



March 2017

# Static Control

Complete static control range  
for industrial and cleanroom environments

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Meech International manufactures five interrelated product ranges:

- Industrial static and dust control equipment
- Electronics and cleanroom (ESD/ESA) static control equipment
- Surface cleaning systems- IonWash™, IonRinse™, JetStream™
- Web cleaning systems- contact and non-contact
- Compressed air energy saving and vortex cooling products

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## We've got the world covered

Wherever you are in the world, you'll find Meech hard at work, providing a wide range of businesses with technical expertise. From our headquarters and technical centre in the UK, our manufacturing subsidiary in the USA and sales offices in Belgium, Hungary, China and India; we've got the world covered. In fact, our distribution network now covers over 50 countries, providing easy access to fully trained, carefully selected Meech distributors, who can provide in-depth support, wherever you are based.

## Outstanding quality as standard

We always work to the highest possible quality standards in everything we do: manufacturing, customer support and technical know-how. Our quality management system is certified by BSI to ISO9001:2008. Products manufactured by Meech are appropriately certified to international standards. They carry markings including CE and UL/CSA (CUL), as well as ATEX and UL "EX" approvals. With so much to offer, no wonder our global user list has grown to in excess of 7,000 companies.





# STATIC EXPLAINED

## What is Static Electricity?

When a material or object holds a net electrical charge, either positive or negative, it is said to have a static charge. Charges will slowly decrease over a period of time. The length of time that this takes is dependent on the resistance of the material. For practical purposes the two extremes can be taken as plastics, which will hold a charge for a long period of time and metal, which will hold a charge for a relative short period of time.

There are two main types of static electricity, volumetric and surface. Volumetric static charges are charge imbalances within the body of a material whereas surface static electricity is only present on the very outer surface of a material. In practice nearly all the static electricity problems found in industry relate to surface charges.

## What Factors Affect Static?

There are many factors that affect static charge, these include:

- Humidity – Generally speaking, the dryer the environment, the higher the level of static charge and conversely, the higher the humidity, the lower the static charge.
- Type of Material – Some materials are more readily charged than others, for example, acetate will gain a charge very readily, whereas glass will gain a charge less readily. Also, the position on the material on the Triboelectric series, will determine whether a material charges positively or negatively dependent on the other material with which it has come into contact.
- Repetition – Repeated actions such as friction or separation will increase the level of charge found on a material.
- Change in Temperature – As a material cools down, it has a tendency to generate charge. If the material is a very good insulator the internal (volumetric) static charge can be maintained for extremely long periods of time. However over time this charge normally migrates to the surface at which point it becomes a surface static charge.

## How is Static Created?

There are three main causes of static electricity; friction, separation and induction:

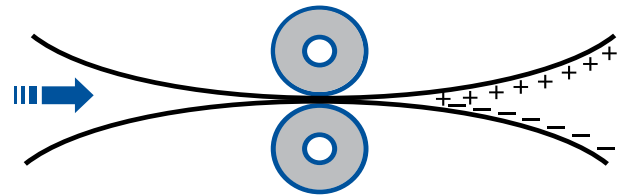
- Friction – Two materials are rubbed together.
- Separation – Two materials are pulled apart.
- Induction – when a material is in the presence of a strong electric field.

## Charge by Friction



As two materials are rubbed together, the electrons associated with the surface atoms on each material come into very close proximity with each other. Depending on the materials, the surface electrons can be transferred from one surface to another. The transferral and resulting charges created are increased significantly with pressure: the harder the two materials are pressed together, the greater the charge!

## Charge by Separation



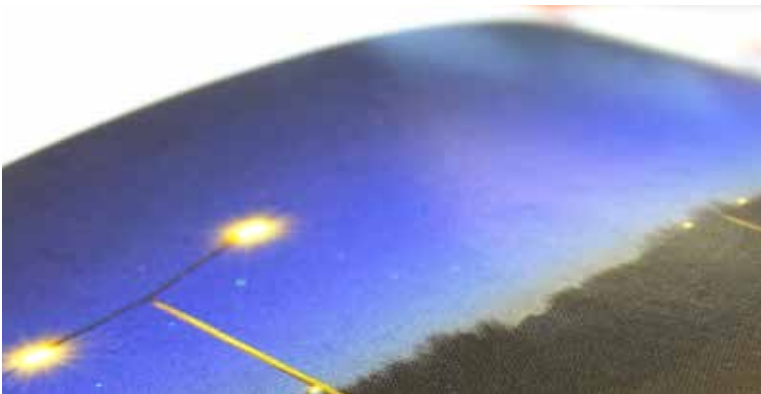
Charging by separation also occurs when two materials' surface electrons are in close proximity. Upon separation of the materials, electrons have a tendency to adhere to one material or the other, dependant on the material composition. Similarly, the level of charge can be affected by the speed of separation: the faster the separation, the higher the charge and the slower the separation, the lower the charge.

## Charge by Induction

Whilst of interest technically, induction does not play a significant role in our field. Static charges can be generated when materials are in the presence of a strong electric field. The surface of a material in close proximity to a high positive voltage will tend to become positively charged. The method of charging is caused by ionisation of the air between the surface of the material and the voltage source which carries surface electrons away from the material to the source. An example of induction is operators working near charged materials. The operator will himself become charged and on touching an earthed object will discharge to it, giving the operator an electric shock - often mistaken for a shock from the mains supply.

# WHEN IS STATIC CONTROL NEEDED?

There are five main areas in industry where static may cause a problem. We have outlined these as such:

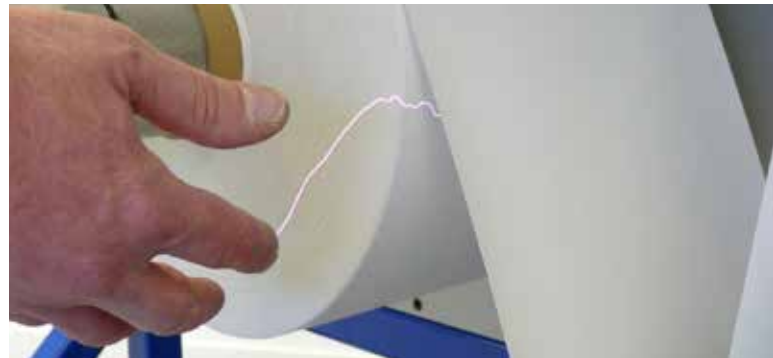


## Electrostatic Attraction (ESA)

Airborne particles are attracted to charged surfaces or indeed charged airborne particles are attracted to a surface which could be totally free of any charge. This problem effects most plastic based industries in one form or another, spoiling finishes of painted products and causing rejects in quality in the food, pharmaceutical and medical industries. In the printing industry dust attraction damages print finishes or indeed printing plates.

## Operator/Personnel Shocks

This is becoming increasingly significant as companies look to improved safety standards. Whilst shocks can be painful the effects are usually quite safe and short lived. In extreme cases however, the debilitating effects can cause personnel collision or entrapment with associated machinery or can even initiate a fire or an explosion in hazardous areas.



## Material Misbehaviour

This is another form of ESA. However, instead of the contamination of products, the problem manifests itself in the form of the product itself, usually webs, fibres or sheets, sticking to themselves or equipment, misrouting or repelling. Automated processes are particularly prone to this problem.

## Electrostatic Discharge (ESD)

This problem is associated with electronics assembly, installation and field service and also electronic component manufacture. Voltages as low as 5 volts which have no real meaning in other industries, can cause catastrophic failure of electronic components or much worse, latent damage which results in field failure, by far the most costly in terms of repair and manufacturers' reputation.



## Risk of Fires / Explosions

In flammable atmospheres, such as in environments where solvent vapours or dust clouds are present, static can be extremely dangerous. Unprotected environments may be subject to the risk of fires and explosions from electrostatic activity in hazardous areas.

# STATIC GENERATION

As well as neutralising static it is also possible to generate static charges in materials by the use of high voltages. By passing materials through intense electric fields it is possible to charge materials either positively or negatively. This charge can be of assistance in a manufacturing process. A common usage of static generation is in high frequency welding applications where induced static charges are used to temporarily bond one item to another to hold them in place during the welding process.

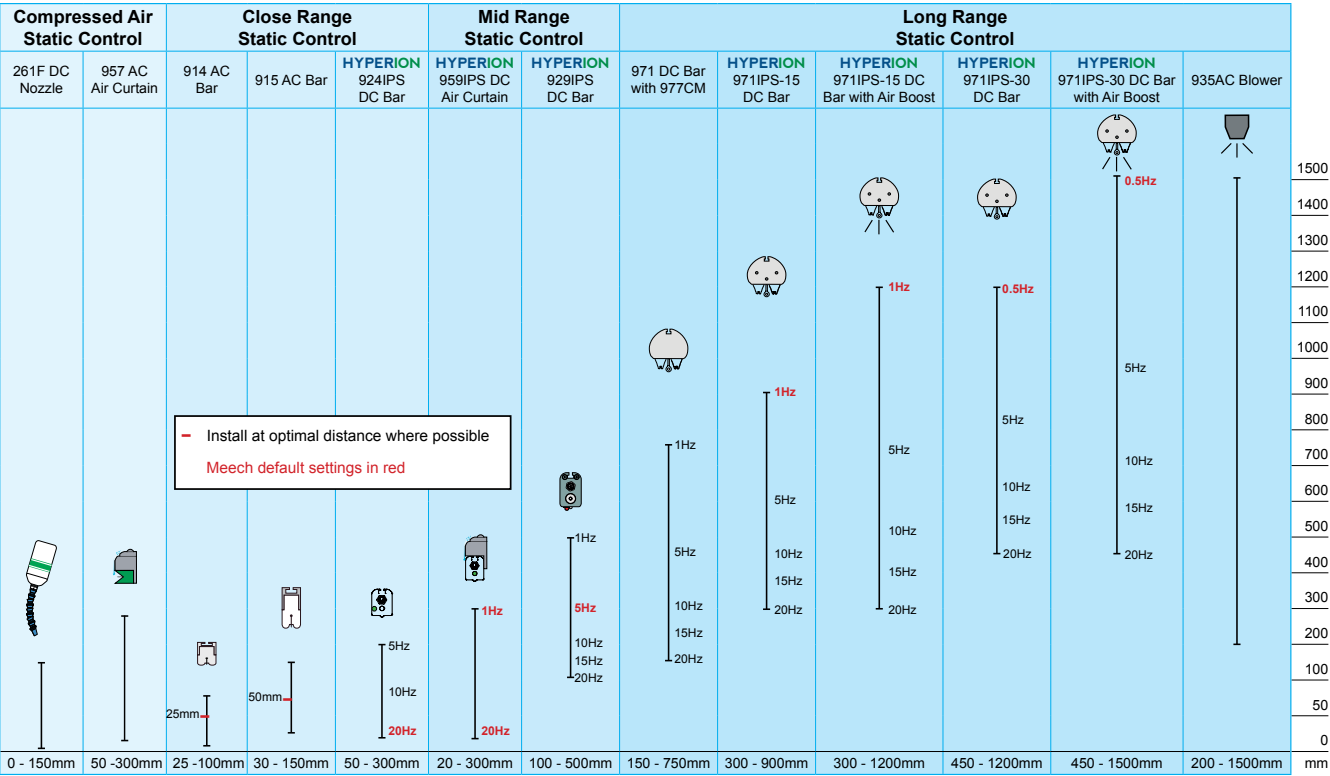
## In Mould Labeling (IML)

Static Generation is also key to the increasingly popular In Mould Labeling method within the packaging industry. Static is generated in order to 'pin' any IML suitable label stock to the required product packaging. The static generated creates a strong bond which leaves a high quality finish, where the label becomes a part of the product unable to be peeled off, unlike traditional adhesive paper labelling.





# OPTIMUM WORKING DISTANCES



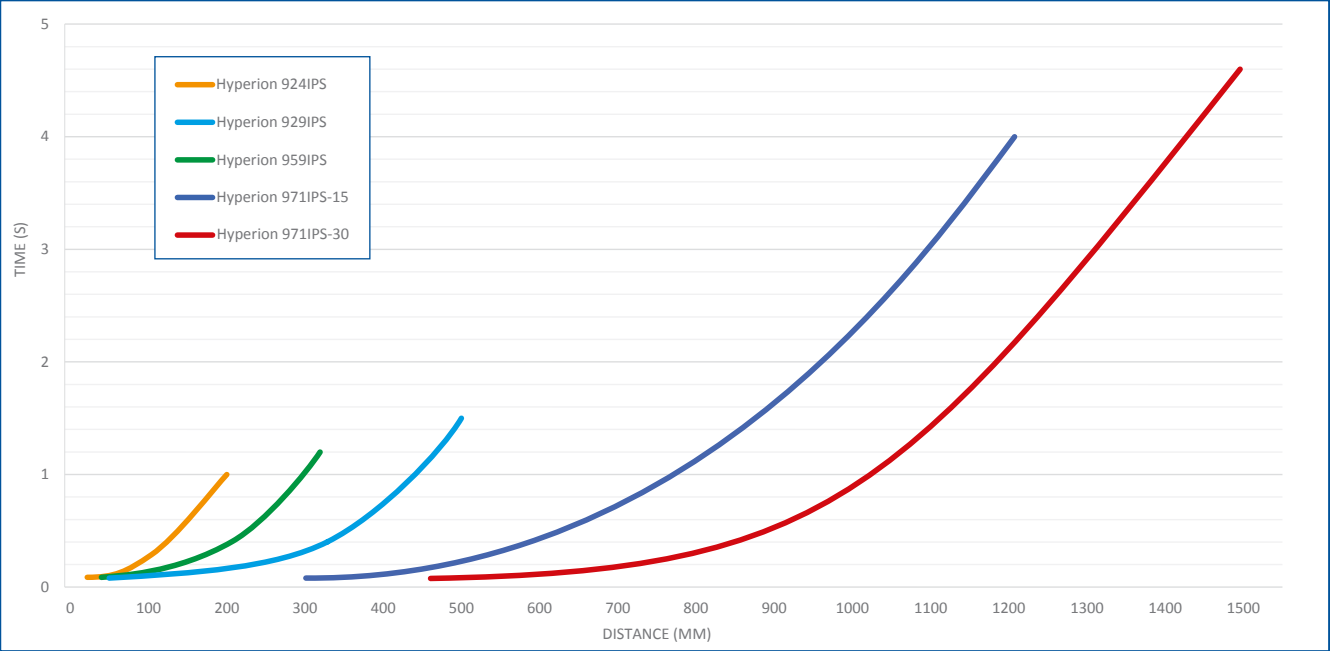
All Meech products have an optimum working distance. These distances vary between our products and the applications they are used in. The chart above highlights the optimum working distance for a range of our static control systems.

We have broken the ranges into 4 separate areas; close, mid, long and compressed air driven. Typically close range ionisation relies on lower output voltage, longer range

ionisation will require a higher voltage. For applications that require additional range compressed air boost can be added to certain bars.

The chart below indicates the decay time vs distance. The term decay time refers to the amount of time it takes to break down the appropriate electrostatic charge in order to provide a neutralised material. The distance is relative to how efficient the decay time is.

## Decay Time vs Distance



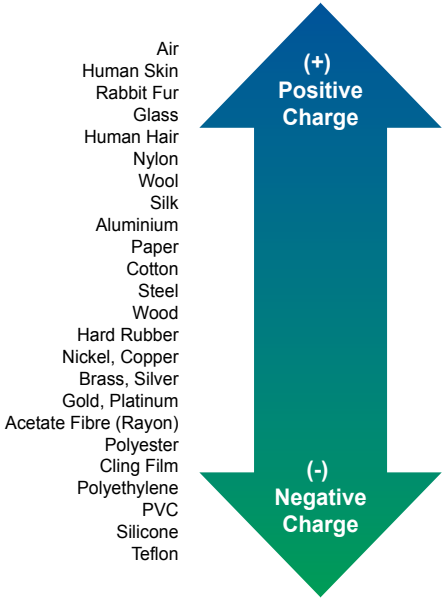
# MEASURING EQUIPMENT



## How to Measure Static?

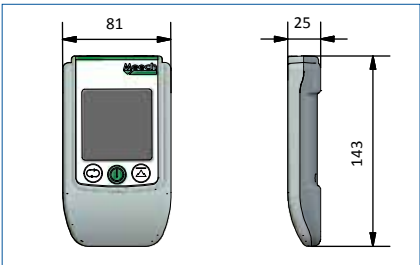
The range of Meech measuring equipment has been designed to provide accurate readings of electrical charges, the performance (both AC and DC) and the surface resistivity. These hand held devices are easy to use and vitally important to diagnosing static control issues.

