



## QuadBar™ with Air Assist

### MODEL 4635

Simco-Ion's QuadBar™ Ionizer with Air Assist Model 4635 provides effective static charge control in a small format. The unique Quadropole emitter point configuration enables the ionizer to be as close as 3 inches (7.6 cm) to the product. The Model 4635's compact size is designed to fit easily into the tight confines of any process equipment. With its independent air delivery system, the Model 4635 provides ionization where airflow is limited or unavailable.

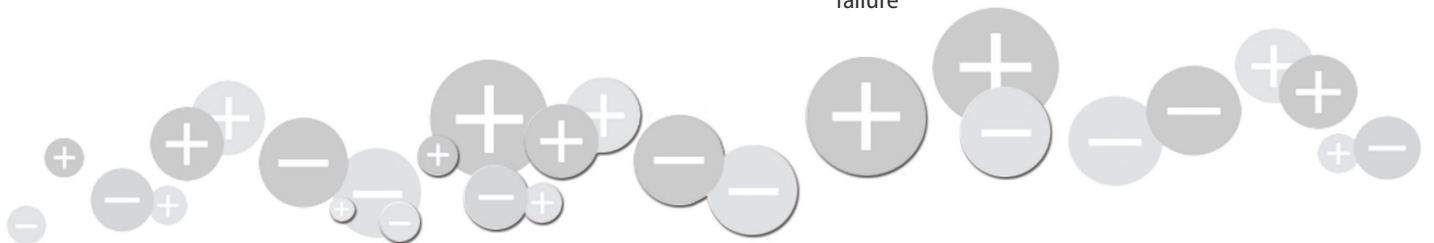
The Model 4635 offers two air assist cartridge design options. Each utilizes a cross-channel air cartridge built around the emitter points that provides optimal air distribution with minimal field voltage. The 'Standard' cartridge has sheathed emitter points, delivering the airflow around each emitter point and providing a protective sheath that extends cleaning periods. The 'Jet' cartridge is designed to move high-velocity ionized air through a center orifice to provide extremely fast discharge times. The Model 4635 ionizer can be powered with either 24 VDC directly to tool power or 24 VAC using a transformer or the Model 4030 controller.









#### Features

- Air assist cartridge design with cross-channel air delivery; two cartridge design options
- Rotatable cartridge design
- Quadropole configuration with IsoStat technology
- Compact size
- Single Crystal Silicon emitter points
- Alarm output to FMS or process tool controller

#### Benefits

- Choice of a Standard cartridge with sheathed emitter point for extended cleaning periods or a high-velocity Jet cartridge for extremely fast discharge times
- Allows positioning of air inlet line on either side or the end for installation flexibility
- Provides stable balance at distances as close as 3" (7.6 cm) from the product
- Small format fits into the tight confines of process equipment
- Semi standard for emitter point material provides ISO 14644 Class 1 or Class 2 cleanliness depending on the input power
- Ensures immediate notification of catastrophic system failure



