



AeroBar[®] MP

Model 5625

Manual

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Important Safety Information

Carefully read the following safety information before installing or operating the equipment. Failure to follow these safety warnings could result in damage to your ionization system and/or voiding the product warranty.

- To avoid ionizer degradation, keep grounded objects away from the emitter nozzles and a directed flow of ions.
- To avoid injury to self or the product, make sure all mounting clips and brackets are connected to a low-impedance earth ground.
- Never power-down an AeroBar MP by removing the RJ-45 cable. This may result in damage to the ionizer.
- Do not clean emitter points while the unit is powered. Doing so may result in additional contamination and possible shock.
- To avoid personal injury or damage to the equipment, perform only the maintenance described in this manual.

1

Description

- 1.1 Overview
- 1.2 AeroBar Identification
- 1.3 Nozzle Configurations
- 1.4 Power Requirements

1.1 Overview

The AeroBar MP Model 5625 is a modulated pulse ionizer that eliminates static charge on larger-sized glass panels in the flat panel display industry, as well as other large surfaces or areas needing protection from static charge. The AeroBar MP utilizes patent-pending combinations of alternating emitter nozzles to deliver an efficient stream of ionization to the target.

The AeroBar MP has the following unique features:

- Patent-pending, industry-original modulated pulse technology (MP) and high efficiency ion emitters
- Low swing voltage
- Long maintenance cycles
- Cost savings in gas or air
- Self-contained, established algorithms in the onboard microprocessor with a range of performance settings including frequency, voltage levels, and balance

This manual covers the installation, operation, and maintenance of the AeroBar MP.

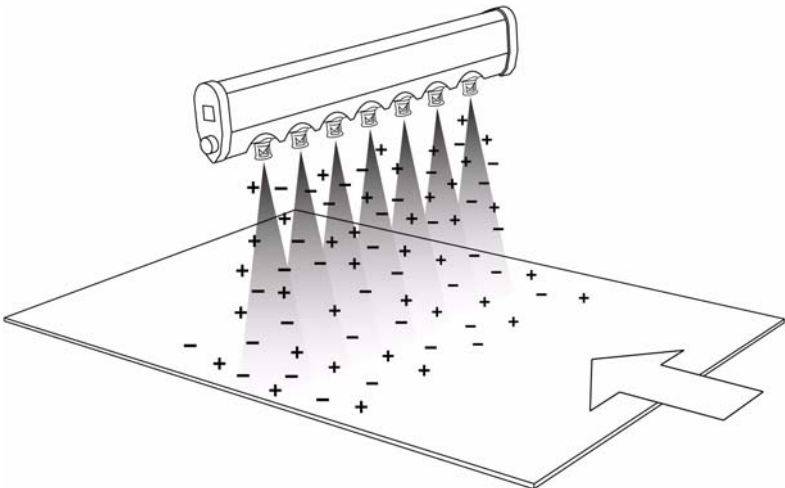


Figure 1. Powerful and efficient ion delivery.

1.2 AeroBar Identification

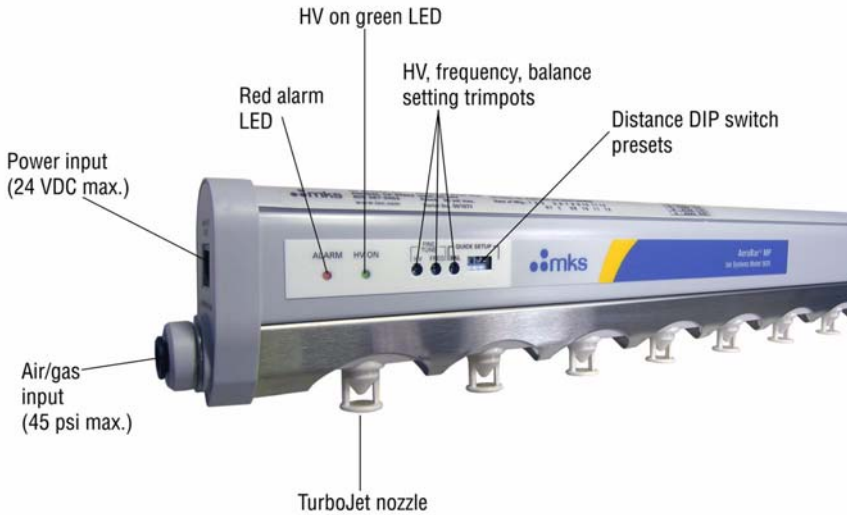


Figure 2. Parts of the AeroBar MP (TurboJet nozzles shown).



Figure 3. Alternative nozzle configurations.

Bar Lengths

The AeroBar MP can be configured to satisfy varying glass panel sizes. Note that the AeroBar's active length should be equal or greater than the size of the surface or object to be ionized.

Lengths (mm/in.)	Active length (mm/in.)	# of openings with 50 mm spacing	# of openings with 75 mm spacing
850 (34)	750 (30)	16	11
1000 (39)	900 (35)	19	13
1150 (45)	1050 (41)	22	15
1300 (51)	1200 (47)	25	17
1450 (57)	1350 (53)	28	19
1600 (63)	1500 (59)	31	21
1750 (69)	1650 (65)	34	23
1900 (75)	1800 (71)	37	25
2050 (81)	1950 (77)	40	27
2200 (87)	2100 (83)	43	29
2350 (93)	2250 (89)	46	31

Length: Overall bar length from endcap to endcap.




