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TRANSFORMING TECHNOLOGIES, LLC
OUTSTANDING ALTERNATIVES IN STATIC CONTROL

Ptec™ Static Eliminators

Point-of-Use Ionizing Air Nozzle

Model IN3420

Instruction Manual

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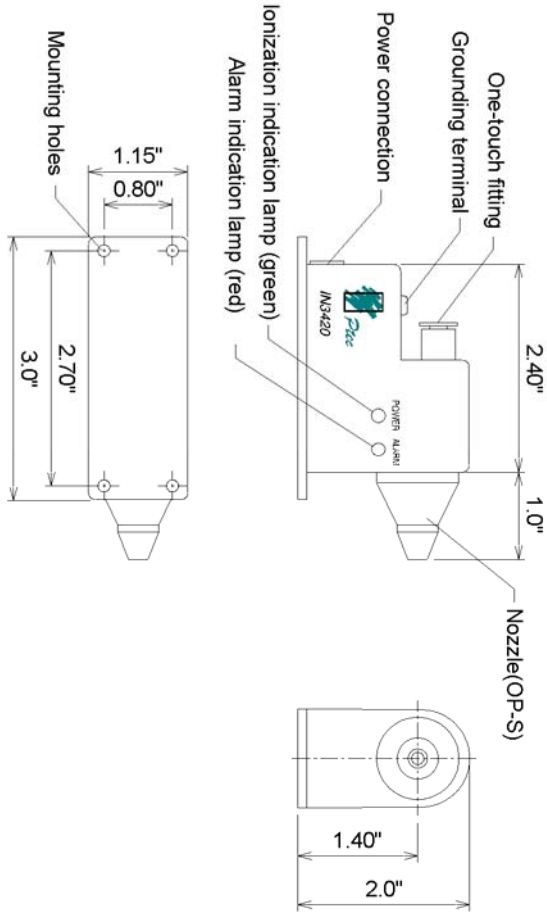
IN3420 Line Drawing



Service and Warranty

Transforming Technologies, LLC provides a limited warranty for the Model IN3420 ionizing air nozzle. All new products are guaranteed to be free from defects in material and workmanship for a period of one (1) year from the date of shipment. Liability is limited to servicing (after evaluating, repairing or replacing) any product returned to Transforming Technologies. The company does not warrant damage due to misuse, neglect, alteration or accident. In no event shall Transforming Technologies be liable for collateral or consequential damages.

To receive service under warranty, please contact Transforming Technologies Technical Support.

About Transforming Technologies

Since 1998, Transforming Technologies has helped electronic manufacturing facilities to protect their products and processes from the many serious problems associated with static electricity.

Transforming Technologies offers a wide range of unique and outstanding products to detect, protect, eliminate and monitor electrostatic charges. Our products are integral components of an effective static control program.

Description

Ionizing Air Nozzle Model IN3420

The Model IN3420 68KHz AC ionizing air nozzle is a flexibly designed point-of-use solution for a wide range of static problems. The IN3420 easily connects to a compressed air source and offers specialized output nozzles for specialized applications. Using AC corona technology to make the air more conductive, Ptec™ ionizers produce a balanced stream of positive and negative air ions that never need calibration. These devices are used in many industries and manufacturing applications where static electricity is a problem.

About *Ptec™* Technology

A specialized piezoelectric high voltage transformer makes Ptec™ ionizers among the most reliable products available. Ptec™ ionizers are designed to remain in balance and to alarm when the HV output affects performance. The model IN3420 ionizing air nozzle produces a 68KHz AC output of approximately 2200V and a continuous stream of balanced air ions. Ionizers that use Ptec™ technology do not require calibration and only minimal maintenance.

Features

On the side panel of the IN3420 are two LEDs. The green LED indicates that power is applied to the Ptec™ HV transformers The red LED illuminates when an alarm condition occurs. An on-off switch and grounding point is also provided The back panel of the ionizer has a 24VDC power input connector.

Features cont'd.

- Complete point-of-use protection.
- Rapidly decays static charges. (1KV to 100V, < 2 sec. @ 6", typical).
- Excellent ion balance, 0 ±5V.
- Stable AC technology.
- Ionization indicator light.
- HV alarm (red) lights.
- No periodic adjustments.
- Durable, replaceable tungsten alloy emitter points.
- Up to 100 PSI output, adjustable.
- Optional output nozzle configurations.

Power Requirements

The Model IN3420 High Frequency AC ionizing air nozzle is powered by a DC switching power supply that operates from 100-240 VAC 50/60 Hz. The output of the supply is +24 VDC @ .5 AMP. Note: Ionizer must be grounded.

Operation and Use

Environmental Conditions

The IN3420 can be operated in areas where humidity is 20-70% RH (Non-condensing). Excess humidity may affect ionizer performance. The temperature range for the IN3420 is 65-78°F (18-25°C).

