



TRANSFORMING TECHNOLOGIES, LLC  
OUTSTANDING ALTERNATIVES IN STATIC CONTROL

# *Ptec™* Static Eliminators

## Ionizing Air Gun



## Instruction Manual

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# Description

## Ionizing Air Gun Model IN6430

The Model IN6430 68KHz AC ionizing air gun effectively removes particle contamination, even on static sensitive components. The IN6430 easily connects to a compressed air source and is compact and lightweight. 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. The controller connects to a clean dry air or nitrogen source and an integrated disposable filter collects particles. The gun and air hose are lightweight and easy to use.

## 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 IN6430 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 gun of the IN6430 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 is provided on the controller as well as a 100—240vac IEC input.

## Features cont'd.

- Complete point-of-use protection.
- Rapidly decays static charges. ( $\pm 1000V$  to  $100V$ ,  $< 2$  sec. @ 6", typical).
- Excellent ion balance,  $0 \pm 30V$ .
- Stable AC technology.
- Ionization indicator light.
- HV alarm (red) lights.
- No periodic adjustments.
- Durable, replaceable tungsten alloy emitter points.
- Up to 75 PSI output, adjustable.
- Optional filter.

## Power Requirements

The Model IN6430 High Frequency AC ionizing air nozzle is internally powered by a DC switching power supply that operates from 100-240 VAC 50/60 Hz IEC input. The output of the supply is +24 VDC @ .5 AMP. Note: Ionizer must be grounded.

## Operation and Use

### Environmental Conditions

The IN6430 can be operated in areas where humidity is 20-70% RH (Non-condensing). Excess humidity may affect ionizer performance. The temperature range for the IN6430 is 65-78°F (18-25°C).

### Set-up and Placement

Choose a location convenient to the work area and the air supply. Determine if you will use the product with or without an internal filter and attach the appropriate connector to the hose assembly.

# Mounting

No equipment or tools are necessary, except for permanent mounting and air line. A permanent mounting bracket, with screws for the controller, is included. See mounting instructions.

<b>Caution</b> !	<b>Do not use this ionizer in an explosive environment! Corona ionizers produce a weak plasma that can cause ignition in explosive environments.</b>
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# Power and Gas Connection

- Attach the IN6430 gun assembly to the controller. After mounting the controller, attach the gas line. The IN6430 comes with a 1/4" interchange connector and alternative 1/4" quick release connector. Adjust operating pressure as required to maximum 75 psi.

<b>Caution</b> !	<b>The IN6430 operates only with clean dry air (CDA) or nitrogen (N2). Operator must provide clean and filtered incoming gas to adequately remove moisture, oil and particles from the source supply.</b>
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- Connect the IEC power cord to the controller and plug it in an AC socket.

<b>Caution</b> !	<b>The IN6430 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 pressure.</b>
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- Make certain the outlet is grounded.
- Turn the unit on and depress the trigger to start the airflow and the corona process. The ionizer creates a

continuous stream of positive and negative air ions when activated.

- The ionized airflow is directed through the nozzle tip which feature OSHA relief holes. Charged objects in the ionization area are rapidly neutralized .
- A green light will illuminates to signal the IN6430 is operating.

<b>Caution</b> 	<b>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.</b>
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- The red alarm indicator light illuminates in the event of a problem with the high voltage power output.
- Turn the power switch off when not in use for extended periods.

## Maintenance

### Periodic Maintenance

The only regular maintenance required for the IN6430 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, depending in part, on frequency of 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 point:**

1. Turn off power and unplug ionizer.
2. Remove the output nozzle tip and ceramic insulator.
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 tip and insulator.
6. Make sure the emitter points are dry before powering the ionizer again.

## Emitter Point Replacement

The IN6430 uses tungsten alloy precision etched emitter needles. Contact Transforming Technologies for information about ordering replacement emitters. The part number for emitters is listed below:

<u>Replacement part</u>	<u>Part Number</u>
IN6430 tungsten replacement emitters	22-6433

Because the IN6430 high voltage output is AC, emitter erosion from the ionization process on the electrodes is minimal. Unless physically broken or stressed, the IN6430 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.

