

MINISTRY OF SUPPLY (D.C.D.)VALVE ELECTRONIC
(VS68, AW4)**CV1068**

Specification MAP/CV1068/Issue 6 Dated 16.1.47. To be read in conjunction with K1001, ignoring clauses: 5.2, 5.3.	<table> <tr> <th colspan="2"><u>SECURITY</u></th></tr> <tr> <td><u>Specification</u></td><td><u>Valve</u></td></tr> <tr> <td>RESTRICTED</td><td>RESTRICTED</td></tr> </table>	<u>SECURITY</u>		<u>Specification</u>	<u>Valve</u>	RESTRICTED	RESTRICTED
<u>SECURITY</u>							
<u>Specification</u>	<u>Valve</u>						
RESTRICTED	RESTRICTED						

—→ Indicates a change

<u>TYPE OF VALVE</u> - Gas-filled voltage stabiliser.			<u>MARKING</u> See K1001/4														
<u>CATHODE</u> - Cold.																	
<u>ENVELOPE</u> - Glass - unmetallised.																	
<u>PROTOTYPE</u> - S.T.V.280/40.																	
<u>RATING</u>			<u>BASE</u> B5														
			Note														
Max. Striking Voltage for 3 gaps. (V) 280			<table><tr><th>Pin</th><th>Electrode</th></tr><tr><td>1</td><td>Anode 4</td></tr><tr><td>2</td><td>Cathode</td></tr><tr><td>3</td><td>Anode 2</td></tr><tr><td>4</td><td>Anode 3</td></tr><tr><td>5</td><td>Anode 1</td></tr></table>			Pin	Electrode	1	Anode 4	2	Cathode	3	Anode 2	4	Anode 3	5	Anode 1
Pin	Electrode																
1	Anode 4																
2	Cathode																
3	Anode 2																
4	Anode 3																
5	Anode 1																
Max. Striking Voltage for 4 gaps. (V) 360																	
Nom. Operating Voltages at 30 mA cathode current:-																	
Anode 1 - Cathode (V) 70																	
Anode 2 - Cathode (V) 140																	
Anode 3 - Cathode (V) 210																	
Anode 4 - Cathode (V) 280																	
Max. Cathode Current (mA) 60																	
			<u>DIMENSIONS</u> See K1001/AI/D1 See Note 1.														
			<table><tr><th>Dimension</th><th>Min.</th><th>Max.</th></tr><tr><td>A (mm)</td><td>-</td><td>14.5</td></tr><tr><td>B (mm)</td><td>-</td><td>50</td></tr></table>			Dimension	Min.	Max.	A (mm)	-	14.5	B (mm)	-	50			
Dimension	Min.	Max.															
A (mm)	-	14.5															
B (mm)	-	50															

NOTE

- Designers of new equipment using this valve should, if possible, allow for a valve with dimension B = 56.5 mm. max.

To be performed in addition to those applicable in K1001.

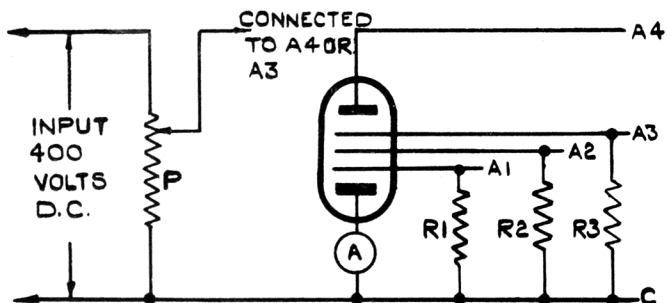
	Test Conditions	Test	Limits		No. Tested
			Min.	Max.	
For tests 'a', 'b' and 'c' the valve shall be tested in a circuit similar to Circuit No.1. For tests 'a', the supply voltage is to be applied between Anode 3 and Cathode and for tests 'b' and 'c' between Anode 4 and Cathode. For tests 'd', 'e' and 'f' the valve shall be tested in a circuit similar to Circuit No.2.					
a	Increase the applied voltage from zero until current flows.	Striking Voltage (Anode 3 to Cathode)	-	280	100%
Before the tests given below are made the valve shall be run for a period of 15 minutes with the cathode adjusted to 30 mA.					
b	Cathode current adjusted to 30 mA.	<u>Output Voltages</u>			
		1. Anode 4 to Cathode	250	318	100%
		2. Anode 3 to Cathode	183	236	
		3. Anode 2 to Cathode	121	162	
		4. Anode 1 to Cathode	57	80	
c	Cathode current changed from 10 mA to 60 mA.	<u>Output Voltage Change</u> Anode 4 to Cathode	-	25	100%
d	Voltage applied to valve and stabilising resistance adjusted to 239 volts.	Cathode Current (mA)	4	-	100%
e	Voltage applied to valve and stabilising resistance adjusted to 338 volts.	Cathode Current (mA)	-	62	100%

To be performed in addition to those applicable in
K1001.

	Test Conditions	Test	Limits		No. Tested
			Min.	Max.	
f	Noise Test. A calibrated amplifier detector having a substantially uniform response over the range of 50 to 500 c.p.s. shall be connected between Anode 3 and cathode. The voltage applied to the valve and stabilising resistance shall be varied slowly between 239 and 338 volts. At no point in this range is the noise input voltage to the amplifier to exceed a value of 100 millivolts (R.M.S.). If it is more convenient the noise test may be made in an approved circuit other than that shown in Circuit No.2 provided that cathode current is varied between the values actually obtained in clauses 'd' and 'e' on page 2.				100% or S

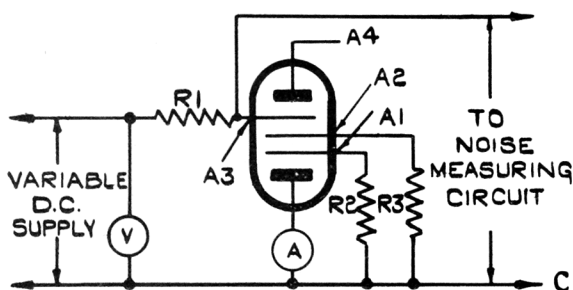
NOTE

1. Any valve which fails the above tests is to be run for a period of 15 minutes with a cathode current of 40 mA and re-tested.

CIRCUIT N° 1

P = POTENTIOMETER. A = LOW RESISTANCE MILLIAMMETER.
 $R_1 = R_2 = R_3 = .25 \text{ M}$

FOR OUTPUT VOLTAGE READINGS, A HIGH RESISTANCE
 VOLTMETER IS TO BE CONNECTED BETWEEN THE
 POINT MARKED CATHODE AND THE APPROPRIATE ANODE.

CIRCUIT N° 2

V = VOLTMETER
 A = LOW RESISTANCE MILLIAMMETER
 $R_1 = 2.3 \text{ K}$
 $R_2 = .25 \text{ M}$