The chart on the right shows the Triboelectric Series. This is a list of materials, showing which have a greater tendency to become positively charged (+) and which have greater tendency to become negatively charged (-). This is an extremely useful tool to determine which combinations of materials create the most static electricity.



## 983v2 Static Locator

The 983v2 Static Locator provides accurate measurement of electrostatic charges. Its design enables fast response, low drift and ease of operation. The 983v2 can operate in “Continuous” or “Peak Hold” mode to record changes in the level of charge or the highest charge detected respectively.



- In-built distance meter gives clear indication of optimum working range for consistent accurate readings.
- Compact design, easily fits into one hand and is hard wearing.
- Large easy to read LCD screen.

### Technical Characteristics

Measurement range	-200kV to +200kV
Accuracy	+/- 5%
Battery	2 x AA alkaline
Dimensions (H x W x D)	143 x 81 x 25mm
Weight	200g

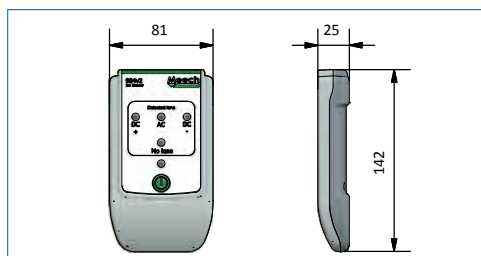




## 984v2 Ion Sensor

The 984v2 Ion Sensor is a device used for checking the performance of both AC and DC powered static elimination bars. Indicator lights confirm the presence of ions, and in the case of a DC power source, their polarity. Regular monitoring of installations with the 984v2 will indicate when bars require cleaning or other maintenance work.

- Simple to operate and will provide reproducible results.
- Avoids the need to remove the ionising bar for testing.
- Can be used on a range of both Meech and non-Meech AC and DC equipment.



### Technical Characteristics

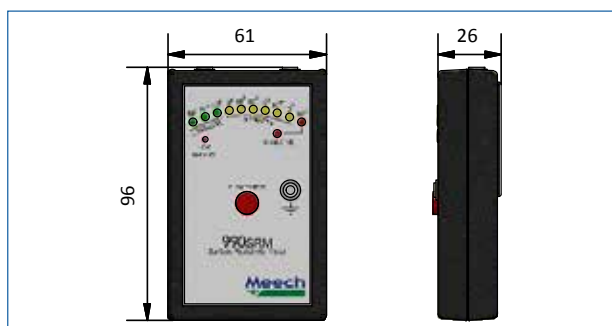
Indicator LEDs	Easy to operate
Battery	2 x AA alkaline
Dimensions	142x 81 x 25mm



## 990SRM Surface Resistance Meter

The 990SRM is a convenient, pocket-sized meter for measurement of surface resistivity and resistance to ground. It is a useful tool for testing materials for static charging applications and for diagnosing static electricity related problems.

- Measurement range of  $10^3$  to  $10^{12}$  Ohms per square.
- Accuracy of  $\pm \frac{1}{2}$  Decade.



### Technical Characteristics

Accuracy	+/-10%
Battery	9V
Dimensions	61 x 26 x 96mm
Weight	170g
Battery life	Over 40 hours of continuous use
Display	LED's- one per decade

## Options for Measuring Equipment



## 983v2 & 984v2 Test Kit

The 983v2 & 984v2 test kit gives operators & maintenance staff the ability to diagnose static related issues and monitor the performance of their ionising equipment. The test kit features both the 983v2 and 984v2 in an easy to carry, hard-wearing case.

# AC IONISING EQUIPMENT



## What is AC Static Elimination?

A normal mains 110/240V, 50/60Hz AC supply is increased by a special transformer to typically 7kV AC. This high voltage is carried by a shielded HV cable to the static eliminator, where it is connected to an array of emitter pins. This creates a high energy ion cloud, in which a

very large number of positive and negative ions are generated. As the AC cycle changes, either positive or negative ions are produced in approximately equal quantities. A statically charged surface of either polarity passing close to this ion cloud will be quickly neutralised.

## AC Applications

		Drinks Food Product Packaging Conveying & Product Handling Thermoforming Plastic Rigid Blow Moulding Plastics Film Extrusion Printing Sheet Printing Web Printing Other Converting Paper Textiles Bag Making Medical Pharmaceutical Cosmetics Electronics Clean Room Automotive Metal/Glass Processing															
Popular Application Example	Product	Food and Drinks				Rigid Plastics		Flexible Plastics	Printing			Converting		Pharma / Medical		Other	
Conveying Plastic Granules Activating Metal Detector	913 Flow Tube																
Bag Sealing Problems In Vertical Form Fill & Seal Machines	915 Ionising Bar																
Paper & Board Manufacture	915 Ionising Bar																
ESD & Contamination Control On Re-Winders With Lay-On Rollers	915 Ionising Bar																
Prevent Fibres Clinging To Combs On Textile Carding Machines	915 Ionising Bar																
Print Quality Problems With Ink Jet Printing On UPVC Extrusion	915 Ionising Bar																
Sheet Folder Dropping Sheets	915 Ionising Bar																
Tamper Seal & Shrink Sleeve Preventing Label Alignment Issues	915 Ionising Bar																
Vacuum Drum Labeller	915 Ionising Bar																
Warping Yarn Rewinder	915 Ionising Bar																
Post Press Sheeting Of A Paper Web	915 Ionising Bar																
Thermal Plastic Over Wrap	915 Ionising Bar																
Film Rewinding	935 Ionising Blower																
Pallet Wrapping	933 Ionising Blower																
Cleaning UPVC Profile Extrusion After Machining Or Pre Decoration	957 Ionising Air Curtain																
Door Seal Manufacturing Contamination Control	957 Ionising Air Curtain																
Thermoforming Contamination Control	957 Ionising Air Curtain																
Swarf & Contamination Control On Extruded Plastics	957 Ionising Air Curtain																
Tamper Seal Issues Due To Powder Inclusion In Seal	261v2 Flexi Nozzle, 912 Circular Ionising Bar																
Stacking Of Shingled Sheets On A Sheeting Machine	DC Ionising Guns and Nozzles, 915 Ionising Bar																
CyClone During Waste Reprocessing	913 Flow Tube, 912 Circular Ionising Bar and 935 Ionising Blower																
Super Calender	915 Ionising Bar																
Wicketing Machine Bagging Lines	915 Ionising Bar, 971 Ionising Bar																
Bottle Overwrapper Wrap Machine	935 Ionising Blower, 915 Ionising Bar, 971 Ionising Bar																
Thermoform Tray Delivery & Waste Rewind	935 Ionising Blower, 971 Ionising Bar																
Cleaning Containers	957 Ionising Air Curtain, 261v2 Ion Nozzle																
Injection Moulding	957 Ionising Air Curtain, 935 Ionising Blower, 971 Ionising Bar																
Blister Pack & Horizontal Filling	971 Ionising Bar, 915 Ionising Bar																
Tyre Manufacture	971 Ionising Bar, 935 Ionising Blower																
Tampo and Pad Printing	915 Ionising Bar																
High Speed Folding Stations Preventing Fold Alignment Errors	915 Ionising Bar																

# AC Power Units

Meech AC power supplies provide between a 3.5 and 7kV and are compatible with all Meech AC ionising equipment. Illuminated indicators allow easy monitoring of the units.

	904 Power Supply		905 Power Supply		Hyperion 906 Power Supply		Hyperion 907 Power Supply	
								
Input Voltage	110/240V AC				24V DC			
Output Voltage	7kV		5kV		Adjustable, 4-7kV			
Fault alert	Yes		Yes		Yes		Yes	
Cleaning alert	No		No		Yes		Yes	
Spark alert	No		No		No		Yes	
Dimensions	145 x 130 x 113mm				95 x 118 x 110mm			
Weight	3.4kg				2.2kg			
Output Frequency	50/60Hz				67Hz			
Input Frequency	50/60Hz							
Output Current	<5mA							
Max Input Current	1.3A				850mA			
Connection	IEC mains connector				Murr 4 pin M8, Earth terminal			
Output signal	Via Meech 900vs2				24V, Output Resistance 10kΩ			
Settings control	n/a				BarMaster			
Indicator	1 x HT LED				2 x Green/ red LEDs			
Scan QR Code for Operating Manual								

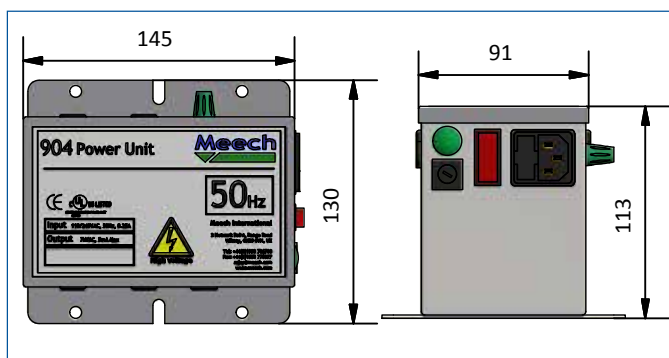




## 904 & 905 Power Supply

The 904 and 905 Power Supplies are constant voltage power supplies, designed to provide a 7kV (904) or 5kV (905) source for Meech AC ionising equipment. They are adjustable to operate at 100-120V or 200-240V input voltage and are available in either 50Hz or 60Hz versions to suit local conditions. They both incorporate a low voltage jack socket for connection of the 900vs2 High Voltage Sensor.

- Multiple connection ports that allow up to 4 ionisers to be connected to 1 power unit.
- Modified output wave form that allows more powerful neutralisation, lower electrical stress and increased reliability.
- Illuminated indicator for high voltage output, shows the system is operational and can also assist in ionising system diagnosis.
- Mains voltage selector switch allows easy selection of mains voltage.





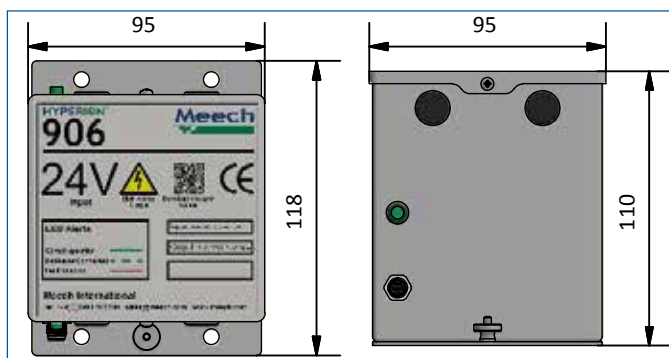
**HYPERION™**  
A Meech Innovation

## Hyperion 906 & 907 Power Supply

The Hyperion 906 & 907 are advanced AC power supplies. Compatible with all Meech AC Ionisers the 906 & 907 are powered by 24V DC and produce an adjustable output of up to 7kV AC.

Each unit will provide a high voltage connection for up to four ionisers. Ion Current Monitoring provides the operator with local and remote alerts when the ionising equipment needs cleaning.

- Universal 24V input voltage.
- Output voltage can be adjusted between 4 and 7kV.
- Easy to see LED indicators.
- HT failure Alert shows local and remote alert of damage or HT failure.
- Clean Pin alert gives local and remote instruction to clean the bar (Hyperion 907 only).
- Spark detection system will detect any problem as it happens (Hyperion 907 only).
- Balance adjustment allows AC ionisers (for the first time) to be had on sensitive electronics applications (Hyperion 907 only).



# AC Ionising Bars

Meech AC Ionising Bars are powered by external AC Power supplies. They offer 4.5 to 7kV AC output for short range ionisation. The resistive coupling makes them shockless and safe for operators.

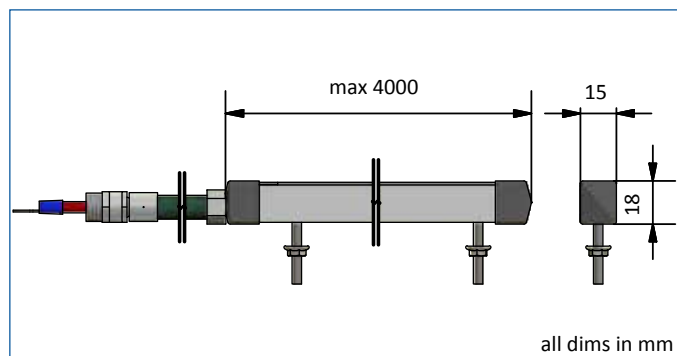
	914 Anti-Static Bar	915 Anti-Static Bar	910 Anti-Static Bar	912 Anti-Static Bar
				
<b>Dimensions (W x H)</b>	15mm x 18mm	18mm x 42mm	16mm x 20mm	21mm x 18mm
<b>Max. Length</b>	4000mm	4000mm	4000mm	Range from 30mm to 254mm internal dia
<b>Weight</b>	400g/ metre	1100g/ metre	750g/ metre	350g for 30mm internal dia
<b>Max. Temperature</b>	85°C	60°C	85°C	85°C
<b>Operating voltage</b>	5.0kV AC	4.5-7.0kV AC	7.0kV AC	7.0kV AC
<b>Operating current</b>	< 5mA			
<b>Cable</b>	2000mm			
<b>Construction</b>	Anodised aluminium and PVC			
<b>Emitters</b>	Titanium		Stainless steel	
<b>Mounting</b>	M4 x 20mm studs	M4 x 20mm studs	M4 x 20mm studs	n/a
<b>Optimum Working Distance</b>	25-100mm	30-150mm	15-30mm	15-30mm
<b>Scan QR Code for Operating Manual</b>				





## 914 Ionising Bar

The 914 AC Ionising Bar has been designed to meet the most arduous of static elimination problems, including those encountered in high speed web applications. The powerful performance provides very fast decay times and effective ionisation up to distances of 100mm. The 914 Ionising Bar is powered by the 905 Power Supply.



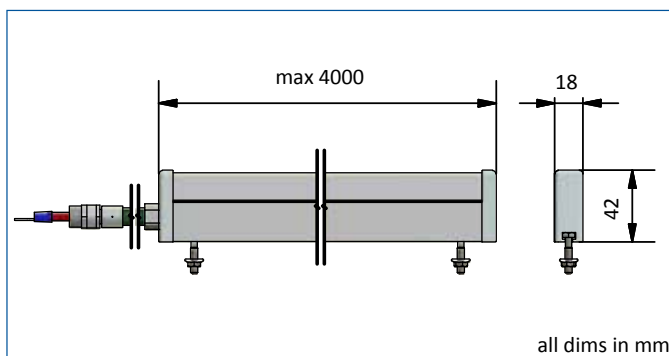
- Powerful and intense ion production leads to fast decay times.
- Slim profile means the 914 bar can fit where space is limited.
- Resistively coupled emitter pins ensures the 914 bar is completely shockless.
- Sharp titanium emitter pins reduce pin contamination and extend life of bar.



## 915 Ionising Bar

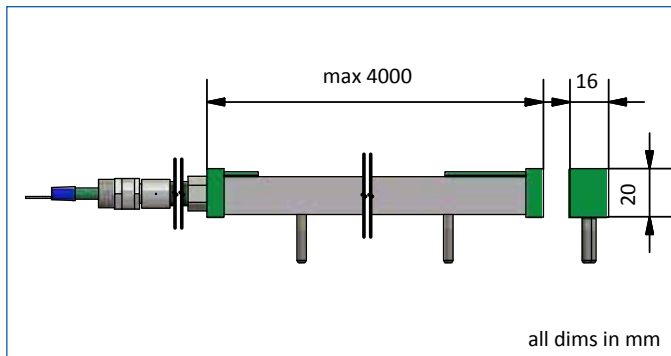
The 915 AC Ionising Bar has been designed to meet the most arduous of static elimination problems, including those encountered in high speed web applications. The powerful performance provides very fast decay times and effective ionisation up to distances of 150mm. The 915 Ionising Bar is powered by the 904 Power Supply.

- Powerful and intense ion production leads to fast decay times.
- Extended range performance offers flexibility in positioning.
- Slim profile means the 915 bar can fit where space is limited.
- Resistively coupled emitter pins ensures the 915 is completely shockless.
- Sharp titanium emitter pins reduce pin contamination and extend life of bar.
- The 915 bar is designed to be quick and easy to maintain.



## 910 Ionising Bar

The 910 Ionising bar incorporates an inductively coupled design that achieves powerful static neutralisation with completely shockproof operation. The design is compact, yet rugged enough for most industrial applications. The 910 Ionising Bar is powered by the 904 Power Supply.



- Powerful and intense ion production leads to fast decay times making it perfect for fast web speeds.
- Slim profile means the 910 bar can fit where space is limited.
- Short-circuit proof, bar will still perform even when one electrode is accidentally earthed.
- Sealed versions available for use in harsh environments.

