



An ITW Company

One-Point Ionizer with S Power Supply

INSTALLATION AND OPERATING INSTRUCTIONS

TABLE OF CONTENTS

1. SAFETY WARNINGS	1
2. INSTALLATION	2
One-point Ionizer Location	2
Installation	2
Mounting the Power Supply	3
Cable Supports.....	3
Grounding	3
Checking for Proper Operation	4
3. MAINTENANCE	4
4. TROUBLESHOOTING	4
5. WARRANTY	5

1. SAFETY WARNINGS



NOTE – Statements identified with a NOTE indicate precautions necessary to avoid potential equipment failure.



CAUTION! – Statements identified with a CAUTION indicate potential safety hazards.



NOTE – This equipment must be correctly installed and maintained. Adhere to the following cautions for safe installation and operation:

1. Read the complete Operation Manual before operating. Failure to follow instructions may result in damage to the ionizer and/or personal injury.
2. Disconnect line voltage to power supply before connecting high voltage cable.
3. A factory-qualified service technician must perform component service and repairs. Please contact Simco-Ion Customer Service for information.

2. INSTALLATION

Carefully remove the equipment from the carton and inspect the contents.



NOTE – If any damage has occurred during shipment, notify the local carrier at once. A report should also be forwarded to Simco-Ion, 2257 North Penn Road, Hatfield PA 19440. See Section 5 (Warranty) for Return Shipment information.

One-point Ionizer Location

Best locations are usually just ahead of places where static gives trouble.

The material to be neutralized should have a background of free air and not be in contact with another surface as it passes the static ionizer, since static charges cannot be easily neutralized from between two surfaces in intimate contact. Discharging of material in intimate contact with a flat plate or board can often be done effectively by cutting a hole in the plate or board and mounting the ionizer in this hole. Partial contact of the material with a background surface may not interfere with effective static elimination; however, this should be avoided as much as possible.

Static ionizers may be mounted with points facing in any direction, provided they face the material to be discharged.

The casing of the one-point ionizer should not be less than 3/8" nor more than 3" from the material to be discharged. For best operation, keep between 1/2" and 1". The material should not contact the ionizer.

Installation

Mount each ionizer to the machine by means of the mounting clamp provided. Wrap the 7/16" clamp around the ionizer and bolt clamp directly to a grounded machine frame or to the perforated strip supplied and bolt the perforated strip to a grounded machine frame. This process automatically grounds the casing that is necessary for proper operation. If the mounting clamp is mounted to a non-metallic part of the machine frame or if other means of supporting the ionizer is used involving insulating materials, attach a ground wire with a ring lug to the bolt on the 7/16" clamp.

Run the high voltage ionizer cable in cable supports along the machine frame or wall to the power supply. The cable should be kept at least 1/4" away from the grounded machine frame or other grounded surfaces.

Install the spring loaded cable connector on the high voltage cable as outlined on attached instructions.

Plug the cable into one of the high voltage receptacles on the power supply and screw the knurled plug into the plastic receptacle – FINGER TIGHT ONLY. The low voltage wiring of the power supply terminates in a polarized 3-prong plug for connection into a

corresponding AC receptacle of the voltage and frequency marked on the nameplate and with a good electrical ground connection for the ground pin of the plug. If a grounded socket is not available, either bolt the power supply to a well-grounded metal machine frame or connect a heavy copper wire from the ground terminal on the rear of the power supply to a well-grounded electrical conduit or to a cold water pipe.

To add a second one-point ionizer to an installation, pull the plastic plug off the second high voltage receptacle on the power supply and connect the second one-point ionizer.



NOTE – When adding or removing ionizers or changing to any other type of ionizer bar or equipment, be sure to check with Simco-Ion for instructions before proceeding.

Mounting the Power Supply

Mount the power supply to the machine frame (preferable on the side away from the operator) or to a convenient wall or post (preferably with the HV terminals down).

Cable Supports

Cable supports are used to guide the high voltage cables from the ionizers along the frame of the machine to the power supply. Cable should always be kept at least ¼” away from the grounded machine frame, parts, wall, and ceiling. If it must touch at any point, it should be encased in protective plastic tubing available from Simco-Ion. To install the cable supports, press the split bushing out of the metal support and apply the bushing to the cable at the desired location. Mount the support, then press the bushing with cable back into the support. Be sure that a cable support is located to remove all strain and motion from the cable where it enters a static ionizer and the power supply.

Grounding

Frame of the Machine – it is essential for successful operation of the equipment that the frame of the machine be electrically grounded, either through well grounded electrical conduit, or by a heavy copper wire connecting the frame to a cold water pipe.

