



# INSTRUMENTATION IONISATION AND OTHER EQUIPMENT

+ —

- CONTROL ACCESS SYSTEMS
- MEASURING INSTRUMENTS
- IONISATION
- DEHUMIDIFICATION SYSTEMS, HUMIDITY CONTROL AND CABINETS
- SEALERS

—

**-EUROSTAT-**

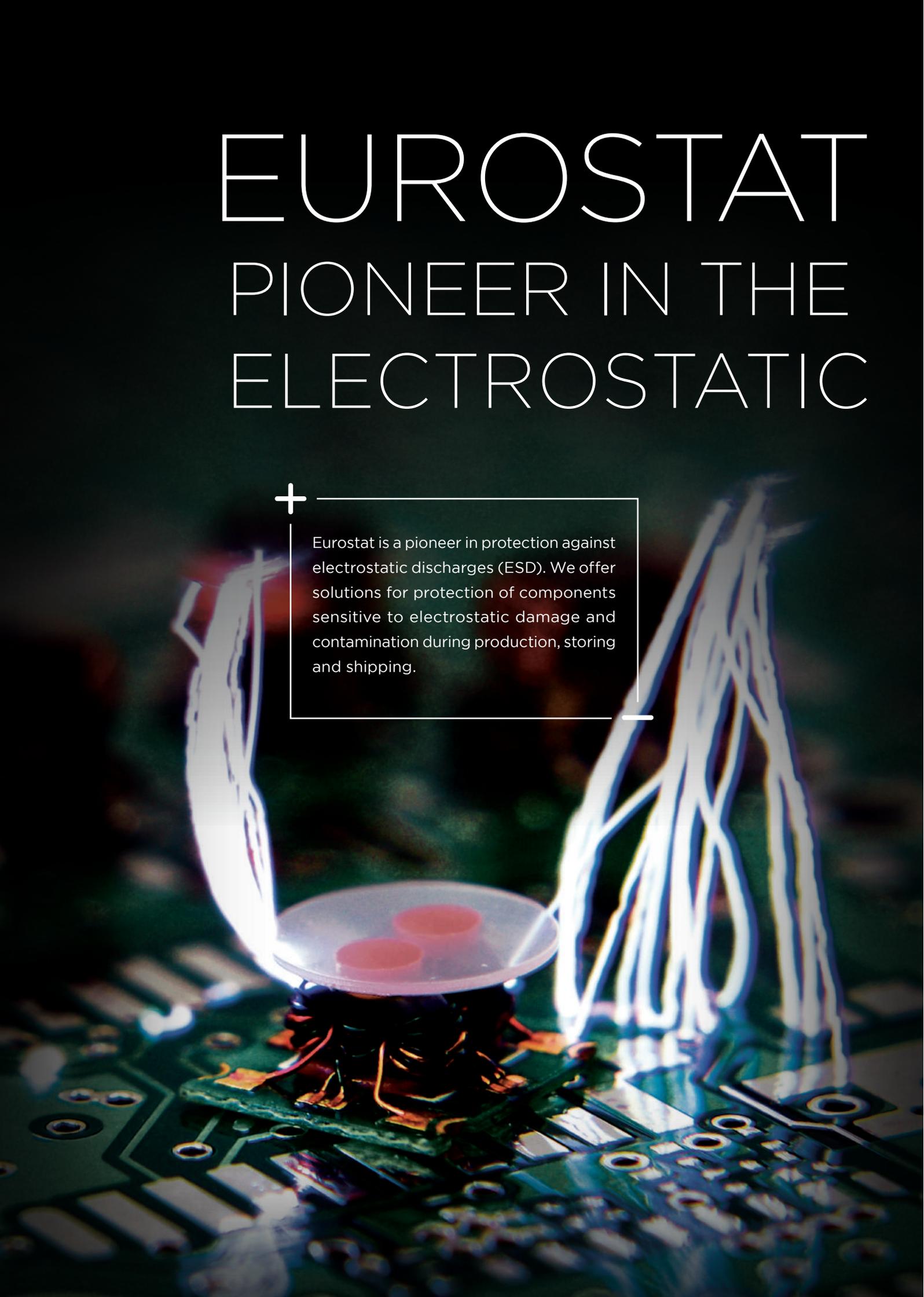
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# EUROSTAT

## PIONEER IN THE ELECTROSTATIC



Eurostat is a pioneer in protection against electrostatic discharges (ESD). We offer solutions for protection of components sensitive to electrostatic damage and contamination during production, storing and shipping.



# PROTECTION OF DISCHARGES

## WHAT ARE ELECTROSTATIC DISCHARGES?

All materials are composed of atoms. Each atom is composed of a positive charge, around which gravitate many negative electrons. At rest, positive nucleus charges are equal to the sum of negative charges of the electrons that gravitate around them. The charge therefore remains neutral. Static electricity is a phenomenon which happens when two surfaces contact each other and are then separated. It's at this moment that an exchange in electrons between both surfaces can occur. At this moment occurs a movement of electrons that creates charges at the surface of both materials.

This exchange of electrons between conductive materials (and man made materials) can occur suddenly, creating an electrostatic discharge with irreversible damage, especially to electrical components.

In order to avoid those damages, it is necessary to implement the protective measures aiming elimination of all static electricity sources and consequently, prevention of the electrostatic discharges. Nevertheless, if the static discharges appear, Eurostat has developed a whole range of materials and products, providing protection for electrostatic sensitive devices such as PCBs.

### Conductive

Allows a rapid discharge to ground that can have the same effect as an ESD discharge. These materials insure a bond with ground but do not mitigate the energy exchanged during a discharge.

Grounding resistance less than  
 $R_s/R_v < 1 \times 10^4 \Omega$

### Dissipative

Allows a slower discharge from the charge carrier to the ground, reducing the risk of potential damage.

Grounding resistance is between  $10^4 < R_s/R_v < 1 \times 10^{11} \Omega$

### Insulative

Offers no grounding of electrostatic charges.

Offer no grounding of electrostatic charges  
 $R_s/R_v > 1 \times 10^{11} \Omega$



## INSTRUMENTATION AND IONISATION

Eurostat offers a range of test equipment that allows you to control, measure and record critical values inside and outside the EPA in line with the IEC and ANSI norms: access control, ionisation, resistance measurement (tera-Ohm meters), field meters, discharge time measurement, walking test, etc.

Moreover, Eurostat offers a wide variety of products for storing components in a dry environment, vacuum sealing, and flexible packaging sealing.



## GLOSSARY

**ABS:** Acrylonitrile-Butadiene-Styrene

**APET:** Amorphous Polyethylene Terephthalate

**Carbon Nanotubes:** Two dimensional layers of carbon atoms, providing conductivity or dissipation to PS matrix, depending on concentration in the material

**CPM:** Charge Plate Monitor measures voltages applied to it's sensing plate.

**Directive RoHS:** European Directive: Limiting the use of certain dangerous substances in association with electrical and electronic components

**EMI:** Electromagnetic interference

**EPA:** Electrostatic Protected Area (An area of complete ESD protection)

**ESD:** Electro-static Discharge

**European Standard IEC 61340-5-1:** Protection of electro static sensitive devices

**LDPE, HDPE:** Low density PolyEthylene, High density PolyEthylene

**PC:** Polycarbonate

**PCB:** Printed Circuit Board

**PE:** PolyEthylene

**PP:** PolyPropylene

**PS:** PolyStyrene

**PU:** Polyurethane

**RV (volume resistance):** Resistance test between the surfaces of a material

**RS (surface resistance):** Measurement taken from the surface area of a material

**Shielding:** Material offering a Faraday cage

**SMD:** Surface Mount Devices

**Standards EIA-583 / EIA-541 /EIA-625:** Standards related to the packaging of humidity sensitive parts

**TPU:** Thermoplastic Polyurethanes

**VCI:** Vapor Corrosion Inhibitor

**MVTR:** Moisture Vapor Transmission Rate

Eurostat has its own maintenance and service centre, offering repair and calibration for our customers in the European market.



