High Voltage Power Supply

OPERATION MANUAL

For your safety, please read this Operating instruction carefully before operating. And always keep this Manual within reach.

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Notes to User

⚠ WARNING

This unit is not constructed for classified (hazardous) environment. It cannot be used where it will be exposed to ignitable or corrosive material and gases.

⚠ CAUTION

- This unit employs high voltage. Please follow the operating instructions carefully in order to minimize electrical shock hazard.
- This unit is intended for use in electrostatic processes that are free from water, oil, solvents and other conductive contaminants. Exposure to such contaminants will cause failure of the electrical insulation system in the product.
- The primary side of this unit must be connected to the correct line voltage as indicated on the nameplate. The applied input voltage should be within permitted range mentioned in the section 2.2 (Specifications).
- The unit must have proper grounding. Without proper grounding there may be electrical shock hazard.
- Do not perform insulation test on any charge neutralizer when connected to these power units.
- Carry out careful maintenance periodically according to the procedure given in the instruction manual.
- If any abnormality is observed during inspection, the unit must be repaired or replaced as required. Inspection, exchange and repair service will be provided in accordance with the warranty conditions.
- This unit is likely to be damaged if dropped. In such an event, it should be carefully examined and any necessary repairs be made by an authorized technician. The unit will produce considerable electrical noise and insulation might burn if the unit is damaged.

Receipt of unit

Please carefully take out the unit from the carton and then check. Note any damage that might have occurred during transport. Empty the carton to ensure that small parts are not discarded. If any damage has occurred during transport, the local carrier should be notified at once. A report should be forwarded to our factory or the agents nearby.

Packing articles and accessories

High voltage supplier	1pc.
Grounding cord, 2m long	1pc.
Instructions Manual/Maintenance bill	1pc.

Please contact our company or our agents immediately if any part is missed or damaged.

SECTION 1 General Description

The high voltage power supply is designed and intended for use exclusively with static eliminators manufactured by our company. It is a single-phase unit having an output voltage 4.0KV（0~40%）.

⚠CAUTION

A high voltage failure detection circuit is not incorporated in the power unit. High voltage output is not interrupted even if an abnormal condition, such as short-circuit or sparking caused by the insulation degradation of the ionizing electrodes or the high voltage cable, exists. If it persists (abnormal condition), insulation might burn out. Regular inspection and maintenance is essential for efficient and trouble-free operation.

SECTION 2 Specifications

1.Common specifications

Ambient conditions: About 0~50℃, 10%~90%RH
Life expectancy: About 10,000 hours (based on 8h/d, 250d/y years)
Warranty: One year

2.Other specifications

Primary Volts (VAC) (1phase)	**Frequency**	**Secondary Output volts (KV AC)**	**Secondary short cct. Current (max.)**	**VA rating (max.)**
110V	50Hz/60Hz	4.0KV (0－-40%)	<3mA	30VA

Switch /lamp	**Fuse (A)**	**Overall size (W×D×H) (mm)**	**Approx Weight (kg)**	**Maximum load**
With indicating lamp and switch	0.5A	165×103×115 (mm)	3kg	2*2

NOTE: The supply voltage of the unit must be decided when placing an order.

SECTION 3 Installation

Check the voltage on the nameplate before use and input (primary) voltage of the high voltage power supply is preset in the company. Make sure that the input voltage corresponds to the preset voltage on the nameplate.

NOTE:

***** All the installation must be carried out by a trained electrician.

* Complete all wirings before switching on the power.

SECTION 6 Trouble shooting

Trouble	**Probable cause**	**Countermeasure**
Low effect static eliminating or often sparking.	The static charge eliminator might be cleaned.	Switch off the power supply. The eliminator should be cleaned with a soft cloth or a soft nylon brush. Do not use any solvent or metallic brush. Regular cleaning will maintain a high performance level for the static eliminator.
It cannot neutralize the electrostatic and failure in spark test (no spark).	The supply voltage has not been switched on.	Switch on the supply voltage.
	High voltage cable land/or static neutralizer may need cleaning or may be damaged.	Turn the Power unit off. Clean the ionizing emitters and the insulation. If it does not work now with Power unit on, then the high voltage cable or static neutralizers may need repair or replacement.
	The Power unit may be damaged.	Remove the high voltage cable from the Power unit and test it separately for output voltage. If there is not output, a repair or replacement may be necessary. Contact us or out agent with the serial number of the Power unit and a description of the problem.

