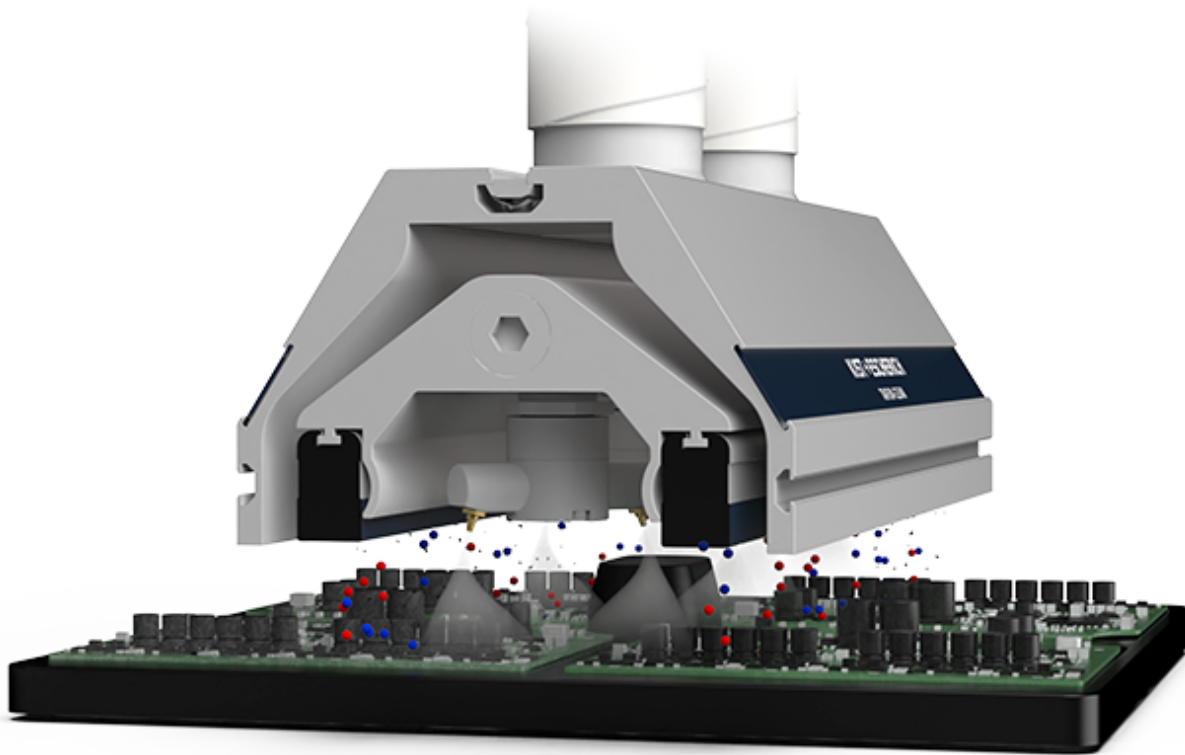


TAIFUN-CLEAN® Technology

Non-contact surface cleaning for geometric and 3D components



Key Facts

- ✓ Pulsating, highly turbulent airstream
- ✓ High cleaning depth due to rotating compressed air nozzles with beam bundling
- ✓ Contactless cleaning protects the material surface
- ✓ Particularly suitable for **structured components** and complex component geometries

