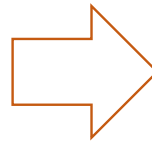
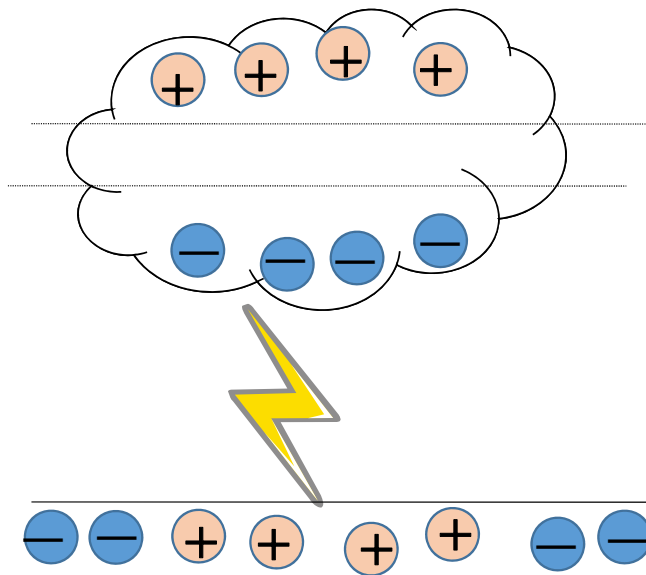




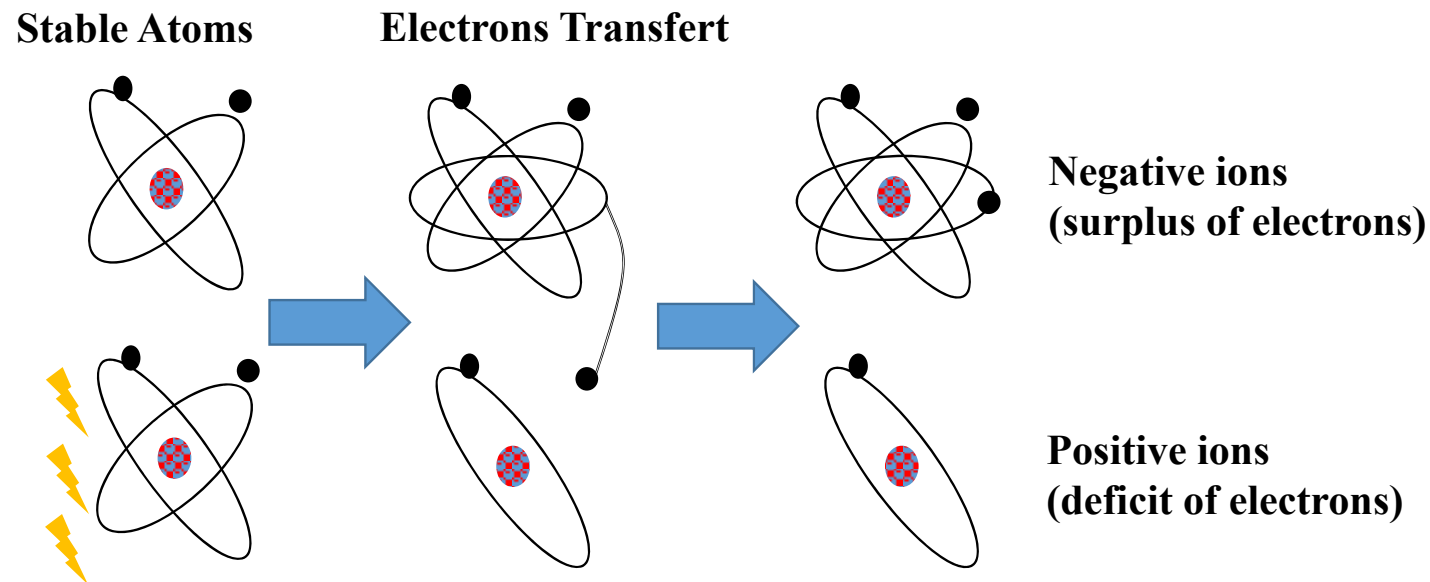
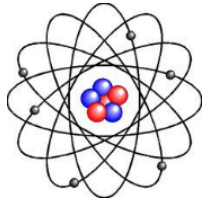
Static Electricity and VESSEL Antistatic Solutions

Theory



How Is Static Electricity created: The Atom

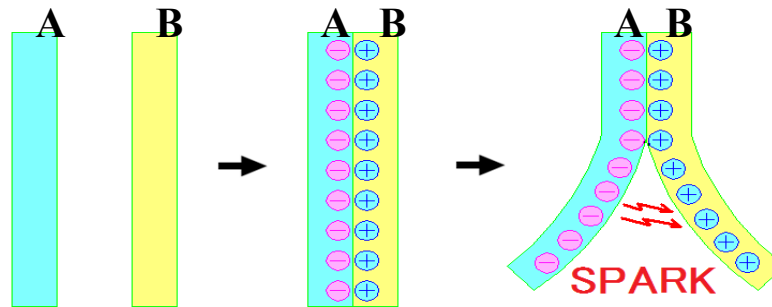
- The static electricity comes from the transfer of electrons between two or more atoms becoming electrically unbalanced.



Consequences of Static Electricity :

1-Electric arcs

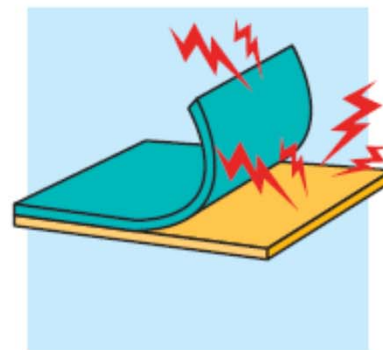
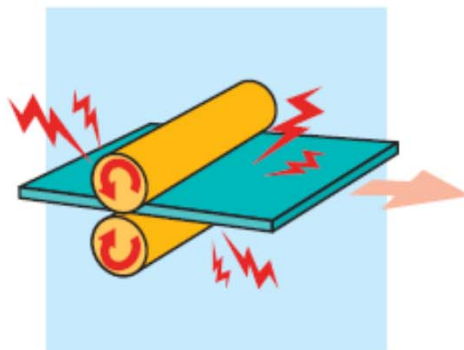
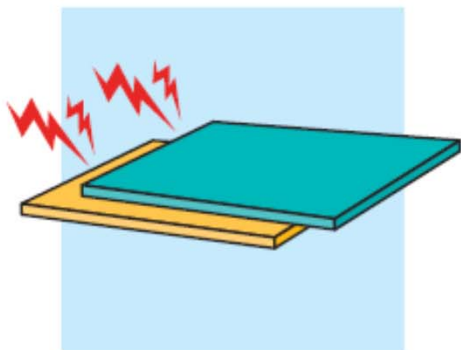
At least one of the material is an insulator.



The factors which determine the potential of the electric discharge are:

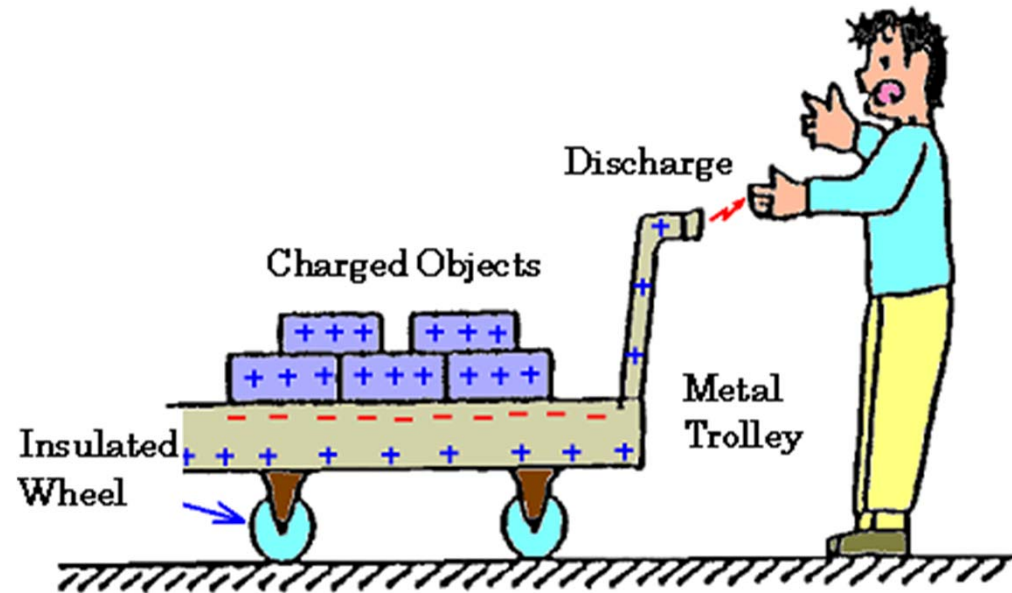
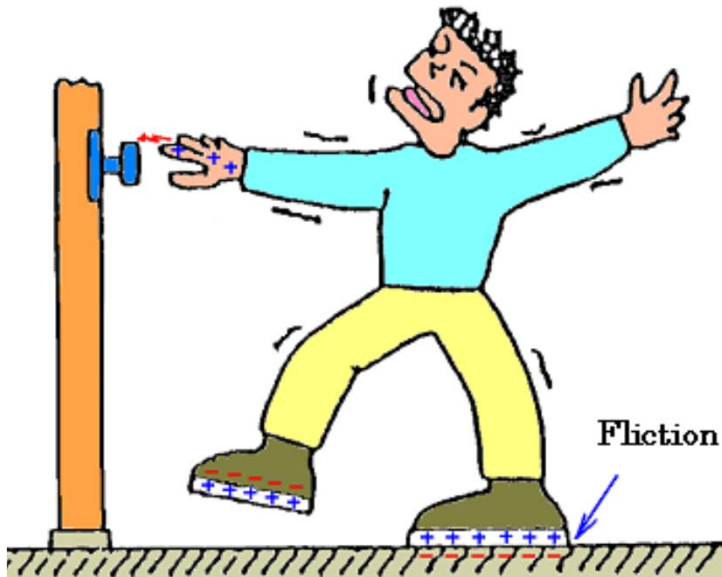
- Material
- Humidity
- Contact Pressure
- Contact Area
- Contact Times

Examples : Electric Arcs



VESSEL EUROPE - Ionisers Presentation

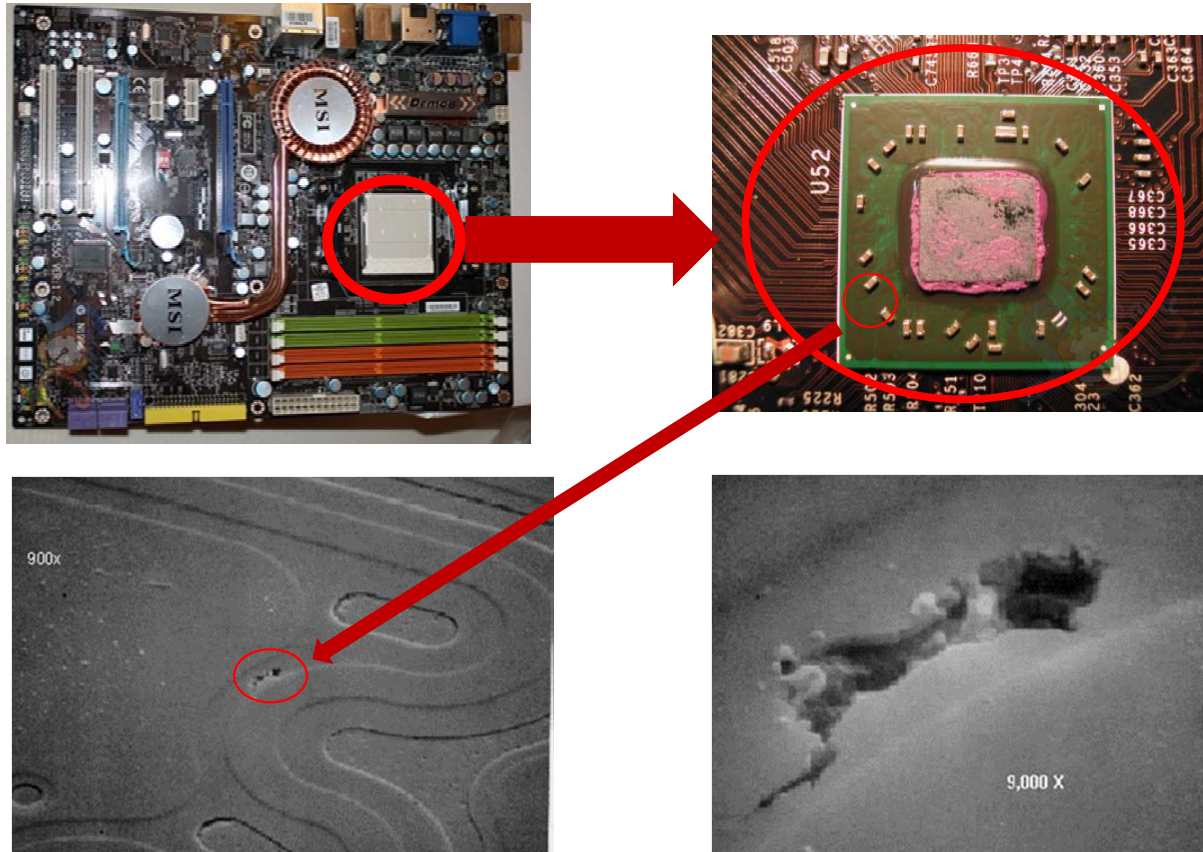
Other examples:



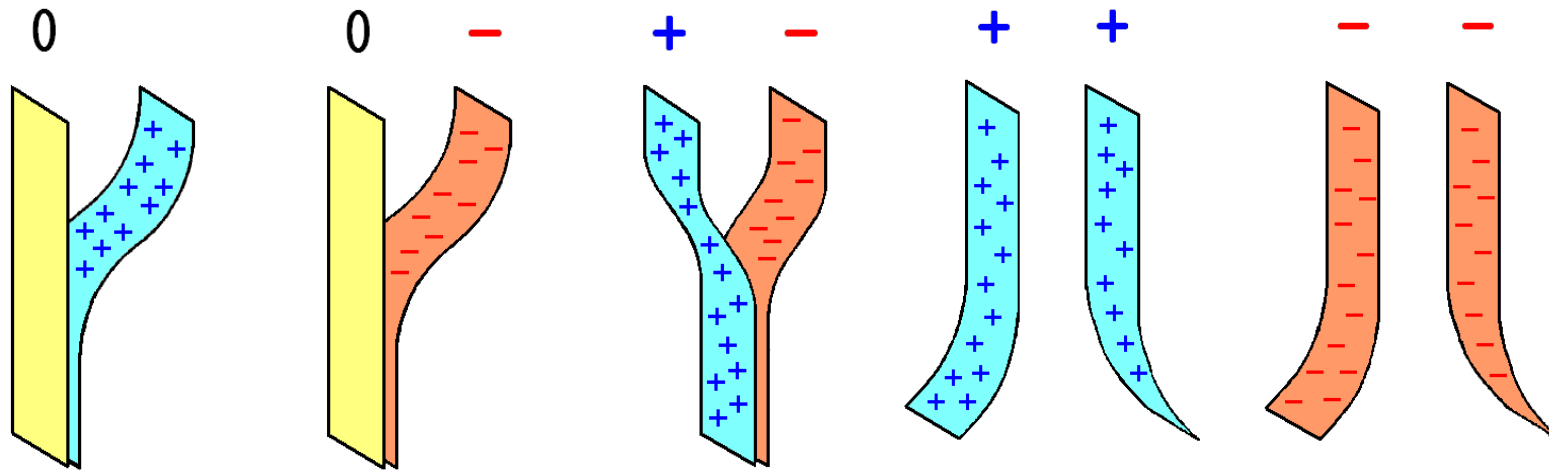
Floor	Synthetic Shoes	Leather Shoes
Acrylic	7 000V	4 000V
Nylon	9 000V	12 000V
Polypropylene	10 000V	3 000V
Wool	3 000V	12 000V

Damages due to electrostatic discharges

Motherboard and chip

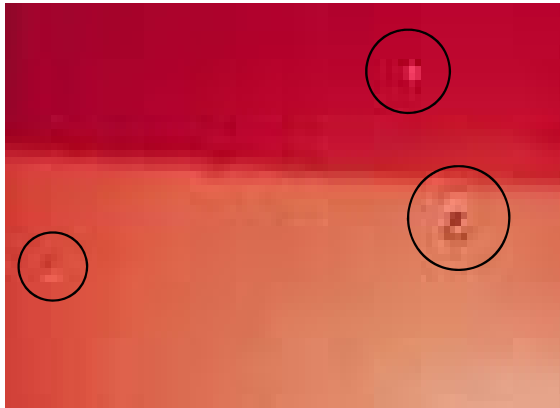


Consequences of Static Electricity: 2-Repulsion and Attraction



Examples : Dust and particules

Painting



Cells phone screen



The static electricity affect the quality of the product.

