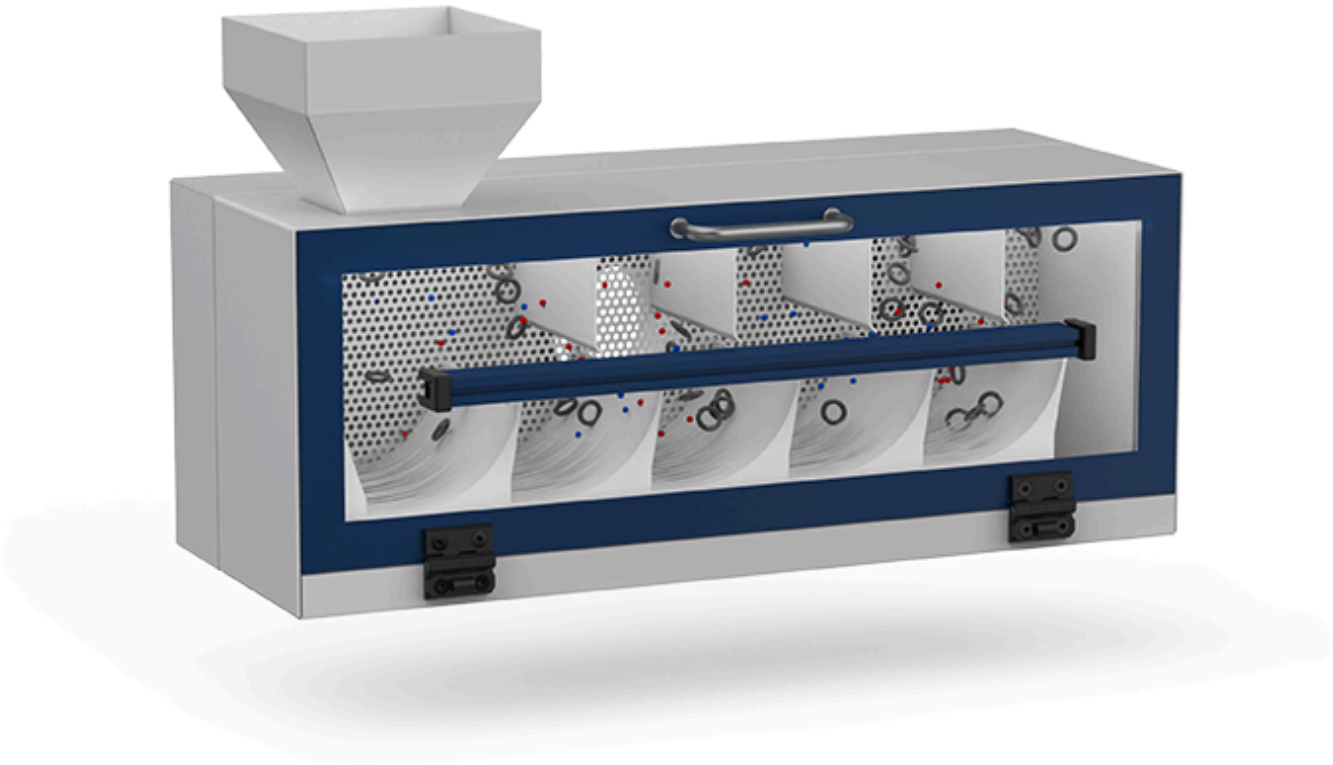
KIST + ESCHERICH

ION TWIST Technology

Electrostatic cleaning for bulk and small parts



Key Facts

- ✓ **Cleaning system with turbulent air and shock pulses**
- ✓ **Components pass through a cleaning tunnel with integrated ionisation**
- ✓ **Step-by-step reduction of contamination via successive cleaning chambers**
- ✓ **Particularly suitable for small-component products**

