ADMIRALTY SIGNAL ESTABLISHMENT

VALVE ELECTRONIC

CV289

Specification AD/CV289/Issue 5. Dated 18.12.46. To be read in conjunction with K1001.	SECURITY Specn. Restricted | 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.

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 6db 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 an approved circuit of the kind shown in Fig. 2. The reactive 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:- 9702-9640		100%	1

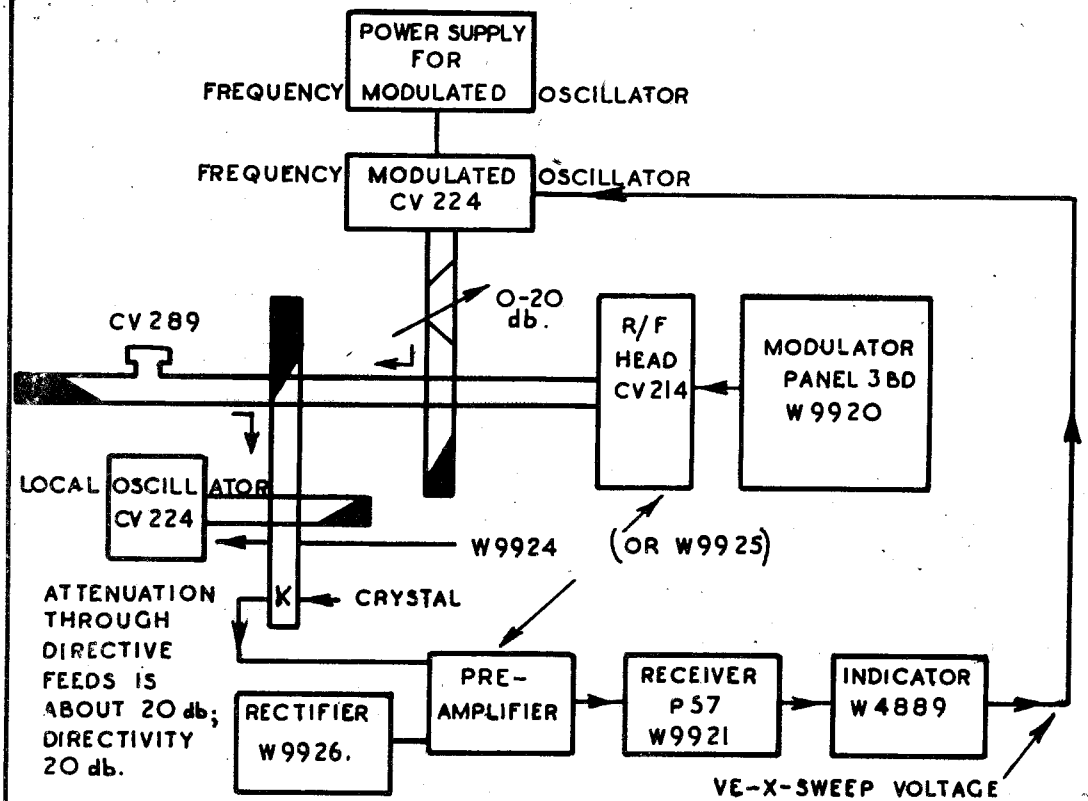
NOTE

→ 1. For this test, the valve must be operated in a mount approved by A.S.E.

→ Indicates a change

CV 289

SCHEMATIC OF HIGH LEVEL TEST GEAR. FIG. 1.



SCHEMATIC OF LOW LEVEL TEST GEAR. FIG. 2.