Antistatic Solutions

Measure of Static Electricity



NG
(Too Far)

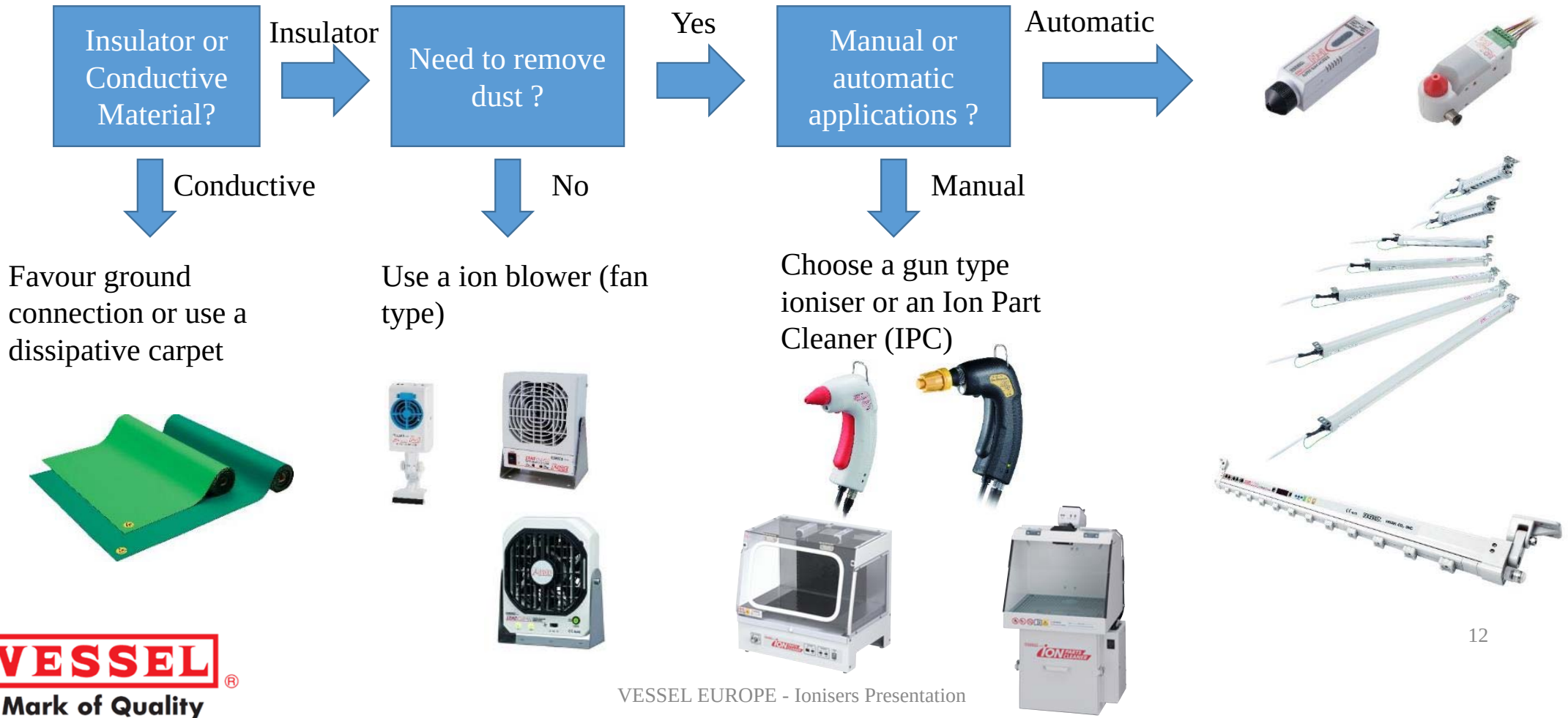
GOOD

NG
(Too Close)

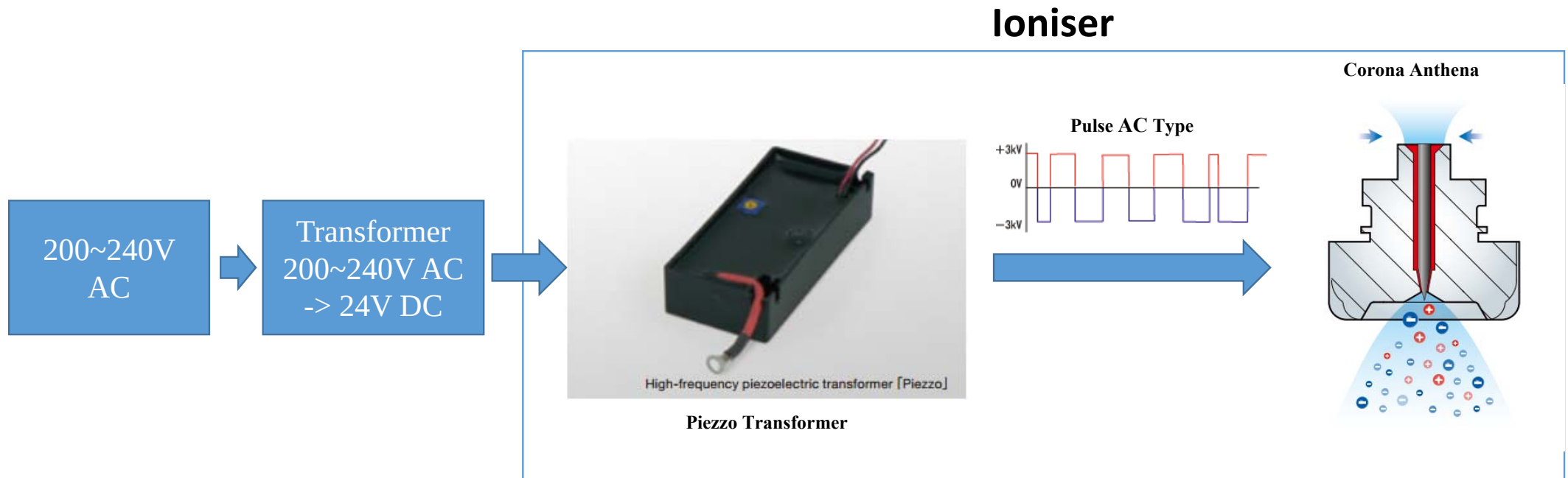


VESSEL[®]
Mark of Quality

How to choose the right Antistatic Solutions ?

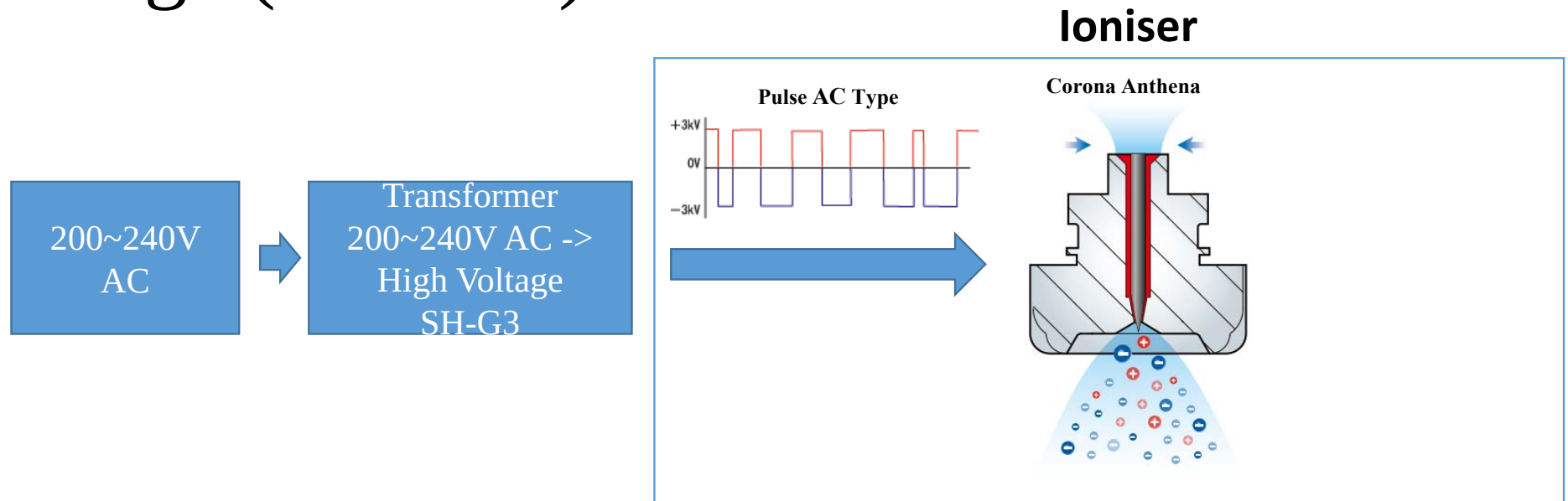


Technology of AC Pulse corona discharge



Remark: Very easy to integrate into automated systems

Other Technology of AC Pulse corona discharge (SH-bars)