5. Make certain the emitter point is straight and undamaged.
6. Replace the output nozzle.

## Assembling the Ionizing Gun

1. Determine if you will use the optional integrated filter (FL0030). Screw the FA100 bypass into the gun/hose assembly, if not using the filter. Screw the FL0030 and then the FA200 filter adapter into the gun/hose assembly, if using the filter option.
2. Remove the filter cover from the controller.
3. Connect the gun/hose assembly to the controller. The FA100 or FA200 must connect securely to the air coupling inside the controller.
4. Connect the controller to the air supply using interchange connector or quick release connector.

## 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 IN6430 ionizing air nozzle. If you have other problems not covered below, please contact Transforming Technologies' Technical Support for repair assistance.



## **Problem**

- Balance outside specifications.
- Alarm light activated

## **Causes**

Emitter points are dirty, damaged or not straight. Clean or replace  
Low HV output, call for repair

# Specifications

Power Input	AC 100V~240V, 50/60Hz
Power Outlet	un-fused, 0.5A or 1.0A max.
I on Emission	AC, 68KHz
Balance	$\pm 30$ volts
Decay Time	1000V—100V, < 2 seconds @ <b>12"</b>
Temperature	66-78°F (19-25°C)
Humidity	20-60% RH (non-condensing)
Air Pressure	20—75 PSI, CDA or N2
Indicators	Power: Green LED, Alarm: Red
Controls	On/off switch
Mounting	Mounting holes on controller
Emitter Points	Tungsten Alloy
Dimensions	
Hand Unit	8.5"H x 4"W x 1"D, (21.6 x 10.2 x 2.5 cm)
Console	3.5"H x 6.25"W x 1.5"D, (8.9 x 15.8 x 3.8 cm)
Filter Option	.01 micron filter (replaceable)* <small>*Note: Unit also may be operated without filter.</small>
Weight	
Hand Unit	<b>12 oz. (.341 kg) with 9.5' air hose</b>
Console	1 lb. (.45 kg)
Gas Input & Connection	20—75 psi, CDA or N <sub>2</sub> , <b>1/4" male industrial interchange quick disconnect or 1/4" quick release tube fitting</b>
Warranty	1-year limited warranty

# Assembly

**1. Overview:** The IN6430 can be used with or without a filter attachment. The product comes standard without the filter assembly and uses the filter bypass unit (FA100) to connect the gun to the console. The filter (FL0030) and filter assembly (FA200) are used together when the filter is required and is purchased separately.



Figure 1. Gun with FA100 (no filter)



Figure 2. Gun with FA200 and FL0030

## 2. Standard Operation (no filter):

Insert one end of the filter bypass (FA100) with rubber washer into hose assembly and twist clockwise. Twist clockwise until tight. Assembled hose should look like figure 3.

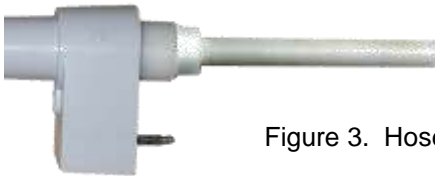


Figure 3. Hose with FA100 (no filter)

**3. Filter Assembly:** To attach filter, insert one end of the filter with rubber washer into hose assembly and twist clockwise. Place the Filter Assembly (FA200) with rubber washer on remaining end of filter and twist clockwise until tight. Assembled hose should look like figure 5.

## Assembly Cont.

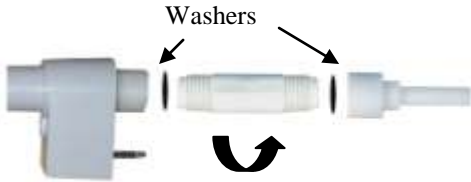


Figure 4. Filter Assembly



Figure 5. Filter Assembly Finished

### 5. Connect gun hose to base console.

Insert hose until the filter bypass unit (FA100) or the filter assembly (FA200) locks into finger release button ( Figure 5.).