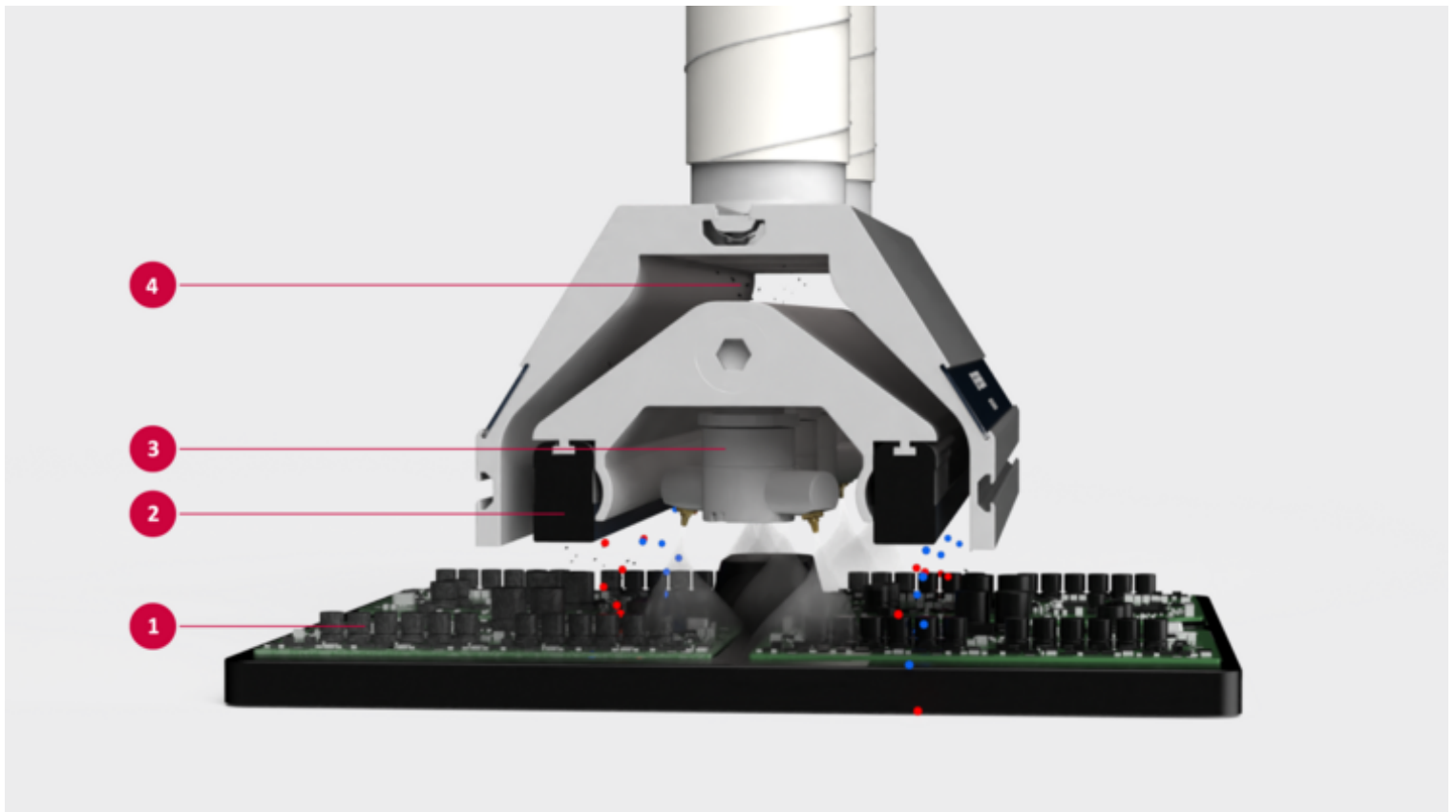
Description

TAIFUN-CLEAN® technology has redefined industry standards for efficient dry-cleaning and it is a powerful solution for the thorough removal of dust and material particles from complex, 3D and structured surfaces.

TAIFUN-CLEAN® products use rotating compressed air nozzles that generate a pulsating, highly turbulent airstream. This makes outstanding cleaning results possible, and combined with electrostatic discharge, even for moulded parts with complex surface structures. Our use of several compact cleaning heads facilitates the efficient, contactless cleaning of almost any part geometry, while protecting sensitive surfaces. In addition, the system can be seamlessly integrated into existing production lines, which enables time-saving and process-optimised surface cleaning in accordance with established standards for technical cleanliness (VDA 19).

The TAIFUN-CLEAN® system can optionally be extended with an integrated suction system and filter unit for even more comprehensive cleaning requirements. This extension ensures that loosened particles are effectively captured and filtered out, ensuring an even more thorough cleaning result and a cleaner working environment.

Operating Principle



1 Component to be cleaned

2 Ionisation

Electrostatic binding forces between material and particles are actively neutralised with focused positive and negative ions. These ions are attracted to the oppositely charged areas of the material surface respectively.

3 Rotating nozzles

Rotating nozzles driven by compressed air generate a pulsating airstream because of the continuous change in the blow-out direction.

The required relative motion between the nozzle and the component ensures that the airstream hits the component from almost infinite angles. This makes it particularly effective for removing particles from complex 3D surfaces.