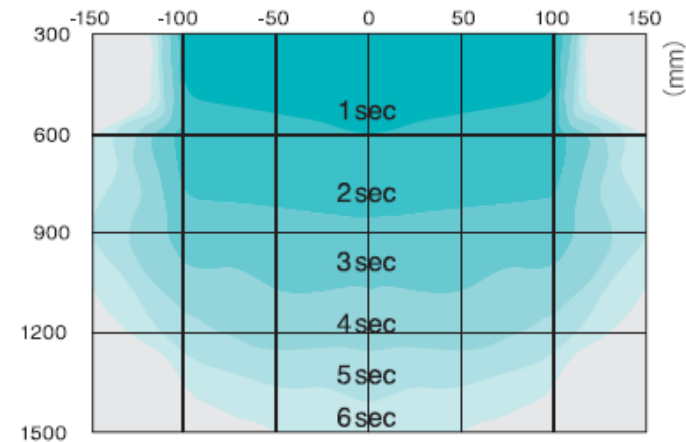
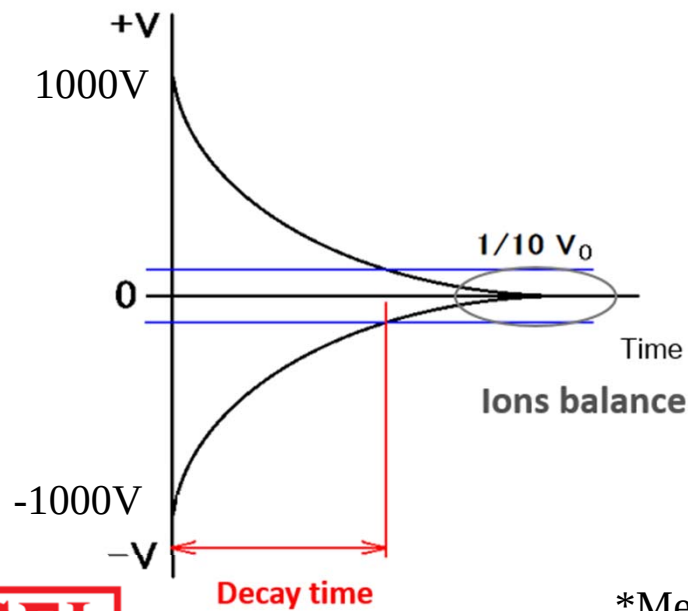


Remarks:

- Less complexity, but less flexibility.
- More dangerous and more electric noises due to high voltage in the cables.

Ioniseurs Specifications

- Ion balance
- Decay time



*Measures realised at 300mm from the ioniser with maximum airflow setting

Other features

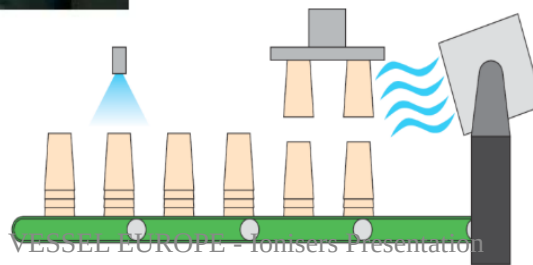
- LEDs alarms
- Needle cleaning timer
- Sensor
- Adjustable Ion balance
- Remote control
- Air control (pulse or continuous mode)
- External Alarm

