

**WATER COOLED MAGNETRON** especially intended for use as continuous wave oscillator for microwave heating applications. It operates at a fixed frequency within the range of 2425-2475 Mc/s and is capable of delivering with unsmoothed D.C. supply an output power of 5 kW. The magnetron 55125 and its magnet type 55314 can be delivered either as one unit (packaged magnetron) or as separate components (unpackaged magnetron)

**MAGNÉTRON À REFROIDISSEMENT PAR EAU** destiné spécialement à être utilisé comme oscillateur à ondes entretenues pour les applications de chauffage par micro-ondes. Ce magnétron fonctionne à une fréquence fixe dans la gamme de 2425-2475 MHz et peut fournir une puissance de 5 kW à alimentation par courant continu non-filtré. Le magnétron 55125 et son aimant 55314 peuvent être livrés soit comme un ensemble ou séparément.

**WASSERGEKÜHLTES MAGNETRON** zur Verwendung als Dauerstrich-Oszillator für Heizung mittels Mikrowellen. Das Magnétron arbeitet bei einer festen Frequenz im Bereich von 2425-2475 MHz und kann bei Speisung mit ungeglättetem Gleichstrom eine Leistung von 5 kW liefern. Das Magnetron 55125 und sein Magnet 55314 können entweder als eine Einheit oder als getrennte Einzelteile geliefert werden.

|           |                                            |                                     |
|-----------|--------------------------------------------|-------------------------------------|
| Heating   | : indirect by A.C. or D.C.                 | $V_{fo} = 5,5 V \pm 5 \%$           |
| Chauffage | : indirect par C.A. ou C.C.                | $V_{fo} = 5,5 V \pm 10 \%$          |
| Heizung   | : indirekt durch Wechsel- oder Gleichstrom | $I_f(V_f = 5,5 V) = 66 A$           |
| Cathode   | : dispenser type                           | $T_w = \text{min. } 4 \text{ min.}$ |
| Cathode   | : cathode à réserve                        | $R_f(V_f = 0 V) = 0,01 \Omega$      |
| Katode    | : Nachfüllkatode                           |                                     |

**Remark 1:** The heater current must never exceed a peak value of 200 A at any time during the initial energizing schedule

**Remark 2:** The heater voltage must be reduced immediately after applying the anode power according to the schedule below. The heater voltage should be adjusted within +5 % and -10 %

|                             |               |
|-----------------------------|---------------|
| $I_a = 300-500 \text{ mA}$  | $V_f = 3,5 V$ |
| $I_a = 500-1400 \text{ mA}$ | $V_f = 1,0 V$ |

**Observation 1:** Le courant de chauffage d'enclenchement ne doit jamais dépasser une valeur de crête de 200 A  
**Observation 2:** La tension de chauffage doit être réduite immédiatement après avoir appliqué la puissance anodique à une valeur indiquée ci-dessus. La tension doit être ajustée entre +5 % et -10 %.

**Bemerkungen:** Siehe Seite 2

**WATER-COOLED MAGNETRON** for microwave heating applications. It operates at a fixed frequency of  $2450 \pm 25$  Mc/s with unsmoothed D.C. supply from a three-phase half-wave rectifier and is capable of delivering a continuous wave output power of 5 kW.

The tube has been designed for coupling to a 50  $\Omega$ , 15/8" coaxial line. Its ceramic permanent magnet features a high magnetic stability.

The magnetron and its magnet type 55314 can be delivered either as one unit (packaged magnetron) or as separate components (unpackaged magnetron). The tube need not be adjusted with respect to the magnet for optimum electrical performance.

## HEATING

Dispenser type cathode, indirectly heated by A.C. or D.C.

Heater starting voltage  $V_{fo}$  = 5.5 V  $\pm$  5 %  
- 10 %

Heater current  $I_f(V_f = 5.5 \text{ V}) = 66 \text{ A}$

Cold heater resistance  $R_f(V_f = 0 \text{ V}) = 0.01 \Omega$

Cathode heating time  $T_w = \text{min. } 4 \text{ min.}$

Remark 1: The heater current must never exceed a peak value of 280 A at any time during the initial energizing schedule.

Remark 2: The heater voltage must be reduced immediately after applying the anode power according to the following schedule:

| Anode current | Heater voltage |
|---------------|----------------|
| 300 - 500 mA  | 3.5 V          |
| 500 - 1400 mA | 1.0 V          |

The heater voltage should be adjusted within +5 % and -10 %

Bemerkung 1: Der Anlaufheizstrom darf niemals einen Scheitelwert von 200 A überschreiten

Bemerkung 2: Die Heizspannung muss unmittelbar nach dem Einschalten der Anodenspannung auf den unten angegebenen Wert reduziert werden. Sie sollte innerhalb der Grenzen +5 % und -10 % eingestellt werden.

$I_a = 300-500 \text{ mA}$        $V_f \approx 3,5 \text{ V}$

$I_a = 500-1400 \text{ mA}$        $V_f \approx 1,0 \text{ V}$

### Cooling

Anode block: water cooled.  $t_a = \text{max. } 100^\circ \text{C}$ , to be measured at the mounting plate for the thermo switch. At a water inlet temperature of less than  $35^\circ \text{C}$  a water flow of about 2.5 l/min is necessary.

