# IONIZING DEDUSTING SYSTEMS

# ANTISTATIC EQUIPMENT

## MANUFACTURER SINCE 1965

# MORE THAN



# YEARS OF EXPERIENCE AROUND THE WORLD

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## WHO ARE WE ?

Founded in 1965, Elcowa has demonstrated over the years a recognized know-how in the following fields:

## **ELECTROSTATIC AND DUST REMOVAL**

- Manufacturer of innovative and patended equipment
- **Manufacturer** of ionizing, filtering and patended dust removal systems

## **DETECTION, WEIGHING AND INSPECTION**

- Metal detection (Fe, non Fe, stainless steel)
- Search for foreign bodies (stones, glass, bones, etc.)
- Weighing and sorting (underweight and overweight control, legal metrology, etc.)

## **PRODUCT QUALITY CONTROL**

 Re-inspection of manufactured products, detection of foreign bodies, preventive and curative analysis, search for defects, weight verification, co-packing, etc.

ELCOWA has 40 employees, 2 subsidiaries (Germany and Morocco), distribution in 35 countries and more than 50 years of history at the service of industry.

### WE COLLABORATE WITH

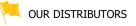
**Manufacturers of industrial machines** such as: thermoforming machines, FFS, filling machines, VFFS, etc.

The final customer mainly specialized in the following fields of activity:



## WHERE WE ARE LOCATED







## ANTISTATIC EQUIPMENT

## **GOAL?** Neutralize electrostatic charges

#### FREQUENT PROBLEMS DEMONSTRATING THE PRESENCE OF STATIC ELECTRICITY

- Attraction of granules, seeds, flakes, shavings, dusts, etc. which prevent : unrolling of the plastic film, non-hermetic sealing, materials clinging to others etc.
- Presence of sparks, electric arcs
- Employees are subjected to electrical shocks

#### HOW DO I KNOW IF MY PROCESS HAS ELECTROSTATIC CHARGES ?



The MCE 20 measuring device is used to quantify the electrostatic charges present on the surface of the material, whithout contact with it.

### **HIGH-VOLTAGE GENERATORS**

The SC04-B and SC11 (**Curtis-Straus NRTL/SCC Mark** certified) generators are equipment which transform the voltage of the electrical network into high voltage.

It is possible to connect from **1 to 4 antistatic equipment** (bars, ionizing nozzles, dust collectors, etc.). **Different types of connections are available according to your needs.** 

#### **SC04-B**

MATERIALS	<ul><li>Blue lacquered steel case</li><li>Stainless steel case</li></ul>
NUMBER OF OUTPUTS	2 or 4
WEIGHT	7,2 kg
DIMENSIONS	160 x 250 x 96 mm
SUPPLY VOLTAGE	230 V - 50 Hz - 60 Hz
NOMINAL OUTPUT VOLTAGE	5 kV
MAX. OUTPUT CURRENT	7 mA
CONSUMPTION	35 VA
CONNECTION	On connectors
PROTECTION FACTOR	IP 20
ANTISTATIC BARS	ECA 88 B or ECA 88 BS



More information on www.elcowa.com

#### **SC11**

MATERIALS	304L brushed stainless steel case
NUMBER OF OUTPUTS	2 or 4
WEIGHT	8,5 kg
DIMENSIONS	177 x 255 x 107 mm
SUPPLY VOLTAGE	230 V - 50 Hz - 60 Hz
NOMINAL OUTPUT VOLTAGE	5 kV
MAX. OUTPUT CURRENT	8 mA
CONSUMPTION	40 VA
CONNECTION	On connectors
PROTECTION FACTOR	IP 65
ANTISTATIC BARS	ECA 11 B or ECA 11 BS



### **ANTISTATIC BARS**

Our antistatic bars are **custom-made** to fit your production lines. They emit positive and negative ions that **neutralize the electrostatic fields disturbing your processes (dust, fires, explosions, electric shocks, etc.)**. The antistatic bar is used to **eliminate surrounding electrostatic charges** (electrostatic discharge). The ECA 88 BS and ECA 11 BS are blowing bars.