Active length: The length of the bar with ionizing emitters, not including endcaps, from first emitter nozzle to last.

Openings: The number of sockets for active ion emitters (either TurboJet or CleanJet) or MiniJet nozzles.

1.3 Nozzle Configurations

TurboJet nozzles are standard on the AeroBar MP.

CleanJet emitter nozzles are alternated with MiniJet air nozzles in a patent-pending configuration that is engineered for glass panel manufacturing applications.

Nozzle	Purpose
<p data-bbox="98 440 372 472">TurboJet emitter nozzle</p>  A white, multi-tiered nozzle with a central opening, mounted on a dark base.	<p data-bbox="473 440 936 505">All applications; provides excellent discharge time and long cleaning cycles</p>
<p data-bbox="98 618 372 651">CleanJet emitter nozzle</p>  A white, cylindrical nozzle with a flared top, mounted on a dark base.	<p data-bbox="473 618 925 716">Short distance horizontal applications; provides good discharge time and long cleaning cycles</p>
<p data-bbox="98 797 297 829">MiniJet air nozzle</p>  A white, cylindrical nozzle with a flared top and a central opening, mounted on a dark base.	<p data-bbox="473 797 952 927">Accelerates ion delivery for faster discharge time, which saves gas and air cost; prevents ion recombination; must be combined with CleanJet nozzle</p>

Insertion/Removal

All emitter nozzles utilize a unique quarter-turn design, which makes for easy and fast removal during maintenance.

Interchangeability

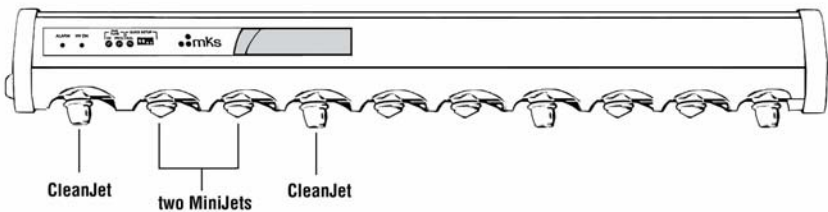
Nozzles are interchangeable but ship to you with your chosen configuration already installed. For information about configurations and changing them, contact Ion Tech Support at techsupport@ion.com.

Alternate Nozzle Configurations

Remember that all configurations are dependent on individual environmental factors, including space, airflow, and power.

If using the CleanJet nozzles, it is recommended that the nozzle configurations consist of:

CleanJet -- two MiniJets -- CleanJet



Vertical Applications

Vertical application mounting depends on the application, glass size, and spacing between the glasses. Contact Ion for more specific information for vertical mounting.

Emitter Pitch

The AeroBar MP features either 75 mm or 50 mm spaced emitter pitches. The performances are similar of both pitches.

The 75 mm pitch bar uses about a third fewer TurboJet nozzles, thus providing faster cleaning times, lower maintenance costs, and approximately a third less CDA flow under the same air pressure.

The 50 mm pitch bar is recommended for leveraging greater ion production for very short bars (850 mm and under) and for short distance applications (100 mm and under). The 50 mm pitch bar is recommended for vertical mount applications on cassette load/unload stations to cover between the spacing of each glass substrate. The 50 mm pitch bar is also recommended for applications with strong side airflow. The higher CDA flows of the 50 mm pitch will withstand the turbulence from the side..

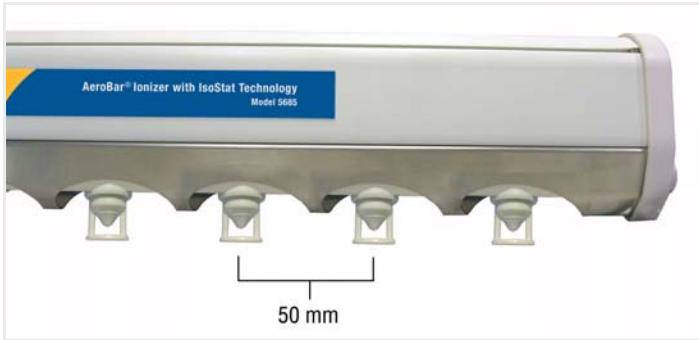


Figure 4. A 50 mm pitch bar.



Figure 5. A 75 mm pitch bar.

1.4 Power Requirements

Power is provided by 24 VDC tool power or an optional 100-240 V input power supply.

The AeroBar MP Model 5625 is ready to connect directly into tool power via RJ-45 cable, with no external control boxes or interface modules required.

