Meech

Operating Manual

MODEL 976

Long Range DC Bar

Contents

Introduction

The Meech Model 976 has been designed to provide highly effective long range ionisation using Pulsed DC Technology.

The 976 Bar provides ionisation through alternating positive and negative emitter pins mounted in a profiled extrusion. The emitter pins are resistively coupled to the high voltage pulsed DC source, rendering the emitters shockless to touch. The emitter pins are removable to enable cleaning or replacement.

The extruded profile has been designed to enhance emitter life and allow easy cleaning while giving linear strength. The profile incorporates “T” slots on three faces to provide universal mounting points. The Meech Model 976 is powered by any of the range of Meech Pulsed DC Controllers.

Unpacking And Inspection

Your Model 976 Bar was carefully packed at the factory in a container designed to protect it from accidental damage. Nevertheless, we recommend careful examination of the carton and contents for any damage.

If damage is evident, do not destroy the carton or packing material and immediately notify the carrier of a possible damage claim. Shipping claims must be made by the consignee to the delivering carrier.

Installation

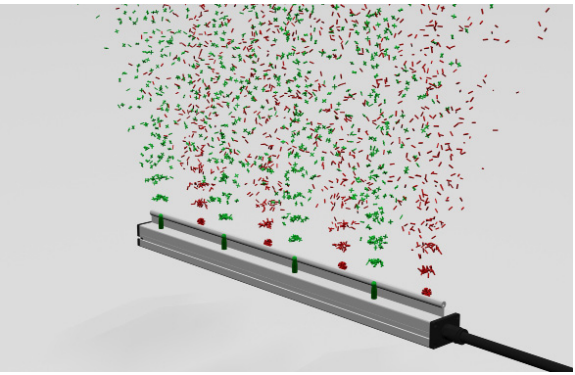
The Model 976 Bar should be located in the most convenient position so that the pins of the bar are directed towards the target area. The bar should be positioned to give an unrestricted path for the ions to travel to the target area. It should typically be between 300mm and 600mm away from the target area.

The Meech Model 976 can be connected to any of the Meech range of Pulsed DC Controllers.

The Model 976 connects to the Pulsed DC Controller by plugging the male plugs, found at the end of the bar cabling, directly into the high voltage sockets of the controller. The plugs and sockets are marked with “+” positive and “-” negative indicators for correct connection to the power supply.

Connect the mains supply to the Pulsed DC Controller and switch ON. The 976 Bar will now produce Pulsed DC ionisation from the emitters of the bar.

The shockless emitter pins produce ions of positive and negative polarity. These, because of the product's unique design, propel themselves away from the emitter points towards the target area.



Optimum static elimination can be achieved by adjustment of the "Rate" (frequency of pulsing) and the "Balance" (proportion of positive to negative ions generated) on the Controller.

If the bar is positioned a long distance from the target area (600mm-750mm) the "Rate" should be set to the lowest setting. If the bar is positioned close to the target area (150mm -300mm) the "Rate" should be set towards its maximum.

If the polarity of the static charge to be removed is known the balance can be adjusted to give a faster decay speed.

I.E. a) If the static charge is known to be positive the balance should be adjusted towards negative on the controller.

b) If the static charge is known to be negative the balance should be a adjusted towards positive on the controller.

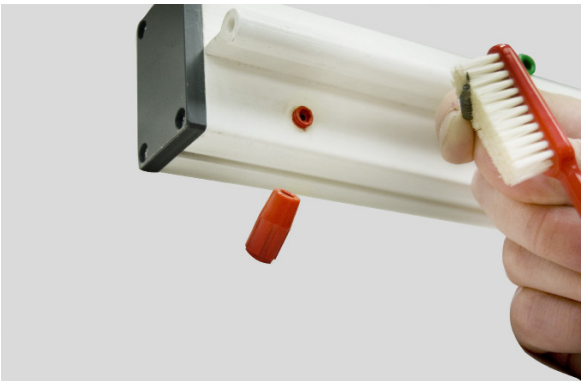
Maintenance

Ionisers require periodic cleaning. During normal operation, dirt will build-up on the emitter pins and upon the body of the ioniser. This will cause a reduction in performance.

Typically, weekly cleaning is sufficient. However, equipment used in some heavy contamination areas, such as gravure printing or where plastic fumes are present, may require daily cleaning. Equally, in a Class 100 area, cleaning may only be required on a monthly basis. Advanced systems with performance monitoring, e.g 977cm and 904cm, will alert the operator to the need to clean the equipment before performance drops to an unacceptable level.