Set-up and Placement

Specifications

Power input	24 VDC, 12W
Power outlet	Un-fused, 0.5A or 1.0A max.
Ion Emission	AC, 68KHz
Balance	+/- 5 volts, typical offset
Decay Time	1000V - 100V < 2 seconds at 6"
Temperature	66-78°F (19-25°C)
Humidity	20-60% RH (non-condensing)
Airflow Requirements	Minimum of 2 SCFM
Indicators	Power: green LED Alarm: red LED
Controls	On/Off sliding switch
Emitter points	.036" dia. Tungsten alloy, etched
Ozone	<0.007 PPM
Mounting	Four (4) mounting holes
Dimensions	2.0"H x 7.1"W x 2.7"D, (5.0 x 2.9 x 8.7 cm) (with standard output nozzle)
Weight	2.8lbs, (1.27kg)（including stand)
AC/DC adapter	Input: 100-240 VAC 50.60 Hz 0.2A Output: + 24 VDC 1500 mA
Certifications	CE

5. Make certain the emitter points are straight and undamaged.
6. Replace the output nozzle.

Service

Ptec™ ionizers are reliable products with a long service life. If you feel your unit is not operating properly, turn off the unit and disconnect the power cord. Contact Transforming Technologies' Technical Support for repair assistance.

Troubleshooting

The information below provides a reference for problems that may arise with your IN3420 ionizing air nozzle. If you have other problems not covered below, please contact Transforming Technologies' Technical Support for repair assistance

Problem	Causes
• Balance outside specifications.	Emitter points are dirty, damaged or not straight. Clean or replace
• Alarm light activated	Low HV output, call for repair Unit is arcing, call for repair Short circuit, call for repair

Use the IN3420 ionizing air nozzle in immediate proximity to a static sensitive area or object. The unit can be mounted on process equipment or attached to a structure using the mounting holes provided.

Caution !	**Do not use this ionizer in an explosive environment! Corona ionizers produce a weak plasma that can cause ignition in explosive environments.**

Mounting

No equipment or tools are necessary, except for permanent mounting and air line.

Caution !	**The IN3420 operates only with clean dry air (CDA) or nitrogen (N2). Operator must provide clean and filterd incoming gas to remove moisture, oil and particles from the source supply.**

Power and Gas Connection

- Attach the IN3420 to the gas line using the appropriate tubing. The IN3420 comes with a 1/4" quick release connector. Adjust pressure as required.

Caution !	**The IN3420 is not designed to withstand high air pressure. The product should be installed with shutoff valve upstream. The output side of the nozzle should always be at atmospheric preseure.**

- Connect the 24DC power transformer to the unit, and plug it in an AC socket.
- Make certain the unit is grounded.

- Turn the unit on to start the corona process. The ionizer creates a continuous stream of positive and negative air ions. The ionized airflow is directed through the nozzle. Charged objects in the ionization area are rapidly neutralized . A green light will illuminate to signal the IN3420 is operating.

Caution !	**The only serviceable parts inside the ionizer are the replaceable emitter points. Any unauthorized service will void the warranty and may result in additional repair fees.**

- The red alarm indicator light illuminates in the event of a problem with the high voltage power output.
- Turn the power switch off after operation.

Maintenance

Periodic Maintenance

The only regular maintenance required for the IN3420 is the periodic cleaning of the emitter point. Emitter point cleaning affects the static decay ability of the ionizer and is important for maintaining its optimal performance.

Cleaning the emitter points

Contaminants will gradually accumulate on the tip of the emitter points with continuous use. Periodic cleaning of the emitter points is necessary to maintain the performance of the ionizer. If the emitter points are dirty, clean them with a polyester or cotton swab and IPA. Do not damage or loosen the emitter points.

Follow these instructions to clean the emitter points:

1. Remove the output nozzle (threaded).
2. Moisten a swab in the IPA solution.
3. Swab or wipe the emitter point until it is free of particles.
4. Make certain the emitter point is straight and undamaged.
5. Replace the output nozzle.
6. Make sure the emitter points are dry before powering the ionizer again.

Emitter Point Replacement

The IN3420 uses tungsten alloy precision etched emitter needles. Contact Transforming Technologies for information about ordering replacement emitters. The part number for emitters is listed below:

Replacement part	Part Number
IN3420 tungsten replacement emitters	22-3423

Because the IN3420 high voltage output is AC, emitter erosion from the ionization process on the electrodes is minimal. Unless physically broken or stressed, the IN3420 emitters should last the life of the ionizer.

Follow these instructions to remove the emitter points:

1. Turn off and disconnect the unit from the AC power.
2. Remove the output nozzle.
3. Unscrew the threaded emitter point using a needle nose pliers.
4. Replace and tighten the new emitter using the same tool. Do not over-tighten.