Power connection accessories:

Ion p/n	Description
33-25625	24 VDC power junction box with signal and power distribution box for FMS connection
18-21491	Signal and power distribution box for FMS connection
14-21324	24 VDC power junction box
25-0504	CAT-5 network cable for connection to power junction box



2

Installation and Operation

- 2.1 Safety Information
- 2.2 Installation Guidelines
- 2.3 Mounting
- 2.4 Power Connections
- 2.5 FMS Connection
- 2.6 Gas and Air
- 2.7 Operation
- 2.8 Alarms

2.1 Safety Information

Before installing or operating any component of the ionization system, carefully read the following safety information:

- ☑ To avoid injury to self or the product, make sure mounting clips are placed at both ends of the bar. Avoid placing clips near the high voltage power connection, which is approximately 450 mm from the end cap of the control board side (the side of the bar with the label and controls on it).
- ☑ To avoid injury to self or the product, do not place any labels on the AeroBar chassis beyond 1 foot (30 cm) from the RJ-45 connector end of the AeroBar! The electrostatic fields are sensitive.
- ☑ To avoid ionizer degradation, keep grounded objects away from the emitter nozzles and a directed flow of ions.
- ☑ To avoid injury to self or the product, make sure all mounting clips and brackets are connected to a low-impedance earth ground.
- ☑ Do not clean emitter points while the unit is powered. Doing so may result in additional contamination and possible shock.
- ☑ To avoid personal injury or damage to the equipment, perform only the maintenance described in this manual.

2.2 Installation Guidelines

Keep in mind the following considerations when determining locations for the units:

- Site requirements/restrictions are observed.
- A location with adequate ventilation and constant temperature and humidity that do not exceed specifications will result in the best performance.
- Applicable mounting brackets and screws are used per building codes at specified distances.
- AeroBars are installed away from all moving components or surfaces.
- AeroBars are installed away from flammable solvents or particles and water and oil that could spray into the air.
- AeroBars are placed at least 150 mm away from grounded painted walls.



Warning

To avoid injury to self or the product, do not place any labels on the AeroBar chassis beyond 1 foot (30 cm) from the RJ-45 connector end of the AeroBar! The electrostatic fields are sensitive.



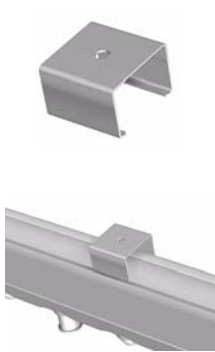
Warning

To avoid degraded ionizer performance, keep grounded objects away from the emitter nozzles and direct flow of ions.

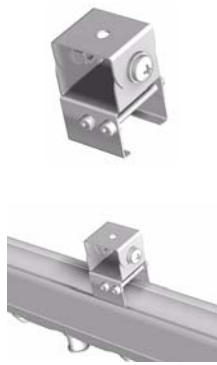
2.3 Mounting

Mount the AeroBar MP using clips. Four mounting clips are available from Ion that are specifically designed to securely hold AeroBars in different positions.

Flat mounting clip 28-6370



Adjustable horizontal mounting bracket 32-22210

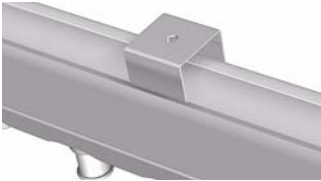
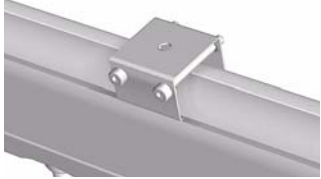




Flat clip with active/screw fastener 28-6371



Vertical mounting bracket 32-22220

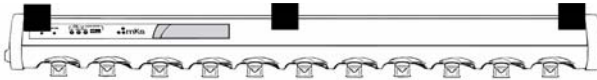


Ion p/n and description	Recommended for:	Recommended # per bar
Flat mounting clip 28-6370 	Horizontal or vertical	
Flat clip with active/screw fastener 28-6371 	Horizontal or vertical	850 mm: 2 clips 1300-2050 mm: 3 clips 2200-2350 mm: 4 clips
Adjustable horizontal mounting bracket 32-22210 	Horizontal	
Vertical mounting bracket 32-22220 	Vertical	2 clips per any length

Mounting Clip Placement



Lengths up to 1100 mm: two clips per bar



Lengths 1100 -2050 mm: three clips per bar



Lengths 2200 and above: four clips per bar

Figure 6. Recommended mounting clips per bar

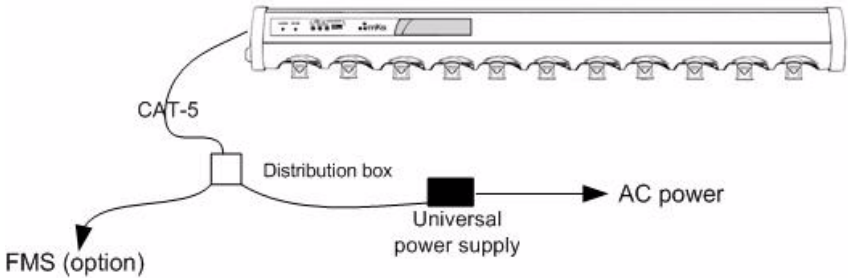
To attach clips to a mounting surface or rod, use a screw (not supplied). Snap the clip into the grooves of the AeroBar MP. Mounting clips should be attached at the ends of the bar, with additional clips in the mid-area of the AeroBar for added support with longer bars. Note that mounting clips should be grounded, specifically clips placed near the power supply.

