



Operating Manual

**Model 940/942
Ionising Air Nozzles**

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Introduction

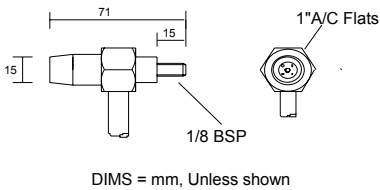


Meech Ionising Air Nozzles are powerful and versatile static eliminators which will give many years of excellent service provided that the following instructions are observed closely.

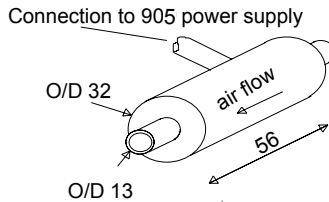
General Notes On Application

Meech Ionising Air Nozzles may be used individually or strung together in series on the HT cable. The Meech power unit supplies the ionising energy.

The power unit converts the electricity supply into a high voltage, low amperage output. This output energy is transferred to the Meech Nozzles by the HT cable. The ionisation chamber in the nozzle generates an ionised air corona. The compressed air passing through the corona becomes ionised and so capable of neutralising a static charge. Having neutralised the static charge, any dust may be blown off.



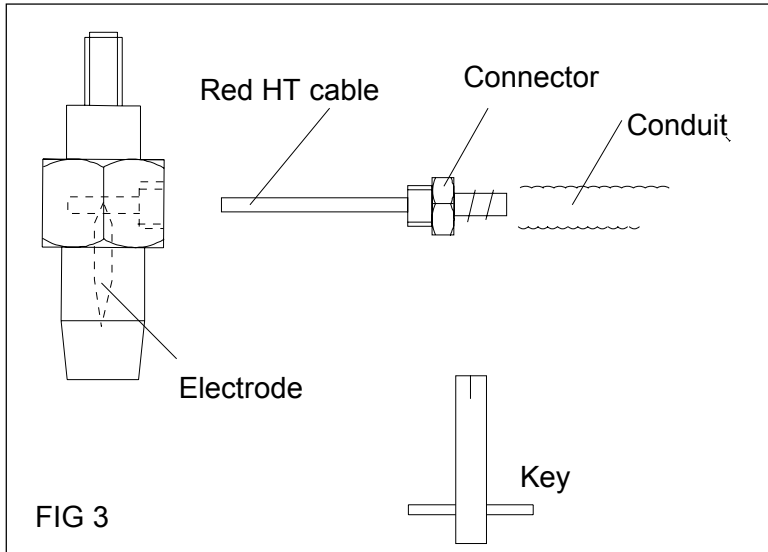
Model 940



Model 942

Installation

Connection



Blank End Nozzles

1. Insert red HT cable fully into hole in white PTFE insulation in side of nozzle.
2. Using special key provided turn electrode pin inside the nozzle chamber clockwise so that it pierces the HT cable and touches the electrical conductors.
3. Assemble cable fittings as shown in Sketch 1 and secure tightly to ensure that there is a good metal to metal contact throughout.

Through Type Nozzles

4. Calculate the desired distance between each nozzle.
5. Cut the Spiral Sheath to the required size less 15mm.
6. Follow same procedures as for Blank End Nozzle and slide onto cable subsequent Through Type Nozzles. Secure each nozzle onto cable by means of the electrode key.

Air Consumption

Pressure

1 Bar (14 psi)
2 Bar (29 psi)
3 Bar (43 psi)
4 Bar (57 psi)
5 Bar (71 psi)
6 Bar (86 psi)
7 Bar (100 psi)

Air Volume Used

127 lit/min (4.5 cfm)
198 lit/min (7.0 cfm)
269 lit/min (9.5 cfm)
354 lit/min (12.5 cfm)
392 lit/min (14.0 cfm)
448 lit/min (16.0 cfm)
509 lit/min (18.0 cfm)

Health And Safety

Ozone : Considerably below international standard of 0.1 ppm.

Caution: As this equipment will give an electrical shock if the pins are touched, the following procedure must be followed:

1. The supply voltage of the power supply must be interlocked with the ON/OFF control of the machine to which the equipment is fitted.
2. This will ensure that whilst the machine is switched off and thus operatives may gain access to the machine and our equipment there will be no danger of operatives receiving shocks from our equipment.
3. It is assumed that normal safety barriers are in place on the machine to ensure that operatives are unable to access the machine and hence our equipment whilst the machine is switched ON.

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.

Ionising nozzles may need their outlet cap to be removed to allow access to the pins. They should be checked for any oil or water contamination that might indicate a poor quality air supply that could cause permanent damage.

Static Generation equipment will require the pins and body to be cleaned with a brush and cloth in the same manner as ionisers.

8 Should you have any additional questions regarding the maintenance of Meech equipment please contact Meech International directly or your local Meech distributor.

Technical Specification

Model 940

Operating voltage	:	4.5kV.
Max temperature	:	85°C
Construction	:	Black anodised aluminium with PTFEinsert.
Dimensions (mm)	:	See drawing.
Weight	:	400g
Air consumption	:	16 cfm at 100 psi.

Model 942

Operating voltage	:	5.5kV.
Max temperature	:	85°C
Construction	:	Brass with delrin insert.
Dimensions (mm)	:	See drawing.
Weight	:	400g
Air consumption	:	18 cfm at 100 psi.

Fault Finding

Tests must be completed by a qualified electrical engineer.

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

CAUTION: Whilst no danger to personnel exists, it is essential that any high voltage ionising equipment, make 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. High voltage electrical equipment should not make contact with water.

The model 940/942 ionising nozzle forms part of a system, comprising of itself and a Model 905 power supply.

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

To check the model 940/942 ionising nozzle follow the procedure detailed below.

1. Switch off the electrical supply to the system.
2. Disconnect all ionising appliances from the power supply.
3. Follow the test procedure for the model 905 power supply. This can be found in the instruction manual of the model 905.
4. Having checked the power supply reconnect one ionising nozzle.

- Using a high voltage probe (RS 610 281) and meter (RS 610 590) measure the voltage on the pins of the ionising bar. This voltage should be approximately 4.5 kV for the model 940 and 5.5kv for the model 942.



- If the voltage is below 2.0 kV then the item should be returned to Meech for service and or repair.

7. If no meter and probe are available, then a fast and simple test is to simply short the pin of the ionising nozzle to earth using a screwdriver as follows.
 - Place the shaft of the screwdriver against the black aluminium casing of the nozzle
 - Approach the electrode of the nozzle with the point of the screwdriver. As the screwdriver approaches the pin, a sharp blue spark should jump from the pin to the screwdriver. If the bar is under direct sunlight or bright lights it may be difficult to see this spark. The spark should jump an air gap of 2- 3 mm.
 - When performing this test be careful not to touch the shaft of the screwdriver.
 - As the spark is drawn a slight buzzing sound will also be heard.



8. A further alternative is to use a Meech Stat Stick. This can simply be waved approximately 50 mm above the ionising nozzle. The probe of the stat stick illuminates when the nozzle is functioning correctly.
9. If there is more than one appliance to test, disconnect the first item and repeat the above steps.

CE Approval

An EC 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”)



Repairs And Warranty

The 940/942 Ionising Air Nozzles are 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 or your local agent. 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 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 surface shipping costs on any repairs covered under the warranty.

Field repairs should not be undertaken during the warranty period. Repair attempts by unqualified personnel will invalidate the warranty.



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