Before cleaning, ensure that the equipment is switched off.

Emitter pins can be cleaned very effectively with a brush. A dry toothbrush is ideal.



Ionising bars will need periodic wiping to clean grey deposits from the surface of the bar. A cloth moistened with a small amount of IPA or methylated spirits is recommended.

Let dry for a minute and replace the outer cap. Re-assemble the emitter pin onto the bar and turn back on.

If on inspection, the emitter pins of the Bar are very dirty or damaged they should be replaced. Replacement emitters are available from Meech Static Eliminators Ltd. or your local Meech Distributor.

Fault Finding

Tests must be completed by a qualified electrical engineer.

If in doubt contact the Meech head office or your local distributor.

CAUTION: Whilst no danger to personnel exists, it is essential that any high voltage ionising equipment, makes no contact with water or water based fluids.

Should such an event occur, disconnect immediately and return equipment to the manufacturer for water damage assessment.

To verify where a fault may have occurred it is important to test each item of the system individually. Should more than one bar be connected to a power supply, each must be tested individually.

To check the Pulsed DC system follow the procedure detailed below:

1. Switch off the electrical supply to the system.

2. Disconnect all bars from the controller.

3. Reconnect the supply and switch on the unit.

4. Using a high voltage probe (RS type 610 281) and meter (RS type 610 950) measure the voltage on each of the output sockets. The reading should be at minimum power 4kV and at maximum power 8kV

5. Having checked the power supply, reconnect one Model 976 Bar.

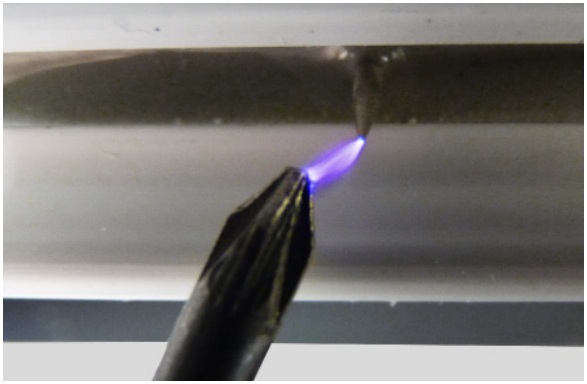
6. Using a high voltage probe (RS 610 281) and meter (RS 610 590) measure the voltage on the pins of the bar. This voltage should be between 3 and 6kV.

7. If there is more than one bar to test, disconnect the first item and repeat the above steps.

If no meter and probe is available, then a fast and simple test is to simply short a pin of one of the ionising bars to earth using a length of insulated electrical cable bared back 3 mm at either end.

Connect one end of the cable to the earth post of the bar.

Approach the pin of the bar with the other end of the cable. As the conductors of the cable approaches the pins of the bar a small faint spark should jump from the pin to the cable conductors. If the bar is under direct sunlight or bright lights it may be difficult to see this spark.



Repairs And Warranty

The Meech 976 Bar is warranted by Meech Static Eliminators Ltd. to the original purchaser against defects in material and workmanship for one year after purchase. Should any malfunction occur, please return the bar directly to Meech Static Eliminators Ltd. or your local Meech Distributor. All products returned to the factory MUST be accompanied by a return authorisation number and must be shipped prepaid. For prompt service, ship the unit to the factory with the return authorisation number shown clearly on the label. Be sure that it is well packed in a sturdy carton with shock absorbing material.

Include a note stating the nature of the problem as specifically as possible, and also include instructions for returning the bar to you. We will pay one-way return shipping costs on any repairs covered under the warranty.

Technical and Construction

Output voltage	: Up to 10kV D.C.
Operating current	: Less than 50 micro amps.
Max temperature	: 60°C.
Weight	: 400g per 300 mm
Cable	: 2 metres as standard shielded in flexible conduit longer lengths can be specified when ordering.
Dimensions	: 50mm x 50mm x length required.(Max 4000mm)
Construction	: FR ABS extrusion
Emitters	: Titanium (replaceable)
Mounting	: Universal via “T” slots fitted with 2 x M4 x 20mm studs as standard. “T” slots are located on three sides of the bar to allow mounting flexibility.

CE Approval

A CE Declaration of Conformity for this product exists in respect of the Low Voltage Directive:72/23/EEC (“LVD”) & Electromagnetic Compatibility Directive: 89/336/EEC (“EMCD”)

Health and Safety

Emission of Ozone: Considerably below international standard of 0.1ppm.

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