#### NEUTRALIZATION OF ELECTROSTATIC CHARGES ON A WORKING DISTANCE FROM 0-120 MM**: ECA 88 B & ECA 11 B**

ECA 11 B	Curtis-Straus NRTL/SCC Mark certified
MAX WORKING DISTANCE	120 mm
TYPES OF OUTPUTS	Axial or angled outlet
LIMIT OF USE	115V-60 Hz : 4 meters 230-50 Hz : 8 meters
DIMENSIONS	Custom made from 50 to 6000 mm
MATERIALS	Anodized aluminum body, stainless steel tips, polycarbonate insulation
HIGH-VOLTAGE GENERATORS	SC04-B : ECA 88 B SC11 : ECA 11 B
CONNECTION TO THE GENERATOR	By shielded cable
OPTIONS	Stainless steel profile Elbowed outlets Custom cable length



More information on www.elcowa.com

NEUTRALIZATION OF ELECTROSTATIC CHARGES ON A WORKING DISTANCE FROM 0-500 MM: ECA 88 BS & ECA 11 BS

ECA 11 BS	Curtis-Straus NRTL/SCC Mark certified
MAX WORKING DISTANCE	500 mm
TYPES OF OUTPUTS	Axial or angled outlet
LIMIT OF USE	115V-60 Hz : 4 meters 230-50 Hz : 8 meters
DIMENSIONS	Custom made from 50 to 6000 mm
MATERIALS	Anodized aluminum body, stainless steel tips, polycarbonate insulation
HIGH-VOLTAGE GENERATORS	SC04-B : ECA 88 BS SC11 : ECA 11 BS
CONNECTION TO THE GENERATOR	By shielded cable
AIR CONSUMPTION COMPRESSED	2 bars = 55 l/min 4 bars = 70 l/min 6 bars = 80 l/min



ECA 11 BS :



More information on www.elcowa.com

**RELATED PRODUCTS:** SC04-B, SC11, ECO-TEST, ECOPEN

### **IONIZING AIR GUNS**

The TISP-N air gun combines 2 inseparable actions:

- **Ionization**: neutralization of electrostatic charges (sticking effect)
- **Compressed air**: blow and remove harmful particles (dust, etc.)

The TISP-N is used on **small parts or surfaces in many different types of industries** (plastics, printing, screen printing, wood, etc.) and solves a multitude of problems such as gluing, dusting and cleaning.

#### The ionizing air gun implies manual use.

The **TISP-N** is designed with the capacitive blowing ionizing nozzle TIS-N.

The operation is based on the principle of the CORONA effect. Each tip connected to the high voltage generates an electric field charged with positive and negative ions (electrons). When the material to be treated is under the influence of this electric field, a transfer of electrons (negative ions) takes place until the charges on the surface of the material are neutralized. The use of compressed air allows the ion field, emitted by the tips, to be conveyed over a greater distance and to remove dust from the treated surface.

3 ionization tips are embedded in a teflon block implanted in an anodized aluminium profile. A quick coupling of 8mm diameter ensures the pneumatic supply of the system.

#### TISP-N

DIMENSIONS	190 x 70 x 110
WEIGHT	0,33 kg
CABLE	Delivered with 3m high-voltage cable
CHARACTERISTICS	Ergonomic insulating handle
PNEUMATIC CONNECTION	Diameter 8 mm
HIGH-VOLTAGE GENERATOR	SC04-B
WORKING WIDTH	50 mm in output
EFFICIENCY DISTANCE	300 mm
OPTIONS	Custom cable length up to 10m

BARS	L/MIN
0,5	25
1	50
1,5	65
2	75
3	85
4	100
5	105
6	130



### **IONIZED AIR BLOWERS**

Stainless steel or painted steel ionizing blowers are used when the neutralization of electrostatic charges must be done remotely because there is **little space available at the workstation or on the production line**.

They are also used to prevent operators from being subjected to **electric shocks** (coil winding etc.) but also to **protect your equipment** (machines).

