



# Critical Environment Overhead Ionizer

## MODEL 5810i

The Simco-Ion Critical Environment Overhead Ionizer Model 5810i is designed to provide industry-leading balanced ionization performance in cleanroom environments. The Model 5810i is certified for use in ISO 14644 Class 4 cleanrooms (Fed. Std. 209(e) Class 10). The ionizer can operate with external sensors to maintain precise balance (better than  $\pm 1V$ ) by altering ion output and adapting to environmental changes. With the reliability of steady-state DC, the established method for eliminating the effects of ESD and ESD-induced electromagnetic interference (EMI) in high-tech facilities, the Model 5810i delivers maximum ion output where and when you need it.

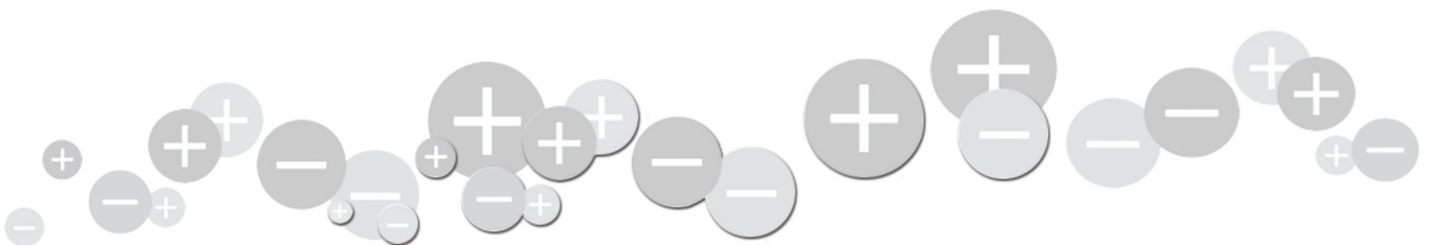
Complete compatibility with the operating conditions in today's cleanrooms is ensured with silicone-free air bearing fans. Each fan is engineered for cleanliness and sealed off from the rest of the chassis to meet critical cleanroom requirements. Ionizers that don't match these quality standards risk contaminating manufacturing processes and possibly reducing product yields.






### Features

- $\pm 3V$  or better balance ( $\pm 1V$  with the optional external feedback system)
- Cleanliness rated at ISO 14644 Class 4 (Fed. Std. 209e Class 10)
- Options for sensor input, FMS connection, alarms, and management control
- Auto-Clean System option

### Benefits

- Provides the best corona-based ESD protection for maximizing yields
- Designed for use in an environment with a controlled level of contamination
- Increased control with immediate notification of alarms and the prevention of unauthorized adjustment to power or fan speed
- Automated emitter point cleaning for reduced maintenance cost and time



|                              |   |
|------------------------------|---|
| <b>Input Voltage</b>         | 100-240 VAC ( $\pm 10\%$ ), 50/60 Hz  |
| <b>Output Voltage</b>        | 100-240 VAC, 50-60 Hz unfused, 5A max   |
| <b>Discharge<sup>1</sup></b> | $\pm 1000$ -100V @ <3 sec, taken 18" away (45.7 cm) from the blower at high fan speed   |
| <b>Balance</b>               | $\pm 3V$ or better balance ( $\pm 1V$ with the optional external feedback system)   |
| <b>Ion Emission</b>          | Steady-state DC   |
| <b>Emitters</b>              | Machined titanium emitter points, 8 per fan   |
| <b>Airflow</b>               | 108 cfm per fan (typ)   |
| <b>Cleanroom Class</b>       | Meets ISO 14644 Class 4 (Fed Std. 209E Class 10)  |
| <b>Operating Env</b>         | Temperature 50-90°F (10-32°C); humidity 30-70% RH, non-condensing   |
| <b>Ozone</b>                 | 0.02 ppm or less  |
| <b>Indicators</b>            | Green POWER on; red FAULT alarm LEDs with optional AUDIBLE ALARM  |
| <b>Audible Noise</b>         | High fan speed 61 dB (typ); low fan speed 52 dB (typ); measurements taken 12" (30.5 cm) below fan   |
| <b>Mounting</b>              | Eye-bolts and S-hooks provided; U-shape bracket available   |
| <b>Controls</b>              | Balance adjust trimpot (1 per fan), 3-position fan switch (high/low/off) or fixed speed, sensor gain trimpot (optional; 1 per fan), sensor type or no sensor slide switch   |
| <b>Daisy-chain</b>           | 10 units max; pwr cord (18 AWG) between units not to exceed 12" (304 mm) in length  |
| <b>Options</b>               | External sensor inputs, FMS 4-20 mA RJ-11 output (available with sensor option only), audible alarm, cord lock, Auto-Clean System   |
| <b>Enclosure</b>             | Aluminum chassis with epoxy-polyester powder coat   |
| <b>Dimensions</b>            | 3.8"H x 6.1"D x 32"L (9.6 x 15.5 x 81.3 cm)<br>3.8"H x 6.1"D x 40"L (9.6 x 15.5 x 101.6 cm)<br>3.8"H x 6.1"D x 44"L (9.6 x 15.5 x 111.8 cm)   |
| <b>Weight</b>                | Aluminum 44" unit 10.3 lb (4.6 kg)  |
| <b>Warranty</b>              | Two year limited warranty   |
| <b>Certifications</b>        |      |

