

# CONTROLLING STATIC ELECTRICITY IN INDUSTRY WORLDWIDE

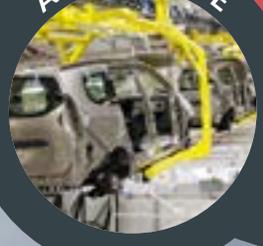
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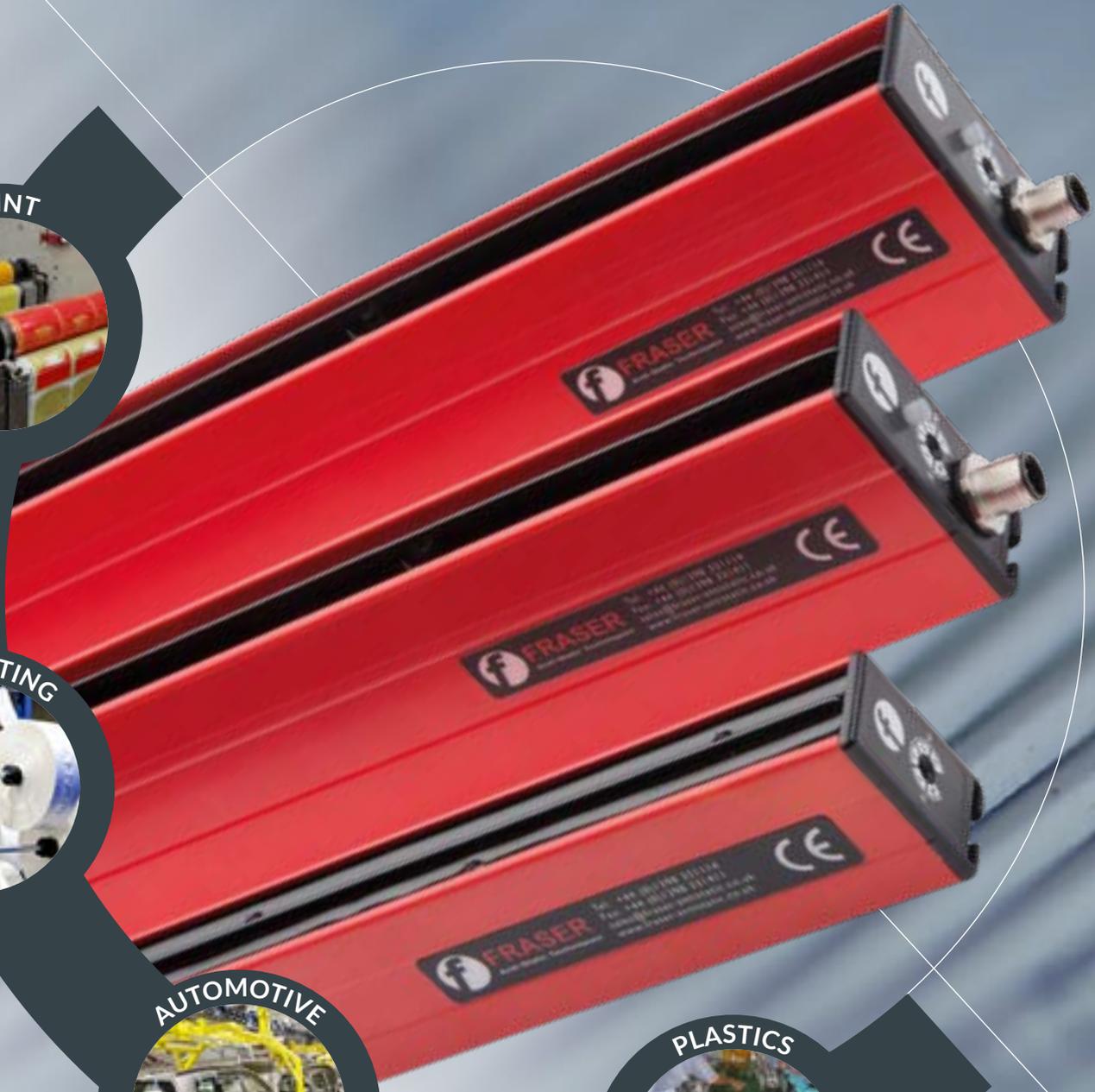
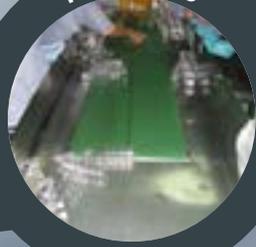
CONVERTING