Finger Release

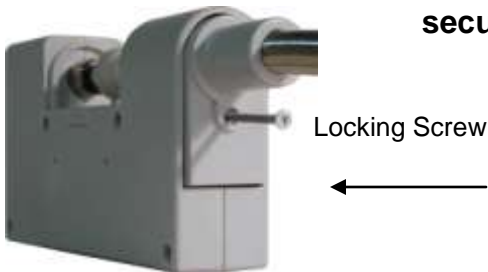


Figure 6. Finger Release Button



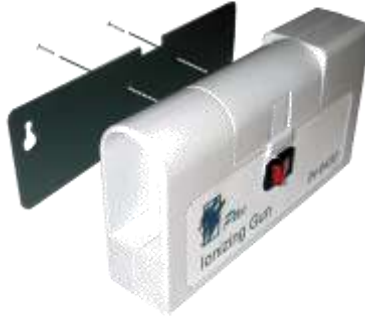
Figure 7. Assembled Gun

### 6. Use locking screw to firmly secure hose to base console.



# Mounting

**7. Mounting the gun:** A mounting back plate and 2 screws are included with the IN6430 . Mount to the IN6430 as pictured. Then mount the back plate to the desired location.



**8. Air attachment:** Use Teflon tape with all pressurized connections. Both finger quick release and industrial interchange connectors are provided.



Converter (included)  
1/8 BSPT to 1/8 NPT Thread

Gun on the left with out Converter. Gun on the right with Converter

# Air Inlet Options

## Option 1



Finger Quick Release  
(Included) 1/4 inlet, 1/8 NPT Thread Size

## Option 2



Industrial Interchange  
(Included) 1/4 inlet, 1/8 NPT Thread



Gun with converter and quick release attachments

# **Service and Warranty**

Transforming Technologies, LLC provides a limited warranty for the Model IN6430 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.

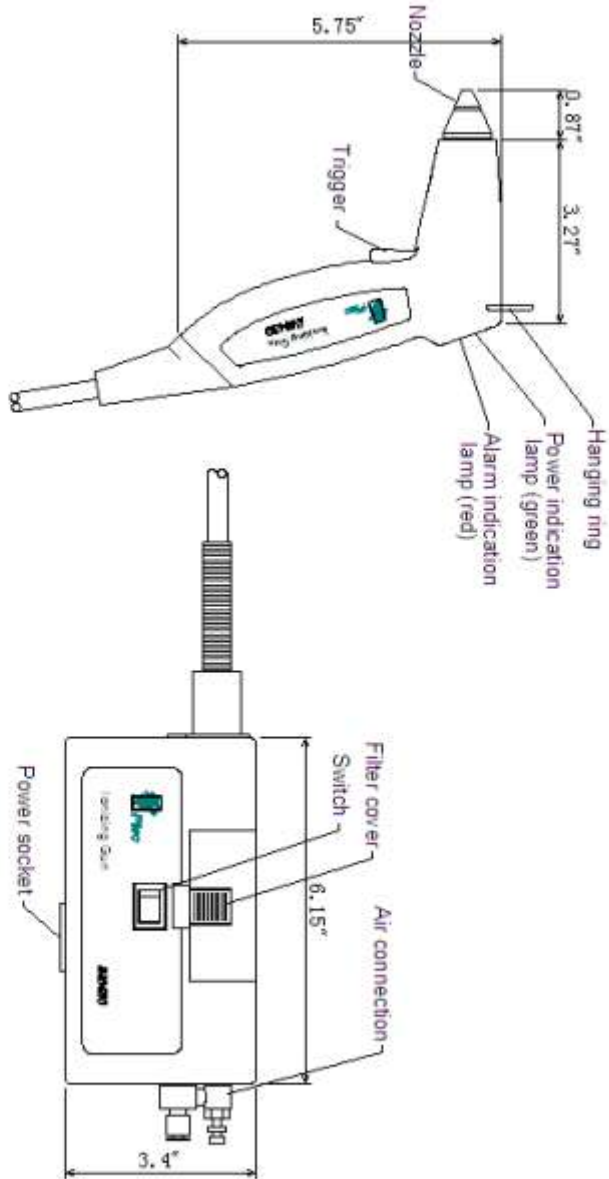
To receive service under warranty, please contact Transforming Technologies Technical Support.

## **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.

# IN6430 Line Drawing



## TRANSFORMING TECHNOLOGIES, LLC



3719 King Rd.

Toledo, Ohio 43617

Phone: 419-841-9552

Fax: 419-841-3241

E-mail: [info@transforming-technologies.com](mailto:info@transforming-technologies.com)