



High Temperature Ionization System

MODEL 4610TF IONIZER & 4052E CONTROLLER

Simco-Ion's High Temperature Ionizer Model 4610TF neutralizes static charge in environments with extreme conditions. Together with the High Temperature Controller Model 4052E, the High Temperature Ionizer Model 4610TF creates a uniquely capable ionization system that can withstand high heat and extreme cold, two challenging environments that cannot support other means of static elimination.

The compact size of the Model 4610TF and unique guides surrounding the emitter points make the ionizer perfectly suited for tight areas of extreme environments where adequate airflow can be an issue. The vanes can be adjusted by rotating to match airflow orientation, increasing the delivery of ions.

Features







- Withstands temperatures up to 302°F (150°C) and down to -94°F (-70°C)
- IsoStat® technology
- Small form factor with large ion output
- Available with tungsten alloy or single-crystal silicon emitter points
- Unique ion guides

Benefits

- Eliminates static charge in extreme environments that cannot sustain any other static elimination method
- Self-balanced; no calibration needed
- Ensures safe operation and static elimination in confined, high temperature areas
- The industry standard for semiconductor processing offering ideal compatibility and ISO 14644-1 Class 2 cleanliness
- Ions are directed using existing airflow toward any point inside the smallest areas while protecting emitter points from dirt and buildup



Specifications

Power	Powered by Model 4052E Controller; connects to the controller via interchangeable HV cable connectors
Output Voltage	8 kVDC
Operating Env.	-94°F to 302°F (-70°C to 150°C); max 85% relative humidity, non-condensing
Discharge	<3 sec @ 6"; <5 sec @ 10"; <10 sec @ 18" distance between ionizer and CPM (±1000-100V) with 90 fpm hood airflow velocity (tested in accordance with ANSI/ESD STM3.1-2000)
Airflow	60-100 fpm (18.3-30.5 mpm) recommended
Emitter Points	4 tungsten alloy or single-crystal silicon points
Cabling	Rated at 30 kV, available in 2 lengths, 13.3 and 21.7 ft (4 and 6m)
Enclosure	Body Teflon; Fins/rivet PEEK
Mounting	2 mounting slots provided; methods varies depending on environment
Dimensions	1.5H x 1.2W x 4.5L in. (3.8H x 3.5W x 11.4L cm)
Weight	4 oz (117g)
Warranty	Two-year limited warranty
Certifications	   RoHS 2 Compliant
Controller Model 4052E	
Input	110/200/220/240 VAC, 50/60 Hz, 3.6W, 30 mA at 120 VAC, fuse protected
Output Voltage	9 kVDC
Load Current	<20 µA
Operating Env.	-20 to 104°F (-29 to 40°C), max 85% relative humidity, non-condensing
Controls	On/off power switch
LED Indicators	Green POWER; Red ALARM (indicates HV power supply failure)
Fuse	250 VAC, 250 mA, 5 x 20 slow blow
Enclosure	Stainless steel
Dimensions	2.3H x 3.8D x 8.3L in. (5.7H x 9.5W x 21L cm)
Weight	3 lb (1.6 kg)
Warranty	Two-year limited warranty
Certifications	RoHS 2 Compliant   

Ordering Information

91-4610TF-TR	High-temp Ionizer with tungsten emitter points
91-4610TF-UR	High-temp Ionizer with silicon emitter points with 4m cable
91-4610TF-U-6R	High-temp ionizer with silicon emitter points and 6m cable
91-4052ER	Controller
33-4610TF-001	High Voltage Connector Kit

Different Configurations

The High Temperature Ionizing System can be customized to fit your specific application:

- Emitter points are available in single-crystal silicon or in tungsten alloy. Silicon emitter points are suitable for ultra-clean environments.
- The High Voltage Connector Kit is available for applications that require a convenient way to disconnect the ionizer from the controller.

IsoStat Technology



Simco-Ion's IsoStat technology is the first balancing technology for ionizers to guarantee intrinsically balanced ionization and elimination of complicated feedback circuits. 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. Characteristics of IsoStat ionizers include:

- Ionizers never need calibration and require very little maintenance.
- Small size and operation without grounding wires.

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