



# OPERATING INSTRUCTION MANUAL

## BFN-702<sup>+</sup>NET (DC TYPE IONIZER)

### PRODUCT INTRODUCTION

Air ionizers are widely used by manufacturing industries today. The air ionizers' concept is to add very nearly equal numbers of positive and negative ions to the air enable to increase the electrical conductivity of the air. It neutralized the static charge on insulated and isolated objects by producing a balanced source of positively and negatively charged ions.

BFN-702<sup>+</sup>NET OVERHEAD DC Ionizing Blower have outstanding Ion-eliminating performance; it is your ideal device to prevent static pollution and damage in the ESD area for electronic production lines and maintenance platforms.



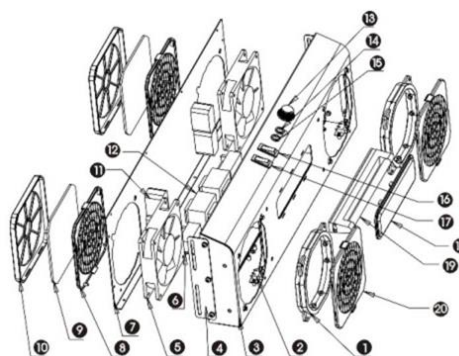
#### Notes:

Please read the user guide carefully before operation. All BFN static eliminate series cannot be used under flammable and explosive environment. Don't used temporary common socket as power, all BFN ionizing blower series must be used with the power socket which has a standard power cable, and do not use the socket that has no grounding.

### SPECIFICATION

<b>Power Supply</b>	AC110 (±15%)/60Hz AC220 (±15%)/50Hz	<b>Working Condition</b>	Temperature: 0°C – 50°C Humidity: 20% – 85%
<b>Working Current</b>	0.1A (Max Fan Speed)	<b>Working Distance</b>	300mm – 1200mm
<b>Dimension (mm)</b>	W555 x H85 x D180	<b>Decay Time</b>	≤ 2.0 sec @ 300mm
<b>Material</b>	Aluminium Plates	<b>Ion Balance</b>	≤ ± 5V
<b>Weight</b>	3.0kg	<b>Air Output</b>	160 CFM

### STRUCTURE



No	Description	No	Description	No	Description	No	Description
1	Ion Rack	6	Control Board	11	High Voltage Bag	16	Power Switch
2	Jiggle Switch	7	Back Cover	12	Transformer	17	Lighting Switch
3	Crust of Blower	8	Plastic Panel	13	Speed Knob	18	Lamp Cover
4	Swinging Ring	9	Dust Proof Netting	14	Power Lamp	19	Lighting Lamp
5	Fan / Blower	10	Netting Cover	15	Ion Lamp	20	Front Cover

## **PACKING LIST**

- BFN-702<sup>+</sup> NET Overhead Ionizer
- Warranty Card
- Power Cable
- User Manual
- Calibration Certificate
- RS232-RS485 Converter (Optional)
- SALM-NSA (Optional)
- SALM-NS4 (Optional)

## **SAFETY**

BFN-702<sup>+</sup> NET is reliable and has safe circuit design, excellent grounding distribution, has a micro-switch installed at the position of detachable covers to prevent accident by automatic power cut-off when covers fall-off.

- Do not operate the ionizer in flammable and explosive environment
- Do not insert object into the air outlet
- Make sure it is grounded well before using
- Make sure power is cut-off before conducting cleaning and maintenance. Make sure the ionizer is completely dry (include the metal crust) before using after cleaned by alcohol or other preparations.
- Do not disassemble or repair the ionizer by yourself.

## **FEATURES**

- Network function
- Automatic alarm function  
The ionizer LED indicator will be green (no alarm sound), if the ionizer works properly.  
LED indicator turns red (positive) or orange (negative) with audible alarm sound (Right fan sounds 1 time, left fan sounds 2 times), if the balance voltage is higher or lower than the set value.
- Thin, light, convenient and practical
- With large ion output that can eliminate static voltage quickly
- Adjustable air speed of the fans, and with an ion lamp
- Detachable front and back cover for easy and convenient cleaning and maintenance
- With safety toggle switch for security protection

## **INSTALLATION AND APPLICATION**

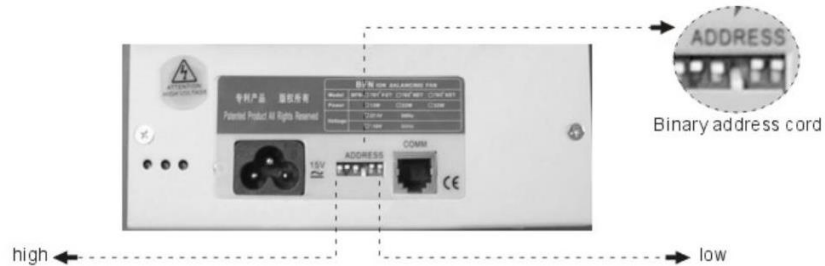
Put BFN-702<sup>+</sup> NET on table or fix the bracket by M6 bolts on proper plane, make sure of the effective distance is between 300mm – 1200mm, make sure air covers all protection area by adjusting the angles. The air should blow to the controlled area and not directly pointed to human body.

