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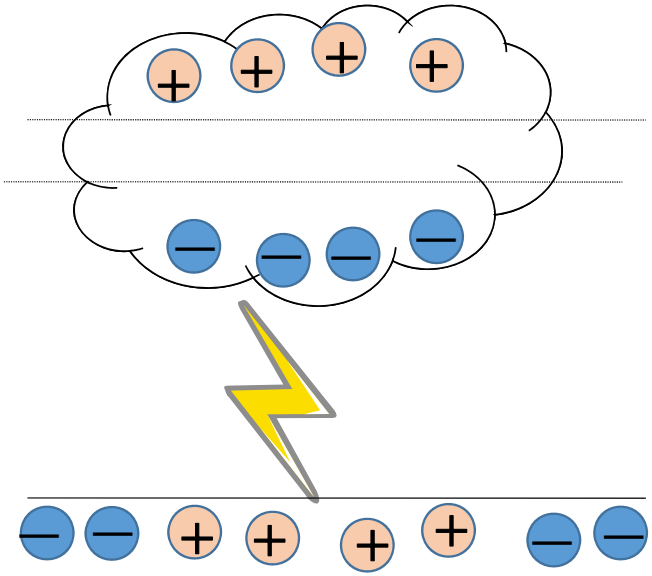
Anti-static
Compact, Easy Solutions

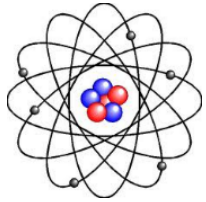
Static Electricity and VESSEL Antistatic Solutions

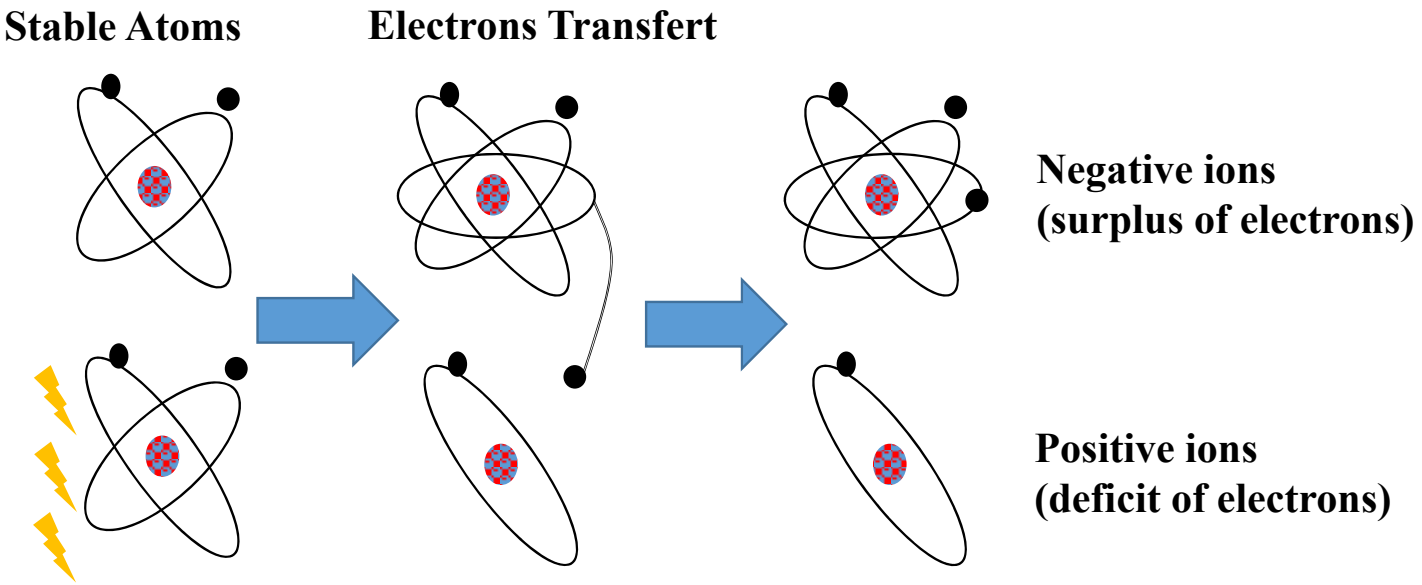
Theory



How Is Static Electricity created: The Atom

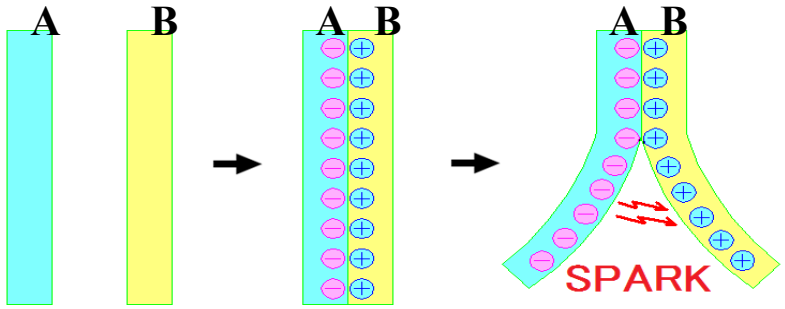
- The static electricity comes from the transfer of electrons between two or more atoms becoming electrically unbalanced.





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

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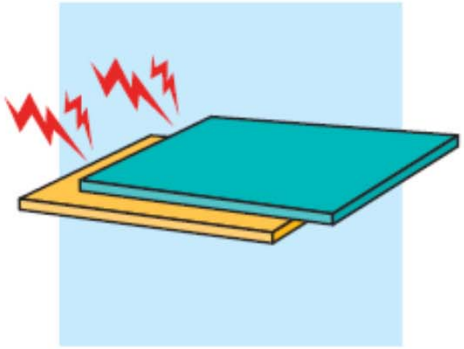
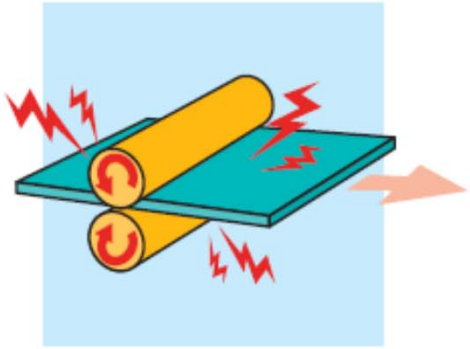
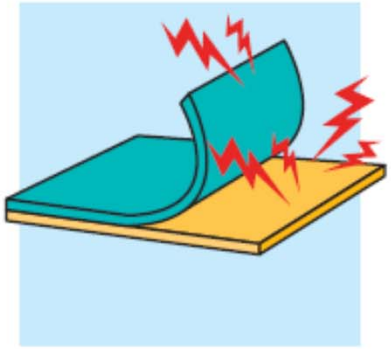
Examples : Electric Arcs







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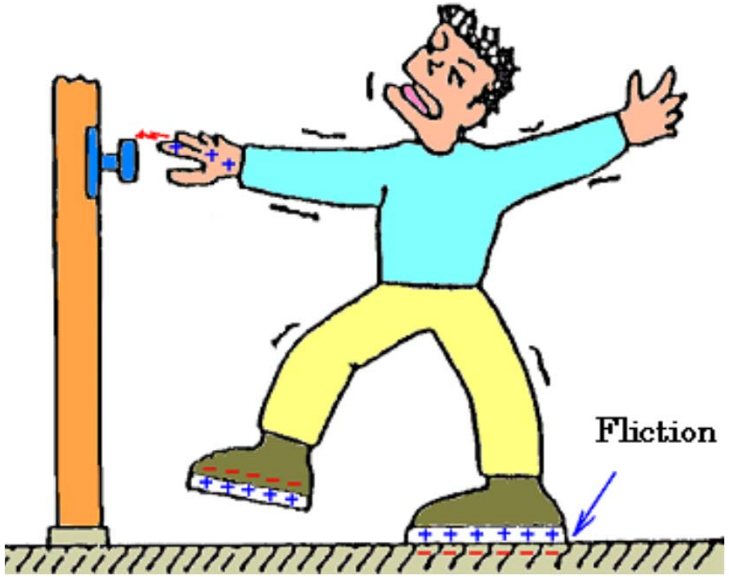
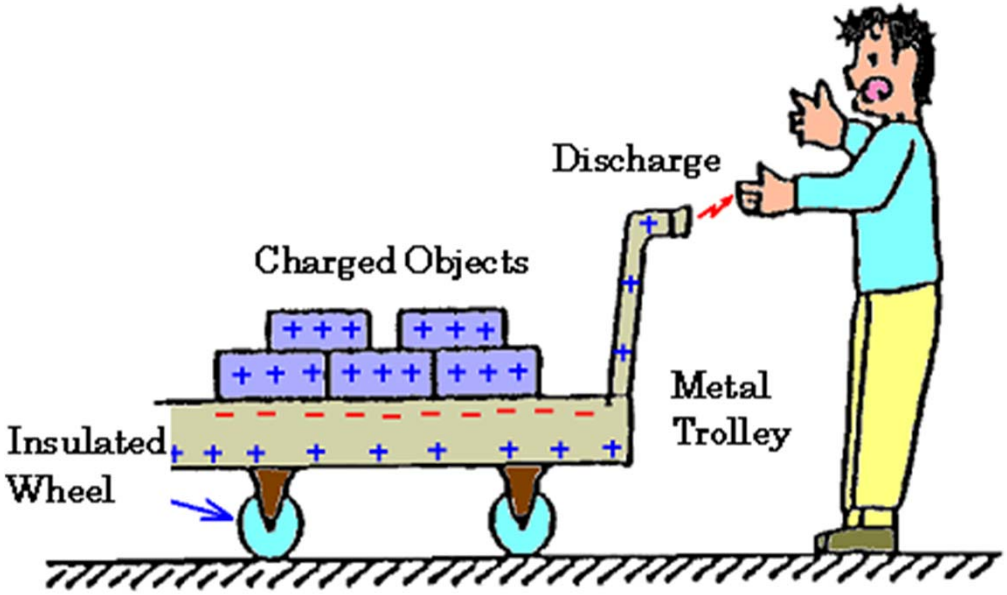
Other examples:



