SIMCO ION™
An ITW Company

Ionization Solutions

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Localized In-Line Ionizer

IN-LINE fusION™

Simco-Ion's In-Line fusION Ionizer is capable of controlling electrostatic charge in the local area. Applications for In-Line fusION are those found inside process equipment and mini-environments in the semiconductor, flat panel display, pharmaceutical, and medical device industries. It is especially well suited for longer length delivery line applications.

In-Line fusION is easy to install, operate and maintain. Simply mount In-Line fusION in a convenient location adjacent to the static problem. Connect the power supply, and static charge is eliminated. No adjustments are necessary with Simco-Ion's auto balancing technology. This incredibly compact ionizer offers either tungsten or single crystal silicon emitters. In-Line fusION is also ideal for system integration with remote alarm capability. Multiple units can be linked together from one 24 VDC power source allowing up to 5 units to be daisy-chained. In-Line fusION can be powered directly from a process tool's 24 VDC power source or by the Simco-Ion fusION power supply kit.

Features

- Delivers ions through long tubes
- Compact Design
- Visual ionizer status indicator and digital level remote alarm output
- Single power source for multiple fusION ionizers
- Optional air knife, air ring and N2 attachments available

Benefits

- Convenient static control in difficult to access target locations
- Fits into the tight confines of any process tool
- Standard features for convenient user operation
- Daisy-chain, up to 5 fusIONs, perfect for layered in-tool ionization protection
- Customize In-Line fusION for extremely tight areas and clean environments

In-line fusION	
Input Voltage	24 VDC, 0.075A
Discharge	See table below
Balance	<±50V
Coverage Area	12″ x 12″ (30 x 30 cm) @ 6″ spacing
Air Supply	Clean Dry Air (CDA) or Nitrogen
Airflow	0.8 scfm @ 5 psi to 3.6 scfm @ 50 psi
Gas Connections	In-line input and output: 1/4″ OD, 1/8″ ID insulative tubing
Output Current	5 µA
Operation Mode	Steady-state DC
Emitters	Tungsten emitter points
Cleanliness	ISO 14644 Class 4
Connectors	DC power IN/OUT: 4 position modular, 4-pin "handset type"
Indicators	Green POWER ON; red FAULT (TTL level alarm output) LEDs
Operating Env.	Temperature 15-50°C (59-122°F) recommended; relative humidity 20-65%
Mounting	Integrated mounting flanges accept four (4), #4 or #6 screws
Enclosure	White Polycarbonate
Dimensions	2.5″H x 1.5″W x 4.5″L (6.4 x 3.8 x 11.4 cm) includes air connectors
Weight	0.3 lb (136 g)
Warranty	Two year limited warranty
Certifications	CE 230V, 50 Hz c UL us 120V, 60 Hz RoHS2
Power Supply	
Output Voltage	24 VDC
Input Voltage	100-240 VAC, 50/60 Hz
Dimensions	1.3″H x 2.0″W x 3.5″L (3.3 x 5.1 x 8.9 cm)
Weight	11 oz (318g)

Discharge Time Performance

1/8″ - Single Output Tube (inside diameter)				
Tube Length	**30 PSI**	**15 PSI**	**5 PSI**	**2 PSI**
6″ Tube	0.5 sec	0.8 sec	1.4 sec	2.5 sec
12″ Tube	0.8 sec	1.4 sec	2.2 sec	4.0 sec
18″ Tube	1.0 sec	2.1 sec	3.5 sec	6.2 sec
24″ Tube	1.8 sec	3.2 sec	5.2 sec	9.6 sec
36″ Tube	6.0 sec	6.8 sec	10 sec	18 sec
48″ Tube	9.5 sec	13 sec	22 sec	40 sec

Offset voltage and discharge time determined as per ANSI/ESD STM3.1 ionization using a 6″ x 6″, 20 pF plate (charge plate monitor). Discharge times are in seconds from 1000-100V.

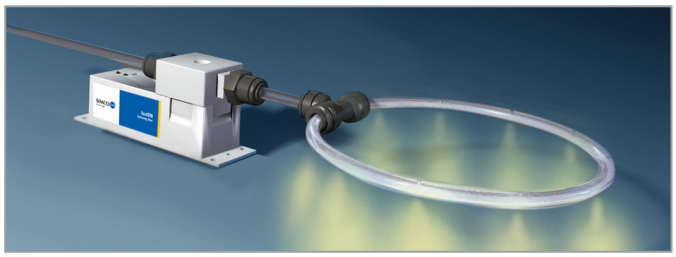
Ordering Information

4012229	In-Line fusION Ionizer, Tungsten (W) emitters
5051288	fusION Tungsten (W) Emitter Kit, 4 emitters
4010448	fusION Power Supply Kit, 120V, 60 Hz, NA/Japan
4010449	fusION Power Supply Kit, 230V, 50 Hz, EU
4010450	fusION Power Supply Kit, 230V, 50 Hz, UK
5051530	In-Line fusION Kit, 6" Air Knife Rod
5051538	In-Line fusION Kit, 12" Air Knife Rod
5051535	In-Line fusION Kit, 6" Air Ring
5051539	In-Line fusION Kit, 12" Air Ring
5051513	In-Line fusION Nitrogen N2 Kit

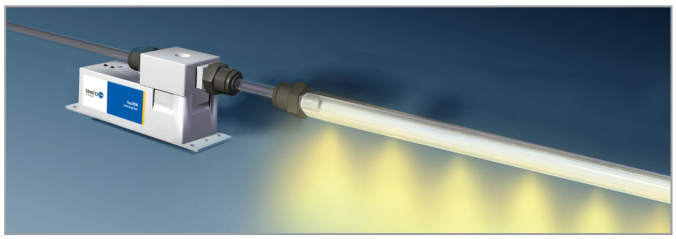
In-Line fusION Ionizer

For the longest time, end-users of ionization devices have desired the ability to deliver the ions through a lengthy tube that would allow them to bring focused ionized air conveniently to their target without being attracted to grounded metal components in their environment and without having to bring the ion generation source close to their target.

Simco-Ion has developed a DC in-line ionizer that has the ability to provide fast decay times through output tubes up to six feet in length. Since the ion-to-ion recombination down the output tube is so limited, the single output tube has the ability to be split into multiple tubes each with excellent performance allowing the fusION ionization source to service multiple locations from a single ionization source. This unit comes equipped for use with clean dry air (CDA); however, a Nitrogen (N2) kit is available.



Air Ring Output Application



Air Knife Output Application

Nitrogen (N2) Kit

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DS-In-line Fusion_V4 - 9/19

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