

# INSTRUMENTATION IONISATION AND OTHER EQUIPMENT

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

**-EUROSTAT-**  
A MEMBER OF DOU YEE

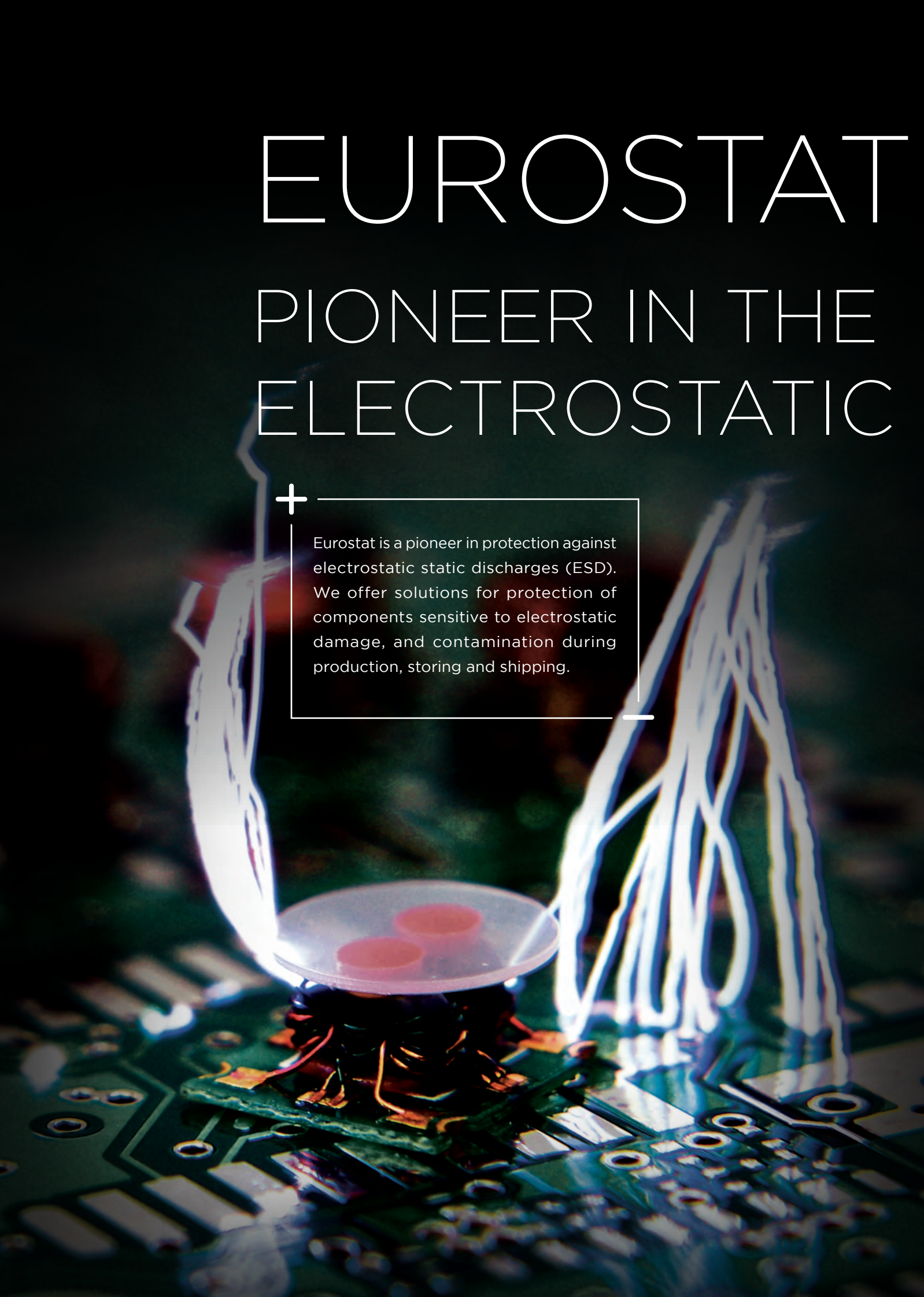
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# EUROSTAT

## PIONEER IN THE ELECTROSTATIC



Eurostat is a pioneer in protection against electrostatic static 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 is 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 the 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  $R_g < 1 \times 10^4 \Omega$**

### Dissipative

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

**Grounding resistance is between  $10^4 < R_g < 1 \times 10^{11} \Omega$**

### Insulative

Offer no grounding of electrostatic charges.