Applications

Static Control Products „Fan Type“

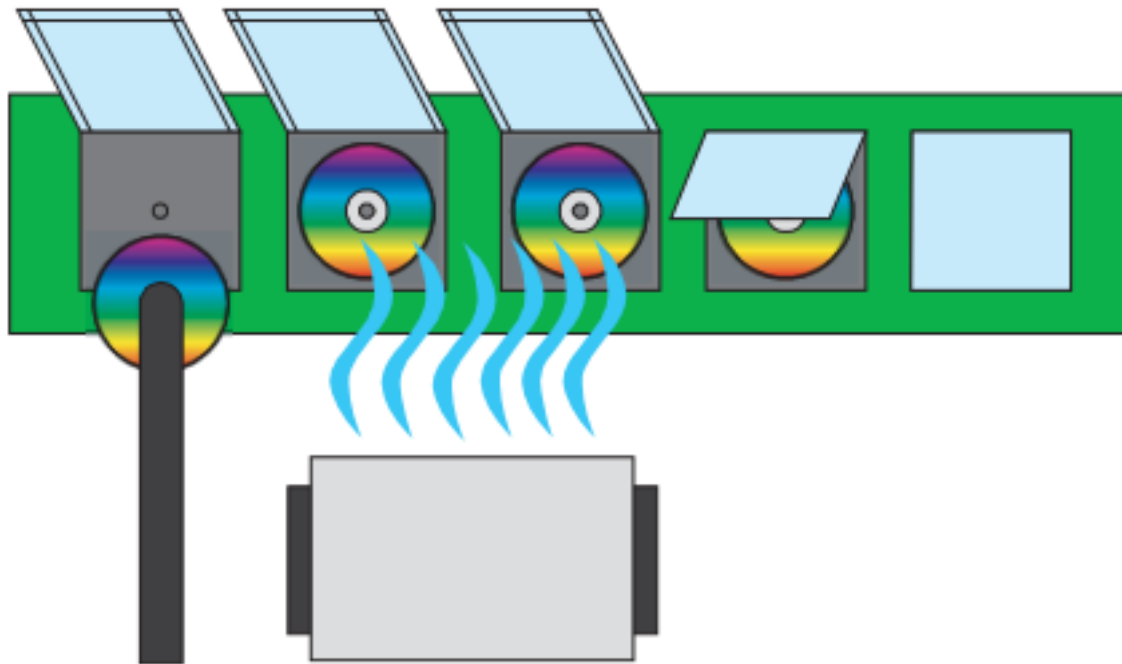


Fan type

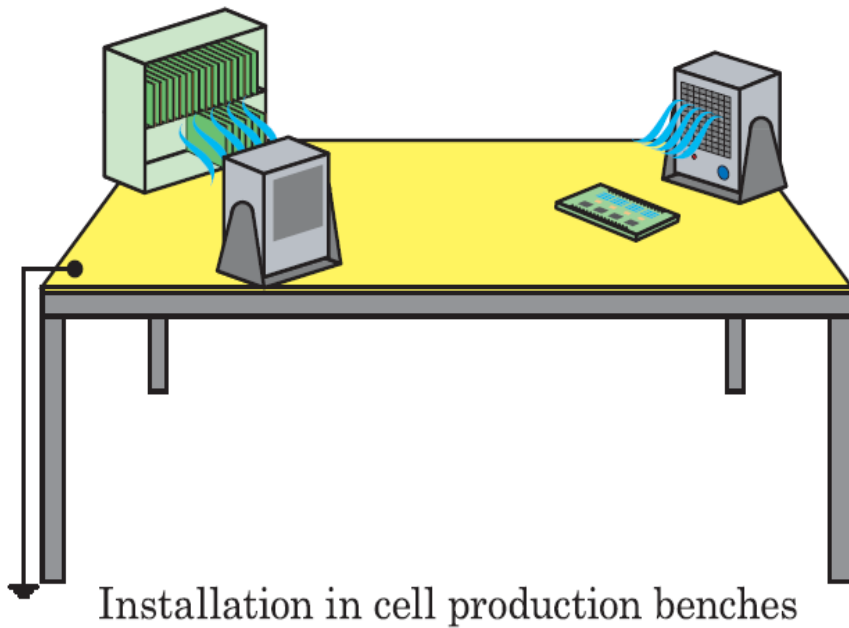


VESSEL
Mark of Quality

Static Control Products „Fan Type“

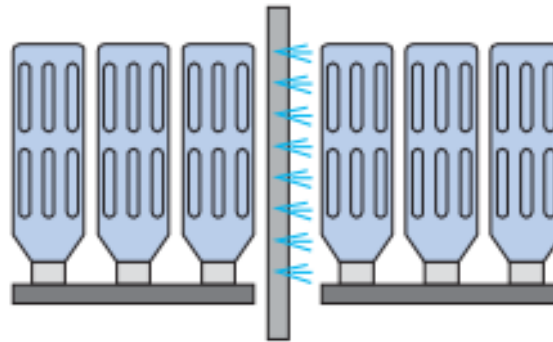


Static Control Products „Fan Type“

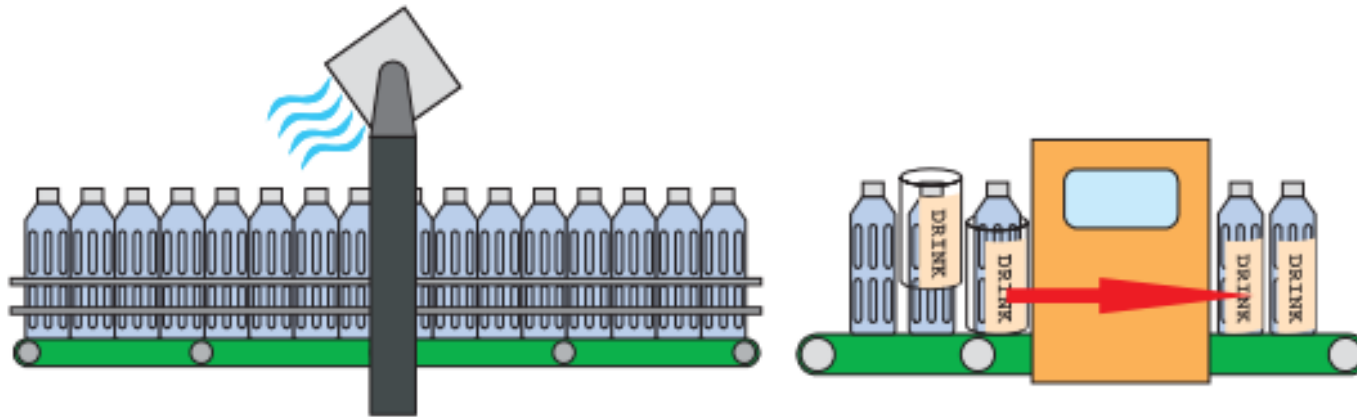


Fan type

Static Control Products „Fan Type“ and „Bar Type“

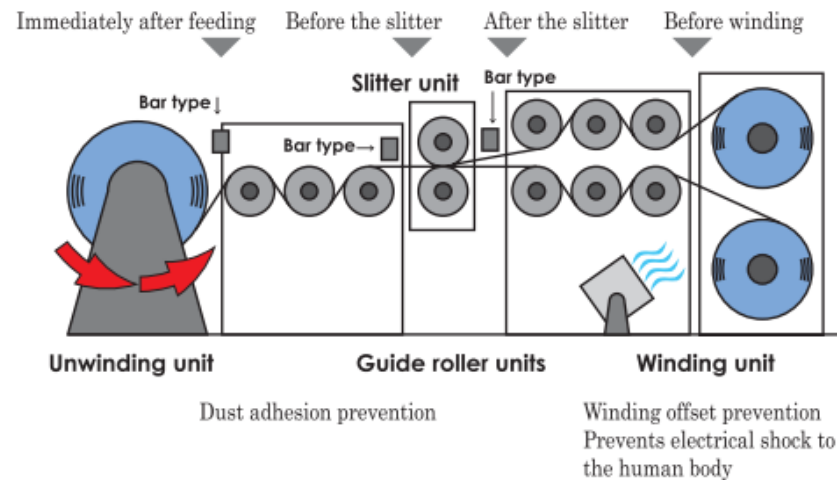


De-electrifying using a bar type static eraser after heating blow molding.