# TABLE OF CONTENTS

## 01

### CONTROL ACCESS SYSTEMS

**1.**..... 10  
**TURNSTILES**

**2.**..... 11

### CONFORMITY TESTERS

**2.1.**ESD tester with card reader..... 11

**2.2.**Wall mounted shoes and wrist strap tester  
11

**2.3.**Accessories ..... 12

**2.4.**Portable wrist strap tester ..... 12

**3.**..... 13

### CALIBRATION SYSTEM

**4.**..... 14

### PERMANENT MONITOR GZ 1600

**4.1.**Permanent monitor ..... 14

**5.**..... 14

### GROUNDING CONNECTIONS

**5.1.**Connection from workbench to ground.....14

**5.2.**Universal grounding box plugs ..... 15

**5.3.**Stud assembly tool ..... 16

**5.4.** Cords.....17

**6.**..... 18

### GROUNDING BRACELETS

PAGE 9

## 02

### MEASURING INSTRUMENTS

**1.**..... 21

### RESISTANCE MEASUREMENT

**1.1.**Tera-Ohm meter..... 21

**1.2.**Resistivity indicator PAS ESI 870 model  
22

**1.3.**Electrodes .....23

**2.**.....24

### ELECTROSTATIC FIELDMETERS

**2.1.**Fieldmeter PFM-711A.....24

**2.2.**Fieldmeter kit PFK-105 .....24

**2.3.**Fieldmeter EFM-022 .....25

**2.4.**PGA-710B autoanalysis system set.....26

**2.5.**Auto-analysis system kit PGA-710 .....26

**3.**.....27

### CONTACT VOLTMETER CVM-780

**4.**.....27

### FIELD SERVICE KIT

PAGE 20

# 03

## IONISATION

<b>1.</b> .....	<b>29</b>
<b>WORKBENCH IONISERS</b>	
1.1. Ioniser 6422 <sup>e</sup> .....	29
1.2. Ioniser 6432 <sup>e</sup> .....	29
1.3. Ioniser Aerostat PC .....	30
1.4. Ioniser Endstat 2020 .....	30
1.5. Ioniser Compact MinION2 .....	30
1.6. Aerostat XC table Ioniser .....	31
<b>2.</b> .....	<b>31</b>
<b>OVERHEAD IONISERS</b>	
2.1. Guardian CR2000 .....	31
2.2. Guardian overhead ionising .....	32
2.3. 5810i ionising ramp .....	32
<b>3.</b> .....	<b>33</b>
<b>IONISING GUNS</b>	
3.1. Ionising Top Gun .....	33
3.2. Airforce Blow-off Gun .....	33
3.3. Accessories .....	33
<b>4.</b> .....	<b>34</b>
<b>IONISING CARTRIDGES</b>	

PAGE 28

# 04

## DEHUMIDIFICATION SYSTEMS, HUMIDITY CONTROL AND CABINETS

<b>1.</b> .....	<b>36</b>
<b>GROUND DRY CABINETS</b>	
<b>2.</b> .....	<b>37</b>
<b>HUMIDITY &amp; TEMP. MONITORING</b>	

PAGE 35

# 05

## SEALERS

<b>1.</b> .....	<b>39</b>
<b>SEALERS</b>	
1.1. Vacuum Sealers .....	39
1.2. Manual Sealers .....	40

PAGE 38

# 06

## TRAINING AUDIT & SERVICE

PAGE 41





01

## CONTROL ACCESS SYSTEMS & GROUNDING ACCESSORIES

+

For companies who need to ensure that the operators cannot enter the EPA unless their wrist straps and footwear are compliant every day.

# 1. TURNSTILES:

## CONNECTED & NON CONNECTED FOR ACCESS CONTROL TO ESD PROTECTED AREAS

Connected universal access control tester that locally saves the data and make them available on the company network. The turnstiles respect the ANSI/ESD S20/20 norm as well as the ISO requirements in control recording.

The testers are configurable in function of who is wearing the badge; shoes, bracelet, shoes + bracelet.



- Both ESD safe shoes are tested separately by measuring electrodes installed in the contact mat
- This system tests operators quickly ( $\leq 2$  sec.) and automatically generates reports for the ESD coordinator

Turnstile for access control to EPA protected areas.

### Technical Data: Connected version

- Test Range : Bracelet 750K  $\Omega$  to 50M  $\Omega$   
Shoes 100K  $\Omega$  to 100M  $\Omega$
- RFID reader compatible with most of HID Cards\*  
\*Wiegand 26 bit by default others may be charged)
- Ethernet connexion to LAN
- Fully functional without LAN connexion thanks to local Operators database

Part Nr. (Left Access + RFID) : 61-500-0002

Part Nr. (Right Access + RFID) : 61-500-0003

### Possible parameters

- Shoe tester
- Bracelet tester (Single or Dual wire)
- Shoe and /or bracelet tester
- Right & Left acces configuration

### Technical Data: Non connected version

- Test Range : Bracelet 750K  $\Omega$  to 50M  $\Omega$   
Shoes 100K  $\Omega$  to 100M  $\Omega$

Part Nr. (Left Access) : 61-500-0000

Part Nr. (Right Access) : 61-500-0001

### Software utility

- Equipment and test range configuration by software
- Software calibration

## 2. CONFORMITY TESTERS

### FOR PERSONAL EQUIPMENT

#### 2.1. ESD tester with card reader



Tests dual cord wrist straps and both right and left foot heel grounders individually

Personal equipment tester.

Tester dimensions: 143 x 155 x 35.

4 colours of LEDs for test results indication.

IEC  
61340  
Compliant

##### Technical Data

- RFID identification
- Possibility to program testing parameters for each employee
- Allows communication with the company's network or the dedicated server (SQL database)
- Delivered with a shoe test mat
- Calibration system available p.13 61-200-0075

Part Nr. : 61-200-3109

#### Product description

#### Part Nr.

ESD TESTER GZ-600-MIF WITH SOFTWARE	61-200-0143
ESD TESTER GZ-600-HID WITH SOFTWARE	61-200-0144
ESD TESTER GZ-350-HID WITH SOFTWARE	61-200-0145
ESD TESTER GZ-350-MIF WITH SOFTWARE	61-200-0146

#### 2.2. Wall mounted shoes and wrist strap tester



Separately tests left shoe, right shoe and bracelet

Tester designed for checking the conformity of operator's wrist strap and/or shoes to the ESD protection standard. It is also designed to be permanently wall mounted in a production facility for daily testing of employee's wrist straps and footwear.

IEC  
61340  
Compliant

##### Technical Data

- Easy to operate, red and green LEDs give clear "pass" or "fail" Indication
- Output for interface with PC or automatic door opening system.
- Battery that can be added with an AC net Adaptor
- Tester and calibration plug are delivered with a calibration certificate

Complete kit Part Nr. : 61-200-0100RoHS

## 2.3. Accessories

### Product description

### Part Nr.

Power supply (EU plug)	61-200-0103
Power supply (UK plug)	61-300-0103
Wall mounted operational panel (French version)	61-200-0104
Wall mounted operational panel (English version)	61-200-0105
Interface PC	61-200-0107
Calibration plug: Low limit 0MΩ - 2M Ω/ High limit 5MΩ - 200MΩ	61-200-01xx

## 2.4. Portable wrist strap tester



Portable or wall mounted wrist strap tester that indicates a too low or too high resistance. Works with batteries and a battery level indicator.