**Offer no grounding of electrostatic charges  $R_g > 1 \times 10^{11} \Omega$**



## 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.



**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

**Rg: volume resistance:** Resistance test between the surfaces of a material tested

**Rpp:** surface resistance: A 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



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01

## CONTROL ACCESS SYSTEM

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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 FOR ACCESS CONTROL TO ESD PROTECTED AREAS

Connected universal access control tester that saves the data 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.

## 1.1. Connected turnstile for access control to ESD protected areas



IEC  
61340  
Compliant

Turnstile for access control to EPA protected areas.

### Technical Data

- Compatible with all identification badges (RFID interface included)
- Communication with a server for traceability (Operator ID, Time & Date, Test values etc...)
- Software included
- LCD screen showing real time measurement
- Numpad
- Software calibration

### Possible parameters

- Shoe tester
- Bracelet tester
- Shoe and bracelet tester

Reference : 61-200-3106

- Both ESD safe shoes are tested separately by measuring electrodes installed in the contact mat
- This system tests operators quickly ( $\leq 3$  sec.) and automatically generates reports for the ESD coordinator
- Hygrometry measurement

## 1.2. Non connected turnstile for access control to ESD protected areas



Non Connected turnstile for access control to EPA protected areas.

### Technical Data

- Calibration with the 61-200-0075 kit

### Paramétrages possibles

- Shoe tester
- Bracelet tester
- Shoe and bracelet tester

Reference : 61-200-3103

- Both ESD safe shoes are tested separately by measuring electrodes installed in the contact mat
- This system tests operators quickly ( $\leq 3$  sec.)

## 2. CONFORMITY TESTER

### FOR PERSONAL EQUIPMENT

#### 2.1. Elite tester with card reader



Personal equipment tester.  
Tester dimensions: 234 x 133 x 43 mm.  
4 colours of LEDs for test results indication.

IEC  
61340  
Compliant



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

#### Technical Data

- RFID identification
- Possibility to program testing parameters for each employee
- Allows communication with the company's network or the dedicated server
- Delivered with a shoe test mat
- Software calibration or 61-200-0075 Kit

Reference : 61-200-3109

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



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  
ROHS  
Directive



Separately tests left shoe, right shoe and bracelet

#### Technical Data

- Easy to operate, red and green LEDs give clear "pass" or "fail" Indication
- Can register up to 60 000 different measurements
- Output for interface with PC or automatic door opening system.
- Operates battery that can be supplemented with an AC net Adaptor
- Tester and calibration plug are delivered with a calibration certificate

Complete kit reference: 61-200-0100RoHS

## 2.3. Accessories

### Product description

### Reference

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 $0M\Omega$ - $2M\Omega$ / High limit $5M\Omega$ - $200M\Omega$	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  $750\text{ K}\Omega$ , high  $35\text{ M}\Omega$
- Works with batteries supplied with the tester
- Low battery indicator
- 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

### Accessories

### Reference

WST 50 Tester (7/10mm stud/banana/GSGS)	61-200-0050RoHS
WST 50 Tester (4,5/10mm stud/banana/GSGS)	61-200-0051RoHS
Calibration plug - from $10\text{ K}\Omega$ to $200\text{ M}\Omega$	61-200-00xx

## 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

Reference : : 61-200-0075

## 4. PERMANENT MONITOR

GZ 1600



Compact meter that can monitor the grounding of 2 operators and/or 2 ESD mats simultaneously.