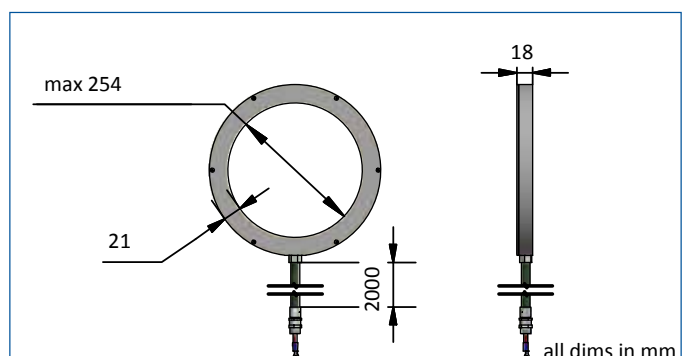
## 912 Ionising Bar

The 912 circular static eliminator is based on the popular 910 Ionising Bar.

The inductively coupled design provides powerful static neutralisation and completely shockproof operation. The 912 Ionising Bar is powered by the 904 Power Supply and is suitable for applications where 360° neutralisation is required.



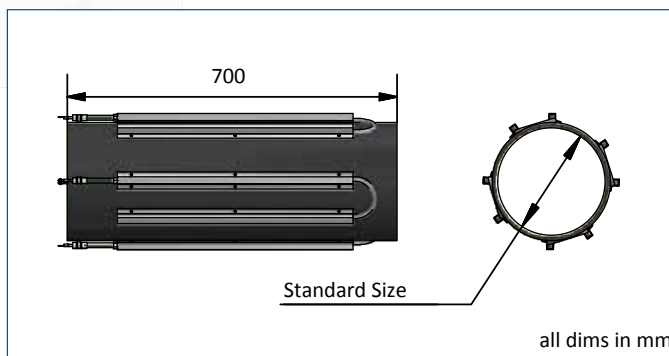
- Suitable for applications that requires complete 360° ionisation.
- Powerful and intense ion production leads to fast decay times.
- Short-circuit proof, bar will still perform even when one electrode is accidentally earthed.



## 913 Flow Tube

The 913 Flow Tube neutralises static charges on materials in handling and conveying systems. It incorporates in-line ionisation, which eliminates material clinging and clogging in ducting systems due to static charges. The 913 Flow Tube is powered by 905 power supply and is provided in a range of diameters to fit most of the industrial standard installations.

- Available in a range of diameters to easily incorporate into existing ducting.
- Highly effective neutralisation of static charges  
Allows product to flow freely, thereby preventing clogging and improving productivity.

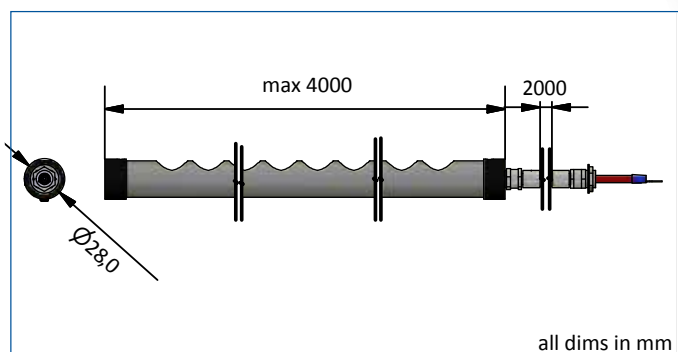


## 925 High Temperature Bar

The Meech 925 is an AC Ionising bar, designed to eliminate static in high temperature applications. With a maximum operating temperature of 150°C, the 925 can be mounted in areas not suitable for standard AC ionising bars.

The powerful performance of this anti-static bar provides very effective neutralisation of static charges at distances up to 100mm.

The emitter pins of the 925 are directly coupled to the HT output of the 905 power supply. The 905 has a maximum output current of 5mA; an internationally recognised safe current.



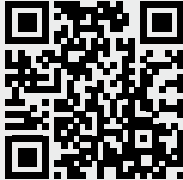


- Very fast decay times makes the 925 effective for fast web speeds.
- To ease maintenance and increase service life, the 925 has a detachable cable assembly. This allows the bar to be removed from the machine for cleaning operations on installations that make in-situ cleaning difficult.
- Slim profile means the 925 can be fitted in restricted spaces.



# AC Ionising Blowers & Air Curtains

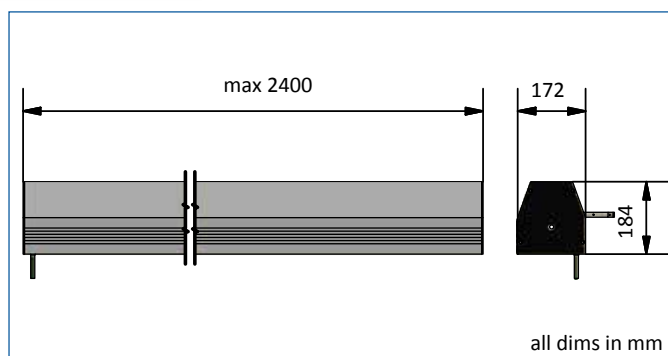
Meech AC Ionising Blowers and Air Curtains provide ionisation over longer and wider areas. Ionisation is boosted by either a fan or compressed air system.

	935 Ionising Blower	957 Ionising Air Curtain
		
<b>Dimensions</b>	172 x 184 x up to 2400mm	28 x 62.8 x up to 1800mm
<b>Weight</b>	4.5kg per 400mm length	2.65kg/1m length
<b>Input Voltage</b>	110/240V AC	
<b>Output Voltage</b>	7kV	
<b>Input Frequency</b>	50/60Hz	
<b>Short Circuit Current</b>	<5mA	
<b>Compressed Air consumption</b>	n/a	43cfm(122l/min)@80psi / 1000mm 5.4 Bar per 25mm
<b>Compressed air connection</b>	n/a	1/4" BSP female
<b>Max. Temperature</b>	60°C	85°C
<b>Mounting</b>	Steel fixing brackets supplied with each unit	M4 Stud
<b>Cable length</b>	3000mm	2000mm
<b>Connection</b>	IEC mains connector	Crimp terminal / 1/4" BSP
<b>Settings control</b>	Fan speed	n/a
<b>Optimum Working Distance</b>	200- 1500mm	50-300mm
<b>Scan QR Code for Operating Manual</b>		

## 935 Ionising Blower

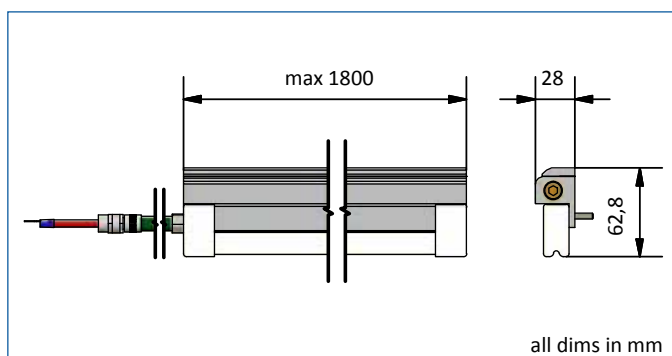
The 935 Ionising Blower provides effective long range ionisation. The Blower comprises an ionisation head and an integrated fan system. A high volume flow of ionised air is generated by blowing air through the ionisation head. Ionisation is provided by powerful 915 Ionising Bars and powered by the 904 Power Supply.

- Available in 110V and 240V versions.
- Resistively coupled ionisation head for shockless operation.
- High volume air flow provides effective long range ionisation.
- Available in 200mm length increments for wide range of applications.
- Variable fan speed (option) to suit specific application.



## 957 Ionising Air Curtain











The 957 Ionising Air Curtain provides effective static neutralisation and dust removal in a wide range of industrial applications. The unit comprises a powerful Model 915 ionising bar mounted on to an Energy Saving Air Curtain. The 957 Ionising Air Curtain requires a compressed air supply and is powered by the 904 Power Supply.



- Laminar air flow reduces recontamination and effective range.
- Air Curtain removes dust contamination and reduces air consumption.
- Easy maintenance to optimise performance and increase equipment life.

# AC Ionising Guns & Nozzles

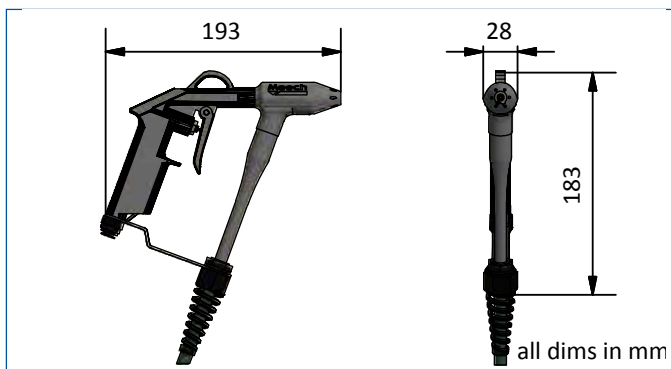
Meech AC Ionising Guns and Nozzles use compressed air to offer dust removal as well as neutralising any static charge.

	954v2 Ionising Gun	954v2 Ionising Nozzle	940 Ionising Nozzle	942 Ionising Nozzle	942F Flexi Nozzle
					
<b>Dimensions</b>	193 x 183 x 28mm	71 x 26 x 28mm	56 x 29 x 25mm	32 x 32 x 55mm	32 x 32 x 55mm Trunking (standard) - 118mm long
<b>Output Voltage</b>	7kV	7kV	5kV	5kV	5kV
<b>Weight</b>	490g	215g	200g	230g	240g
<b>Input Frequency</b>	50/60Hz				
<b>Input Voltage</b>	110/240V AC				
<b>Cable length</b>	3 metres of H.T. cable in flexible conduit as standard	2 metres of H.T. cable in flexible conduit as standard	made to order	3 metres of H.T. cable in flexible conduit as standard	3 metres of H.T. cable in flexible conduit as standard
<b>Compressed Air Consumption</b>	4cfm at 1 bar	5.5cfm at 1 bar	4cfm at 1 bar	9cfm at 1 bar	9cfm at 1 bar
<b>Compressed air connection</b>	6mm push-in fitting	1/4" BSP	1/8"	1/2"	1/2"
<b>Short Circuit Current</b>	<5mA				
<b>Max. Temperature</b>	85°C				
<b>Optimum Working Distance</b>	up to 500mm				
<b>Scan QR Code for Operating Manual</b>					



## 954v2 Ionising Gun

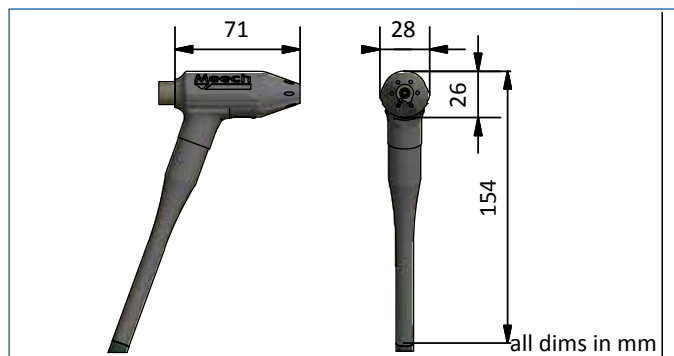
The 954v2 Ionising Gun is the latest evolution of hand held air assisted ionising guns from Meech. Designed to neutralise static charges and remove dust contamination, the 954v2 has decay times 60% faster than the previous model.



- Unique nozzle design offers more effective ionisation performance and reduced noise levels.
- Resistively coupled ionisation head for shockless operation.
- 945v2 meets dead-end pressure safety guidelines.
- Ergonomic, lightweight design making it comfortable for prolonged use.
- Decay rates 60% faster than the previous 954 Ionising Gun.

## 954v2 Shockless Ionising Nozzle

The 954v2 Nozzle is designed to neutralise static charges and remove dust contamination. It includes a 1/4" BSP threaded fitting for easy connection to any air supply.



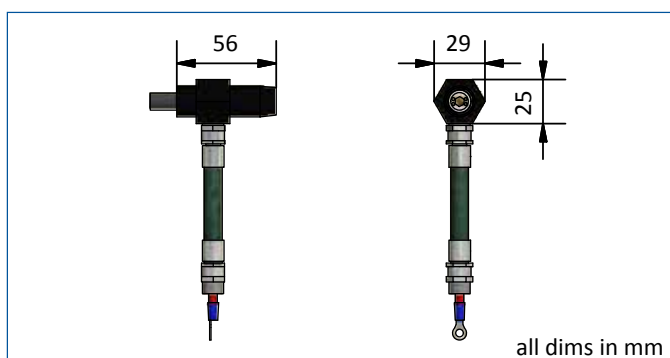
- Unique nozzle design offers more effective ionisation performance and reduced noise levels.
- Resistively coupled ionisation head for shockless operation.
- 945v2 meets dead-end pressure safety guidelines.
- Decay rates 60% faster than the previous 954 Ionising Nozzle.

## 940 Ionising Nozzle

The 940 Ionising Nozzle is available as a single unit (Blank End) or with two or more units connected in series (Through Type). Powered by a 905 Power Supply the 940 Nozzle is suitable for applications requiring the removal of electrostatically attracted dust and for longer range static neutralisation.

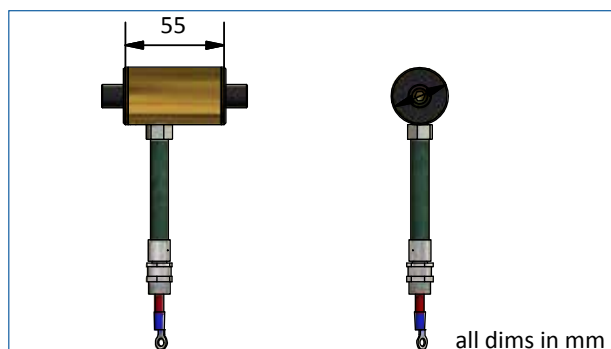


- Easy maintenance with minimum downtime.
- Air consumption of 16cfm (453 l/min) @ 100 psi (6.9 Bar).
- Small and compact so will easily fit into confined spaces.



## 942 Ionising Nozzle & 942F Flexi Nozzle

The 942 is a small, lightweight in-line ionising air nozzle. It can be used either as a single unit (Blank End) or with two or more units connected in series (Through Type). The 942F includes a length of flexible knuckle trunking. They are particularly suited to applications on sheet feeder and delivery systems. The 942 and 942F are powered by the 905 Power Supply.



- Highly efficient air flow characteristics.
- Rapid decay times.
- Easy maintenance with minimum downtime.
- Small and compact so will easily fit into confined spaces.



# Options for AC Equipment



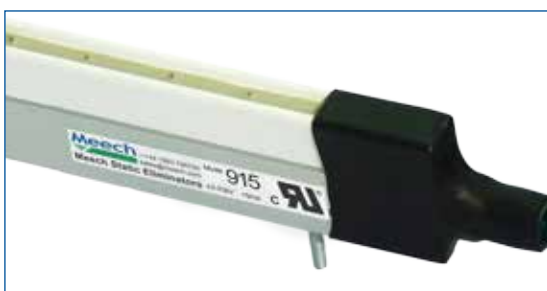
## 900vs2 High Voltage Sensor

The 900vs2 is a high voltage sensor designed to monitor the high voltage output of Meech AC power units. Operating status is displayed via LED's. Relay outputs allow connection to remote indicator lamps or alarms. The 900vs2 is powered directly from the 904 or 905 Power supply.



## Dust Proof for 915 Bars

For installation in dirty or dusty environments the dust proof option improves resilience of the bar.



## Water Resistant

A water resistant option allows the installation of bars where routine machine cleaning can cause them to be splashed.



