

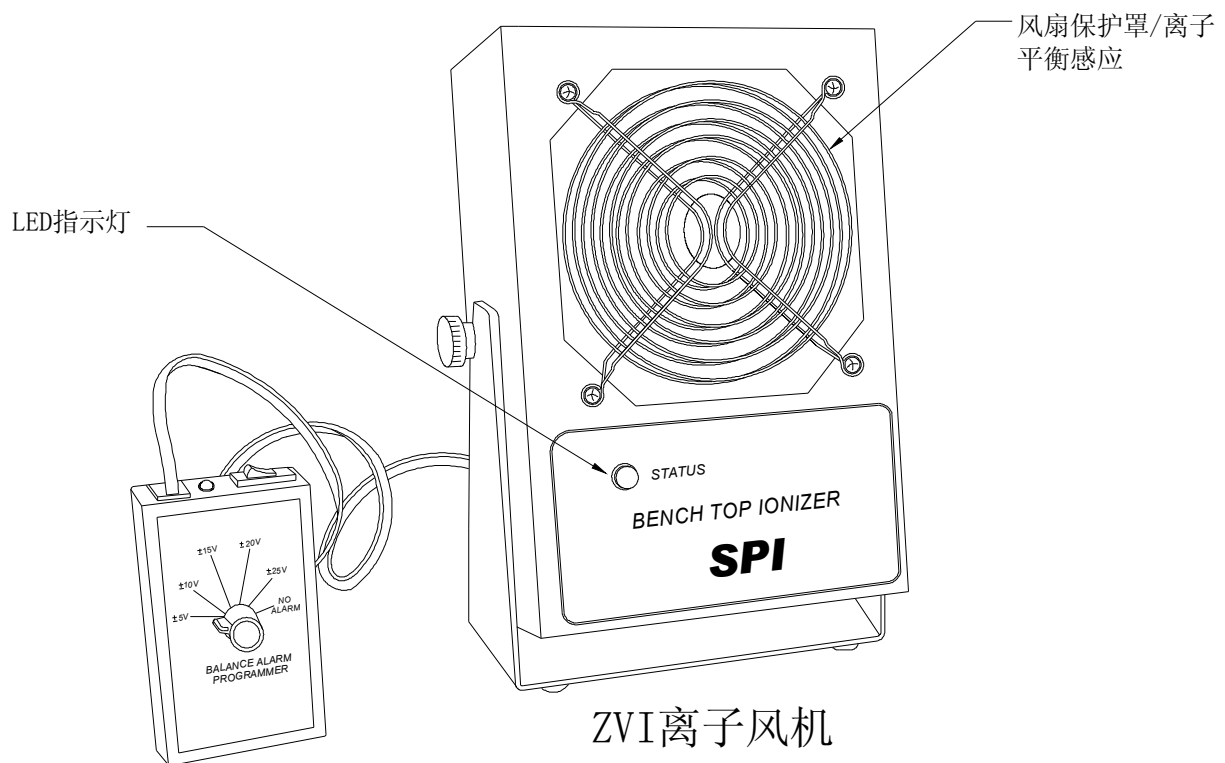
SPI WESTEK

DESCO EMIT

ZERO VOLT IONIZER

ZVI 桌上型离子风机

型号: 94021/50670



ZVI离子风机

离子平衡报警设置器

94021 为铝合金喷塑机身
50670 为不锈钢机身

SPI WESTEK 和 DESCO EMIT 是 DESCO 静电消除器品牌
MADE IN AMERICA

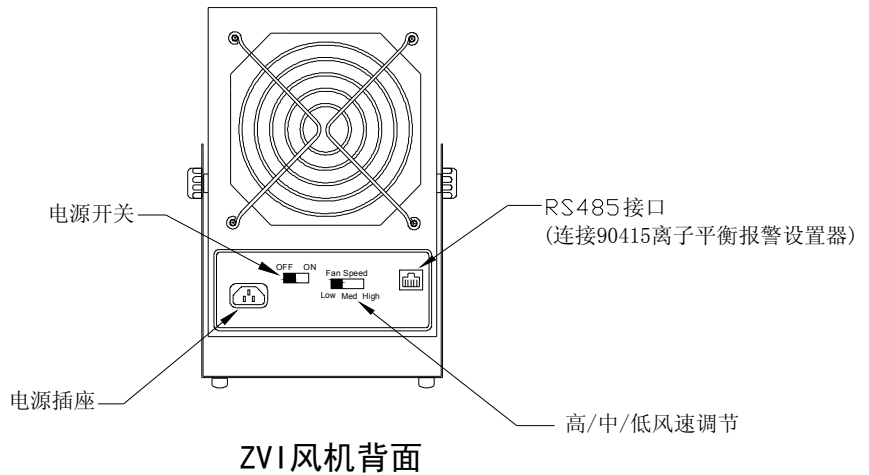
根据 ANSI/ESD S20.20 中 6.2.3.1 内容规定, 在静电绝缘物体或孤立的半导体产生静电时, 应使用电离技术产生正负离子中和静电. 采用电离中和技术对具有大电容的物体无效, 例如人体, 但在接地无法实现的情况下, 电离中和技术应该被采用.

根据 IEC 61340-5-2:1 中所规定, 对导电物体和人体, 电离中和技术不应是第一选择.

ZVI 桌上型离子风机采用稳定直流电晕方式产生正负离子, 内置离子平衡感应装置, 自动调节输出离子平衡度. ZVI 适合放置在台面, 也可吊挂使用, 最佳除静电范围: 30-1,200mm

打开包装盒, 有下列物品:

- 支撑架
- 4 个橡胶垫
- 电源线
- 离子针清洁刷
- 说明书
- 出厂测试报告



安装

ZVI 风机输入电源为 120V 或 220V, 出厂设置为 220V AC/50Hz, 也可自行调节输入电压.

用塑胶旋钮把支撑架上固定在风机上, 将橡胶垫放在支撑架底板上, 可以放置设备滑动. 然后连接电源线, 配套电源线为 3 脚插头, 确保电源插座接地极正常.

