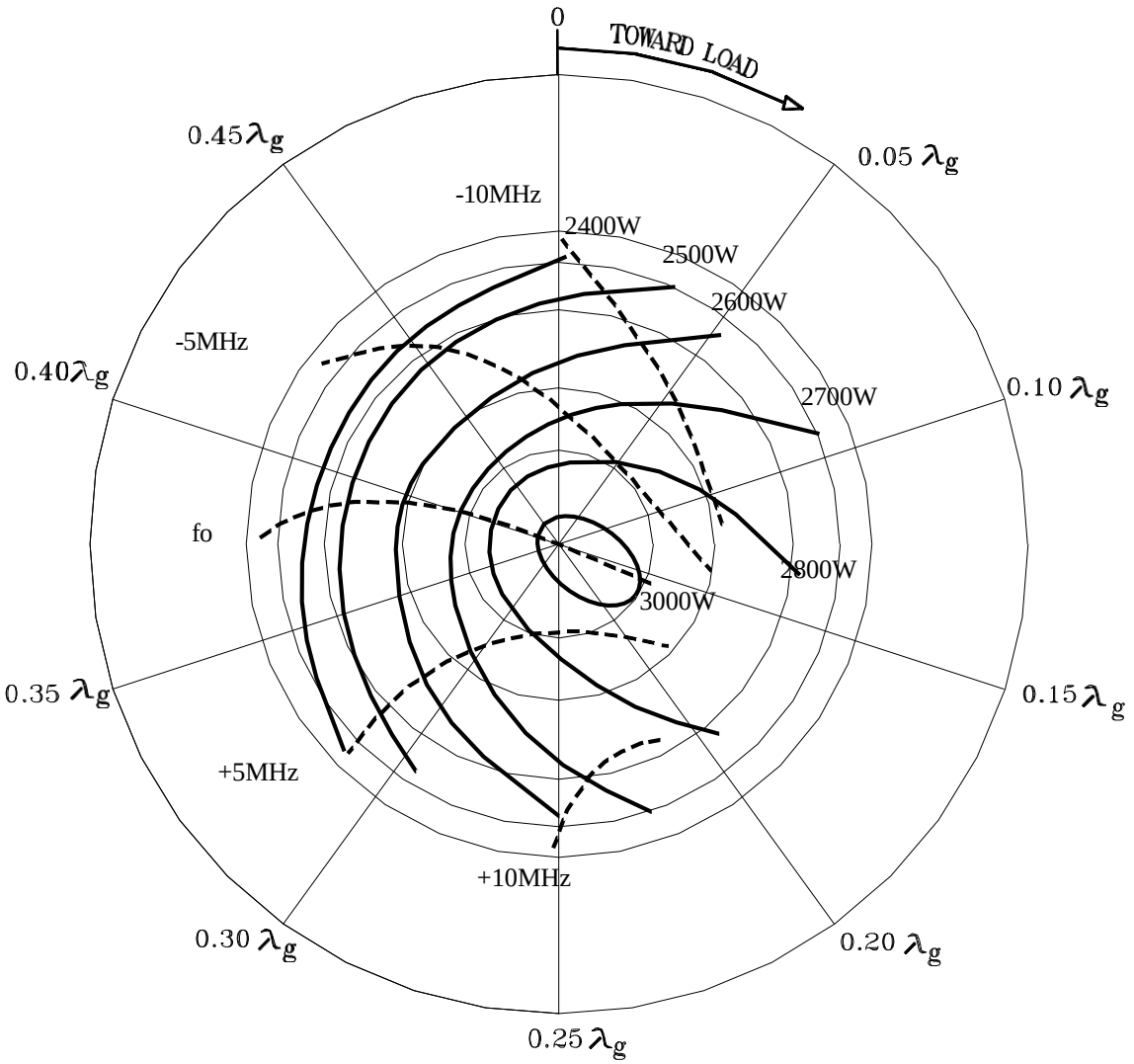


Fig . 1 Reduction Chart of Filament Voltage

REFERENCE PLANE (AXIS OF OUTPUT ANTENNA)



OPERATING CONDITIONS :

POWER SUPPLY: SINGLE PHASE,
FULL-WAVE RECTIFIER WITHOUT FILTER
AVERAGE ANODE CURRENT: 840 mA
FILAMET VOLTAGE : 2.4V
WAVE GUIDE : LG STANDARD LAUNCHER.