## Air Assist

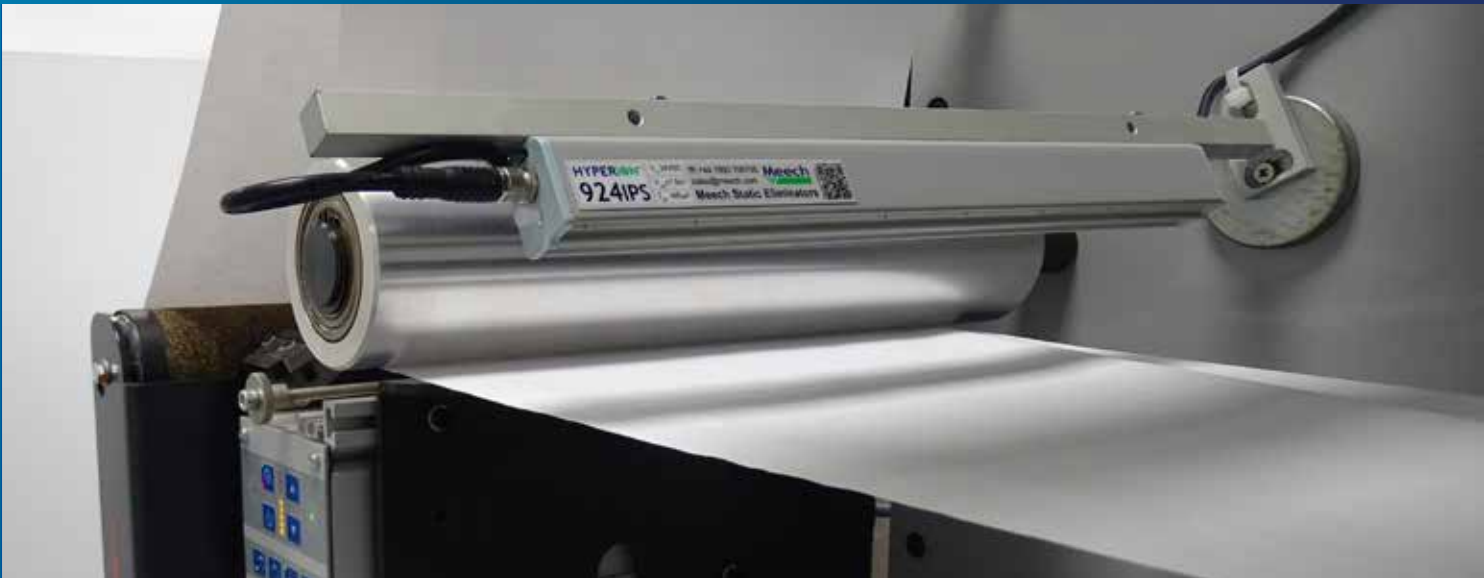
The effective range of bars can be increased by the addition of an air-boost system. The air assist option is suitable for 914 or 915 ionising bars.



## 900-HTCON In-line Connector for AC Bars

On machinery where AC bars need to be disconnected periodically, the quick connect options provides a simple solution. The connector can be used to provide a quick disconnect system for ionising bars or can be used to overcome problematic bar installations where machine bulk heads make cable routing difficult.

# DC IONISING EQUIPMENT



## What is DC Static Elimination?

DC technology allows control of frequency and ion balance (the relative proportion of positive and negative ions). Mains voltage is transformed into high voltage that is split into positive and negative outputs and connected to dedicated emitters. Alternating clouds of positive and negative ions are produced in accordance with

the chosen frequency setting (between 0.5 and 20Hz). The lower frequencies allow longer distance ionisation to be achieved in still air whilst the balance control allows the ion output to be adjusted to suit the charge polarity on the target.

## DC Applications





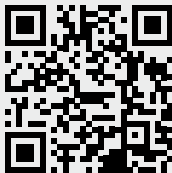

DC Applications

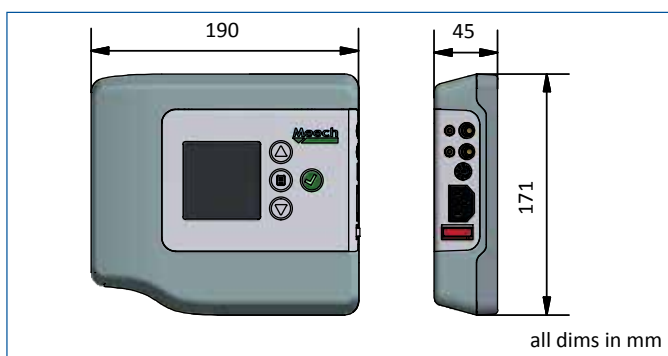
		<div>DrinksFoodProduct PackagingProduct HandlingThermoformingPlastic RigidBlow MouldingPlastics Film ExtrusionPlastics Film ConvertingPrinting SheetPrinting WebPrint FinishingConverting PaperTextilesBag MakingMedicalPharmaceuticalCosmeticsElectronicsClean RoomAutomotiveMetal/Glass Processing</div>																	
Popular Application Example	Product	Food and Drinks				Rigid Plastics		Flexible Plastics		Printing		Converting		Pharma / Medical		Other			
Preventing Blockages During Air Conveying Of Waste Trim	261 Bulkhead																		
Components Sticking To Vibrating Bowl Feeder	971 Ionising Bar																		
Contamination & ESD Control During Conveying & Collection Of Plastic Parts	971 Ionising Bar																		
Static On A Plastic Web During Rewinding Process	971 Ionising Bar																		
Conveying & Palletising Of Bottles	971 Ionising Bar																		
Weighing Or Assembly Of Small Parts	971 Ionising Bar																		
Electronic Weighing Scales	971 Ionising Bar																		
Slitter Rewinding Machines	971 Ionising Bar																		
Alignment Of Parisons During Small Bottle Manufacture	261v2 Flexi Nozzle																		
Preventing Damage Or Weakening Of RFID Tags Due To ESD	261v2 Flexi Nozzle , 971																		
Tamper Seal Issues Due To Powder Inclusion In Seal	261v2 Flexi Nozzle, 912 Circular Ionising Bar																		
Stacking Of Shingled Sheets On A Sheeting Machine	DC Ionising Guns and Nozzles , 915 Ionising Bar																		
Air Conveyor Diverter Valves	261v2 Bulkhead Ion Nozzle																		
Issues With Self-Adhesive Labels	261v2 Flexi Nozzle																		
Window Patcher Film Sticking To Knife & Rollers	Hyperion 924IPS Bar																		
Neutralising Static Generated While 3D Printing	Hyperion 929IPS Bar																		
Cans On Plastic Conveyors	Hyperion 929IPS Bar																		
Electrical Cable Manufacturing	Hyperion 929IPS Bar																		
Bottle Overwrapper Wrap Machine	935 Ionising Blower, 915 Ionising Bar, 971 Ionising Bar																		
Thermoform Tray Delivery & Waste Rewind	935 Ionising Blower, 971 Ionising Bar																		
Cleaning Containers	957 Ionising Air Curtain, 261v2 Ion Nozzle																		
Injection Moulding	957 Ionising Air Curtain, 935 Ionising Blower, 971 Ionising Bar																		
Blister Pack & Horizontal Filling	971 Ionising Bar, 915 Ionising Bar																		
Conveyer Problems With Plastic Blow Moulded Bottles	971 Ionising Bar, Hyperion 929IPS Bar																		
Tyre Manufacture	971 Ionising Bar, 935 Ionising Blower																		
Blow Moulding Parison Misalignment	971 Ionising Bar, Hyperion 971IPS Bar, Hyperion 929IPS Bar																		
ESD Damage Or Weakening Of RFID Tags During Die Cutting	971 Ionising Bar, 977CM DC Controller, 261v2 Flexi Nozzle																		
Stenter Flaker Machines	Hvnerion 971IPS Bar																		



# DC Controllers

The Meech DC power supplies provide a power source for all DC Ionising equipment (excluding the Hyperion Range). The Power Units feature either an LCD display screen or a series of LED lights.

	977CM DC Controller	977HL DC Controller	233v3 DC Controller
			
<b>Input Connection</b>	IEC Socket C13	IEC socket C13	2.5mm jack socket
<b>Input voltage</b>	100 V - 250 V AC/ 24V DC	100 V - 250 V AC	24V DC
<b>Input current</b>	40 mA maximum	40 mA maximum	200mA maximum
<b>Input frequency</b>	45 - 65 Hz	45 - 65 Hz	n/a
<b>Dimensions</b>	190 x 171 x 45mm	190 x 171 x 45mm	158 x 95 x 37mm
<b>Weight</b>	600 g	600g	300g
<b>Enclosure</b>	ABS; fire retardant - UL94: V0	ABS, fire retardant - UL94: V0	ABS
<b>Max. Temperature (LCD)</b>	45°C	45°C	60°C
<b>Output voltage</b>	up to 15kV	up to 9.6kV	4-8kV
<b>Output frequency</b>	1Hz - 20Hz	1Hz - 20Hz	0.5 - 20Hz
<b>Output balance</b>	20/80 to 80/20 Positive/Negative		
<b>Output current</b>	120µA		
<b>Alarm Relay</b>	Connection via 8-way DIN	Connection via 8-way DIN	Connection via 8-way DIN
<b>Remote HV switch</b>	3.5mm jack plug	3.5mm jack plug	3.5mm jack plug
<b>Compressed air connection</b>	N/A	N/A	6mm push-in fitting
<b>Scan QR Code for Operating Manual</b>			



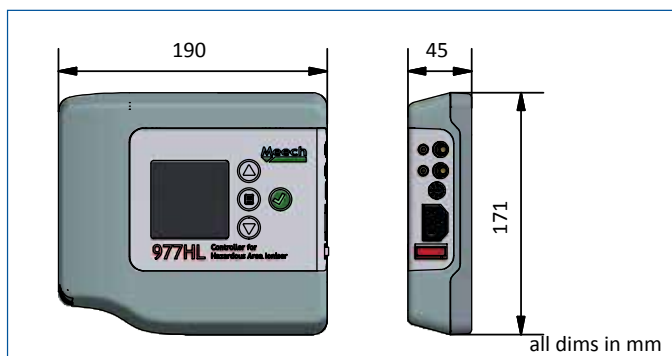
## 977CM DC Controller

The 977CM (Current Monitoring) Pulsed DC Controller brings together powerful long-range ionisation; closed-loop feedback; self-monitoring and remote reporting. These features allow optimum control of static for much longer periods than previously possible.

- Ion Current Monitoring and control maintains optimum performance for longer periods.
- 20/80 to 80/20 balance adjustment.
- The adjustable alarm setting gives notice of required maintenance.
- Integral feedback simplifies and reduces overall cost of 'Closed Loop' feedback installation.
- Internal switchmode power supply accommodates all standard AC supplies worldwide.
- Remote on/off allows simple interlocking with the machines running state.
- Analogue outputs allows easy remote logging of performance and residual balance.

## 977HL DC Controller

The 977HL Pulsed DC controller is used with the Meech 976EX hazardous area ionising bars. In-built performance monitoring guarantees that the operator can keep the ionising system running effectively: ensuring correct static control in critical applications.

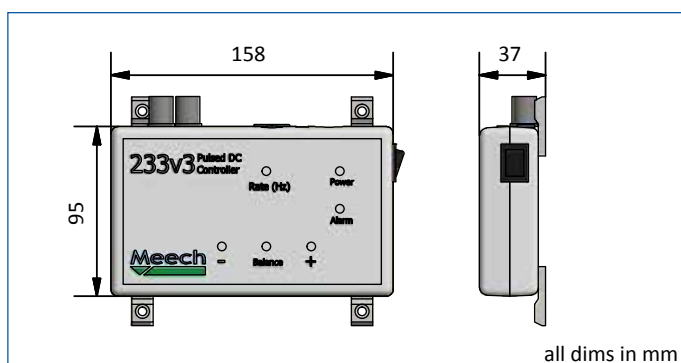


- All the benefits of standard 977CM DC Controller.
- Suitable for use with hazard area ionisers.
- Enclosure – ABS, fire retardant – UL94: V01.



## 233v3 DC Controller

The 233v3 Pulsed DC Controller works with the Meech Cleanroom 200 series of ionisers and is designed for ESD applications. The 233v3 is light, compact and features lockable plug and socket connectors for quick release. It also provides the option of Steady State DC (SSDC) output.





- Extended pulse rate/frequency range.
- Extended balance adjustment.
- Integral air connections; allows easy tidy connection of air supply pipe(s).
- Built in alarm circuit; detection of a fault in the ionisation system results in automatic shutdown.
- Provision for remote alarm indicator and 24V supply (through 8-way DIN connector). Enables system installations to be monitored from remote locations.
- Provision for remote on/off allows simple interlocking with the machines running state.
- SSDC output option; provides tight balance in applications where air flow is required.



# DC Ionising Bars

Meech DC Ionising Bars are powered by either a 24V integrated Power Supply (IPS) or from an external DC Power supply. Included is the powerful and flexible Hyperion Range, packed with features the Hyperion range of Ionising bars have been developed for today's modern, fast moving equipment.

	Hyperion 924IPS	Hyperion 929IPS	Hyperion 971IPS-15	Hyperion 971IPS-30	971 Ionising Bar
					
<b>Dimensions (W x H)</b>	22mm x 31mm	25mm x 45mm	63mm x 69mm	63mm x 69mm	63mm x 69mm
<b>Max. Length</b>	3960mm	2965mm	3950mm	3950mm	4000mm
<b>Weight</b>	900g/metre	900g/metre	1.2kg/metre	1.2kg/metre	1.2kg/metre
<b>Construction</b>	FR ABS	PVC/FR ABS	FR ABS	FR ABS	FR ABS
<b>Input Current</b>	Max 500mA	Max 500mA	Max 500mA	Max 500mA	Via 977CM
<b>Input Voltage</b>	24V DC	24V DC	24V DC	24V DC	max 15kV
<b>Output Voltage</b>	3-7.5kV DC	+/- 10kV DC	+/- 15kV DC	+/- 30kV DC	+/- 15kV DC
<b>Electrical Connection</b>	4 Pole M8	4 pole M8	4 pole M8	4 pole M8	Via 977CM
<b>Output Balance</b>	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg
<b>Environmental Protection</b>	IP66	IP66	IP64	IP64	IP64
<b>Output Frequency</b>	1Hz to 20Hz				
<b>Max Ambient Temperature</b>	60°C				
<b>Mounting</b>	'T' Slot with M4 x 20mm studs				
<b>Emitters</b>	Titanium				
<b>Air Boost Connection</b>	n/a	n/a	6mm push-fit	6mm push-fit	6mm push-fit
<b>Air Consumption</b>	n/a	n/a	5cfm/ 1000mm at 1 bar	5cfm/ 1000mm at 1 bar	5cfm/ 1000mm at 1 bar
<b>Optimum Working Distance</b>	20-200mm	100-500mm	300-900mm (1200 with Airboost)	450-1200mm (1500 with Airboost)	150-750mm (1050 with Airboost)
<b>Scan QR Code for Operating Manual</b>					

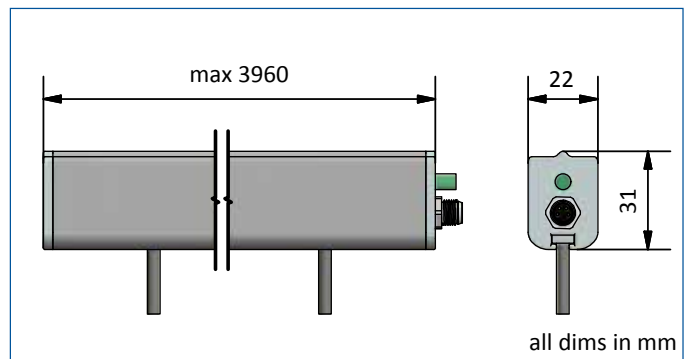




## Hyperion 924IPS Bar

The Hyperion 924IPS is the most compact pulsed DC bar available on the market. Designed for short range applications, the 924IPS is powered by an internal 24V DC power supply. The 924IPS features Meech's Ion Current Monitoring (ICM) technology, this ensures performance is maintained with local and remote alerts when the bar needs cleaning. Fully BarMaster compatible, the output voltage, frequency and balance can all be adjusted.

- Optimum working distance of 20-200mm suitable for short range applications.
- Compact size and full length ionisation.
- Low voltage 24V DC supply removes the need for high voltage wiring to the ionising bar.
- Integrated Power Supply (IPS) simplifies installation and reduces the overall size of the bar.
- Adjustable voltage, frequency and balance optimises the ionising bars performance.
- IP66 Construction makes the bar suitable for harsh environments.
- Remote output signal will activate when bar needs cleaning or a fault has been detected.
- Fully BarMaster compatible.

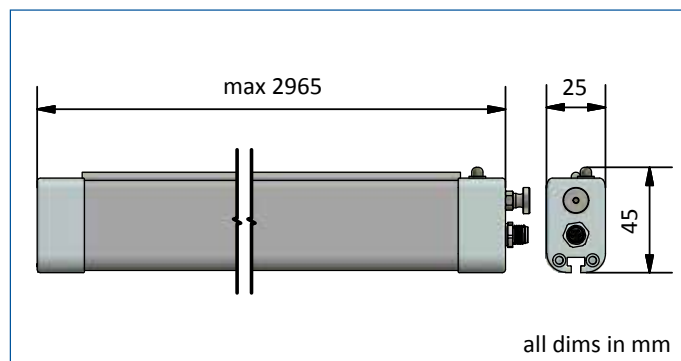




## Hyperion 929IPS Bar

The Hyperion 929IPS is a compact mid-range pulsed DC ionising bar. Powered by an internal 24V DC power supply the 929IPS is designed to be easily installed onto printing and converting machinery. The class-leading +/-10kV pulsed DC output provides extremely powerful ionisation. The bar features Meech's Ion Current Monitoring (ICM) technology, this ensures performance is maintained with local and remote alerts cleaning is required.

