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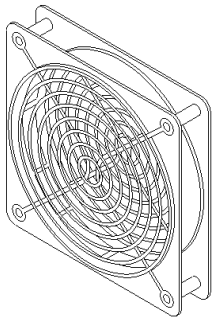
Instruction Manual
for
P-2063 Nuclecel™ Ionizer & Accessories



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1.0 Introduction

Since 1969, NRD has produced ionizing radioactive sources that are used in static control, smoke detectors, physics research, space exploration, and instrumentation. NRD is the world's largest and one of the oldest suppliers of radioactive metallic foils. Specially designed equipment and facilities enable us to produce a sealed source device that is safe and is highly effective in eliminating static.

1.1 Our Thanks

Thank you for choosing NRD for your static control needs. You have chosen a highly effective static eliminator device that is reliable, requires no calibration, and is safe. Please review the information in this manual to maximize the benefit of NRD's In-Line Ionizers.

1.2 Other NRD Products

NRD offers static eliminator devices and accessories to eliminate or control electrostatic charges. The many product configurations we offer will fit a wide field of applications. Just call us with your application and we can provide a solution.

The electronics industry uses air ionizers to reduce product damage and loss. Application of ionizers in the printing, converting and graphics industries allow in-process cleaning of product and faster process speeds. Higher productivity, better quality, and enhanced reliability help make your company a success.

Here is the range of products we offer:

- **Nuclestat® Bars** offered in lengths of 4" to 142".
- **Nuclecel™ In-Line Ionizers** for parts blow-off and surface preparations.
- **Nuclespot™** Ionizer provides focused concentration of ions to the product.
- Tabletop **Blowers** for electronic assembly.

Detailed data sheets and informational notes are available upon request. Consult the main catalog for listing.

1.3 Customer Support

Toll Free Number	1-800-525-8076	8:00 AM – 5:00 PM Eastern Time (M-F)
General Listing	1-716-773-7634	
Fax Number	1-716-773-7744	

2.0 Important Information

All radioactive devices using Polonium-210 are leased for one (1) year. It is important to keep track of these units so that they can be returned to NRD for proper disposal. If the device is misplaced, please call NRD for information on how to report the lost device.

2.1 Safety of NRD Ionizers

The radioactive material (Polonium-210) is 100% encapsulated using a pressure welded metallurgy technique. The result is an encapsulation that is insoluble and inert to most chemicals. Vibration and impact normal to industrial applications will not adversely affect product integrity.

The alpha particles come from the natural decay of the radioactive source and collide with air molecules to create ions. However, alpha particles are unable to penetrate a thin piece of paper or human skin! Complete safety is ensured when the ionizers are used in accordance with normal mounting and operating conditions. Normal use and conditions of the ionizer include:

- Temperature not to exceed 212° F (100° C).
- Use air, nitrogen or an inert gas.
- You can safely handle the outside of cell. Do not insert any object or attempt to clean the inside of the cell.
- Mount the ion cell in a normal way by using the mounting posts of the ion cell. Do not alter the ionizer in any way, i.e. drilling holes. Contact us for mounting options.

Review the enclosed **Safety Brochure** for a more detailed description of how the ionizers work, where they are typically used, and the general safety of NRD ionizers.

2.2 Lease Agreement

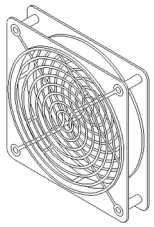
All ionizers containing Polonium-210 are leased, not purchased. The devices are leased for two main reasons: 1.) Federal Regulations state that the device must be tested for radiation leakage prior to shipping and before 13 months from the date of manufacture. NRD performs these leak tests and provides you with a Leak Test Certificate as documentation. 2.) The activity of the ion cell decreases over time. At the end of 12 months, the cell needs to be replaced (or renewed) in order to maintain its effectiveness.

NRD will notify you when it is time to renew the device. To renew the lease when the device reaches its 12 month expiration (the manufactured date is printed on the label of device), simply provide us with a new purchase order to make the original lease valid for another 12 months. Upon delivery of the renewed device, remove the old cell from service and ship it back in accordance with the **Return Shipping Instructions**.

2.3 Return of Expired Devices

Expired P-2063 Ionizer (12 months or older) can be returned to NRD for proper disposal according to "Return Shipping Instructions" on page 6 of this manual. A Return Authorization (RA) is not required prior to sending a device back for disposal.

