

ADMIRALTY SIGNAL ESTABLISHMENT

Specification AD/CV1473/Issue 4. Dated 3.12.47. To be read in conjunction with K1004.	<u>SECURITY</u>	
	<u>Specn.</u> Restricted	<u>Valve</u> Unclassified

→ Indicates a change.

<u>TYPE OF VALVE:-</u> Gas-filled photo-electric cell.		<u>MARKING</u>		
→ <u>CATHODE:-</u> Caesium on silver or approved alternative.		See K1001/4.		
<u>ENVELOPE:-</u> Glass.		<u>BASE</u> B4		
<u>PROTOTYPES:-</u> CMG22, GS16 (90 V).		See K1001/AIV/D5.1.		
<u>RATING</u>		Pin	Electrode	
Min. Extinguishing Voltage (V)	100	A	1 Anode	
			2 No connection	
Working Voltage (V)	80-110	B	3 No connection	
			4 Cathode	
Min. Sensitivity (µA/lumen)	75		<u>DIMENSIONS</u>	
			See K1004/D1.	
		Dimension	Min.	
		Max.		
		A mm	66.5	72.5
		B mm	24	26
		M mm	43.5	-
		M' mm	-	30.5
		N mm	13	-
		<u>PACKAGING</u>		
		See K1005.		

NOTE THE FOLLOWING GENERAL REQUIREMENTS

- A. The extinguishing voltage shall never be less than 20 V above the rated working voltage of the tube.
- B. The working voltage, correct to the nearest 5 V, shall be marked on each individual cell, in such a position that it does not interfere with the incident light flux.
- C. The spectral sensitivity shall correspond to the normal published characteristics of a caesium on silver cathode or of an approved alternative cathode.
- D. An additional anode connection may be made to pin 2 if desired; designers are asked to allow for this optional connection.

TESTS

To be performed in addition to those applicable in K1004.

	Test Conditions	Test	Limits		No. Tested	Note
			Min.	Max.		
a	Suitable light flux to be incident on cathode. $V_a = xV$ (i.e. working voltage).	Sensitivity ($\mu A/\text{lumen}$)	75	-	100%	1,2
b	$V_a = xV$. Cell shielded from all sources of light.	I_a (μA)	-	0.1	100%	1
→ c	Suitable light flux to be incident on the cathode $V_a = x+10V$.	I_a after 30 secs. (= $y \mu A$ say) I_a after further period of 60 secs. (μA)		$y+10\%$	100%	
→ d	Shield cell from all sources of light. $V_a = x+10V$.	I_a (μA)		0.2	100%	
→ e	Shield cell from all sources of light. $V_a = x+20V$.	I_a (μA)		0.2	100%	

NOTES

- 1. A suitable light flux for testing is 0.02 lumen. See also K1004/2.4.
2. The working voltage 'x' (also referred to in Notes A and B) is selected by the manufacturer, within the limits 80-110 V, such that the conditions of tests 'a', 'b' and 'c' are fulfilled.
3. All of the above tests will be carried out with a load resistance of not less than 0.1 Megohm in the anode circuit.