



## QuadBar<sup>TM</sup> Ionizer

### MODEL 4630

Simco-Ion's QuadBar Ionizer Model 4630 is the first corona ionizer to provide safe, effective static charge control in the ambient air inside a process chamber. Its unique quadropole configuration ensures effective ionization as close as 3 inches (7.6 cm) from the product. The 4630's compact size is designed to fit easily into the tight confines of any process equipment, and its ability to run on 24 VDC input power means it can connect to a tool's power source. In the rare event of system failure, the QuadBar's status output notifies the process tool controller or a Facilities Monitoring System (FMS).

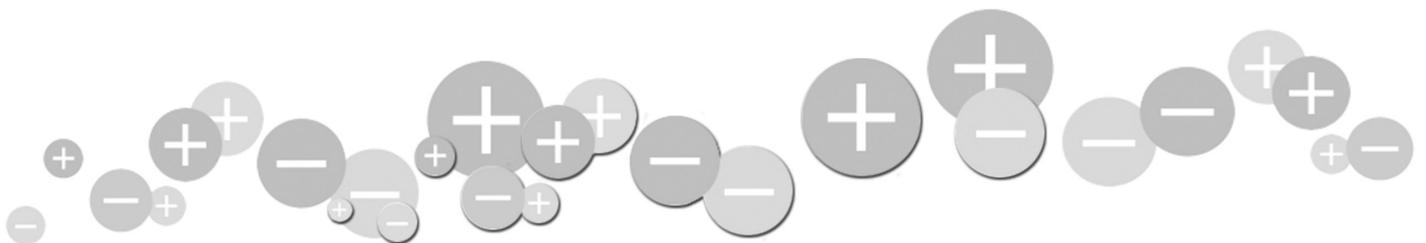
Simco-Ion developed the QuadBar to be the cleanest ionizer of its kind. When powered by 24 VDC, the QuadBar meets ISO 14644-1 Class 1 cleanliness levels.

#### Features

- Quadropole configuration with IsoStat<sup>®</sup> technology
- Compact size
- 24 VAC or 24 VDC operation
- Available with Single-crystal Silicon emitter points
- Alarm output to FMS or process tool controller

#### Benefits

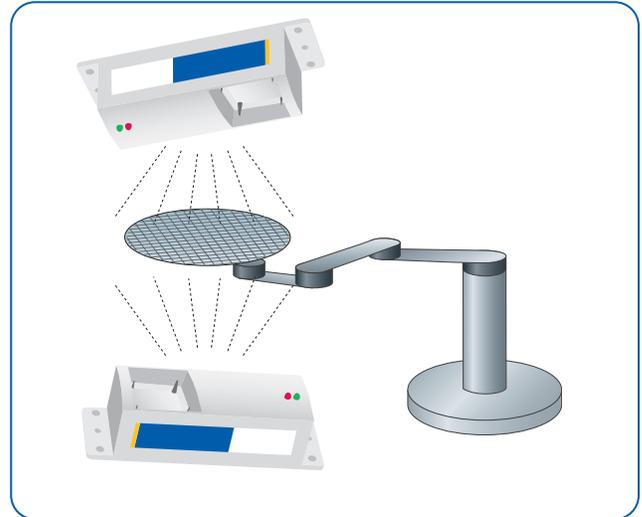
- Provides fast discharge and stable balance at distances as close as 3 inches (7.6 cm) from the product
- Fits into the tight confines of any process tool
- Connects to a 24 VAC or 24 VDC power supply or operates with an Ion controller or small transformer
- Emitter points provide the cleanest emitter point material for ionization, meeting ISO 14644-1 Class 1 standards when operated with 24 VDC power, and ISO 14644-1 Class 2 standards when operated with 24 VAC power.
- Ensures immediate notification of catastrophic system failure