IEC  
61340  
Compliant  
ROHS  
Directive

### Technical Data

- Calibration on delivery: low 750 KΩ, high 35 MΩ
- Works with batteries supplied with the tester
- Audible alarm signal on low battery level
- 2 calibration plugs are required: one for the low limit and the second one for the high limit



Compatible with all types of connection:  
4.5/ 7/ 10 mm studs, banana or GSGS plugs

### Product description

### Part Nr.

1	WST 50 Tester (7/10mm stud/banana/GSGS)	61-200-0050RoHS
1	WST 50 Tester (4,5/10mm stud/banana/GSGS)	61-200-0051RoHS
-	Calibration plug - from 10 KΩ to 200 MΩ	61-200-0xxx
2	Complete Kit	61-200-0000RoHS

## 3. CALIBRATION SYSTEM

Tool for controlling the calibration of the EPA control access systems.



### Technical Data

- Resistance decade box
- Incorporates 6 thumb wheels 1K, 10K , 100K, 1meg, 10meg and 100meg, each having 10 positions.
- Measurements of resistance are taken using 0.1% metal film resistors, will offer accurate calibration from 1K to 999,999 ohms

Part Nr. : 61-200-0075

# 4. PERMANENT MONITOR

GZ 1600

## 4.1. Permanent monitor

Compact meter that can monitor the grounding of 2 operators and/or 2 ESD mats simultaneously. 3 colour LEDs indicate the status of the operator wrist-strap: high, low, safe.



### Technical Data

- Bracelet detection limit: 35 MΩ
- Mat detection limit: 100 MΩ

Part Nr. : 61-200-0012



If one of the connections fails, the device emits an alarm and a visual signal

# 5. GROUNDING CONNECTIONS

## 5.1. Connection from workbench to ground



### Adaptor

#### Features

Banana plug/10mm studs  
Should be connected to a wire

#### Part Nr.

30-552-6012



### UK grounding plug

#### Features

3 x BP 10 mm

#### Part Nr.

30-552-0610



### EU grounding plug

#### Features

3 x BP 10 mm

#### Part Nr.

30-552-0615

## 5.2. Universal grounding box and earthing plugs

### a. Universal box



Part Nr. : 30-560-0039

#### Technical Data

- Snaps (4, 4.5, 7 and 10mm)
- Complete with 3 meter cord with eyelet
- Material: Yellow ABS
- Dimensions: 78 x 28 x 35 mm
- No resistance



- Universal grounding solution compatible with all existing wrist strap connections: banana plug, GSGS, snaps

### b. L-Shape earth bonding bracket



#### Technical Data

- 3m of black cord, right output
- Material: Yellow ABS
- Dimensions: 110 x 16,5 x 33 mm
- Security resistance: 1 MΩ

#### Characteristics

#### Part Nr.

Grounding system with 3 x 10mm male studs	30-551-3020
Grounding system with 3 x 7mm male studs	30-551-3030
Grounding system with 3 x banana connections	30-551-3040



Other configuration on request, with a minimum order quantity

### c. Grounding Plug



30-552-0605



30-552-0625

#### Technical Data

- Earthing plug providing a reliable path to electrical main earth
- Material: ABS
- Resistor: 1 MΩ



Wide choice of connections

### Earthing plug

Connections	EU plug	UK plug
3 x 7 mm studs	30-552-0605	-
2 x M5 eyelet	30-552-0625	30-552-0620
2 x M5 eyelet connections 7 & 10mm + banana	30-552-0635	-
3 x bananas	30-552-6007	-

## d. Grounding accessories for mats

To ground mats directly, to an earthing terminal or mat to mat . Resistance: 1 MΩ

### Link to Earthing Terminal

Mat connection	Ground connection	Length m	Part Nr.
2 x 10mm female Stud	/	1,80	30-560-0210
2 x 10mm male Stud	/	1,80	30-560-0211
2 x 10mm female Stud	/	0,15	30-560-0214
2 x 10mm female Stud	/	0,60	30-560-0215



Serie 30-560-021X



Serie 30-560-151X

### Mat grounding

Mat connection	Ground connection	Length m	Part Nr.
10mm molded female Stud	Eyelet	4,50	30-560-1510
10mm molded male Stud	Eyelet	4,50	30-560-1511
10mm male Stud + 2 holes for bananas	Eyelet	3,00	30-560-0048
10mm female Stud + 2 holes for bananas	Banana	3,00	30-560-0049
10mm female Stud + 2 fiches GSGS	Eyelet	3,00	30-560-0148

## 5.3 Stud assembly tool

To equip table or floor mats for grounding.

Description		Part Nr.
Snap fastener, 10mm male to be used for rigid table/floor mats up to 3mm		30-560-0033 - Bags of 10 pcs 30-552-0045 - Bags of 50 pcs
Snap fastener, 10mm female to be used for rigid table/floor mats up to 3mm		30-560-0034 - Bags of 10 pcs 30-552-0030 - Bags of 50 pcs
Snap fastener, 10mm male to be used for soft table/floor mats		30-560-0050 - Bags of 10 pcs
Snap fastener, 10mm female to be used for soft table/floor mats		30-560-0051 - Bags of 10 pcs
Metal tool kit for studs		30-552-6035

## 5.4. Cords

### WRIST STRAP COIL CORDS

- Resistance: 1 M $\Omega$
- Female stud connections
- Colour: Black



- Other connections and lengths on request
- Types of connections to fit most grounding systems worldwide



### Coil cords

Connections	Length m	Part Nr.
4 mm / banana	1,80	30-560-0604
4 mm / banana	3,00	30-560-1004
7 mm / banana	1,80	30-560-0607
7 mm / banana	3,00	30-560-1007
10 mm / banana	1,80	30-560-0610
10 mm / banana	3,00	30-560-1010
4 mm / 10 mm stud	1,80	30-560-0641
7 mm / 7 mm stud	1,80	30-560-0677
10 mm / 10 mm stud	1,80	30-560-0611
7 mm / 10 mm stud	1,80	30-560-0671
4 mm / GSGS	1,80	30-560-0614
4 mm / GSGS	3,00	30-560-1014
4 mm / eyelet	3,60	30-560-1214



### Dual Conductor Coiled Cords

- Designed to operate with workstation monitors
- Resistance: 1 M $\Omega$

Length	Part Nr.
1.80 m	30-560-0600
3.60 m	30-560-0605

# 6. GROUNDING BRACELETS

## a. Fabric wrist straps



- Both sides are conductive
- Adjustable to any wrist size

Crimson red colour, allows operators to avoid electrostatic discharge to components.

IEC  
61340  
Compliant

Connection	Part Nr.
4 mm stud	30-560-0004
7 mm stud	30-560-0007
10 mm stud	30-560-0010

### Technical Data

- Material Non allergenic
- $R_v < 1 \times 10^5 \Omega$
- Male stud connection
- Washable
- Colour: Crimson red

## b. Metal wrist bands



- Insulated external side and conductive internal side
- Adjustable to any wrist size

Superior reliability for grounding operators

IEC  
61340  
Compliant

Connection	Part Nr.
4 mm stud	30-560-4004
7 mm stud	30-560-4007
10 mm stud	30-560-4010

### Technical Data

- Conductive bracelets
- $R_v < 1 \times 10^5 \Omega$
- Superior reliability
- Nickel free
- Male stud connection

## c. Plastic wrist bands



- Hygienic washable wrist band
- Insulated external side and conductive internal side

Clean room compatible.

IEC  
61340  
Compliant

### Technical Data

- Thermoplastic material
- $R_v < 1 \times 10^5 \Omega$
- Male stud connection
- Colour: Blue

Connection	Part Nr.
4 mm stud	30-560-0111
7 mm stud	30-560-0112
10 mm stud	30-560-0113

## d. Dual cord wrist straps

Designed to operate with the workstation monitors.