- Optimum working distance of 100-500mm suitable for mid-range applications.
- Low voltage 24V DC supply removes the need for high voltage wiring to the ionising bar.
- Integrated Power Supply (IPS) simplifies installation and reduces the overall size of the bar.
- Adjustable voltage, frequency and balance optimises the ionising bars performance.
- IP66 Construction makes the bar suitable for harsh environments.
- Remote output signal will activate when bar needs cleaning or a fault has been detected.
- Fully BarMaster compatible.

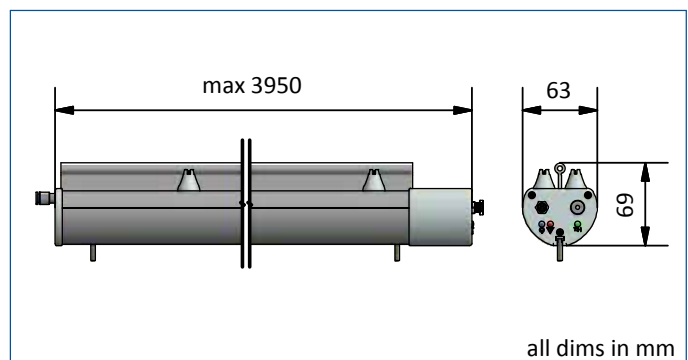




## Hyperion 971IPS-15 Bar

The Hyperion 971IPS-15 is a pulsed DC ionising bar. Powered by a +/- 15kV 24V DC Integrated Power Supply (IPS), the 971IPS-15 provides excellent long range ionisation. Designed to be easily installed, the 971IPS-15 eliminates the need for high voltage cabling. The bar features Meech's Ion Current Monitoring (ICM) technology, this ensures performance is maintained with local and remote alerts when the bar needs cleaning.

- Optimum working distance of 300-900mm (1200mm with air boost) suitable for long range applications.
- Low voltage 24V DC supply removes the need for high voltage wiring to the ionising bar.
- Integrated Power Supply (IPS) simplifies installation and reduces the overall size of the bar.
- Adjustable voltage, frequency and balance optimises the ionising bars performance.
- Remote output signal will activate when bar needs cleaning or a fault has been detected.
- Fully BarMaster compatible.
- Integrated air boost can be used to offer ionisation at longer distances.

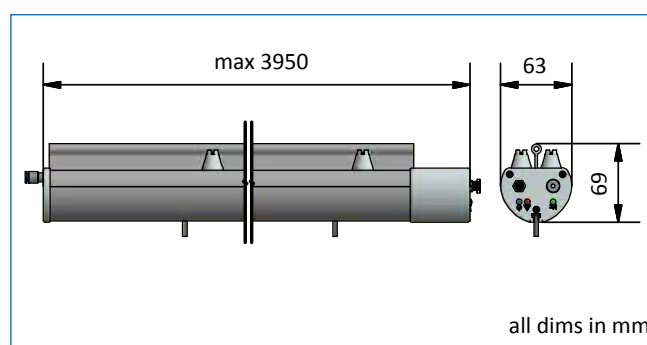




## Hyperion 971IPS-30 Bar

The Hyperion 971IPS-30 is the latest addition to the Hyperion range and the most powerful bar Meech have ever produced. Powered by a +/- 30kV 24V DC Integrated Power Supply (IPS), the 971IPS-30 provides excellent extra-long range ionisation. Designed to be easily installed, the 971IPS-30 eliminates the need for high voltage cabling. The 971IPS-30 features Meech's Ion Current Monitoring (ICM) technology, this ensures performance is maintained with local and remote alerts when the bar needs cleaning.

- Optimum working distance of 450-1200mm (1500mm with air boost) suitable for long range applications.
- Low voltage 24V DC supply removes the need for high voltage wiring to the ionising bar.
- Integrated Power Supply (IPS) simplifies installation and reduces the overall size of the bar.
- Adjustable voltage, frequency and balance optimises the ionising bars performance.
- Remote output signal will activate when bar needs cleaning or a fault has been detected.
- Fully BarMaster compatible.
- Integrated air boost can be used to offer ionisation at longer distances.

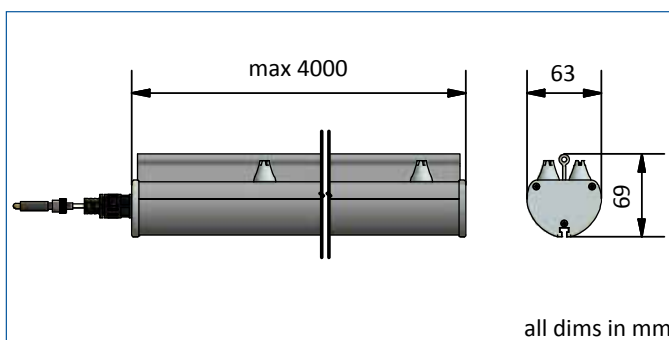




## 971 Ionising Bar

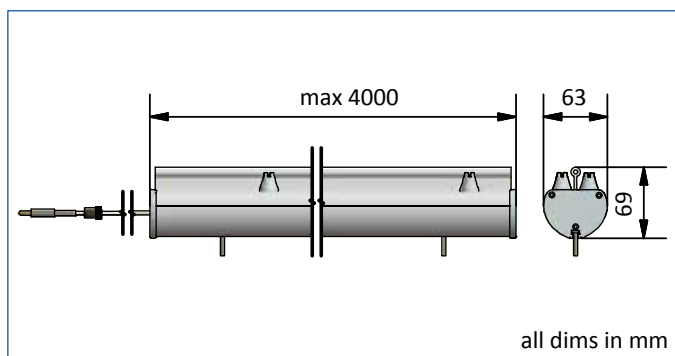
The 971 Pulsed DC bar delivers powerful, long range ionisation to control static electricity on a wide range of printing, converting and process machinery. Its great long range ability makes it ideal for use on applications such as rewinds and collection bins. The design has been optimised to reduce the effects of contamination and to allow easy maintenance.

- Powerful long range ionisation offers excellent static control on modern, fast machinery.
- Rigid profile minimises the number of mounting points required.
- Resistive coupling means the bar is safe for operators to handle.
- Titanium emitter pins- hard wearing and easy to clean.
- Replaceable emitter pins allows periodic replacement to extend the life of the bar.
- Integrated air boost can be used to offer ionisation at longer distances.



## 242 Ion Bar

The 242 Ion Bar delivers powerful, long range ionisation on assembly benches and ESD applications. Its long range ability makes it ideal for use on applications such as phone and PC assembly or repairs. The design has been optimised to reduce the effects of contamination and to allow easy maintenance. The 242 Ion Bar is part of the Meech Cleanroom 200 series.



- Powerful Long range ionisation.
- Rigid profile minimises the number of mounting point required.
- Resistive coupling make it safe for operators to handle.

# DC Ionising Blowers and Air Curtains

Meech DC Ionising Blower and Air Curtains are powered by either a 24V integrated Power Supply (IPS) or from an external DC Power supply. The DC Blower and Air Curtains include products from the Cleanroom 200 product range and the Hyperion Range.

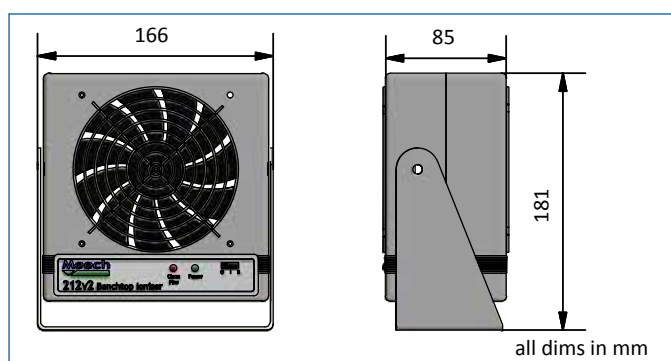
	212v2 Benchtop Ioniser	221 & 225 Ionising Blowers	Hyperion 959IPS
			
<b>Dimensions</b>	166 x 181 x 85mm	200 x 100 x 600 or 1200mm	28 x 55 x up to 1800mm
<b>Weight</b>	860g	4.7kg/600mm; 9.3kg/1.2m	2.7kg/1m length
<b>Construction</b>	FR ABS	Powder Coated Steel	FR ABS / Aluminium
<b>Mounting</b>	n/a	Mounting bracket	M4 x 20mm studs
<b>Emitters</b>	Titanium	Titanium	Titanium
<b>Input Current</b>	Max 500mA	Max 500mA	Max 500mA
<b>Input Voltage</b>	24V DC	220V	24V DC
<b>Output Voltage</b>	3-7.5kV DC	+/- 10kV DC	+/- 7.5kV DC
<b>Electrical Connection</b>	24V power jack	IEC	4 Pole M8
<b>Output Frequency</b>	1Hz to 20Hz		
<b>Output Balance</b>	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg	80:20 to 20:80 Pos:Neg
<b>Max Ambient Temperature</b>	60°C	60°C	60°C
<b>Air Boost Connection</b>	n/a	n/a	1/4" BSP female
<b>Air Consumption</b>	n/a	n/a	43cfm(122l/min)@80psi / 1m 5.4 Bar per 25mm
<b>Optimum Working Distance</b>			50-300mm
<b>Scan QR Code for Operating Manual</b>			



## 212v2 Benchtop Ioniser

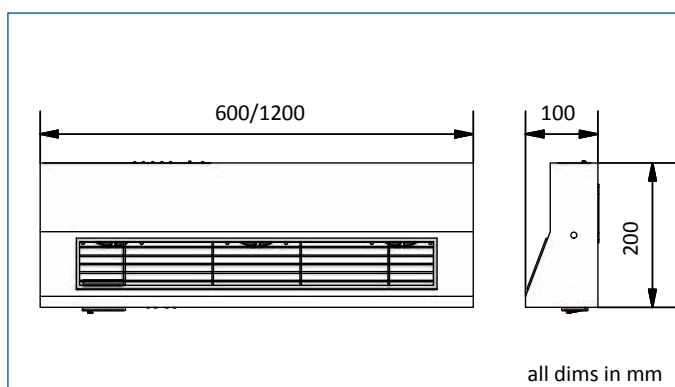
The 212v2 Benchtop Ioniser is a compact unit that provides excellent work station coverage and a high level of ESD protection. Designed to prevent possible ESD damage in sensitive electronic applications. The 212v2 is part of the Meech Cleanroom 200 series.

- Balanced ionisation (Typically +/- 10v) prevents ESD damage.
- Dirty pin indicator and audible alarm helps to maintain balanced ionisation and informs operator when maintenance is required.
- Removable pins makes maintenance and cleaning easy.
- Two fan settings that can be set for optimum operator comfort and ionisation range.



## 221 & 225 Ionising Blowers

The 221 & 225 Ionising Blowers provide a high level of ESD protection with excellent workstation coverage. The 221 Blower is the entry level model, whereas the 225 Blower is provided with an extensive range of features and options. Both the 221 & 225 are part of the Meech Cleanroom 200 series.



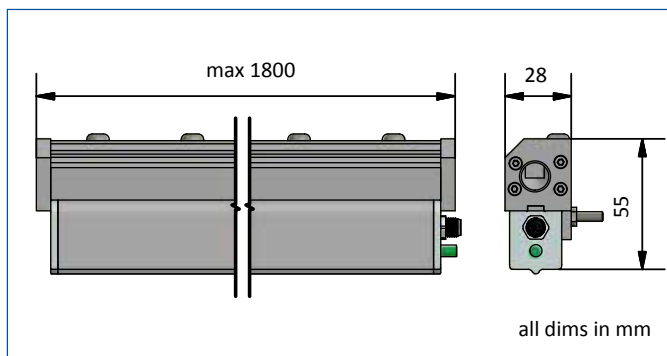
- Balanced ionisation (typically +/- 10v) prevents ESD damage.
- Dirty pin indicator and audible alarm informs operator when maintenance is required.
- Three fan settings that can be set for optimum operator comfort and ionisation range.
- Auto tracking alarm- Ensures that alarms are set at the correct levels.
- Clear indication of blower status (225 Blower only).
- Auto Shutdown when an out of balance or dirty pin condition is encountered (225 Blower only).



## Hyperion 959IPS

The Hyperion 959IPS Ionising Air Curtain is a versatile product that provides effective static neutralisation and dust removal for a wide range of applications. The 959IPS comprises of a Hyperion 924IPS mounted on a Meech Energy Saving Air Curtain, combined they provide a high speed laminar sheet of ionised air.







- Optimum working distance of 50-300mm.
- Energy Saving Air Curtain can cut compressed air demand by 70%.
- Low voltage 24V DC supply removes the need for high voltage wiring to the ionising bar.
- Integrated Power Supply (IPS) simplifies installation.
- Adjustable voltage, frequency and balance optimises the ionising bars performance.
- Meech Ion Current Monitoring (ICM) technology detects when the bar needs to be cleaned.
- IP66 Construction makes the bar suitable for harsh environments.
- Remote output signal will activate when bar needs cleaning or a fault has been detected.
- Fully BarMaster compatible.





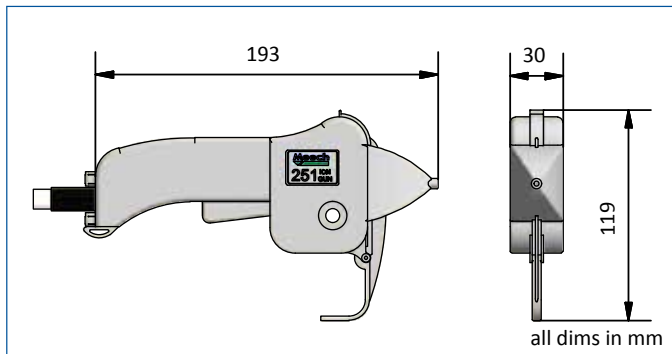
# DC Ionising Guns and Nozzles

Meech DC Ionising Guns and Nozzles are primarily used to remove both static charges and dust. The DC Guns and Nozzles include products from the Cleanroom 200 series and the Hyperion Range.

	251 Ionising Gun	261v2-32 Nozzles Family	271 Flexi Nozzle	976 Mini	976 Pulsed DC Ionising Head
					
<b>Body</b>	PTFE	PTFE	PTFE	PTFE	PTFE
<b>Dimensions</b>	193 x 119 x 30mm	32 x 32 x 74mm	32 x 32 x 74mm + 300mm trunking + base	127 x 34 x 25mm	50 x 35 x 12mm
<b>Weight</b>	550g	200g	870g		
<b>Max. Air Pressure</b>	100 Psi (7 bar)	100 Psi (7 bar)	100 Psi (7 bar)	N/A	N/A
<b>Typical Pressure</b>	20 to 40Psi (1.5 to 3 bar)	20 to 40Psi (1.5 to 3 bar)	20 to 40Psi (1.5 to 3 bar)	N/A	N/A
<b>Noise Level</b>	68 dB(A) 20 Psi(1.5 bar) / 1m	668 dB(A) 20 Psi(1.5 bar) / 1m	68 dB(A) 20 Psi(1.5 bar) / 1m	N/A	N/A
<b>Emitter Pins</b>	Titanium				
<b>Decay Time (1000V-100V)</b>	0.8 sec at 150mm at 30 Psi (2 bar)	0.8 sec at 150mm at 30 Psi (2 bar)	0.8 sec at 150mm at 30 Psi (2 bar)		
<b>Input Voltage</b>	+/- 9kV DC	+/- 9kV DC	+/- 9kV DC	+/- 15kV DC	+/- 15kV DC
<b>Ion Balance</b>	+/- 10V	+/- 10V	+/- 10V		
<b>Inlet</b>	6mm push-fit	6mm push-fit	6mm push-fit	N/A	N/A
<b>Outlet</b>	6mm	6mm	1/4" BSP	N/A	N/A
<b>Optimum Working Distance</b>		150mm	150mm		
<b>Scan QR Code for Operating Manual</b>					

## 251 Ionising Gun

The 251 Ionising Gun is a robust, lightweight gun handle used with the 233v3 Pulsed DC Controller. The 251 is part of the Meech Cleanroom 200 series.