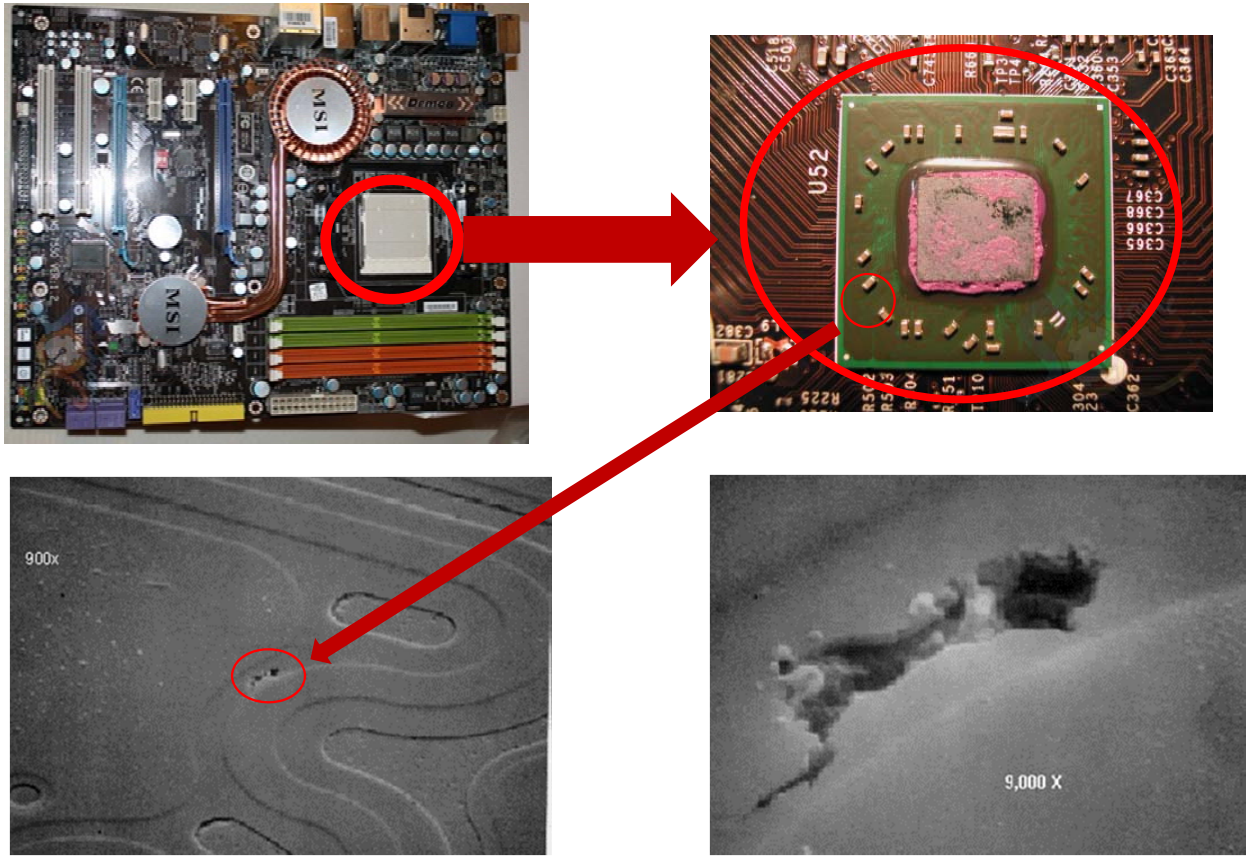


Floor	Synthetic Shoes	Leather Shoes
Acrylic	7 000V	4 000V
Nylon	9 000V	12 000V
Polypropylene	10 000V	3 000V
Wool	3 000V	12 000V

at 15% of RH at 20 °C

Damages due to electrostatic discharges

Motherboard and chip



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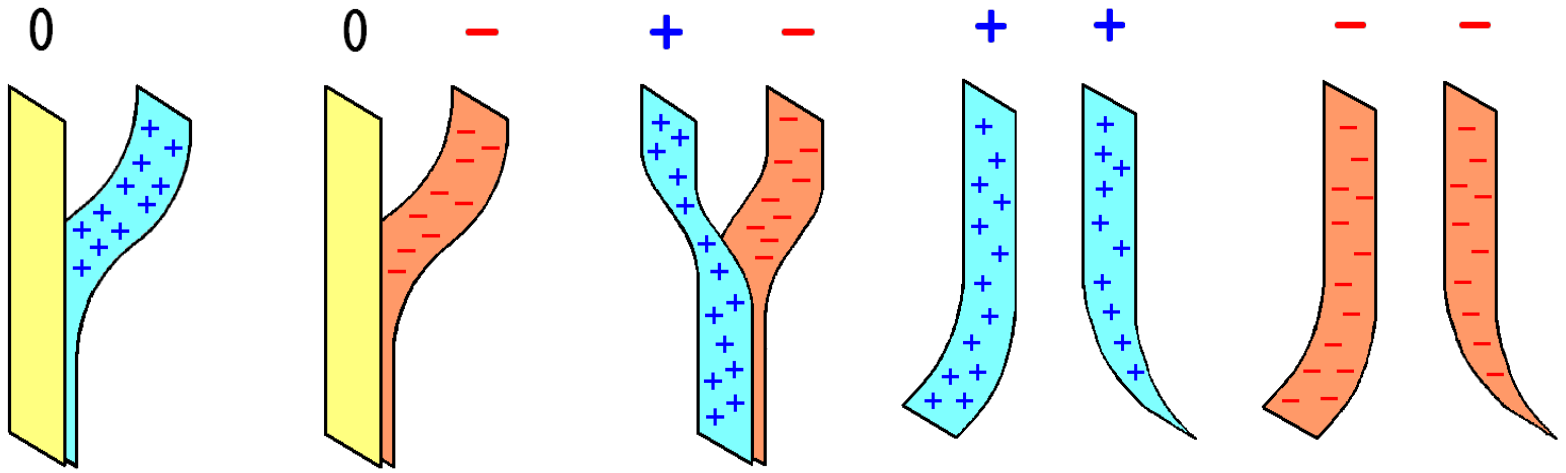
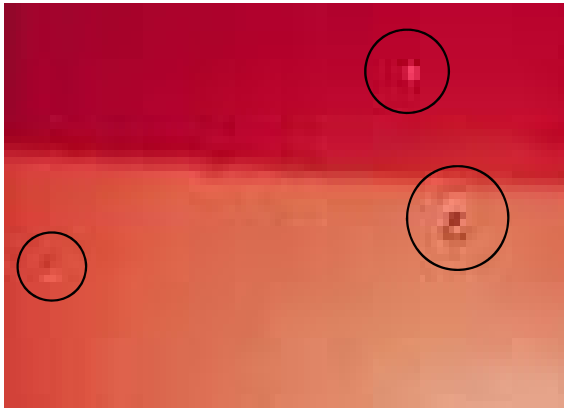
Consequences of Static Electricity: 2-Repulsion and Attraction

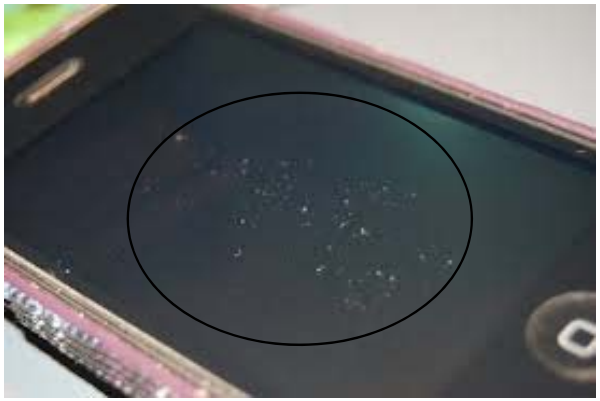


Examples : Dust and particules

Painting



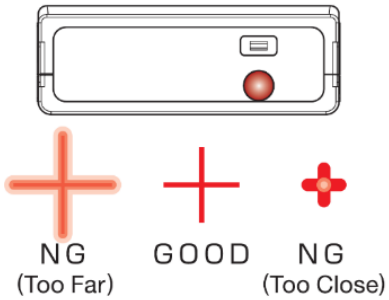
Cells phone screen



The static electricity affect the quality of the product.