3.0 P-2063 Nuclecel™ Ionizer



The P-2063 Nuclecel™ Ionizer is used to neutralize static electrical charges in static sensitive operations. The Ionizer is normally placed in an atmospheric pressure air stream so that the airflow delivers ions generated by the Ionizer to the work area. Charged parts that are placed in close proximity to the ion cell can also be effectively neutralized without the need of air movement.

3.1 Installation & Operation

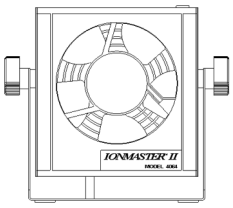
A. One common method to install the P-2063 Nuclecel™ Ionizer is by using spring clips that will snap on to the posts of the Ionizer. The spring clips can be attached to a mounting base. There are other methods to mounting the cell, but cannot involve modifying the Ionizer.

Do not alter the P-2063 Nuclecel™ in any way that may compromise the integrity of the source. Do not drill holes, grind or file, tap holes, etc. to the P-2063 Nuclecel™.

B. Supply air movement through the ionizer to move the ions to the charged part. A blower, fan, or compressed air/nitrogen can be used. For parts that can be placed in close proximity (1") from the grill openings, air movement may not be needed to effectively neutralize the charged part.

4.0 Accessories

4.1 Model 4064 Ionmaster™ II Fan



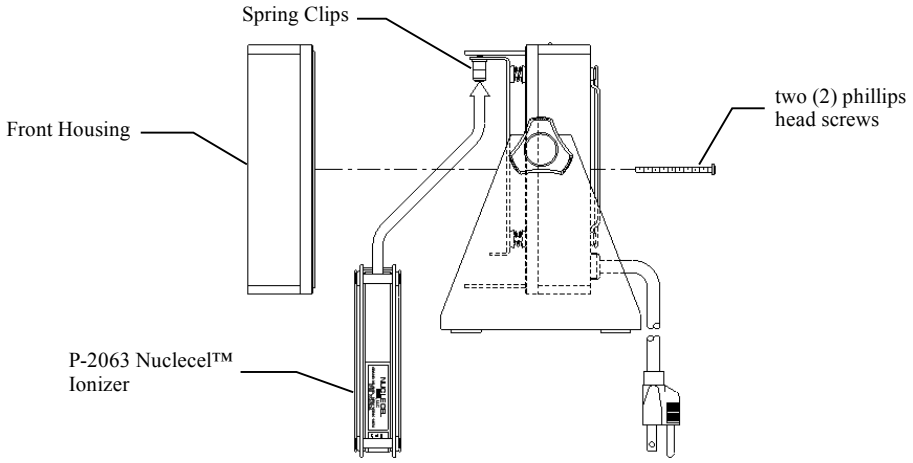
The Model 4064 Ionmaster™ II Fan is used to create airflow through the Ionizer (model P-2063 Nuclecel™). This system delivers a high volume of ionized air to reduce charge on parts. The Fan is mounted on a swivel base and can be placed on a flat surface or bolted to a rigid surface.

Procedure to install a new P-2063 Nuclecel™ Ionizer:

A. **Unplug the power cord before opening the fan assembly.** Remove the two (2) phillips head screws located on the backside of the fan.

B. Remove the front housing of the fan.

C. See the below diagram showing the installation of the P-2063 Nuclecel™ Ionizer. Snap in the Ionizer by aligning the Ionizer posts with the spring clips. The orientation of the Ionizer does not matter since it is symmetrically designed.



D. Re-assemble the front blower housing and tighten the two phillips head screws. Tightening the screws will secure the ion cell inside the fan assembly.

E. Position the Fan Assembly to direct air where it is needed. The airflow is directed up and down by loosening (counterclockwise) the two black knobs, repositioning, and re-tightening the knobs to secure fan position.

F. Plug the power cord into a 120 VAC grounded outlet. Turn on the power switch located on the top panel.

Maintenance

- The only maintenance required is the annual replacement of the Ionizer to ensure maximum effectiveness of the ionizer. It is required to return the expired device to NRD for proper disposal.
- Calibration is not required.

5.0 Trouble Shooting Guide

Symptom	Probable Cause	Corrective Action
1. Static charges are not eliminated	Ion cell may be out of date and need replacement.	Call NRD for Ion Cell replacement.
	Possible oil contamination of ion cell.	Return cell to NRD for evaluation. Do not attempt to clean the device.
	Ions generated are being recombined before they reach the charged surface.	Position the fan closer to the charged part.
2. Fan does not turn on	No power.	Check outlet and breakers.
	Blown fuse internal to fan.	Check for visible damage to power cord. Return fan to NRD for evaluation.