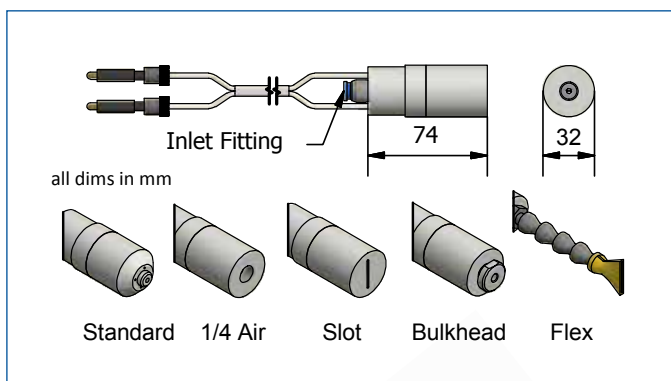
- Suitable for contamination blow-off and neutralisation of static charges in electronic applications and cleanroom environments.
- Quick, easy and safe to use.
- Supplied with 2 meter of cable as standard.



## 261v2 Ion Nozzle

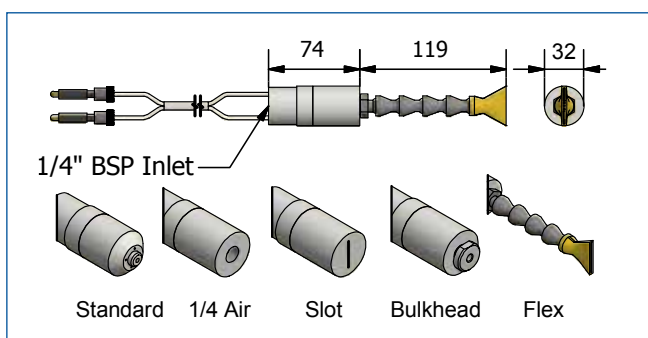
The 261v2 Ion Nozzle is a small, robust ioniser. Suitable for industrial and cleanroom environments, it provides fast static control and excellent dust removal. It meets OSHA dead-end pressure requirements and is powered by either a 233v3 or 977CM Pulsed DC Controller.

- “Bulkhead” version for use in enclosures of ducting.
- Adjustable balance and frequency.
- Requires minimal maintenance.
- Small and Compact.



## 261v2-1/4 Ion Nozzle

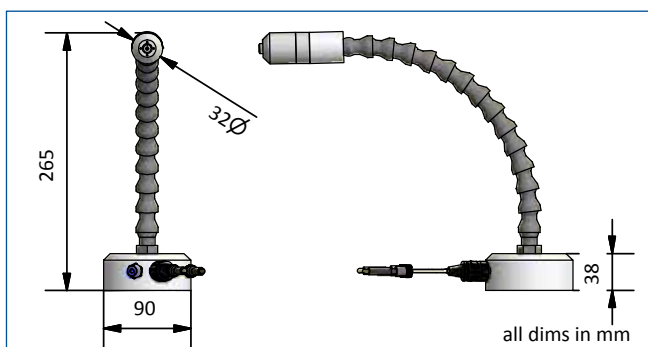
The 261v2-1/4 Ion Nozzle includes 1/4" BSP connections that allow integration into existing plastic pipe work. When used on automated cleaning machinery the 261v2-1/4 ionises the airflow used to clean and neutralise components. The 261v2 can be powered by either a 233v3 or 977CM Pulsed DC Controller.



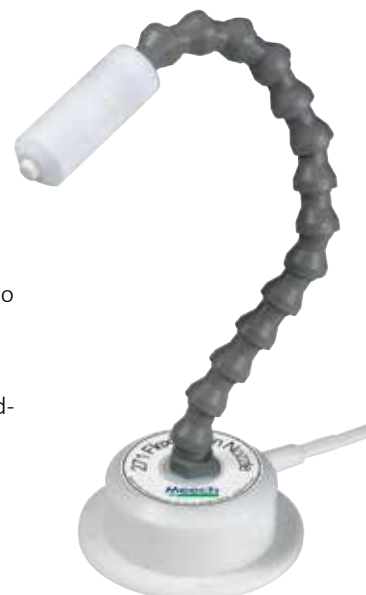
- Low compressed air consumption.
- Various options available.

## 271, 272 & 273 Flexi Nozzle

The 271 Flexi Ion Nozzle is a compact, “hands free” ioniser designed for repetitive cleaning tasks. The 272 Flexi Nozzle includes a pneumatic foot pedal which allows the operator to regulate the flow of air and activate the ionisation. The 273 includes a standard foot switch which allows the operator to regulate the air flow.



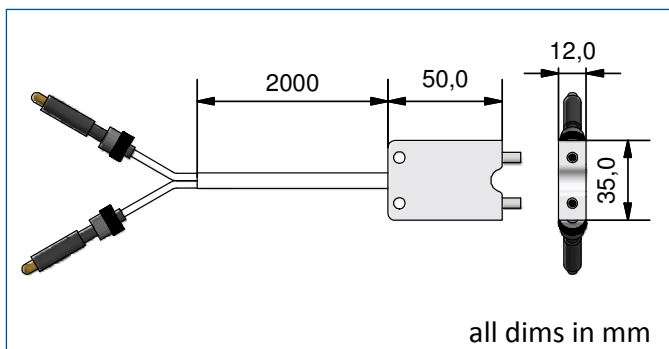
- Compact design easy to position in workplace.
- Low air consumption.
- OSHA compatible dead-end pressure relief.
- Weighted base that provides stability.



## 976 Pulsed DC Ionising Head

The 976 Pulsed DC Ionising Head is a small and lightweight ioniser which is designed to be used with the 977 series of Pulsed DC Controllers.

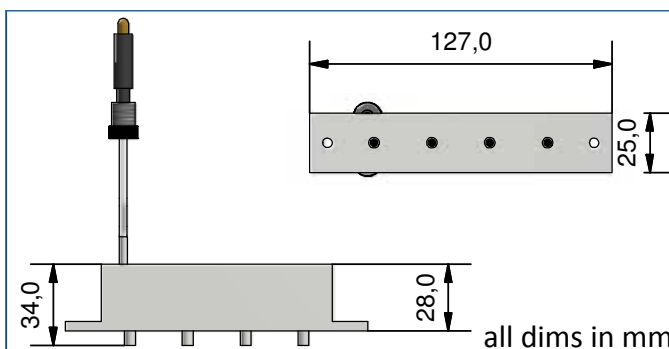
- Suitable for installation into machinery and equipment used within electronics and cleanroom environments.
- The small size makes it ideal where localised ionisation is required in restricted spaces.



## 976 Mini

The 976 Mini is designed to be used primarily with digital printers. The small and compact size means that it can be easily mounted to the printer head, providing direct ionisation to the print area.

- Suitable for digital printing applications.
- Small and lightweight ioniser.





# Options for DC Equipment



## Hyperion BarMaster Remote Programmer

The Hyperion BarMaster is a remote programmer designed to connect with any Hyperion product. The BarMaster temporarily connects in line with the 24V power supply to the bar and allows adjustment of the output and clean pin alert settings.



## Hyperion Distance Sensor for Hyperion 971IPS

Connects to any feedback enabled 971IPS bar and is designed to automatically adjust the output frequency to match the target distance, decreasing the frequency if the target is far away and increasing it when the target is closer.



## Hyperion Feedback Sensor for Hyperion 929IPS and 971IPS

The sensor measures the voltage on the web downstream of the ionising bar. This measurement is fed back to the bar which automatically adjusts the balance of the output to achieve a completely neutral web. Used with Hyperion 929IPS or 971IPS feedback enabled bar.



## 2, 3, 5, 10m M8 power cables

Power cables available in 2m, 3m, 5m and 10m. These are suitable for use with the Hyperion range.



## Switchmode Power Adaptor 15W

A general 24V DC 15W Power Adaptor. Switchmode Power Adaptors take the local electrical supply and convert it to a stable and filtered 24V DC output. The adaptors are very versatile, accepting a wide range of input voltages from 100V to 240V AC and either 47 or 63 Hz.



## M8 1, 3, 8M Male - Female extension cable

Meech offers extension cables in lengths of 1m, 3m and 8m. These can be used to extend the distance between the bar and the switchmode to allow for greater adaptability.



## Series 200 Cable Extensions

Cable extensions are available in one metre increments. Standard plugs and sockets are fitted to each end for connection to existing equipment installations.



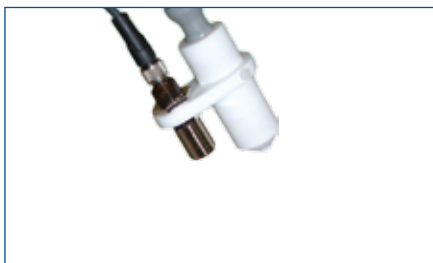
## 200 Series Fixing Bracket

Used with the model 261 Ion Nozzle the universal mounting bracket not only simplifies installation but also allows accurate positioning and directional control for the air flow from the 261 Ion Nozzle.



## 988 Sensor Bar

The 988 Sensor Bar works in conjunction with the Meech 977CM Pulsed DC Controller; enabling the system to provide closed-loop static control. It senses the charge on the material and provides a control signal to the 977CM, allowing it to adjust its output to give optimum static control.



## 200 Sensor System

The 200 Sensor System has been designed for use with the Series 200 range of ionising nozzles.



## DC High Voltage Cable Splitters

DC High Voltage Cable Splitters have been developed to enable a number of ionising products to be powered from the Meech Pulsed DC Controllers. They are available as 2 way, 4 way or 8 way.



## 976-PINSET - Replacement Pin Assemblies

Replacement pins allow the model 976 pulsed DC bar to be kept in as-new condition. The pinset is supplied as a bag of 5 green and 5 red replacement pin assemblies for the model 976.



# EX IONISING EQUIPMENT



## Static Elimination in EX hazardous areas

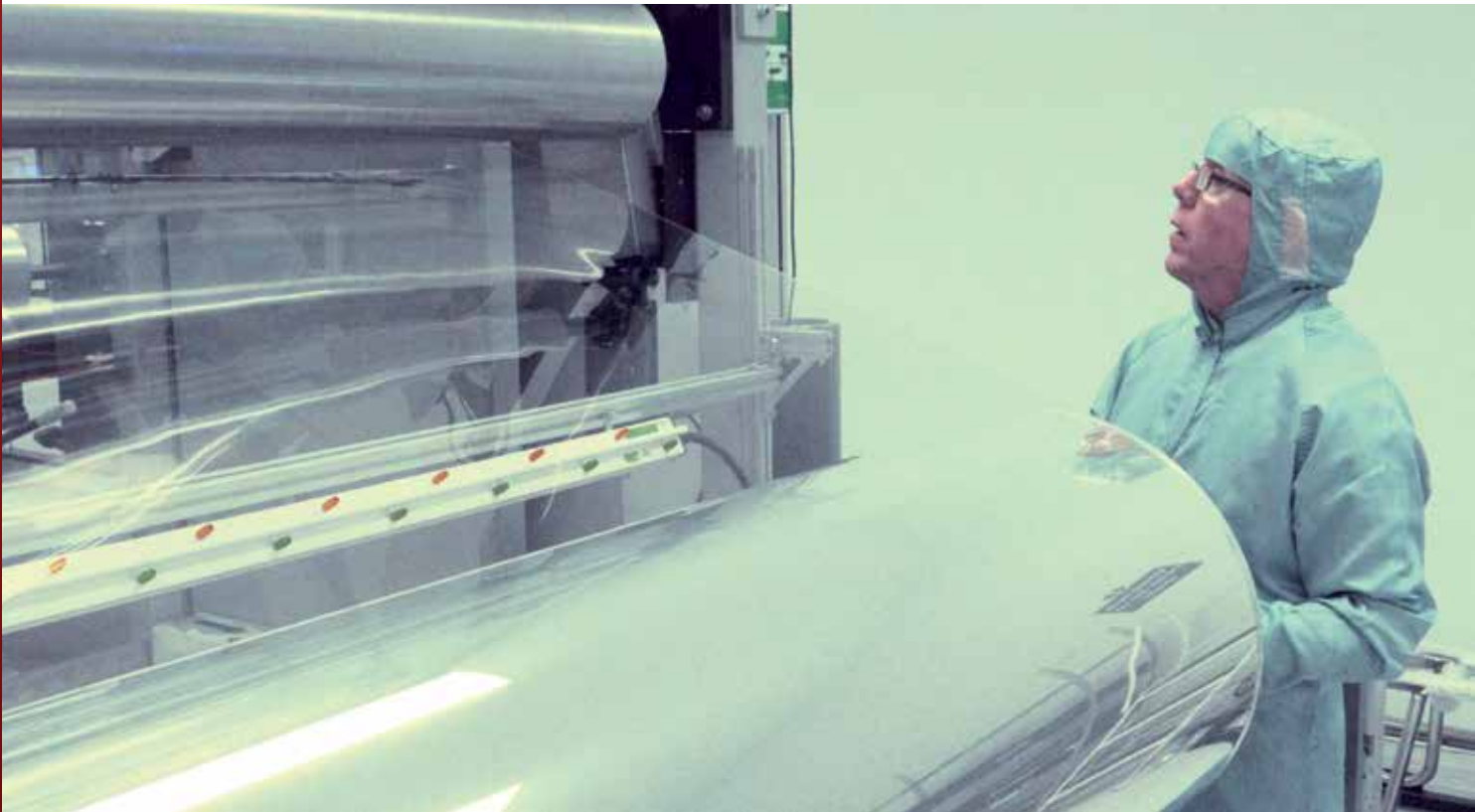
Hazardous locations (sometimes abbreviated to HazLoc) are defined as places where fire or explosion hazards may exist due to flammable gases, flammable liquid–produced vapors, combustible liquid–produced vapors, combustible dusts, or ignitable fibers/filings present in the air in quantities sufficient to produce explosive or

ignitable mixtures. Electrical equipment that must be installed in such classified locations should be specially designed and tested to ensure it does not initiate an explosion, due to arcing contacts or high surface temperature of equipment. The Meech EX range has all been tested to meet these specific requirements.

## EX Applications

# EX Applications







		<div> <div>Drinks</div> <div>Food</div> <div>Product Packaging</div> <div>Conveying &amp; Product Handling</div> <div>Thermoforming</div> <div>Plastic Rigid</div> <div>Blow Moulding</div> <div>Plastics film Extrusion</div> <div>Plastic Film Converting</div> <div>Printing Sheet</div> <div>Printing Web</div> <div>Print Finishing</div> <div>Converting Paper</div> <div>Textiles</div> <div>Bag Making</div> <div>Medical</div> <div>Pharmaceutical</div> <div>Cosmetics</div> <div>Electronics</div> <div>Clean Room</div> <div>Automotive</div> <div>Metal/Glass Processing</div> </div>																
Popular Application Example	Product	Food and Drinks				Rigid Plastics	Flexible Plastics	Printing				Converting		Pharma / Medical	Other			
Fire Prevention During Coating Film using Solvent-Based Coatings	976EX Hazardous Area Ionising Bar																	
Fire Risk During Gravure Printing	915EX Ionising Bars																	





# EX Ionising Bars

Meech EX Ionising Bars are all ATEX certified and are designed for use in hazardous areas. All EX Ionising bars offer the same features and benefits as the non-EX versions along with exceptional performance associated with Meech ionisers.

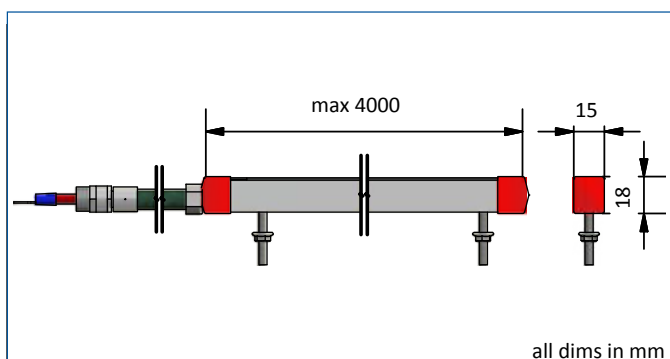
	914EX Shockless Bar	915EX Shockless Bar	976EX DC Ionising Bar
			
<b>Dimensions (W x H)</b>	15mm x 18mm	18mm x 42mm	50mm x 55mm
<b>Max. Length</b>	4000mm		
<b>Weight</b>	400g/ metre	1.1kg/ metre	1.3kg/ metre
<b>Operating Voltage</b>	5.0kV AC	4.5-7.0kV AC	Up to 10kV DC
<b>Operating Current</b>	< 5mA	< 5mA	< 0.25 mA
<b>Operations Temperature</b>	-20°C to 30°C	-20°C to 35°C	-20°C to 35°C
<b>Construction</b>	Anodised aluminium and fire retardant PVC extrusion.		FR ABS
<b>Emitters</b>	Titanium		
<b>Mounting</b>	M4 x 20mm studs		
<b>Cable</b>	5000mm		
<b>IP</b>	IP65	IP65	IP65
<b>Certificate</b>	Baseefa:10ATEX0097X	Baseefa: 04ATEX0347X	Baseefa: 04ATEX0348X
<b>Ex Zone Characteristics</b>	II 2GD Ex mb IIA T6 Gb 1180, Gas group IIA, Current:<5mA, Voltage: 5kV	II 2 GD EEx m 1180 Gas group IIA, temp Class T6 (T85°C)	II 2 GD EEx m 1180 Gas group IIB, temp Class T6 (T85°C)
<b>Optimum Working Distance</b>	25-100mm	30-150mm	200-600mm (900 with Airboost)
<b>Scan QR Code for Operating Manual</b>			



## 914EX Hazardous Area Ionising Bar

The 914EX has been designed to extend the exceptional performance and other benefits of the 914 Ionising Bar for use in hazardous environments.