Mounting Clip Guidelines:

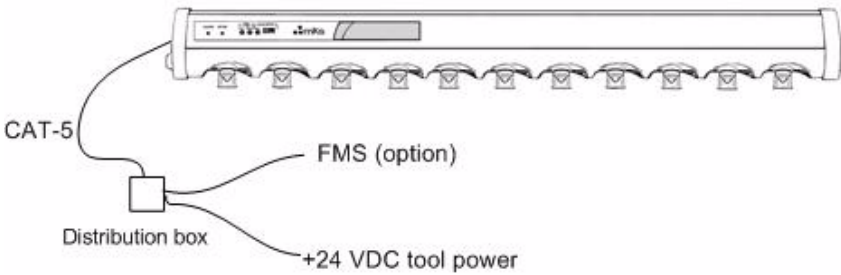
- Position clips between nozzles
- Make sure all mounting brackets are connected to a low-impedance earth ground.
- Avoid placing clips near the power supply (nozzles #6-9).**

2.4 Power Connections

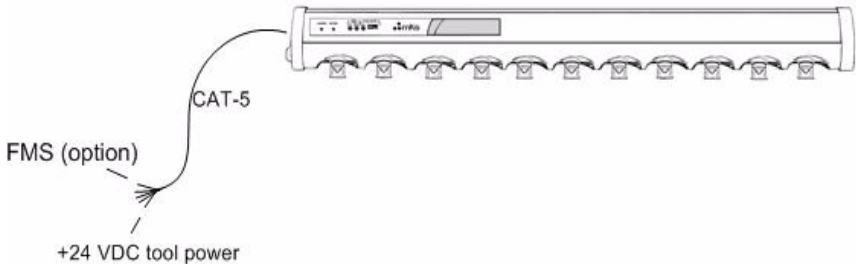
Option 1: AC power with distribution box and power supply.



Option 2: Distribution box and +24 VDC tool power.



Option 3: Hard wiring directly to +24V tool power.



Wiring Information

Pin out	CAT 5 cable color code	Distribution box color code	Power/signal	Descriptions
3	Green/white	Black	+24 VDC	+24 VDC supply to the ionizer
6	Green	yellow	24V ground	24V common, power ground
8	Brown	White	Alarm (FMS)	Open collector output, no alarm= short (100-110 phm), alarm = open (5 Kohm)
5	Blue/white	Green	Signal ground	Signal ground

The following parts and accessories are available from Ion:

Part number	Description
18-21491	Distribution box for FMS connection
14-21324	24 VDC universal power supply
33-25625	24 VDC power supply with distribution box assy
25-0504	CAT-5 network cable for connection to power junction box



Figure 7. CAT-5 Cable Connection

2.5 FMS Connection

The AeroBar MP may be connected to a Facility Monitoring System (FMS), which can monitor system status along with the rest of the facility.

To connect the AeroBar MP to an FMS, use Ion’s distribution box (p/n 18-21491). Alternatively, the CAT-5 cable may be hardwired to an FMS system.



Figure 8. Distribution box.

Pin out	CAT 5 cable color code	Distribution box color code	Power/signal	Descriptions
3	Green/white	Black	+24 VDC	+24 VDC supply to the ionizer
6	Green	yellow	24V ground	24V common, power ground
8	Brown	White	Alarm (FMS)	Open collector output, no alarm= short (100-110 phm), alarm = open (5 Kohm)
5	Blue/white	Green	Signal ground	Signal ground

2.6 Gas and Air

A flowmeter is required for use in conjunction with gas input to the AeroBar MP. A flowmeter helps establish control and maintain the total gas input flow to nozzles.

Gas and Air Requirements

Ion recommends using clean dry air (CDA) with this product to surround the emitter points, and to prevent a reduction of ion generation due to fuzz build-up. A CDA supply should be appropriately filtered to remove moisture, oil and particles. A two micron filter or better is recommended (not supplied by Ion). Ion publishes a technical note describing recommended pre-filter practices. E-mail info@ion.com for more information, or call to request a copy.

The input gas volume requirement is at least one liter per minute per nozzle. The maximum input pressure is 45 PSI (0.31 MPa).

Gas and Air Connections

A one-touch fitting, 8 mm (OD) tubing bulkhead is at either end of the bar. Both ends are single-point use only. It is not possible to daisy chain gas connections without degrading nozzle airflow distribution. To connect the air supply to the AeroBar MP:

1. Insert the tubing into the one-touch fitting at either end. Be sure the tubing is fully inserted by gently tugging on the tubing to lock the tube into place.
2. Ensure the gas fitting at the other end of the AeroBar MP is plugged, using the supplied red plug. To remove the plug, push in the black fitting collar to release the plug. See **Figure 9. Gas Line Plug**.



Figure 9. Gas Line Plug

2.7 Operation

Recommended Setup

The AeroBar MP is designed for easy setup and calibration. In order to obtain the correct setting for your environment, perform an initial setup with a charged plate monitor (CPM). An Ion Systems Model 210 is recommended. See **Figure 10** for a setup picture.