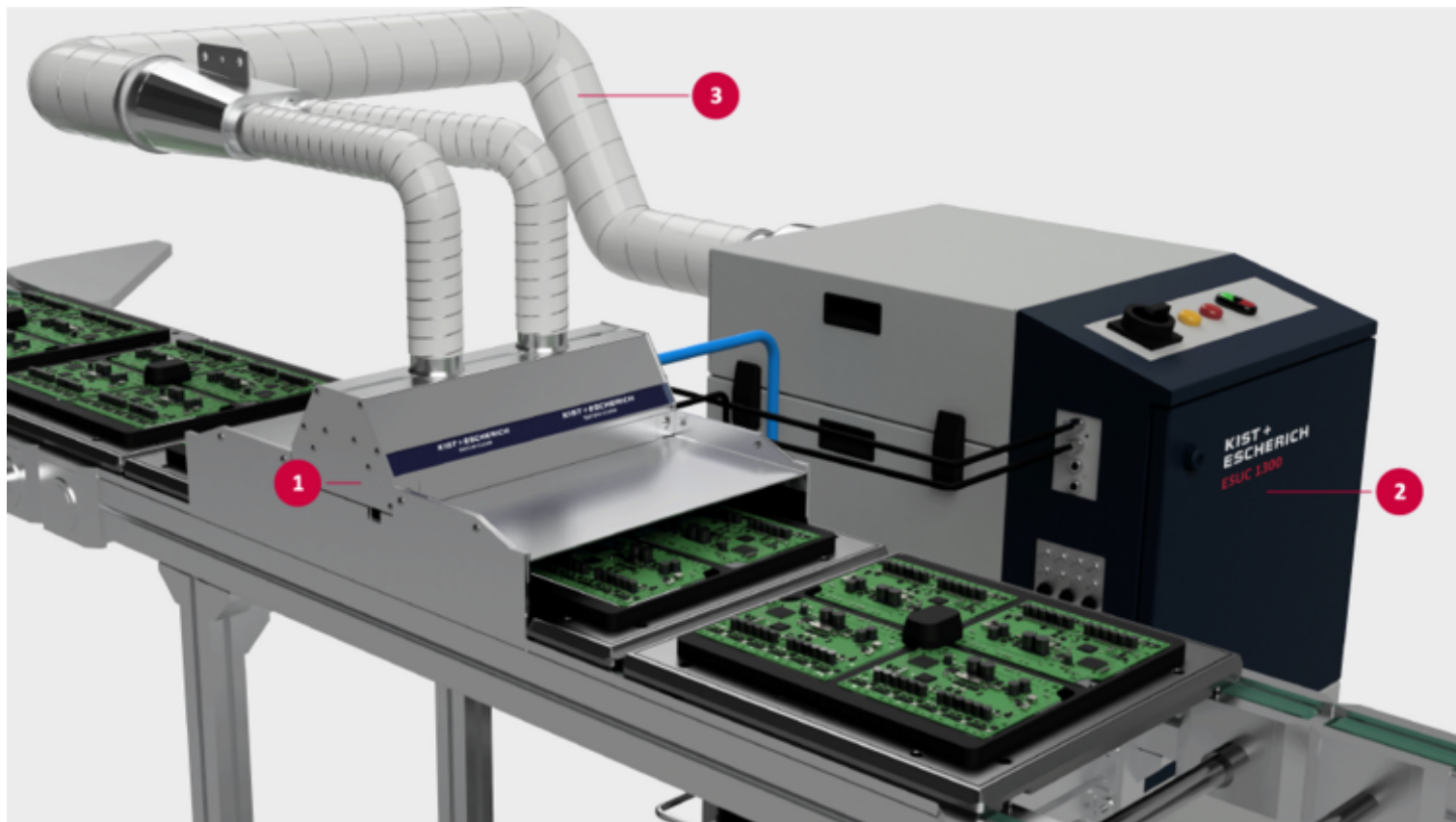
4 Suction

The dust-laden output air is suctioned off via the integrated TAIFUN-CLEAN® suction channel and reliably fed into an ESUC suction and supply unit.

Note:

A suitable suction enclosure is required to be able to suction off particles accelerated by compressed air in a process-safe manner.

System Installation



1 TAIFUN-CLEAN®

The TAIFUN-CLEAN® cleaning system with the required working width is mounted in the production line at the proper height above the surface to be cleaned.

2 ESUC Suction, filter and supply unit

Dimensioning of the suction power needed depends mainly on the amount and type of particles to be removed, the working width of the cleaning system, the length and installation of the suction hoses used, plus the geometry of the parts to be cleaned. We offer a wide range of devices with different suction power capacities and a number of options for control and monitoring. Your technical contact will advise you on the best system selection and configuration.

3 Suction system accessories

Suction hoses are fitted to the suction port of the cleaning system with hose clamps. Suction hoses of smaller diameters can be modified to a larger diameter with only minor loss of power by using adapters to bridge the distance between the cleaning module and the ESUC suction, filter and supply unit.

