VALVE ELECTRONIC **CV308**

ADMIRALTY SIGNAL ESTABLISHMENT

| Specification AD/CV308/Issue 2.<br>Dated 8.1.46.<br>To be read in conjunction with K1001 ignoring clauses:-5.2; 5.3; 5.8; 7.2. | SECURITY<br>Specification: [redacted] Unclass<br>Valve: [redacted] Unclass |
|---|---|

→ indicates a change

TYPE OF VALVE:- V-M Oscillator
CATHODE:- Indirectly heated
ENVELOPE:- Copper plated Ni-Fe/glass.

MARKING
See K1001/4.
Additional marking:-
See Note D.

| RATING | | | Note |
|---|---|---|---|
| Heater Voltage | (V) | 4.0 | |
| Heater Current | (A) | 1.2 | |
| Max. Anode Voltage | (kV) | 1.5 | A |
| Max. Total Cathode Current | (mA) | 14.0 | A,B |
| Min. Total Tuning Range | (cm) | 4.9 to 10.1 | |
| Reflector Voltage Range | (V) | -40 to -450 | |
| Min. Power Output | (mW) | 1.0 | C |

BASE
Small bayonet cap with shoulder B15/25 x 18 (see BSS 54-1941).

DIMENSIONS AND CONNECTIONS
See Page 3.

NOTES

A. Va = Resonator Voltage. Vr = Reflector Voltage. The "anode" is regarded as the two discs nearest the base.

B. Measured with Va = 1.5 kV, Vr = -40 to -450 V and valve in oscillating conditions.

C. Measured at any part of the tuning range; this value will be exceeded considerably at most points in the range.

→ D. The base shall be marked indelibly to indicate the cathode connection; the marking shall consist of a "C", with a small arrow indicating the cathode terminal.

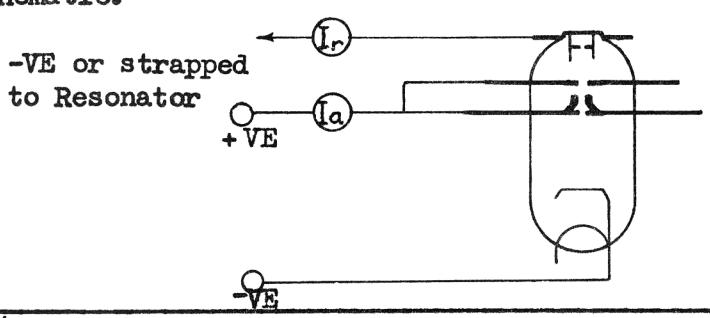
## TESTS

To be performed in addition to those applicable in K1001

| | Test Conditions | | | Test | Limits | | No. Tested | Note |
|---|---|---|---|---|---|---|---|---|
| | Vh (V) | Va (kV) | Vr (V) | | Min. | Max. | | |
| a | 4.0 | - | - | Ih (A) | 1.0 | 1.25 | 100% | |
| b i | 4.0 | Strapped | 1.0 kV | (i) Ia + Ir (mA) | 8.5 | 10.0 | 100% | |
| ii | Vary Vh by ± 0.5 V keeping the other conditions the same. | | | (ii) Change in Ia + Ir from value in (i) (mA) | - | 1.0 | 100% | |
| c | 4.0 | Strapped | 1.0 kV | Gun efficiency $\frac{(Ir)}{(Ia + Ir)}$ | 80% | - | 100% | 1 |
| d | 4.0 | 1.0 | Vary Vr negatively until a minimum Ia is obtained. | Reflection Ratio $\frac{(Ia + Ir)}{(Ia)}$ | 1.4 | - | 100% | 1 |
| e | 4.0 | 1.5 | Adjust | Minimum Total tuning range for continuous oscillation (Mc/s) | 2970 to 6130 | | 100% | 2 |
| | | | | Power Output at any point of tuning range (mW) | 1.0 | - | 100% | |
| f | 4.0 | 1.5 | Adjust for maximum power output in correct mode at 4.9 cms. | Measure Vr (V) | -380 | -450 | 100% | 2 |

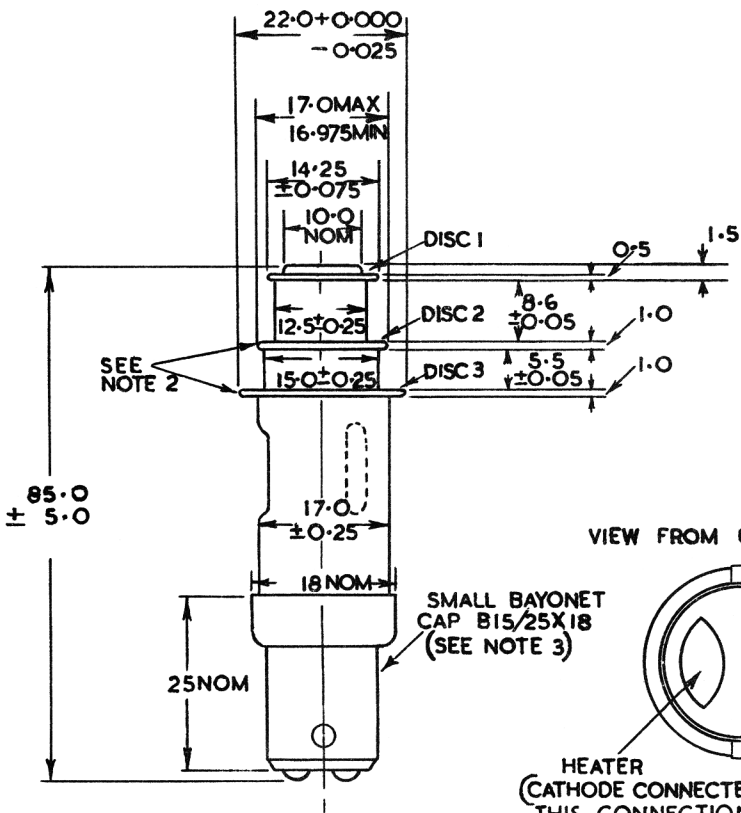
### NOTES

1. The value of Ia + Ir is the value obtained in test b i.
2. These tests are carried out in the approved circuit:- Type III tuning mechanism.
3. The method of reading Ir and Ia is detailed in the following schematic.

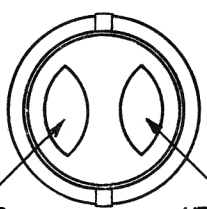


# OUTLINE DIMENSIONS & CONNECTIONS

# CV308




VIEW FROM UNDERSIDE OF BASE.



HEATER HEATER

(CATHODE CONNECTED TO ONE SIDE OF HEATER; THIS CONNECTION SHALL BE INDICATED, AS IN NOTE D)

OTHER CONNECTIONS.

DISC 1. REFLECTOR
DISC 2 } RESONATOR.
DISC 3 }

NOTES.

1. ALL DIMENSIONS ARE IN MMS
2. TOP EDGE OF DISCS 2 & 3 TO BE ROUNDED 0·2 NOM RADIUS
3. PERMISSABLE VARIATION BETWEEN AXIS OF VALVE & AXIS OF CAP NOT TO EXCEED 1°