

QuadBar™ Ionizer

MODEL 4630



The 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).

The QuadBar was developed 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® Technology
- ✓ Compact size
- ✓ 24 VAC or 24 VDC operation
- ✓ Single-crystal Silicon emitter points
- ✓ Alarm output to FMS or process tool controller

BENEFITS

- ✓ Provides stable balance at distances as close as 3" (7.6 cm) from the product
- ✓ Fits into confined spaces of process tools
- ✓ Connects to a 24 VAC or 24 VDC power supply or operates with the Controller or small transformer
- ✓ Emitter point material meets ISO 14644-1 Class 1 with 24 VDC power, and ISO 14644-1 Class 2 with 24 VAC power
- ✓ Ensures immediate notification of catastrophic system failure

invisible problems
visible results™
Tackling Static & Particulate Contamination

Model 4630	
Input Voltage	24 VAC, 35 mA via 24 VAC Transformers (P/N 33-14xx-01, where xx = 21, 31, 34, 46); or 24 VDC via tool power or P/N 33-1440-01; or Model 4030 Controller, up to 16 QuadBar's (max)
Discharge¹	<30 sec @ 12" (30.5 cm) directly under the emitter points with airflow (80-100 fpm)
Balance	±50V @ 6" (15.2 cm) and 12" (30.5 cm) directly under emitter points with airflow (80-100 fpm)
Ion Emission	Steady-state DC Technology
Emitter	Single-crystal Silicon
Cleanroom Class	ISO 14644-1 Class 1 when power with 24 VDC ISO 14644-1 Class 2 when power with 24 VAC
LED Indicator	Green POWER; red ALARM
Coverage	12" x 12" (30.5 x 30.5 cm)
Airflow	80-100 fpm recommended
Status Output	Via Model 5090 FMS Interface attachment, or through Model 4030 Controller signals OK or system failure
Operating Env	59-122°F (15-50°C) recommended; 30-60% RH (non-condensing)
Daisy-chain	Up to 4 units via transformer or up to 16 QuadBar's via Model 4030 Controller
Mounting	Can be mounted to any process tool or flowhood using four #6 screws
Enclosure	ABS
Dimension	1.4"H x 1.3"W x 4.5"L (3.56 x 3.30 x 11.4 cm) with flange
Weight	0.22 lb (0.10 kg)
Warranty	Two year limited warranty
Certification	   

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

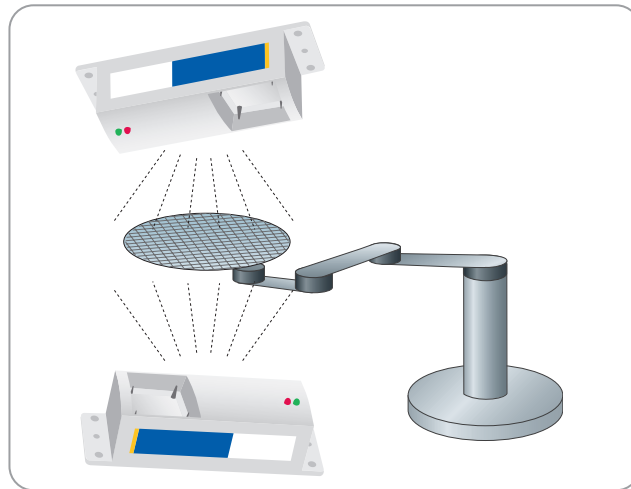
Ordering Information

91-4630EUR	QuadBar Ionizer
91-4030R	Model 4030 QuadBar Controller, powers up to 16 QuadBar's*
91-5090R	Model 5090 FMS Interface
33-1421-01	Power Supply Kit, 120V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, US
33-1431-01	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, EU
33-1434-01	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, UK
33-1446-01	Power Supply Kit, 230V/24 VAC 500 mA, interconnect cable with RJ-9 4P/4C plug, AU/CN
33-1440-01	DC Power Supply Kit, 100-240 VAC to 24 VDC 1A, interconnect cable with RJ-9 4P/4C plug*
33-1723-6	DC Power Cable (QuadBar & 24 VDC tool power), 6' (1 connector/1 pigtail)
22-1000	Emitter Point Cleaner, IPA swab

* IEC power cord required, contact Sales Services for detail.

IsoStat Technology

Simco-Ion, Technology Group'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.



Simco-Ion, Technology Group

1141 Harbor Bay Parkway
Suite 201
Alameda, CA 94502

+1 (800) 367-2452 (in USA)

+1 (510) 217-0460

salesservices@simco-ion.com

www.simco-ion.com/technology

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