AUTOMOTIVE



PLASTICS





## CONTENTS

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<b>02</b>	Introduction	<b>09-10</b>	Longer Range Static Elimination	<b>17-20</b>	Generators/Charging Electrodes
<b>03-04</b>	About The Technology	<b>11-12</b>	Dust Removal and Cleaning	<b>21</b>	Support
<b>05-06</b>	DC Products	<b>13-14</b>	Ex Hazardous Areas/ Measurement of Static	<b>22</b>	Notes
<b>07-08</b>	Short Range Static Elimination	<b>15-16</b>	AC Power Units / Passive		

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# INTRODUCTION TO FRASER ANTI-STATIC

Fraser Anti-Static has been a specialist manufacturer of static control equipment since the company started in 1991. This specialisation has allowed us to focus on what our customers want. Today we are presenting a range of equipment which has been designed to solve our customers' problems - not just in performance, but also in terms of reliability, ease of use and cost-effectiveness.

# TECHNOLOGY AND PRODUCTS

Fraser Anti-Static Techniques equipment is specified by manufacturing companies and OEMs in every industry where static is a problem: plastics, packaging, converting, paper, pharmaceutical, food, medical, textiles, electronics - in fact wherever non-conductive materials are processed.

Fraser equipment is manufactured in the UK. Customer support is provided direct from the factory and from distributors throughout the industrial world.

Fraser products fall into two main technologies and seven application categories.



## TECHNOLOGIES:

### Advanced DC Products

These include:

- Intelligent, high performance static eliminators with all of the electronics and controls built into the body of the static eliminator and powered by 24V DC.
- Static generation equipment for temporary adhesion in industrial processes, powered by 90-250 V AC or 24 V DC.

### Conventional AC Static Eliminators

These use an external high voltage Power Unit to power ionisation electrodes in the form of Bars, Blowers, Airknives, Guns and Nozzles.



## APPLICATION CATEGORIES:

### Short Range Static Elimination

Eliminating static electricity at distances of 25 mm to 150 mm from the product and at speeds up to 1500 m/minute.

### Longer Range Static Elimination

Neutralising static charges at distances from 150 mm to over 1 m, with or without air assistance. Fraser has the most comprehensive selection of long range static eliminators available.

### Static Neutralisation and Cleaning

Static and contamination are closely connected. Fraser has developed a range of Ionised Air Guns, Airknives and Nozzles to neutralise the static charge and remove statically attracted dust and other contaminants.

### EX and ATEX Static Elimination

The special requirements of hazardous areas are addressed with our ATEX and IECEx certified static neutralisation and measurement products.

### Static Generators

Using static generation for temporary adhesion is a growth area in industry. It is a clean, safe, fast and reliable process.

### Passive Static Eliminators

Fraser was the first company to commercialise anti-static brushes in industrial applications. Since then we have concentrated on higher technology products, but passive equipment still has a role to play in many applications and is still manufactured by Fraser.

### Measurement

Scientific investigation of static problems is difficult and frustrating without a method of measurement. The Fraser 715 Static Meter is used throughout the industrial world. The EX715 Static Meter has a unique ATEX and IECEx certification for investigating hazardous areas.

## Standards and Certifications

Fraser products are manufactured within an ISO9001 quality system and product certifications include CE, UL, CB, ATEX and IECEx.





NEOS 12F

SHORT RANGE



NEOS 12L  
NEOS 20

MEDIUM & LONG RANGE

**DC RANGE  
& NEOS**

## A NEW DIMENSION IN STATIC CONTROL

Fraser have been pioneering the use of 24 VDC technology in static elimination since 2011 when 3024 Bars were launched to the market. These market-leading products were joined by the NEOS range in 2015.