1. Tested in accordance with ANSI/ESD STM3.1-2015.

## Ordering Information

|                        |   |
|------------------------|---|
| <b>91-5810i-CzzH</b>   | Powder-coated white aluminum blower $\pm 3V$ , high fixed fan speed (zz = 32", 40", 44" length) |
| <b>91-5810i-CzzX</b>   | Powder-coated white aluminum blower $\pm 3V$ , low/high fan speed, (zz = 32", 40", 44" length)  |
| <b>92-5810i-CzzX-*</b> | Powder-coated white aluminum blower $\pm 3V$ , low/high fan speed (zz = 32", 40", 44" length)   |
| <b>92-5810i-CzzH-*</b> | Powder-coated white aluminum blower $\pm 3V$ , high fixed fan speed (zz = 32", 40", 44" length) |
| <b>*=F</b>             | Lowers balance to $\pm 1V$ ; adds FMS output to any of the above 92 level part numbers          |
| <b>*=E</b>             | Adds auto emitter clean system (requires 1 per fan) to any of the above 92 level part numbers   |
| <b>*=A</b>             | Adds audible alarm to any of the above 92 level part numbers                                    |
| <b>25-20660</b>        | IEC power cable cord, US plug, 8.2 ft (2.5m)  |
| <b>25-0670</b>         | IEC power cable cord, US plug, 10 ft (3m)   |
| <b>25-0680</b>         | IEC power cable cord, US plug, 15 ft (4.6m)   |
| <b>25-0700</b>         | IEC power cable cord, no plug, 10 ft (3m)   |
| <b>25-20710</b>        | IEC power cable cord, UK plug, 8.2 ft (2.5m)  |
| <b>25-20735</b>        | IEC power cable cord, German-Schuko plug, 8.2 ft (2.5m)   |
| <b>25-20750</b>        | IEC power cable cord (China Plug), 8.2 ft (2.5m)  |
| <b>25-0720</b>         | Daisy-chain power cord  |
| <b>32-6405</b>         | U-shaped mounting bracket (2 needed per blower)   |

Note: May add any combination of -F, -E or -A options to the 92 level part number.

## Fan Speed Choices

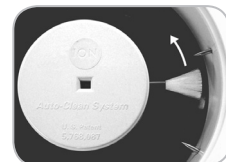
The 5810i was designed specifically for use in cleanrooms up to and including ISO 14644 Class 4 (Fed. Std. 209(e) Class 10) in cleanliness. To minimize disruption of laminar airflow, the unit has a 3-position fan setting that optimizes static discharge performance with the smallest volume and velocity of airflow.

## Factory Monitoring System

The blower includes an LED alarm light that indicates a range of possible conditions, including absence of ionization at the emitter points, or a stopped fan. An optional Audible Alarm is available. The optional Facility Monitoring System (FMS) feature provides an industry-standard 4-20 mA signal to your work cell controller for remotely monitoring error detection.

## Auto-clean System

The optional, Auto-clean System is an automated feature that provides reduced operating costs due to lower maintenance. The Auto-clean System features a brush mechanism that sweeps the emitter points when the blower is turned off and on, allowing the Model 5810i to continually perform at optimum ion output and balance.



## $\pm 1V$ Balance Performance

The Model 5810i ionizer's optional external feedback sensor operates with the Novx 7000 Process Monitor and with the Novx 3352 Passive or Novx 3362 Active Closed-loop Ionizer Controllers to detect and automatically correct the balance. With the antenna placed at the target area, feedback is sent to the Model 5810i blower's internal control system. This ensures that your target maintains a  $\pm 1V$  or better balance at all times.



## Daisy-Chain Connections

The Model 5810i Blower may connect with other Model 5810i Blowers (daisy-chain) in series using the female AC outlet provided on one end of the Blower. Up to 10 Blowers may be connected together.



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DS-5810i\_V5 - 9/19  
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