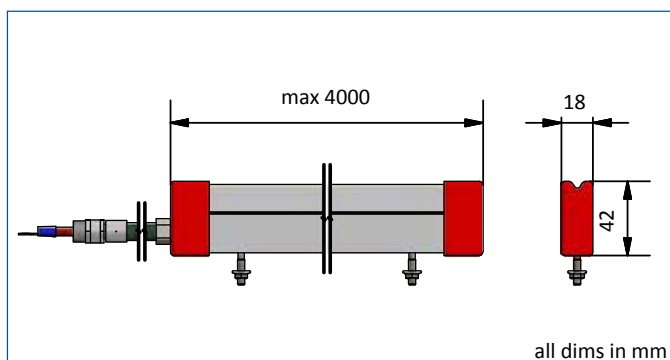
- The 914EX is certified by Baseefa to comply with Article 9 of the Council Directive 94/9/EC ATEX. EX Type Examination Certificate No: Baseefa10ATEX0097X II 2GD Ex mb IIA T6 Gb Ex mbIIIC T85 deg c Db Tamb-20 deg c to +30 deg c



## 915EX Hazardous Area Ionising Bar

The 915Ex has been designed to extend the exceptional performance and other benefits of the 915 Ionising Bar for use in hazardous environments.

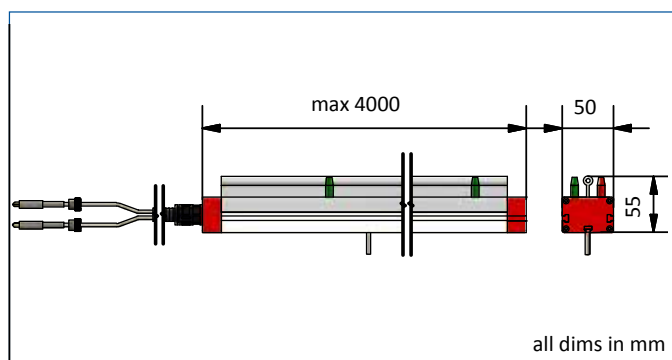
- The 915Ex is certified by Baseefa to comply with Article 9 of the Council Directive 94/9/EC (ATEX). EC Type Examination Certificate No: Baseefa04ATEX0347X II 2 GD EEx m Gas Group IIA. Temp Class T6 (T85°C) T amb-20 to +35 Deg C. (IP65)



## 976EX Hazardous Area Ionising Bar

The 976Ex is unique and has been designed to extend the exceptional performance and other benefits of the 976 Pulsed DC system to classified hazardous environments.

- The 976Ex is certified by Baseefa to comply with Article 9 of the Council Directive 94/9/EC (ATEX). EC Type Examination Certificate No: Baseefa04ATEX0348X



# EX Ionising Blowers and Air Curtains

Meech EX Ionising Blowers and Air Curtains are all ATEX certified and are designed for use in hazardous areas. They offer the same features and benefits as the non-EX versions along with exceptional performance associated with Meech ionisers.

	957EX Hazardous Area Ionising Air Curtain	935EX Ionising Blower
		
<b>Dimensions (W x H)</b>	28 x 66mm	172 x 223mm
<b>Max. Length</b>	1800mm	2400mm
<b>Weight</b>	2.65kg/1m	10kg/1m
<b>Operating voltage</b>	7kV	7kV
<b>Operating current</b>	<5mA	<5mA
<b>Cable</b>	5 metres shielded in flexible conduit	5 metres shielded in flexible conduit
<b>Construction</b>	Anodised aluminium and fire retardant PVC	aluminium
<b>Emitters</b>	Titanium	Titanium
<b>Mounting</b>	M4x20mm studs	Steel fixing brackets supplied with each unit
<b>IP</b>	IP65	IP65
<b>Certificate</b>	Baseefa: 04ATEX0347X	Baseefa: 04ATEX0347X
<b>Ex Zone Characteristics</b>	II 2 GD EEx m 1180 Gas group IIA, temp Class T6 (T85°C)	II 2 GD EEx m 1180 Gas group IIA, temp Class T6 (T85°C)
<b>Compressed air consumption</b>	43cfm(122l/min)@80psi / 1m 5.4 Bar per 25mm	n/a
<b>Optimum Working Distance</b>	50- 300mm	200-1500mm

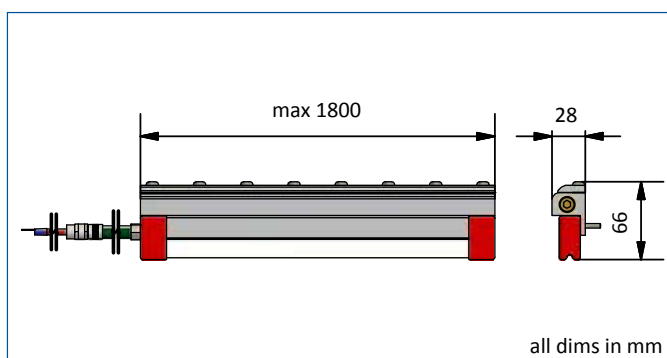




## 957EX Hazardous Area Ionising Bar

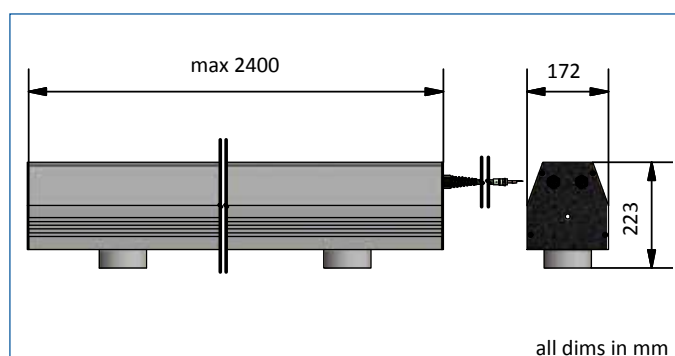
The unit comprises a powerful 915EX Ionising Bar mounted on to an Energy Saving Air Curtain. Together they produce a high speed, laminar sheet of ionised air. The 957EX Ionising Air Curtain requires a compressed air supply and is powered by the 904 Power Supply.

- The 915Ex Bar is BASEEFA approved for use in hazardous areas. (EXs IIA T6- Zone 1 on 2). II 2 G Gas group IIA Temp Class T6



## 935EX Ionising Blower

The 935EX Ionising Blower provides effective long range ionisation over a large area. Its versatility makes it suitable for a wide range of industrial applications. A high volume flow of ionised air is generated by blowing air through the ionisation head at the mouth of the unit. The 935 Ionising Blower is powered by the 904 Power Supply.



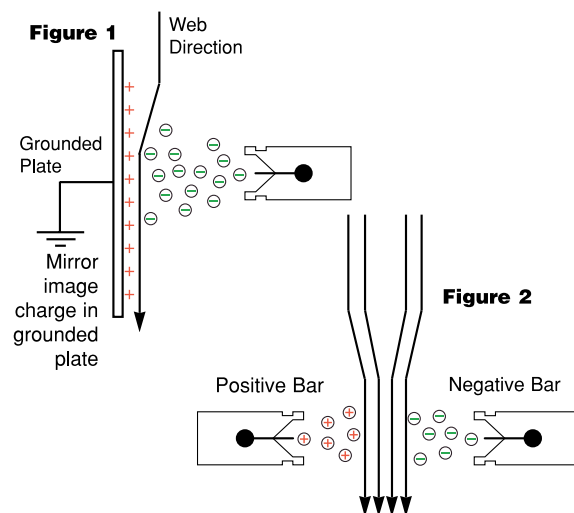
- Housing 915EX bars
- Provides effective long range ionisation in hazardous areas.
- Typically a bespoke system comprising remote heads and a fan- commonly used in automotive industry on 3D objects.

# STATIC GENERATION EQUIPMENT



## What is Static Generation?

Static Generation creates a controlled static charge on a non-conductive material that will allow a temporary, adhesion between surfaces with charges of opposite polarity. A high DC voltage (up to 50kV) is safely produced and is carried to a static generator bar, where it is connected to an array of suitably designed emitter pins to generate a “corona”. The DC voltage may be positive or negative. The emitter pins are positioned within close proximity of a grounded surface (fig.1) or, for greater effect, a generator bar with emitter pins of the opposite polarity (fig.2). The material(s) to be bonded are passed into the “corona”, resulting in bonding to the grounded surface or to the other material.



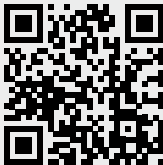

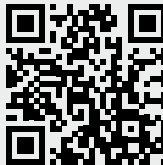

## Static Generation Applications

Static Generation Applications		Application Areas																							
		Drinks	Food	Product Packaging	Conveying & Product Handling	Thermolaminating	Plastic Rigid	Blow Moulding	Plastic Film Extrusion	Printing Sheet	Printing Web	Printing Other	Print Finishing	Converting Paper	Textiles	Bag Making	Medical	Pharmaceutical	Cosmetics	Electronics	Clean Room	Automotive	Metal/Glass Processing		
Popular Application Example	Product	Food and Drinks				Rigid Plastics		Flexible Plastics	Printing				Converting		Pharma / Medical		Other								
CD & DVD Delamination During Manufacture	993R Spark Free Generator Bar																								
Static Pinning On Metal Or Glass	993R Spark Free Generator Bar																								
Static Pinning To Web Based Materials	993R Spark Free Generator Bar																								
Turret Re-Winders	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
Manufacture Of Carrier Bags	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
Ribbon Tacking In Newspaper And Magazine Web Converting	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
Static Pinning Gusset Into Flat Bag	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
Static Pinning Of Web To Core On Turret Rewind	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
Static Pinning On Side Weld Bag Handles	993R Spark Free Generator Bar, 992v3 30kV Static Generator																								
IML Decoration Of Plastic Moulds	994IML Hydra, 993R Spark Free Generator Bar																								
Static Pinning Film On To A Cast Film Extrusion Chill Roller - 995 Claw	995 Claw Style Edge Pinning, 992v3 30kV Static Generator																								
Reduced Material Overlap On Horizontal Over Wrapper	995R Handheld IML Pinning Head																								
Stacking & Pinning Food Sachets Before Wrapping	995R Handheld IML Pinning Head																								
Board Laminating	Generator Bars																								
Chocolate Sticking To Moulds During Chocolate Manufacture	Generator Bars																								
Controlling Fire Risk During Processing Of Sugar Production	Generator Bars																								
Controlling Static Charges During Chocolate Production	Generator Bars																								
Operator Shocks During Chocolate Packaging	Generator Bars																								

# Static Generators

Meech Generators and generator bars are designed to create a controlled level of static charge to impart temporary bonding between materials.



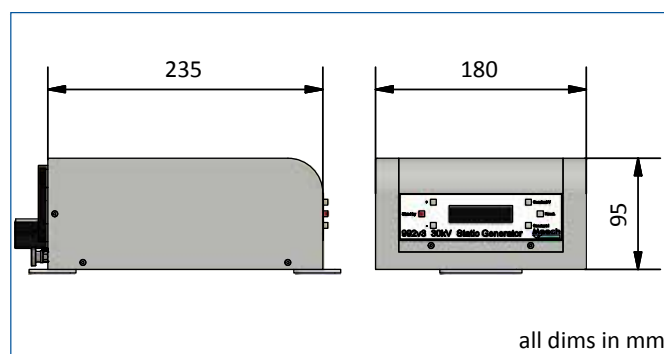
	992v3-30 Generator	992v3-50 Generator	994 IML Static Generator	Hyperion 994CG Generator
<b>Weight</b>	3.25kg	3.25kg	500g	400g/350g
<b>Dimensions (HxWxD)</b>	235 x 180 x 95mm	235 x 180 x 95mm	190 x 171 x 45 mm	45 x 40 x 150mm (Socket) 45 x 40 x 170mm (Terminal)
<b>Construction</b>	Painted Steel Enclosure	Painted steel enclosure	DuraForm PA (Nylon 12)	DuraForm PA (Nylon 12)
<b>Maximum Temperature</b>	60°C	60°C	45°C	55°C
<b>Power Input</b>	Mains supply of 85 to 265V, 47 - 63Hz	Mains supply of 85 to 265V, 47 - 63Hz	24VDC	21-30V DC*
<b>Output Polarity</b>	Dedicated positive or negative	Dedicated positive or negative	Negative	Negative
<b>Output Voltage</b>	0-30kV	0 to 50kV	0 - 20kV Negative	4-25kV
<b>Maximum Output Current</b>	0 to 500µA	0 to 260µA	500µA	500µA
<b>Input Current</b>				200mA-850mA Load Dependant
<b>Settings Control</b>	Front Panel	Front Panel	Analogue / Digital Input	BarMaster, PLC Control or Remote Set Point Control
<b>Environmental Protection</b>				IP66 – Socket IP64 – Terminal
<b>Connection</b>	IEC socket	IEC socket	8 Way mini DIN 2 x HT output sockets	5 Pin M12
<b>Scan QR Code for Operating Manual</b>				



## 992V3 30kV & 992v3 50kV Static Generator

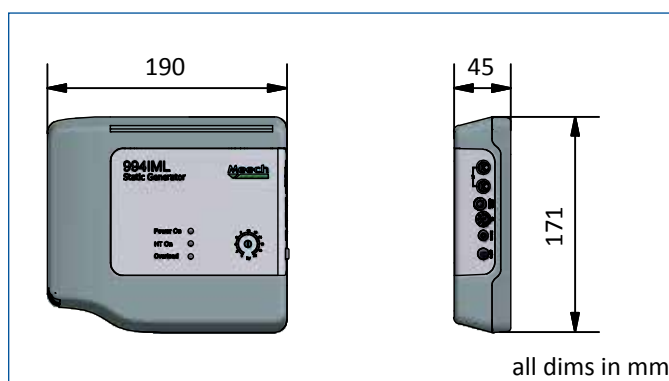
The 992v3 provides a high voltage output adjustable over the range of either 0-30kV or 0-50kV or a constant current can be adjusted between 0 and 500 $\mu$ A or 0 and 250 $\mu$ A. The 992v3 is used in conjunction with the 993R spark free generator bar and is available in either negative or positive output polarity versions.

- Available in two versions.
- Selectable constant voltage or constant current mode.
- Auto trip on detection of flashover, which reduces the risk of damage to equipment and/or materials.
- Internal switch mode power supply that can accommodate different input voltages and frequencies.
- Compact size.
- Twin outputs meaning multiple Generator bars can be connected.



## 994 IML Static Generator

The 994-IML Static Generator is a compact and lightweight system, it provides 0-20kV, Negative polarity with connections to suit the Meech Hydra.



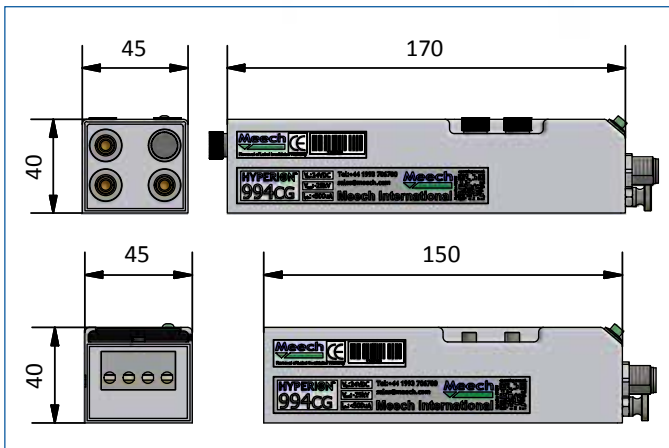
- Adjustable 0-20kV output to suit all IML applications.
- Lightweight allowing it to be mounted on a robot.
- 24V DC Supply.
- Current limiting circuitry that prevent damage to the unit.
- Full remote control for easy integration with PLC.



