

Sparks better ...



... not fly here

The holistic ESD protection concept from kolb

Especially in the production of PCB assemblies, the protection of products against negative external influences is an indispensable prerequisite to avoid damage and / or malfunctions and thus expensive production downtimes. Electrostatic discharge can lead to defects, especially in sensitive electronic components. To prevent this, **kolb** CLEANING TECHNOLOGY offers a holistic ESD protection concept for its cleaning systems and their production environment.

Static charge can accumulate on surfaces of objects when there is an exchange of electrical charges between surfaces of two objects that touch, rub against or are detached from each other, as is the case when peeling off foil, for example. In this process, one object becomes positively and the other negatively charged. People can become charged, depending on the environmental conditions, with up to 35,000 volts in such cases.

The permanent grounding of persons working in ESD areas by means of earthing straps, ESD clothing, ESD gloves and antistatic safety shoes as well as further measures such as conductive covers for office furniture, antistatic work surfaces and floor coverings are standard requirements for ESD-protected production. These antistatic work surfaces and floors, as well as computer displays, must of course also be cleaned in an ESD-compatible manner. For this purpose, **kolb** offers a complete range of detergents:



ESD UniClean

Neutral cleaner especially for ESD-equipment for all kinds of working tables, shelves and other equipment. Can be blended with water in a 1:10 ratio

[Learn more](#)



ESD FloorClean

Combined cleaner and polisher for ESD-floors to be used for the daily care. For the cleaning and polishing of water-resistant floors like PVC, linoleum, natural and cast stones.

[Learn more](#)



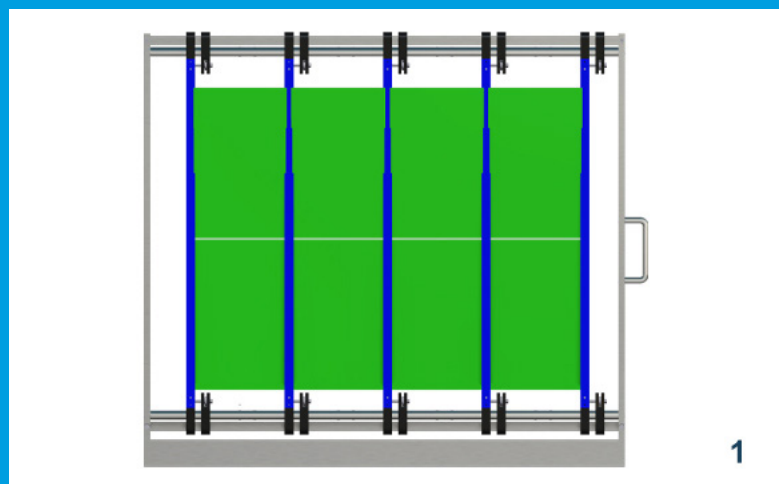
DisplayClean

Especially suitable for the displays of all **kolb** cleaning systems, common computer displays as well as for the cleaning of almost all plastic surfaces.

[Learn more](#)

ESD protection of the PCBAs in a cleaning system

For the shielding of electrostatic fields within the cleaning chambers of **kolb** systems, ESD-sensitive electronic cleaning items are therefore accommodated in special **kolb** metal washing frames (Fig. 1) or **kolb** metal washing baskets (Fig. 2). These holders make use of Faraday's principle by shielding the items to be cleaned from electrostatic fields as a closed unit. In addition, the holders are grounded via suitable materials with leakage resistances of 10^3 to $10^7 \Omega$. These include, for example, the black ESD casters of the wash baskets and the mounting brackets of the washing frames.



1



2

For further handling, such as manual loading and unloading of the cleaning goods, all relevant **kolb** systems also have an ESD grounding connection box as standard.

Thus, in **kolb** cleaning systems, the products are continuously ESD-protected through all process steps.

On customer request, a completely ESD-protected machine covering can also be installed, consisting of ESD-dischargeable side panels, ESD-dischargeable machine roof, ESD-dischargeable tie bars, design according to DIN EN 61340-5-1, discharge resistance 10^3 to $10^7 \Omega$ and ESD protocol.

[Read the entire ESD safety white paper here.](#)