

MINISTRY OF SUPPLY (S.R.D.E.)

Specification: MOS/CV100/Issue 6

Dated:- 21.4.48

To be read in conjunction with K1001,
ignoring clause 5.8SECURITYSpecification
~~Restricted~~Valve
Unclassified*Unclassified*

→ indicates a change

<u>TYPE OF VALVE:-</u> Enclosed triggered spark gap.			<u>MARKING</u>	
<u>CATHODE:-</u> Cold.			See K1001/4	
<u>ENVELOPE:-</u> Glass, unmetallised protected (Note B).				
<u>RATING</u>		<u>Note</u>	<u>BASE</u>	
			<u>CL3</u>	
Mean Trigger voltage (kV)	5.5	A	<u>Clip</u>	<u>Electrode</u>
Main gap voltage (kV)	16.0		1	Trigger electrode
Pulse output power (kW)	256		2	Anode
max. jitter (μ sec)	0.2		3	Blank
Amplitude fluctuation of output	negligible	A	TC	Cathode(See K1001/AI - D5.11)
<u>NOTES</u>				
A. With 250 ohm line designed for two microsecs pulse, and 250 ohm load; charging at constant current (choke inductance circa 500 H). Pulse length 2 μ secs and repetition 400 c.p.s. Main gap voltage 16 kV.				
B. The valve shall be provided with adequate splinter proofing.				

CV100

TESTS

To be performed in addition to those applicable in K1001

	Test Conditions	Test	Limits		No. Tested
			Min	Max	
All tests to be performed with trigger voltage derived from an approved pulse generator supplying a positive pulse of 12 kV to 14 kV on open circuit, with a build up time to max. voltage of 0.5 to 0.75 μ secs. and series trigger resistance of 10,000 ohms. In the tests all electrode potentials are measured with respect to the anode, which encloses the trigger rod. The line shall be of 250 ohms impedance and designed for pulse length of 2 μ secs. and shall be charged through a choke of 500 H. The external load shall be of 250 ohms.					
a	Cathode voltage (negative) increased from zero (See Note 1)	Starting voltage (kV) (cathode voltage -ve at which main gap first strikes, with normal triggering)	-	9.0	100%
b	Cathode voltage -16 kV	Trigger breakdown (kV) voltage	-	8.0	100%
c	Cathode voltage -14 kV	(i) Jitter in μ secs. (Total lateral movement of trailing edge of the monitored pulse).	-	0.2	100%
		(ii) Fluctuation of amplitude.	-	$\pm 10\%$	100%
d	Cathode voltage -18 kV	Jitter in μ secs.	-	0.2	100%
e	Cathode voltage (-ve) increased from 16 kV	Cathode voltage at (kV) which irregular breakdown (i.e. breakdown not correlated with the trigger pulse) occurs at a rate of between 1 and 6 times per second.	20	-	100%

NOTES

1. Test 'a' to be performed first, as previous ionisation of the gap affects the starting voltage.