ZVI 有 RS485 输出口可以连接电脑远端监控(需配套控制软件).

注意: ZVI 风机必须正确接地以保证离子平衡感应器正常工作, 保证离子输出自动平衡.

操作

- ☞ 把 ZVI 离子风机放在适当位置
- ☞ ZVI 风机有 LOW, MED, HI 三档风速可调, 选择合适的风速(风速越大, 除静电越快)
- ☞ 打开 ON/OFF 电源开关
- ☞ 第一次开机, ZVI 风机会自动检查, 并有蜂鸣提示音, LED 指示灯会由“红”色变为“黄”色, 自检完毕, 设备正常, LED 指示灯变为“绿”色

调节离子平衡度

ZVI 风机具有自动调节离子平衡度能力, 正常情况下不用调节, 但在使用长时间后或离子针磨损, 移位或其它特殊情况, ZVI 无法自动调节的时候, 可以手动调节离子平衡, 用小起子伸进机身右侧面的小孔, 向顺时针方向旋转, 可以增加正离子的输出; 向逆时针方向旋转, 可以增加负离子的输出. 手动调节离子平衡度需要平板监测器配合工作.

维护

输入电源可以自行调节, **注意: 打开风机外壳前保证断开电源线.** 图 1 状态为 110V 设置; 图 2 为 220V 设置:

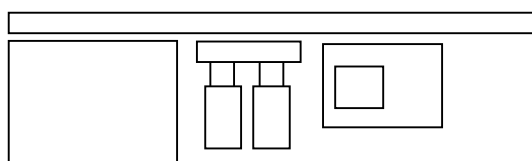


图 1 (110V 设置)

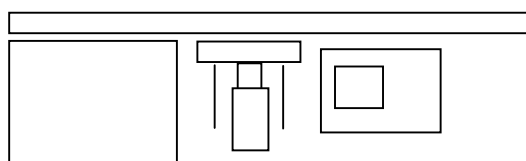


图 2 (220V 设置)

*ZVI 出厂设置为 220V/50Hz

在工作状况中, 如果 220V 输入电源低于 170V(或 110V 电源低于 85V), ZVI 风机会发出声音警报, 并闪烁“红”色 LED 灯, 然后自动关机, 当电源恢复正常后自动开机.

