Why Use Ionizers?

Insulators and Isolated Conductors

Wrist straps and work surface mats are probably the most familiar way to remove static charges; draining charges from operators as well as from the product being worked on. What if the static charge in question is on something that cannot be grounded - an insulator or isolated conductor for example? All electronic products consist of conductors and insulators. Insulators at the workstation can be found on the product itself, tools, packaging materials, or fixtures. The ESD Association's ANSI/ESD S20.20-2014 requires management for insulators/isolated conductors. The following two rules apply:

- 125 volts or more be kept 1 inch or more away from ESD sensitive items.
- 1000 volts or more be kept 12 inches or more away from ESD sensitive items.

How do you handle insulators/isolated conductors that cannot meet these requirements?

There are 3 options available for handling insulators/isolated conductors:

1. Move the insulators/isolated conductors beyond the 1 inch and 12 inch requirements from ANSI/ESD S20.20 2014
2. Replace the non-ESD version of insulators/isolated conductors with an ESD protective version of insulators/isolated conductors.
3. Use air ionization to neutralize charges on insulators/isolated conductors.

Air ionization

Most every ESD workstation will have some insulators/isolated conductors that cannot be removed or replaced and must be addressed with ionization. These insulators/isolated conductors that cannot be removed are called process required. Common process necessary insulators/isolated conductors include product housings, screens, specialized components, or unique sub-assemblies. The charged ions created by an ionizer will:

- neutralize charges on process required insulators
- neutralize charges on non- essential insulators
- neutralize isolated conductors
- minimize triboelectric charging

Also, ionizers are a much faster and more efficient method of neutralizing static charges on insulators/isolated conductors versus humidity control. The importance of air ionization cannot be understated as insulators/isolated conductors are now common at nearly every ESD workstation.