Set the CPM under the AeroBar MP. Ensure power and air connections are in place. Use the following distance settings to adjust the bar and use the CPM to check the discharge time and swing.

Take measurements over the entire area of emitter points only. Obtaining measurements outside the range, including at endcaps, will provide an incorrect and incomplete picture of discharge time.

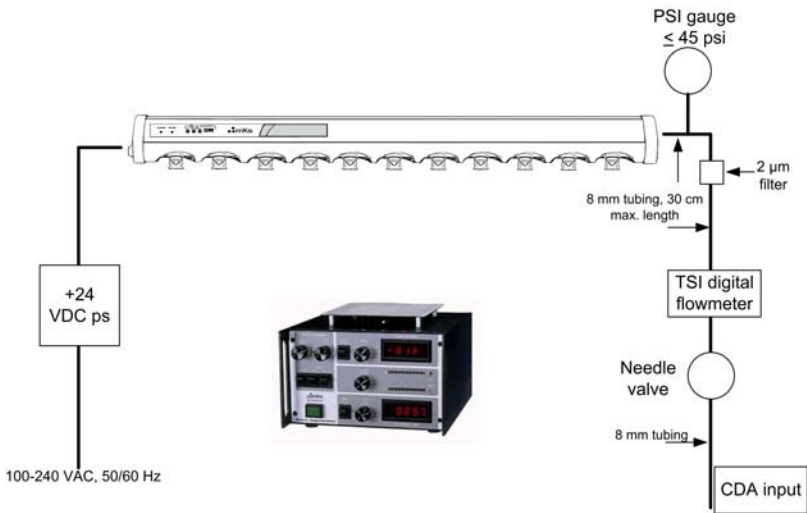






Figure 10. Recommended setup for Calibration

Adjustments

The four DIP switches on the bar allow three pre-set distance selections. Settings depend on the application, environment, and operation conditions. After setting the switches for the desired distance, adjust the Balance setting.

	For the following distance (from bar to target)...	...use this setting:	.with this HV level
Short distances	≤ 50	 (LL)	10 kVp-p
	≤ 100	 (LH)	11 kVp-p
Medium distances	≤ 200	 (HL)	12 kVp-p
Long distances	≥ 300 mm	 (HH)	13 kVp-p



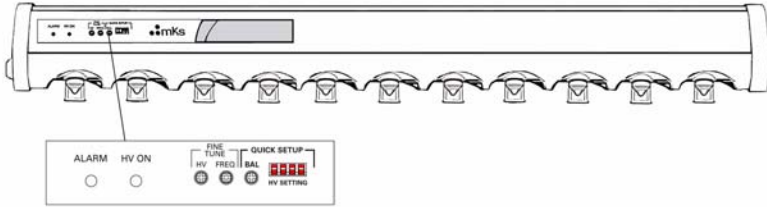
Note

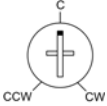
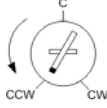
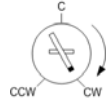
Always leave positions 3 and 4 of the DIP switch on low. These switches are not active at this time.

Balance Setting

■ Possible range is from 25 to 75%.

■ The typical balance setting at 200-300 mm distance is in the range of 45-55%.



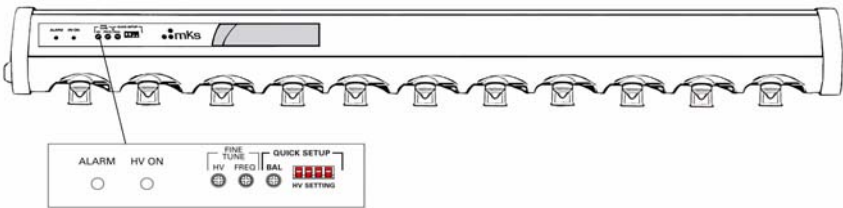
Balance%	Trimpot Position
For 50%	Center position (C) 
For 25%	Counter clockwise position (CCW) 
For 75%	Clockwise position (CW) 

High Voltage (HV) Setting

■ The HV trimpot provides +/- .5 kV p-p adjustment at each HV setting level at the DIP switches.

■ The typical HV range for most applications from 200 mm to 1.5m is from 12.5 -13.5 kV p-p.

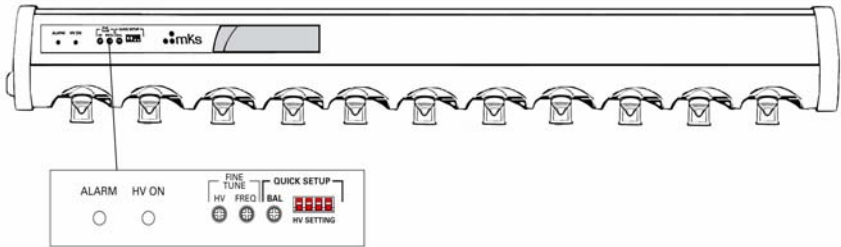
For exceptional site situations (such as when a strong side airflow exists where the bar is installed), use a higher voltage power setting regardless of the distance.