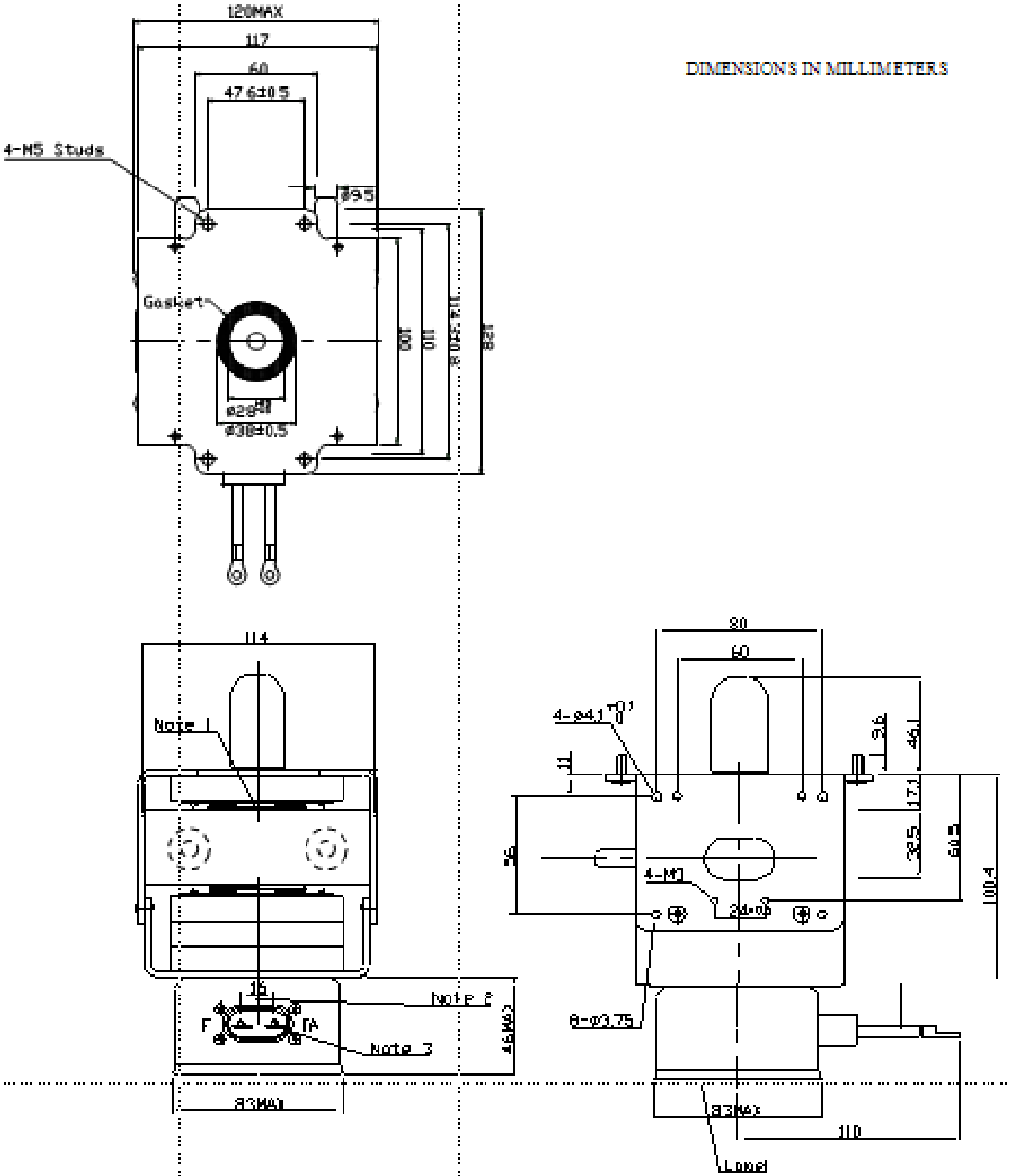
---------- OUTPUT POWER (W)

FREQUENCY (MHz)

Fig . 2 Rieke Diagram of the 2M290

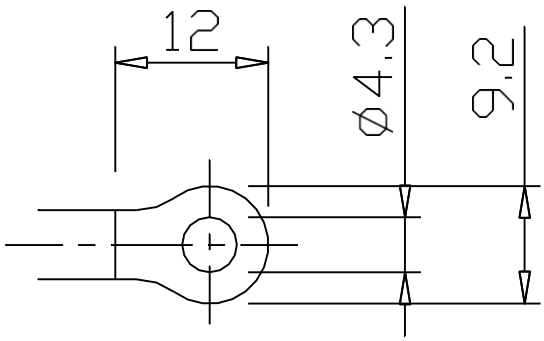
DIMENSIONAL OUTLINE OF 2M290-24(Jacket)

DIMENSIONS IN MILLIMETERS



Note :

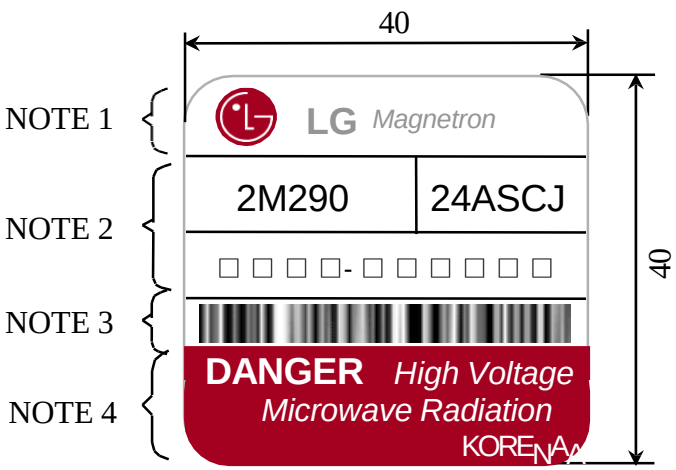
1. Anode core temperature measuring points (down stream air).
2. Case temperature measuring points.
3. Detailed drawing of the filament terminal :



4. Change of numbers and dimensions of holes on the yoke which are not specified in the drawing should be accepted.

LABEL SPECIFICATION

DIMENSIONS IN MILLIMETERS



NOTE :

1. It indicates LG brand with symbol mark and Magnetron.
2. It indicates Magnetron's model name.

   Below is each model's serial number.

