VALVE ELECTRONIC

CV1600

GENERAL POST OFFICE: E-IN-C (S)

Specification: G.P.O./CV.1600/Issue 2. Dated: JANUARY 1956 To be read in conjunction with K 1001 & B S1409	SECURITY Specification: Unclassified ← Valve: Unclassified ←

⟶ indicates a change

TYPE OF VALVE: Triode, water-cooled

CATHODE: Directly heated tungsten filament

ENVELOPE: Metal-glass

→ PROTOTYPE CAT 1, 4006A, BW 173

MARKING

See K 1001/4

Additional markings required. (See Notes A,B,C)
Serial No .....
Filament Volts .....

RATING

			Note
Filament voltage	(V)	as marked	B
Nominal filament current	(A)	49.5	
Max. anode voltage	(kV)	10.0	
Max. anode current	(A)	1.5	
Max. anode dissipation	(kW)	10.0	
Max. operating frequency	(kc/s)	150	

BASE

None

CONNECTIONS

See drawings on page 4 and 5

DIMENSIONS

See drawings on page 4

CAPACITANCES (pF) (Nominal)

	Prototype (a) CAT. 1.	Prototype (b) 4006A	Prototype (c) BW 173
Cag	25. 0	20.5	30.0
→ Cae	1. 1	3.0	1.5
Cge	17. 5	20.0	26.0

PACKING

See K 1005 Appendix A Note 8.

NOTES

A. The serial numbers will be allotted by the Inspecting Officer.

B. The Marked Voltage is defined on page 2, test (a).

C. It is not essential that the additional marking shall appear within the frame.

TESTS

To be performed in addition to those applicable in K 1001.

	TEST CONDITIONS				TEST	LIMITS		No tested	Note
	Vf	Va (kV)	Vg (V)	Ia (A)		Min.	Max.		
(a)	Read	-	-	-	Vf. minimum required (V) for peak emission of 6 amps. To be known as "Marked Voltage" (M.V.)	17.5	20.5	100%	1,4
(b)	M.V.	0	0	-	If (A)	48.0	51.0	100%	4
→ (c)	M.V.	12	Adjust	0.833	Reverse Ig (/uA)	-	80	100%	2,4
→ (d)	M.V.	12	Adjust	0.05	Reverse Ig (/uA)	-	25	100%	4
→ (e)	M.V.	Read / Read	0 / -100	0.8	/u	35	43	100%	4
→ (f)	M.V.	3	200	-	Ig (Note the value) (mA)	-	120	100%	4,5
→ (g)	M.V	3	400	-	Ig (Note the value) (mA) Difference between reading of Ig in test (f) and test (g) (mA)	0 -	- 50		4,5
(h)	M.V.	10	0	Read	Ia (A)	0.7	1.1	100%	4
(j)	M.V.	12	-	-	Oscillation efficiency (%)	66.6	-	100%	3
(k)	M.V.				Repeat tests c.d.	As for tests c.d.		100%	2.4

NOTES

1. (a) The voltage applied to the anode and grid strapped shall be sufficient to draw from the filament a peak emission of 6 amperes. The test shall be made in accordance with K 1001/AV

(b) Alternatively, the voltage applied to the anode and grid strapped shall be sufficient to draw from the filament an omission of 1 ampere, and the filament voltage required for this emission shall be multiplied by 1.22 to determine the test result.

2. The duration of test (c) and for the repeat of test (c) in test (k) shall be 15 minutes each and the reverse grid current shall not be rising at the end of either test, Test (c) shall precede test (j) and test (k) shall follow immediately upon the end of test (j).

NOTES (continued)

3. Test (j) shall be made by causing the valve to oscillate in an approved circuit, the oscillation frequency being not less than 150 kc/s.

