VALVE ELECTRONIC **CV363**

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CV363/Issue 4. Dated 18.12.46. To be read in conjunction with K1001.	SECURITY Specn. [redacted] | Valve Unclassified

TYPE OF VALVE:- Gas filled ATR cell for X-band. CONSTRUCTION:- Resonant metal cavity with glass "window", soldered to gas reservoir.	MARKING See K1001/4. DIMENSIONS See Fig.3. (Page 3).

For "RATING" see "TESTS"

REQUIREMENTS

GAS FILLING:- The filling shall consist of equal volumes of water vapour and a mixture of 80% Argon and 20% Helium, at a total pressure of 20 mm. mercury.

TESTS

To be performed in addition to those applicable in K1001.

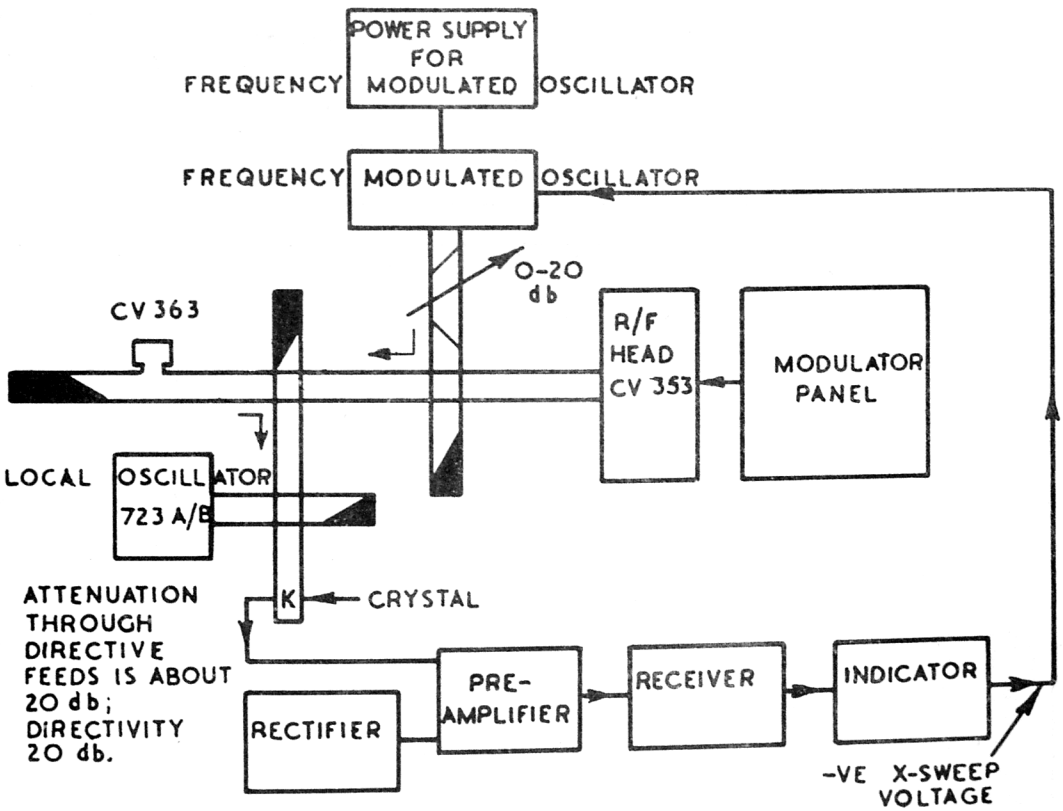
	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested	Note
a	Operate the cell in an approved circuit of the kind shown in Fig.1. Increase the oscillation amplitude in the waveguide until the gas in the cell ionises.	Striking Power (kW)	-	3	100%	1
b	As in test 'a'. Observe de-ionisation time. (Time from the end of the transmitter current pulse taken for signal power reflected from ATR to rise to 6 db below the signal level when fully de-ionised.)	De-ionisation ("recovery") time (µS)	-	3	10%	1
c		Insertion loss (db)	-	0.5	5%	1
→ d	Observe the frequency band over which the V.S.W.R. due to the resistive component of the cell impedance is not less than 7.5:1. This test is to be made in the approved mount of an approved circuit of the kind shewn in Fig.2. The re-active component of the cell impedance being balanced out at each frequency by means of the terminating plunger "P", i.e. "P" is adjusted for a minimum reading on the meter "M" at each frequency.	Band Width (Mc/s)	Min. Range:- 9425-9525		100%	1

NOTE

→ 1. For this test, the valve must be operated in a mount of the type shown in Figs. 4 and 5.