SECTION 7 Replaceable parts

There is no replaceable part with the Power units (except for common electrical such as fuse, lamp switch etc.)

3.Spark test

Spark test can carried out following the instruction manual of the neutralizer that is connected with the power unit. A visual spark will be an indication of the existence of high voltage. As there is no failure detection circuit with the power supplies, the high voltage will not be interrupted due to sparking. It must be turned off manually.

4.Output voltage

Check the high voltage output of the unit periodically (at least once a year) following the procedure, given below:

a) Connect a high impedance high voltage voltmeter to the output of the Power unit. The ground terminal of the meter must be connected to ground.

b) Switch on the high voltage switch, the measured voltage should be among the 0~-40% of the rated value.

1. Setting Location

This unit is not installed in hazardous environment. It should be located near electrostatic eliminators.

Power supply can be fixed to the wall, floor or machine frame by four screws in the holes provided in the legs attached to the base of the units.

⚠CAUTION

- Do not drill any hole on the power supply unit.
- Power units should not be operated in an ambient containing corrosive, combustible gases, solvents, water, dust and high humidity place.
- In case it is attached to a vertical wall or frame, the high voltage connector should be underside.

2. Grounding

High cable of connecting nozzle and high voltage power supply have a ground lead (yellow green). Connect it to the grounding terminal of high voltage power supply unit. (The other head has been connected to the nozzle). Make the nozzle and the unit both are grounding. Confirm the connection and then make a test about the grounding resistant which should be <4Ω.

3. Connection of High Voltage Cable

The high voltage cable from the ionizing static eliminator must be connected with the connector provided by our company. The other type cannot be used. After wiring (high voltage cable) and grounding connections have been completed, the connector of the high voltage cable can be connected to the high voltage power unit output terminal and finger tightened. Please do not use any tools.

NOTE:

For wiring instructions on high voltage cable, please refer to the instruction

manual of static eliminator.

4. Connection about the power cord

The cord must to be connected to the power supply with correct voltage. These utility conditions are listed on the nameplate affixed to the power unit.
The power socket is three terminals socket with good grounding

⚠**CAUTION:**

Do not connection to the Alternating Current power supply before all groundings and high voltage connections have been completed.

SECTION 4 Operation

1. The power unit has a power switch and an indicating lamp. ON position is marked on the left side of the switch. When the switch is in ON position, the indicating lamp is turned on and high voltage appears at the output.
2. The emitting electrodes in neutralizers are connected to the output of the Power unit by a high voltage cable.
3. Turn off the power switch and the indicating lamp goes out and without high voltage output.

NOTE:
When the unit is turned on and off periodically, the interval about the on and off time should be at least one minute in a cycle. If a cycle is shorter than this, the life of the unit may be adversely affected.

SECTION 5 Inspection/Maintenance

⚠**NOTE: The inspection of the unit should be carried out by a qualified technician.**

1.Grounding

Measure the resistance between the casing of static neutralizer unit, machine frame and the Power unit ground terminal. The grounding resistant should be less than 4Ω.

2. Electrostatic eliminator performance test

1) Neutralizing performance should be checked periodically with a neutralizer connected to the power supply unit according to the following steps.
2) Recommend using a charge plate monitor (for instance CPM374) to check the ion balance, according to the Ionization Standard ANSI/ESD-STM3.1-2000 of the ESD Association.
3) If there is only a charge plate monitor held by hands, check the neutralizing performance periodically according to the following steps.
   a) Measure the voltage of a charged object with an electrostatic measuring device held by hand.
   b) Connect to an appropriate electrostatic eliminator and use it to neutralize the charged object. Remove the electrostatic eliminator to the charged object about 15~30cm and keep about several seconds.
   c) Measure the voltage of the charged object again. If the voltage is up to grade (in acceptable limit), it means the electrostatic eliminator services well.

NOTE: Check that neutralization efficiency decreases when the charged object is moving away from the neutralizer.