



# Operating Manual

**Model 904**  
**High Voltage Power Supply**



# Contents

Introduction	3
Input Voltage and Connection	4
Installation	5
Ionising Equipment Connection	6
Fault / Diagnostic Check	10
Repairs And Warranty	14
Maintenance	15
CE Approval	15

Products shown in this document may be covered by one or more patents, patents applied for and/or registered designs and/or trade marks. For further information please refer to our Head Office or visit [www.meech.com](http://www.meech.com).



# Introduction



The Meech Model 904 high voltage power supply has been designed to operate any of the Meech range of ionising equipment requiring a 7kV AC power source.

The Model 904 converts mains voltage AC (110 / 240V) input into a high voltage output (7.0 kV AC) suitable for connection to Meech ionising appliances.

The Model 904's unique design features a modified AC output waveform which ensures that ionising appliances attached to it are in operation for longer time periods in any one cycle. The modified output waveform of the 904 also minimises stress on ionising appliances attached to it, thereby ensuring long term reliability of the ionising system.

High voltage  
output ON  
indicator IEC

Fused mains  
input socket

Connection socket for  
900vs2 High  
Voltage Sensor

Earth post



Input voltage selector  
switch (110 / 240V)

Illuminated ON/OFF  
mains switch

Ionising appliance  
connection ports

## Input Voltage and Connection

- Installation and connection of the Meech Model 904 must be completed by a qualified electrical engineer
- For safety reasons this equipment must be grounded / earthed either via the mains plug or by direct connection to ground / earth.

# Installation

- The 904 power supply should be mounted in a ventilated enclosure or free air space using the flanged mounting plate. It is important that it is mounted in such a position to prevent oil or moisture from other sources contaminating the supply.
- Failure of the unit through contamination will invalidate the warranty.

The Model 904 can operate from either a 110V or 240V switchable AC mains supply. It is available in two versions: 904-50 for 50Hz operation and 904-60 for 60Hz operation.

Select the appropriate input voltage on the input voltage selector switch.



A small flat blade screwdriver should be used to rotate the selector switch if it is necessary to change the selector switch setting.

# Ionising Equipment Connection

- Before making any connections ensure unit is disconnected from mains.

The 904 has 4 ionising appliance connection ports (2 on each side). Remove the lid of the 904 by unscrewing the three retaining screws, select the required number of ports, one per ionising appliance, and remove the necessary grommets from the ports.

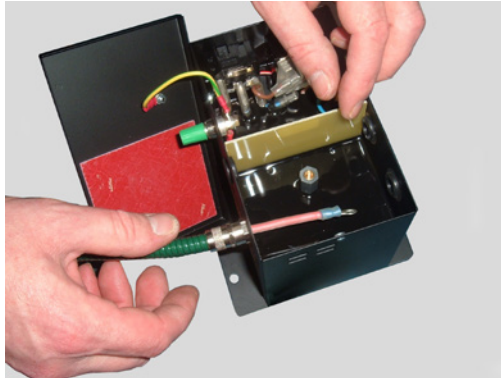


Connect the item of ionising equipment by removing the lock washer and nut from the swivel connector of the appliance.

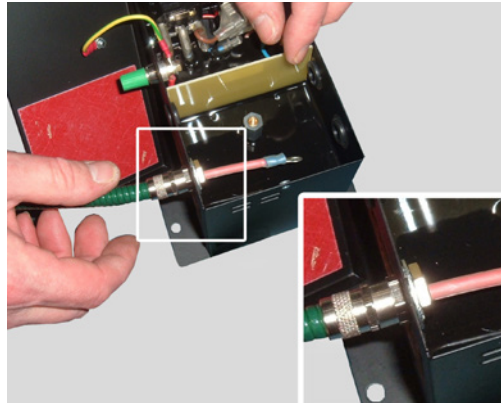


Push the connector through a port in the power supply adjacent to the high voltage terminal.

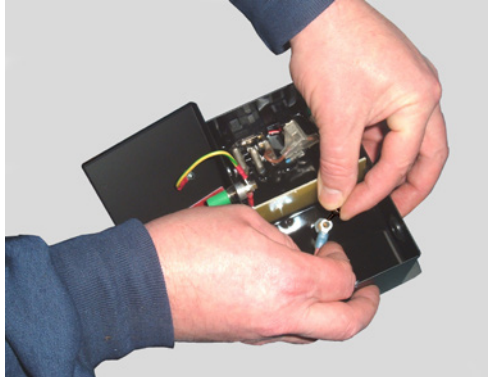




Then refit both the lock washer and nut to the appliance connector. Ensure that the nut is fully tightened.



Connect the cable eyelet of the appliance to the high voltage stud of the 904 using the screw provide.



Ensure that the nut of the appliance connector is fully tightened.

Repeat for each ionising appliance and replace the lid.

2m mains lead and IEC plug are supplied for connection to the 904. Insert the IEC plug into the IEC socket of the 904 ensuring the illuminated ON / OFF rocker switch is in the OFF position.

Connect the free end of the mains cable to the mains supply.



- For safety reasons this equipment must be grounded / earthed either via the mains plug or by direct connection to ground / earth.

Switch on the ionising system via the illuminated ON / OFF rocker switch of the 904.



In normal operation the ON / OFF switch will be illuminated red and the High Voltage indicator will be illuminated green.



# Fault / Diagnostic Check

- Tests must be completed by a qualified electrical engineer.  
If in doubt contact Meech head office or your local distributor

## FAULT - High Voltage indicator dim or extinguished



1. Check ON / OFF switch is illuminated.
2. Check voltage selector switch is set to the correct setting ( 110v / 240 V)
3. Check mains frequency is correct for the Model of 904 ( see 904 lid).