Decay time is related to the strength of air flow provided by the ionizer, the farther the ionizer the longer the decay time. We strongly advise user to keep the BFN-702<sup>+</sup> NET at a distance between 300mm to 1000mm for better ionization effect.

## **OPERATION GUIDE**

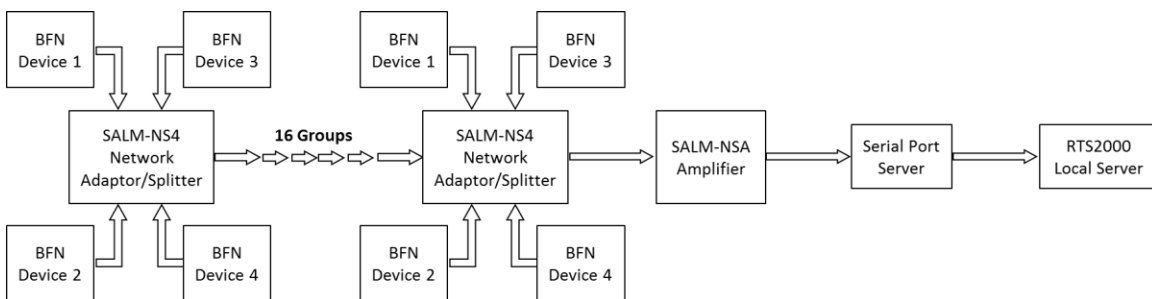
- Please set the address number first (DIP Switch) prior to usage  
Each BFN-702<sup>+</sup> NET ionizer needs to be settled one unique address code before connected. Address code cannot be repeated. Check below DIP switch address code for reference. Dip switch starts from the right (Low value) side to the left side (High value). UP means “0”, DOWN means “1”; 6 bits binary code can define 64 addresses (0-63). Photo below shows “000100” as binary code, thus address code is “04”.
- No need to set address code if ionizer will not be connected to online system (RTS2000).

DIP Switch Binary Coding	Decimal Conversion	DIP Switch Binary Coding	Decimal Conversion	DIP Switch Binary Coding	Decimal Conversion	DIP Switch Binary Coding	Decimal Conversion	DIP Switch Binary Coding	Decimal Conversion	DIP Switch Binary Coding	Decimal Conversion
000000	1	000001	2	000010	3	000011	4	000100	5	000101	6
000110	7	000111	8	001000	9	001001	10	001010	11	001011	12
001100	13	001101	14	001110	15	001111	16	010000	17	010001	18
010010	19	010011	20	010100	21	010101	22	010110	23	010111	24
011000	25	011001	26	011010	27	011011	28	011100	29	011101	30
011110	31	011111	32	100000	33	100001	34	100010	35	100011	36
100100	37	100101	38	100110	39	100111	40	101000	41	101001	42
101010	43	101011	44	101100	45	101101	46	101110	47	101111	48
110000	49	110001	50	110010	51	110011	52	110100	53	110101	54
110110	55	110111	56	111000	57	111001	58	111010	59	111011	60
111100	61	111101	62	111110	63	111111	64				



## ONLINE SYSTEM

- Install and fixed the BFN-702<sup>+</sup> NET well, check the power cable and turn on the power switch.
- When the balance voltage is under standard, the LED indicator is green.
- When the balance voltage is above or higher in positive charge, the LED indicator is red and audible alarm will be heard.
- When the balance voltage is above or higher in negative charge, the LED indicator is orange and audible alarm will be heard.
- At the beginning, the air speed is in maximum because of full pressure start. User can adjust the fan speed according to the practical situation.



**Attention:** Do not insert objects into air inlet, and make sure ionizer is grounded well before using.

- For real time online monitoring system, please do read ESD.RTS software instruction and system interface for details.