The range was designed and developed to meet the increasing speeds and static electricity levels in industry, there are Bars for short, medium and long range applications, coping with speeds of up to 1500m/minute.

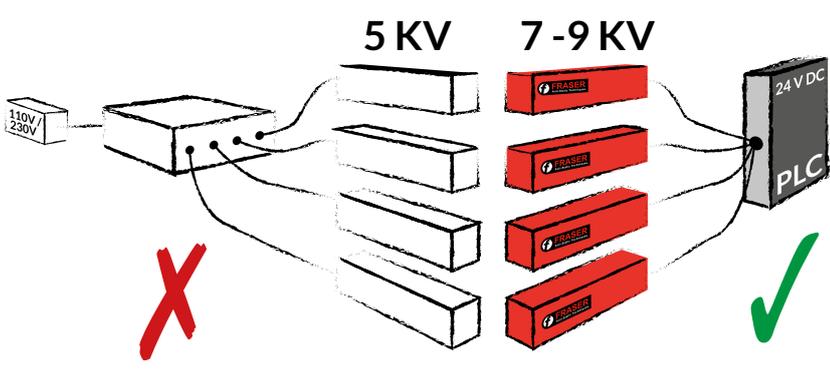
NEOS technology uses a precision electric field measurement system which works through the emitters. The NEOS Bars measure the electric field and respond by emitting ions of the opposite polarity to neutralise the charge. This was a major advance and set new standards in static neutralisation efficiency.

**AC = a GOOD solution**

- Short range
- Longer range only with compressed air
- Additional power unit wiring
- Good ionisation performance
- Good quality

**DC = a BETTER solution**

- ✓ Short range or long range
- ✓ Wire direct to PLC or Local 24V DC PSU
- ✓ More powerful
- ✓ Better ionisation performance
- ✓ Enhanced quality
- ✓ A favourite with German OEMs
- ✓ Potentially lower cost





NEOS 30

EVEN MORE POWERFUL



3024



IONSTORM

**DC technology is an important advance on traditional AC technology. DC enables integrated electronics to manipulate the ionised output - in terms of waveform, voltage, frequency, feedback and duty cycle - to produce more efficient static neutralisation.**

Fraser 24 V DC Bars are designed to provide the industrial customer with performance of the highest standard and market-leading reliability. In addition to the automatic intelligent operation, NEOS Bars also have manual settings to allow them to operate as conventional DC Bars.

### 3014 BARS

Launched in 2016, the 3014 offers all the benefits of a 24V DC Bar but in a compact size. At just 20 mm x 32.5 mm it is suitable for installation on machinery in the packaging, plastics and printing industries where space is limited.

As with all Fraser 24 V DC Bars, the 3014 has local and remote monitoring of operation, as well as a "clean-me" function. Tungsten emitters provide a long and reliable lifespan at 24/7 operation.

### 3024 BARS

Launched in 2012, the 3024 Bar quickly became a best-seller for machinery manufacturers and end-users throughout the world. Operating at 10-11 kV, it is compact, powerful and economical. 3024 are available in two versions:

- 3024F for close range applications, 25 mm to 100 mm and speeds in excess of 1000 m/minute.
- 3024L for medium range applications from 100 mm to 500 mm.

### NEOS 12

Like the 3024, the intelligent NEOS 12 is available in two versions, both operating at 12 kV DC.

NEOS 12F is for distances from 40 mm to 150 mm and speeds up to 1500 m/minute. Performance is up to 250% more than the 3024F.

NEOS 12L is for medium range distances from 100 mm up to 600 mm. Performance is typically 200% more than the 3024L.

### NEOS 20

Operating at 20 kV, the NEOS 20 Bar opens a new sector in static control - high performance operation at distances from 150 mm to 750 mm. It offers double the static neutralisation performance of the NEOS 12.

NEOS 20 has replaceable tungsten emitters.

### NEOS 30

NEOS 30 is the most powerful Bar in the NEOS range, operating at 30 kV. It doubles the static neutralising power of the NEOS 20.

