MINISTRY OF SUPPLY (R.R.D.E.)

VALVE ELECTR CV2198

Specification MOS/CV2198/Issue 2. Dated 20th March 1952. To be read in conjunction with K1001 ignoring clauses 5.2, 5.8.	SECURITY Specification Unclassified Valve Unclassified

TYPE OF VALVE:- Tunable T.R. Cell

PROTOTYPE:- Modified CV293

MARKING

See K1001/4

RATING			Note
Operating Frequency	(Mc/S)	2800	
Max. Peak Power	(MW)	1.25	A
Max. Mean Power	(KW)	1.5	A
Min. Primer Supply voltage	(V)	1000	B
Primer Current	(mA)	0.1	B

PACKAGING

See K1005

BASE

None

TOP CAP

See K1001/A1/D5

DIMENSIONS & CONNECTIONS

See drawing page 4

NOTES

A. When used in conjunction with a CV2157 Pre-T.R. Cell

B. The power supply for the primer electrode shall have an open circuit voltage of at least 1000 volts. The current shall be limited by a suitable series resistance to 0.1 mA ± 20%. A resistance of at least 1 megohm should be adjacent to the valve.

REQUIREMENTS

Gas Filling. Water vapour with a pressure equivalent to 5 mm. of mercury and argon with a pressure equivalent to 8 mm of mercury.

Copper Parts. The external copper parts shall be carefully cleaned with acid.

Other Metal Parts. The resonator is to be plated first with copper, then with silver and then gold.

To be carried out in addition to those applicable in K1001

	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested	Note
a	Frequency tuning range	Min. frequency range (Mc/S)	2745 to 2860		100%	1
b	Primer operating voltage After a shelf life of seven days the valve is to be tested in the circuit shewn in Fig.1.	Voltage between primer and resonator during discharge (V)	320	400	100%	2
c	Primer interaction The valve is to be operated with an input of 2800 Mc/s ± 1%(signal	Fall in transmitted signal on passing 100uA primer current (%)		3	100%	1
d	High Power leakage (1) Spike energy (ergs/pulse) (2) Flat power (mV Peak)			0.2 30	T.A. T.A.	3

NOTES

1. The test shall be performed in an approved mount with the valve coupled to a CV2157 Pre-T.R. Cell and to a waveguide mixer with a CV364 crystal. If a C.W. signal is used the signal level is to be adjusted to give 0.7 mA crystal current. Alternatively a 100% square wave modulated signal may be employed, the crystal current in this case being set to 0.7 mA multiplied by the duty cycle of the input signal.

2. The voltage must lie within the prescribed limits within 30 seconds after switching on. A visual check must be made to ensure that the discharge occurs at the tip of the primer electrode.

3. The cell is to be operated with a CV2157 Pre-T.R. Cell. The leakage is to be measured under the following operating conditions:-

Frequency	2800 Mc/s ± 1%
Peak applied R.F. power	1.25 MW
Pulse length	1.25 usecs.
P.R.F.	1000 p.p.s.
Primer current	0.1 mA

CV2198

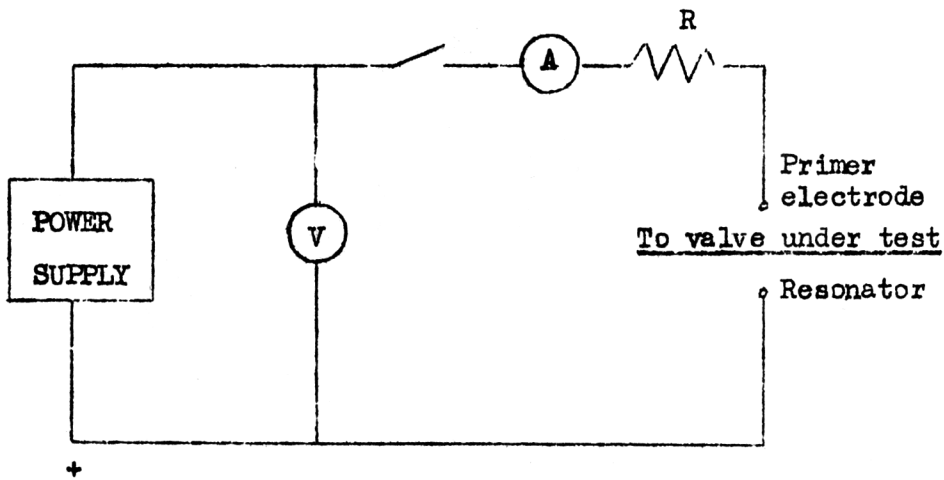


Fig. 1

Power supply. Must have an open circuit voltage of not more than 1000 volts.