The conditions for the specified efficiency are:-

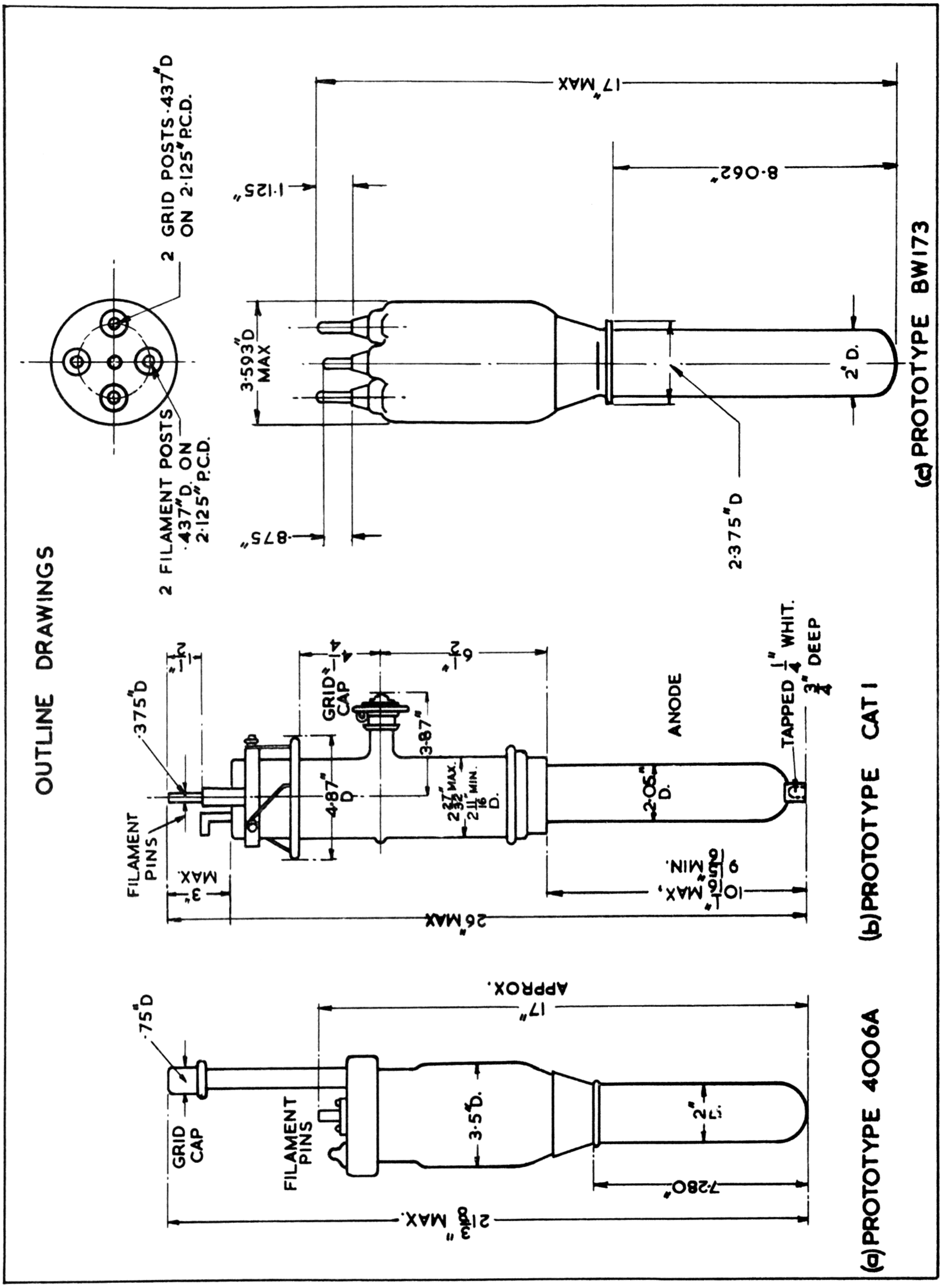
(a) Oscillatory output not less than 12 kW.

(b) Anode current not greater than 1.5A. The duration of this test shall be 30 minutes.

(c) Filament heated by 50 cps. current, and circuit returns shall be made to the centre tap on the filament transformer.

4. Tests to be carried out with the filament heated by dc, or by 50 c.p.s. current when circuit returns shall be made to the centre tap on the filament transformer secondary.

5. Spot readings, or by pulse method.


OUTLINE DRAWINGS
2 GRID POSTS ·437"D ON 2·125" P.C.D.
2 FILAMENT POSTS ·437"D. ON 2·125" P.C.D.
17" MAX
8·062"
1·125"
·875"
3·593"D MAX
2"D.
2·375"D
(c) PROTOTYPE BW173
FILAMENT PINS
·375"D
GRID CAP
ANODE
4·87" D
3·87"
2·05" D.
TAPPED 1/4" WHIT. 3/4" DEEP
3" MAX.
26" MAX
(b) PROTOTYPE CAT I
·75"D
GRID CAP
FILAMENT PINS
3·5"D.
2" D.
17" APPROX.
7·280"
(a) PROTOTYPE 4006A