Model 4630	
<b>Input Voltage</b>	24 VAC 35 mA via 33-1421-01 or 33-1431-01 transformer, Model 4030 controller or properly grounded 24 VAC power supply or 24 VDC power from tool power supply (but with reduced ion output)
<b>Discharge</b>	<30 sec @ 12" (30.5 cm) directly under the emitter points with airflow (80-100 fpm)
<b>Balance</b>	±50V @ 6" (15.2 cm) and 12" (30.5 cm) directly under emitter points with airflow (80-100 fpm)
<b>Ion Emission</b>	Steady-state DC Technology
<b>Emitter</b>	Single-crystal Silicon standard, field-replaceable, 2-3 year estimated life
<b>Cleanroom Class</b>	ISO 14644-1 Class 1 when powered with 24 VDC; ISO 14644-1 Class 2 when powered with 24 VAC with 33-1421-01 transformer or Model 4030 Controller
<b>LED Indicator</b>	Green POWER; red ALARM
<b>Coverage</b>	12" x 12" (30.5 x 30.5 cm)
<b>Airflow</b>	80-100 fpm recommended
<b>Status Output</b>	Model 5090 FMS interface attachment; Model 4030 controller signals OK or system failure
<b>Operating Env</b>	59-122°F (15-50°C) recommended; 20-65% RH (non-condensing)
<b>Daisy-chain</b>	Up to 4 units via transformer; up to 16 units via Model 4030 controller
<b>Maintenance</b>	Emitter point cleaning at monthly to quarterly intervals, depending on environment; no adjustment or calibration required
<b>Mounting</b>	Can be mounted to any process tool or flowhood using 4 #6 screws
<b>Enclosure</b>	ABS
<b>Dimension</b>	1.4"H x 1.3"W x 4.5"L (3.56 x 3.30 x 11.4 cm) with flange
<b>Weight</b>	0.22 lb (0.10 kg)
<b>Warranty</b>	Two year limited warranty
<b>Certification</b>	   
33-1421-01 Transformer	
<b>Input Voltage</b>	120 VAC ±10%, 60 Hz
<b>Output Voltage</b>	24 VAC ±5% @ 500 mA
<b>Dimension</b>	3.0"H x 1.9"W x 1.6"D (7.62 x 4.83 x 4.06 cm)
<b>Weight</b>	0.9 lb (0.4 kg)
<b>Certification</b>	 
33-1431-01 & 33-1434-01 Transformers	
<b>Input Voltage</b>	230 VAC ±10%, 50 Hz
<b>Output Voltage</b>	24 VAC ±5% @ 500 mA
<b>Dimension</b>	3.2"H x 2.2"W x 1.9"D (8.13 x 5.59 x 4.83 cm)
<b>Weight</b>	0.9 lb (0.4 kg)
<b>Certification</b>	 

## IsoStat Technology

Simco-Ion's IsoStat Technology guarantees intrinsically balanced ionization and eliminates complicated feedback circuits. Ionizers incorporating this technology never need calibration and require very little maintenance. IsoStat is based on a law of physics, Conservation of Charge, which states that charge cannot be created or destroyed in an isolated system. By isolating the ionizer's emitter points from ground, IsoStat ensures equal numbers of positive and negative ions to better protect the sensitive product.



QuadBar ionizers placed above and below the wafer accelerate discharge times on the front and back surfaces, regardless of airflow.

## Power Flexibility

A number of different options exist for powering the QuadBar. These include the QuadBar Controller Model 4030, which powers up to sixteen QuadBars at once, connection to a properly grounded 24 VAC power supply, or connection to a 24 VDC tool power supply (although with reduced ionization output). The power choices available for the QuadBar are designed to accommodate varying installation sizes and power needs, making the QuadBar a versatile and effective ionizer.

## Ordering Information

<b>91-4630EUR</b>	QuadBar Ionizer
<b>91-4030R</b>	QuadBar Controller, powers up to 16 QuadBar (IEC power cord required, contact Sales Services for detail)
<b>33-1421-01</b>	Power Supply Kit, 120V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, US
<b>33-1431-01</b>	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, EU
<b>33-1434-01</b>	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, UK
<b>33-1440-01</b>	DC Power Supply Kit, 100-240 VAC to 24 VDC 1A, interconnect cable with RJ-9 4P/4C plug (IEC power cord required, contact Sales Services for detail)

**SIMCO ION**<sup>TM</sup>  
An ITW Company

DS-4630\_V11 - 2/23  
© 2023 Simco-Ion  
All rights reserved.

### Simco-Ion, Technology Group

1141 Harbor Bay Parkway, Suite 201  
Alameda, CA 94502

Tel: +1 (800) 367-2452 (in USA)  
Tel: +1 (510) 217-0460

ioninfo@simco-ion.com  
www.simco-ion.com/technology

w o r l d w i d e l e a d e r s i n s t a t i c c o n t r o l