Cathode radiator: small air stream and cooling clip 40649. Temperature of cathode radiator = max.  $180^\circ \text{C}$ .

Heater terminal: cooling clip 40634

The magnetron is provided with a mounting plate on the anode block. This plate is intended for the mounting of a suitable thermo switch, which should come into operation at a temperature of 95 to  $100^\circ \text{C}$ .

The glass parts of the tube should not be cooled. Care should be taken to prevent the glass from being locally cooled by the air stream to the cathode radiator.

### Refroidissement

Bloc anodique: refroidissement par eau.  $t_a = \text{max. } 100^\circ \text{C}$ , à mesurer à la plaque de montage du commutateur thermique. À une température d'entrée de moins de  $35^\circ \text{C}$  un courant d'eau d'environ 2,5 l/min. est requis.

Radiateur cathodique: courant d'air faible et borne de refroidissement 40649. Température du radiateur cathodique = max.  $180^\circ \text{C}$

Connexion du filament: borne de refroidissement 40634

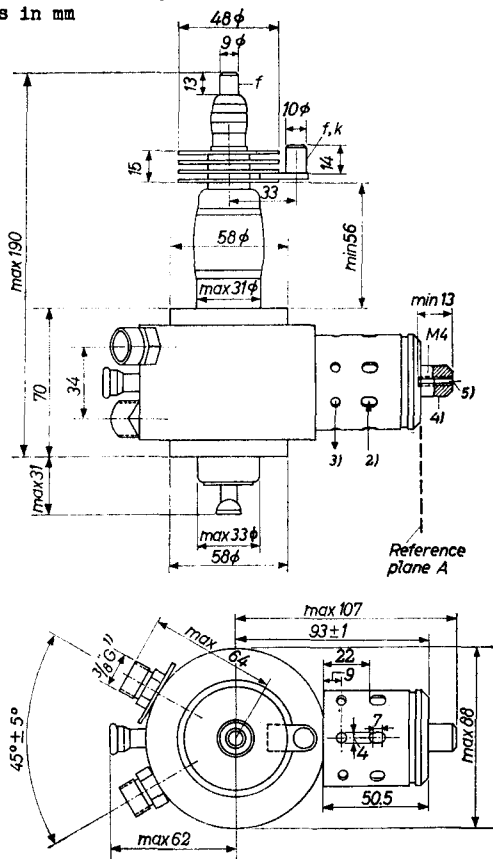
Le magnétron est muni d'une plaque de montage au bloc anodique. Cette plaque est destinée au montage d'un commutateur thermique, qui doit fonctionner à une température de 95 à  $100^\circ \text{C}$

Les parties en verre du tube ne doivent pas être refroidies. Il faut donc éviter que le verre ne soit refroidi localement par l'air dirigé sur le radiateur de la cathode.

Kühlung: Siehe Seite 3

**55125****PHILIPS**

→ Dimensions in mm



1) To be connected to hose pillar (e.g. B9 x R3/8" Din 8542 Ms) with cap nut (e.g. CR 3/8" Din 8542 Ms)

2) Air inlet

3) Air outlet

4) 5) See page 3

## Kühlung

Anodenblock: wassergekühlt.  $t_a = \max. 100^\circ \text{C}$ , gemessen an der Montageplatte des Thermoschalters.

Bei einer Eingangstemperatur unterhalb  $35^\circ \text{C}$  ist eine Kühlwassermenge von etwa 2,5 l/Min erforderlich.

Katodenradiator: schwacher Luftstrom und Kühlklemme 40649. Temperatur des Katodenradiators =  $\max. 180^\circ \text{C}$   
Heizfadenanschluss: Kühlklemme 40634

Das Magnetron besitzt eine Montageplatte auf dem Anodenblock. Diese Platte dient zur Montage eines geeigneten Thermoschalters, der bei einer Temperatur von  $95$  bis  $100^\circ \text{C}$  in Tätigkeit treten soll.

Die Glasteile der Röhre dürfen nicht gekühlt werden. Es ist daher darauf zu achten dass eine stellenweise Kühlung durch den Luftstrom zum Katodenradiator unterbleibt.

## Accessories, accessoires, Zubehör

|        |       |
|--------|-------|
| Magnet |       |
| Aimant | 55314 |
| Magnet |       |

|                |       |
|----------------|-------|
| Cap nut        |       |
| Ecrou à chape  | 55312 |
| Überwurfmutter |       |

|                    |       |
|--------------------|-------|
| Spring ring        |       |
| Rondelle élastique | 55313 |
| Federring          |       |

|                                       |       |
|---------------------------------------|-------|
| Cooling clip for heater terminal      |       |
| Pince de refroidissement pour la      |       |
| borne filament                        | 40634 |
| Kühlklemme für den Heizfadenanschluss |       |

|                                     |       |
|-------------------------------------|-------|
| Cooling clip for cathode terminal   |       |
| Pince de refroidissement pour la    |       |
| borne cathodique                    | 40649 |
| Kühlklemme für den Katodenanschluss |       |

|            |       |
|------------|-------|
| 2 supports |       |
| 2 supports | 55315 |
| 2 Träger   |       |

|                        |        |
|------------------------|--------|
| Net weight of tube     |        |
| Poids net du tube      | 2,6 kg |
| Nettogewicht der Röhre |        |

|                           |      |
|---------------------------|------|
| Net weight of magnet      |      |
| Poids net de l'aimant     | 7 kg |
| Nettogewicht des Magneten |      |