## NEUTRALIZATION OF ELECTROSTATIC CHARGES ON A WORKING DISTANCE FROM 0-1 M : **ECOBLOWER 252**

POWER SUPPLY	230 V 50/60 Hz
TREATED SURFACE AT 1 M	500 x 300 mm
POWER CONSUMPTION	0,45A
FAN ROTATION SPEED	0 to 1600 T/min
STANDARD ADJUSTABLE FLOW RATE	0 to 173 m³/h
SOUND LEVEL	47 dB
FINISH	Lacquered/stainless steel



#### NEUTRALIZATION OF ELECTROSTATIC CHARGES ON A WORKING DISTANCE FROM 0-2 M : **ECOBLOWER 351-C**

POWER SUPPLY	230 V 50/60 Hz
TREATED SURFACE AT 2 M	1000 x 600 mm
POWER CONSUMPTION	200 W
FAN ROTATION SPEED	0 to 2400 T/min
STANDARD ADJUSTABLE FLOW RATE	0 to 800 m³/h
SOUND LEVEL	70 dB
FINISH	Lacquered/stainless steel



## NEUTRALIZATION OF ELECTROSTATIC CHARGES ON A WORKING DISTANCE FROM 0-3 M : **ECOBLOWER 800-C**

POWER SUPPLY	230 V 50/60 Hz
TREATED SURFACE AT 3 M	1500 x 700 mm
POWER CONSUMPTION	0,45A
FAN ROTATION SPEED	0 to 1300 T/min
STANDARD ADJUSTABLE FLOW RATE	1400 m³/h
SOUND LEVEL	70 dB
FINISH	Lacquered/stainless steel



More information on www.elcowa.com

**RELATED PRODUCTS:** ECO-TEST, ECOPEN

**Ionizing nozzles, ionizing air nozzles or blowing ionizing heads** neutralize electrostatic charges and remove harmful particles that arise during the production process. They are often used on small parts, printing and gluing areas, cramped areas, etc.

In order to reach specific areas, the nozzles can be mounted on a hose.

#### TIC-S

DIMENSIONS	66 x 30 x 25 cm
NUMBER OF IONIZING PEAKS	1
CABLE	Delivered with 3m high voltage cable
PNEUMATIC CONNECTION	Diameter 4 mm
HIGH-VOLTAGE GENERATOR	SC04-B
WORKING WIDTH	20 mm at the exit
SCOPE	400 mm at 4,5 bars
OPTIONS	Hose mounting

BARS	L/MIN
3	25
4,5	30
6	35



More information on www.elcowa.com

TIS-N

DIMENSIONS	110 x 70 x 58 cm
NUMBER OF IONIZING PEAKS	3
WEIGHT	0,57 KG
CABLE	Delivered with 3m high voltage cable
PNEUMATIC CONNECTION	Diameter 8 mm
HIGH-VOLTAGE GENERATOR	SC04-B
WORKING WIDTH	50 mm at the exit
SCOPE	250 mm
OPTIONS	Hose mounting

BARS	L/MIN
0,5	25
1	50
1,5	65
2	75
3	85
4	100
5	105
6	130



### **AIR KNIVES**

The **Ecoflow** uses the COANDA effect to drive high laminar flow rates at high speed with a very low volume of compressed air. The amplification coefficients are 25:1, which results in a 40% reduction in compressed air consumption and a 10 dB reduction in noise level compared to a conventional blower (pierced hose, nozzle, etc.).

An antistatic bar is installed on this profile, releasing positive and negative ions carried by the air flow at a distance of up to **2 meters**.

Its exceptional performance increased production, improved quality of the finished products while increasing the safety and comfort of the machine users. Indeed, **this equipment actively participates in** :

- The suppression of dust, parasitic elements, attraction or sticking phenomena, electrostatic charges and slamming phenomena.
- Cooling of moulded or injected products

ECOFLOW

DIMENSIONS	150 mm 300 mm 450 mm
ANTI-STATIC BARS	From the range
CABLE	Delivered with 3m high-voltage cable
HIGH-VOLTAGE GENERATOR	From the range
SCOPE	Under 2 bars of pression = 0.5m Under 4 bars of pression = 1m



### **EQUIPMENT MAINTENANCE**

Implanted at the heart of your machine, ionizing equipment is subject to a alteration of their ionic yield due to fouling and therefore **loss of efficiency**.