使用设备较长时间后, 离子发生器(特别是离子针)会吸附污染物, 这时 ZVI 风机进入维护状态, 会有声音警报, LED 指示灯会“黄”/“红”闪烁, 如果继续使用设备, ZVI 风机会自动停止产生离子, LED 灯变为“红”色, 声音报警一直持续. 这时候需要关机并用酒精清洁离子针, 然后重新开机.

如果重新开机后, 仍然报警, 可能离子针已到使用寿命, 则应该更换离子针.

离子平衡报警设置

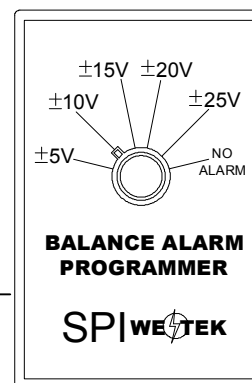
ZVI 风机离子平衡度为 $\pm 3V$, 感应装置持续监测离子输出并反馈信息, 设备会自动维持该离子平衡度. 同时可以通过配套设置器设置离子平衡度警报, 如果离子平衡超过设置的范围, 会发出警报给使用人员以维护. 警报范围可设置为: $\pm 5V$, $\pm 10V$, $\pm 15V$, $\pm 20V$, $\pm 25V$ 或 “不警报”

*ZVI 风机出厂警报设置为 $\pm 20V$

产品参数

- ☞ 3 档风速: 125-250FPM (风量: 50-100CFM)
- ☞ 输入电压: 220V AC(可设置为 110V AC)
- ☞ 输出电压: 5.5KV DC
- ☞ 离子平衡度: $\pm 3V$
- ☞ 散电时间: 1 秒(300mm 距离)
- ☞ 尺寸: 150mm(宽)x240mm(高)x80mm(深)
- ☞ 重量 1.9Kg
- ☞ 外壳: 铝合金白色喷塑或不锈钢

90415 离子平衡报警设置器



90415 使用方法:

1. 94021 风机开机
2. 通过 90415 上的旋钮确定离子报警值
3. 通过配套电缆线连接 90415 和 94021 风机(RS485 接口)
4. 90415 开机(顶部 ON/OFF 开关)
5. 90415 开机后, 顶部的 LED 为红色
6. 当 90415 和 94021 交互通信时, LED 灯会红色闪烁
7. 设置完成后, LED 灯为绿色
8. 拔出连接电缆线
9. 关闭 90415

产品保修

ZVI 94021 风机保修期为 1 年, 由于操作不当引起的质量问题不在保修范围

SPI **TECHNICAL BULLETIN TB-5512**

Zero Volt Benchtop Ionizer Operation and Maintenance



Made in America
Final Assembly
and Test

The SPI Westek 94021(SP4511) is a compact and lightweight dual steady state DC auto-balancing benchtop ionizer. The unit is normally placed at one end of the workbench or area to be neutralized. It may also be wall mounted or mounted on a shelf. The ionizer's neutralization time will be best approximately 12" to 48" directly in front of the unit and will increase as the distance from the unit increases.

Installation

Remove the ionizer from the carton and inspect for damage. Included with the unit should be:

1. Stand assembly with hardware
2. Four rubber feet
3. Power cord
4. Emitter point cleaner
5. Installation, operation, and maintenance instructions
6. Final test data

The input voltage should be set to your specification prior to shipping. It can be verified or reset by referring to the **Maintenance** section of these instructions.

Attach the stand to the unit by placing the plastic spacers between the unit and the stand and securing in place using the knurled knobs. If desired, attach rubber feet to each corner of the bottom of the stand. Press feet firmly in place.

Before installing the unit, verify that the AC outlet is properly connected to earth ground. The unit must have a good earth ground to maintain proper balance.