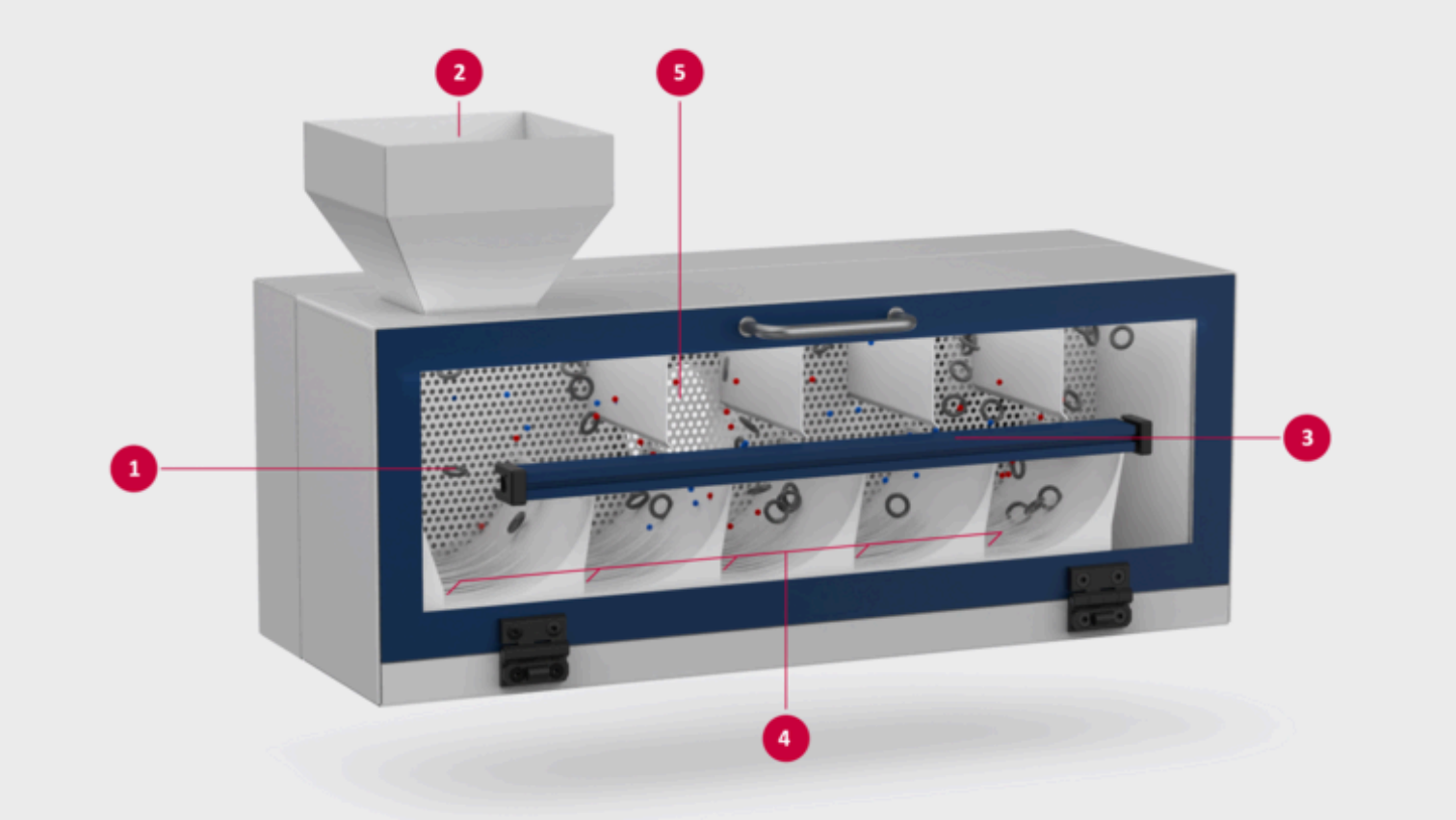
Description

Our ION TWIST technology offers an advanced solution for the effective cleaning of small and loose components, such as in bulk materials and goods. The components are transported through several chambers in a specially developed cleaning tunnel, whereby contaminants are efficiently removed using a combination of a compressed airstream and active ionisation.

During the process, the components swirl over cleaning ramps, which help to release the dirt and remove it from the component surfaces. At the same time, an integrated active ionisation ensures that electrostatically clinging forces between the particles and the component surface are neutralised.

The loosened particles are then safely captured in a suction system and fed to a filter unit to ensure thorough and effective cleaning results.

Operating Principle



1 Material to be cleaned

2 Filling funnel

3 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.

4 Flat jet nozzles

The compressed air nozzles produce a focused jet of compressed air that effectively loosens contaminants from the material and at the same time transports the components from chamber to chamber through the cleaning area.

5 Suction

The dust-laden output air is safely captured via the suction grid integrated in the back and fed to the ESUC suction and supply unit.

System Installation

1 ION TWIST

System for cleaning small parts and bulk goods.

2 Material input

Filler funnels for different sizes of bulk materials.

3 Suction system accessories

Suction hose from ION TWIST to the suction port of the ESUC.

4 ESUC Suction, filter and supply unit

The ION TWIST is supplied, controlled and monitored by an ESUC suction, filter and supply unit.

5 Compressed air maintenance unit

Compressed air must be provided via a suitable maintenance unit with filter control valve and if necessary, with water and oil separator. The compressed air hose of the product is connected to this unit where the needed cleaning pressure can be adjusted.

6 24 V DC connection cable

The ionisation electrode can be supplied with a standard connection cable via the SI module installed in the ESUC suction, filter and supply unit.

7 Compressed air hose

The compressed air supply is done with a plug-in connection.

Fields of Application

- **Plants and mechanical engineering:** Bulk goods, small parts, granules
- **Construction & industry in general:** Hardware, injection moulded parts, seals, caps, sleeves, rings, lids, O-rings
- **Electronics:** Microswitches, cable lugs, pins, plugs, housings, chips, plug connectors
- **Medical engineering:** Injection moulded parts, plug connectors, screws, clamps
- **Automotive industry:** Screws, nuts, bolts & rivets, electronic components, sprockets

Related Products

ION TWIST →

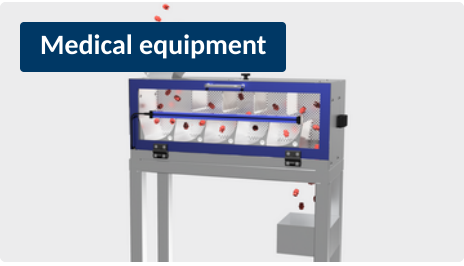
Cleaning device for small parts and incidentals

ION TWIST COMPACT →

Stand-alone machine for cleaning bulk materials and small parts

Use Cases

Cleaning of Gasket Rings in the Assembly Line



Cleaning of Small Parts in Logistics