HV output	DIP Switch position	Trimpot Position	
For 12.5 kV p-p output	(HH)	CCW position (CCW)	
For 13 kV p-p output	(HH)	Center position (C)	
For 13.5 kV p-p output	(HH)	Clockwise position (CW)	

Frequency

- Possible range is from 1 to 33 Hz
- The factory default is set to 5 Hz for most applications.



For short distance applications, adjust the frequency higher (clockwise) to achieve the desired performance level.

For long distance applications, adjust the frequency lower (counter clockwise) to achieve the desired performance level.

Desired frequency	Trimpot Position	
16 Hz	Center position (C)	
1 Hz	Counter clockwise position (CCW)	
33 Hz	Clockwise position (CW)	

AeroBar Settings in Specific Environments

To effectively ionize a target, the ions must be released as fast as possible with the least amount of recombination. **Settings must be made depending on the environment:** size of the target, distance from the ionizer, and airflow.

- ✓ Lower the frequency and increase the voltage levels so the ions will reach the target area without recombining.
- ✓ For long distance applications, a setup with lower frequencies is appropriate. For short distances, the frequency is typically set higher.
- ✓ Adjust the balance for all environments to ensure that the correct mixture of positive and negative ions for the environment reach the target area and ionize the target.
- ✓ Lower the voltage levels to lessen the force of the ions and increase the frequency setting so positive and negative ions are released more often. These settings work well for target areas that are smaller and positioned closer to the emitter points (typically ≤ 150 mm).

2.8 Alarms

Alarms are indicated by a red LED on both sides of the chassis.

Alarms are caused by one or more of the following possible conditions:

- HV feedback (high and low) threshold
- Over voltage supply
- Over current supply limit
- Oscillator frequency (high and low) threshold

Possible solutions:

Check for grounded objects near the bar, shorted emitter points (corroded points or any obstructions to the points).

If the red alarm LED is lit, unplug the power cable to turn off the ionizer. Wait 30 seconds and then plug the power cable back in to restart the ionizer. If the red alarm LED continues to stay lit, contact Ion Technical Support (tech-support@ion.com or 510.217.0460)

3

Maintenance

3.1 Maintenance Considerations

3.2 Emitter and Nozzle Inspection and Cleaning

3.3 Cleaning the Chassis

3.1 Maintenance Considerations

As maintenance schedules will vary depending on conditions, develop a schedule that meets the requirements for your application. In general, equipment should be checked on a monthly basis to ensure it is operating as originally set.



Warning

There are no user-serviceable parts inside the AeroBar MP. Any unauthorized service will void the warranty and may result in additional repair charges.

3.2 Emitter and Nozzle Inspection and Cleaning

Cleaning Frequency

TurboJet nozzle cleaning is recommended every 6-8 weeks.

CleanJet nozzle cleaning is recommended every two months.

MiniJet nozzles do not require cleaning.

Replacement is recommended every twelve to twenty four months, depending on the environment and condition of the point and nozzle. TurboJet and CleanJet emitter nozzle and points are replaced together as an assembly.

Inspection

Before performing any maintenance, the AeroBar must be powered down. Dirty or eroded emitter points and nozzles may cause system diminished ionization output and failure. Dirt or erosion to emitter points and nozzles can be caused by a number of environmental factors, including airborne molecular contaminants (AMC). Emitter points and nozzles should be checked regularly for erosion or dirt on the tips of the points, and dirt on the inside walls of nozzles.

Evidence of dirty emitter points may include:

- Discoloration
- White dirt formed on the tips (fuzz balls)
- Worn points

Evidence of dirty nozzles may include:

- Buildup on the nozzle
- Deterioration of the surface of the nozzle

Cleaning

Cleaning Materials

- **TurboJet nozzles:** solution of 50% deionized water and 50% isopropyl alcohol (IPA) with cleanroom-compatible cloth or wipe or swabs less than 5 mm diameter **OR** Ion's Emitter Point Cleaner swab (p/n 22-1000)
- **CleanJet or TurboJet nozzles:** ultrasonic bath with 20% IPA/ 80% DI water
- Cleanroom-approved wipe such as Kleen Wipe



Warning

Do not clean emitter points while the unit is powered with HV on. Doing so may result in additional contamination and possible shock. After removing power from the AeroBar, allow a minute for the high voltage power supplies to discharge.

TurboJet nozzles only: to clean the emitter points and areas around the emitter points, moisten a cleanroom-compatible swab or cleaning cloth with the IPA solution. Gently rotate the swab or cleaning cloth around the emitter point until dirt or debris is removed.

For either TurboJet or CleanJet nozzles: remove the “active” nozzles by turning them counter clockwise and clean using an ultrasonic cleaner. Reinsert the nozzles by turning them clockwise.

It is not necessary to clean MiniJet nozzles.






Do not change emitter point positions within the nozzles.



Do not alter emitter point tips in any way. Doing so may void the warranty.

Emitter and Nozzle Replacement

Replacement emitter points and nozzles are ordered from Ion as an assembly. .