Metal parts, grounding pins and profiles, insulating parts, profiles and connectors are covered with a greasy film and a dust agglomerate altering their properties.

It is **imperative to carry out periodic maintenance of the equipment to guarantee its optimal performance**. Lack of maintenance leads to significant losses in the performance of ionizing equipment and electrostatic phenomena reappear, once again, disrupting your production.

#### ECO-TEST : ELCOWA EQUIPMENT OPERATION VIA INDICATOR LIGHT



More information on www.elcowa.com

#### ELCOCLEAN : ELCOWA EQUIPMENT CLEANING KIT

MAIN ELEMENTS	Oxygenated solvents and disaromatized hyydrocarbon cuttings
PHYSICAL STATE	Liquid
COLOR	Colorless
ODOR	Mild hydrocarbon ordor
VOLUME MASS AT 20°C	-765 kg/m <sup>3</sup>
CLOSED-CIRCUIT FLASH POINT	~ 34°C
AUTO-IGNITION TEMPERATURE	>200°C
INDEX KB	74
EVAPORATION RATE (ETHYL ETHER = 1)	21
BREAKDOWN VOLTAGE	53 000 V
LABELLING	R10 - R65 - R66 - R67



# IONIZING DUST COLLECTORS



Neutralize particles of different sizes: dust, hair, shavings, glass/plastic splinter

## **DEDUSTING SYSTEMS COMBINE:**

- **Ionizing elements:** neutralization of electrostatic charges
- A mechanical force: separation of the particles from the support (blowing nozzles, scrapers, brushes)
- Suction through a filtering suction system: evacuation of particles

## **POSSIBLE APPLICATIONS:**

INTERIOR DUST REMOVAL: containers, perfume bottles, cups, etc. EXTERNAL DUST REMOVAL: containers, cans, cardboard, etc. SINGLE-SIDED DUSTING : papers, plastic films, cardboard, etc. DOUBLE-FACE DUSTING: strip materials (papers, textiles, etc.) DUSTING OF SEALING PLANS



## DEDUST THE OUTSIDE OF THE PRODUCT 3D DUST REMOVAL

(jars, bottles, etc.)

**ECOVAC 11 is specially designed for external dust removal from products.** This system is ideal for cleaning shaped parts (bottles, cans, etc.). Compact and powerful, its particularly well thought-out ergonomics allow ultra-fast series changes. It is custom-made to fit your products perfectly.

#### ECOVAC 11

ACTIVE LENGTH (IONIZING PART)	Custom-made
SUCTION BOX	15/10 thermo-lacquered blue sheet metal
	Stainless steel 304L
ANTISTATIC BARS	From the range
BLOWING	Drilled tubes with 5 bar pressure
HIGH-VOLTAGE GENERATOR	From the range
GENERATOR CONNECTION CABLE	Delivered with 3m of high-voltage shielded cable (other dimensions on request)
SUCTION SYSTEM	Custom-made



## DEDUST THE INSIDE OF THE PRODUCT 3D DUST REMOVAL

(containers, jars, cups, etc.)

During the manufacturing process, particles of different sizes such as **dust**, **hair**, **shavings**, **glass or plastics splinters**, **etc. can get into your products** and cause real incidents: in terms of process, health or financial losses, etc.

#### ECOVAC CUPS : cups (yogurt, creams, etc.)

POWER SUPPLY VOLTAGE	5 KV AC
FINISH SUCTION BOX	RA08
BLOWING	With flat or circular jet nozzles depending on the application
HIGH-VOLTAGE GENERATOR	From the range
ANTISTATIC BARS	From the range
SUCTION SYSTEM	Custom-made