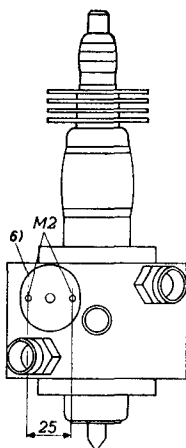
|                                       |       |
|---------------------------------------|-------|
| Shipping weight of packaged magnetron |       |
| Poids brut de tube et aimant          | 18 kg |
| Bruttogewicht Röhre und Magneten      |       |

Net weight tube 2.6 kg

Net weight magnet 7.0 kg

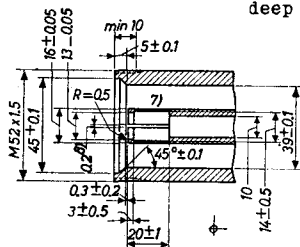
Shipping weight  
tube + magnet 18 kg

Mounting position: arbitrary



Page 2

- 4) Eccentricity of inner conductor with respect to the outer conductor 0.4 mm
- 5) Axial hole for short antenna, M4, deep 13 mm

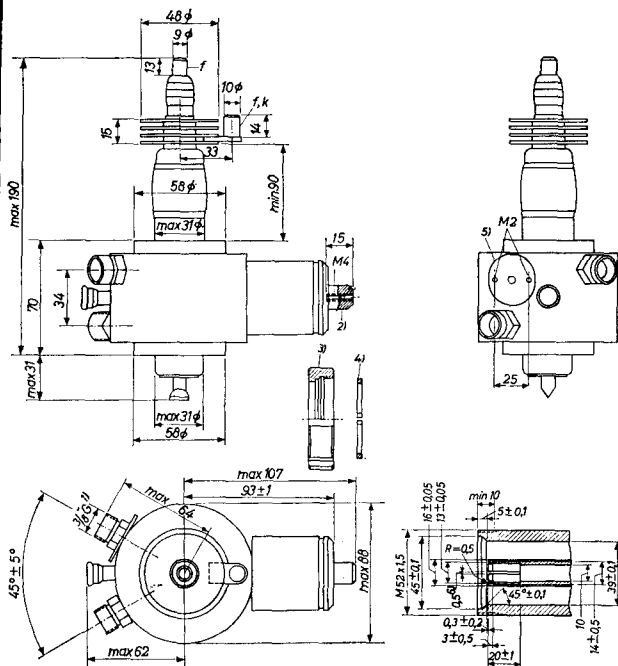


- 6) Mounting plate for thermoswitch  
Reference point for temperature measurement
- 7) Diameter of eccentricity area of inner conductor min. 1 mm
- 8) Three slots 0.2 mm. To be pressed after slotting

722 1459  
12.12.1962

Tentative data.

3.

**55125****PHILIPS**

Dimensions in mm

Dimensions en mm

Abmessungen in mm

Mounting position: arbitrary

Montage: arbitrairement

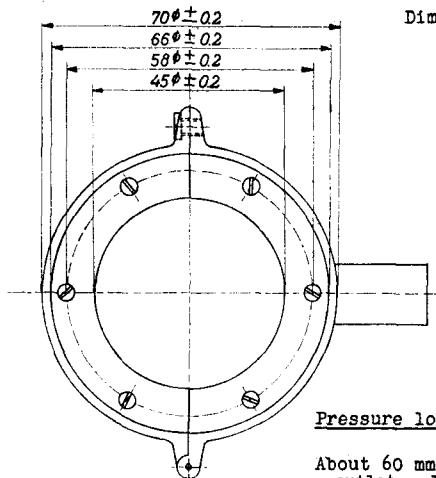
Einbau: beliebig

1)2)3)4)5)6) See page 5; Voir page 5; Siehe Seite 5

**55125****PHILIPS**

→ COOLING DEVICE FOR OUTPUT SYSTEM (Not supplied by the tube manufacturer)

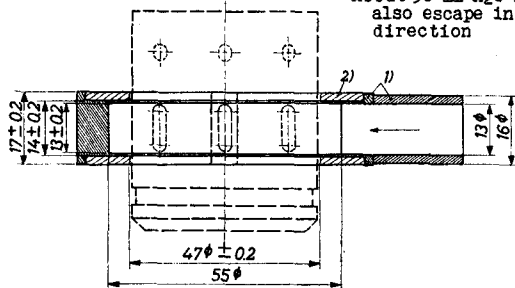
Dimensions in mm



Pressure loss at  
0.1 m<sup>3</sup>/min.:

About 60 mm H<sub>2</sub>O with air outlet only via outlet holes.

About 30 mm H<sub>2</sub>O if air can also escape in the other direction



The air flow should be directed just between the two nearest inlet holes to obtain uniform cooling of the ceramic insulator inside the magnetron output system.

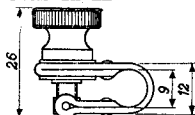
1) Brass.