Nozzle	Purpose	Replacement part number
TurboJet emitter nozzle 	All applications; provides excellent discharge time and long cleaning cycles	71-25660
CleanJet emitter nozzle 	Short distance horizontal applications; provides good discharge time and long cleaning cycles	71-25620-VNR 71-25640-VNR (Japan only)
MiniJet air nozzle 	Accelerates ion delivery for faster discharge time, which saves gas and air cost; prevents ion recombination; must be combined with CleanJet nozzle	71-25395-VNR

All nozzles feature an easy quarter turn screw design.

To remove nozzles, turn the nozzle counter clockwise and then pull.

To reinstall nozzles:

Apply a small amount of clean-room lubricant on a Kleen Wipe or other appropriate cleanroom wipe. (Cleanroom-approved lubricant with low evaporation and migration rate such as PFPE grease; Christo-Lube MCG 109 perfluoropolyether is recommended.) Rub the sides of the wipe together to spread the lubricant. Gently and lightly coat the o-ring.

Be careful not to spread the lubricant past the ears of the nozzle.



Figure 11. Lightly coating o-rings on nozzle with lubricant.



Figure 12. Do not spread the lubricant past the ears of the nozzle.

Place the nozzle to fit in the notch and then turn clockwise to lock it in.

If using the CleanJet nozzle with alternating MiniJets, make sure that any remaining active ionizing emitters are not blocked or obstructed by any parts of the application; if they are, rearrange the order of the alternating nozzles.

3.3 Cleaning the Chassis



Warning

Do not clean the chassis while the unit is powered with HV on. Doing so may result in additional contamination and possible shock. After removing power from the AeroBar, allow a minute for the high voltage power supplies to discharge.

The AeroBar MP can be externally cleaned if dirt has accumulated on the chassis. Use a cleanroom-compatible cloth moistened with 50% de-ionized water and 50% IPA to clean the chassis from end to end. Change the cloth frequently to ensure that the dirt is completely removed from the chassis. Do not use any other cleaners or solvents.

4

Specifications

4.1 Specifications

4.2 Dimensional Drawings

4.3 Parts and Accessories

4.1 Specifications

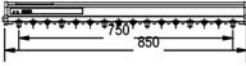
Input voltage	24 VDC power input RJ-45
Input current	0.25-0.7A, typical, dependent on bar length
Balance drift	< $\pm 50V$ over two month time period (moving average, from initial setting) with TurboJet and CleanJet nozzles
Balance distribution	Within $\pm 50V$ from initial setting
Emitter material	ISO 14644 Class 3. titanium points
Ionization performance	$\pm 1000V$ to $100V$ in 1.5 seconds or less at 100 mm away (typical) when operating with $\pm 130V$ swing Tested in accordance with ANSI/ESD STM3.1-2000
Emitter voltages	9.5 - 13.5 kV, peak to peak
Low emitter frequency	1 - 33 Hz
Input pressure	45 psi max pressure
Air supply	Clean dry air (CDA) or nitrogen (N2)
Air connection	8 mm tubing (OD) bulkhead, one-touch fitting; no daisy-chain capacity
Airflow	CleanJet nozzle: CDA flow range is 2.0 - 2.3 LPM TurboJet nozzle: CDA flow range is 1.0 - 1.5 LPM Pressure at 10 psi (.07 MPa):
Filtration	2 micron filter or better (not supplied)
Temperature	15–35°C (59–95°F); storage temperature 2–45°C (35–113°F)
Humidity	30–60% RH non-condensing
Ozone	Less than 0.05 ppm (24-hour accumulation)

Indicators	<p>One pair of red and green LEDs on both sides of the bar:</p> <ul style="list-style-type: none"> • Green LED lights when AeroBar operation is normal • Red LED on when in alarm
Material	ABS chassis; stainless steel bottom plates
Mounting	Flat clips, active clips, and brackets for horizontal and vertical mounting available from Ion
Dimensions	<p>78H x 34W x 850/1000/1150/1300/1450/1600/1750/1900/ 2050/2200/2350L mm (3.07H x 1.34W x 34/39/45/51/57/63/69/75/81/87/93L inches)</p>
Weight	2350 mm bar: 2.3 kg (5.1 lb)
Certifications	CE, TUV pending
Patents	<p>U.S. Patent No. 6,807,044: "Corona Discharge Apparatus and Method of Manufacture" Provisional Patent No. 60,726,874: "Orifice Assist for Ionizers with Airflow Nozzles"</p>

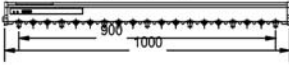
4.2 Dimensional Drawings

Model 5625 Lengths with 50 mm emitter pitch spacing

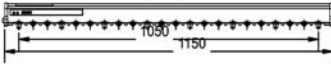
850mm long; 16 openings: 6 emitter nozzles, 10 mini (air) jets



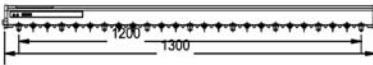
1000mm long; 19 openings: 7 emitter nozzles, 12 mini (air) jets



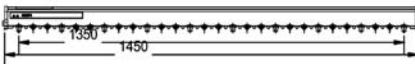
1150mm long; 22 openings: 8 emitter nozzles, 14 mini (air) jets