→ Indicates a change.

SCHEMATIC OF HIGH LEVEL TEST GEAR FIG.1.



SCHEMATIC OF LOW LEVEL TEST GEAR. FIG. 2.

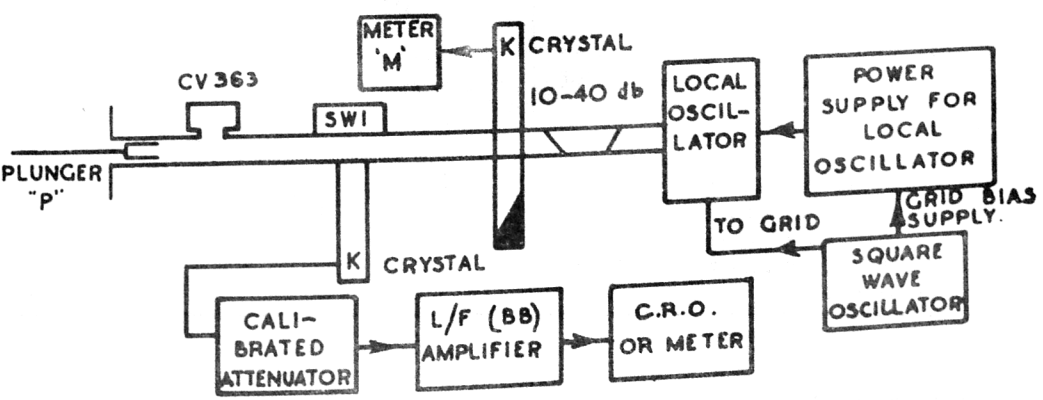
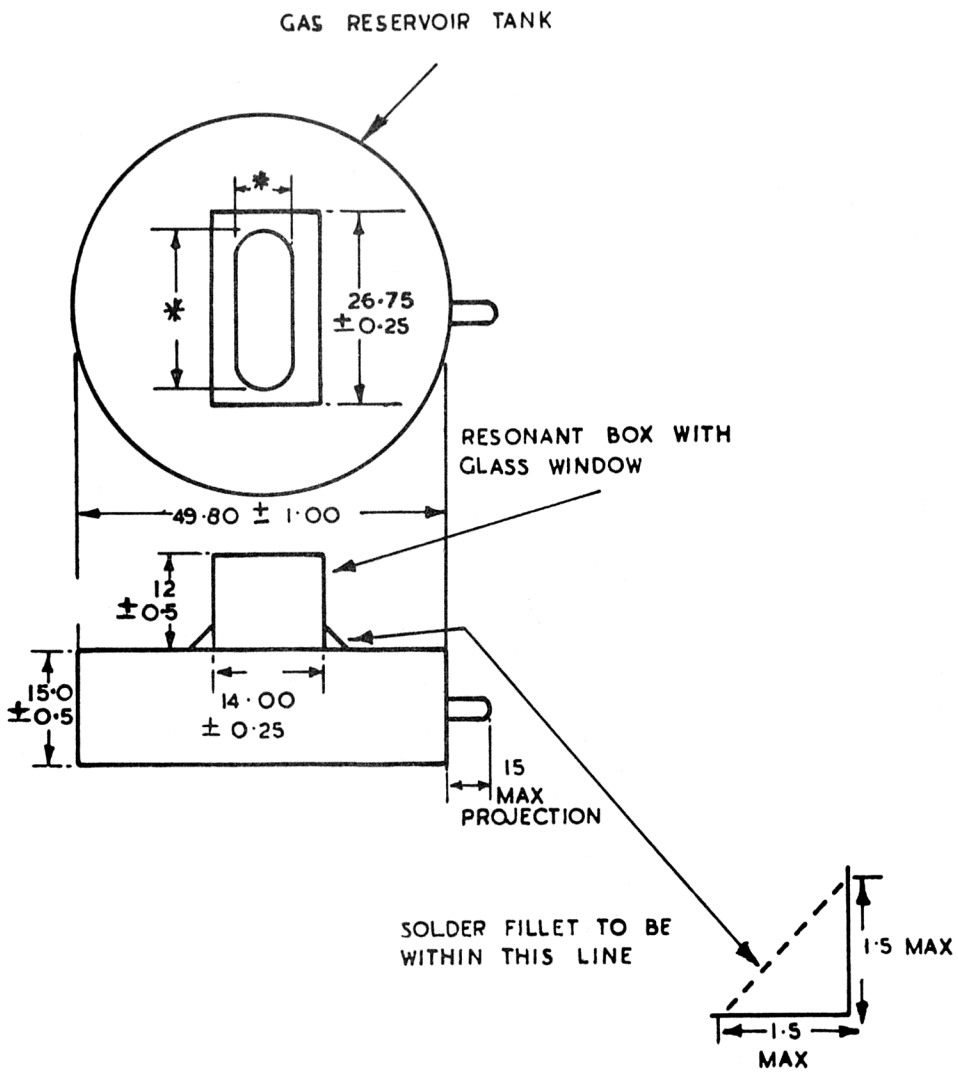


