Air-Assisted Ion Bars Installation, Operation and Maintenance

Made in America

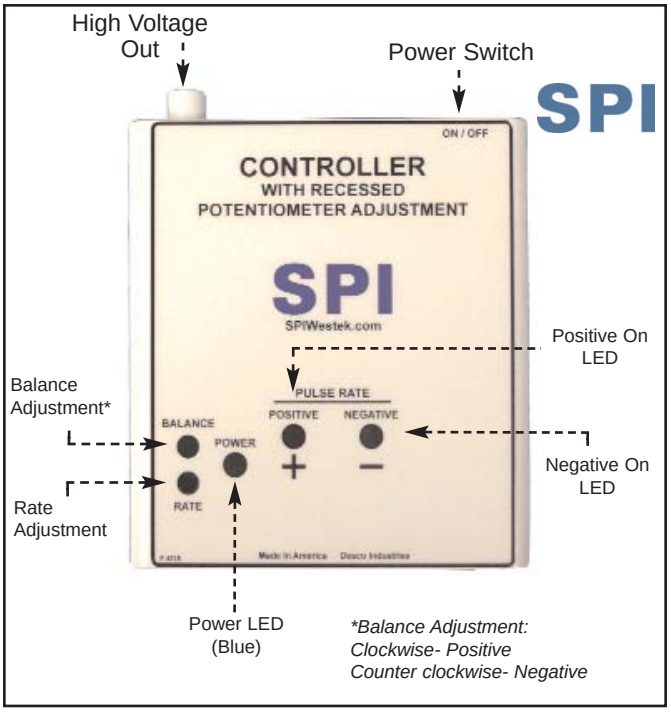

Figure 1. SPI 94240 Controller LED and Control Functions

DESCRIPTION

The Linear Ion Bar Systems have been designed to effectively eliminate localized static charges which exist in the work area.

UNPACKING AND INSPECTION

Your controller and bars were carefully packed at the factory in a container designed to protect it from accidental damage. Nevertheless, we recommend careful examination of the carton and contents for any damage. If damage is evident, do not destroy the carton or packing material. Immediately notify the carrier of a possible damage claim. Shipping claims must be made by the consignee to the delivering carrier.

The Air-Assisted Ion Bars are available in several sizes. There are 4 Controller options, and several accessory items. See the following table for the list of available item numbers.

Item #	Description
94220	Air-Assisted Ion Bar Assembly, 12", 4 Emitters
94221	Air-Assisted Ion Bar Assembly, 24", 8 Emitters
94222	Air-Assisted Ion Bar Assembly, 36", 12 Emitters
94223	Air-Assisted Ion Bar Assembly, 48", 16 Emitters
94224	Air-Assisted Ion Bar Assembly, 60", 20 Emitters
94225	Air-Assisted Ion Bar Assembly, 72", 24 Emitters
94226	Air-Assisted Ion Bar Assembly, 96", 32 Emitters
94240	Controller with Recessed Potentiometer Adjustment, 120V
94241	Controller with Recessed Potentiometer Adjustment, 220V
94245	Controller with External Potentiometer Adjustment, 120V
94246	Controller with External Potentiometer Adjustment, 220V
94253	Air Assisted Filter Regulator with Hose
94250	Ion Bar 2 to 1 Connector Set (2 per pack)
94251	Emitter for Air-Assisted Ion Bar

For more information on the Ion Bar sizes and dimensions, see page 2.

INSTALLATION

I. Install the controller console on or near the target area. It must be close enough to connect to the Ion Bar.

II. Locate and attach the Ion Bar in a position so that the air ions are directed toward the target area.

III. Connect clean dry compressed air or gas to bar air fitting.

IV. Connect the Ion Bar to back of controller console.

V. Plug the console unit into an appropriate electrical outlet.

NOTES:

1. To connect your air or gas to the Air-Assisted Ion Bar, supply the air/gas to the bar in a 1/4" flexible plastic tube, inserting the tube into the red collar air fitting already installed into one end of the Ion Bar. Be sure to insert the tube snugly into red collar fitting and that it is deeply seated. To remove the 1/4" air supply tubing, simply depress the red collar, push in the tube and then remove.

2. One SPI controller will power up to 40 emitters. It is possible to daisy-chain bars together as long as the total number of emitters does not exceed 40.

3. To permit the power supply console unit to supply more than 1 Ion Bar, you must obtain and attach a 94250 two to one connector for two bars.

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HOW TO USE THE CONTROLLER

There are two adjustments that can be made on the controller: BALANCE and RATE.

The BALANCE of positive and negative ion output can be adjusted to increase polarity bias by turning the BALANCE KNOB, and slowly turning the trim pot CLOCKWISE to increase positive and decrease negative ON time pulses OR COUNTER-CLOCKWISE to increase negative and decrease positive ON time pulses. The RATE or pulse frequency can be adjusted down to one pulse per second or up to 5 pulses per second by SLOWLY TURNING THE RATE KNOB trim pot clockwise to increase and counter clockwise to decrease the frequency.

