

QuadBar™ Ionizer

MODEL 4630

The QuadBar is the first corona ionizer to provide safe, effective static charge control in the ambient air inside a process chamber. Its unique quadropole configuration¹ 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 24 VAC input power means it can connect to a tool's power source. In the rare event of a system failure, the QuadBar's status output notifies the process tool controller or a Facilities Monitoring System (FMS).

Ion developed the QuadBar to be the cleanest ionizer of its kind. Available with single crystal silicon emitter points², the industry standard for ultraclean ionization, the QuadBar exceeds Class 1 cleanliness standards. In fact, single crystal silicon points produce 40 times fewer particles than the tungsten emitter points used in other ionizers.

Features and Benefits


- Quadropole configuration with IsoStat® technology
- Provides fast discharge and stable balance at distances as close as 3 inches (7.6 cm) from the product
- Compact size
- Fits into the tight confines of any process tool
- 24 VAC or 24 VDC operation
- Connects to a 24 VAC or 24 VDC power supply or operates with Ion controller or small transformer
- Available with single crystal silicon emitter points
- Industry-standard better than Class 1 emitter points provide the cleanest alternative in static charge control
- Alarm output to FMS or process tool controller
- Ensures immediate notification of any system failure

1. U.S. Patent No. 6,002,573

2. U.S. Patent Nos. 5,447,763 and 5,650,203

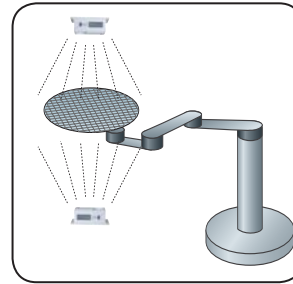


Specifications

QuadBar Model 4630	
Ion Emission	Steady-state DC
Emitter Points	Single crystal silicon standard, field-replaceable, 2-3 year estimated life
Coverage area	12" x 12" (30.5 x 30.5 cm)
Airflow	80-100 fpm recommended.
Input Power	24 VAC, 35 mA, via Ion's 14-1535 transformer, Model 4030 or 4530 controllers, or properly grounded 24 VAC power supply 24 VDC power from tool power supply (but with reduced ion output)
Indicators	Green LED indicates power; red LED indicates alarm
Ion Balance	±50 V at 6" and 12" (30.5 cm) directly under the emitter points with airflow (80-100 fpm)
Discharge	≤30 seconds at 12" (30.5 cm) directly under the emitter points with airflow (80-100 fpm)
Status Output	Model 5090 FMS interface attachment, Model 4030 or 4530 controllers signal OK or system failure
Materials	ABS enclosure
Mounting	Can be mounted to any process tool or flowhood using four #6 screws.
Daisy-chain	Up to 4 units via 14-1535 transformer; up to 16 units via Model 4030 controller; up to 18 units via Model 4530 controller.
Operating Environment	15-50° C (59-122° F) recommended; 20-65% relative humidity
Maintenance	Emitter point cleaning at monthly to quarterly intervals, depending on environment; no adjustment or calibration required
Dimensions	1.3"H x 1.3"W x 3.6"L (3.3 x 3.3 x 9.1 cm)
Weight	3.44 oz. (100.3 g)
Warranty	2-year limited warranty
Certifications	

Patented IsoStat Technology

Ion's patented IsoStat technology³ 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 sensitive product.⁴



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 and monitors up to sixteen QuadBars (in lines of four), Ion's 14-1535 transformer, which powers up to four QuadBars at once, and connection to a properly grounded 24 VAC power supply. The 4630 can also be powered by 24 VDC from a tool's 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.

3. U.S. Patent No. 5,055,963

4. U.S. Patent No. 4,809,127

Ordering Information

91-4630EU	QuadBar Ionizer
91-4030	QuadBar Controller
14-1535	Transformer for QuadBar
33-1720-6	Interconnect Cable for QuadBar



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