It is designed to operate from 200 mm to over 1 m and cope with the most difficult static problems in industry.

NEOS 30 has replaceable tungsten emitters.

### IONSTORM

Ionstorm pulsed DC is a versatile DC static control system used for wide area and multi-bar applications.

The operator has complete control of its operation, being able to adjust the polarity, frequency and power on the Controller. Two or more Bars can be powered with an external connector box. Ionstorm may be powered by 115 V AC, 230 V AC or 24 V DC.

# SHORT RANGE STATIC ELIMINATION

The Fraser Short Range Static Eliminators use the latest electronics to provide high performance and cost-effective operation.

There is a choice of the latest 24 V DC Bars and more traditional AC Bars powered by transformer-style power units. All Bars are filled with epoxy resin, making them suitable for food, medical, pharmaceutical and cleanroom applications. This robust construction with stay-sharp emitters ensures a long life of high performance.

## 1250-S Static Eliminator Bar

- ⊕ The 1250-S Bar used with HP Power Units are especially suited to multi-Bar applications. They are available in lengths up to 6 m



Short Range Static Eliminators neutralise static on sheet, web and similar processes throughout the plastics, packaging and converting industries. Ideal location is 20 - 150 mm from the object to be neutralised.



**3014 Bar**

⊕ The 3014 is a compact 24 V DC Bar designed as an alternative to traditional AC static eliminators.



**3024F**

⊕ 24 V DC with built-in electronics, shockless and powerful short range ioniser.



**NEOS 12F**

⊕ Compact, high speed, intelligent and reactive. A premium short range DC Bar.



**1100 Bar**

⊕ A compact static eliminator Bar for use where the 1250-S is too big.



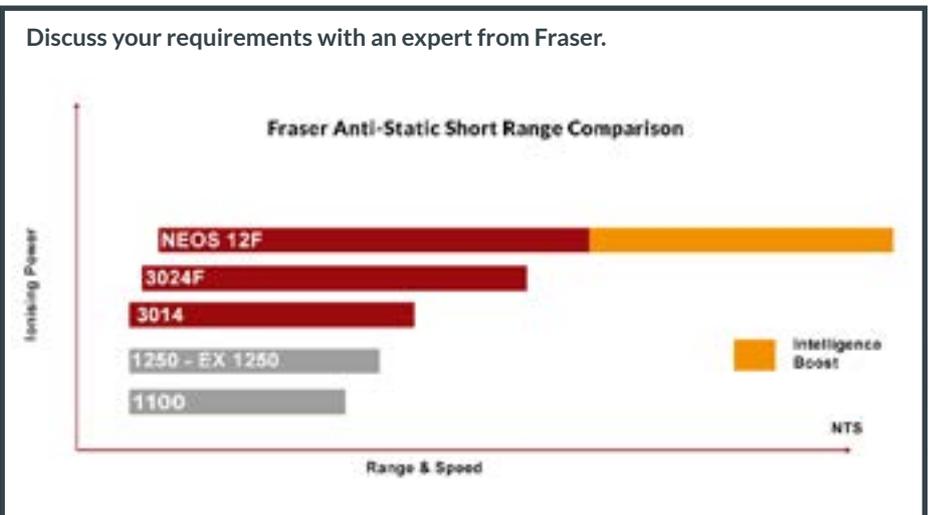
**1260 & 1265**

⊕ Compact and versatile, ideal for small objects and spaces.



**EX1250**

⊕ ATEX certified high performance static eliminator for hazardous areas.



# LONGER RANGE STATIC ELIMINATORS

When fast and powerful ionisation is necessary at distances of up to 1.5 m, long range static elimination is required.

Fraser have developed Anti-Static Bars that cover ranges from 100 mm to 1500 mm without air-assistance, making them perfect for winders and applications with changing geometry, where long range control is needed. This allows us to deliver effective ionisation to the source of the problem.

Our Blowers additionally make this possible even when it is in a confined, hard to reach place.

For more information on the appropriate long range static elimination solution for your needs, please call or email our team today.