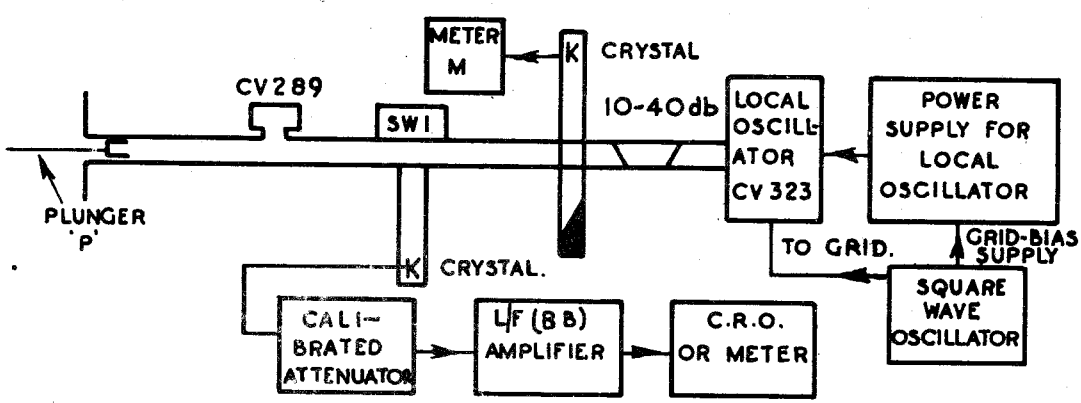
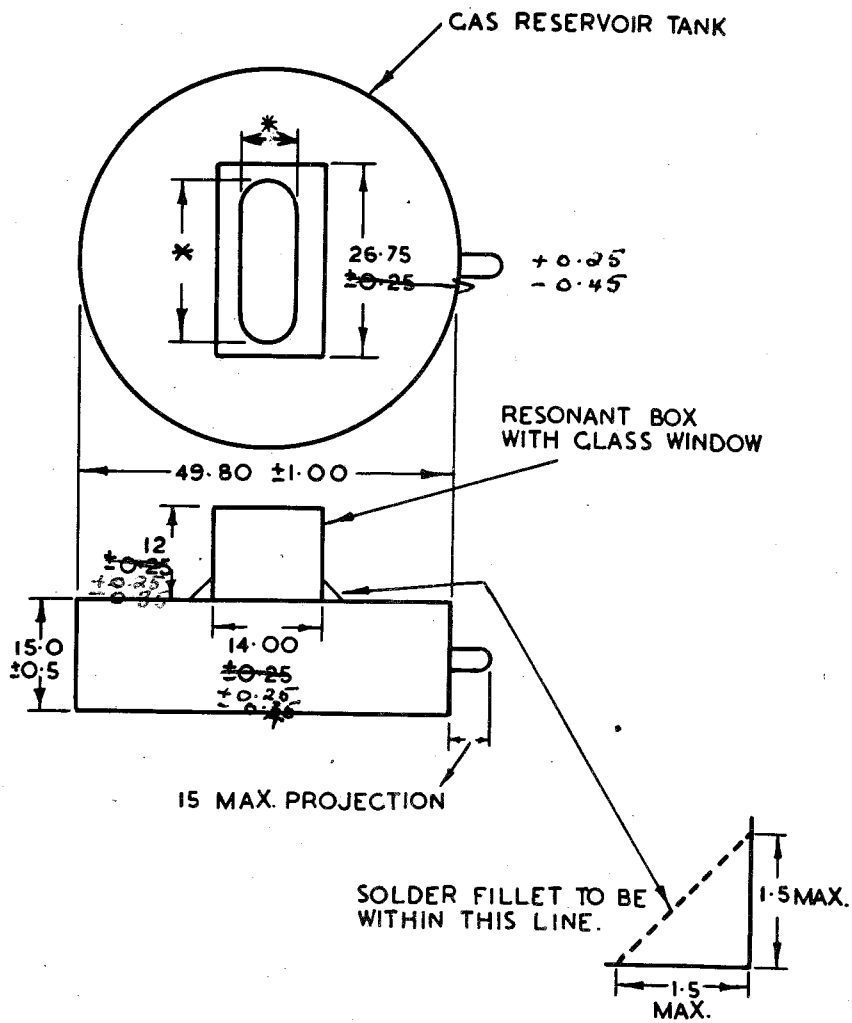


FIG. 3.



NOTES:-

1. * ACTUAL DIMENSIONS CONTROLLED BY ELECTRICAL REQUIREMENTS.
2. ALL DIMENSIONS IN MILLIMETRES.