Antistatic Solutions

Measure of Static Electricity



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How to choose the right Antistatic Solutions ?

Insulator or Conductive Material?

Insulator

Need to remove dust ?

Yes

Manual or automatic applications ?

Automatic

Conductive

Favour ground connection or use a dissipative carpet

No

Use a ion blower (fan type)

Manual

Choose a gun type ioniser or an Ion Part Cleaner (IPC)

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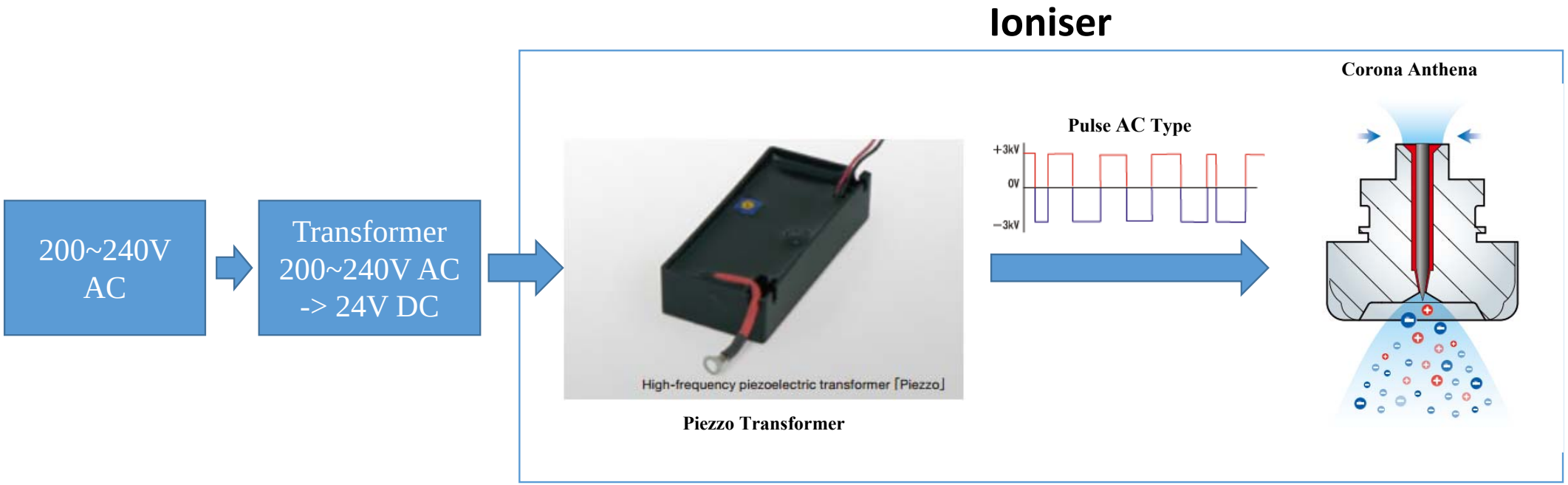
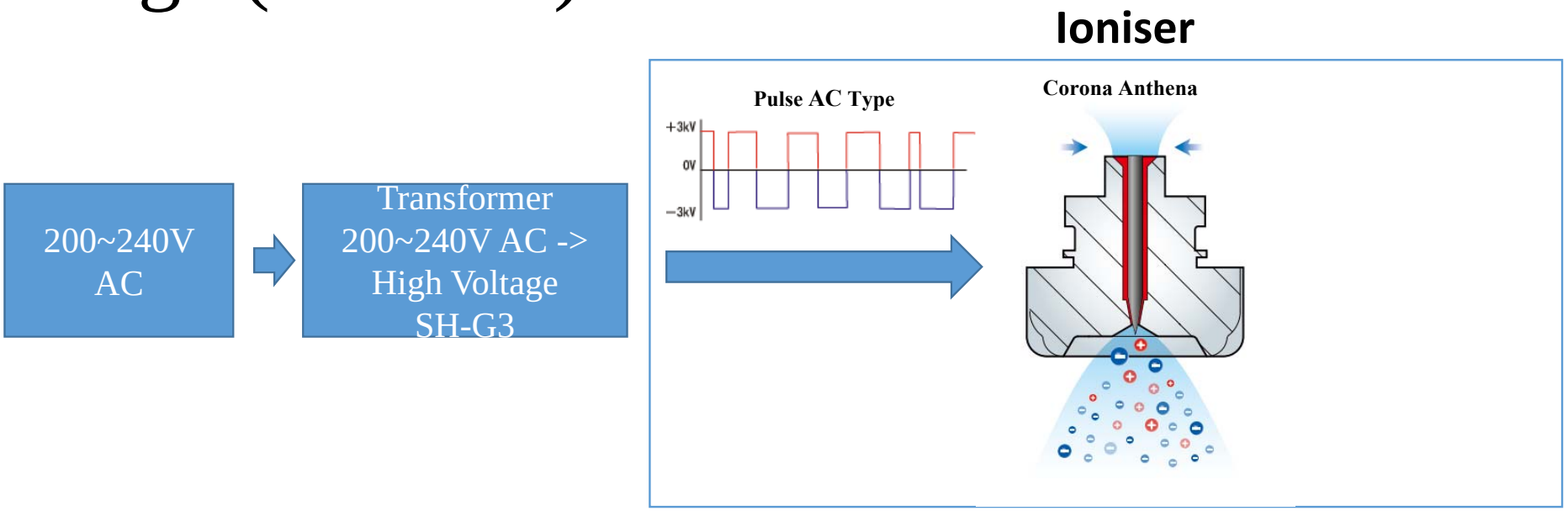
Technology of AC Pulse corona discharge



Remark: Very easy to integrate into automated systems

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

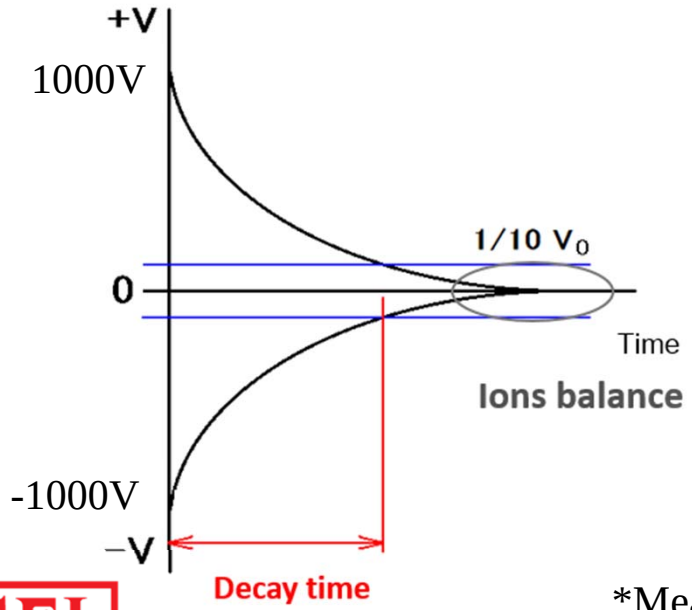


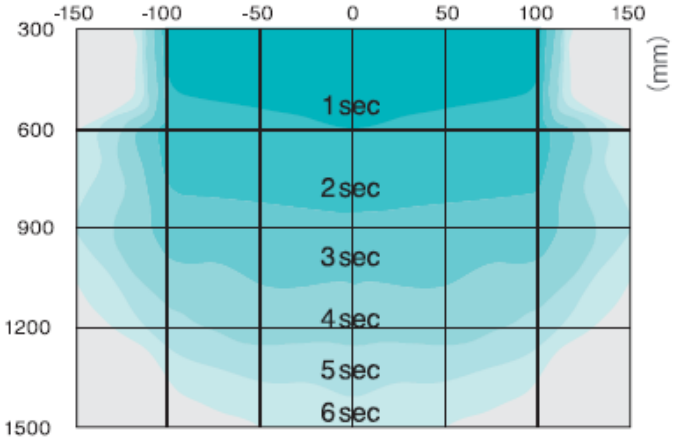
Remarks:

- 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

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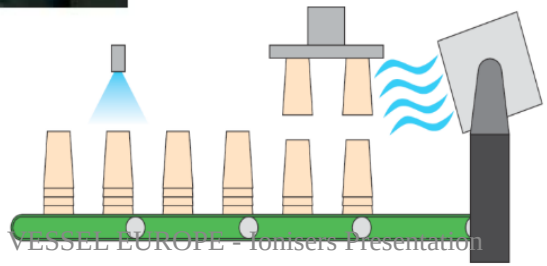
Applications

Static Control Products „Fan Type“



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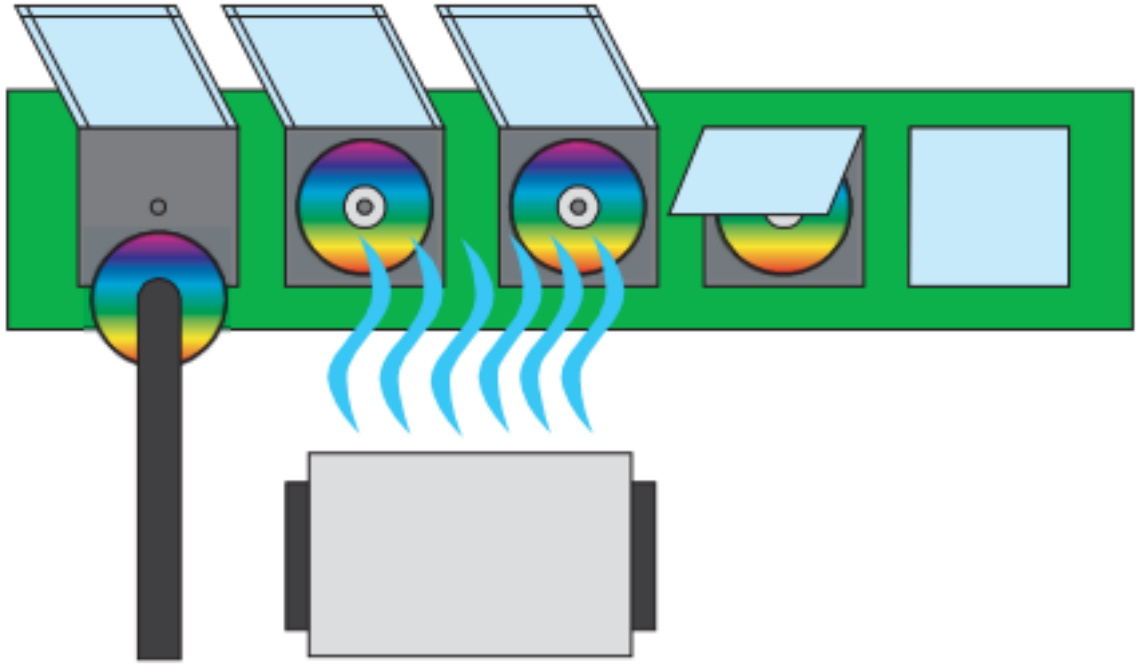
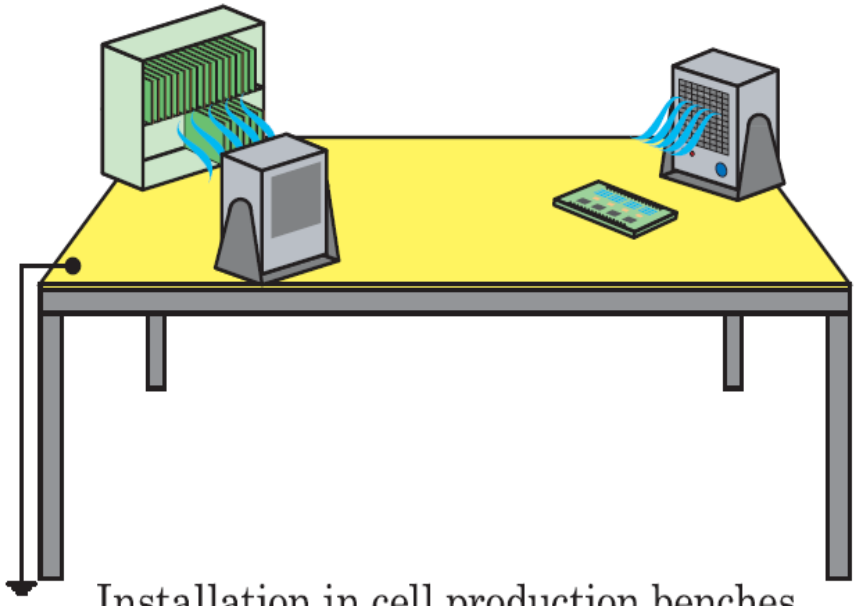
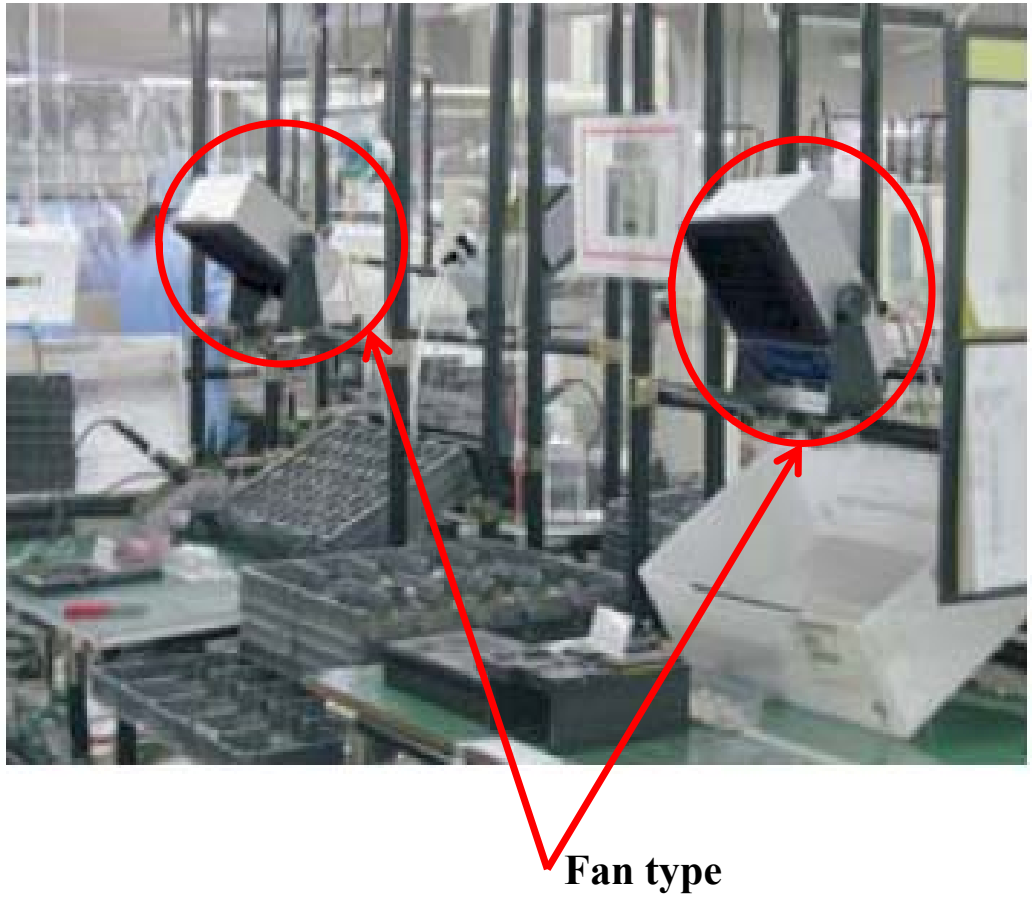
Static Control Products „Fan Type“



