

Manual of Operations

Crookes Tube Power Supply

(Hot Cathode Type) C-HC

CAT. No. B10-2483-W0

NaRiKa

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Crookes Tube Power Supply (Hot Cathode Type) C-HC

Instruction Manual

We thank you for selecting the power supply exclusively designed for the hot cathode type Crookes tube. This power supply operates with the attached 6 V, 2.5-2.8 A AC adapter. Care must be taken not to lose the adapter nor should you use other AC adapters. Because high voltage is generated, you must carefully read this Instruction Manual and must use the power supply as instructed.

Precautions in Use

(i) This power supply is powered by the separate AC adapter. You can only use the attached AC adapter of DC 6 V, 2.5-2.8A output capacity or more. We request that you always keep the AC adapter under your control so that it will not be lost.

Caution! (If an AC adapter other than the attached one is used, the adapter may be damaged.)

(ii) Do not open the enclosure of the power supply nor modify internal circuits, because it could cause a risk of electrical shock. The power supply incorporates 300 V high voltage generator circuit.

Warning! (Injury or even death may be caused due to electrical shock by a high voltage circuit.)

(iii) This power supply is a sensitive instrument. Care must be taken to avoid severe impacts, such as dropping the power supply.

Caution! (Wiring inside the power supply may become loose, and may cause a short circuit etc.)

Product Outline

● Power Supply Unit

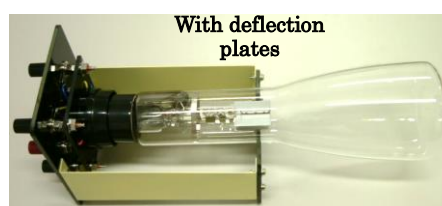
Front Panel



Rear Panel



Crookes Tube to be Used



The package includes the following items.

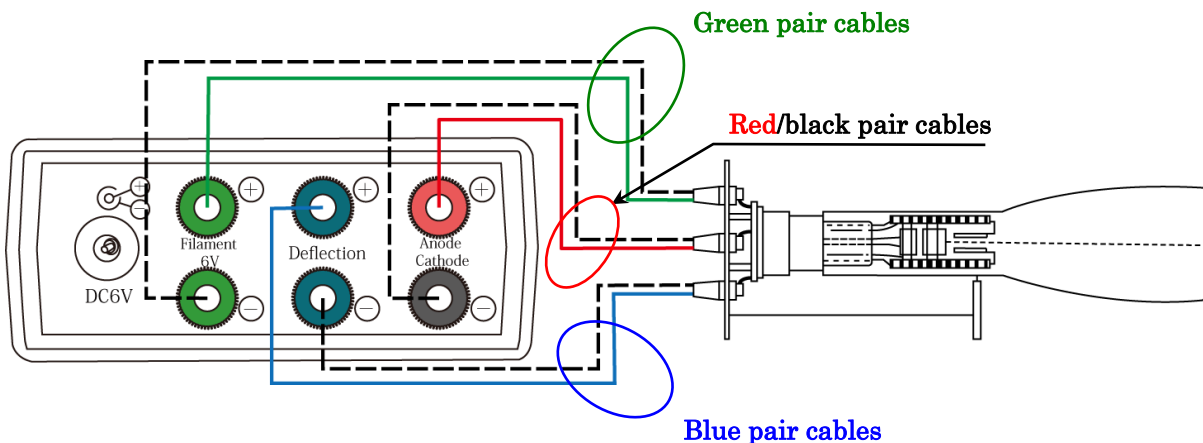
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|---------------------------------------|---------------|
| 1. Power Supply Unit for Crookes Tube | 1 |
| Heater Voltage: | DC 6 V |
| Anode Voltage: | DC 300 V |
| Deflection Voltage: | DC ± 60 V |
| 2. Cables with Banana Plug | |
| Green cable | 2 |
| Blue cable | 2 |
| Red cable | 1 |
| Black cable | 1 |
| 3. AC Adapter 6 V, 2.5-2.8 A | 1 |
| 4. Instruction Manual (This booklet) | 1 |

Method of Use

● Connection between the Crookes Tube and Power Supply

[For the tube with deflection plates]

- ◎ Connect the terminals on the black base plate attached to the Crookes tube holder marked Filament 6V with the green terminals on the power supply rear panel (for filament). Connect the terminals on the plate marked (Deflection Plate Upper/Lower) with blue terminals of the power supply (marked “Deflection”), and connect the Anode terminal and Cathode terminal on the plate with the red terminal (anode) and the black terminal (cathode) of the power supply, respectively. Use the following diagram as a reference.



* No polarity applies for green cables (for filament)

* The (+) and (-) connectors of the blue terminals (for deflection) must be connected to the deflection plate terminals of the Crookes tube socket indicated (Upper) and (Lower), respectively.

● Front Panel of the Power Supply and Functions of Switches and a Dial



Accelerating Voltage Switch

The switch used to apply 300 V accelerating voltage to the anode of the Crookes tube. Make sure this switch is at OFF before turning the Main Power Switch to ON.

Voltage Control applied on Deflection Plates

When this (Polarity) switch is at UP position, deflection voltage 0–60 V can be applied to the deflection plates. When this switch is at the center position, deflection plates are at neutral position disconnected from the power supply. Deflection voltage is 0 V when the Deflection dial is turned to extreme left and it gradually increases as the dial is turned to the right.

Main Power Switch

The LED pilot lamp illuminates when this switch is turned ON.

● Operation Method

- (i) Set both the Main Power Switch and Anode Power Switch (accelerating voltage switch) to OFF, turn the Deflection Dial (deflection voltage adjusting dial) to extreme left, and set the Polarity Switch at the center, and connect the AC adapter.
- (ii) Turn the Main Power Switch to ON (the pilot lamp illuminates).
- (iii) Wait until the cathode becomes red-hot (30 seconds to 1 minute) and then turn the Anode Power Switch (acceleration voltage switch) to ON. Emission of the electron beam starts and stabilizes after a while.
- (iv) When the Crookes tube with the deflection plates is used, check the deflection of the electron beam by turning the Deflection Dial (deflection voltage adjusting dial) and orientation of the beam by switching the Polarity Switch up and down.

* In the case of a Crookes tube with the deflection plates, the end of the cathode rays projected from the cathode to the glass screen may be split into two until the cathode is adequately heated. The cathode rays will be focused in one spot more than 3 minutes after the Main Power Switch is turned ON, so you must wait with the acceleration voltage applied even if such phenomenon is observed.

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