3 colour LED indicate the status of the operator wrist-strap: high, low, safe.

### Technical Data

- Bracelet detection limit: 35M $\Omega$
- Mat detection limit: 100M $\Omega$

Reference : 61-200-0012



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

# 5. GROUNDING CONNECTIONS

## 5.1. Workbench grounding



### Adaptor

Characteristic	Reference
Insulated plug adaptor for 10mm male studs	30-552-6012



### UK Grounding plug

Characteristic	Reference
3 x BP 10 mm	30-552-0610



### EU Grounding plug

Characteristic	Reference
3 x BP 10 mm	30-552-0615

## Grounding plug



30-552-0605

30-552-0620

### 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	30-552-0600
3 x 10 mm studs	30-552-0615	30-552-0610
2 x M5 cosse	30-552-0625	30-552-0620
2 x M5 eyelet connections 7 & 10mm + banana	30-552-0635	30-552-0630
3 x bananas	30-552-6007	/

## 5.2. Universal grounding box and earthing plugs

### a. Universal box



#### GROUNDING BOX AND EARTHING PLUGS

Characteristics	Reference
<ul style="list-style-type: none"> <li>• Snaps (4, 4.5, 7 and 10mm)</li> <li>• Complete with 3 meter cord with eyelet</li> <li>• Material: Yellow ABS</li> <li>• Dimensions: 78 x 28 x 35 mm</li> <li>• No resistance</li> </ul>	30-560-0039



- Universal grounding solution compatible with all existing wrist strap connections: banana plugs, 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



Other configuration on request, with a minimum order

#### Grounding system

Characteristics	Reference
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

## 01. CONTROL ACCESS SYSTEM

### 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	Reference
2 10mm female Stud *	/	1,80	30-560-0210
2 10mm male Stud *	/	1,80	30-560-0211
2 10mm female Stud *	/	0,15	30-560-0214
2 10mm female Stud *	/	0,60	30-560-0215



Serie 30-560-021X



Serie 30-560-151X

#### Mat grounding

Mat connection	Ground connection	Length m	Reference
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	Reference
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



30-560-06XX GSGS

30-560-06XX BIS BANANA

### Twisted cords

Connections m	Length m	Reference
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: 1.80 m

Reference : 30-560-0600

# 6. OPERATOR GROUNDING SYSTEMS



Fabric wrist strap

Metal wrist band

Plastic wrist band

Dual cord wrist straps

## 6.1. Fabric wrist straps



- Both sides are conductive
- Adjustable to any wrist size

### Connection

### Reference

4 mm stud	30-560-0004
7 mm stud	30-560-0007
10 mm stud	30-560-0010

Crimson red colour, allows operator grounding to avoid electrostatic discharge to components.

### Technical Data

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

IEC  
61340  
Compliant

## 6.2. Metal wrist bands



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

### Connection

### Reference

4 mm stud	30-560-4004
7 mm stud	30-560-4007
10 mm stud	30-560-4010

Superior reliability for grounding operators

### Technical Data

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

IEC  
61340  
Compliant

## 6.3. Plastic wrist bands



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

Clean room compatible.

### Technical Data

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

IEC  
61340  
Compliant

Connection	Reference
4 mm stud	30-560-0104
7 mm stud	30-560-0107
10 mm stud	30-560-0110

## 6.4. Dual cord wrist straps

Designed to operate with the workstation monitors.

IEC  
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Compliant

### a. Fabric



- Both sides are conductive
- Adjustable to any wrist size

Dual cord wrist strap.