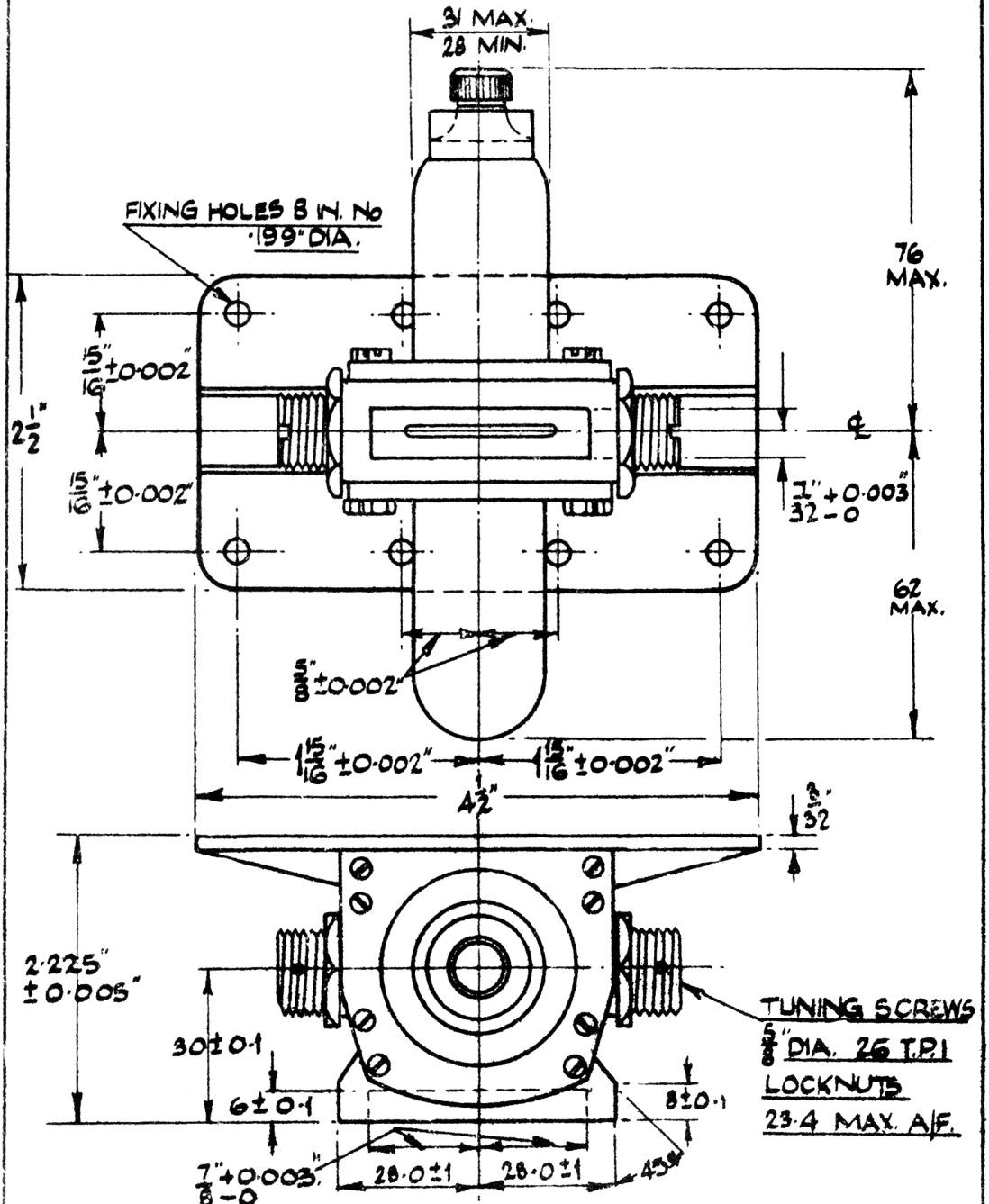
V Voltmeter, 0-1000 volts.

A Microammeter, 0-250 μA

R The resistance R is to be fixed at such a value that 100 μA is passed by a valve with average voltage drop (360 volts).

The voltage drop across the valve is calculated from the applied voltage V less the microammeter reading multiplied by R. Alternatively the voltage V may be maintained at a fixed value and the microammeter calibrated to read voltage drop directly.

CV2198.



NOTE:- ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.