

Emitter Maintenance



Digital Ionization Room System

Digital Ceiling Emitter Model 5515
Digital Controller Models 5582/5522
IR Handheld Remote Model 5572
Handheld Terminal Model 5571
IonManager Pro Software

Required Cleaning Materials

- Solution of 50% deionized water and 50% isopropyl alcohol (IPA) or Simco-Ion Emitter Point Cleaner (#22-1000)
- Cleanroom-compatible cloth or wipe
- Cleanroom approved swab (foam is not recommended)

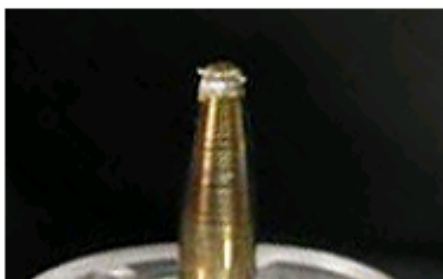
Emitter Point Inspection and Cleaning

Emitter point maintenance ensures continued optimum performance from emitters. Dirt or erosion to emitter points can be caused by a number of environmental factors, including airborne molecular contaminants.

Before cleaning or removing emitter points, the emitter must be powered down. There are three ways to remove power from emitters: turn off the controller, disconnect the in-coming modular cable at the emitter, or put the emitter in standby mode.

Turning off the Controller is as simple as turning off the on/off switch. See Chapter 3 for instructions on placing an Emitter standby mode.

Emitter points should be checked regularly for erosion or dirt on the tips of the points. Evidence of dirty emitter points may include black points, black or white dirt formed on the tips, and worn points.



Close-up of an Eroded Titanium Emitter Point



Close-up of Dirt on Silicon Emitter Point



Do not clean emitter points while the unit is powered. Doing so may result in additional contamination and possible shock. After removing power from the emitter, allow a minute for the high voltage power supplies to discharge.

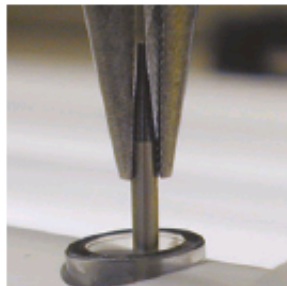


Ne nettoyez pas points émetteurs pendant que l'unité est sous tension. Cela peut entraîner une contamination supplémentaire et choc éventuel. Après retrait de l'alimentation de l'émetteur, attendez une minute pour les alimentations haute tension de décharge.

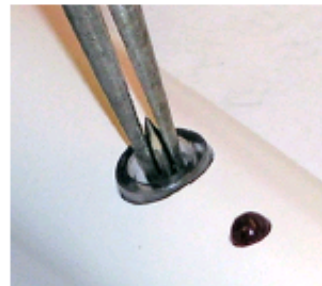
To clean the emitter points and areas around the emitter points, moisten a cleanroom-compatible swab or cleaning cloth in the IPA solution, or use Simco-Ion Emitter Point Cleaner. Gently rotate the swab or cleaning cloth around the emitter point. Take extra care to be gentle with non-metallic (silicon) points, as they are brittle and can be easily broken through careless handling.

Emitter Point Replacement

Emitter point replacement is recommended every two years, or when damage or erosion is evident.



Titanium Point Removal/Insertion



Single-Crystal Silicon Point Removal/Insertion

1. Use a 1/16 inch (1.57 mm) hex socket Allen screwdriver to loosen the small set screw on the side of the emitter point protector. Remove the emitter point protector.
2. Grasp the emitter point with an appropriate tool and pull it out. If the emitter points are silicon, a soft jawed tool is required.

Silicon points are brittle and care must be taken during removal and insertion to avoid breakage.

3. Clean the emitter point protectors by wiping them down with a cleanroom cloth moistened with the IPA solution. Install the new emitter points by pushing them into their sockets. The emitter point should slide to the bottom of the socket.
4. Replace the emitter point protector and fasten in place by retightening the set screw. Do not overtighten the screw or the protector may be damaged.

Machined Titanium Point	#22-0350
Single-Crystal Silicon Point	#22-0360
Emitter Point Cleaner	#22-1000

Table 7. Replacement Emitter Points

Emitter Rod Removal

If emitter rods are to be removed for any reason, push the rod towards the emitter body while rotating counter-clockwise. A cam-lock is built into the emitter rod connectors to prevent accidental release of the rods due to vibration or accidental contact.

If a stabilizer is used with the rods, remove the stabilizer by pushing out the clip from around the rod.

Emitter Chassis Cleaning

Use only a diluted IPA solution to clean a chassis. Do not use any cleaners or solvents that may damage the powder-coat finish of the controller.

To clean any chassis, moisten a cleanroom-compatible cloth with the IPA solution. Starting from one end, clean the entire case. Wipe all areas thoroughly. Change the cloth frequently to ensure that the dirt is completely removed from the chassis.