### Technical Data

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

Reference : 30-560-3004

### b. Metal



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

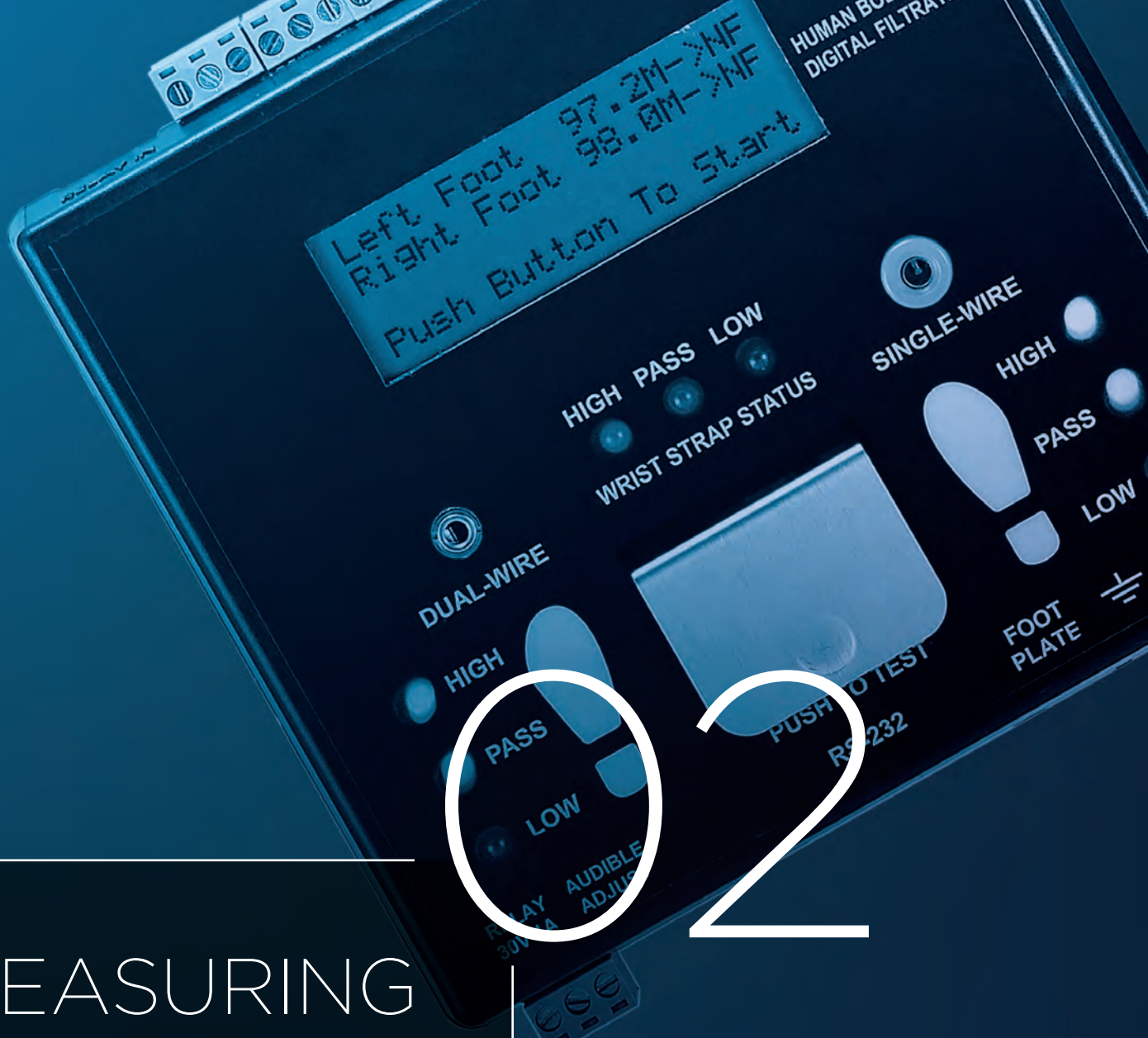
Dual cord wrist strap.