IEC  
61340  
Compliant

### Fabric



- Both sides are conductive
- Adjustable to any wrist size

#### Technical Data

- Non allergenic material
- $R_v < 1 \times 10^5 \Omega$
- Male stud connection
- Washable
- Colour: brown, polyester fiber

### Metal



- Insulated external side and conductive internal side
- Conductive wrist band

#### Technical Data

- Nickel free
- $R_v < 1 \times 10^5 \Omega$
- Male stud connection

Part Nr. :

Size S : Part Nr. 30-560-3010

Size L : Part Nr. 30-560-3011

## e. Disposable wrist band

IEC  
61340  
Compliant

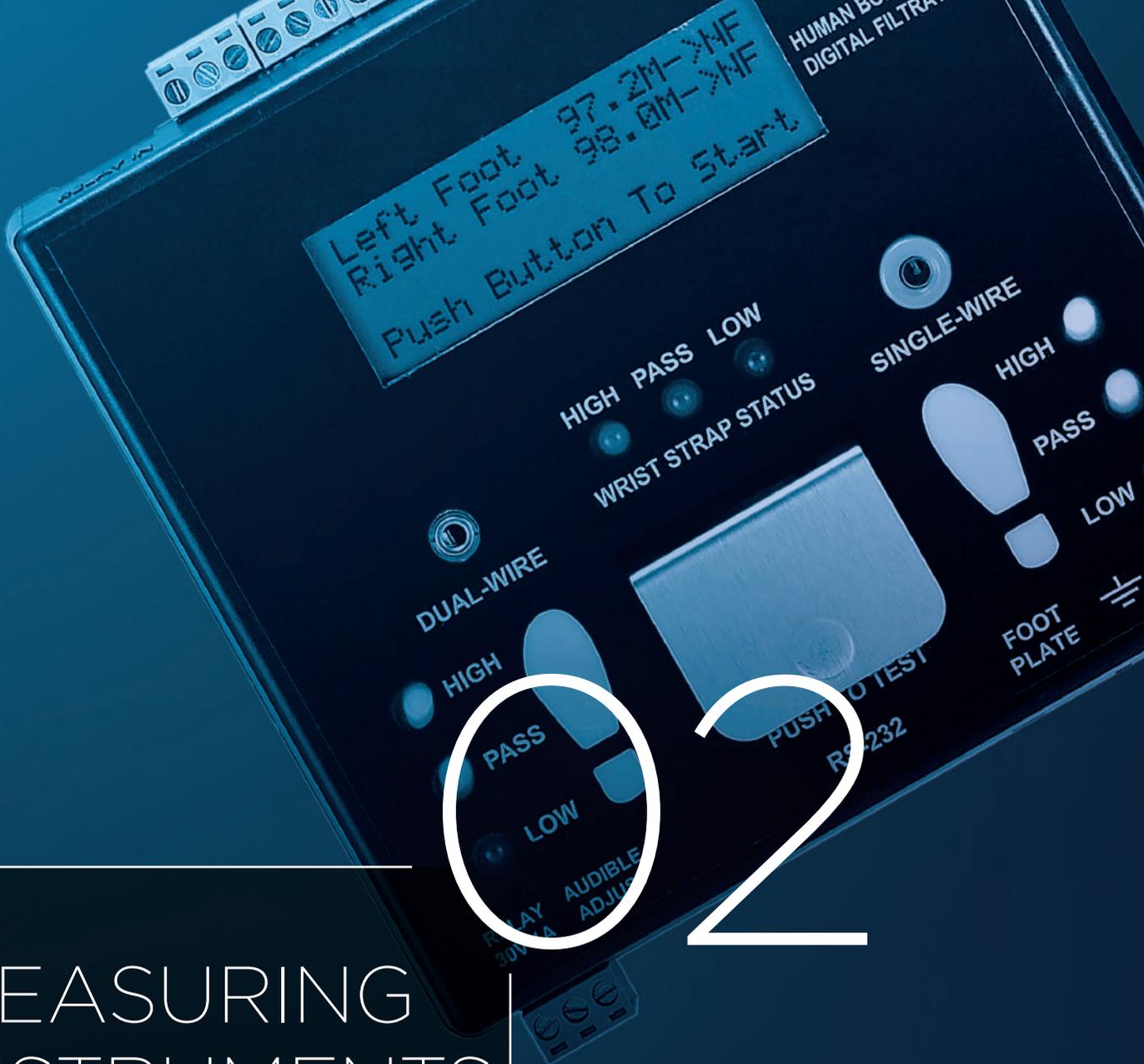


- For single use applications
- Adheres to any convenient electrical ground

#### Technical Data

- Non woven, conductive and aluminium film
- Length: 152 cm / width: 2.54 cm
- $R_v < 1 \times 10^6 \Omega$

Part Nr.: 30-560-0209



# MEASURING INSTRUMENTS



Eurostat has always historically offered premium quality ESD products, including test and measurement equipment for users and auditors alike. Eurostat has its own maintenance and service centre, offering repair and calibration for our customers in the European market.



# 1. RESISTANCE MEASUREMENT

## 1.1. Tera-Ohm meter

### a. Tera-Ohmmeter SET PRS-801



Accurate Wide Range Resistance Measurements:  $0.1 \Omega$  to  $2.0 \times 10^{14} \Omega$ . Measures constant voltage, wide range ohmmeter with data logging, calculating and computer communication capabilities.

Can test bracelets, floors, furniture, chairs and clothes by using electrodes (kits available separately).

IEC  
61340  
Compliant

#### Characteristics

Part Nr. tera-ohmmeter for auditors providing repeatable measurements

PRS-801 Tera-Ohm meter electrodes

Unit: 61-100-0504

#### Technical Data

- Accurate wide range resistance measurements :  $0.1 \Omega$  to  $2 \times 10^{14} \Omega$
- Variable Voltage  $0.1 \text{ mV}$  to  $9.99 \text{ V}$  for low resistance measurements
- Constant Test voltages  $10 \text{ V}$  and  $100 \text{ V}$  for specification measurements to meet international and domestic ESD measurement standards
- All results can be exported to Microsoft Excel

Part Nr. : 61-100-0503

### b. PAS 853B model



Large spectrum portable  $\Omega$  meter: from  $0.01 \Omega$  to  $9,99 \times 10^{12} \Omega$  (+/- 5%).

Can test bracelets, floors, furniture, chairs and clothes by using electrodes (kit available separately).

IEC  
61340  
Compliant

#### Characteristic

Large spectrum portable ohm meter: from  $0.01 \Omega$  to  $9,99 \times 10^{12} \Omega$  (+/- 5%)

#### Technical Data

- Power voltage : DC 9V
- Shows the measured value on screen
- Battery life: 50h
- Weight: 375 g

Part Nr. : 61-100-0012



Reference tera-Ohm meter for auditors and metrology services

c. Tera-Ohm meter TOM 600



Tera-Ohm meter that can measure from  $10^4\Omega$  to  $10^{12}\Omega$ . Measures resistance, temperature and humidity at the same time.

Can test bracelets, floors, furniture, chairs and clothes by using electrodes (kits available separately).

**Characteristic**

Automatic voltage mode to measure resistance from  $10^4\Omega$  to  $10^{12}\Omega$

IEC 61340 Compliant RoHS Directive

**Technical Data**

- Suitable for mobile use with compact housing and rechargeable batteries
- Operator friendly: only 2 buttons required to use it
- Measures resistance, temperature and humidity at the same time
- PC software interface included
- All results can be exported to Microsoft Excel
- **Tester compliant with:** EOS-ESD 4.1/6.1 & Conform IEC 61340
- **Electrodes compliant with:** EOS-ESD 4.1/7.1 & Conform IEC 61340

**Including**

- Tera-Ohm meter
- 4 rechargeable A4 batteries
- Conductive suitcase with foam inserts
- Power supply
- 1m and 5m cord
- Serial PC cable
- CD-ROM with PC interface
- Operating instructions and calibration certificate
- 2.5 kg pair of electrodes, can be bought separately Part Nr. 61-200-0602

Part Nr. : EU plug: 61-200-0600 RoHS  
UK plug: 61-300-0600 RoHS

1.2. Resistivity indicator PAS ESI 870 model



Portable tester that measures surface resistivity and resistance to ground of surfaces in accordance with ASTM D-257 norm by using parallel electrodes.