2) Teflon ring

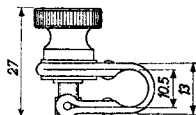
- 1) 3/8" gas thread for connection to hose pillar B9 x R 3/8" DIN 8542 Ms with cap nut CR 3/8" DIN 8542 Ms  
 3/8" fileet de tuyau à gaz pour la connexion d'une pièce de jonction de tuyau B9 x R 3/8" DIN 8542 Ms à l'aide d'un écrou à chape CR 3/8" DIN 8542 Ms  
 3/8" Gasrohrgewinde zur Befestigung einer Schlauchtülle B9 x R 3/8" DIN 8542 Ms mittels der Überwurfmutter CR 3/8" DIN 8542 Ms
- 2) The eccentricity of the inner conductor of the magnetron output waveguide with respect to the outer conductor may amount to 0.4 mm. The inner conductor of the cable plug should therefore be sufficiently flexible.  
 L'excentricité du conducteur intérieur du guide d'ondes de sortie du magnétron par rapport au conducteur extérieur peut atteindre 0,4 mm. Le conducteur intérieur de la jonction de câble doit donc être suffisamment flexible.  
 Die Exzentrizität des inneren Leiters des Wellenleiters am Ausgang des Magnetrons in bezug auf den äusseren Leiter kann bis zu 0,4 mm betragen. In Anbetracht dieser Exzentrizität muss der Innenleiter der Kabelverbindung genügend beweglich sein.
- 3) Cap nut 55312  
 Ecrou à chape 55312  
 Überwurfmutter 55312
- 4) Spring ring 55313  
 Rondelle élastique 55313  
 Federring 55313
- 5) Mounting plate for thermoswitch  
 Plaque de montage pour le commutateur thermique  
 Montageplatte für den Thermoschalter
- 6) The inner conductor is provided with 6 slots of 0.5 mm. The flexibility of the inner conductor should be such that its centre can move freely in a circle with a diameter of at least 1 mm  
 Le conducteur intérieur est muni de 6 fentes de 0,5 mm. La flexibilité du conducteur intérieur doit être telle, que le centre peut se mouvoir librement dans un cercle d'un diamètre de 1 mm au moins.  
 Der Innenleiter hat 6 Schlitz von 0,5 mm. Die Beweglichkeit des Innenleiters soll derart sein, dass der Mittelpunkt sich frei innerhalb eines Kreises mit 1 mm Durchmesser bewegen kann.

## ACCESSORIES

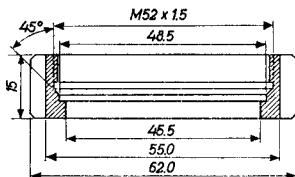
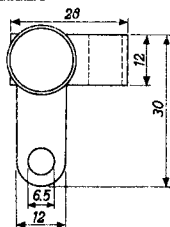
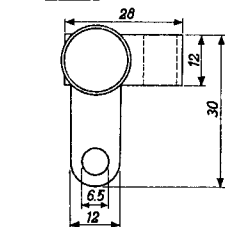
Dimensions in mm



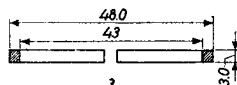
Heater connector  
40634



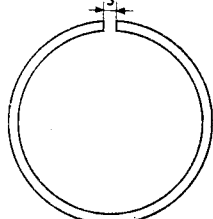
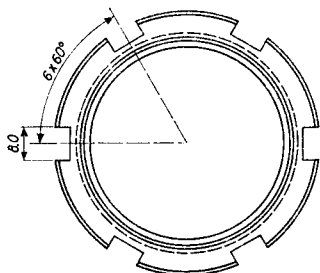
Heater and cathode  
connector 40649