### Technical Data

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

Size S : Reference 30-560-3010

Size L : Reference 30-560-3011



# MEASURING INSTRUMENTS



Eurostat and partners Dou Yee have 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. Resistivity indicator



### a. PAS ESI 870 model

**PROSTAT**

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

#### Technical Data

- Power voltage: DC 9V
- Measurement range:  $1 \times 10^3 - 1 \times 10^{12} \Omega$  /  $40 - 60^\circ\text{C}$  /  $0 - 100\% \text{ RH}$
- 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

Reference 61-100-0404

## 1.2. Tera-Ohm meter



### a. PAS 853B model

**PROSTAT**

Large spectrum portable ohm 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

Reference : 61-100-0012



Reference tera-Ohm meter for auditors and metrology services

### b. Tera-Ohm meter TOM 600



#### 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

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

Measures resistance

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

References : EU plug: 61-200-0600 RoHS  
UK plug: 61-300-0600 RoHS

Ref. 61-200-0602

### c. Tera-Ohm meter SET PRS-801



#### Characteristics

Reference tera-ohm meter for auditors providing repeatable measurements

PRS-801 Tera-Ohm meter  
electrodes  
Unit: 61-100-0504

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).

#### Technical Data

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

Reference : 61-100-0503

IEC  
61340  
Compliant

## 1.3. Electrodes

 P R O S T A T<sup>®</sup>

### a. PRS 801 W Contact electrodes

 P R O S T A T<sup>®</sup>



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

#### Characteristics

- Weight: 2.27kg
- Use with PAS 853B and PRS 801

Reference : 61-100-0504

IEC  
61340  
Compliant

### b. Micro electrode concentric ring PRF-911

 P R O S T A T<sup>®</sup>



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

#### Characteristic

Use with PAS 853B and PRS 801

Reference : 61-100-0501

IEC  
61340  
Compliant



### c. Miniature concentric ring fixture PRF-912B

 P R O S T A T<sup>®</sup>



#### Characteristic

Measures surface resistance

#### 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

Reference : 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

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

Reference : 60-200-0606

## 2. ELECTROSTATIC FIELDMETERS

### 2.1. Fieldmeter PFM-711A



Measurements are taken by increments of 1V and 10V on a 0 to +/- 20,000 volt range.

IEC  
61340  
Compliant

#### Characteristics

- Measuring distance determined with light point indicator
- Ideal for adjusting ionisers

Reference : 61-200-0711A

### 2.2. Fieldmeter kit PFK-105



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

#### Includes

- Multi measure field meter PFM-711A
- CPM charge analyser
- Charge generator 31300 V PCS-730
- Discharge time measurement PDT-6740B

Reference 61-400-0003



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

IEC  
61340  
Compliant



### 2.3. Fieldmeter EFM-022



Reference 61-200-0220



Reference 61-200-0222



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	References
Fieldmeter + charge analyser 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
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 analyser (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

## 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

### Characteristic

Electrostatic data analysis

Reference : 61-100-0005

### 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.

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



Reference : 61-100-0003

Kit includes all the measuring tools to test and EPA zone: 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

References : 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



Reference : 31-560-0502

Designed and used by maintenance technicians on site, Our field service kit offers protection against damage to electronic components from ESD's. In turn increasing product reliability for client satisfaction.

### Technical Data

- Dimensions: 540 x 610 mm
- Thickness: 0,8 mm
- Surface resistance:  $< 1 \times 10^9 \Omega$
- Grounding resistance:  $< 1 \times 10^9 \Omega$
- Length: 1,80 m
- Colour: Red



- Compact
- Provides effective ESD protection
- Two pockets sewn onto the work surface designed for cord storage

### Kit includes

- High quality static dissipative work surface 54 x 61 cm
- Adjustable fabric 10mm stud wrist band and cord
- Wrist strap/mat connection system



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.