2 measurement units displayed: resistance and resistivity.

IEC 61340 Compliant

**Characteristic**

Measures surface resistance

Portable surface resistance up to  $1 \times 10^{12}\Omega$

**Technical Data**

- Power voltage: DC 9V
- Measurement range:  $1 \times 10^3 - 1 \times 10^{12}\Omega$  / 40 - 60°C / 0 - 100% RH
- The surface resistivity is conveniently indicated by a row of LEDs covering a total of 10 decades from  $1 \times 10^3$  to  $1 \times 10^{12}\Omega$  per square.
- Battery life: 40h
- Weight: 170 g

Part Nr. 61-100-0404



1.3. Electrodes



a. PRS 801 W Contact electrodes



Electrodes designed to measure point to point resistance as per IEC 61340-4-1 and IEC 61340-2-3.

**Characteristics**

- Weight: 2.27kg
- To be used with PAS 853B and PRS 801

Part Nr. : 61-100-0504

IEC  
61340  
Compliant

b. Micro electrode concentric ring PRF-911



Allows to measure surface resistance and volume resistance of flat materials in accordance to IEC 61340-2-3.

**Characteristic**

Use with PAS 853B or PRS 801  
Requires PRS 801 W Contact electrodes

Part Nr. : 61-100-0501

IEC  
61340  
Compliant

c. Miniature concentric ring fixture PRF-912B



**Characteristic**

Measures surface resistance of small areas

**Technical Data**

- Accurately measures surface resistance of small areas
- Capable of obtaining measurements up to  $1 \times 10^{12} \Omega$
- Designed to work with a precise wide range resistance instrument, such as PRS-801 Resistance System

Part Nr. : 60-600-0026

IEC  
61340  
Compliant

### d. Miniature two-point probe PRF-922B



Accurately measures point-to-point surface resistance of small areas and assemblies.

#### Characteristic

Measures surface resistance of small areas

IEC  
61340  
Compliant

#### Technical Data

- Capable of obtaining measurements up to  $1 \times 10^{12} \Omega$
- Designed to work with a precision wide range resistance instrument, such as PRS-801 Resistance System

Part Nr. : 60-200-0606

## 2. ELECTROSTATIC FIELDMETERS

### 2.1. Fieldmeter PFM-711A



Voltage measuring: 0 to +/- 20,000 volt range, with increments of 1V and 10V

IEC  
61340  
Compliant

#### Characteristics

- Measuring distance determined with light point indicator

Part Nr. : 61-200-0711A

### 2.2. Fieldmeter kit PFK-105



Allowing measurements of electrostatic field - discharge time. Ideal for calibrating and qualifying ionisers:



Easy-to-use testing discharge times following the IEC 61340 norm

#### Includes

- Multi measure fieldmeter PFM-711A
- CPM charge analyser
- Charge generator 31300 V PCS-730
- Discharge time measurement PDT-6740B
- Ideal to control ionizers

Part Nr. 61-400-0003

IEC  
61340  
Compliant

### 2.3. Fieldmeter EFM-022



Part Nr. 61-200-0220RoHS



Part Nr. 61-200-0222RoHS



Takes precise measurements of static charges with automatic distance conversion (choice of 5 pre-set distances)

With optional CPS022, can be used as a charge plate monitor for audit purposes and checking ionisation appliances.

RoHS  
Directive

#### Fieldmeter suitcases EFM-022

Description	Characteristics	Part Nr.
Fieldmeter	Including: <ul style="list-style-type: none"> <li>• Conductive suitcase with foam</li> <li>• Electrostatic field meter</li> <li>• Grounding cable</li> <li>• 9V rechargeable battery and power adaptor</li> <li>• Certificate of calibration and user manual</li> </ul>	61-200-0220 RoHS (EU plug) 61-300-0220 RoHS (UK plug)
Charge analyzer (can not work without 61-200-0220)	<ul style="list-style-type: none"> <li>• Conductive suitcase with foam</li> <li>• Adaptable charge plate with HV generator 3 1200V</li> <li>• User Manual</li> </ul>	61-200-0221 RoHS
Fieldmeter + charge analyzer Complete Kit EU	EU plug 61-200-0220RoHS 61-200-0221RoHS	61-200-0222 RoHS
Fieldmeter + charge analyzer Complete Kit UK	UK plug 61-300-0220RoHS 61-200-0221RoHS	61-300-0222 RoHS

## 2.4. PGA-710B autoanalysis system set - walking test



- Allows the walkers test following the IEC 61340-4-5 norm
- Other equipment applications include voltage generation of chairs, carts and process equipment

Records, plots, analyses and automatically constructs reports of body voltage generation, electrostatic decay, voltage retention, ionizer performance and other static measuring functions.

IEC  
61340  
Compliant

### Technical Data

Creates detailed reports to help determine the risk of equaling or exceeding damaging or hazardous HBM discharge voltages in static sensitive facilities.

Analyse Footwear & Flooring Combinations: Records personnel walking voltages in accordance with ANSI/ESD STM.

97.2 Body Voltage measurements as required by ANSI/ESD S 20.20 ESD Program Standard.

### Characteristic

Electrostatic data analysis

Part Nr. : 61-100-0005

## 2.5. Auto-analysis system kit PGA-710 - professional equipment for auditors



Part Nr. : 61-100-0003

Kit includes all the measuring tools to test an EPA: field measuring, recording, analyzing and presentation of electrostatic voltage and discharge performance.

### Technical Data

- PGA-710 Auto-analysis Set
- Auto-analysis Application Software Disk
- PFM-711A Field Meter
- CPM-720A Charge Plate Assembly
- PCS-730 +/- 1KV Charging Source
- PHT-771 Digital Psychrometer
- GAP-005 Ground Adapter Plug
- PFA-861-H Handle
- PWS-610M Fabric Band Wrist Strap
- Carrying Case with Handle
- Accessory Box
- Operator's and How to Measure Manuals

IEC  
61340  
Compliant



The kit includes 61-100-0005 and 61-400-0003

# 3. CONTACT VOLTMETER

CVM-780

 PROSTAT



The New CVM-780 Contact Voltmeter combines the ease of use of a digital voltmeter with the high input impedance and low input capacitance of a true electrostatic voltmeter in a small, portable, battery operated package. Being a true electrostatic voltmeter, not a field meter means that it reads real voltage, without confusing it with electrostatic field strength, which can be distinctly different. Ceramic Probe Tips allow Accurate Measurement.

## Characteristic

Voltmeter

Part Nr. : EU plug : 61-100-0002  
UK plug : 61-300-0002

IEC  
61340  
Compliant

## Technical Data

- High impedance contact voltmeter with active probe
- Measures voltage up to 500 VDC
- Dimensions: 191 x 108 x 60 mm
- Weight: 680 g

# 4. FIELD SERVICE KIT



Dedicated to a technician operating on site.

Kit includes:

- High quality static dissipative work surface 54 x 61 cm
- 16.6cm x 23.6 when folded in pouch
- Adjustable fabric 10mm stud wrist strap
- Grounding cord connection for wrist strap/mat
- Pouch



- Provides efficient static protection in a compact package that fits easily into most tool cases.
- Two pockets sewn into the work surface for cords storage.

Thickness mm 0.8

## Technical data:

- Dimensions: 540 x 610 mm
- Surface resistance  $R_s$ :  $< 1 \times 10^9 \Omega$
- Volume resistance  $R_v$ :  $< 1 \times 10^9 \Omega$
- Colour: Red

Part Nr. : 31-560-0509 (with pouch)



# 03

## IONISATION

+

Eurostat has many options and solutions to neutralise charges built up in sensitive environments, thanks to many years of experience and expertise with our partners and industry leaders.

