

Safety Instruction



VECTECH 4456EF



Ionizing Air Snake

High Voltage Power Supply

Instruction manual

Thank you for purchasing this product. For your safety, please read this Operating instruction carefully before operating. And always keep this manual readily accessible for reference

Safety Instruction

WARNING

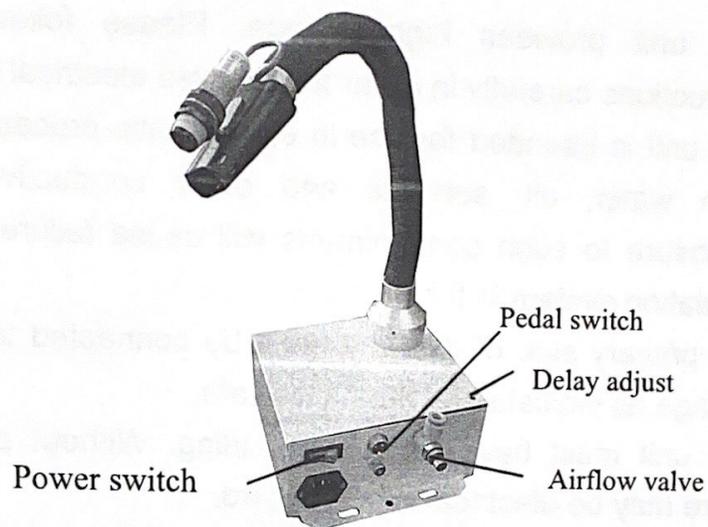
This unit is not constructed in hazardous environment. It cannot be used where it will be exposed to ignitable or corrosive material and gases.

Note

- This unit provides 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 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 drop the unit accidentally, it may be broken. When happening the state, it may be checked and maintained by the special person. If the unit is damaged, it will produce quite big current sound and the insulator will be burnt.
- 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.

I \ Summary

This machine constitute high voltage power supply and ionizing air snake . high voltage power supply output voltage 7KV0-40% single-phase source, have delay function, cooperate ionizing air snake output ionizing air, suit for pipeline . it can easily clear the parts and prevent it from being attached again after removing static. It must use with the 446EF high voltage power supply supplied by our company.



II \ Parts and Accessory

Main unit	One
Pedal switch (match)	One
Photoelectric switch (match)	One
Connector of air supply	One
Connector	One
Ground line (2meter)	One
6×8PU tube (3metr)	One
Power line	One
Instruction manual	One

III、Parameters

 **NOTE: Never use it over the following parameter range, otherwise it will damage the machine or hurt the human body.**

Ambient conditions: about 0~50°C, 10~90%RH

Remove speed: from 1000V to 100V less than 1s@150mm

Ionizing balance degree: less than $\pm 35V$, meet American National Standards institute/ESD Association standard (ANSI/ESD-S20.20-2014)。

High voltage supply

Power voltage: 110VAC 50Hz/60Hz

Air supply connect: use 6×8mm PU tube

Output high voltage 7KV^{0-40%}

Secondary Output current : <4.5mA

Rating power: <30W

load: 1

ionizing air snake

Request of air supply: Clean and dry air, 1~0.7Mpa

Request of high voltage 7KV^{0-40%} 50Hz/60Hz

Effective distance of removing static: within 1000mm

IV、Installation

4. 1 Installation

This unit cannot be installed in hazardous environment. It should be located near electrostatic eliminators. It can be fixed on the wall, floor or machine frame by four holes in the base's legs of the unit.

 **NOTE:**

- All the installation must be carried out by a trained electrician.
- Do not drill any hole on the power supply unit.

4. 2 Grounding

Connect the grounding cord (with yellow and green) to the ground or grounding terminal of 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 $<4\Omega$.

4. 3 pedal switch connect

Connect pedal switch plug to high voltage supply plug "Foot Switch", and screw .

Note : photoelectric switch already installed.

4. 4 connect to external air

Connect the outer air source to the inner of the high power supply by a $6 \times 8\text{mm}$ PU tube.

4. 5 Connection with the power cord

The cord should be connected to a power supply of a rating voltage. These using conditions are listed on the nameplate. All power sockets should be the three-terminal sockets with a good grounding system.