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# 1. WORKBENCH IONISERS

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

**SIMCO ION**  
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

Ref. EU	Ref. 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**  
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

Ref. EU	Ref. 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 electrode cleaning
- Offset +/15V
- **Dimensions:** 140 x 220 x 80 mm
- **Weight:** 2,4 kg

IEC  
61340  
Compliant  
RoHS  
Directive

Ref. EU	Ref. 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 electrode cleaning
- Offset +/15V
- **Dimensions:** 145 x 210 x 95mm
- **Weight:** 3,2 kg
- **ANSI/ESD STM3.1**

IEC  
61340  
Compliant  
RoHS  
Directive

Ref. EU	Ref. 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

Ref. EU	Ref. 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

**SIMCO ION**  
An ITW Company



### 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

Ref. EU	Ref. 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 ionizer helps maintain desired ionization 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

Ref. EU	Ref. UK
60-200-0005	60-200-0015

### 3 Fan Units Model

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

Ref. EU	Ref. UK
60-200-0006	60-200-0016

## 2.2. Guardian overhead ionising



Clean room compatible, this overhead ionizer helps maintain desired ionization 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

Ref. EU	Ref. UK
60-200-0001	60-100-0011

### Characteristics

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

Ref. EU	Ref. 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 an 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

**SIMCO ION**  
An ITW Company



Ref. EU	Ref. UK
60-200-0008	60-200-0018

Lightweight gun with ergonomic design for user comfort. For components sensible to electrostatic particles. No clean room required.



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

### 3.2. Airforce Blow-off Gun

**SIMCO ION**  
An ITW Company



Ref. EU	Ref. UK
60-200-6115 RoHS	60-100-6115 RoHS

Ionising air force blow off gun, for components sensitive to electrostatic particles. No clean room required.

IEC  
61340  
Compliant  
RoHS  
Directive



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

### 3.3. Accessories

#### Replacement in-line air filter x3

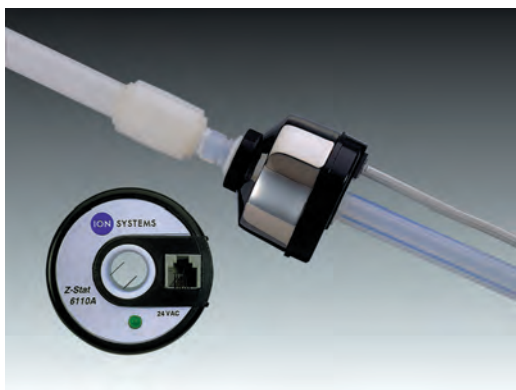
Reference : 60-600-0105

#### Replacement emitter points

Reference : 60-600-0110

IEC  
61340  
Compliant  
RoHS  
Directive

# 4. IONISING CARTRIDGES



General use in-line or gun ioniser.

IEC  
61340  
Compliant  
RoHS  
Directive

### 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

Ref. EU	Ref. UK
60-200-6110	60-100-6110

### 6110a Air Ionizing cartridge

air activated

Ref. EU	Ref. UK
60-200-6210	60-100-6210



04

## DEHUMIDIFICATION SYSTEMS, HUMIDITY CONTROL AND CABINETS



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

# 1. GROUNDER 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%)



- Doors are equipped with alarms.
- Screens indicate the humidity level

External Dimensions (mm)	Volume (L)	Number of compartments	Number of shelves per compartments	Reference
600 x 640 x 1947	670	3	Up to 6	70-400-0670

# 2. ESD CABINETS



### Technical Data

- Glass windows (option: ESD safe plastic windows)
- Additional shelves in option
- ESD safe cabinets
- Frame material: Mild steel
- Coating: dissipative ESD
- Colour: Grey



Ideal for using with humidity control systems  
70-450-0001 ou 0002

Ext. Dimensions (cm)	Volume (L)	N <sup>ber</sup> of compartments	N <sup>ber</sup> of shelves per compartments	Reference
88 x 45 x 95	386	2	3	70-401-0386
60 x 70 x 195	740	3	5	70-401-0740
120 x 70 x 195	1530	4	6	70-401-1530

# 3. CONTROL SYSTEMS

## HUMIDITY



Humidity control systems can be placed in cabinets or any other storing facilities. It measures real time storing conditions of sensitive components.