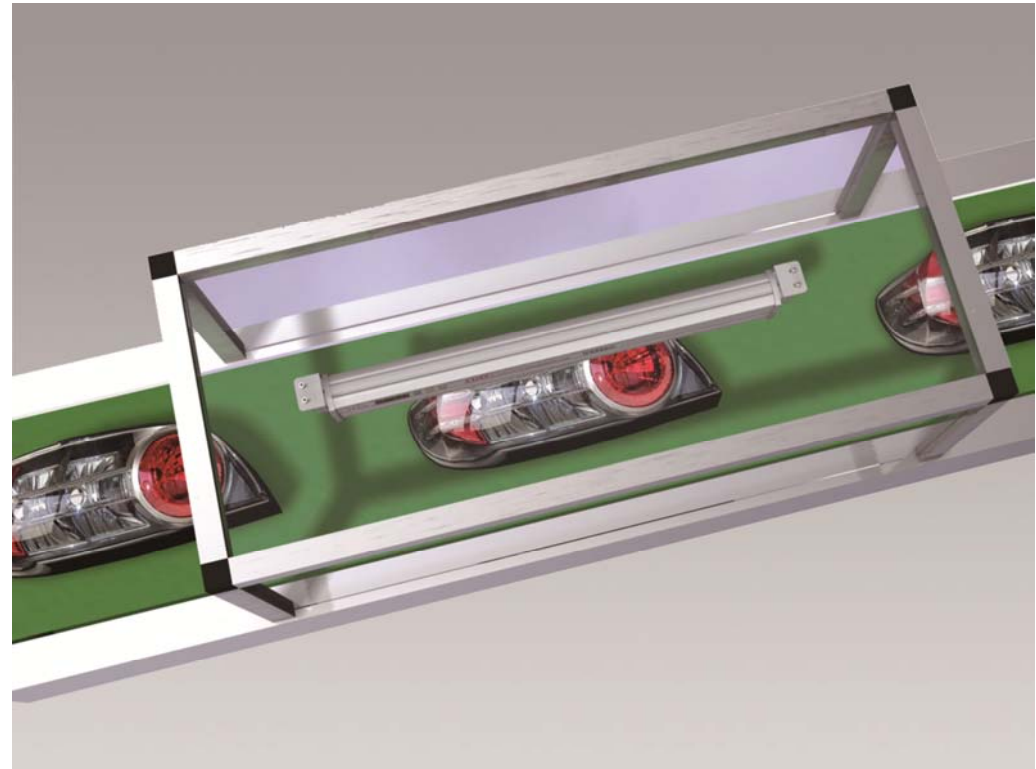


VESSEL EUROPE - Ionisers Presentation

Static Control Products „Fan Type“ and „Bar Type“



Static Control Products „Bar Type“

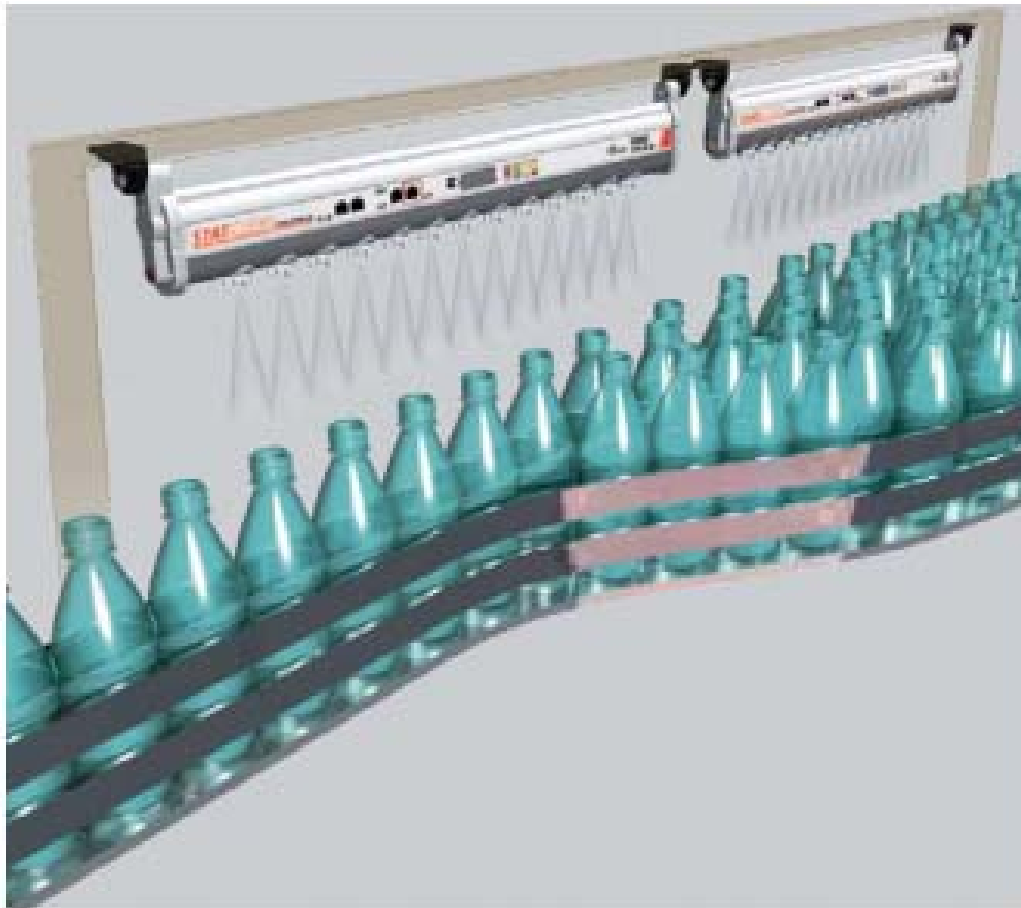


VESSEL®
Mark of Quality

VESSEL EUROPE - Ionisers Presentation

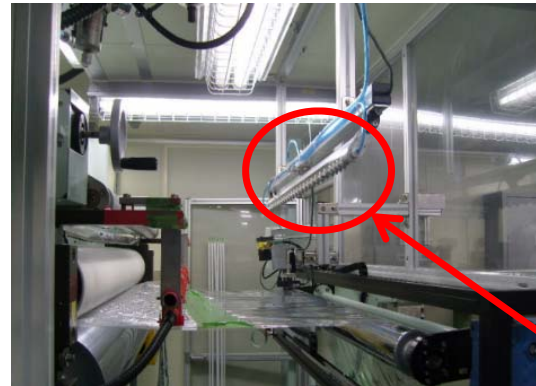
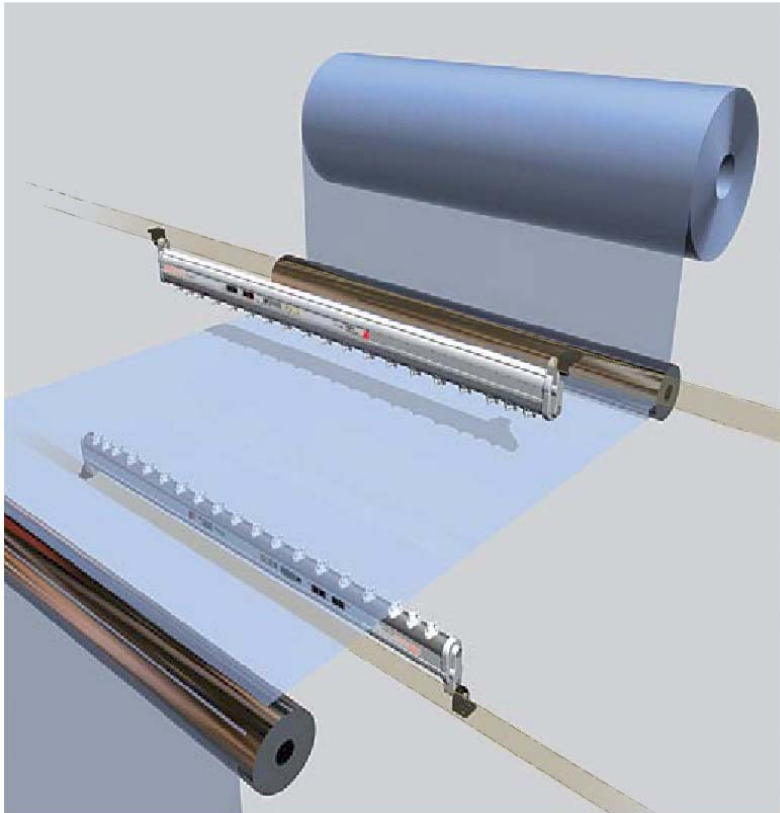
23

