

VECTECH448 Ionizing Bar

OPERATION MANUAL

Thank you for purchasing our ionizing bar. For your safety, please read this Operation and maintenance instruction carefully before operating the unit. And always keep this instruction within reach.

SECTION 1 Precautions

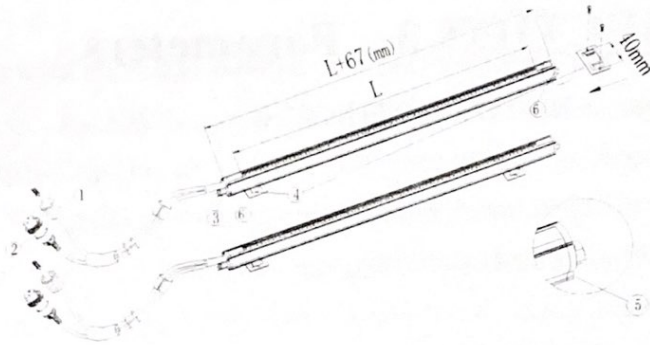
1. Keep the air outlet ventilated and out of being blocked. Do clearance and maintenance often.
2. Keep a good grounding system, in order to avoid electronic shocks or departure of ion balance.
3. Don't operate it with wet hands, in order to avoid short circuit or electronic shocks.

Caution:

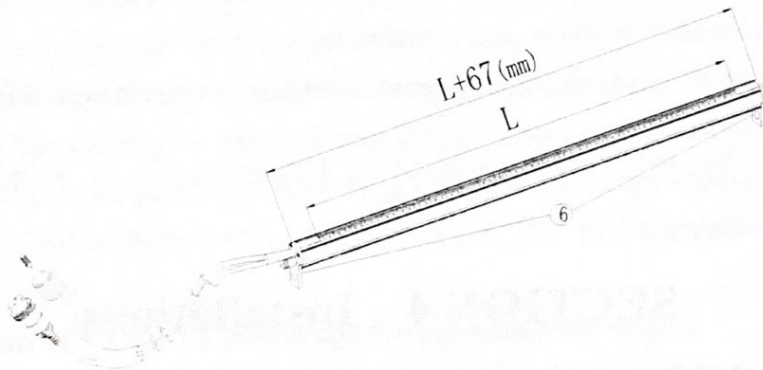
Make sure there is a good grounding system between the high voltage power supply of ionizing bar and the ground, otherwise it will cause a electronic shock.

SECTION 2 Summary

1. The high voltage power supply doesn't connect to the ion emitting tip directly, but make the top of tip ionize the air with a small coupling capacitance, and produce equal quantity of positive and negative ions. So, the bare tip is safe to both human healthy and neutralized objects, also suitable for both near and far neutralized objects.
2. Suitable for a wide range of pressured air, and many kinds of neutralized objects.
3. Powerful neutralization ability, and steady and adjustable ion balance.
4. The length of ionizing bar can be decided by customer's require, and flexibly install.
5. **448 ionizing bar** must be equipped with **Quick446B or Quick446C high voltage power supply** in order to work normally.



$L=21 \times n$ (N gets whole number 1、2、3、4……)



Optional configuration table

NO.	Part name	instruction
1	High voltage connection plug	2-meter line
2	Grounding & balance regulator output plug	2-meter line
3	Compressed gas input port	6×8mm PU tube
4	Mounting bracket	2 pcs /set
5	Installation notch	
6	End cover	optional
*	Φ 6- Φ 8 Tracheal adapter	
*	Φ 6×8mm PU tube	2-meter

SECTION 3 Parameters

High Voltage Power Input: 7000VAC 50Hz/60Hz

Discharge time: About 1 second (15cm away from air outlet, air speed 2m/s)

Ion Balance: $< \pm 50V$ Comply with international ESD standards
(ANSI/ESD-S20.20-1999). The factory debugging is within $\pm 10V$.

Pressure range: $\leq 0.7MPa$

Ozone Production: Less than 0.03ppm

Effective length of Ionizing Bar: $\leq 2000mm$ (It can be order.)

Weight: 1600g/m

Ionizing Bar Noise of working: Less than 50dB (when the air pressure is 0.6Mpa)

⚠ NOTE: The unit's rating voltage of Power supply is to be decided when ordering.

