



TRANSFORMING TECHNOLOGIES, LLC
OUTSTANDING ALTERNATIVES IN STATIC CONTROL

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BFM™

Static Eliminators

Point-of-Use Ionizing Air Nozzle

Model BFN-HFN9



Instruction Manual

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Service and Warranty

Transforming Technologies, LLC provides a limited warranty for the Model BFN HFN9 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

Model BFN-HFN9 Ionizing Air Nozzle

The BFN-HFN9 AC ionizing air nozzle is a flexibly designed point-of-use solution for a wide range of static problems. The BFN-HFN9 air ionizing nozzle combines exceptionally fast static decay capability with excellent balance stability and can be mounted almost anywhere. The ionizing unit is self-contained and operates using compressed air or nitrogen. The BFN-HFN9 uses a specialized piezo-ceramic transformer that's very dependable.

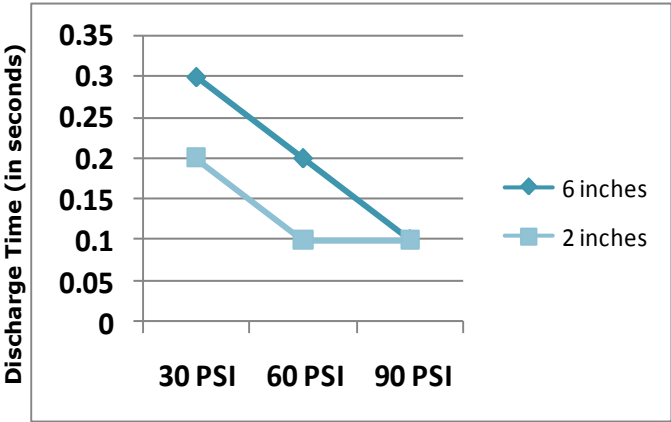
Made of rugged steel and painted with a chip resistant, powder coat process, the BFN-HFN9 is small, but perfect for industrial applications. Power and alarm lights further assure optimal performance. Easy to mount, this product is very useful when space is limited.

Features

- High Frequency AC: ± 30 volt balance;
- Rugged metal housing
- Quick release air and power cables
- Long lasting tungsten alloy ion pin
- Output alarm illuminates to alert high voltage failure
- Optional 0.01 micron in-line air filter that maximizes cleaning potential

Specifications Cont.

- Replaceable Filter:* 0.01 micron
- Noise Level:* 70 dB at 30 PSI (2 bar)
85 dB at 60 PSI (4 bar)
90 dB at 84 PSI (6 bar)
- Measured 24" (600 mm) from nozzle.*
- Operating Temperature:* 32°F (0°C) to 122°F (50°C)
- Construction:* Steel with powder coat paint
- Tubing:* Polyurethane tubing is recommended
- Size:* 1.25" W x 1.75" H x 4.45" D
(32W x 45H x 113D (mm))
- Weight:* 9.2 ounces (260 g)



Offset voltage and discharge time per ESDA standard S3.1-2006 using a charged plate monitor with a 20pF, 6" x 6" plate. Typical results. 1000 to 100 volts.

Set -Up

Power Requirements

The Model BFN-HFN9 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.

Safety

- Do not operate BFN-HFN9 in flammable or explosive environments.
- Keep free from high humidity, caustic or wet conditions.
- The BFN-HFN9 operates only with clean dry air (CDA) or nitrogen (N2).
- Disconnect the BFN-HFN9 from all power sources before performing any cleaning or maintenance.
- Do not open or attempt to repair any BFN series product.
- The BFN-HFN9 is not designed to withstand air pressure over 0.6Mpa

Mounting

No equipment or tools are necessary, except for permanent mounting and air line. For permanent mounting, securely fasten the unit to stable work surface with a bolt.

Specifications

System Performance

Discharge Time: 1.0 Seconds at 6" and 30 psi (1000V to 100V)
0.5 Seconds at 2" and 60 psi (1000V to 100V)

Specifications

Unit Part Number: BFN-HFN9
Power Input: AC 100V~240V, 50/60Hz
Power Outlet: un-fused, 0.5A or 1.0A max.

Ion Emission: AC, 68KHz
Balance: \pm 30v
Line Current (at rest): 0.01 Amps
Emitter Point: Tungsten Alloy

Line Current (operation): 0.10 Amps

Air Inlet: 1/4" quick release (female)

Input Pressure: 84 PSI (6 bar) maximum, clean dry air or nitrogen

Air Consumption: 2.4 SCFM at 30 PSI (68 l/min. at 2 bar)
4.6 SCFM at 60 PSI (130 l/min. at 4 bar)
6.3 SCFM at 84 PSI (180 l/min. at 6 bar)

Output Pressure: Pressure relief in nozzle, complies with OSHA requirements.

Troubleshooting

The information below provides a reference for problems that may arise with your BFN-HFN9 ionizing air nozzle. If you have other problems not covered below, please contact Transforming Technologies' Technical Support for repair assistance.

Problem	Causes
<ul style="list-style-type: none">• Balance outside specification	<ul style="list-style-type: none">• Emitter points are dirty, damaged or not straight. Clean or replace
<ul style="list-style-type: none">• Alarm light activated	<ul style="list-style-type: none">• Low HV output, call for repair. Unit is arcing, call for repair. Short circuit, call for repair

Mounting Cont.

The mounted unit must be within the 100mm-800mm of the area to be protected to maximize nozzle efficiency.

Power and Gas Connection

- Attach the BFN-HFN9 to the gas line using the appropriate tubing. The BFN-HFN9 comes with a 1/4" quick release connector. Adjust pressure as required.
- Connect the 24DC power transformer to the unit, and plug it in an AC socket.
- Make certain the unit is grounded.

Operation

- Turn the unit on to start ionization 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 BFN-HFN9 is operating.
- 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

Optional Filter

The BFN-HFN9 nozzle can be equipped with an optional .01 μ micron filter, Model FM0020 from Transforming Technologies. The FM0020 micro filter features a hollow fiber membrane that provides excellent filtration and has a long service life. The compact design is easy to install and comes with quick release connections for fast replacement. All materials used are compatible for the most stringent applications.

Filter Connection:

- To connect filter, insert gas source tubing into one end of filter.
- Cut approximately 1.5–2" of air tubing and insert into opposite end of filter.
- Attach cut tubing into nozzle with the 1/4" quick release connector.



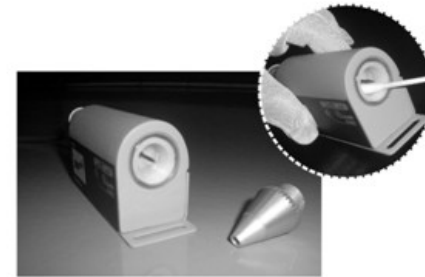
FM0020 filter
with air tubing



BFN-HFN9 with
FM0020 filter

Cleaning

Periodically it is recommended to clean the internal ion pin. Disconnect power and air cords before performing any cleaning. Unscrew the metal nozzle head clockwise and remove. Clean the ion pin and inside of nozzle with alcohol and Q-tip. You must wait until nozzle is fully dry before using to protect user and prevent damage to nozzle. Suggested cleaning is once per week or in accordance with working conditions.



BFN-HFN9 cleaning

Periodic Verification

BFN ionizer have no user serviceable parts and the technology requires no calibration because of the inherently stable ionization output from the AC emission. Periodic verification is recommended, per ANSI/ESD SP3.3-2006 Periodic Verification of Air Ionizers. Verification frequency may be set by the individual user, but is recommended to be not less than one time per year.