Specifications	
<b>Input Voltage</b>	24 VAC ±5% @ 0.10A, 50/60 Hz, 2.4W; 24 VDC ±5% @ 0.025A, 0.6W (typ)
<b>Balance</b>	±50V @ 6" & 12" (15.2 & 30.5 cm) directly under the emitter points
<b>Discharge</b>	<b>Standard Cartridge</b> <15 sec @ 12" (30.5 cm) directly under emitter points with 15 lpm (min) purging gas airflow; <b>Jet Cartridge</b> <6 sec @ 12" (30.5 cm) directly under emitter points with 15 lpm (min) purging gas airflow
<b>Ion Emission</b>	Steady-state DC
<b>Emitters</b>	Single Crystal Silicon standard, 2-3 year est. life (depending on process environment)
<b>Cleanliness</b>	ISO 14644 Class 1 when powered with 24 VDC; ISO Class 2 when powered with 24 VAC with 33-1421-01 transformer or Model 4030 Controller
<b>Coverage Area<sup>1</sup></b>	12" x 12" (30.5 x 30.5 cm) at a distance of 12"
<b>Air Supply</b>	Clean dry air (CDA) or nitrogen
<b>Airflow</b>	0-25 lpm at a setting of 0-7 psi
<b>Air Connection</b>	0.15" (4 mm) OD tubing with 2 micron filter or better
<b>Indicators</b>	Green POWER; red ALARM LEDs
<b>Status Output</b>	FMS Model 5090 interface with 33-1421-01 transformer or direct wire; Controller Model 4030 signal OK or system failure
<b>Operating Env.</b>	Temperature 59-122°F (15-50°C) recommended; humidity 20-65% RH
<b>Maintenance</b>	Emitter point cleaning at monthly to quarterly intervals depending on environment; no adjustment or calibration required
<b>Daisy-chain</b>	Up to 4 units when used with 33-1421-01 transformer; up to 16 units via Controller Model 4030
<b>Mounting</b>	Can be mounted to any process tool or flowhood using 4 #6 screws
<b>Enclosure</b>	ABS, polycarbonate air assist cartridges, mylar & stainless steel labels
<b>Dimensions</b>	1.3"H x 1.3"W x 4.5"L (33 x 33 x 114 mm) air connection elbow on the side, width 1.92" (4.88 cm); air connection elbow on the end, ionizer body length 3.9" (10 cm)
<b>Weight</b>	3.8 oz (108g)
<b>Warranty</b>	Two-year limited warranty
<b>Certifications</b>	   
33-1421-01 Transformer	
<b>Input Voltage</b>	120 VAC ±10%, 50 Hz
<b>Output Voltage</b>	24 VAC ±5% @ 500 mA
<b>Dimensions</b>	3.0"H x 1.9"W x 1.6"D (76.5 x 48.5 x 40 mm)
<b>Weight</b>	0.9 lb (0.4 kg)
<b>Certifications</b>	 
33-1431-01 & 33-1434-01 Transformer	
<b>Input Voltage</b>	230 VAC ±10%, 60 Hz
<b>Output Voltage</b>	24 VAC ±5% @ 500 mA
<b>Dimensions</b>	3.2"H x 2.2"W x 1.9"D (81.5 x 56.5 x 48.5 mm)
<b>Weight</b>	0.9 lb (0.4 kg)
<b>Certifications</b>	 

1. Measurements were taken with an airflow rate of 100 fpm using a charged plate monitor in accordance with ANSI/ESD STM3.1-2015.

## Insert Cartridge Options

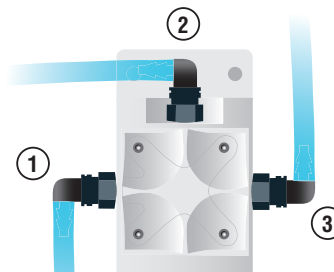


Standard cross-channel cartridge with airflow sheath around the emitter points extends cleaning periods.



Jet cross-channel cartridge with center orifice produces high velocity for fast discharge times.

## Air Line Location Options



Air Line location choices #1, #2 or #3 as shown below

## 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.

## Ordering Information

<b>91-4635EU-X-Y</b>	QuadBar, standard or jet insert, choice of air inlet location, cable included
-S	QuadBar, standard insert with sheathed emitter points
-J	QuadBar, jet insert with center orifice
-1	Air Inlet on Left Side
-2	Air Inlet on Center Front
-3	Air Inlet on Right Side
<b>91-4030R</b>	QuadBar Controller, powers up to 16 QuadBar (power cord req'd)
<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 (power cord req'd)
<b>25-20660</b>	IEC Power Cable (US Plug), 7.6' (2.34m)
<b>25-20710</b>	IEC Power Cord (UK Plug), 8.2' (2.5m)
<b>25-20735</b>	IEC Power Cord (German Schuko Plug), 8.2' (2.5m)
<b>25-20750</b>	IEC Power Cord (China Plug), 8.2' (2.5m)
<b>33-1723-6</b>	DC Power Cable (QuadBar & 24 VDC tool power), 6', 1 connector/1 pigtail

**SIMCO ION**<sup>TM</sup>  
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