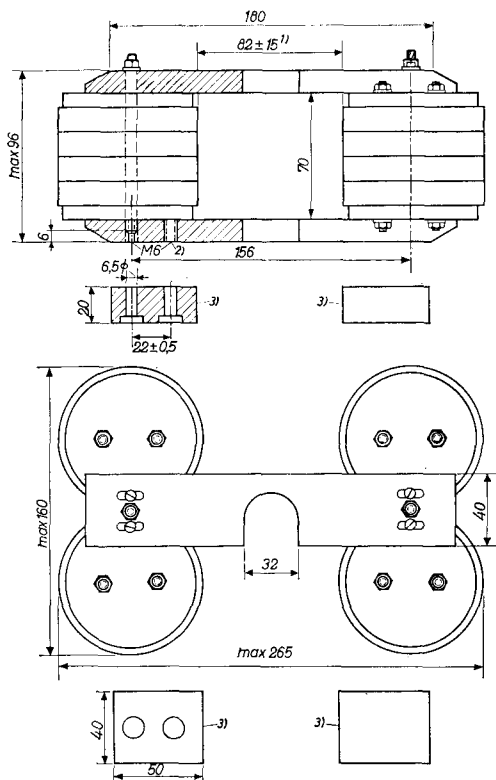


Cap nut 55312



Spring ring 55313



**55125****PHILIPS**

Dimensions in mm

Dimensions en mm

Abmessungen in mm

1) Adjustable; réglable; einstellbar

2) Deep min. 11 mm  
Profondeur de 11 mm au moins  
Tiefe mindestens 11 mm

3) Supports; Träger

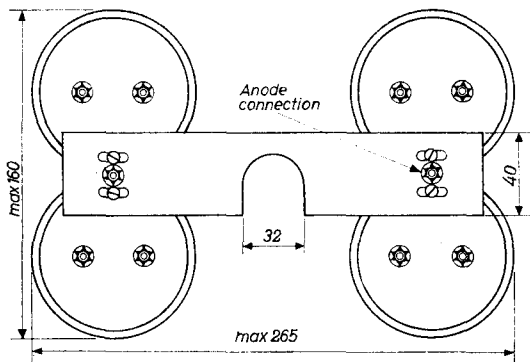
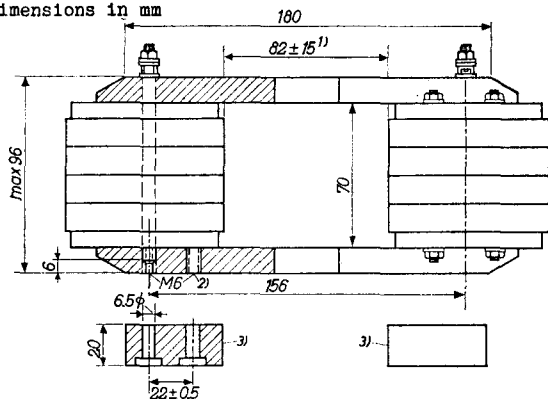
722 0643

Tentative data. Vorläufige Daten  
Caractéristiques provisoires

6.

**55125****PHILIPS****MAGNET SYSTEM 55314 and SUPPORTS 55315**

Dimensions in mm



1) Adjustable

2) Depth min. 11 mm

3) Mounting supports 55315

Typical characteristics (measured with smoothed D.C.)  
 Caractéristiques types (mesuré avec tension filtrée)  
 Kenndaten (gemessen mit geglätteter Gleichspannung)

|          |   |            |
|----------|---|------------|
| $I_a$    | = | 1,4 A      |
| V.S.W.R. | < | 1,1        |
| $V_a$    | = | 6,3-6,6 kV |

Limiting values (absolute limits)  
 Caractéristiques limites (limites absolues)  
 Grenzwerte (absolute Grenzwerte)

|          |        |                      |
|----------|--------|----------------------|
| $V_{fo}$ | = max. | 5,8 V                |
| $I_a$    | = max. | 1,5 A <sup>1)</sup>  |
| $I_{ap}$ | = max. | 2,4 A                |
| V.S.W.R. | = max. | 2,5                  |
| $W_{ia}$ | = max. | 9,5 kW               |
| $t_a$    | = max. | 100 °C <sup>2)</sup> |
| $t_k$    | = max. | 180 °C <sup>3)</sup> |

Operating characteristics (with unsmoothed D.C. supply from a three-phase half-wave rectifier)

Caractéristiques d'utilisation (avec alimentation par tension continue non-filtrée d'un redresseur triphasé à une alternance)

Betriebsdaten (mit Speisung mittels nicht-geglätteter Gleichspannung von einem Dreiphasen-Einweggleichrichter)

|          |                                              |                      |
|----------|----------------------------------------------|----------------------|
| $V_f$    | { See page 1<br>Voir page 1<br>Siehe Seite 2 |                      |
| $I_a$    | =                                            | 1,4 A <sup>1)</sup>  |
| $I_{ap}$ | =                                            | 2,3 A                |
| $V_a$    | =                                            | 6,5 kV <sup>4)</sup> |
| $W_o$    | =                                            | 5 kW <sup>5)</sup>   |

In order to limit the peak anode current a choke coil of 1.85 H must be incorporated in the circuit. As a protection for measuring instruments a resistance of 100  $\Omega$  must be connected in series with the magnetron

Pour limiter le courant anodique de crête il faut incorporer une bobine de 1,85 H dans le circuit. Pour la protection des appareils de mesure une résistance de 100  $\Omega$  doit être reliée en série avec le magnétron

Zur Begrenzung des Anodenscheitelstroms muss eine Drosselspule von 1,85 H aufgenommen werden. Zum Schutz der Messinstrumente muss ein Widerstand von 100  $\Omega$  in Reihe mit dem Magnétron geschaltet werden.

<sup>1)2)3)4)5)</sup> See page 8; voir page 8; siehe Seite 8

## COOLING

Anode block : water-cooled, see page A  
 Cathode radiator : low velocity air flow  
 Heater terminal : cooling clip 40634  
 Heater\_cathode terminal: cooling clip 40649  
 R.F. output system: air flow of min.  $0.1 \text{ m}^3/\text{min.}$

### Example for anode cooling

|                         |         |                           |
|-------------------------|---------|---------------------------|
| Water inlet temperature | $t_1 =$ | $35^\circ \text{C}$       |
| Minimum water quantity  | $q =$   | min. $2.5 \text{ l/min.}$ |
| Pressure loss           | $P_1 =$ | $21 \text{ mm Hg}$        |

### Cooling of the R.F. output system

The R.F. output system of the magnetron is provided with air inlet and outlet holes for the application of at least  $0.1 \text{ m}^3/\text{min.}$  of cooling air to the ceramic part inside the outer conductor. For an example of an air chamber around the output system see page 4. The cooling air must be free from dust, water and oil. All inlet holes must be used for the entrance of the air to obtain the required uniform cooling of the ceramic part.

### Remark

The glass parts of the tube should not be cooled. Care should, therefore, be taken to prevent the glass from being locally cooled by the air flow to the cathode radiator.