Eurostat has its own maintenance and service centre, offering repair and calibration for our customers in the European market.

—

# 1. WORKBENCH IONISERS

## 1.1. Ioniser 6422<sup>e</sup>

**SIMCO ION**<sup>™</sup>  
An ITW Company



### Characteristics

- 24V DC/AC input power
- 24 VAC 230V 50 Hz transformer
- FMS interface with report alarm for remote monitoring
- Discharge from 1000V to 100V < 4 sec at 300 mm
- Offset balance +/-15V
- Alarm with front panel red led
- **Dimensions:** 111 x 83 x 63 mm
- **Weight:** 357 g

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-6422 eRoHS	60-100-6422 eRoHS



- Compact size for point-of-use and in-line application
- Optimal for confined areas
- Clean room compatible class 100 / ISO 5
- Up to 4 units can be daisy-chained together with telephone cable and connections

## 1.2. Ioniser 6432<sup>e</sup>

**SIMCO ION**<sup>™</sup>  
An ITW Company



### Characteristics

- 4V DC/AC input power
- 24 VAC 230V 50 Hz transformer
- FMS interface with report alarm for remote monitoring
- Discharge from 1000V to 100V < 4 sec at 300 mm
- Offset balance +/-15V
- Alarm with front panel red led
- **Dimensions:** 133 x 127 x 63 mm
- **Weight:** 595 g

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-6432 eRoHS	60-100-6432 eRoHS



- Universal ioniser
- Universal mounting bracket/stand
- Clean room compatible class 100 / ISO 5

### 1.3. Ioniser Aerostat PC



#### Characteristics

- Variable speed fan for airflow control
- Status lamp indicates high voltage is present at the emitter points
- Integrated heater for warm air flow
- Ionisation surface 300 x1200 mm
- Integrated manual electrode cleaning
- Offset +/-15V
- **Dimensions:** 140 x 220 x 80 mm
- **Weight:** 2,4 kg

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-0003	60-100-0013



- Compact and silent
- Universal ioniser non compatible with clean rooms

### 1.4. Ioniser Endstat 2020



#### Characteristics

- Two speed fan control
- Ionisation surface 300 x1200 mm
- Integrated manual electrode cleaning
- Offset +/-15V
- **Dimensions:** 145 x 210 x 95mm
- **Weight:** 3,2 kg
- **ANSI/ESD STM3.1**

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-0007	60-100-0017



- Compact and portable design
- Easy to set up, operate and maintain

### 1.5. Ioniser Compact MinION2



#### Characteristics

- 230 VAC 24 VDC input power
- Supplied by wall ac adapter or by local tool power
- **Dimensions:** 98 x 136 x 60 mm
- **Weight:** 0,5 kg

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-0024	60-100-0019



- Compact, designed for portable or permanent operation
- Articulating arm offers flexibility for directed ionisation into hard to reach target areas

## 1.6. Aerostat XC table Ioniser



### Characteristics

- Quick electrostatic charge neutralisation on the workbench
- No calibration necessary
- Built-in emitter point cleaner for simplified maintenance
- Integrated heater for warm air flow 3 speed fan
- **Dimensions:** 391 x 114 x 206 mm
- **Weight:** 7,9 kg

IEC  
61340  
Compliant  
RoHS  
Directive

P Nr. EU	P Nr. UK
60-200-0002	60-100-0012



Ioniser for workbenches covering 915 x 1830 mm

# 2. OVERHEAD IONISERS

## 2.1. Guardian CR2000



Clean room compatible, this overhead ioniser helps maintain desired ionisation in the work area. Monitors are inherently balanced at 0 +/- 5. Ideal for covering a work surface.

### Characteristics

- Offset balance +/-5V
- Clean room compatible class 10 / ISO 4
- Silicone-free surfaces
- Patented emitter point cleaner
- Overhead attachments

IEC  
61340  
Compliant  
RoHS  
Directive

### 2 Fan Units Model

**Dimensions:** 81 x 10 x 17 cm  
**Weight:** 550 g

P Nr. EU	P Nr. UK
60-200-0005	60-100-0015

### 3 Fan Units Model

**Dimensions:** 109 x 10 x 17 cm  
**Weight:** 680 g

P Nr. EU	P Nr. UK
60-200-0006	60-100-0016

## 2.2. Guardian overhead ionising



Clean room compatible, this overhead ioniser helps maintain desired ionisation in the work area. Monitors are inherently balanced at 0 +/- 5V. Ideal for covering a work surface.

IEC  
61340  
Compliant  
RoHS  
Directive

### Model

**Dimensions:** 108,6 x 10,2 x 17,1 cm  
**Weight:** 730 g

P Nr. EU	P Nr. UK
60-200-0081	60-100-0011

### Characteristics

- Offset balance +/-5V
- Clean room compatible class 10 / ISO 4
- Silicone-free surfaces
- Patented emitter point cleaner
- Overhead attachments
- Heating and lighting system

## 2.3. 5810i ionising ramp



Designed to provide industry-leading balanced ionisation performance in cleanroom environments  
Silicone-free air bearing fans.

Other ionising ramps available on request.

IEC  
61340  
Compliant  
RoHS  
Directive

### Model

**Dimensions:** 96 x 155 x 1016  
**Weight:** 4,18 kg

P Nr. EU	P Nr. UK
60-300-5810i	60-350-5810i

### Characteristics

- Cleanliness: ISO 4

# 3. IONISING GUNS

Compressed air makes it possible to blow off contaminant particles. However, the electrostatic charges can make the particles adhere on a surface, stopping them from being blown off. The only way to evacuate the particles is to use a ionizer to neutralize the charges. The ionising guns can be plugged into any source of compressed air or nitrogen and are equipped with IsoStat technology.

## 3.1. Ionising Top Gun



Lightweight gun with ergonomic design for user comfort. For components sensible to electrostatic particles.



- Filters at the exit of the gun ensures that the air is clean
- Electrical activation of ionisation and airflow extend effectiveness of emitter with no maintenance
- Ionisation indicator light

P Nr. EU	P Nr. UK
60-200-0008	60-100-0018

## 3.2. Airforce Blow-off Gun



Ionising air force blow off gun, for components sensitive to electrostatic particles.

**IEC  
61340  
Compliant  
RoHS  
Directive**



- Ergonomic, easy-to-use ionising gun for particle blow-off application
- No calibration of system required with IsoStat
- Low voltage operation (24 VAC)
- Light weight, durable material

P Nr. EU	P Nr. UK
60-200-6115 RoHS	60-100-6115 RoHS

## 3.3. Accessories

### Replacement in-line air filter x3

Part Nr. : 60-600-0105

**IEC  
61340  
Compliant  
RoHS  
Directive**

# 4. IONISING CARTRIDGES



IEC  
61340  
Compliant  
RoHS  
Directive



General use in-line or gun ioniser.

### Characteristics

- Small, self-contained unit with various nozzles available
- No calibration of system required
- Can daisy-chain up to 10 units

### 6110 Air ionising cartridge

Continuous operation

P Nr. EU	P Nr. UK
60-200-6110	60-100-6110

### 6110a Air Ionising cartridge

Air activated

P Nr. EU	P Nr. UK
60-200-6210	60-100-6210



04

## DEHUMIDIFICATION SYSTEMS, HUMIDITY CONTROL AND CABINETS



Various humidity sensitive components are also ESD sensitive. Eurostat offers a range of temperature and humidity control systems for use in an EPA, to protect against electrostatic discharges.

# 1. GROUNDED DRY CABINETS



Ideal for storing components sensitive to humidity. All shelves are grounded.