#### More information on www.elcowa.com

**TIS-PC** : vials, bottles, tubes, etc.

BODY	50 x 80 mm
MAX LENGTH OF THE TIP OUTLET	160 mm
CABLE	3m high-voltage cable (other lengths on request; extendable to 10m)
PNEUMATIC CONNECTION	Diameter 6-8 mm ext.
MATERIALS	Body in natural white POM, tip in stainless steel
COMPRESSED AIR CONSUMPTION	2 bar = 7 l/min 3 bar = 9 l/min 4 bar = 10 l/min 5 bar = 11 l/min 6 bar = 12 l/min
LENGTH OF HOLLOW TIP	5 to 160 mm
HIGH-VOLTAGE GENERATOR	From the range



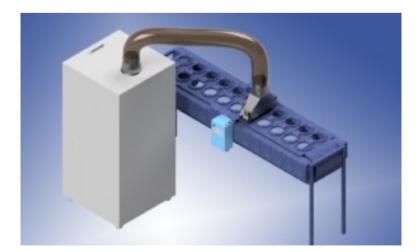
During the filling stage of the trays with breaded products (fish, chicken, vegetable patties), residues such as breadcrumbs, crumbs or sesame seeds are deposited on the edges. When the tray is to be sealed, these poorly positioned residues prevent a hermetic seal. In case of leakage, the product becomes unfit for consumption and must therefore be discarded.

This results in significant waste and financial losses for the distributor and manufacturer as well as a high health risk for the end consumer.

#### **ECOVAC 2T**

ACTIVE LENGTH (IONIZING PART)	200 to 1200 mm on request
SUCTION BOX	Stainless steel 304L
SUCTION CONNECTION	Sleeve diameter 80 to 150 mm
ANTISTATIC BARS	From the range
SQUEEGES	2
HIGH-VOLTAGE GENERATOR	From the range
GENERATOR LINK CABLE	Delivered with 3m of high voltage shielded cable (other dimensions on request).
SUCTION SYSTEM	Custom-made





## DEDUST A SIMPLE FACE 2D DUST REMOVAL

(papers, plastic films, cardboard, etc.)

During the manufacturing process, particles of different sizes such as **dust**, **hair**, **shavings**, **glass or plastics splinters**, **etc. can get into your products and thus cause real incidents**: in terms of process, health risk, financial losses, etc.

#### ECOVAC 5 : particles smaller than 3mm

ACTIVE LENGTH	300 - 1200 mm
SUCTION BOX MATERIALS	Stainless steel 304L
SUCTION CONNECTION	Sleeves from 80 to 150mm diameter
SQUEEGEE	1 polyethylene squeegee
HIGH-VOLTAGE GENERATOR	From the range
SUCTION SLOTS	1x : 4mm   1x : 4mm
ANTISTATIC BARS	From the range
SUCTION SYSTEM	Custom-made
SUCTION OUTLETS	From the top (5V), on the side (5)



#### **ECOVAC 6** : foreign bodies up to 7mm

ACTIVE LENGTH	300 - 1200 mm
SUCTION BOX MATERIALS	Stainless steel 304L
SUCTION CONNECTION	Sleeves from 80 to 150mm diameter
SQUEEGEE	1 polyethylene squeegee
HIGH-VOLTAGE GENERATOR	From the range
SUCTION SLOTS	1x : 7mm   1x : 4mm
ANTISTATIC BARS	From the range
SUCTION SYSTEM	Custom-made
SUCTION OUTLETS	From the top (6V), on the side (6)



#### ECOVAC 7 : large widths

ACTIVE LENGTH	170 - 3500 mm
SUCTION BOX MATERIALS	Stainless steel 304L Blue powder-coated 15/10 sheet metal
SUCTION CONNECTION	Sleeves from 60 to 120mm diameter
MECHANICAL FORCE	Squeegee, brush or blow tube
SUCTION SLOTS	1 x : 7mm
HIGH-VOLTAGE GENERATOR	From the range
ANTISTATIC BARS	From the range
SUCTION SYSTEM	Custom-made



More information on www.elcowa.com

**RELATED PRODUCTS :** HIGH-VOLTAGE GENERATORS, SUCTION SYSTEMS, ECO-TEST, ELCOCLEAN

## DEDUST A DOUBLE FACE 2D DUST REMOVAL

(papers, plastic films, cardboard, etc.)

