



# Extreme Temperature Ionization System

**MODEL 4612 PRECISION IONIZER**  
**MODEL 4062E CONTROLLER**  
**MODEL 550 ANTENNA**

Simco-Ion's new Extreme Temperature Ionization System provides  $<\pm 10V$  balance in extreme environments from  $-50^{\circ}C$  to  $+150^{\circ}C$ . The 4612 Ionizer, along with its 4062e Controller and 550 Extreme Temperature Antenna use closed-loop control to ensure the ionizer's output is balanced at the location that's critical—the product location itself.

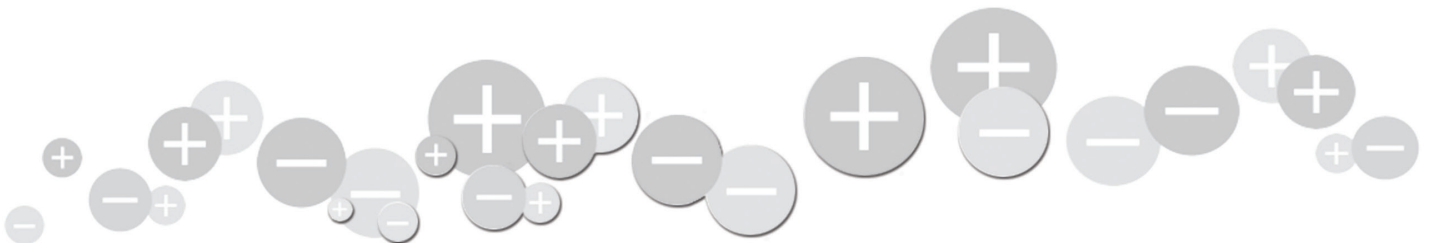
The compact size of the 4612 Precision Ionizer, 4062e Controller and 550 Antenna are the perfect answer to maintain tightly-controlled ionization in small test chambers with active robotics moving parts under extreme environments. The 4612 Precision Ionizer uses high voltage DC technology with tungsten emitters so it can be used in ISO 14661-1 Class 6 cleanliness environments.

## Features

- Operates in temperatures as high as  $150^{\circ}C$  ( $310^{\circ}F$ ) and as low as  $-50^{\circ}C$  ( $-58^{\circ}F$ )
- Balance control of better than  $<\pm 10V$  standard meets the new stringent requirements for S20.20
- 550 Antenna to measure balance at the device location
- Optional feedback control using Novx Active Antenna with the Model 3362

## Benefits

- Eliminates static charge in extreme environments that cannot sustain any other static elimination method
- Self-balancing ionization eliminates calibration in the tight confines of the test chamber
- Ensures that balance is maintained at the target where it matters, not just at the ionizer itself
- Eliminates the need for two antennas for process monitoring