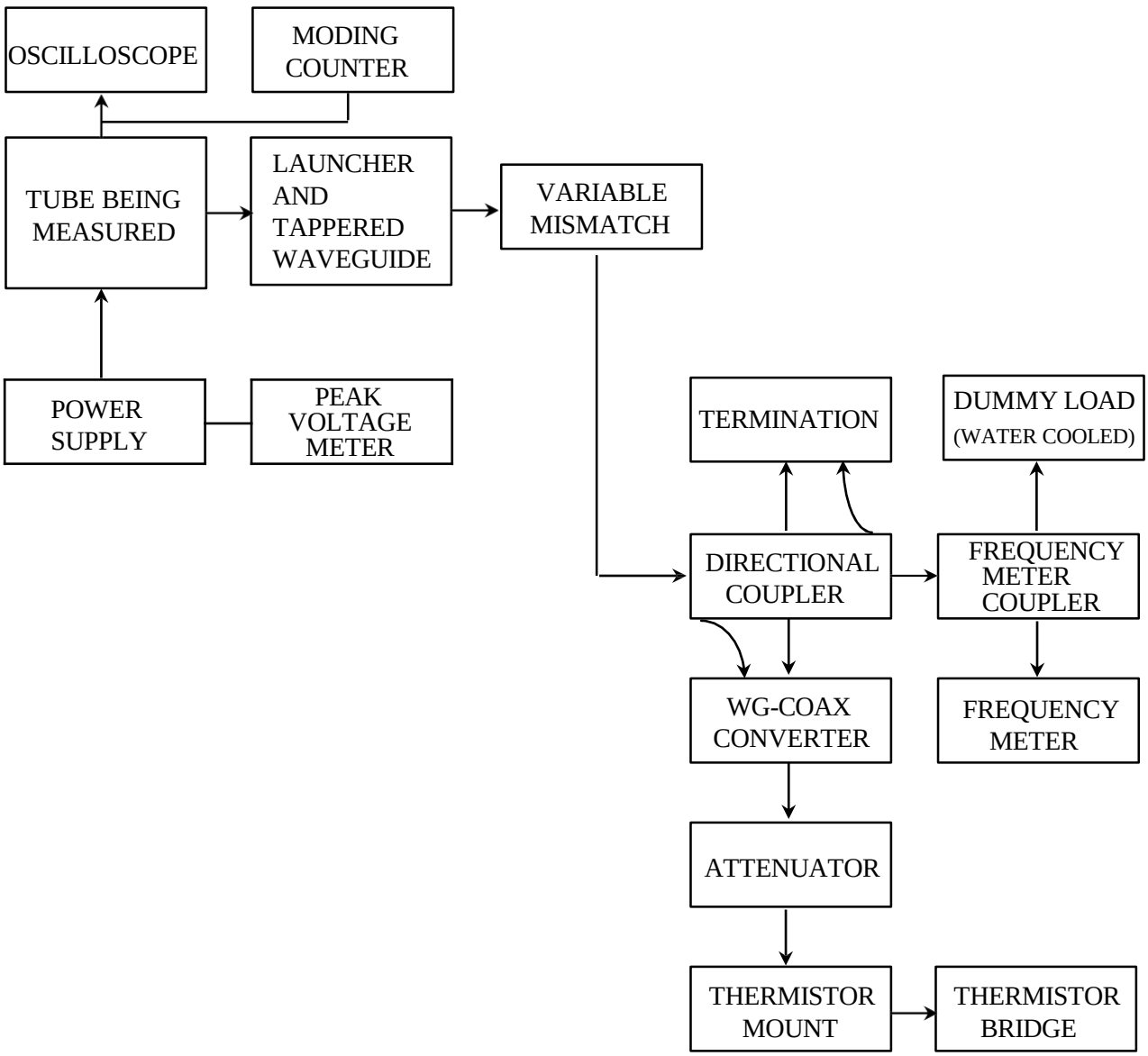
   □□□□ - □□□□□□

   □□ ..……...Manufacture Year(20,21,22,…)
   □□ ……....Manufacture Month(01~12)
   □□□□□□…...….Manufacture serial No.(000001~999999)

3. It indicates the bar code with Magnetron information
4. It indicates Danger and The origin of a product.

   Area indicated to be red with white letters.

BLOCK DIAGRAM OF TEST EQUIPMENT



LAUNCHER AND TAPERED WAVEGUIDE FOR TESTING

DIMENSIONS IN MILLIMETERS
(IN INCHES)