Install the unit in the desired location, making sure that the airflow will not be restricted. Be sure the ON/OFF switch, located on the rear of the unit, is in the "OFF" position. Plug the power cord into the unit and then into the appropriate AC power source. This equipment has a grounding type plug that has a third (grounding) pin. This plug will only fit into a grounding type power outlet. If the plug does not fit into the outlet, contact qualified personnel to install the proper outlet. Do not alter the plug in any way.

Status of the unit can be monitored remotely via the RS485 data ports. Please contact the factory for the necessary polling utility software.

Operation

Set the fan speed switch on the rear of the unit to the LOW, MED, or HI position. Higher airflow will result in faster neutralization rates. Position the unit so that the maximum airflow is directed at the items or area to be neutralized. Turn the unit ON.

SPI we tek TECHNICAL BULLETIN TB-5512

When the unit is first turned on, it conducts a self-test. The audible alarm will sound and then the LED will cycle through RED, YELLOW, and then GREEN. The LED will remain GREEN during normal operation.

Balance Adjustment

The 94021(SP4511) is an auto-balancing unit. However, tuning or manual adjustment can be accomplished by inserting a small screwdriver or trimmer adjustment tool into the balance adjustment hole located on the right rear of the unit. To increase the output in a positive direction, turn the potentiometer in a clockwise direction. Conversely, to increase the output in a negative direction, turn the potentiometer in a counter clockwise direction.

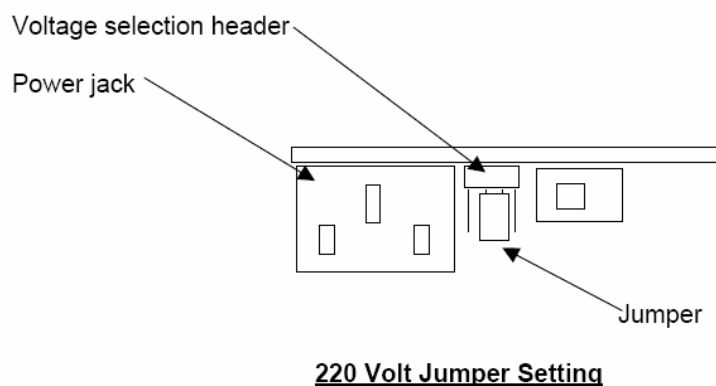
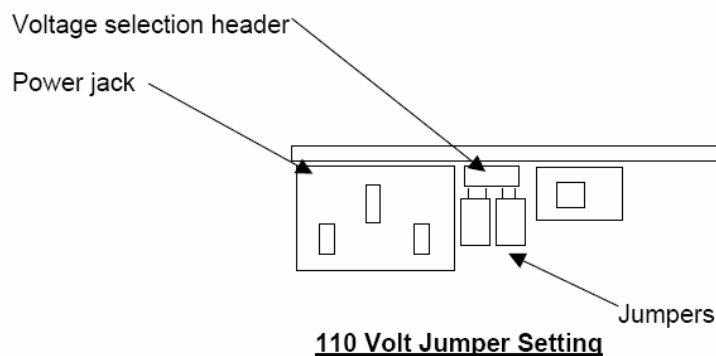
Maintenance / Alarms

WARNING – RISK OF ELECTRIC SHOCK – These servicing instructions are for use by qualified personnel only. To reduce the risk of electric shock, do not perform any servicing of internal parts unless you are qualified to do so.

The input voltage may be verified or reset by removing the back case by disengaging the 3 screws on back.

NOTE: The AC power cord **MUST** always be disconnected before the unit is disassembled.

Input voltage is selected with the two internal jumpers as shown below:



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If the supply voltage drops from 110 Volts to below 85 Volts or from 200 Volts to below 170 Volts, the unit will shut down the audible alarm will beep and the LED will blink RED. The unit will automatically reset when the minimum voltage is restored.

Under normal conditions, the ionizer will attract dirt and dust (especially on the emitter electrodes). To maintain optimum neutralization efficiency and operation, cleaning should be performed on a regular basis.

