Zerostat® 3 Antistatic Gun

Effective in neutralizing static charges on virtually any surface and lends itself to a host of other applications.

ZEROSTAT®



This amazing little device known as the Zerostat Antistatic Gun is an antistatic "generator" which has numerous applications in any microscopy laboratory. Just squeeze the "trigger" of the Zerostat and a steady stream of ions is released. The "magic" comes from two powerful piezoelectric crystals and a patented compression trigger. Originally developed for removing dust from "vinyl" or before that, normal "phonograph records", in later years the Zerostat antistatic gun was discovered to have great applicability for use in a photographic darkroom to remove dust from film and negatives. After that, a wider range of applications came into being when people running SEM labs found out that it was also idea for eliminating dust from critical samples or other critical surfaces when the dust attraction was being caused by electrostatic charge. Others have reported that certain insulating specimens, when treated this way, can actually be viewed (admittedly briefly) by SEM without the need to apply further coating.

In the laboratory, the Zerostat keeps film, glass, plasticware, and lenses dust and lint free. It also prevents charged particles from flying during weighting or transfer of particles. And the Zerostat gun finds wide use among those who possess and maintain phonograph record collections.

Each Zerostat unit is shipped with complete Use Instructions and also, information about a special "Test Procedure" to validate that the unit is working properly.

Each Zerostat unit has a "two cycle" type of operation, when the trigger is squeezed, positive

ions are generated and when the trigger is relaxed, negative ions flow. This means that it is possible to induce a charge on a neutral surface using the Zerostat. If the trigger is squeezed, and the Zerostat is then removed from the surface (and before allowing the trigger to return to its original position), a positive charge will be induced. Similarly, pointing the Zerostat at the surface only for the release of the trigger will induce a negative charge.

How much charge is given off?
Each squeeze of the trigger results in a discharge, when stated in units of charge, is 1.5 Coulumbs.

How long will it last?
One can reasonably expect on the order of 10,000 such "squeeze cycles" during the lifetime of the Zerostat unit, although the typical Zerostat will last much longer, sometimes as long as up to 50,000 trigger squeezes. The Zerostat needs no batteries or electrical supply nor does it contain any radioactive components.

Where can it be used?
The Zerostat gun, theory, will work in any atmosphere, but we would add great caution before using it with or in flammable or combustible gases. How effective it would be in some other atmosphere would depend on how readily that other gaseous atmosphere would ionize, that is, the equivalent to oxygen converting from O_2 to O_3.

Spare parts:
The Zerostat 3 is designed to be a disposable (throw-away) product. It is not built to be taken apart and there are not replacement parts.

Safety issues:
The Zerostat is "safe" but we would still advise keeping it out of the reach of children who could easily see it as a toy. One should never press the "muzzle" against their skin and squeeze the trigger, it could cause quite a sting. We would also advise never carrying this product as carry-on luggage on a plane flight; we could envision one being held up to the point of missing their flight while they tried explaining to security personnnel just what is a Zerostat! This cautionary note is directed many for the many service engineers who carry a Zerostat as part of their tool kit.

What does it weigh?
The net weight of the Zerostat gun is 135g (0.297 lbs). The typical packaging used for the shipment of a single Zerostat results in a shipping weight of 200g (0.4409 lbs). The unit is highly portable and easy to control and handle.

Dimensions:
4.5" x 6.5" (114 mm x 165 mm)