FIG. 3.



NOTES

1. * ACTUAL DIMENSIONS OF WINDOW CONTROLLED BY ELECTRICAL REQUIREMENTS BUT MUST NOT EXCEED THE MINIMUM DIMENSIONS OF THE HOLE IN THE FLANGE. (SEE FIG 5 PAGE 5)
2. ALL DIMENSIONS IN MILLIMETRES.

ASSEMBLED VIEW OF MOUNT
SHOWING VALVE IN POSITION.

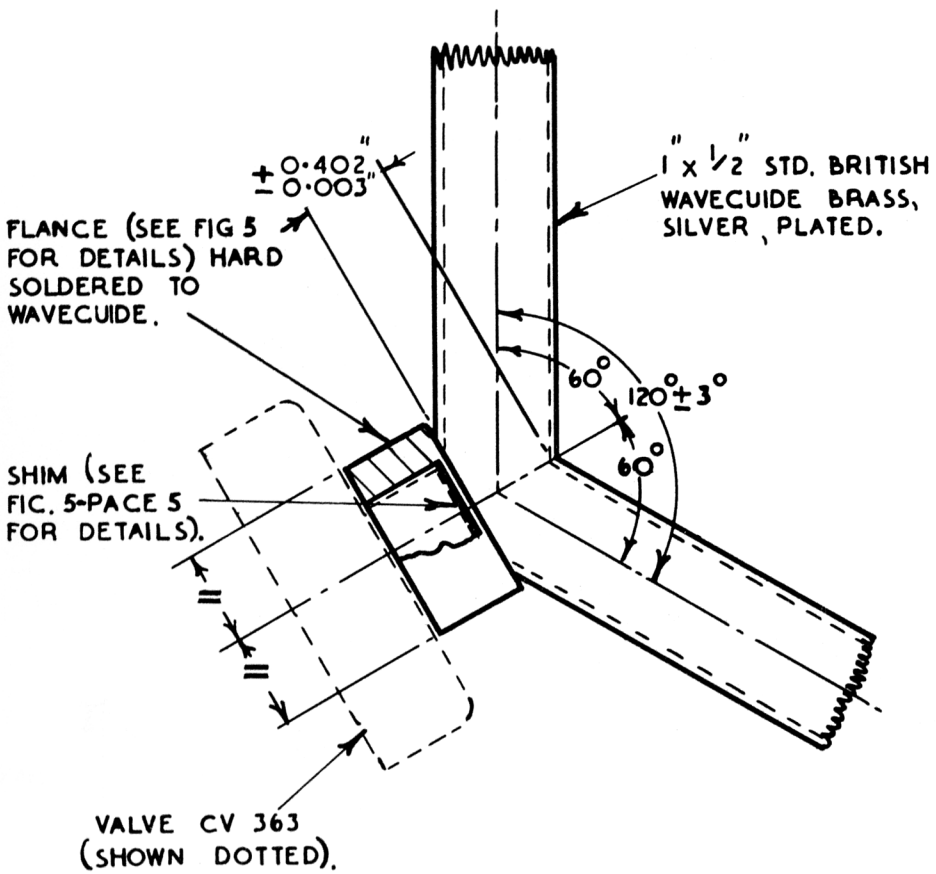
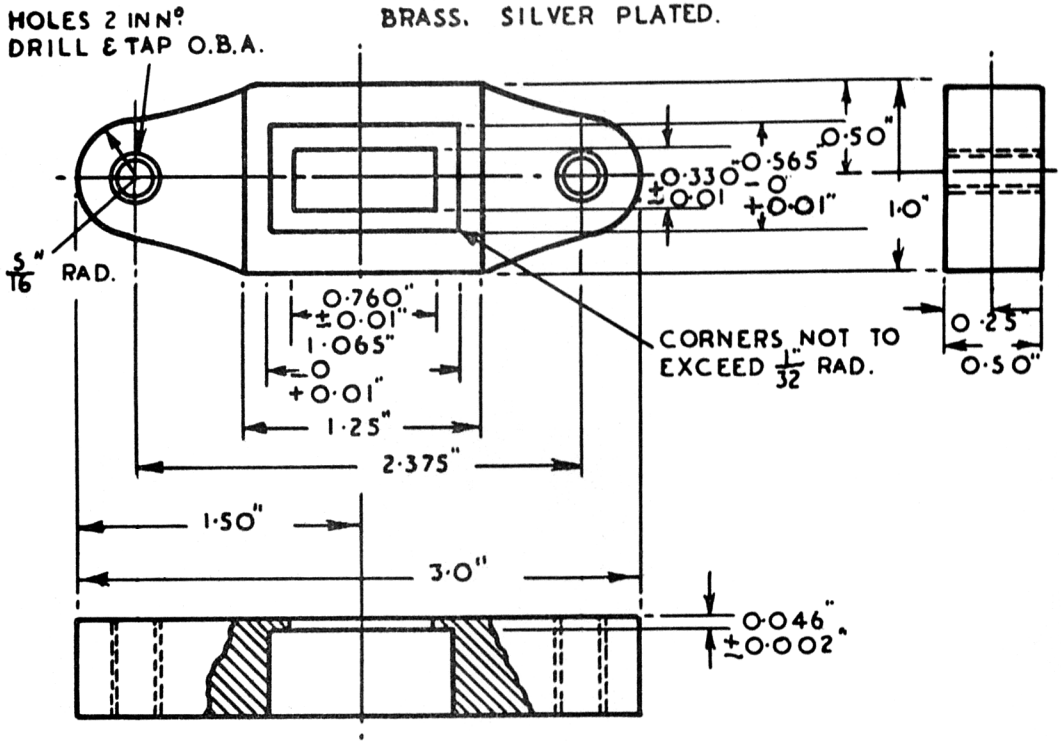


