

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CV357/Issue 4. Dated 7.3.47. To be read in conjunction with K1002, ignoring clauses:- 2, 5, 6, 9.	<u>SECURITY</u>	
	<u>Specn.</u> Restricted	<u>Valve</u> Unclassified

<u>TYPE OF VALVE:-</u> S-band 5-ohms thermocouple. <u>CONSTRUCTION:-</u> See drawing (Fig. 2) and Note A below. <u>PROTOTYPE:-</u> Western Electric Type D165747	<u>MARKING</u>  See K1001/4.
	<u>DIMENSIONS</u>  See Fig. 2.

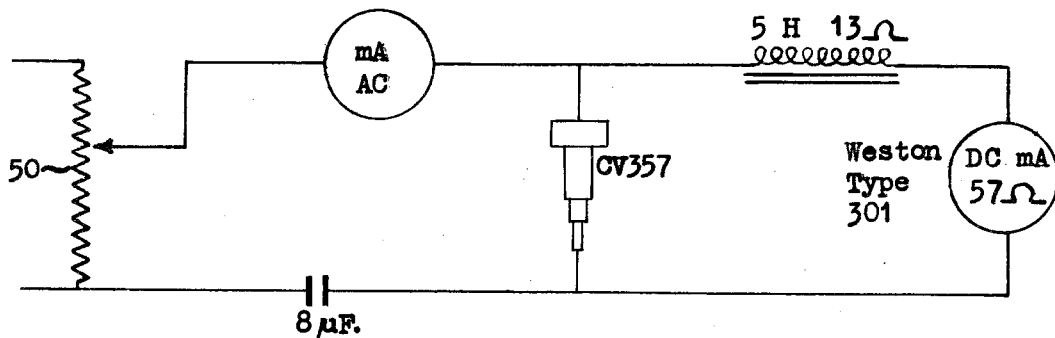
<u>RATING</u>	<u>PACKING</u>
<u>Impedance.</u>  Resistive component                      (ohms)                      5 Reactive component                      (ohms)                      60	As for crystal valves. See Note B.

<u>NOTES</u>
A. The external construction of the thermocouple is essentially the same as a crystal valve, only the tip is absent.  B. Thermocouples will be packed in quantities of six in an approved tropicalised packing.

TESTS

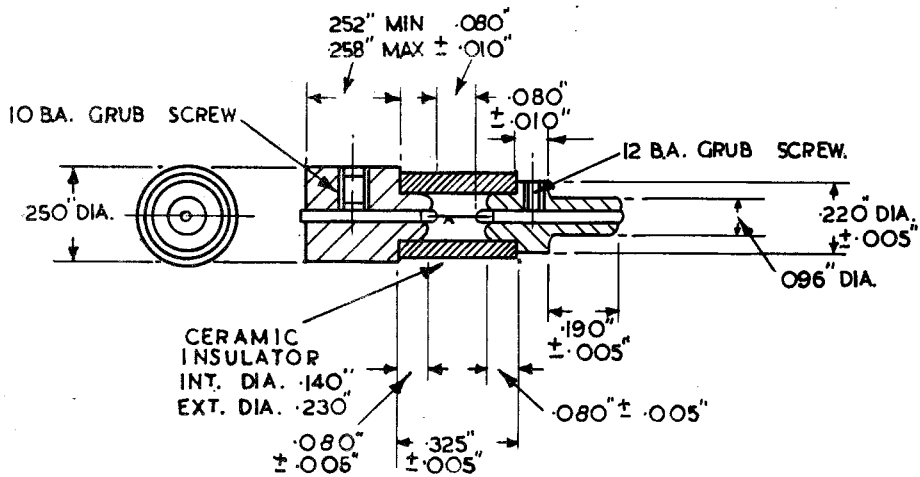
	Test Conditions	Test	Limits		No. Tested	Note
			Min.	Max.		
a		D.C. Resistance between base and tip, (ohms)	4.5	5.5	100%	1
b	Test in circuit shown in Fig. 1, with 25 mW input.	Sensitivity = <u>Open Circuit mV D.C. Output</u> mW A.C. input	.3825	.5175	100%	2
c	100 mW, 50 cycles applied for 1 sec.	(i) Change in resistance from value in 'a'. (ii) Change in sensitivity from value in 'b'.	$0 \pm 0.25$ $0 \pm 0.0225$		10%	2

1. To measure the D.C. resistance a low voltage ohmmeter can be used or any circuit for measuring simultaneously V and I.
2. The required mW input across the thermocouple is obtained by adjusting the A.C. current in the circuit to the value calculated from the D.C. resistance of the thermocouple obtained in test 'a'.

FIG. 1.NOTES

- (i) The D.C. ammeter must be of the type shown in the diagram.
- (ii) The choke must have a resistance of the order of 13 ohms.

FIG. 2.  
SECTIONAL VIEW.



NOTE:— THE WIRE PROTRUDING FROM EITHER END SHOULD BE AS SHORT AS POSSIBLE, PREFERABLY FLUSH WITH THE ENDS.