During the manufacturing process, particles of different sizes such as **dust**, **hair**, **shavings**, **glass or plastics splinters**, **etc. can get into your products and thus cause real incidents**: in terms of process, health risk, financial losses, etc.

#### ECOVAC 20 : possible contact with the material

ACTIVE LENGTH	Standard : 300, 540 et 650 mm Other length on request
SUCTION BOX MATERIALS	Stainless steel 304L Blue powder-coated sheet metal
SUCTION CONNECTION	Sleeves with a diameter of 80 to 120 mm
BRUSHES	2 or 4
GUIDE	2 or 4 metal drum guide rollers
HIGH-VOLTAGE GENERATOR	From the range
ANTISTATIC BARS	From the range
SUCTION SYSTEM	From the range



More information on www.elcowa.com

**ECOVAC 21** : no possible contact with the material

ACTIVE LENGTH	Custom-made
SUCTION BOX MATERIALS	Stainless steel 304L Blue powder-coated sheet metal
SUCTION CONNECTION	Sleeves with a diameter from 100 to 120mm
MECHANICAL ACTION	Air blowing
GUIDE	2 or 4 metal drum guide rollers
BLOWING TUBES	2
HIGH-VOLTAGE GENERATOR	From the range
ANTISTATIC BARS	From the range
SUCTION SYSTEM	From the range



## APPLICATIONS EXAMPLES PER INDUSTRY

#### **FOOD INDUSTRY**

- Deviation and gluing of the packaging film on machines such as shrink-wrappers, sleeve-wrapping machines
- Leaks when sealing food trays
- Presence of dust or particles inside containers before filling ( $\emptyset$  neck  $\ge$  8mm)
- Presence of dust or particles inside jar-type containers before filling
- Hair, dust, glass shards, hair, angel hair etc. remain stuck on the PS or LID food film.

#### **AUTOMOBILE**

- Dust attraction on plastic parts after injection molding
- Dust attraction on plastic parts at the end of the molding process
- Stacking of products at the end of the injection molding machine
- Accumulation of dust or other particles before painting
- Accumulation of dust or other particles on shuttle/thermoformed trays
- Ink deflection when printing on glass (windshields, etc.)

#### WOOD

Chips, sawdust, dust stuck on wood panels after storage or machining

#### **COSMETICS & PHARMACEUTICALS**

Presence of dust or particles inside containers before filling (Ø neck ≥ 8mm)
Presence of dust or particles inside jar type containers, before filling

#### PRINTING

- Ink deflection when printing on plastic plates or films
- Ink deflection when printing on glass
- During printing: ink drops from the print head are attracted or rejected from the print head are attracted or rejected
- Presence of harmful particles (dust, etc.) on caroll or micro-perforated webs before printing
- Sticking effect during film unwinding
- Presence of harmful particles (dust, etc.) on one or both sides
- Employees are subjected to electrical shocks when the reel is wound

#### **OPTICS & GLASS**

- Harmful particles (dust, etc.) are deposited on glasses, windshields, etc.
- Harmful particles (dust, etc.) are deposited on the glass plates before printing or filming

#### PLASTURGY

- Dust attraction on plastic parts after injection molding
- Dust attraction on plastic parts at the end of the molding process
- Stacking problems on products leaving the injection molding machine
- Accumulation of dust or other particles on thermoformed trays
- **Employees are subjected to electrical shocks** when winding the plastic film reel
- Labels slip or change position in the mold

#### TEXTILE

- Sticking phenomenon at the winding or sticking of the rolls
- Phenomenon of bad unwinding or deviation of material on calender machine
- Employees are subjected to electric shocks during the winding of the plastic film roll
- Ink deflection during textile printing

### WE CARRY OUT YOUR CUSTOM-MADE PROJECTS

# INTERNAL AUDIT

## **TECHNICAL QUESTION ? SPECIFIC APPLICATION ?**

**ELCOWA**'s commercial and technical team offers to support you by carrying out an internal audit in your company. This will allow you to :

- **Benefit from personalized advice** on the choice of your future equipment: according to the machine used, the products, the speed of scrolling, the number of lines etc.
- Carry out tests on your products: demonstrate the presence of static electricity and show how to neutralize the static charges

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