

|  |                                    |                              |
|--|------------------------------------|------------------------------|
| Specification MAP/CV125/Issue 2<br>Dated 21.7.49.<br>To be read in conjunction with<br>K1001, ignoring clauses 5.2, 5.8. | <u>SECURITY</u>                    |                              |
|  | <u>Specification</u><br>RESTRICTED | <u>Valve</u><br>UNCLASSIFIED |

→ Indicates a change

|  |      |      |   |                   |
|--|------|------|---|-------------------|
| <u>TYPE OF VALVE:</u> Enclosed triggered spark gap.          |      |      | <u>MARKING</u><br>See K1001/4.              |                   |
| <u>CATHODE:</u> Cold   |      |      | <u>BASE</u><br>CL3                          |                   |
| <u>ENVELOPE:</u> Glass-unmetallised; protected (See Note B). |      |      | <u>CONNECTIONS</u>                          |                   |
| <u>RATING</u>  |      |      | Pin   | Electrode         |
| Trigger Voltage (kV)   | 4.5  | Note | 1   | Trigger Electrode |
| Min. Working Voltage (kV)                                    | 12.0 | A    | 2   | Anode             |
| Peak Output Power (kW)                                       | 530  | A    | 3   | No connection     |
|  |      |      | T.C.  | Cathode           |
|  |      |      | <u>TOP CAP</u><br>See K1001/A1/D5.11        |                   |
|  |      |      | <u>DIMENSIONS</u><br>See drawing on page 4. |                   |

NOTES

A. Under the following conditions:-

Main Gap Voltage = 13.3 kV.  
 Pulse Length = 1.0 μsec.  
 Repetition Frequency = 680 per sec.

Constant current charging is used and the load and line are matched.

B. The valve shall be provided with adequate splinter proofing.

To be performed in addition to those applicable in K1001.

| Test Conditions  | Test  | Limits |            | No. Tested | Note |
|--|---|--------|------------|------------|------|
|  |   | Min.   | Max.       |            |      |
| For the purpose of the following tests, all electrode potentials shall be measured with respect to the anode, which encloses the trigger rod.  |   |        |            |            |      |
| a Cathode Voltage = -9.0 kV. max. Trigger circuit shall be derived from an approved pulse generator supplying a positive pulse of 10.5 kV. to 12.5 kV. on open circuit, at a repetition frequency of 680 per sec. and with a build up time to max. voltage of 0.5 - 0.75 $\mu$ secs. The line shall be of 80 $\Omega$ impedance and designed for a pulse length of 1 $\mu$ sec., & shall be charged through a choke of 180H. The external load shall be matched to the line. | A spark shall occur which also delivers power to the load circuit                             |        |            | 100%       | 1    |
| b Cathode Voltage = -13.3 kV. Other test conditions as in 'a'  | Trigger break-down voltage(kV)  | -      | 7.0        | 100%       |      |
| c Cathode Voltage = -12.0 kV. Other test conditions as in 'a'  | 1. Jitter in $\mu$ secs. (total lateral movement of the trailing edge of the monitored pulse) | -      | 0.2        | 100%       |      |
|  | 2. Fluctuations of amplitude  | -      | $\pm 10\%$ | 100%       |      |

To be performed in addition to those applicable in K1001.

|   | Test Conditions   | Test   | Limits |      | No. Tested | Note |
|---|---|--|--------|------|------------|------|
|   |   |  | Min.   | Max. |            |      |
| d | Cathode Voltage = -14.6 kV. Other test conditions as in 'a'   | 1. Jitter in $\mu$ secs. (total lateral movement of the trailing edge of the monitored pulse)<br>2. Fluctuations of amplitude                                      | -      | 0.2  | 100%       |      |
| e | With the set up as in test 'a' the cathode voltage shall be increased until unstable operation occurs | Negative cathode voltage (kV) at which irregular breakdown (i.e. breakdown not correlated with the trigger pulse) occurs at a rate of between 1 & 6 times per sec. | 16.0   | -    | 100% or S  |      |

NOTE

1. Test clause 'a' must be performed first in the test schedule.

