MINISTRY OF SUPPLY (D.C.D.)

VALVE ELECTRONIC **CV114**

Specification MAP/CV114/Issue 4 Dated 15.1.49 To be read in conjunction with K1001 ignoring clauses:- 5.2, 5.8	SECURITY Specification: [redacted] (Unclass) Valve: UNCLASSIFIED

→ Indicates a change

TYPE OF VALVE - Gas filled resonator spark gap.

MARKING

See K1001/4

PACKING

See K1005

RATING

			Note
Nom. Frequency at which spark gap will operate	(Mc/s)	9375	
Min. Priming Voltage D.C.	(V)	- 1000	A
Continuous Priming Current	(mA)	0.5	A & B
Max. Line Power in Equipment	(kW)	30.0	

BASE

None

TOP CAP

See K1001/A1/D5.4

DIMENSIONS AND CONNECTIONS

See drawing on page 3.

REQUIREMENTS

Gas Filling - Water vapour with a pressure equivalent to 6mm. of mercury and Argon with a pressure equivalent to 3 mm. of mercury.

Finish - The inner surface of the waveguide portions shall be free from oxide. All other internal and external copper parts shall be carefully cleaned.

NOTES

A - The power pack supplying the primary electrode should have an open circuit voltage of 1000V., and be connected through a resistance limiting the current to a maximum value of 0.5 mA.

B - This value should not be exceeded or the life of the spark gap will suffer.

C - The valve is liable to be damaged if it is tuned over its full range more than five times. Therefore the number of tuning operations and the range of movement should be restricted.

This valve type is obsolete and this specification is for record purposes only.

To be performed in addition to those applicable in K1001

	Test Conditions	Test	Limits Min.	Limits Max.	No. Tested	Note
a	Frequency Tuning Range (Mc/s)		9090	9677	5%	1
b	Insertion Loss (db) at 9375 Mc/s. This shall be measured as the decrease in signal strength when the valve under test, correctly tuned, is substituted for a section of waveguide of identical physical length.		a)2.5 b)2.0	3.5 3.0	100% 100%	1,2,3 1,2,3
c	The standing wave ratio at 9375 Mc/s in the waveguide between the source of oscillation and the valve under test, as a result of the insertion of the valve, shall be better than 0.7				100%	1
d	After a shelf life of 7 days, a D.C. voltage shall be applied between priming electrode and resonator and increased until discharge occurs.	Breakdown voltage (volts)	-	-1000	100%	
e	Effective electrical shorting position measured with respect to the input end of the valve (mm)		16	20	100%	1

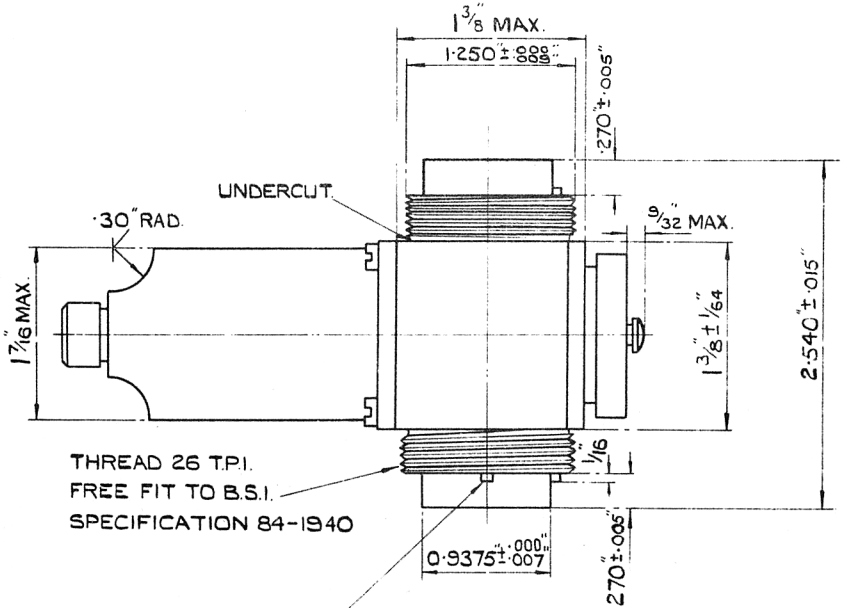
NOTES

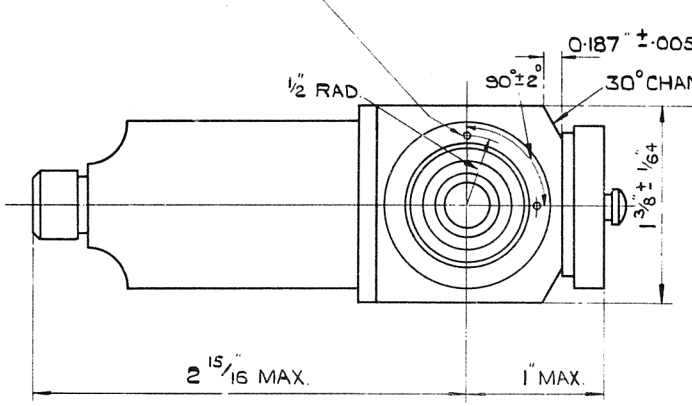
1 - The test shall be done in an approved apparatus.

2 - Limits (a) shall apply when the valve is formed of a brass block and Limits (b) shall apply for a tellurium copper block with gold seal technique.

3 - If a valve which has once passed test 'b' is retested for any reason it shall be considered satisfactory if the measured insertion loss on retest is within ± 10% of the original value.

CV 114





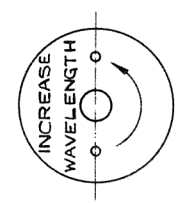


DIAGRAM OF UNDERSIDE OF TUNING KNOB.

APPRECIABLE DEVIATION FROM THE OUTLINE OF BLOCK SHEWN ABOVE IS PERMISSIBLE PROVIDED DIMENSIONAL TOLERANCES ARE NOT EXCEEDED.