**3024L**

- ⊕ Compact with built-in electronics, ideal for distances between 100 mm to 500 mm.



**NEOS 12L**

- ⊕ NEOS intelligence boosts the performance of this 12 kV Bar for medium range applications.



**NEOS 20**

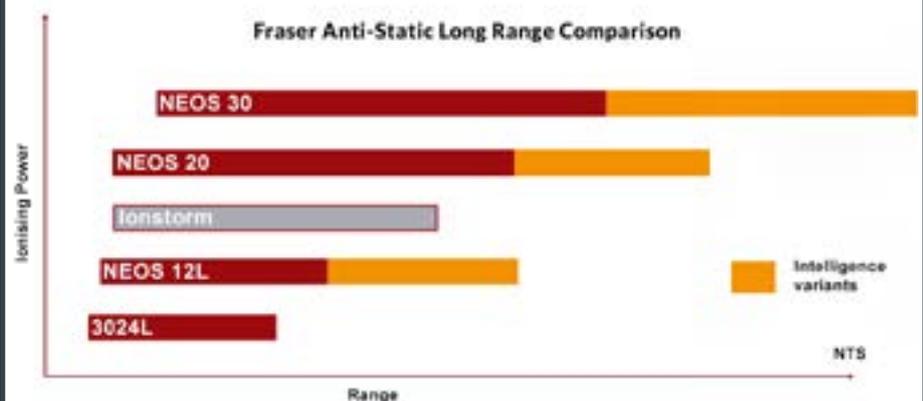
- ⊕ Serving a whole new market sector operating at 20 kV, this is a high power static eliminator for medium/long range applications.



**IONSTORM**

- ⊕ Flexible and adaptable, fully controllable output.
- ⊕ Bars can be manufactured in series for greater effective area coverage.

Discuss your requirements with an expert from Fraser.



## NEOS 30



*The most powerful Fraser Long Range Static Eliminator, operating at distances from 200 mm to over 1 meter. With reactive intelligence incorporated into the Bar the NEOS 30 is unrivalled in quality, performance and value.*



**2050 Blower**

+ A compact ionised air blower especially suited to technology applications. Available in 250, 500, 750 and 1000 mm lengths.



**2010 Blower**

+ Industrial ionised air blower available in lengths up to 2 meters.



**1250 Air Bar**

+ Uses low pressure compressed air to extend the effective static neutralisation range of the 1250 Bar to over 500 mm.

# DUST REMOVAL AND CLEANING

Dust and particulate contamination adversely affect yield and quality, causing additional costs in many production environments. Static attracts unwanted airborne particles to the product in all sorts of industries, including electronics, printing, painting, converting, moulding, pharmaceutical and many more.

Fans and blowers can be used to neutralise the static on the product but they will not generally remove the contamination.

With Fraser's range of powerful ionised air equipment, we are able to neutralise the static attraction and remove the contaminant at the same time.

4125 Airgun



**+** Ionised Airguns and Nozzles are ideal for demanding dust removal including: preparing parts for painting, cleaning sheets for printing, cleaning electronics and displays during assembly. Airknives are used to handle larger applications.



**4125 Airgun**

- ⊕ The 4125 Ionised Airgun produces ionised air at a thrust of 5.2 N at 5 Bar air pressure for maximum cleaning power.
- ⊕ Available with bottom or top air entry.



**4400 Air Nozzle**

- ⊕ A compact, highly efficient ionised air jet which consists of a 1260 single point Ionising Bar and a proprietary air nozzle.



**4510 Air Jets**

- ⊕ Used in many applications, including long distance static neutralisation, dust removal and cleaning, sheet separation.



**5100 Airknife**

- ⊕ Ideal for large plastic parts – removing the dust and eliminating the static electricity to prevent re-attraction.



**5500 Ionised Airknife**

- ⊕ High performance fan-driven ionised Airknife for static neutralisation and cleaning of mouldings, glass, automobiles and other large objects.



**In Situ**

- ⊕ 5500 fan driven airknives are used for larger installations, for example in the automotive industry.