SECTION 4 Installations

1. Checking before installation

1) Please check the nameplate before use, and make sure that the input voltage corresponds to the preset voltage on the nameplate.

⚠ CAUTION:

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

** Complete all the wiring before switch on the power supply.*

2) Please check whether the high voltage is matched with the ionizing bar (match them by the series No. on the Testing reports)

2. Installations

Install it according to the following steps:

1) Conventional configuration: The mounting bracket ④ is embedded in the installation notch, and the mounting bracket ④ is fixed with M4 screw.

Optional configuration: The hanging chain can be used through the mounting hole of the end cover and it can be used for suspension. It can be fixed in the desired position which according to the actual use of

the screw nut.

3. Connection of VECTECH448 and High voltage power supply

- 1) Put the two-core metal plug (Grounding and balance adjustable input plug ⑦) into the metal socket (Grounding and balance adjustable output socket ③) of high voltage power supply, and tighten the screw with hands without any tools.
- 2) In order to use the ionizing bar correctly and keep the operator from electronic shocks, one of the most important point is to make sure the ionizing bar and high voltage power supply are grounded correctly and reliably.

The two-core cord between ionizing bar and high voltage power supply, contains grounding wire, and the wire provides necessary ground connection between them. In order to make sure the connection is reliable, please measure the resistance between the ionizing bar and high voltage power supply, and it must be less than 4 ohm.

- 3) Put the high voltage connection plug ⑥ into the high voltage outlet ④ (Plastic insulated socket) of high voltage power supply ⑩, and tighten the screw with hands without any tools.

4. Connection of VECTECH448 and Compressed air source

Insert a 6X8mm air tube into the inlet of compressed air ⑧. If the air tube is 4X6mm, please use a windpipe commutator of $\varnothing 6$ - $\varnothing 8$ and put the 6X8mm PU tube in the inlet of compressed air.

5. Switch on the Power cable

The line cord should be connected to a power source of rating voltage. These utility conditions are listed on the nameplate.

All power sockets should be the three-terminal sockets with a good grounding system.

SECTION 5 Operation

1. Turn on the switch of compressed air source, adjust the air pressure in order to get a proper air flow.
2. The high voltage power supply has a power switch and an indicating lamp. When the switch is in **ON** position, the indicating lamp is turned on and high voltage appears at the output. The emitting tip of ionizing bar will ionize the air and produce positive and negative ions.
3. If necessary, measure the neutralizing time and balance voltage. If the balance voltage exceeds the normal range, adjust the ion balance regulator inside the high voltage power supply.
4. Turn off the switch of power supply, and the indicating lamp will be turned off and without producing high voltage.

Caution:

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

SECTION 6 Inspection And Maintenance

NOTE: *The inspection of these products should be carried out by a qualified technician.*

1. Grounding

Measure the resistance between the casing of ionizing bar, machine frame and the Power unit ground terminal. The meter should read less than 4Ω .

2. Neutralizing performance

Testing is recommended with an electrostatic measuring instrument (for instance CPM374) in accordance with Ionization Standard ANSI/ESD-STM3.1-2014 of the ESD Association.

- 1) Measure the voltage of a charged object by an electrostatic measuring device.
- 2) Turn on the power supply, and the ionizing bar 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 condition.

**** If there is any departure of ion balance, please open the top cover of unit, and adjust the regulator of ion balance inside it. Turn the knob clockwise to get a minus departure, and turn anti-clockwise to get a plus departure.***

3. Maintenance

1. The electrode of insulating is in the AC high voltage field, the insulating effect will decrease if not maintaining. Maintenance is very important.
2. The location of ionizing bar installation cannot have exploding, electric-conduction, or corrosive objects, such as water or oil. This environment will cause damage or other accident. if splash with water, oil or paint, clean it with clean cloth.
3. The static eliminating performance of ionizing tip will decrease if not clean. Clean it with a nylon brush, not a metal tool.

4. Matters for Daily Inspection

- ☞ Is the discharged needle clean or not?
- ☞ Is the grounding wire grounded well?
- ☞ Is the high voltage of machine normal?
- ☞ Is there any frost or water attached on the machine?