Static Control Products „Bar Type“



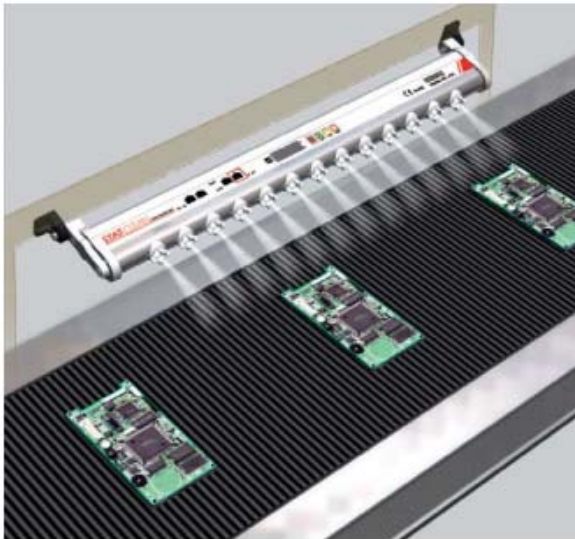
VESSEL EUROPE - Ionisers Presentation

Static Control Products „Bar Type“

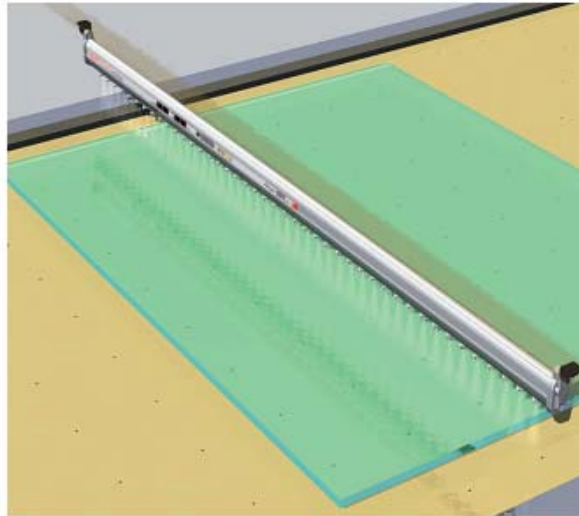


Bar type

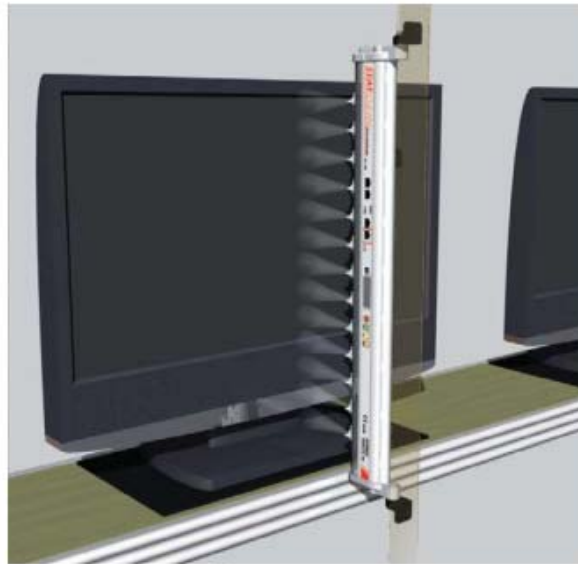
Static Control Products „Bar Type“



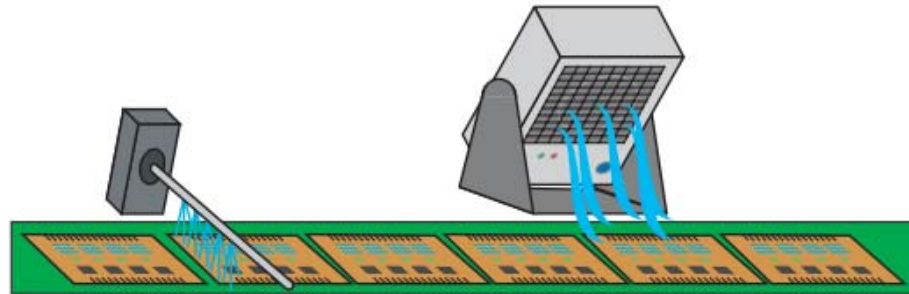
Static Control Products „Bar Type“



Static Control Products „Bar Type“

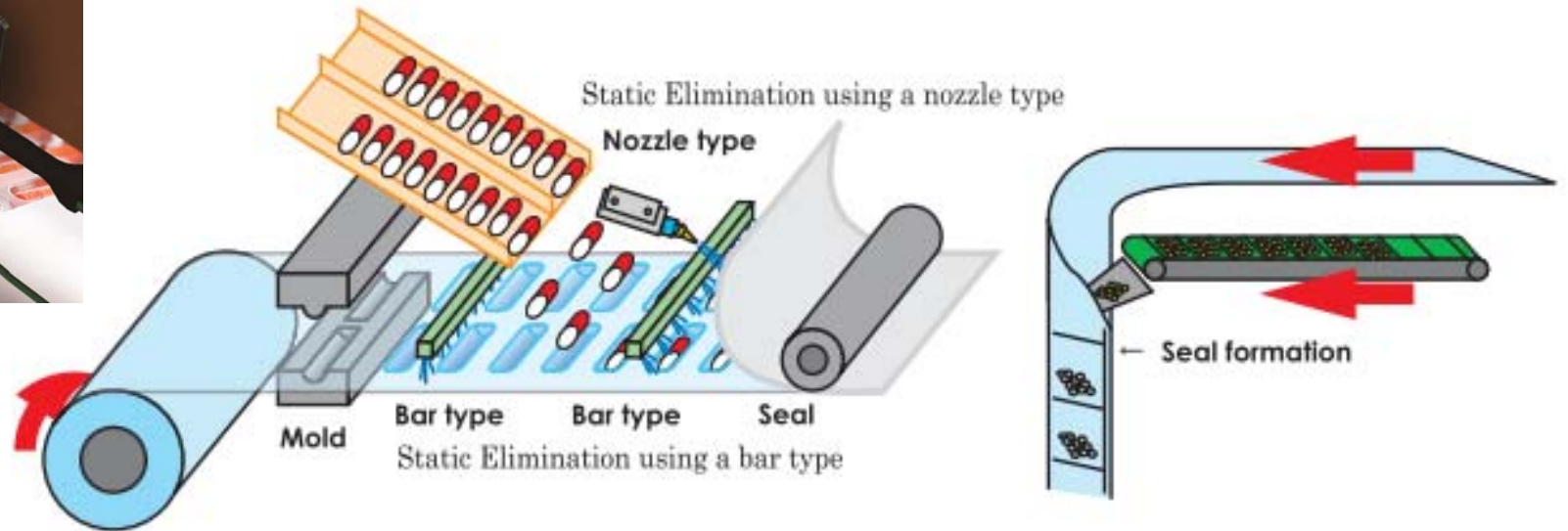


Static Control Products „Fan Type“ and „Nozzle Type“

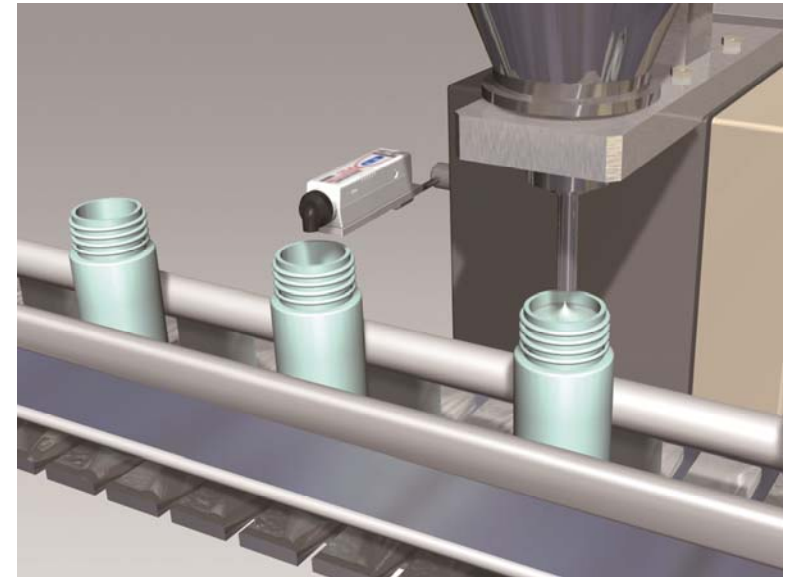
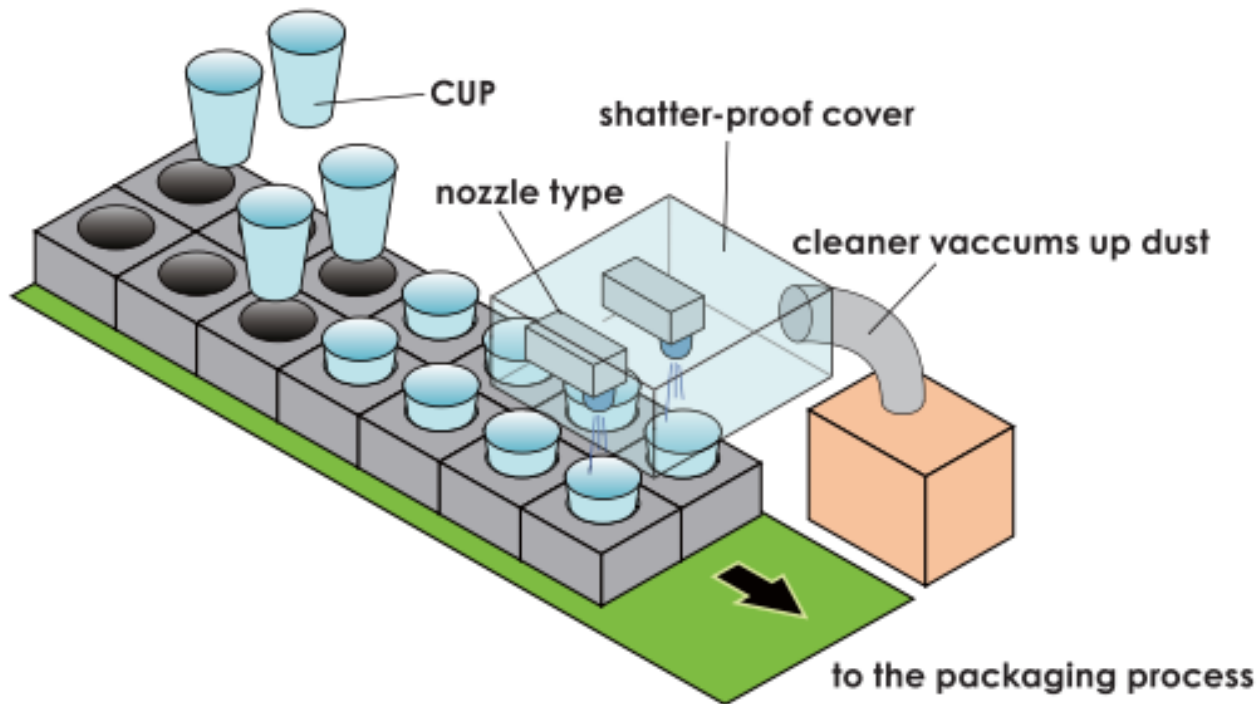


Air bar type: The supplied air is free of moisture and oil.