**4900 Roto-Clean**

- ⊕ Creating a new standard in electrostatic cleaning. Using patented rotary nozzles integrated within a unique circular static eliminator; Roto-Clean provides high thrust and multidirectional ionised air for the best cleaning with low running cost.



**Iontube**

- ⊕ Designed to be incorporated into pneumatic transport systems to neutralise the static electricity generated in this process.



**In Situ**

- ⊕ An Iontube installed in a factory.

# EX HAZARDOUS AREAS

**Hazardous environments require specialist ATEX equipment for detecting and neutralising static.**

Fraser Anti-Static Techniques have developed a range of EX certified static control and static measurement products which perform perfectly in hazardous or dangerous environments.

The risk of fire is a very important consideration in the coating, gravure printing and other industries where combustible solvents are used. The static charge on a film can cause a spark discharge which ignites the solvent and creates a fire or explosion.

Contact Fraser to get advice on the range of ATEX certified products available to measure and control static charge and prevent fires.



**EX1250 Static Eliminator Bar**



**EX Brushes**

- + EX-HPSD Passive Eliminator offers unrivalled cost-effectiveness in hazardous areas. Particularly effective on high speed, high charge applications.
- + Non-contact application.



**EX Power Unit**

- + UL certified high load power unit for EX1250 Bars. Must be installed outside the controlled area and so has a choice of monitoring options including remote.



**EX715**



- + The EX715 is ATEX and IECEx certified for use in hazardous areas.
- + It allows the Engineer to determine risk and monitor the effectiveness of actions taken.

# MEASUREMENT OF STATIC



**Static Electricity is a problem in many industrial areas. It slows production, reduces product quality, attracts contaminants and gives shocks to operators.**

It is a well-known phenomenon throughout the plastics, packaging, electronics, printing, paper, medical, pharmaceutical and textile industries. Static can create the additional hazard of fire and explosion risks where solvents and explosives are used.

The 715 and EX715 Static Meters enable engineers to investigate these problems safely and give a scientific basis for analysis and action.

The 715 Static Meter measures up to 200 kV and is used to investigate static problems in nearly every industry. For hazardous areas see EX715, below.



**EX715 Static Meter**

⊕ The EX715 is the only ATEX and IECEx meter available for use in certified areas. It has two auto-scaling ranges, 0-20 kV and 0-200 kV.



**740 SRM**

⊕ The 740 Surface Resistance Checker is a pocket-sized instrument providing fast and repeatable measurements of conductive, static dissipative and insulative surfaces. It can also measure resistance to ground.



**720 Static Bar Checker**

⊕ The 720 Static Bar Checker allows operators and maintenance personnel to quickly verify that AC static eliminator Bars are working.

# AC POWER UNITS

Producing high voltage, low current in a controlled and safe way is the primary function of each Fraser Anti-Static Power Unit.

Our power units allow multiple AC products to be connected, requiring only a straightforward mains input.

There are a range of power units available depending upon size, load, capacity and total number of outputs required.



**HP50**

- + Powers up to 4 eliminators
- + High load option with max 30 m of combined bar and cable
- + Optional remote monitoring for high voltage status and bar cleaning requirements
- + Current limited for safety
- + UL Approved



**HP50-1**

- + Compact size for small machines
- + Powers one static eliminator
- + Maximum load 10 m of combined bar and cable
- + 115 or 230 V, 50 or 60 Hz options



**HP50-2**

- + Compact size for small machines
- + Powers two static eliminators
- + Maximum load 12 m of combined bar and cable
- + 115 V 50/60 Hz or 230 V 50/60 Hz options
- + UL Approved



**EXHP**

- + High load 6 kV power unit for ATEX certified EX1250 Bars.
- + EX rated version of HP50 with optional remote monitoring.
- + Power unit must be situated outside of ATEX area.
- + 115 V or 230 V, 50 or 60 Hz options.



**HP50-ION**

- + High load version of HP50 with additional Performance Monitoring System.
- + ATEX certified option available for use with EX1250 Static Eliminators.
- + LED Display for high voltage, bar condition and charge on material.
- + Alarm for fault condition.
- + Remote monitoring option for high voltage status and bar cleaning requirement.