Static Control Products „Fan Type“



Installation in cell production benches



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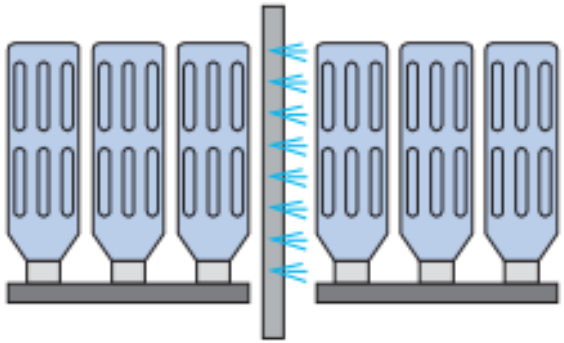
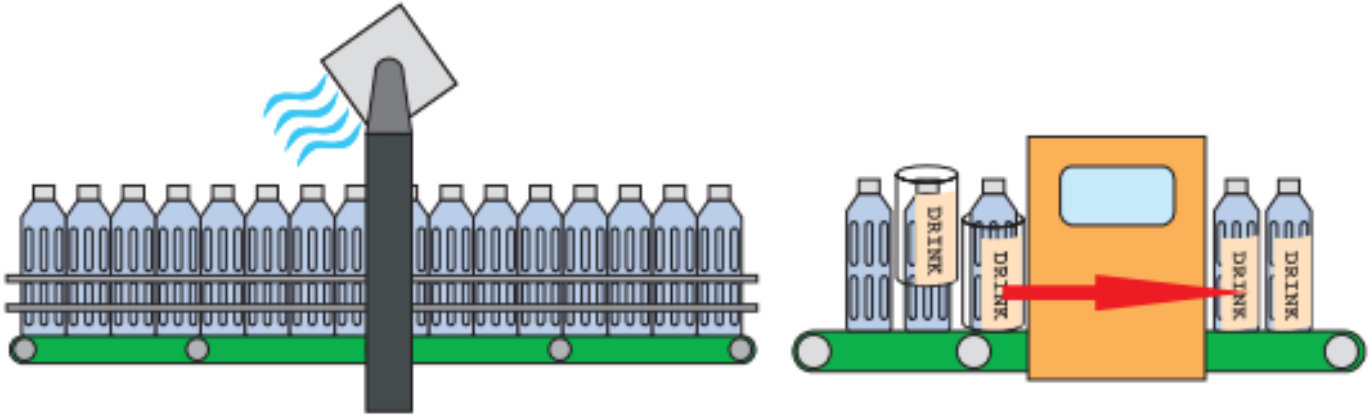
Static Control Products „Fan Type“ and „Bar Type“



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



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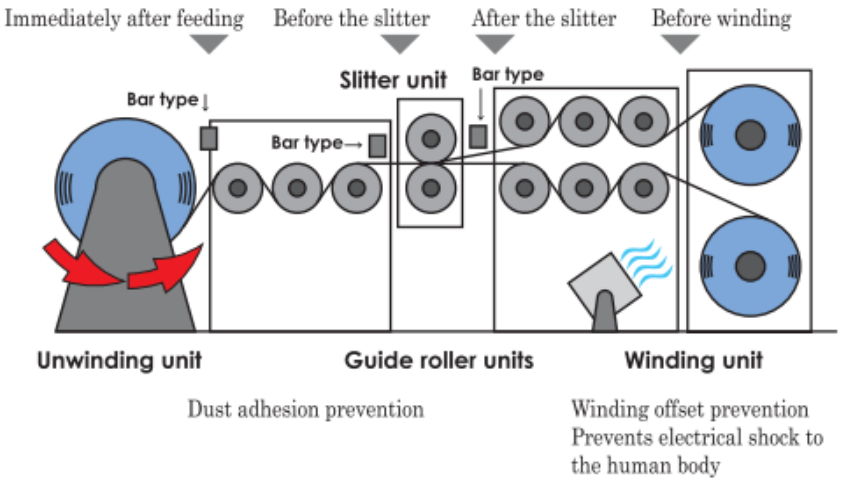
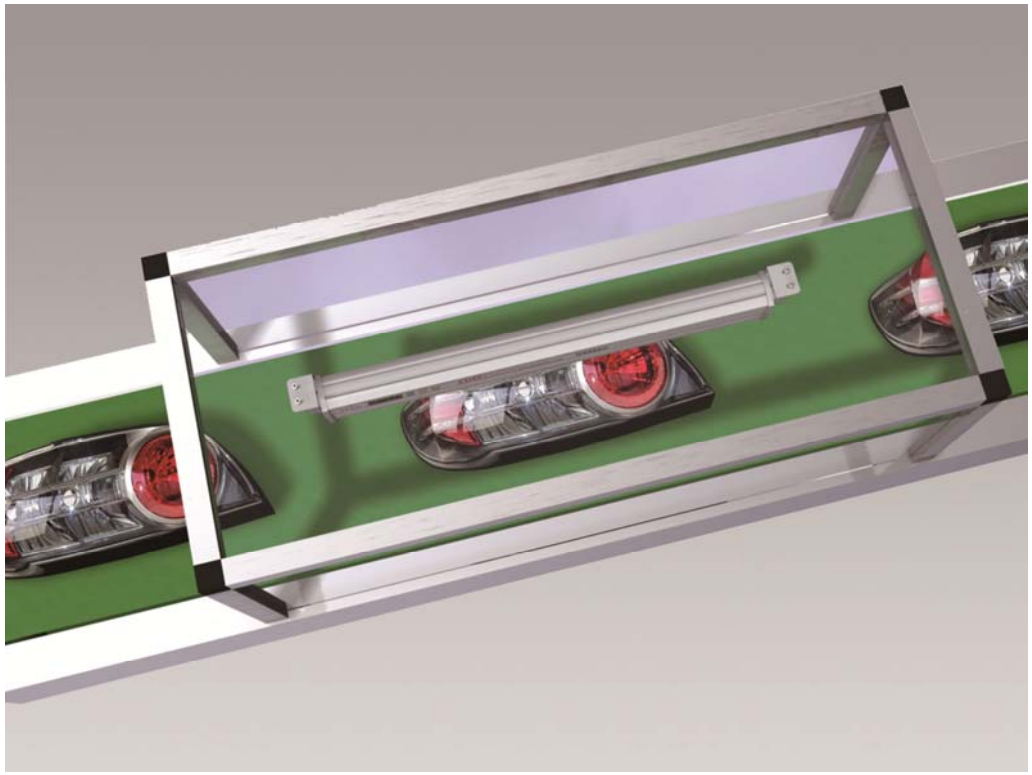


Static Control Products „Bar Type“



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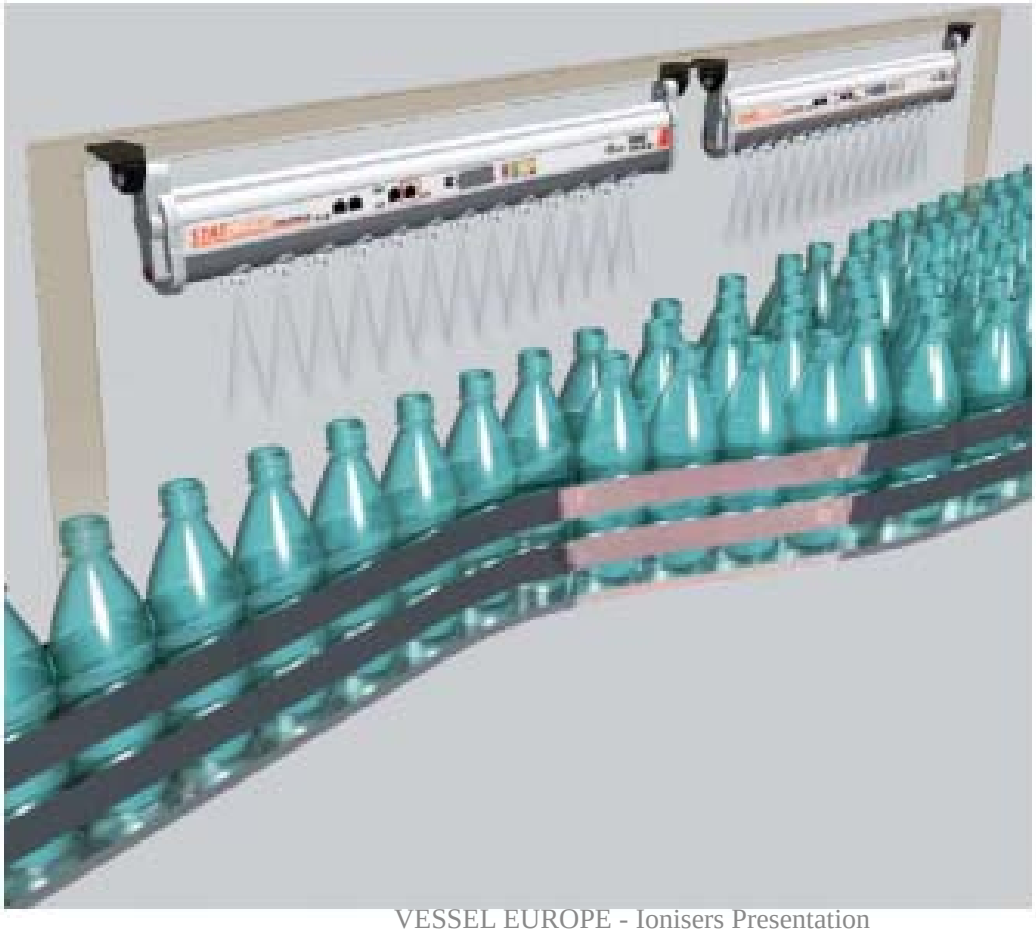