### Safeguard at interruption of water supply

The magnetron is provided with a mounting plate on the anode block. This plate is intended for the mounting of a suitable thermostatic switch, which should come into operation at a temperature of  $120$  to  $125^\circ \text{C.}$

## COUPLING OF THE MAGNETRON OUTPUT SYSTEM

The magnetron output system can be connected to a  $50 \Omega$ ,  $15/8"$  coaxial line by means of the cap nut type 55312 which is held in position by the spring ring type 55313 which fits into the groove of the outer conductor.

The eccentricity of the inner conductor of the magnetron output waveguide with respect to the outer conductor may amount to  $0.4 \text{ mm.}$  The inner conductor of the coaxial line should therefore be sufficiently flexible. In order to prevent damage to the inner conductor seal of the magnetron by excessive temperatures, the inner conductor and its counterpart should make a reliable H.F. contact.

If the energy has to be directly fed into a cavity or waveguide, a short piece of antenna can be screwed into a tapped hole in the inner conductor of the magnetron

**Coupling of the magnetron output system**

The magnetron is designed for coupling to a 50  $\Omega$ , 1 5/8" coaxial line.

In order to prevent damage to the inner conductor seal of the magnetron by excessive temperatures, the inner conductor of the magnetron output waveguide and its counterpart should make reliable H.F. contact.

If the energy has to be directly fed into a cavity, a short piece of antenna can be screwed into a tapped hole in the inner conductor of the magnetron.

**Couplage du système de sortie du magnétron**

Le magnétron est prévu pour un raccordement sur une ligne coaxiale de 50  $\Omega$ , de 1 5/8" (41,2 mm).

Pour prévenir un endommagement du joint du conducteur intérieur du magnétron par des températures excessives, il faut s'assurer que le conducteur intérieur du système de sortie du magnétron et sa contrepartie font un bon contact H.F.

Si l'énergie doit être fournie directement à une cavité, on peut visser un petit morceau d'antenne dans un trou taraudé dans le conducteur intérieur du magnétron.

**Anschluss des Ausgangssystems des Magnetrons.**

Die Röhre ist für den Anschluss an ein 50 Ohm-Koaxialkabel von 1 5/8" (41,2 mm) entworfen.

Zur Verhütung einer Beschädigung der Einschmelzung des Innenleiters des Magnetrons infolge extremer Temperaturen muss der Innenleiter des Ausgangssystems des Magnetrons mit seinem Anschlussstück einen zuverlässigen HF-Kontakt bilden.

Wenn die Energie direkt in einen Hohlraum eingekoppelt wird, so kann eine kurze Antenne in eine Gewindebohrung im Innenleiter eingeschraubt werden.

- 1) Measured with moving coil instrument  
Mesuré avec un appareil de mesure à cadre mobile  
Gemessen mit einem Drehspul-Instrument
- 2) To be measured at the mounting plate for the thermoswitch  
À mesurer à la plaque de montage du commutateur thermique  
Zu messen an der Montageplatte des Thermoschalters
- 3) Temperature of cathode radiator  
Température du radiateur de la cathode  
Temperatur des Katodenradiators
- 4) Measured with smoothed D.C. at matched load  
Mesuré avec tension continue filtrée à charge adaptée  
Gemessen mit geglätteter Gleichspannung bei angepasster Belastung
- 5) At matched load  
Avec charge adaptée  
Mit angepasster Belastung

HANDLING, MOUNTING AND STORAGE

In handling the magnetron it should never be held by the cathode radiator. Special care should be taken with respect to the pumping stem. The user should be aware of the fact that the magnet produces a strong magnetic field.

When mounting the magnet and the magnetron it is required to use non-magnetic tools (e.g. for tightening the cap nut). It is not necessary to adjust the tube with respect to the magnet for optimum electrical performance.

→ The supports 55315 (see page 6) can be mounted to the yoke of the magnet with a non-magnetic bolt fitting into the holes of the yoke with thread M6 and a depth of 6 mm. The tube can be mounted to a non-magnetic part of the chassis with bolts through the holes in the supports and fitting into the holes of the yoke with thread M6 and a depth of min. 11 mm.

The tube should in no case be supported by the coupling to the magnetron output system.

→ The original packing should be used for the storage and transport of the magnetron.

TYPICAL CHARACTERISTICS

|                             |          |   |            |
|-----------------------------|----------|---|------------|
| Mean anode current          | $I_a$    | = | 1.4 A      |
| Voltage standing wave ratio | V.S.W.R. | < | 1.1        |
| Anode voltage               | $V_a$    | = | 6.3-6.6 kV |

The anode voltage is measured with smoothed D.C.

## Storage and handling

In handling the magnetron, it should never be held by the cathode radiator. Special care should be taken with respect to the pump stem.

In handling the magnet and mounting the magnetron it is necessary to use non-magnetic tools (e.g. for tightening the cap nut). It is not necessary to adjust the tube with respect to the magnet for optimum electrical performance.

In storage and during transport a minimum distance of 5 cm (2") should be maintained between magnets

## Magasinage et manipulation

Pour manipuler le magnétron, on ne doit jamais le tenir par le radiateur de la cathode. Des précautions particulières s'imposent en ce qui concerne le queusot de pompage.

Pour manipuler l'aimant et pour le montage du magnétron (p.e. pour l'écrou à chape), il faut utiliser des outils non-magnétiques. Il n'est pas nécessaire d'ajuster le tube par rapport à l'aimant pour avoir un rendement électrique optimum.