Fields of application

- **Automotive industry:** Fuel components, fuel cell, fuel cell stacks, rotor, stator, booster, converter, charger, battery management, battery cells, battery housings, cell contact system, battery packs, displays, bonding, actuators, pumps, air conditioning systems, ventilation systems, cameras, sensors, imagers, powertrain, panels, decorative panels, function assemblies, switching elements, consoles, panels, ADAS (driver assistance systems), die-cast aluminium, radar, inverters, valves, cables, cable assemblies, high-voltage cables, low-voltage cables
- **Packaging/logistics:** Large load carriers (LLC), small load carriers (SLC), trays, blisters, disposable and reusable packaging, magazines, boxes, containers, EURO pallets, pallets
- **Electronics:** Displays, bonding, actuators, air conditioning systems, ventilation systems, LED foils, touch screen foils, cable sleeves, cable jacket, unpopulated PCBs, SMD, SMT, PCB assembly, PCB mounting, semiconductor manufacturing, wafers, contactor, terminal strips, plug connectors, DC motors, AC-DC converters, servomotors, roller motors, mechatronics assemblies, stepper motors, relays, buttons, plugs
- **Interior:** Bezels, decorative bezels, function assemblies, decoration, switching elements, consoles, panels
- **Medical engineering:** Inhalers, autoinjectors, oral sprays, syringes, blister packs
- **Plants and mechanical engineering:** Workpiece carriers, nests/trays, rotary tables, tool cleaning, painting systems, 3D components, injection moulding, injection moulding tools, cavities
- **Food industry:** Beakers, lids, plastic packaging, cans, closures
- **Household/consumer goods:** Shavers, white goods components, control panels, respirators, installed assemblies

Downloads



TAIFUN-CLEAN® Technology

PDF

Related Products



TAIFUN-CLEAN® 010

Small surface cleaning system for 3D components, with suction



TAIFUN-CLEAN® 012

Small surface cleaning system for 3D components, with suction



TAIFUN-CLEAN® 014

Surface cleaning system for 3D components for large working widths, with suction



TAIFUN-CLEAN® 015

Surface cleaning system for 3D components, with suction



MAGAZINE MASTER

Machine for cleaning of SMT PCB magazines



PCB MASTER

Inline station for cleaning populated and unpopulated PCBs



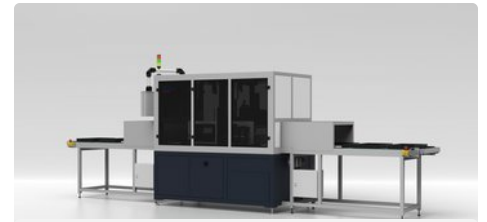
VARIOMASTER

Cleaning station with drawer
for 2D and 3D components



MULTIMASTER

Semi-automatic cleaning
machine for 2D and 3D
components



TRAYMASTER

Machine for cleaning trays
and flat components

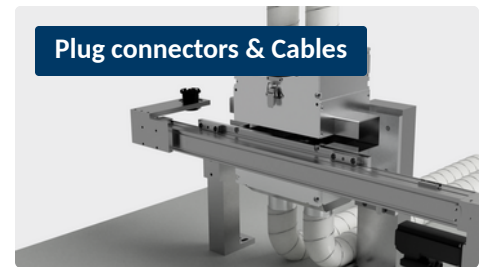
Use Cases



Cleaning of cable and on-board network systems



Cleaning Plastic Cups



Cleaning of plugs in an assembly line



Cleaning of Injection Moulding Tools



Manufacture of Lithium-Ion Battery Systems



Double-Sided Cleaning of Small Components in the Gripper



Surface cleaning before painting



Blister and Tray Cleaning



Cleaning of Furniture Boards



Cleaning of
Electromechanical
Assemblies



Cleaning of PCB
Assemblies



LLC Cleaning in Logistics



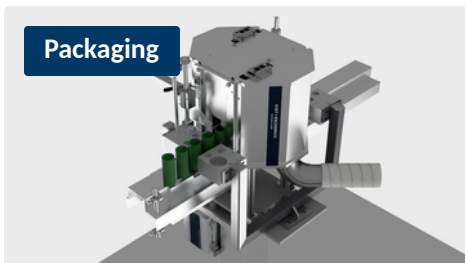
Cleaning of Power
Modules and Busbars
after Assembly



Cleaning of PCBs in SMT
Production Lines



Tray Cleaning



Cleaning fish food cans
before labelling



Cleaning of PCB
magazines and PCB Racks

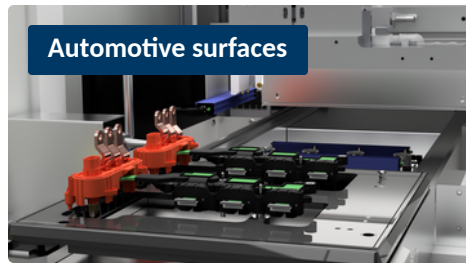


Surface Cleaning before
Painting



Automotive Functional Components

Cleaning for Electromotor
Manufacture



Automotive surfaces

Cleaning of Components
in Assembly Lines



Automotive Functional Components

Cleaning of Plastic
Components at the Robot



Automotive Functional Components

Cleaning on Rotary
Indexing Tables



Automotive Functional Components

Cleaning of Stamping Grid
Belts