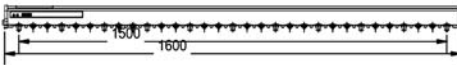
1300mm long; 25 openings: 9 emitter nozzles, 16 mini (air) jets



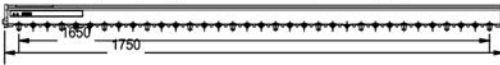
1300mm long; 28 openings: 10 emitter nozzles, 18 mini (air) jets



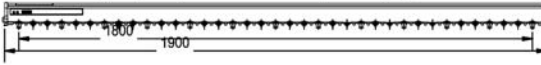
1600mm long; 31 openings: 11 emitter nozzles, 20 mini (air) jets



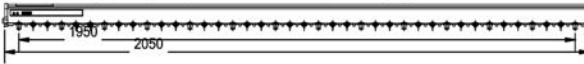
1750mm long; 34 openings: 12 emitter nozzles, 22 mini (air) jets



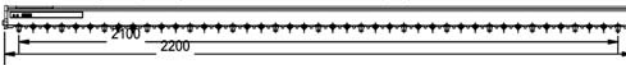
1900mm long; 37 openings: 13 emitter nozzles, 24 mini (air) jets



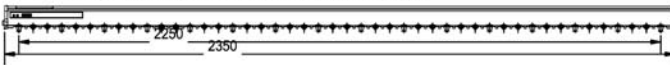
2050mm long; 40 openings: 14 emitter nozzles, 26 mini (air) jets



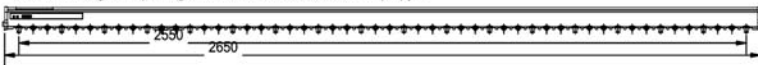
2200mm long; 43 openings: 15 emitter nozzles, 28 mini (air) jets



2350mm long; 46 openings: 16 emitter nozzles, 30 mini (air) jets

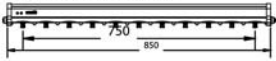


2650mm long; 52 openings: 18 emitter nozzles, 34 mini (air) jets



Model 5625 Lengths with 75 mm emitter pitch spacing

850mm long; 11 nozzles



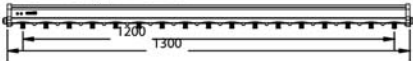
1000mm long; 13 nozzles



1150mm long; 15 nozzles



1300mm long; 17 nozzles



1450mm long; 19 nozzles



1600mm long; 21 nozzles



1750mm long; 23 nozzles



1900mm long; 25 nozzles



2050mm long; 27 nozzles



2200mm long; 29 nozzles



2350mm long; 31 nozzles



4.3 Parts and Accessories

Part Number Matrix

91-5625-

Lengths	code
850 mm (33.5")	850
1000 mm (39.4")	1000
1150 mm (39.4")	1150
1300 mm (51.2")	1350
1450 mm (57.1")	1450
1600 mm (63")	1600
1750 mm (68.9")	1750
1900 mm (74.8")	1900
2050 mm (80.7")	2050
2200 mm (86.6")	2200
2350 mm (92.5")	2350

Nozzle spacing (pitch)	code
50 mm nozzle spacing	(leave blank)
75 mm nozzle spacing	75

Emitter nozzle combinations	code
TurboJet nozzles with titanium emitter points	QTC27
CleanJet nozzles with titanium emitter points and alternating MiniJets	QSMC30

Replacement Parts

Power		
18-21491		Distribution box for FMS connection
14-21324		24 VDC universal power supply
33-25625		24 VDC power supply with distribution box (assembly)
25-0504 (4 ft.) 25-0510 (10 ft.) 25-0520 (20 ft.)		CAT-5 network cable for connection to power junction box
Mounting		
28-6370		Flat mounting clip
28-6371		Flat clip with active/screw fastener

32-22210		Adjustable horizontal mounting bracket
32-22220		Vertical mounting bracket
Replacement emitter nozzles		
71-25660		TurboJet emitter nozzle
71-25620-VNR 71-25640-VNR (Japan only)		CleanJet emitter nozzle
71-25395-VNR		MiniJet air nozzle

5

Warranty and Service

Ion provides a limited warranty for the AeroBar MP Model 5625. New products manufactured or sold by Ion are guaranteed to be free from defects in material or workmanship for a period of two (2) years from date of initial shipment. Ion's liability under its new product warranty is limited to servicing (evaluating, repairing, or replacing) any unit returned to Ion that has not been subjected to misuse, neglect, lack of routine maintenance, repair, alteration, or accident. In no event shall Ion be liable for collateral or consequential damages.

To obtain service under this warranty, please contact Ion's Service team (service@ion.com).

About MKS, Ion Systems

Ion develops, manufactures, and markets system solutions to manage electrostatic charge. As the world's largest provider of electrostatics management products and services, Ion improves its customers' business results by providing a total solution to their electrostatic discharge and electromagnetic interference challenges. Ion is a wholly-owned subsidiary of MKS Instruments, and is located in Alameda, California. For more information about Ion visit www.ion.com or call 800-367-2452. Ion is ISO 9001 and ANSI ESD S20.20 - 1999 certified.

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