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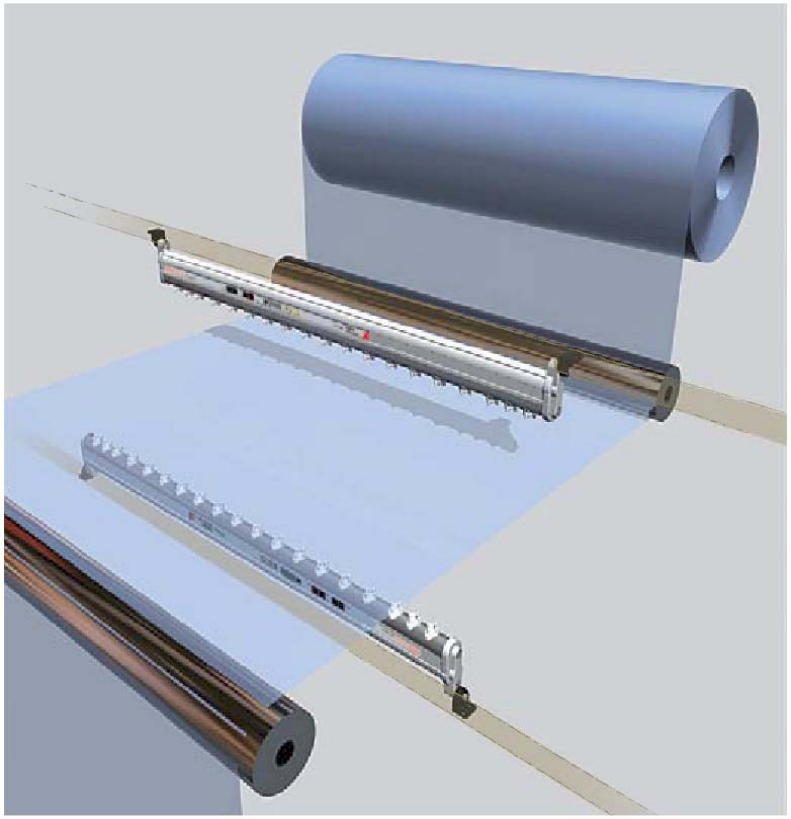

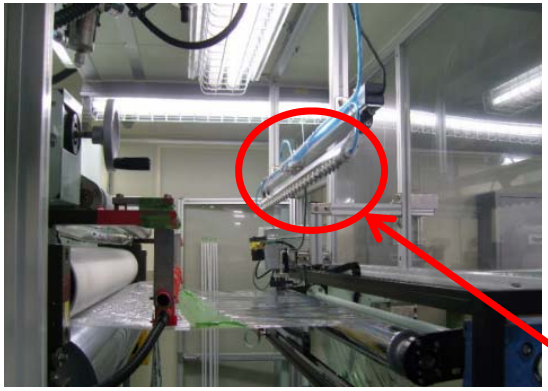

Bar type

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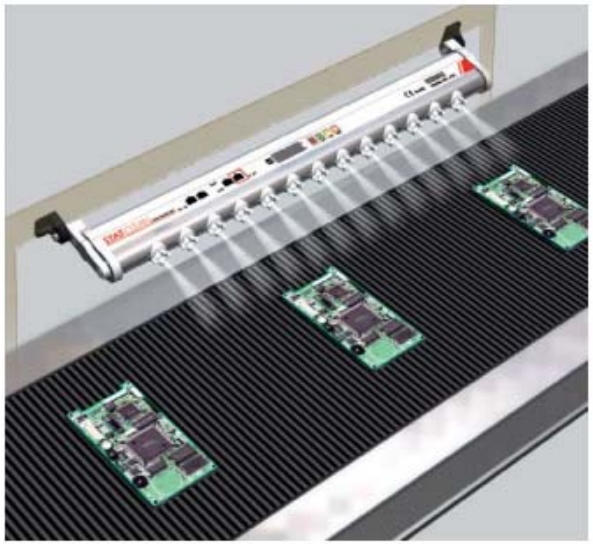
Static Control Products „Bar Type“



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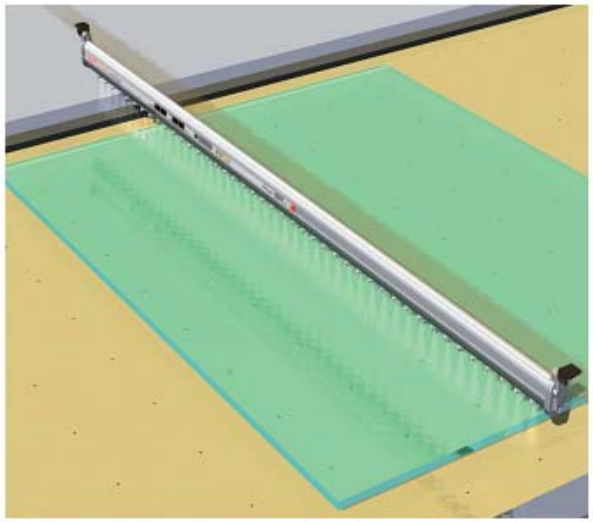

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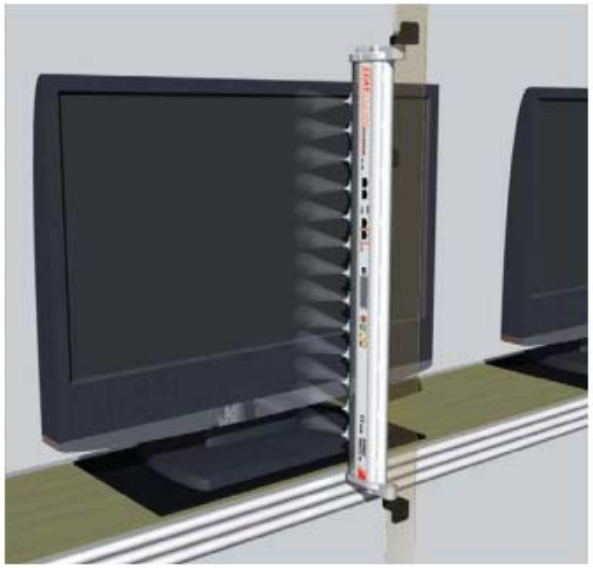
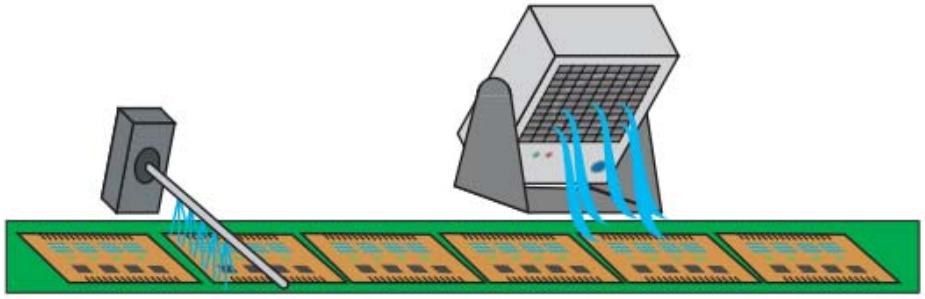
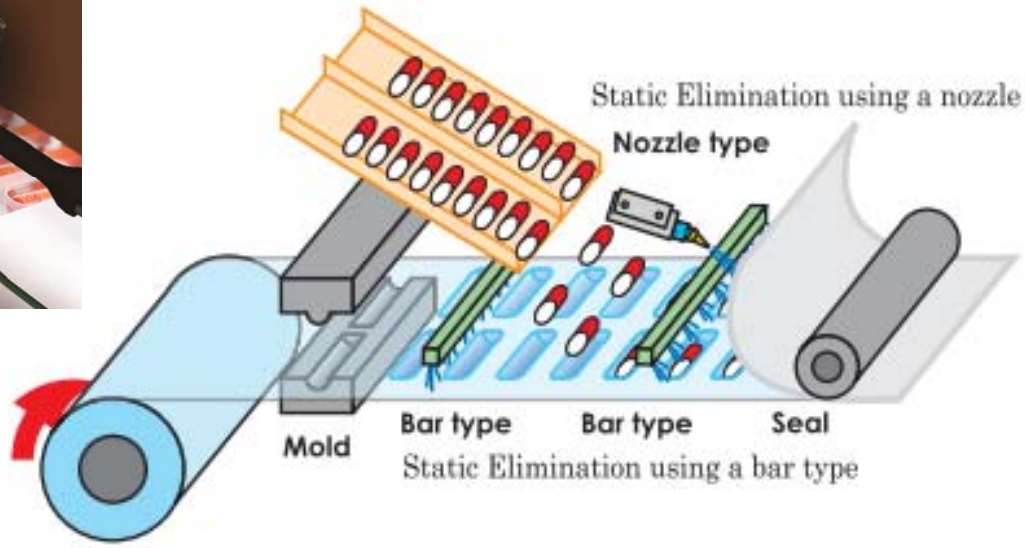