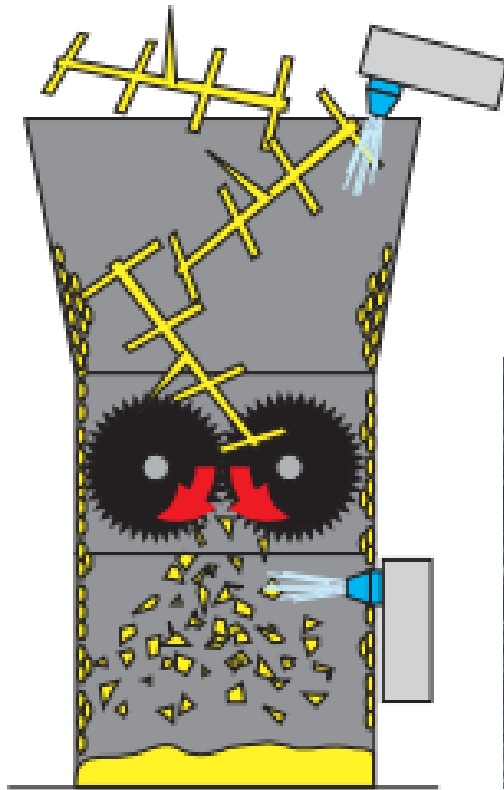
Static Control Products „Nozzle Type“



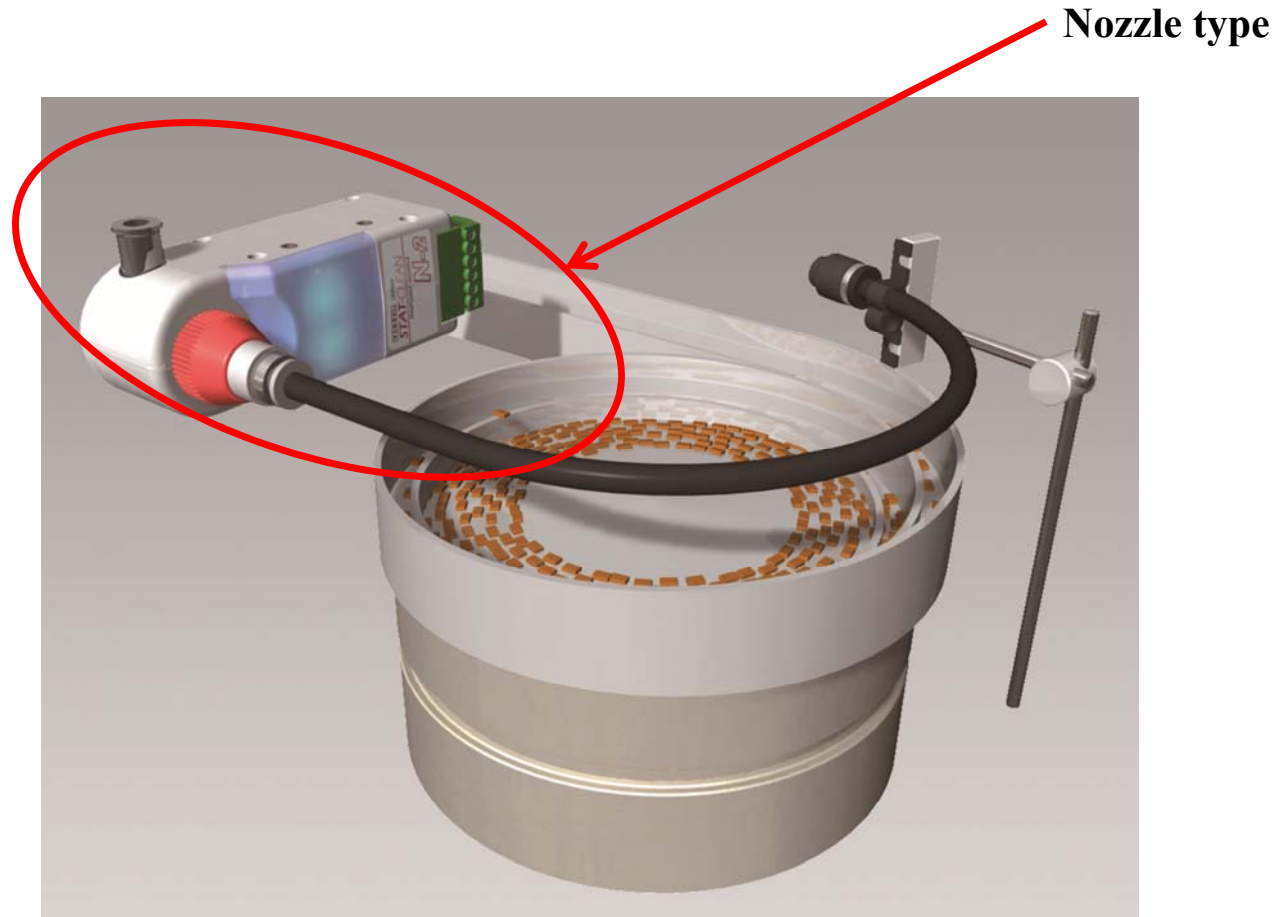
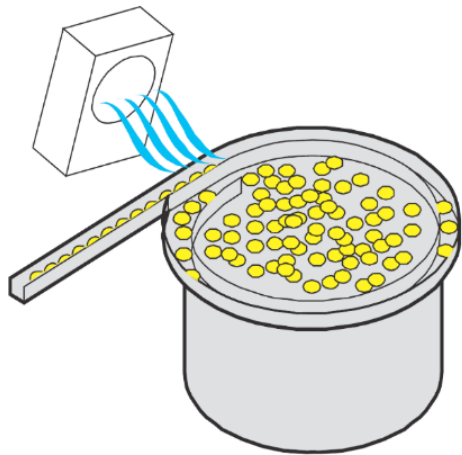
Static Control Products „Nozzle Type“



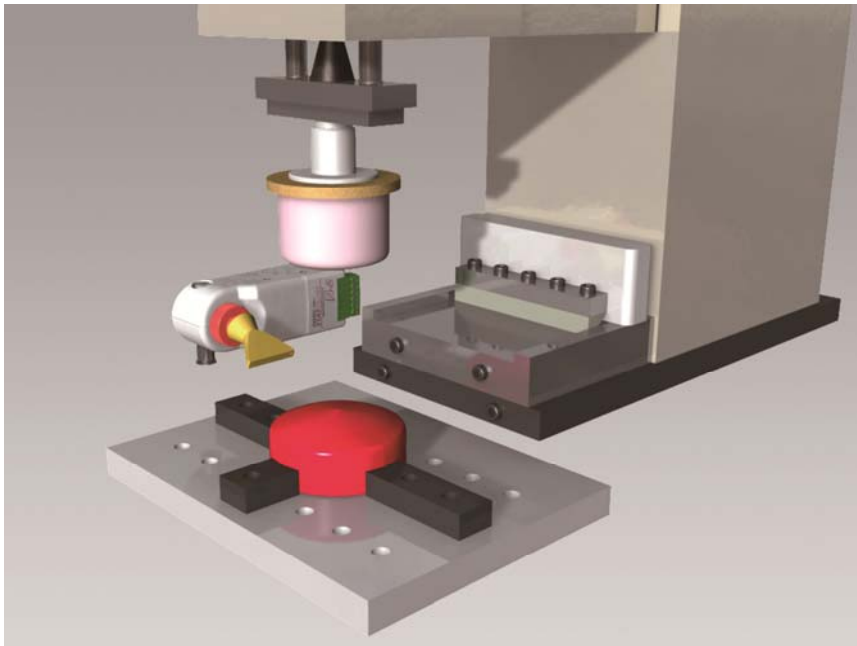
Static Control Products „Nozzle Type“



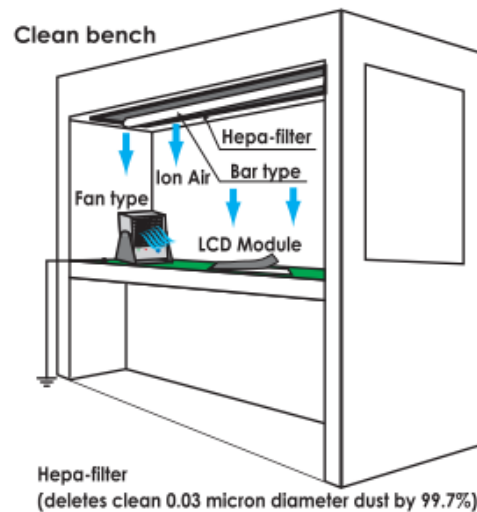
Static Control Products „Nozzle Type“



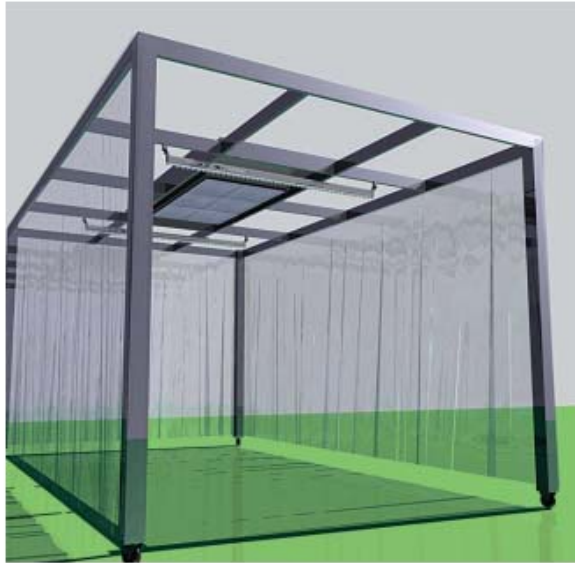
Static Control Products „Nozzle Type“



Static Control Products „Fan Type“ and „Bar Type“



Static Control Products „Bar Type“



Thank you for your attention.

Any questions ?