**HP Connector Box**

- + Four into one Connector Box suitable for all Fraser HP Power Units.
- + Provides cable disconnect options.
- + Allows additional eliminators to be connected within power unit load capacity.
- + Single one to one Inline Connector for cable disconnect or extension also available.

# BRUSHES/PASSIVE SOLUTIONS

## 102 Anti-Static Brush



Passive static eliminators do not need to touch the material being neutralised, but must be close to it - typically 2-3 mm.

While they cannot eliminate 100% of the static charge, an 80% neutralisation is typical, depending on the application, which is sufficient for many applications.

They are cost-effective anti-static tools, especially suitable for occasional or unexpected problems. See also EX-HPSD Static Dischargers which have been certified for use in hazardous areas.



**101, 102 & 201  
Anti-Static Brushes**

- ⊕ Designed for neutralising webs and sheets. They are custom made to the required length, with a choice of carbon or conductive nylon fibres and available in 18, 30, 50 and 80 mm fibre.



**660 Brush**

- ⊕ An anti-static strip brush with soft stainless steel filaments. It is available in 1 m lengths or can be custom made for larger requirements.



**801 Anti-Static Tinsel**

- ⊕ A low cost and versatile method of static control used in thousands of factories.
- ⊕ Available in boxes of 22 m.



**850 & 850E Cord**

- ⊕ Contains conductive micro-fibres which ionise the air and eliminate the static charge. It is available in reels of 10 m and 25 m. 850E is an elasticated version available in 10 m reels.



**406/7 & 409/11 Tape Brushes**

- ⊕ Versatile and flexible.
- ⊕ No fixing required.
- ⊕ Highly conductive and easy to install.

# THE IONFIX RANGE OF STATIC GENERATORS

The IONFIX range of static generators from Fraser Anti-Static Techniques has been designed for creating temporary adhesion in industry.

This is a dynamic market including hundreds of applications throughout the plastic, packaging, paper and process industries. Using static electricity for temporary adhesion is increasingly popular because it is fast, clean, controllable and economic.

Fraser generators and electrodes provide the user with a complete temporary adhesion system that is easy to use, highly reliable and safe. Flexible interface design facilitates full integration with modern machinery and control systems.

There are three models in the IONFIX Range:



## IONFIX COMPACT

A compact 30 kV, 20 W generator designed to power smaller systems and applications like In-Mould Labelling. Its innovative power distribution gives a full 20 W of power from 20 kV up to 30 kV.



## IONFIX 30 KV GENERATOR

A 30 kV generator with 150 W of power available.

## IONFIX 60 KV GENERATOR

60 kV and 150 W makes this suitable for the most demanding applications.

All three models offer the user many benefits enabled by modern power electronics:

- ⊕ Easy to use, logical settings with dedicated controls on case for on / off, voltage and current.
- ⊕ Constant current mode with fully adjustable current limitation.
- ⊕ Industry compatible remote interface to link with process controls / PLC, controlling on / off and output adjustment.
- ⊕ Simple, clear displays on the case for settings and user interface options.
- ⊕ Connections for up to 4 generator electrodes. All connections designed for 60 kV.
- ⊕ All generators are available with a 90-250 V 50 / 60 Hz AC supply input.
- ⊕ A 24 V DC supply input version of the Compact Generator is available.
- ⊕ Fixing brackets permit wall mounting, bench mounting or under bench mounting. The display and control panel can be turned 180° for mounting variations.
- ⊕ The Generators are protected against:
  - Variations in the supply voltage (under/over-voltage lockout).
  - Continuous short-circuit of the output (current limit / control feature).
  - Arcing of the output due to damaged cables or electrodes and internal over-temperature.
  - Internal over-temperature.
- ⊕ All models available in positive or negative polarities.