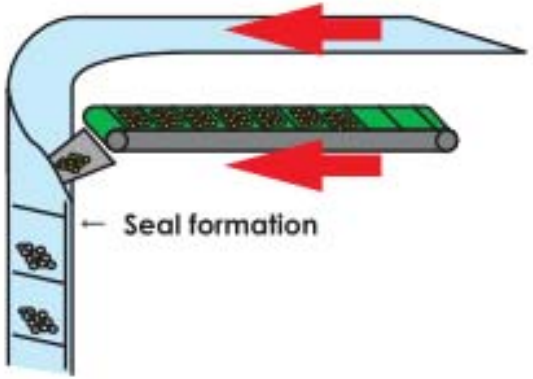
Static Control Products „Fan Type“ and „Nozzle Type“



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

Static Control Products „Nozzle Type“





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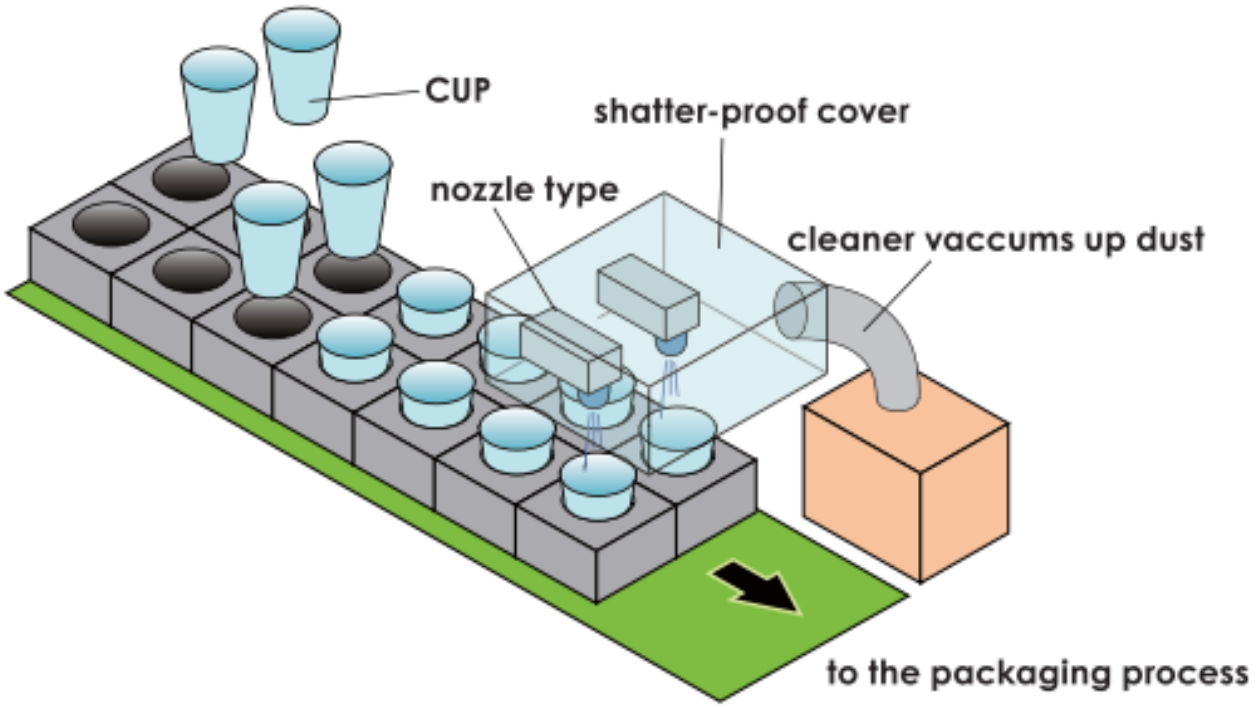
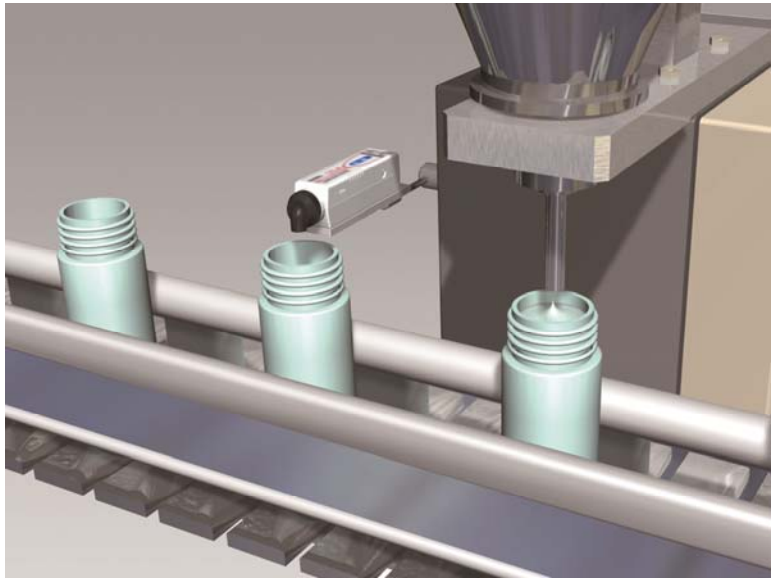
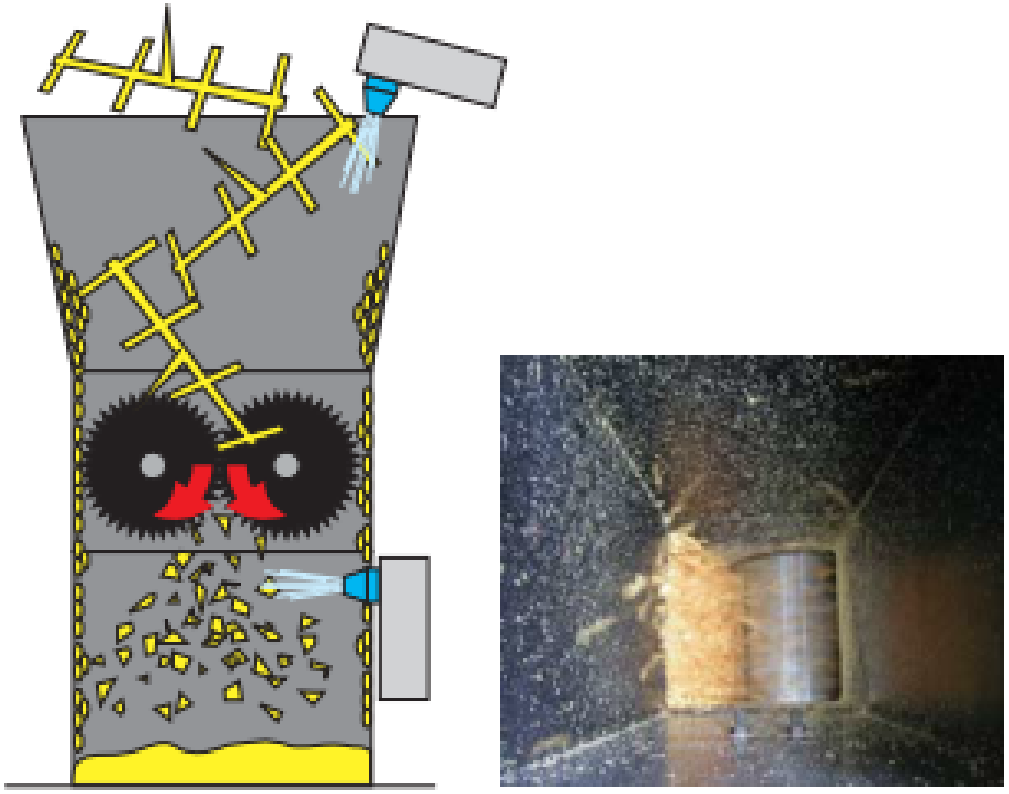




