

ADMIRALTY (A.S.R.E.)

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> B76/P	
<u>ENVELOPE</u> - Glass			
<u>PROTOTYPE</u> - VX9133			
<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
		2	Cathode k
Max. Shock (Short Duration) (g)	500	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.			

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:-

V_a (V)	R lim. (Ohms)	I_a (mA)
Adjusted	5 K	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
	Lead continuity	No voltages		100%					
7.1	Class strain	No voltages	2.5	1					
	<u>GROUP A</u>								
	Leakage.	$V_a = 50V$		100%		-	20	/uA	
	Striking voltage.			100%	V_s	-	180	V	
	Maintaining voltage.			100%	V_m	1/6	154	V	
	Regulation.	ΔV_m for change in I_a from 2 to 15 mA		100%	V_r	-	4.5	V	
	Electrical noise.	I_a varied over the range 2 to 15 mA		100%	V_a A.C.	-	50	mV P/P	2
	Voltage jumps.	I_a varied over the range 2 to 15 mA		100%		-	1	V	2
	<u>GROUP B</u>								
	Lead fragility	No voltages	6.5	I_A					
11.2	<u>GROUP C</u>								
	Resonance Search(1)	Combined AQL Frequency 25-500 c/s	6.5	I_A					
	Noise output due to resonance.		2.5		V_a A.C.		25	mV P/P	
11.3	Fatigue Test.	No voltages Duration 3 x 23 hrs. Acceleration = 5g. Frequency = 170 c/s		I_A					
	<u>Post Fatigue Test</u>								
	Striking Voltage.		2.5		V_s		180	V	
	Change of maintaining voltage.		2.5		ΔV_m		±2.0	V	
11.4	Shock Test	No voltages Hammer angle = 30°		I_A					
	<u>Post Shock Test</u>								
	Striking Voltage.		2.5		V_s		180	V	
	Change of maintaining voltage.		2.5		ΔV_m		± 2.0	V	

K1001	Test	Test Conditions	AQL %	Insp. Level	Symbol	Limits		Units	Notes			
						Min.	Max.					
AVI/5	<u>GROUP D</u> Life Test. <u>Intermediate point</u> <u>200 hrs.</u> Maintaining Voltage change <u>End point 1000 hrs.</u> Inoperatives. Striking Voltage. Maintaining Voltage change from 200 hrs. to 1000 hrs.	Combined AQL	6.5	IA								
			2.5							δV_m	*2.0	V
			2.5							V_s	181	V
			2.5							δV_m	± 1.5	V
AIX/2.5	<u>GROUP E</u> Electrical re-test after 28 days holding period. Inoperatives. Striking Voltage Maintaining Voltage	Combined AQL	2.5	100%								
			0.5									
			0.5							V_s	181	V
			0.5							V_m	145	155

NOTES

1. This test shall be performed only once and by the valve manufacturing department in order to remove catastrophic failures.
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.