### Technical Data

- Equipped with alarms
- The data can be transferred to a computer
- RAD01 is connected to a compressed air line and can manage the environment with humidity control rate. Can be used with a cabinet or any other storage or dehumidification system. Measures and records in real time the storage conditions of sensitive components.



- Ioniser to avoid contaminations
- N2HT: regulates manually the humidity by adding nitrogen

Model	Humidity reduction system	Dimensions (mm)	Weight (kg)	Reference
RAD01	Compressed air	550 x 257 x 310	18	70-450-0001
N2HT	Nitrogen	315 x 257 x 220	4	70-450-0002

# 4. HUMIDITY MONITORING AND TEMPERATURE



Permanent temperature and humidity indicator to be used in production zones. Indicates in real time the operators 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	Reference
326 x 266 x 60	2,3 ''	2,7	1 - 95 % RH	-9.9 - 60 °C	61-100-0006



# SEALERS

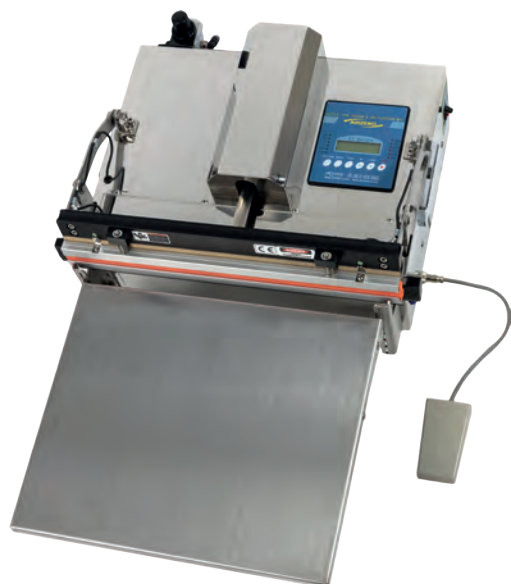


To complement our range of flexible packaging, Eurostat offer sealing machines with or without vacuum. This allows better storage for components sensitive to corrosion humidity and ESD.



# 5. SEALERS

## 1. Vacuum Sealers



This machine is designed to heatseal the packaging. It offers a unique solution for generating vacuum without embedded vacuum pumps (Bernoulli effect). This avoids moving mechanical parts and to use the machine in the cleanroom environments.



- Great flexibility of use thanks to the possibility of setting the user modes
- Allows injection of rare gases in any environment



With Mounting  
Stand option

### Technical Data

- Multifunction nozzle for an optimal performance
- No moving mechanical parts allowing it to be used in cleanroom environments

### Other available options

- Sealing widths up to 1100mm
- Double sealing bars for thick bags
- Mounting Stand

### Dimensions available

Heating bar width mm	N <sup>ber</sup> of heating bars	Stand	Reference
450	1	No	70-100-6019
450	1	Yes	70-100-6023
600	1	No	70-100-6022
600	1	Yes	70-100-6021

## 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	Reference
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



A blue-tinted photograph of three individuals wearing ESD protective gear, including hoods and wristbands, sitting at a table. The scene is dimly lit, with the primary light source coming from the side, creating strong highlights and deep shadows. The background is dark and out of focus.

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 can be done 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 damages and defects, due to static electricity occur</li> <li>To have a clear view of the wide spectrum of risks, damages and defects in case of non-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 into 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 from 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 standards.



#### 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 characterization 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



A technical service ensures the installation and maintenance of equipment as well as repairs during the guarantee period.

The range setting and control procedures of measuring equipment could be also carried out.

INSTALLATIONS

MAINTENANCE

REPARATION

SIZING

VERIFICATION

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# NOTES

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**-EUROSTAT-**  
A MEMBER OF DOU YEE

45 route d'Orgelet - 39130 PONT-DE-POITTE - FRANCE  
Tel. : +33 (0) 3 84 87 02 39 - Fax : +33 (0) 3 84 48 30 00  
info.fr@eurostatgroup.com

**www.eurostatgroup.com**