## Hyperion 994CG Compact Generator

The 994CG is the most powerful and compact IML generator Meech have ever produced. Powered by 24V DC, it has outlet ports capable of connecting up to 4 x 994 Hydra IML Pinning Systems directly to the generator. The 994CG is available in two versions, a socket terminal utilises the Meech PVC plug and a terminal version that allows crimp connections.

**HYPERION™**  
A Meech Innovation



- Compact design.
- Adjustable output voltage that can be programmed remotely with a PLC control or a Meech BarMaster
- PLC Control; the high voltage from the 994CG can be remotely adjusted via the robot PLC.
- External Set Point Control; a voltage adjuster can be installed into the system via a break-in connector.
- Connect up to 4x 994Hydra IML pinning systems



# Static Generation Bars & Heads

The Meech In-Mould Labelling systems use static electricity to charge a label while it is being transferred to the moulding machine. All Meech systems are lightweight and easily installed.



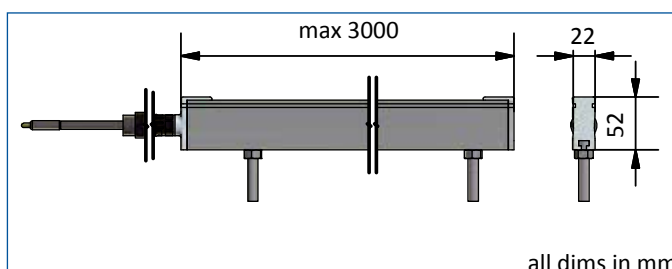
	993R	995R	995v3	995CLAW	995R IML	995DE
Dimensions (WxHxL)	22mm x 52mm max length 3000mm	4P2R 65x30x50mm 8P2R 107x30x50mm 12P2R 144x25x50mm	96 x 26 x 300mm	30 x 65 x 154mm	30 x 65 x 155mm	56 x 56 x 142mm
Cable	2 metre	2 metre	2 metre	5 metre	3 metre	5 metre
Max temperature	60°C	115°C				
Operating voltage	Up to 50kV DC					
Construction	PTFE extrusion					
Emitter Pins	Titanium					
Power Source	Meech 992v3 Static Generator					
Operating current	500uA					
Operating polarity	Either +VE or -VE					



## 993R Spark Free Generator Bar

The 993R is a high performance generator bar used with the Meech range 992V3 30kV and 50kV Static Generators. Resistively coupled emitter pins deliver smooth, controlled pinning whilst spark free operation avoids tripping out on intermittent applications.

- Greatly improved operator safety.
- Removable emitter pin option Optimum performance can be maintained. Life of the bar is substantially lengthened.

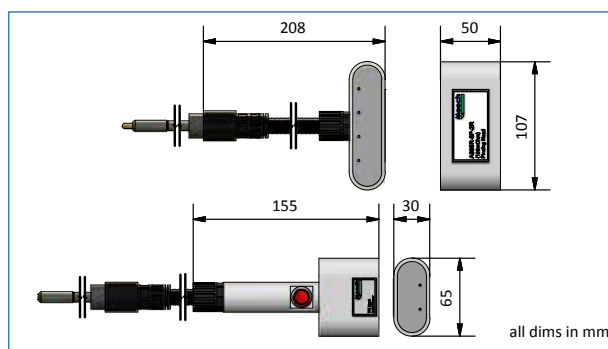


## 995R & 995R IML Pinning Head

The 995 is designed to deliver exceptional pinning of multi-layer plastic. Uses include bag making and flow-wrapping machinery. The integral switch on the 995R IML allows the operator to switch the system on only when pinning is required. Ideal for manual In Mould Labelling applications.

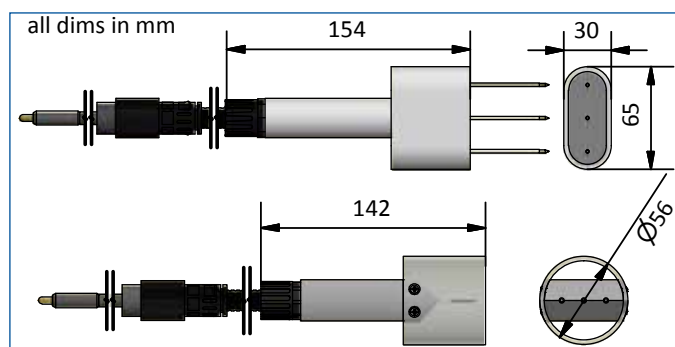


- Resistively coupled allowing spark free, independent operation.
- High pin density resulting in powerful pinning.



## 995 DE & 995 Claw Pinner

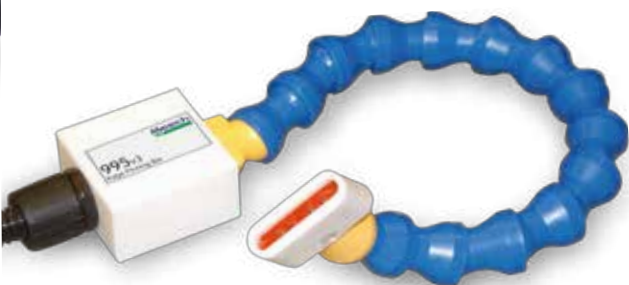
The 995 DE Dirty Environment Pinner provides electrostatic pinning in applications where the risk of contamination is high. The resistively-coupled titanium pins are shrouded to offer a physical protection. The 995 Edge Pinning Claw is a powerful pinning head intended for use on cast-film lines. Pinning the edges of the cast film to the chill roller prevents necking of the film.



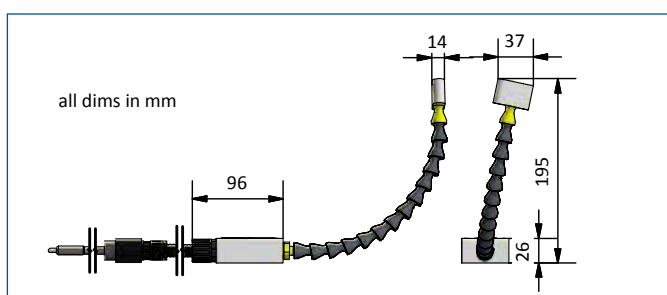
- Resistively coupled allowing spark free, independent operation.
- High pin density resulting in powerful pinning.
- Open design prevents build-up of contamination.
- Flexible titanium pins that can be adjusted to suit the specific application.

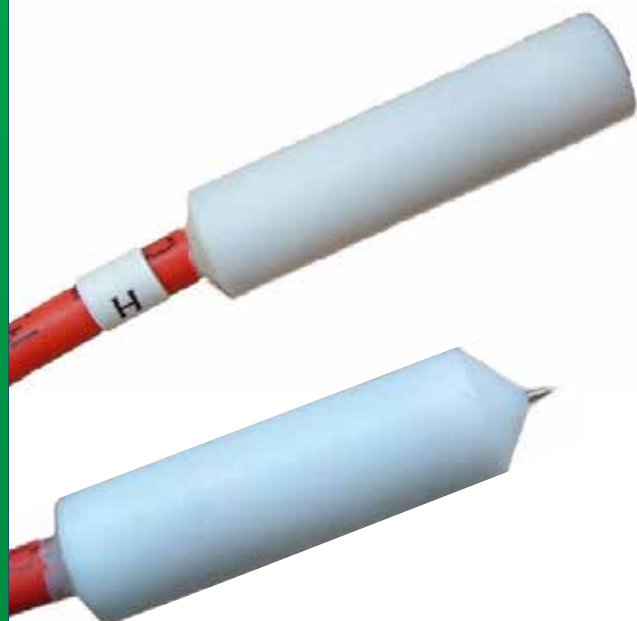
## 995v3 Flexible Pinning Head

The 995v3 Flexible Pinning Head Includes a length of flexible trunking that allows accurate pinning of non-conductive materials. Ideal for hard to reach applications.



- Resistively coupled allowing spark free, independent operation.
- Stayput flexible trunking allows the Pinning head to be easily positioned.



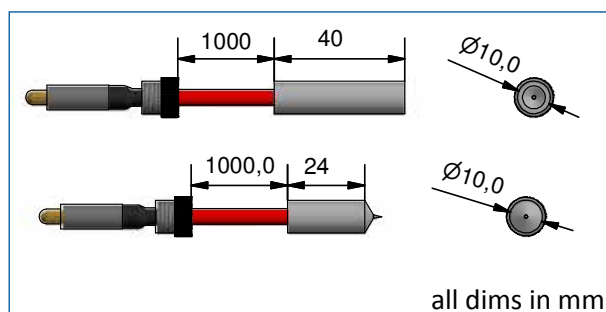


- Resistively coupled allowing spark free independent operation.
- High pin density resulting in powerful pinning.

## 994 SPP Heads

The 994 Single Point Pinning Heads are ideal for localised static pinning in applications such as in-mould labelling (IML).

The pinning heads are connected to a 992v3 high voltage supply via a resistive splitter box (4 way or 6 way). The individual resistive coupling ensures smooth spark-free pinning, with completely independent operation of each head.



## Options for Static Generation Equipment



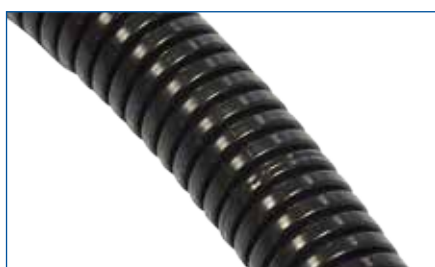
### 994 4 or 6 Way Standard Resistive Splitter Box

The splitter box can be used to simultaneously run multiple 994 SPP Heads or 994 Hydras from a single power supply. This is a safe way to increase the amount of pinners from a single source. The splitter box is available with 4 or 6 splitting outlets. The splitter box has a resistance of 500MΩ.



### 994 4 or 6 Way Heavy Duty Resistive Splitter Box

The heavy duty resistive splitter box has a resistance of 100MΩ, which offers a more powerful output. The heavy duty splitter box is available with 4 or 6 splitting outlets.



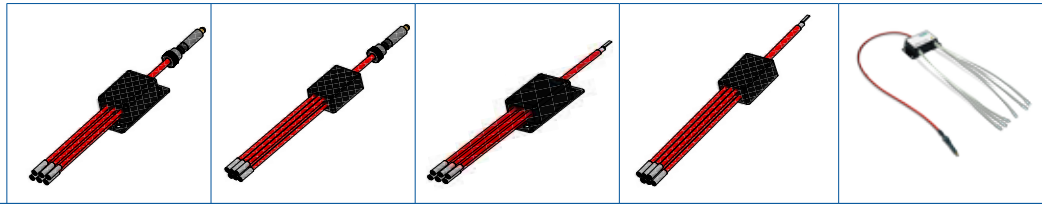
### HT Cable with Conduit for 993R bars

As standard, the 993R bar is provided with 2m of HT Cable. On purchase of the bar, HT cable can be increased to lengths of up to 20m.



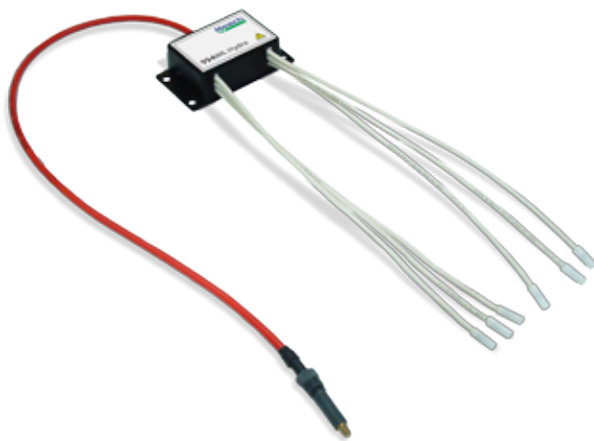
# IML Hydra Pinning Systems

In Mould Labelling requires the use of pinning systems to create the perfect finish. Meech pinning systems offer the ultimate in controlled static generation, ideal for the IML industry.



	994 IML Hydra Socket Flanged	994 IML Hydra Socket Flangeless	994 IML Hydra Terminal Flanged	994 IML Hydra Terminal Flangeless	994 IML Hydra Distributor
<b>Dimensions (LxWxH)</b>	42 x 30 x 19mm	27 x 40 x 15mm	42 x 30 x 19mm	27 x 40 x 15mm	45 x 65 x 26mm
<b>Input Cable</b>	500mm	500mm	500mm	500mm	1000mm
<b>Pinner Cable Length</b>	300mm	300mm	300mm	300mm	450mm
<b>Weight</b>	90g-130g				175g
<b>Operating voltage</b>	Up to 25kV DC				Up to 20kV
<b>Construction</b>	Pinning Head - PTFE Distributor - ABS				
<b>Emitter Pins</b>	Titanium				
<b>Max temperature</b>	Pinning Head - 105°C Distributor - 90°C				
<b>Power Source</b>	994CG Socket or 994IML		994CG Terminal		994CG Socket or 994IML
<b>Pinning Heads Number</b>	2/4/6	2/4/6	2/4/6	2/4/6	4/6

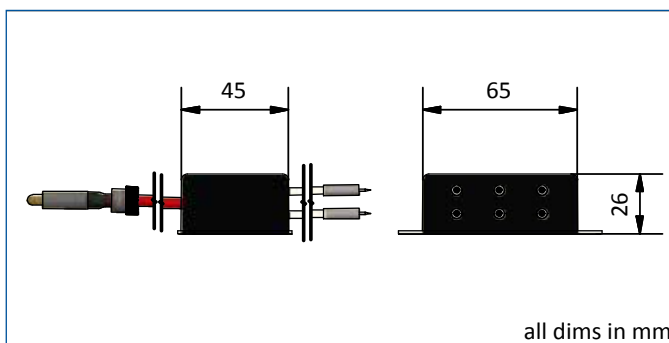




## 994 Hydra IML Pinning System

994 Hydra IML Pinning System is a pinning system designed for applications where small items are being moulded i.e yoghurt pots or drinks containers. The standard system comprises a resistively coupled distributor with either four or six pinner cables.

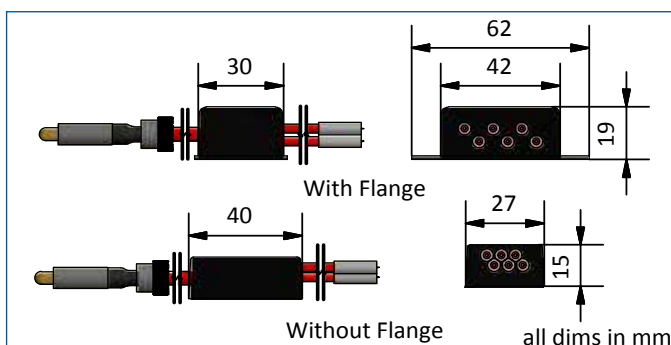
- Miniature pinning head (5 x 15mm) that fits small moulds.
- Resistive coupling offers smooth, spark-free pinning, with independent operation of each pin.
- Small distributor housing allows it to be easily mounted on tool.



## 994 Hydra Miniature IML Pinning System

The 994 Hydra is a miniaturised pinning system designed for applications where small items are being moulded i.e yoghurt pots or drinks containers. The standard system comprises a resistively coupled distributor with either two, four or six pinner cables.

- Miniature pinning head (5 x 15mm) that fits small moulds.
- Resistive coupling offers smooth, spark-free pinning, with independent operation of each pin.
- Small distributor housing allows it to be easily mounted on tool.



# Options for IML Hydra Pinning Systems



## 994 Hydra IML Splitter

Available in 2, 4, 6 and 8 splitter configurations. Can be used to power additional 994 Hydras from a single source for IML applications.



## Hydra HT Supply Cable 5000mm Male - Female

Additional extension cable to be used for direct plug-in from the Generator to the Hydra.



## Hydra HT Supply Cable 5000mm Male - Male

Additional extension cable to be used for direct plug-in from the Generator to the Hydra Splitter.



## 994CG Remote Setpoint Controller

Generates an adjustable 4-20mA signal to control the output voltage of the 994CG Compact Generator. M8 input and M12 output connections.



## M12-M8 Murr adaptor cable 1000mm for BarMaster to 994CG connection

Allows connection of BarMaster programmer to 994CG Compact Generator



## Mini Din prewired cable 8 way

Compatible with the I/O ports on 977cm and 994IML. The pre-wired cable simplifies the connection to input and output signals.



## All you need, from the best in the business

Meech is also a leading provider of:

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- MAT Air Efficiency Range- Industrial compressed air products that are energy efficient, reduce noise levels and cut costs.
- Surface Cleaning Systems- Ionwash, IonRinse and JetStream Air Knife Systems – Energy efficient 3D surface cleaning systems that are used for contamination and surface moisture removal.

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