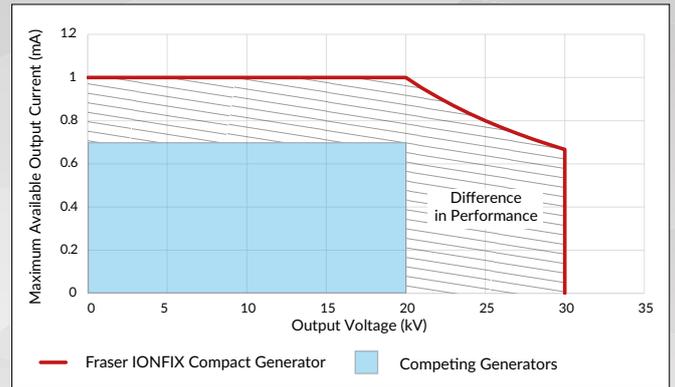
**HIGH PRODUCTIVITY ELECTROSTATICS - CLEAN, CONTROLLABLE, FAST, SAFE, PRECISE.**



**IONFIX COMPACT GENERATOR**

More powerful, with higher voltage and greater distribution of current than any comparable product. The IONFIX Compact Static Generator from Fraser Anti-Static Techniques leads the market in Static Generation.

- ⊕ Adjustable output from 0 - 30 kV.
- ⊕ Four electrode connections.
- ⊕ 90-250 V 50 / 60 Hz, IEC socket, or 24 V DC electrical supply.



Innovative power distribution offers 20 W at 20 kV or 30 kV.

**IONFIX PRO 30 KV & 60 KV GENERATORS**

**30 kV Generator**

- ⊕ Output fully adjustable from 0 - 30 kV with 150 W available power.
- ⊕ Four electrode connections.
- ⊕ 90 - 250 V 50 / 60 Hz, IEC 320 socket.
- ⊕ Optional Anybus Fieldbus and Ethernet connectivity.
- ⊕ Flexible menu system allows customer configuration of generator settings including:
  - remote interface signal levels.
  - Fieldbus module settings (when enabled).
  - generator settings security lock.

**60 kV Generator**

Featuring the same design and dimensions as the 30 kV model but with 0 - 60 kV adjustment and 150 W of power available.



Both models can be mounted from above or below.

# CHARGING ELECTRODES

## 7160

- ⊕ High performance Static Generator Bar.
- ⊕ Resistively coupled for spark free operation.
- ⊕ Tungsten emitters at 10 mm pitch.
- ⊕ For use at 30 or 60 kV.
- ⊕ T5 version for more intense operation.

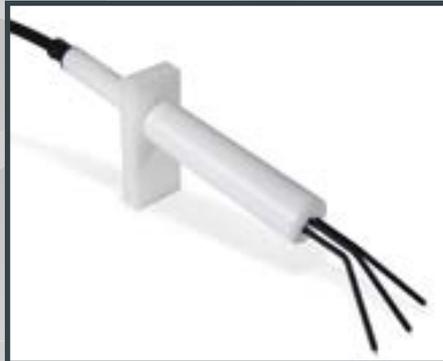
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**7090**

- ⊕ 20mm diameter.
- ⊕ Designed for pin-point charging.
- ⊕ 3 tungsten emitters.



**7093**

- ⊕ Designed for edge pinning on plastic films.
- ⊕ Suitable for high temperatures.
- ⊕ Replaceable tungsten emitters.



**7095-4**

- ⊕ 36mm Long.
- ⊕ 4 tungsten emitters.
- ⊕ Designed for intense, short applications.



**7095-8**

- ⊕ 56mm Long.
- ⊕ 8 tungsten emitters.
- ⊕ Designed for intense, short applications.



**7095-12**

- ⊕ 76mm Long.
- ⊕ 12 tungsten emitters.
- ⊕ Designed for intense, short applications.



**7095-12-HT**

- ⊕ 75mm Long.
- ⊕ 12 tungsten emitters.
- ⊕ Designed for high temperatures <100°C.



**7081**

- ⊕ Designed for low intensity applications at up to 30 kV.
- ⊕ Compact and economical.



**IML-77 Range**

- ⊕ Designed to give the IML processor versatility to meet the demands of each job.



**IML-77 Range**

- ⊕ Ideal for use with the IONFIX compact.







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