Ionizers – The metal casing must be grounded. If the casing is not grounded, personnel may receive a shock by touching it and, in addition, the equipment will not function properly. Grounding is automatic when metal mounting clamps and brackets support the ionizers directly from the grounded metal machine frame. When the ionizers are supported from wooden or other non-conductive members, a separate wire must connect the mounting bracket on one end of the ionizer to a metal part of the grounded machine frame or to a well grounded conduit or cold water pipe.

Power Supply – The power supply must be grounded either by bolting it to the grounded machine frame or by attaching a heavy copper wire to the ground terminal and to a well grounded electrical conduit or cold water pipe.

Checking for Proper Operation

When the one-point ionizer had been connected to the power supply using the high voltage cable, turn the power supply ON. Then use Simco-Ion's voltage detector to check for proper functioning of the emitter point and high voltage supply. Place the voltage detector tip on the one-point ionizer's emitter point. The voltage detector's top will be illuminated to indicate proper functioning of the emitter point.

3. MAINTENANCE

Turn equipment OFF before cleaning, removing ionizers from machine, or breaking any ground connection. If metal filings or fragments fall into the tip of the ionizer, they are apt to short circuit the unit and make it inoperative until the particles are removed. Loosen the ionizer brackets and rotate the unit to face downward, tapping it to dislodge the particles. Rotate the ionizer back into position and tighten the brackets. Compressed air may be used to keep the inside of the ionizer clean. Periodic use of a soft brush or compressed air will prevent the points from accumulating hardened balls of lint, grease, and other foreign matter that reduce their sharpness and decrease efficiency. One easy way to remove built-up deposits is to occasionally press a soft pencil eraser down over each point in turn and twist slightly. Including the one-point ionizers in the regular procedure of cleaning the machine will pay dividends in service and excellence of performance.

4. TROUBLESHOOTING

If equipment fails to function properly, check connections to be sure they are tight before proceeding with the following tests.



NOTE – When the one-point ionizer is operating properly, no visual arcing should occur. If the ionizer should arc constantly, check this particular unit for metal fragments or other contamination that should be removed as outlined under Maintenance above. When the voltage detector produces no light, the trouble is either a defective ionizer or defective power supply.

To locate the faulty equipment:

1. Turn OFF current to power supply.
2. Disconnect all ionizers from the power supply by unscrewing knurled plugs from plastic receptacles and pulling out high voltage cables.
3. After all ionizers have been unplugged, turn ON current to power supply and attach a piece of insulated wire or cable to the ground terminal on the power supply.
4. Insert the other end of the wire into one of the plastic receptacles. As the conductor approaches the screw at the back of the exposed hole, a spark should occur.

5. If no spark occurs and no arcing is heard, the trouble is in the power supply. If a spark does occur the fault is in one or more of the ionizers.

To find the faulty Ionizer or Ionizers:

1. Turn OFF current to power supply.
2. Insert the high voltage cable from one of the ionizers into the exposed hole of one of the plastic receptacles and screw knurled plug FINGER TIGHT ONLY.
3. Turn on the current to the power supply.
4. Check the ionizer with the Simco-Ion voltage detector. If it does not light, this is the faulty ionizer. If it does light, add the other ionizers to the power supply until the voltage detector fails to light. The faulty ionizer should be replaced.

5. WARRANTY

This product has been carefully tested at the factory and is warranted to be free from any defects in materials or workmanship. Simco-Ion will, under this warranty, repair or replace any equipment that proves, upon our examination, to have become defective within one year from the date of purchase.

The equipment being returned under warranty should be shipped by the purchaser to Simco-Ion, 2257 North Penn Road, Hatfield PA 19440, transportation prepaid and insured for its replacement cost. Prior to returning any goods for any reason, contact Simco-Ion Customer Service at (215) 822-6401 for a Return Authorization Number. This number must accompany all returned items.

This warranty does not apply when the equipment has been tampered with, misused, improperly installed, altered, has received damage through abuse, carelessness, accident, connected to improper line voltage, or has been serviced anyone other than an authorized factory representative.

The warranty does not apply when Simco-Ion parts and equipment have been energized by other than the appropriate Simco-Ion electrostatic charging generator or generator, or when a Simco-Ion electrostatic charging generator or generator has been used to energize other than Simco-Ion parts and equipment. Simco-Ion makes no warranty, expressed or implied, nor accepts any obligation, liabilities, or responsibility in connection with the use of this product other than the repair or replacement of parts stated herein.

Simco-Ion

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