Pour le magasinage ou pendant le transport, on doit maintenir une distance de 5 cm au minimum entre les aimants.

## Lagerung und Behandlung

Das Magnetron darf niemals am Katodenradiator gehalten werden. Der Pumpenstiel muss mit besonderer Sorgfalt behandelt werden.

Bei der Behandlung des Magneten und beim Einbau des Magnetrons sind nichtmagnetische Werkzeuge zu verwenden (z.B. zum Anziehen der Überwurfmutter). Eine Einstellung der Röhre in bezug auf den Magneten zur Erhaltung höchster elektrischer Leistung ist nicht notwendig.

Bei der Lagerung und während des Transports sollten Zwischenräume von mindestens 5 cm zwischen den Magneten eingehalten werden.

## OPERATION WITH UNSMOOTHED D.C. SUPPLY from three-phase half-wave rectifier

The anode supply unit shall be designed so that for any operating condition no limiting value for the mean and peak anode current can be exceeded

### Limiting values (Absolute limits)

|                                 |          |               |    |
|---------------------------------|----------|---------------|----|
| Mean anode current              | $I_a$    | = max. 1.5 A  | 1) |
|                                 |          | = min. 0.3 A  | 1) |
| Peak anode current              | $I_{ap}$ | = max. 2.4 A  |    |
| Voltage standing wave ratio     | V.S.W.R. | = max. 2.5    |    |
| Anode temperature               | $t_a$    | = max. 125 °C | 2) |
| Temperature of cathode radiator | $t_k$    | = max. 180 °C |    |

### Operating characteristics

|                    |          |   |        |    |
|--------------------|----------|---|--------|----|
| Mean anode current | $I_a$    | = | 1.4 A  | 1) |
| Peak anode current | $I_{ap}$ | = | 2.3 A  |    |
| Anode voltage      | $V_a$    | = | 6.5 kV | 3) |
| Output power       | $W_o$    | = | 5.0 kW | 4) |
| Efficiency         | $\eta$   | = | 57 %   |    |

1) Measured with moving coil instrument

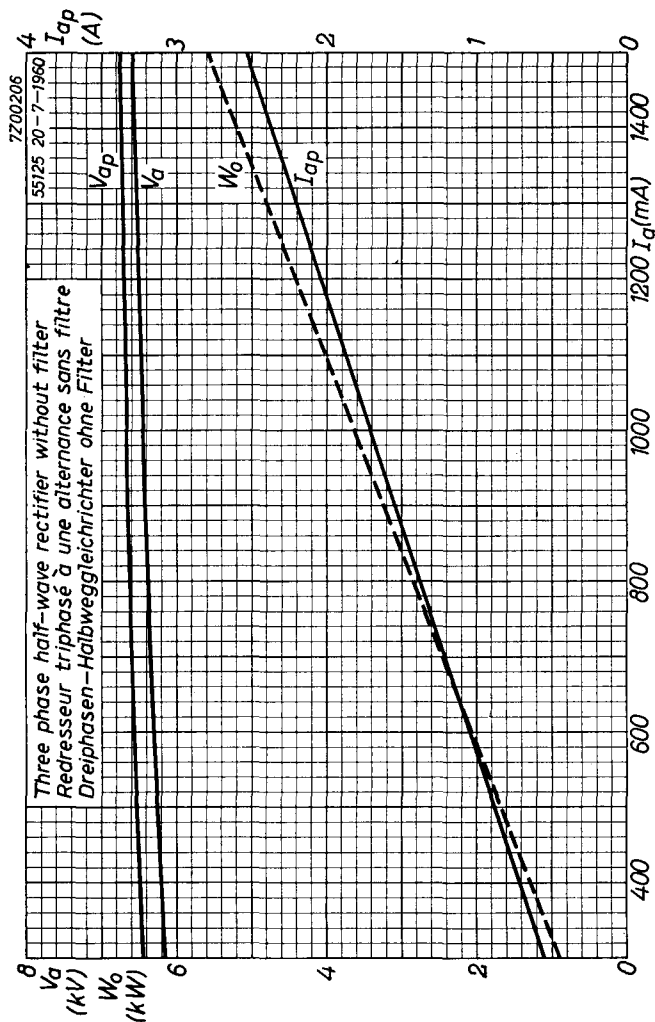
2) To be measured at the mounting plate for the thermoswitch

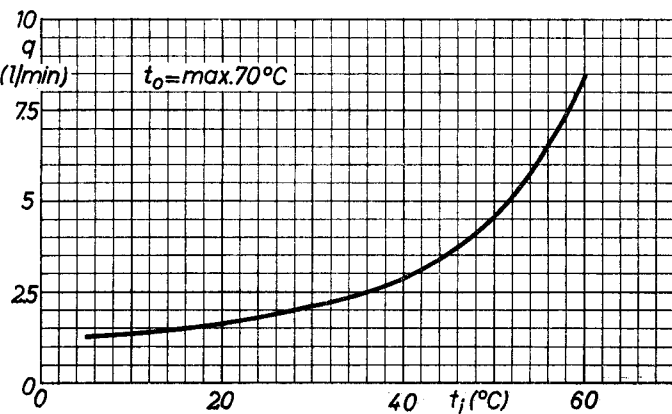
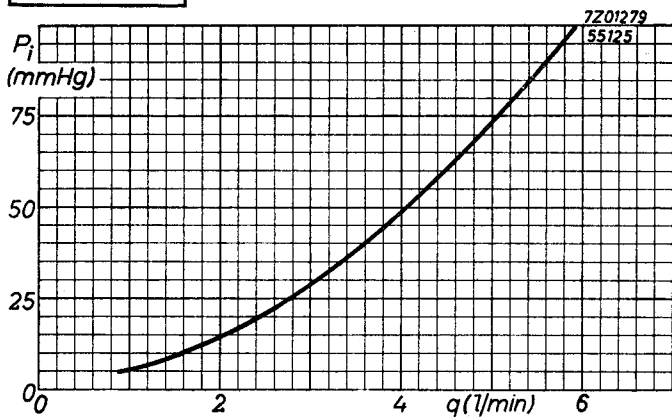
3) Measured with smoothed D.C. at matched load

