



QuadBar with Air Assist

MODEL 4632

The QuadBar™ with Air Assist Model 4632 provides safe, effective static charge control independent of process air flow. A patent-pending cross-channel air cartridge built around the emitter points provides an independent air delivery system for tight confines where air-flow is not adequate or is missing. With the air delivery system providing a protective sheath around the emitter points, cleaning periods are extended.

The unique quadropole configuration¹ ensures effective ionization as close as 3 inches (7.6 cm) from the product. The 4632's compact size is designed to fit easily into the tight confines of any process equipment. With its own independent air delivery system, the QuadBar™ with Air Assist ensures dependable performance in small spaces.


Features and Benefits

- Patent-pending air assist cartridge with cross-channel air delivery over emitter points
- Quadropole configuration with IsoStat® technology
- Compact size
- Available with single crystal silicon emitter points
- Alarm output to FMS or process tool controller
- Provides independent airflow, increasing performance and extending cleaning periods
- Provides fast discharge and stable balance at distances as close as three inches (7.6 cm) from the product
- Fits into the tight confines of any process equipment
- Industry-standard better than Class 1 emitter points provide the cleanest alternative in static charge control
- Ensures immediate notification of system failure

1. Quadropole configuration: US Patent No. 6,002,573



Specifications

QuadBar with Air Assist Model 4632	
Ion emission	Steady-state DC
Emitter points	Single crystal silicon standard with air assist cartridge, 2-3 year estimated life (depending on process environment)
Coverage area	12 x 12 in. (30.5 x 30.5 cm); measurements were taken with an airflow rate of 100 fpm using a charged plate monitor in accordance with EOS-ESD standard STM3.1 2000.
Air supply	Clean dry air (CDA) or nitrogen
Airflow	0-25 lpm at a setting of 0-7 psi
Air connection	0.15" (4 mm) OD tubing with 2 micron filter or better
Input power	24 VAC, 35 mA, when used with Ion's 14-1535 transformer or Controller Model 4030, or a properly grounded 24 VAC power supply
Indicators	Green LED indicates power; red LED indicates alarm
Ion balance	±50V at 6 and 12 inches (15.2 and 30.5 cm) directly under the emitter points
Discharge	≤25 seconds at 12 in. (30.5 cm) directly under the emitter points with minimum 10 lpm purging gas airflow
Status output	FMS Model 5090 interface attachment or Controller Model 4030 signal OK or system failure
Materials	ABS enclosure; polycarbonate air assist cartridge; mylar and stainless steel labels
Mounting	Can be mounted to any process tool or flowhood using four #6 screws
Daisy-chain	Up to 4 units when used with 14-1535 transformer; up to 16 units via Controller Model 4030
Operating environment	15-50°C (59-122°F) recommended; 20-65% RH
Maintenance	Emitter point cleaning at monthly to quarterly intervals depending on environment; no adjustment or calibration required
Options	FMS Model 5090 Controller Model 4030
Dimensions	1.3H x 1.3W x 3.6L in. (3.3H x 3.3W x 9.1L cm) With air connection elbow width is 1.92" (4.88 cm)
Weight	3.8 oz (108g)
Warranty	Two year limited warranty
Certifications	

Patented IsoStat Technology

Ion's patented IsoStat technology¹ 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.

Air Assist Benefits All Environments

In applications where laminar flow is present, the QuadBar with Air Assist enhances ion delivery performance with a minimum of 10 LPM of purging gas airflow, and a typical static discharge time of less than 25 seconds at 12 inches (30.5 cm) below the unit. For installations where laminar flow is not present or cannot reach the target, the QuadBar with Air Assist provides as much or as little airflow as is needed. This is particularly beneficial in equipment that is sensitive to air turbulence.



The unique cross-channel air cartridge fits over emitter points, delivering a stream of independent air delivery.

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 power choices available for the QuadBar are designed to accommodate varying installation sizes and power needs, making the QuadBar a versatile and effective ionizer.



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1. IsoStat technology: US Patent No. 5,005,963