 NOTE:

- Do not to connect the power cord of power supply unit, before all grounding line and power cord connections completed.
- In order to use the ionizing air snake correctly and prevent operator from electric shock, make sure there is a reliable grounding among the ionizing air snake, high voltage power supply and the earth. Since the infectant air can block the nozzle or make it short circuit, the air should be filtered cleanly before using. Air pressure should be within 0.1 ~ 0.7Mpa.

V、 Operation

 NOTE: When the Power unit is turned on and off periodically, in a cycle, the on and off interval time should be one minute at least. If the interval time is less than this, the service life of the power unit may be shortened.

3. Turn on the switch of outside air source.
4. Turn on the switch of power.
5. Due to different “Controller”, the relevant working model is different.

1) With Pedal Switch:

When turn on switch, the display lamp is light. Press down Pedal Switch to produce high voltage from high voltage output terminal and output air from ion nozzle terminal. Ions emitting pin begin to ionize the air and emit positive and negative ions.

Positive and negative ions will be output with airflow, and neutralize static charge of charged object within working area and clean the dust on object, and it also can prevent appearance of dust and the static once again. Loose the Pedal Switch to stop ion air output.

2) With Photoelectric Switch:

Turn on the Power Switch, and Photoelectric Switch can test the existence of

charge object within its working range, and then the red lamp will be on, giving out a signal to make the Ionizing Air Snake work and blow ion air.

When first use, it is necessary to regulate air pressure to adjust outlet air speed. Regulate the air pressure-adjusting knob on the Power Supply. Turn the knob anticlockwise to increase the air pressure and clockwise to decrease air pressure.

1. Use airflow valve can adjust airflow. When the first time use, must adjust airflow valve to wind speed suitable.

Anticlockwise rotate, airflow magnify, clockwise rotate, airflow lessen.

2. Delay function adjust

Adjust delay function , must close power switch. Delay switch in PCB in machine inner, via the hole of high voltage supply, adjust potentiometer VR1 of PCB. clockwise rotate, time magnify lessen. , Anticlockwise rotate, time magnify. The most time 12S.

6. Photoelectric Switch work distance adjust

Photoelectric Switch have some work distance, work distance can adjust. Tail of Photoelectric Switch have one fine tuning screw, use “ — ” screwdriver rotate , can adjust working distance.

 note :

- When adjust, adjust range do not too big, otherwise machine can not work .
 - The color of the material which be remove current is different , the distance is different.
7. If necessary, test the balance voltage. In case of balance voltage exceeds the normal range, adjust the adjustor on the High Voltage Power Supply.
 8. Turn off the power switch, and the indicator lamp will be off, high voltage output is stopped.

VI 、 Inspections and Maintenance

6. 1 Checking of ionizing air snake

1. Recommend using a charge plate monitor (for instance 432) to check the ion balance, according to the Ionization Standard ANSI/ESD-S20.20-2014 of the ESD Association.
2. If there is only a charge plate monitor held by hands, check the neutralizing performance periodically according to the following steps.
 - (1) Measure the static voltage of a charged object by a charge plate monitor.
 - (2) Turn on the power switch and the ionizing nozzle works normally. Make the charged objects under the air outlet of ionizing bar and 15~30mm from it for several seconds.
 - (3) Measure the static voltage of the charged object again.
If the voltage obtained is within the eligible range, it means that the unit is in good service.

 **NOTE: If the ion balance has deflection, please adjust the ion balance adjustor on the high voltage power supply. When the offset is negative, adjust the adjustor anticlockwise and when the offset is positive, adjust the adjustor clockwise.**

6. 2 Regular maintenance

For working effectively, please keep the ion-discharged needle clean. Ion discharged needle can be cleaned by ordinary eraser. Turn off the power switch, put the eraser to placket of nozzle slowly, press it down lightly, and make the ion-discharged needle prick into the eraser and rotate the eraser at the same time. By this way the deposit in ion-discharged needle can be safely cleared.

⚠NOTE:

Not to use any sharp and hard object to scrape the ion-discharged needle, since it will scathe the ion discharged needle. Ion discharged needle should be kept as sharp as possible, in order to keeping the best effect of using. In case of ion discharged needle become blunt or scathed, replace it.

VII、 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 power supply has not been switched on.	Switch on the power supply switch.
	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 supply unit may be damaged.	Remove the high voltage cable from the Power supply 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 supply unit and a description of the problem.