## REGULAR MAINTENANCE

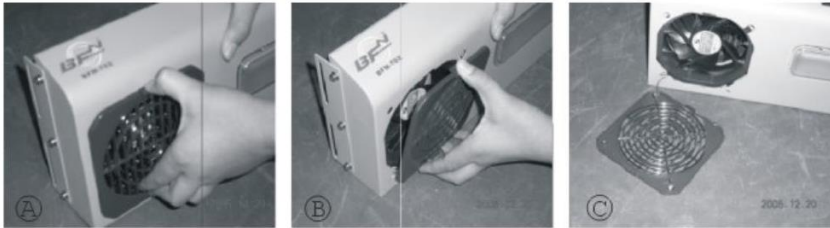
Cleaning and checking periodically (using CPM) to make sure BFN-702<sup>+</sup>NET is working properly.

### ■ Cleaning

BFN blower series do not release dusts themselves; they can completely measure up the different requirements of cleanroom environment. But it is necessary to clean blowers to ensure it can work normally due to the particles and dust floating around which may pollute the blowers.

The unique design makes the cleaning easy and convenient for inner parts.

#### 1. Take off the front cover



A. Press the button on the top front cover downward and separate it from the metal crust.

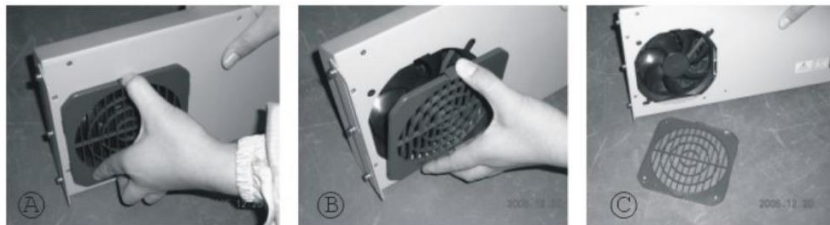
B. Pull the front cover upwards lightly, make it separate from the metal crust completely.

**! Attention:** There are orientating forelock and corresponding apertures between the front cover and metal crust body, please be careful in pulling out the front cover.

C. Make the front cover completely separates from the BFN-702<sup>+</sup>NET

**! Attention:** There is a flexible cord which connects the metal induction netting of the front cover with the ionizer's inner crust, please do not break it.

#### 2. Take off the back cover



A. Press the button on the top back cover downward and separate it from the metal crust.

B. Pull the back cover upwards lightly, make it separate from the metal crust completely.

**! Attention:** There are orientating forelock and corresponding apertures between back cover and metal crust body, please be careful in pulling out the back cover.

C. Make the back cover completely separates from the BFN-702<sup>+</sup>NET

#### 3. Now you can use soft brush and compressed air to clean, or use tampons/cotton swabs with 35% industrial alcohol. You can clean according to the periodic checking data or at practical situation.

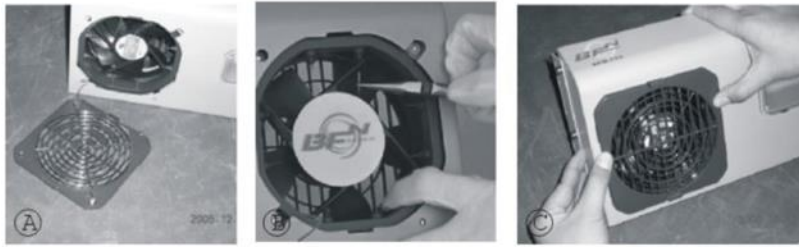
**! Attention:** Make sure that power is cut off before cleaning and maintenance. Make sure that the ionizer is completely dry before using to avoid any damage to the product and to the user as well. Please be careful when disassembling the ionizer.

#### 4. Install the front and back cover after cleaning.

**! Attention:** To avoid damage, please be careful when installing the covers. There are pressed blocks protecting safety loop under the covers which pushes the jiggle switch. The ionizer will not work properly if jiggle switch is not pressed by the block pin.

#### ■ Ion Pin Replacement

It is quite easy to replace ion pin needle of BFN-7 blower series due to its unique insert-extract ion needle design.



- A. Take off the front cover.
- B. Extracxt the ion-needle by sharp tip tweezers, and insert a new ion pin.
- C. Install the fron cover according to the procedure.

#### **CALIBRATION**

BFN-702<sup>+</sup> NET have stable performance, but the parameters may change according to the affection of voltage, operating temperature, and humidity.

Users can test ion balance or offset voltage and static decay time by portable ionizer testing device such as Charged Plate System (CPS) at the working area. Periodic checking is requested.

User is requested to calibrate the CPS equipment that used to verify the performance of the ionizer at least one time a year.

Operating manual is only for BFN-702<sup>+</sup> NET users. It includes the tester's components, operation and some concerning information, some upgrading property with continuing stability, slightly difference will be allowed with operation and manual.



#### Suppliers Information

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