REMEMBER:

It is important to verify calibration after any adjustments and before using your ionizer around sensitive electronics. Merely repeat above Balance Verification steps after all adjustments.

IMPORTANT:

Your IONIZER has been designed to minimize effects of localized static charges. If your processing involves generation of considerable static charges you may need more aggressive equipment. SPI has available a complete line of ionizers; bench top, overhead and hand ion guns to meet all ionizing requirements.

ION BAR SIZES AND DIMENSIONS

Refer to the following table and figure to learn more about the dimensions of the Air-Assisted Ion Bars.

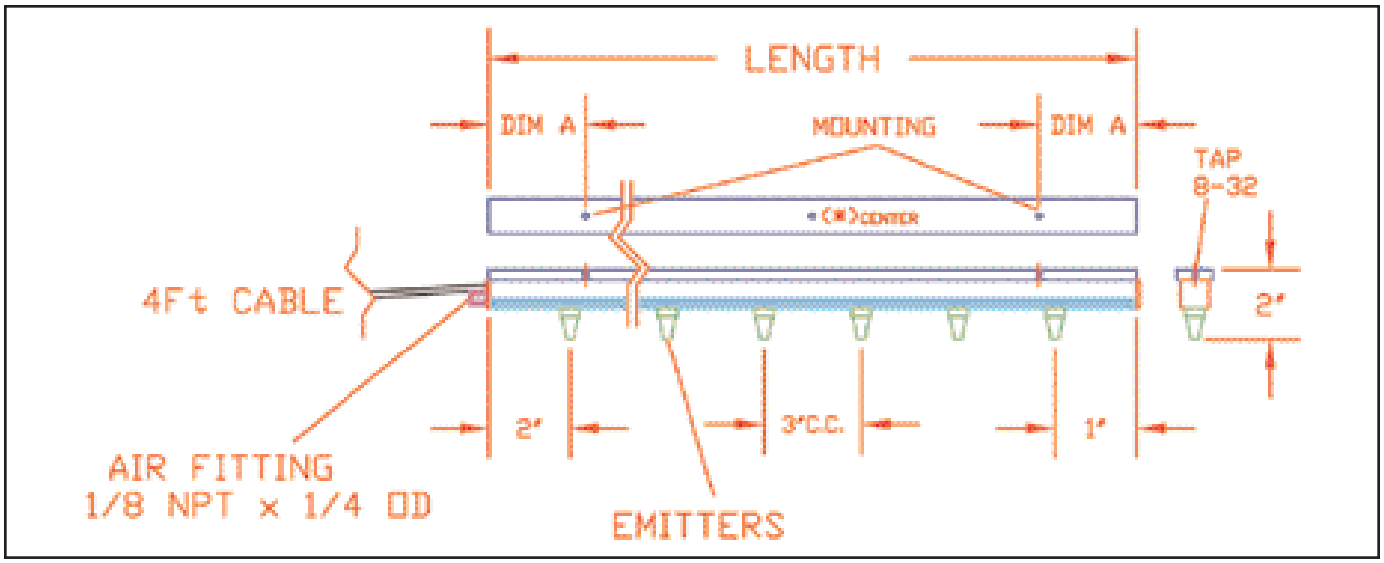

Figure 2. SPI Air-Assisted Ion Bar dimensions

Item #	Length	Emitters	Mounting	Dim A
94220	12"	4	2	1"
94221	24"	8	2	1"
94222	36"	12	2	3"
94223	48"	16	2	3"
94224	60"	20	2	3"
94225	72"	24	3*	4"
94226	96"	32	3*	4"

NOTE: Contact manufacturer for special dimensions

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DISCHARGE TIMES

Recommended air applied: nominal of 2-10 PSI and max. of 15 PSI.

Measurements are taken with a charged plate monitor below two consecutive emitters with external air applied of 5 PSI (nominal).

Pulsing rate is adjustable from 1 to 20 Hz. This will need to be customized depending on application requirement.

Decay (1000 to 100V)	Distance	Average time in sec.
Controller set at 2 cycles/sec (Hz)	18”	<10
Controller set at 2 cycles/sec (Hz)	12”	<4
Controller set at 1 cycle/sec (Hz)	18”	<4
Controller set at 1 cycle/sec (Hz)	12”	<2

Note:
This data applies to all sizes of the air assisted SPI ion bars, and is intended to be used as a reference.

Values will vary with environment and particular application settings.

Unit Weight: 1.86 lbs.
Cable: 5' length

Figure 3. SPI 94240 Controller Dimensions

Limited Warranty
ESD Systems.com expressly warrants that for a period of one (1) year from the date of purchase, our SPI Ion Bars will be free of defects in material. Within the warranty period, the material will be tested and replaced at our option, free of charge. Call Customer Service at 508-485-7390 for a Return Material Authorization (RMA) and proper shipping instructions and address. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Any material under warranty should be shipped prepaid to the ESD Systems.com factory. Warranty repairs will take approximately one week.

Warranty Exclusions
THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability
Electronic ionizers use high voltage corona discharge and should not be used in or near flammable or explosive environments. In no event will ESD Systems.com or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

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