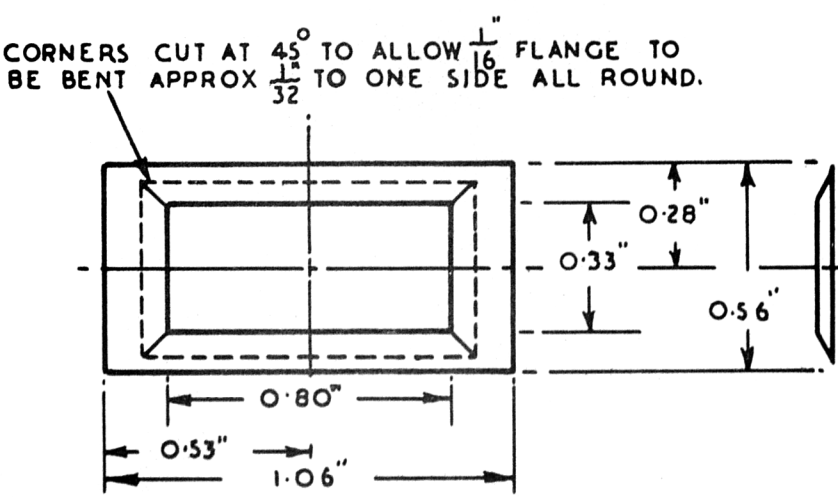
FIG 5.

FLANGE.



SHIM

BERYLLIUM COPPER 0·004" THICK.



NOTE :- ACTUAL DIMENSIONS OF SHIM TO BE CONTROLLED SO THAT INNER EDGE CANNOT PROJECT OVER CENTRAL HOLE IN THE PARTICULAR FLANGE WITH WHICH IT IS USED.