Static Control Products „Nozzle Type“



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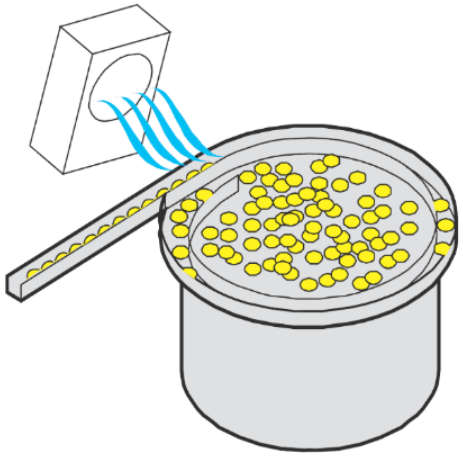

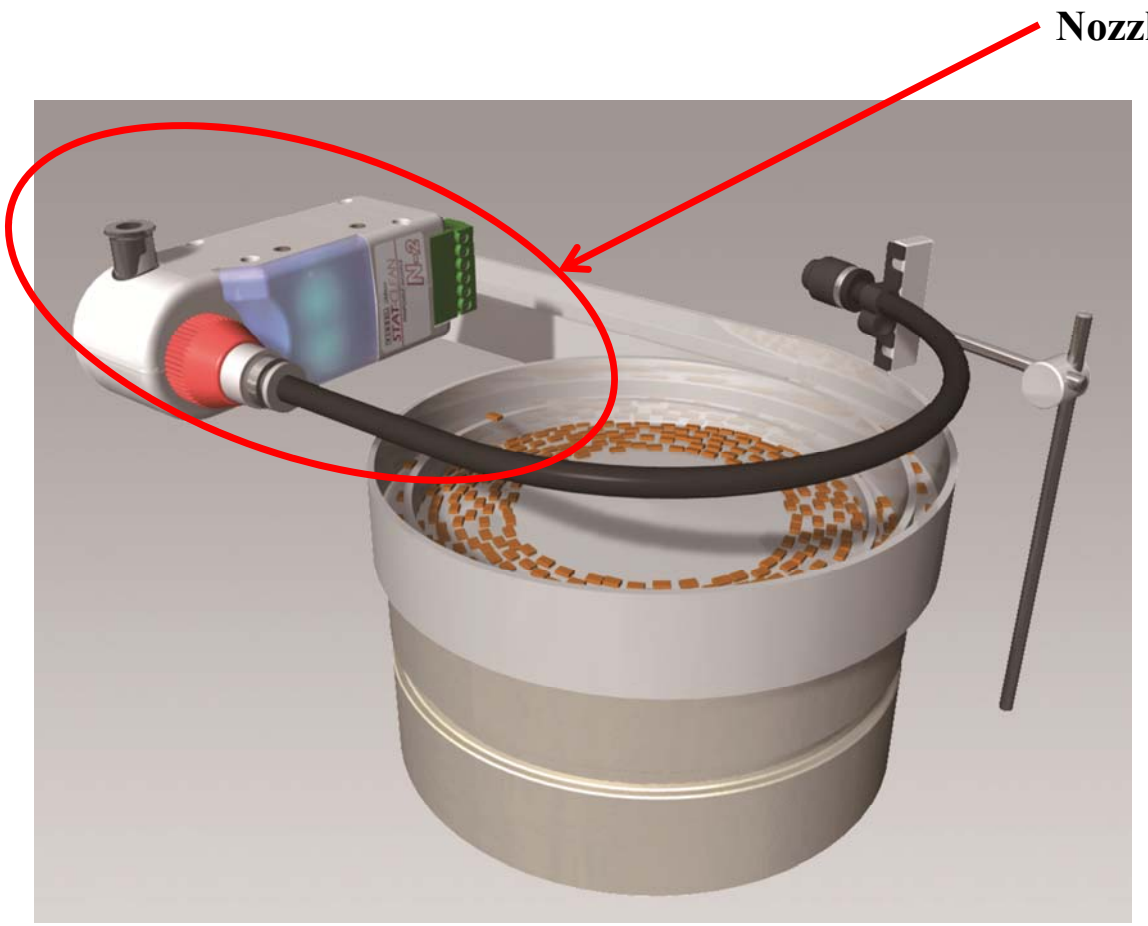

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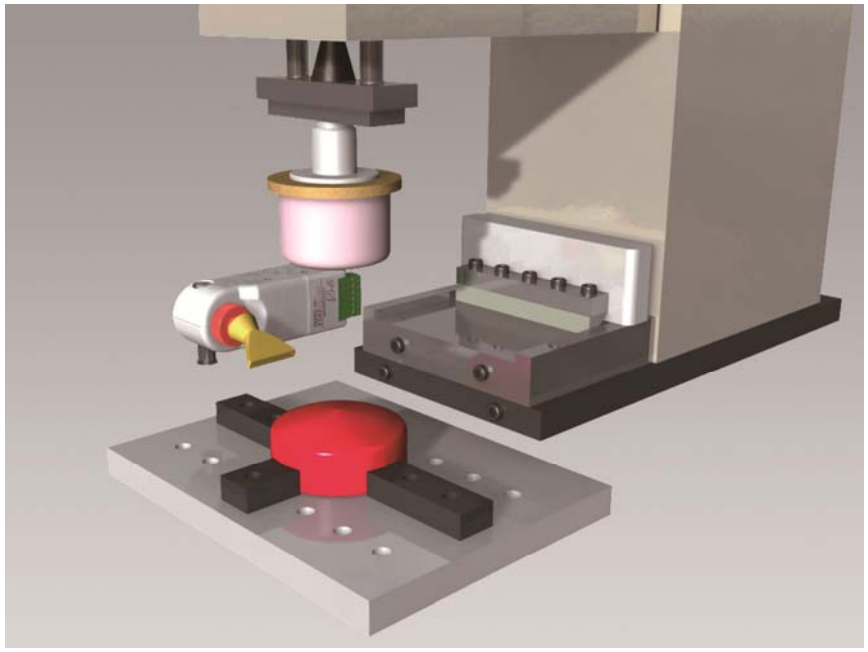
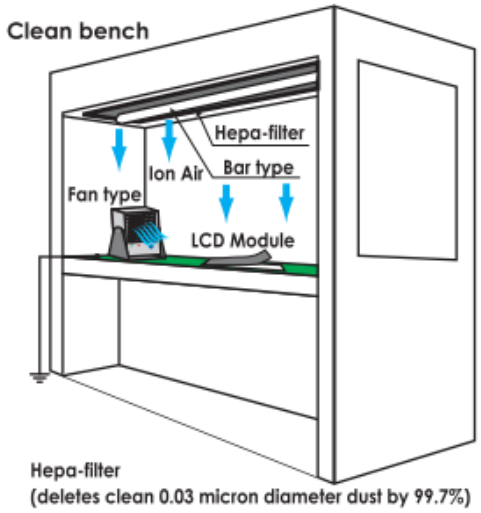


Static Control Products „Fan Type“ and „Bar Type“



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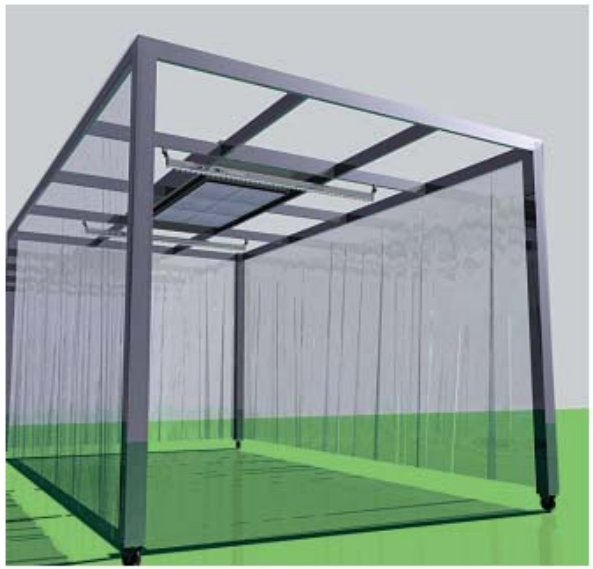

Thank you for your attention.

Any questions ?