- 10 4. Check the fuse in the IEC socket of the 904.



5. Check voltage on the high voltage connection post.

a) Disconnect all ionising appliances connected to the power supply.

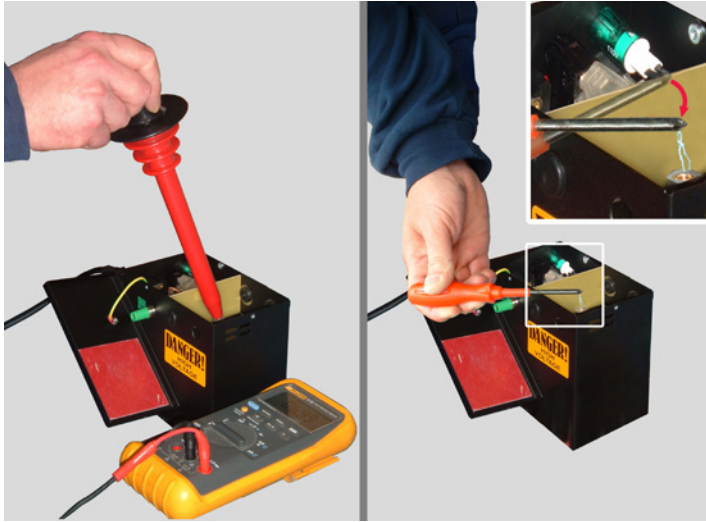
b) Remove all nuts or washers from the high voltage stud area of the 904.

c) With the lid removed reconnect the supply and switch on the unit. Check to see if the High Voltage indicator is illuminated. If illuminated, the power supply is OK - check ionising appliances attached (see appliance Operation and Maintenance Manual). Be extremely careful not to touch the connections to the switch or the mains feed. These connections carry mains supply.

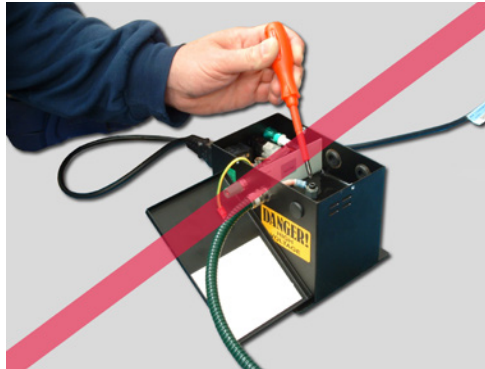
d) Using a high voltage probe (1000 to 1) and Digital Volt Meter measure the voltage on the output studs. The reading should be 7.0kV

e) If a high voltage probe and meter are not available the unit can be tested as follows:

- Using a screwdriver with a good insulated handle place the shaft of the screwdriver against the wall of the power supply.
- Approach the output terminal post with the tip of the screw driver.
- As the output post is approached a spark should jump from the stud to the screw driver. The spark should jump an air gap of 2 to 3 mm. If no spark is present then the unit is faulty



Note: You **cannot** test the power supply itself with a connected ioniser. If the ioniser has failed, for example by shorting to earth, this will overload the power supply and effectively turn it off. Thus no spark will occur, even though the power supply is OK.



6. Check ionising appliance integrity (see also the appropriate operation and maintenance manual).

- Attach each ionising appliance individually to the 904. Switch on the 904 and check the High Voltage indicator is illuminated. If the high voltage indicator fails to illuminate, the appliance is faulty.

## FAULT - Fuse repeatedly blows

1. Check mains supply
2. Check voltage selector switch for correct setting.

**Model 904-50****Model 904-60**

Mains input selectable	110/240V	110/240
Input frequency	50Hz	60Hz
Output	7.0kV	7.0kV
Short circuit current	< 5 mA	< 5 mA
Weight	3.4Kg	3.4Kg
High voltage indicator	YES	YES
Fuse	500mA fast Blow	400mA fast Blow
Dimensions (h x w x d)	113x150x130mm	113x150x130mm
Power	140W	140W
Maximum load	12m of cable and product	12m of cable and product
UL approved	YES	YES



# Repairs And Warranty

The 904 power supply 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 power supply directly to Meech Static Eliminators or your local 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 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 power supply 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.

# Maintenance

The only maintenance required is that the exterior of the power supply should be cleaned regularly to keep it free from dust and other contaminants.

# 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.





#### **Meech International (UK)**

2 Network Point  
Range Road, Witney  
OX29 0YN, UK

Tel: +44 (0)1993 706700  
Fax: +44 (0)1993 776977  
email: sales@meech.com

#### **Meech CE**

2151 Fót  
Széchenyi út. 46  
Hungary

Tel: +36 27535075  
Fax: +36 27535076  
email: ce@meech.com

#### **Meech Static Eliminators USA Inc**

2915 Newpark Drive  
Norton, OH 44203  
USA

Tel: +1 330 564 2000 / 1 800 232 4210  
Fax: +1 330 564 2005  
email: info@meech.com

#### **Meech Static Eliminators (Shanghai) Co. Ltd**

Room 205, Huana Hotel Office Tower  
No. 1733 Lianhua Road  
Shanghai 201103  
China

Tel: +86 400 820 0102  
Fax: +86 400 820 0102\*201  
email: china@meech.com

#### **Meech Elektrostatik SA**

Kaiserbaracke 66  
B-4780 St.Vith  
Belgium

Tel: +32 8086 2983  
Fax: +32 8086 2821  
email: mesa@meech.com

#### **Meech Shavotech**

Shavo House, Survey No.21A / 10 B, Plot No.394  
South Main Road, Koregaon Park,  
PUNE 411 001  
India

Tel: 020-26069641/ 26069642,  
Fax: 020-26069644  
e-mail: india@meech.com