

Specification Adm/CV4053 Issue 1 Dated 24. 10. 55. To be read in conjunction with K1001 and BS.1409	<u>SECURITY</u>	
	<u>Specification</u> Unclassified	<u>Valve</u> Unclassified

<u>TYPE OF VALVE</u> - Reliable gas-filled voltage stabiliser with flexible leads.		<u>MARKING</u> K1001/4	
<u>CATHODE</u> - Cold		<u>BASE</u> B7G/F	
<u>ENVELOPE</u> - Glass			
<u>PROTOTYPE</u> - VI9133			
<u>RATING</u>			
	Note		
Max. Striking Voltage (V)	180	<u>CONNECTIONS</u>	
Nominal Stabilised Voltage (V)	150	Lead	Electrode
Max. Anode Current (mA)	15		
Min. Anode Current (mA)	2		
Voltage Regulation over Current Range (V)	4.5		
Max. Acceleration (Continuous Operation) (g)	2.5	1	Anode a
Max. Shock (Short Duration) (g)	500	2	Cathode k
		3	Internally Connected
		4	Cathode k
		5	Anode a
		6	Internally Connected
		7	Cathode k
		<u>DIMENSIONS</u> K1001/A1/D11	
		Dimension (mm)	Min.      Max.
		A.Seated height	-      47.5
		B.Diameter	16      19
		C.Lead length	38      -
		<u>MOUNTING POSITION</u> Any	
<u>NOTES</u>			
A. All limiting values are absolute.			

# CV4053

## TESTS

Page 2

To be performed in addition to those applicable in K1001

Tests are to be performed in the specified order unless otherwise agreed with the Inspecting Authority.

Test conditions, unless otherwise specified:-									
	Va (V) Adjusted	R lim. (Ohms) 5 K	I <sub>a</sub> (mA) 10.0						
A D.C. voltage not exceeding 100 volts shall be applied between anode and cathode through a limiting resistance of 5 K ohms, and shall be increased steadily at a rate not exceeding 25V/Sec. until the valve strikes. The ripple content of the supply shall not exceed 0.25%.									
After the valve has struck the supply voltage shall be further increased until the anode current is 10mA. It shall be maintained constant for 3 mins. before any characteristic other than striking voltage is measured.									
K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits		Units	Notes
						Min.	Max.		
11.1	Vibration	No voltages		100%					1
7.1	Lead continuity	No voltages		100%					
	Class strain	No voltages	2.5	1					
	<u>GROUP A</u>								
	Leakage.	V <sub>a</sub> = 50V		100%		-	20	/uA	
	Striking voltage.			100%	V <sub>s</sub>	-	180	V	
	Maintaining voltage.			100%	V <sub>m</sub>	146	154	V	
	Regulation.	ΔV <sub>m</sub> for change in I <sub>a</sub> from 2 to 15 mA		100%	V <sub>r</sub>	-	4.5	V	
	Electrical noise.	I <sub>a</sub> varied over the range 2 to 15 mA		100%	Va A.C.	-	50	mV P/P	2
	Voltage jumps.	I <sub>a</sub> varied over the range 2 to 15 mA		100%		-	1	V	2
	<u>GROUP B</u>								
	Lead fragility	No voltages	6.5	I <sub>A</sub>					
	<u>GROUP C</u>								
11.2	Resonance Search(1)	Combined AQL Frequency 25-500 c/s	6.5	I <sub>A</sub>					
	Noise output due to resonance.		2.5		Va A.C.		25	mV P/P	
11.3	Fatigue Test.	No voltages Duration 3 x 23 hrs. Acceleration = 5g. Frequency = 170 c/s		I <sub>A</sub>					
	<u>Post Fatigue Test</u>								
	Striking Voltage.		2.5		V <sub>s</sub>		180	V	
	Change of maintaining voltage.		2.5		ΔV <sub>m</sub>		±2.0	V	
11.4	Shock Test	No voltages Hammer angle = 30°		I <sub>A</sub>					
	<u>Post Shock Test</u>								
	Striking Voltage.		2.5		V <sub>s</sub>		180	V	
	Change of maintaining voltage.		2.5		ΔV <sub>m</sub>		± 2.0	V	

CV4053/1/2

/GROUP D .....

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits		Units	Notes			
						Min.	Max.					
AV1/5	<u>GROUP D</u>	Combined AQL	6.5	I <sub>A</sub>								
	Life Test. <u>Intermediate point</u> 200 hrs.											
	Maintaining Voltage change <u>End point 1000 hrs.</u>		2.5							±2.0	V	
	Inoperatives. Striking Voltage. Maintaining Voltage change from 200 hrs. to 1000 hrs.		2.5 2.5 2.5								181 ±1.5	V V
AV2/2.5	<u>GROUP E</u>	Combined AQL	2.5	100%								
	Electrical re-test after 28 days holding period.											
	Inoperatives.		0.5									
	Striking Voltage		0.5								181	V
Maintaining Voltage	0.5		V <sub>m</sub>	145	155	V						
<u>NOTES</u>												
<p>1. This test shall be performed only once and by the valve manufacturing department in order to remove catastrophic failures.</p> <p>2. A calibrated amplifier detector having a substantially linear response over the range from 25 to 5000 c/s is to be connected between anode and cathode. The anode current is to be varied slowly from 2.0 to 15.0 mA at least three times, the rate of sweep being not more than 1 mA per second.</p>												