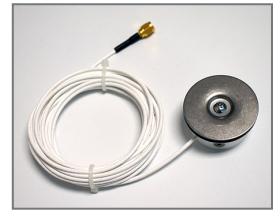


Ionizer Model 4612	
<b>Input Voltage</b>	+24 VDC, ±5% @ 0.25A, 6W (max)
<b>Balance</b>	±10V (typ) around initial set point
<b>Discharge<sup>1</sup></b>	10 sec (depending on environment) @ 12" (300 mm) with 100 fpm gas velocity (decay time for ±1000-100V)
<b>Ion Emission</b>	DC corona discharge
<b>Cleanliness</b>	ISO 14644-1 Class 6
<b>Ion Emitter</b>	Tungsten
<b>Gas</b>	Clean dry air or Nitrogen with minimum purity 99.99%
<b>Gas Velocity</b>	100 fpm (min) velocity past 4612 Ionizer
<b>Gas Supply Temp</b>	150°C (max)
<b>Operating Temp</b>	-50°C to +150°C (max)
<b>Alarms</b>	Low input voltage; HV output fault; antenna signal too variable/noisy and/or out of range
<b>FMS</b>	Relay contact, rated ±24 VDC @ 0.2A, max 4-20 mA Current output
<b>Mounting</b>	4612-210 Ionizer: (2) M4 holes, 4612-526 Ionizer: (4) M4 holes
<b>Enclosure</b>	4612 Ionizer: PEEK; 550 Antenna: PTFE and Stainless Steel
<b>Dimensions</b>	4612-210 mm Ionizer: 8.3"L x 0.8"W x 1.2"H (210 x 21 x 30 mm) 4612-500 mm Ionizer: 20.7"L x 0.8"W x 1.2"H (526 x 21 x 30 mm) 550 Antenna: 1.7 dia x 0.9"H (44 dia x 22 mm)
<b>Weight</b>	4612-210 mm Ionizer: 365 grams (12 oz) 4612-500 mm Ionizer: 515 grams (18 oz) 550 Antenna: 0.3 lbs (0.14 kg) including cables
<b>Certifications</b>	
Controller Model 4062e	
<b>Input Voltage</b>	24 VDC ±5% @ 1.0A to 4062 Controller (optional external power supply to convert from 100-240 VAC to 24 VDC)
<b>Output Voltage</b>	±6.5 kV max, peak-to-peak
<b>Operating Env</b>	10-35°C (50-95°F); 30-60% RH, non-condensing
<b>Controls</b>	Balance adjust
<b>LED Indicators</b>	Green POWER, red ALARM (indicates instability or HV power failure)
<b>Connections</b>	RJ-11 connector for 24 VDC input; two HV connectors; RJ-9 connector for FMS output (relay closure & 4-20 mA); SMA connector for antenna
<b>Mounting</b>	(2) M4 holes
<b>Enclosure</b>	Stainless steel
<b>Dimensions</b>	201L x 92W x 57H mm (7.9L x 3.6W x 2.2H in)
<b>Weight</b>	1.1 kg (2.4 lb)
<b>Warranty</b>	Two-year limited warranty (4612 ionizer and 4062e controller)
<b>Certifications</b>	

1. Tested in accordance with ANSI/ESD STM3.1-2015.

## Ionizer Balance Control

The 4062e Controller, when paired with the 550 Antenna and 4612 Precision Ionizer, will provide balance to within ±10V, following industry-standard ANSI/ESD STM3.1-2006 protocols in a steady-state environment. Changes in temperature, humidity, air composition, and/or moving mechanical components in the area will temporarily impact balance. The use of the 550 Remote Antenna and closed-loop control provide the fastest, most accurate corrections for such changes.

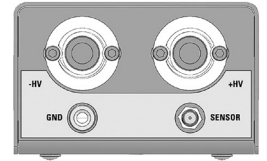


## Balance Control & Decay Test Option

The standard Novx 3362 with its standard antenna's, can replace the 550 Antenna to monitor and control the extreme temperature. Using the Novx 3362 with the feedback control kit, will allow active feedback and control.

## Compact Controller

The 4062e Controller is a physically small unit, to allow it to be mounted almost anywhere inside a tool within a few meters of the Precision Ionizer itself.



Model 4612-210 Ionizing Bar



Model 4612-526 Ionizing Bar



## Ordering Information

91-4062e-01	4062e Controller
91-4612-210-01	4612-210 Ionizer with 4m cable
91-4612-210-6-01	4612-210 Ionizer with 6m cable
91-4612-526-01	4612-526 Ionizer with 4m cable
91-4612-526-6-01	4612-526 Ionizer with 6m cable
33-0550-4M-01	550 Antenna
33-1920-01	Tungsten emitter wires replacement (9)
33-1921-01	Tungsten emitter wires replacement (21)
33-2462-01	Novx 3362 to 4062e feedback control kit
33-5701-1	24 VDC Power Supply
25-20750	China Power Cord
25-20735	Europe Power Cord
25-20660	Northern America Power Cord
25-20710	UK Power Cord

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