## Technical Data

- Can store components that are up to 500x510x570mm
- Humidity control range 1-50% (+/-1%)
- Door alarm integrated
- Power consumption: 200W +/- 22W
- Color: white. Other colors available on request



- Doors are equipped with alarms.
- Screens indicate the humidity level
- Color: White and grey (other colors available on demand)

External Dimensions (mm)	Volume (L)	Number of compartments	Part Nr. White
600 x 640 x 737	238	1	70-400-0668
600 x 640 x 1342	454	2	70-400-0669
600 x 640 x 1947	670	3	70-400-0670
1205 x 640 x 1342	900	4	70-400-0671

## Equipment available on request:

- Swivel supports (to replace casters)
- Light Tower
- Additional adjustable shelves
- LED internal lighting
- Additional automatic nitrogen unit
- Shelves separation elements
- SMD Reels adjustable rack

## 2. HUMIDITY MONITORING AND TEMPERATURE



Permanent temperature and humidity indicator to be used in production zones. Indicates in real time the humidity and temperature conditions. Includes an alarm signaling the high and low saved limits overflow.



- Data logging capacity is 30 000 records

Dimensions (mm)	LED display	Weight (kg)	Humidity	Temperature	Part Nr.
326 x 266 x 60	2,3 ''	2,7	1 - 95 % RH	-9.9 - 60 °C	61-100-0006



# SEALERS



To complement our range of flexible packaging, Eurostat offers sealing machines with or without vacuum. This allows better storage for components sensitive to corrosion humidity and ESD.



# 1. SEALERS

## 1.1. Vacuum Sealers

Nozzle type vacuum sealers are clean-room compatible and work well with all common vacuum bag materials. The unit uses a low noise, non-particle generating compressed air driven ejector vacuum pump which is efficient and maintenance free.



- 4 types of vacuum
- 3 types of flushing
- 1 type of sealing and cooling
- LCD screen
- Automatic malfunction check



With Mounting  
Stand option

### Technical Data

- Multifunction nozzle for an optimal performance
- Appropriate for cleanroom applications thanks to the absence of pump and moving mechanical parts.
- Stainless steel
- Weight : 30kg (without mounting stands)

### Other available options

- Sealing width up to 1100mm
- Double sealing bars for thick bags
- Mounting Stands

### Dimensions available

Heating bar width mm	N <sup>ber</sup> of heating bars	Stand	Part Nr.
450	1	No	70-100-6104
450	1	Yes	70-100-6107
600	1	No	70-100-6106
600	1	Yes	70-100-6105

## 1.2. Manual Sealers



Sealing machine for film with cut device on request.

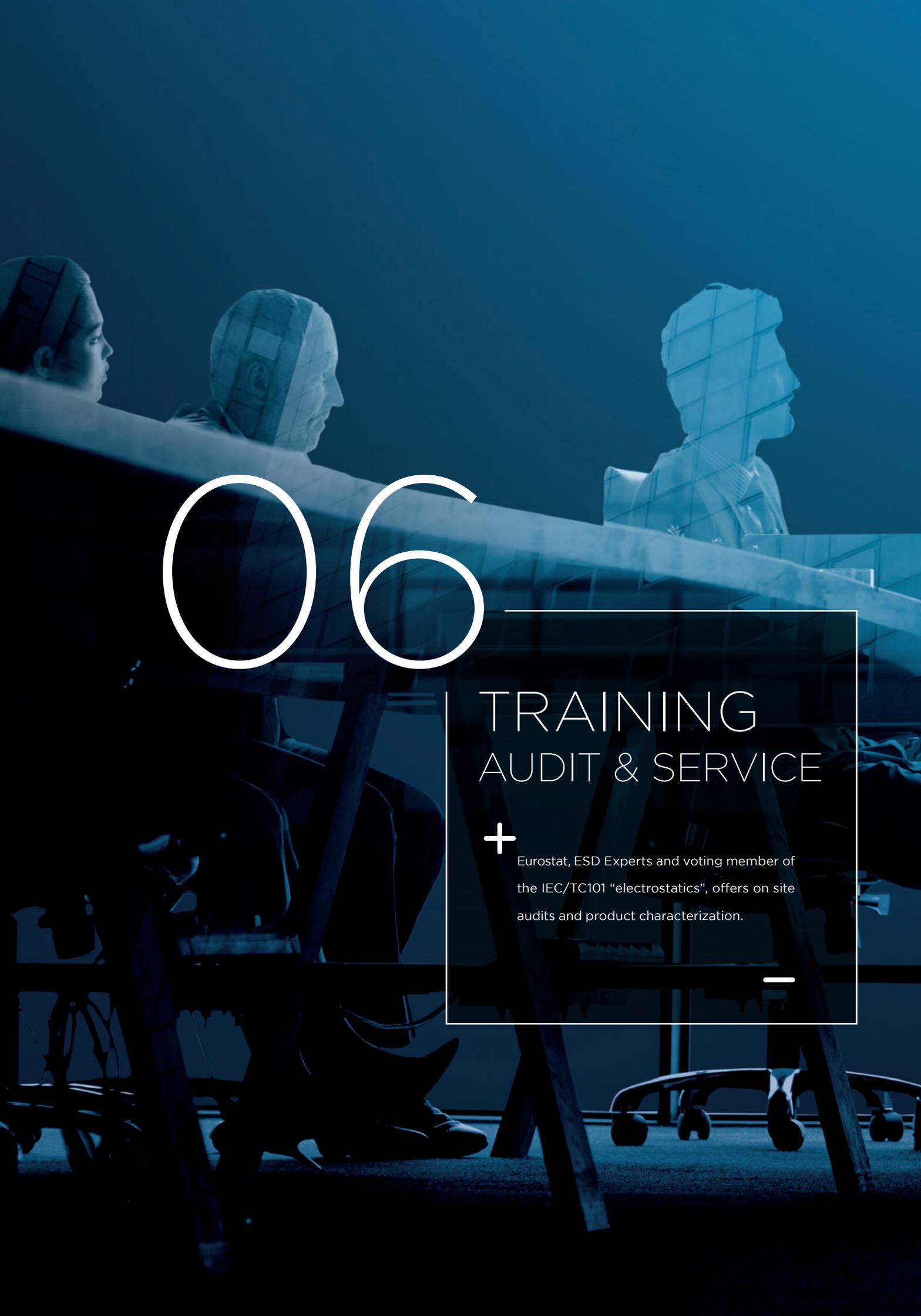
No vacuum function.



Ideal for sealing poly tubing

### Dimensions available

Welding length mm	Welding width mm	Max. seal tickness mm	Power W	Weight kg	Part Nr.
200	2	2 x 0,1	260 W	4,5	70-100-6202
300	2	2 x 0,15	380 W	5,4	70-100-6201

The background of the entire page is a photograph of three ESD test mannequins (IEC 61341-4-10) in a laboratory or testing facility. The mannequins are positioned in a row, facing right. They are wearing white protective suits and caps. The scene is dimly lit with a strong blue color cast. A large white number '06' is overlaid on the left side of the image. A white rectangular box is positioned on the right side, containing text and a plus sign.

06

## TRAINING AUDIT & SERVICE



Eurostat, ESD Experts and voting member of the IEC/TC101 "electrostatics", offers on site audits and product characterization.

# 1. TRAINING YOUR EMPLOYEES



As ESD sensitivity of products increases the production operators and production coordinators need to adapt to a very demanding technical environment. In order to make sure that the operators follow proper procedures, it is advised and required to provide professional ESD training.

Eurostat is a certified training institute (agreement number: 43390015239) and provides training with experts supervised by the French President of TC 101.

The training is offered in English or in French, 3 training levels are available.

