What is static electricity ?

- **Static electricity** is the result of an imbalance between negative and positive charges in an object. These charges can build up on the surface of an object until they find a way to be released or discharged. ... The rubbing of certain materials against one another can transfer negative charges, or electrons (a hard disk turning, rolls of a printer (classic printers or even 3D printers)).
- Static electricity is created in electrical devices, on larger surfaces, but also by co-workers. The use of antistatic wrist wraps, an anti-static mat and ESD approved tools and safety shoes can minimize the effect.

Consequences of static electricity

- Due to the charge of static electricity, it can attract other objects, such as also dust. When we blow the dust of a surface, part of this will automatically be re-attracted on the same surface that we try to clean. As such, we cannot succeed in removing on a long term base 5 to 10 % of all the dust.
- Static discharge can cause damage to a print place, both acute as latent. Static discharge goes along with huge heating, which can burn or melt small joints.

How does ionized air work?

- With the ionized air we can neutralise the present static electricity. We generate ions which we send along with the air.
- When the surface is charged, the surface will attract and absorb the oppositely charged particles. The equally charges particles are repelled.
- Because the surface is approximately tension neutral again, it no longer attracts dust.
- For an optimal effect, we work with a continuous air flow of 5 to 7 bar and a gun that generates a venturi flow to achieve a better result with less air consumption.

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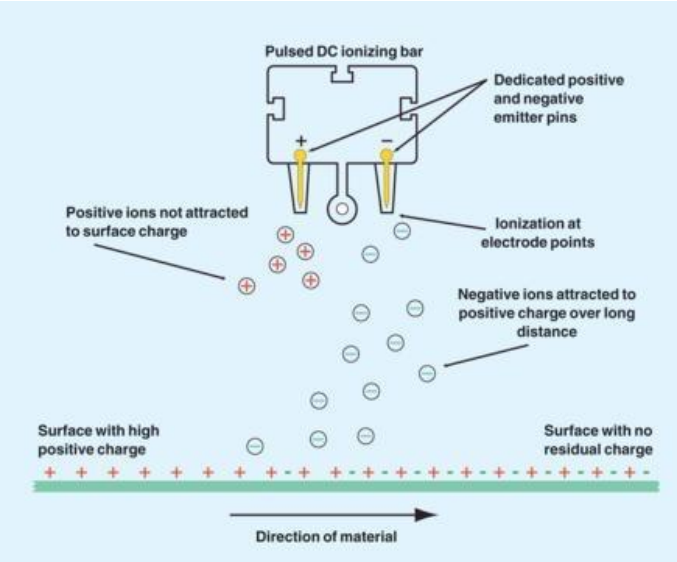

Advantages of our ionised air methodology

- Ionised air, no static electricity that attract again the parts …
- A special gun with Venturi effect, more power with the same pressure.
- Compressor, with power up to 8 bar (a regular canistar compressed air is only 5 bar). At the same time we can lower the pressure on the more sensitive areas (an option that is impossible with canistars of compressed air).
- Reception of polluted air (active suction), filtered with a HEPA filter.

Addional points of attention

- Compressor with 3 motors (not as loud as one with 1 motor, better to keep control of sufficient compression when continued working)
- Professional suction with large flow
- We developed a special extraction hood tob e able to extract directly on the back of a rack. For smaller and more sensitive situations, we work with an extraction funnel set-up on a work table, or with a manually operation extraction in situ.

Our setup

Figure 1: Compressor

Figure 2: suction system / air HEPA filter

Figuur 3: gun (ionised air & ions) & iongenerator

Applications

- Internally cleaning of computers and laptops
- Cleaning of power supplies and electrical connections and appliances
- Cleaning of printed circuit boards and fine electronics, interoffice phones, …
- Cleaning of patch cabinets, switches and telephony connections (UTP, RJ11, RJ45, patch connection)
- Cleaning of 3D printers working with powder (coatings).

https://youtu.be/BVyq2c24cpw

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