If the performance of the ionizer were to degrade because of dirty or corroded points, the unit will enter a maintenance condition. When the ionizer is in a maintenance condition, the LED on the front of the unit will blink alternately YELLOW and RED; the audible alarm will sound. If the performance continues to degrade, the unit will enter shutdown mode.

When the unit enters shutdown mode, ionization will be stopped, the LED on the front of the unit will change to a steady of RED, and the audible alarm will sound continuously. If the ionizer enters shutdown mode, it must be turned OFF and then back ON to reset the unit.

NOTE: The AC power cord **MUST** be disconnected before the unit is disassembled for maintenance. The emitter electrodes should be cleaned using the alcohol cleaners included or a swab wet with Isopropyl alcohol. First, turn the unit OFF and unplug the power cord. Then remove the rear screen by disengaging the 4 screws on back. After cleaning the emitter electrodes, reattach the rear screen using the 4 screws. Plug in the power cord and turn the unit back ON.

The emitter electrodes should not require replacement during the life of the unit with normal handling. Replacement emitter electrodes can be ordered if necessary. Best practice would be to verify the balance of the unit with a charge plate monitor after cleaning.

Balance Alarm

The unit ships with the balance alarm sensitivity set to ± 20 Volts. Alarm sensitivities of ± 5 Volts, ± 10 Volts, ± 15 Volts, ± 20 Volts, ± 25 Volts, or "NO Balance Alarm" can be set using the optional ZVI-BAP Balance Alarm Programmer.

Neutralization (Decay) Times

The comparative efficiency of benchtop ionizers is determined by a standard test published by the ESD Association: Standard S3.1. Typical positive and negative decay times (from 1000 volts to 100 volts) measured using this standard are shown below. The performance of the ionizer was measured with the unit positioned as shown, with the fan speed on high, and without a filter.

SPIwestek TECHNICAL BULLETIN TB-5512

0"	12"	24"	36"	48"	12"
Ionizer	+101s -125s	+18s -23s	+13s -17s	+19s -23s	Center Line
	+2s -2s	+4s -5s	+7s -9s	+13s -15s	
	+23s -36s	+14s -15s	+15s -16s	+21s -22s	12"

Specifications

- ☞ **Air Flow:** Three speed fan (125fpm –250fpm; 50-100cfm).
- ☞ **Balance:** ±3 volt, typical; ±5 volts maximum.(Temperature range: 65oF to 80oF, R.H.: 15% to 65%)
- ☞ **Chassis:** White powder coated aluminum housing.
- ☞ **Dimensions (with stand):** 9.5: high x 6.0" wide x 3.1" deep.
- ☞ **Emitter Points:** .050" diameter pure tungsten for improved mechanical strength and ionization stability.
- ☞ **Fuse:** 250ma slow blow.
- ☞ **High Voltage Power Supply:** 5.5 KV DC nominal.
- ☞ **Input Power:** AC line power, internally selectable for 110/115 VAC–50/60Hz or 220/230 VAC-50/60Hz.
- ☞ **Ion Emission:** Steady state DC with sense feedback.
- ☞ **Mounting:** Bench top tilt adjust frame.
- ☞ **Ozone:** Less than 0.05ppm
- ☞ **Weight:** 4.5 pounds

NOTE: Unauthorized servicing or modifications to your ionizer will void the product warranty and may create dangerous conditions. Servicing should be performed only at the factory, or by a SPI Westek approved technician.

LIMITED WARRANTY

SPI Westek expressly warrants that for a period of one (1) year from the date of purchase, SPI Westek 94021 will be free of defects in material (parts) and workmanship (labor). Within the warranty period, a unit will be tested, repaired, or replaced at our option, free of charge. Call Customer Service at 909-909-664-9986 for Return Material Authorization (RMA) and proper shipping instructions and address. Include a copy of your original packing slip, invoice, or other proof of date of purchase. Any unit under warranty should be shipped prepaid to the SPI Westek factory. Warranty replacements will take approximately two weeks. If your unit is out of warranty, SPI Westek will quote repair charges necessary to bring your unit up to factory standards. Call Customer Service at 909-664-9986 for proper shipping instructions and address. Ship your unit freight prepaid.