## Level 1

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>Operators</li> <li>Manufacturing support</li> <li>Management</li> </ul>	<ul style="list-style-type: none"> <li>To understand why and how ESD damages and defects occur</li> <li>To have a clear view of the wide spectrum of risks, damages and defects in case of no-adherence or drift from the rules and means of prevention</li> </ul>	Approx. 3h30 (recommended period)

## Level 2

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>Engineers</li> <li>Technicians</li> <li>management with engineering background</li> </ul>	<ul style="list-style-type: none"> <li>To take care that all prevention rules are implemented and respected by all personnel working within or entering an EPA</li> <li>To be aware of the basic methods and tools currently used to make measurements in an EPA</li> </ul>	Approx. 4h30 (recommended period)

## Level 3

Attendees	Goals	Sessions
<ul style="list-style-type: none"> <li>ESD coordinators</li> <li>Supervisors</li> <li>Instructors</li> </ul>	<ul style="list-style-type: none"> <li>To establish a complete Prevention and Control Plan preventing static electricity</li> <li>To propose progress axis and fitted preventive or corrective actions</li> <li>To prepare in-house audits thanks to punctual help of third-part ESD experts</li> </ul>	Approx. 3h00 (recommended period)



**Our training programs, which are continuously improved and updated, can be adapted to companies individual needs and tailored to suit your company and the ESD experience of your employees.**

After each training session, a personalised certificate is presented to each attendee.

# 2. AUDIT

## REPORTS

ESD Experts and voting member of the IEC/TC101 “electrostatics”, Eurostat offers on site audits and product characterisation.

### 2.1. Site Audit

**GOALS**    **To highlight existing in-situ gaps**

with what is recommended through IEC 61340-5-1/2 international standard

**To analyse and understand**

any electrostatic issues in discussion with your technical representative

#### The site visit - Approx. 1 day

**1**    The site visit is a fact-finding visit in which our consultant surveys key parts of the site and the customer’s processes and procedures.

**2**    It is also an opportunity for you to highlight and discuss any particular areas of concern you may have.

For these reasons it is essential to make your on-site technical representative available to act as a guide and to be a technical support.

Electrostatic related measurements such as electrostatic field potential and resistance measurements are made where it is appropriate to check the status of equipment, processes, floors and other relevant items.

### 2.2. Characterization

**GOALS**    **Define the Electrostatic features of your products**

with measurements performed in our laboratory to IEC.



#### Progress - delays on request

After estimating the time necessary to achieve your study (depends on the quantities and objectives of your demands), we will do some testing in our characterisation laboratory.

### 2.3. Report

The report gives some relevant electrostatic information and explanation of key aspects where possible. It typically records: details of our consultant’s findings including the results of any measurements, conclusions and specific recommendations and a list of literature and relevant standards that might be required for reference and further reading material if applicable.



# 3. TECHNICAL SERVICE AND INSTALLATIONS



Our Technical service centre ensures installation, maintenance and calibration of equipment, together with repairs during the guarantee period.

Range verification and calibration of electronic equipment can also be carried out.

INSTALLATION

MAINTENANCE

REPAIR

CALIBRATION

VERIFICATION



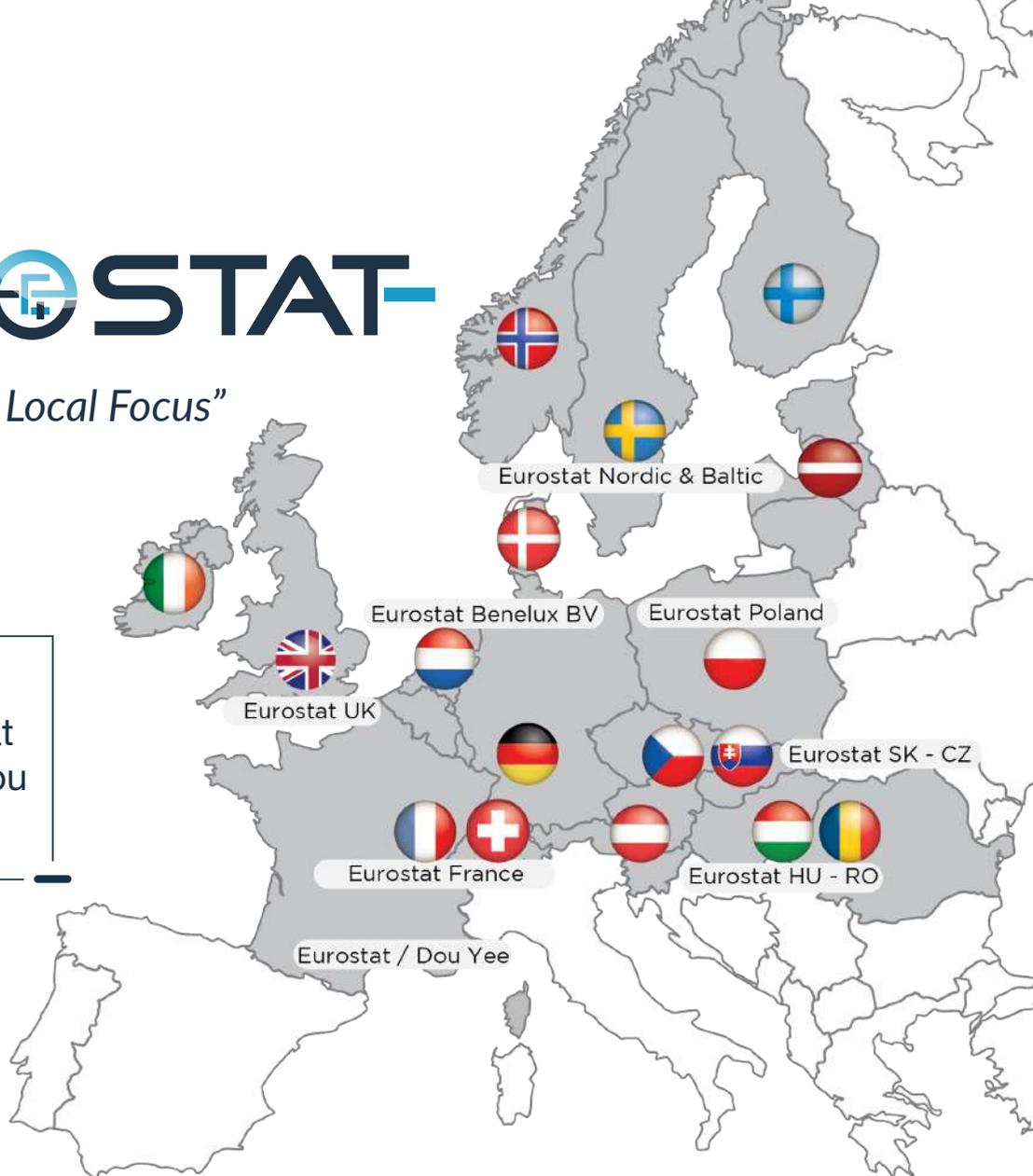


# -EUROSTAT-

*"Global Presence, Local Focus"*

+

Find your Eurostat partner close to you



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# The Eurostat offer



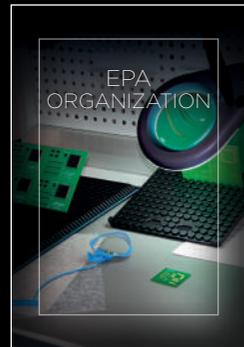
RIGID  
PACKAGING



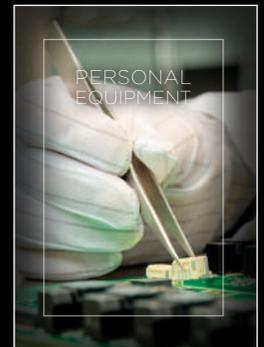
FLEXIBLE  
PACKAGING



INSTRUMENTATION  
& IONISATION



EPA  
ORGANIZATION



PERSONAL  
EQUIPMENT

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