4) At matched load

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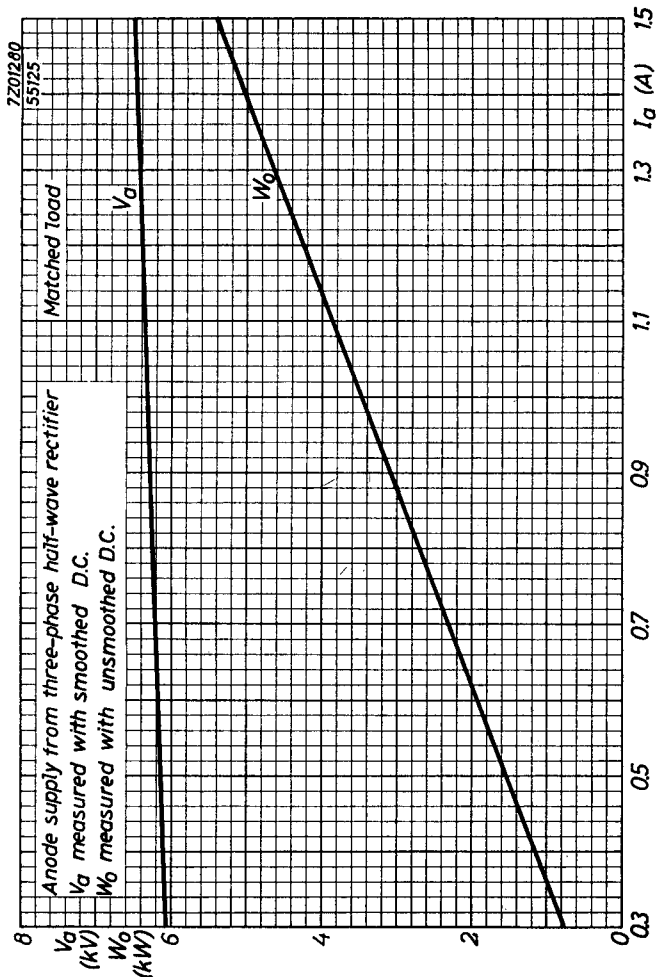
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## 55125



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B

**55125****PHILIPS**LOAD DIAGRAM

Measured at:

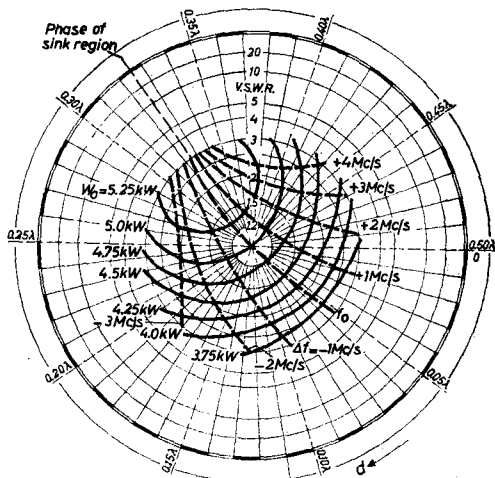
Mean anode current

 $I_a = 1.4 \text{ A}$ 

Peak anode current

 $I_{ap} = 2.3 \text{ A}$ 

Temperature of thermoswitch mount

 $t = 70^\circ \text{C}$ 

$d$  = distance of standing wave minimum from reference plane A (See page 2)



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| page | sheet | date       |
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| 1    | 1     | 1961.04.04 |
| 2    | 1     | 1962.12.12 |
| 3    | 2     | 1961.04.04 |
| 4    | 2     | 1962.12.12 |
| 5    | 3     | 1961.04.04 |
| 6    | 3     | 1962.12.12 |
| 7    | 4     | 1961.04.04 |
| 8    | 4     | 1962.12.12 |
| 9    | 5     | 1961.04.04 |
| 10   | 5     | 1962.12.12 |
| 11   | 6     | 1961.04.04 |
| 12   | 6     | 1962.12.12 |
| 13   | 7     | 1961.04.04 |
| 14   | 7     | 1962.12.12 |
| 15   | 8     | 1961.04.04 |
| 16   | 8     | 1962.12.12 |
| 17   | 9     | 1961.04.04 |
| 18   | 9     | 1962.12.12 |
| 19   | A     | 1961.04.04 |

|        |    |            |
|--------|----|------------|
| 20     | A  | 1962.12.12 |
| 21     | B  | 1962.12.12 |
| 22     | C  | 1962.12.12 |
| 23, 24 | FP | 1999.12.29 |