



Operating Manual

**Model 271/272
Flexible Ion Nozzle**

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Introduction

The Meech Models 271 and 272 Flexible Ion Nozzles have been designed to effectively eliminate localised static charges which exist in the work area.

Unpacking and Inspection

The Model 271/272 Flexible Ion Nozzle has been 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.

Description

The Model 271/272 Flexible Ion Nozzles are compact, "hands-free" ionisers, designed for repetitive cleaning tasks. They are powered by the Meech Model 233 Pulsed DC Controller. They are suitable for electronic and cleanroom environments and are quick to install and easy to use. Both Models feature replaceable titanium emitters.

The Models 271 and 272 are designed to be free standing. However, each features a base plate that offers 4x4mm fixing holes to enable the unit to be firmly fixed to the work bench or vertical surface, if required.



Installation

The Model 271/272 should be connected to the Meech Model 233 Pulsed DC Controller.

Connect each of the plugs on the end of the cables of the Model 271 or 272 to a high voltage socket of the 233 Pulsed DC Controller.

Air connection for the Model 271 Flexible Ion Nozzle.

Connect the compressed air supply directly to the Model 271, via 6 mm air hose .

A local compressed air shut-off valve such as a foot switch should be installed (not supplied). The compressed air supply should be regulated to 30 Psi(2 Bar). Maximum operating pressure is 100Psi (7 Bar): optimum operating pressure will be application dependent.

Switch on the Model 233 Controller and operate the air supply shut-off valve. The Model 271 will now be operational and ready to use. The air supply and ionisation will both remain on until the shut off valve is closed and the Controller is switched off.

Air and HV Switch connection for the Model 272 Flexible Ion Nozzle.

The Model 272 is supplied with a pneumatic foot pedal specially modified to include an integrated micro switch. The compressed air supply should be routed through the air fitting on the foot pedal via standard 6 mm air hose and then to the Flexible Ion Nozzle.

The compressed air supply should be regulated to 30 Psi(2 bar). Maximum operating pressure is 100Psi(7 Bar): optimum operating pressure will be application dependant.

The 3.5 mm jack plug on the foot pedal control cable should be inserted into the remote control socket on the rear of the Model 233 Controller. As the foot pedal is depressed the air is allowed to flow to the Flexible Ion Nozzle. Depression of the foot pedal also activates the micro-switch which turns on the high voltage circuit of the 233 Controller. The Model 272 Flexible Ion Nozzle will only emit ions when the foot pedal is depressed (ie ON).

WARNING - High voltages are present in the unit.

Under no circumstances should the unit be opened without first turning off the power and isolating the unit by disconnection of the power cord of the 233. Operators must not try to insert fingers or any other object into the nozzle of the Model 271 or 272.

Maintenance

Models 271 and 272 feature replaceable titanium emitter pins. These should be inspected periodically (typically every 30 days).

Inspection of the emitter pins must only be carried out with the Model 271 or 272 disconnected from both the compressed air supply and Model 233 Pulsed DC controller.

Remove the nozzle cap by unscrewing the cap from the nozzle body. The emitter pins will now be accessible. If the pins appear dirty they should be cleaned using a swab and isopropanol. The emitter pins must be allowed to dry before the cap is replaced and the unit is switched back on.

If the pins are worn and require replacement, the pins should be removed using a pair of round nose pliers and replacements fitted. Replacement pins are available from Meech, item code A-200-EMITP-10/1.0.

The exterior of the Flexible Ion Nozzle should be kept clean by wiping with a damp cloth.

For Best Results

1. Keep the target area clear and free from obstructions to the ion flow.
2. Keep the work area clear of all static generative materials.
3. Use only approved static control grounding methods and material handling equipment.
4. By properly using ionised air, all static potentials in the work area are greatly reduced, even when humidity levels decrease.

Technical Specification

Model 271 Flexible Ion Nozzle

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| Body | : | Polyethelene |
| Size | : | 245 mm (Flexible length) |
| Weight | : | 0.72 kg |
| Max Air Pressure rating | : | 100 Psi(7 Bar) |
| Typical Operating pressure | : | 20 to 40Psi (1.5 to 3 Bar) |
| Noise level | : | 68 dBA (20 Psi at 1m)(1.5 Bar) |
| Emitter Pins | : | Machined titanium (7mm) |
| Decay time 100V) | : | 0.5 sec at 150mm at 30 Psi (1000V to |
| Ozone | : | Less than 0.01 ppm |

Model 272 Flexible Ion Nozzle

As for the Model 271, but with addition of following items as standard:

Pneumatic foot pedal, with built-in air and ionisation controls, air fittings and control cable (2m).

Calibration And Balance Verification

Balance verification should be checked in accordance with the ESD protection Standard ANSI-EOS/ESD-S3.1-1991.

Remember

It is important to verify calibration after any adjustments and before using your Ion Nozzle in the presence of sensitive electronics.

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 makes no contact with water or water based fluids. Should such an event occur, disconnect immediately and return equipment to Meech for water damage assessment.

Cable Plugs

Please note that, on leaving the factory, the brass ends of the cable plugs are configured to a standard size for fitment into the power sockets of the A233/232 Pulsed DC Controller. Meech has found that occasionally during transportation and handling the ends of the plugs can become slightly mis-shaped which may cause difficulty with their location into the power sockets.

If you find this to be the case, then (1) if the plugs are too tight, you should lightly pinch together the two halves of the brass end of the plug with a pair of pliers, or (2) if the plugs are too loose, you should gently open out the slot in the brass end with the blade of a screw-driver or knife.

Repairs and Warranty

Your Flexible Ion Nozzle 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 ioniser directly to Meech or to your distributor. All products returned to the factory MUST be accompanied by a return authorisation number and must be shipped prepaid. Meech Static Eliminators Ltd. liability under this warranty is limited to replacing or repairing any unit returned by the purchaser, that has not been subject to misuse, neglect, repair, alteration or accident. In no event shall Meech Static Eliminators Ltd be liable for collateral or consequential damages.

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 Ion Nozzle to you. Meech 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.

Your Flexible Ion Nozzle has been designed to minimise effects of localised static charges. If your processing involves generation of considerable static charges however, you may need more powerful equipment. Meech Static Eliminators Ltd has available a complete range of Ionising Blowers, Air Guns, Bars and overhead room systems to meet all your Static Elimination requirements.

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")

Health and Safety

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

**Meech International**

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

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

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

7G, 7F, LP Tower
#25 Xiangfeng Road
201103 Shanghai
China

Tel: +86 400 820 0102
Fax: +86 21 6405 7736
email: china@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 Shavotech

29/2, Kharadi
Off Pune-Nagar Road
On Old Kharadi Mundhwa Road
Pune - 411014 , Maharashtra
India

Tel: +91 (0)703 093 8211 / +91 (0)741 000 4817
Fax: +91 (080) 28395963
email: india@meech.com

Meech Elektrostatik SA

Kaiserbaracke 166
B-4780 St.Vith
Belgium

Tel.: +49 (0)6555 3733 399
+32 (0)80 670 204
Fax: +32 (0)80 862 821
email: mesa@meech.com

**Meech International
(Singapore) Pte. Ltd.**

7 Temasek Boulevard
12 - 07 Suntec Tower One
Singapore
Singapore
038987

Tel: +65 65918859
email: singapore@meech.com

Meech CE

Gábor László utca 2
Budapest 1041
Hungary

Tel: +36 1 7977039
+36 30 2803334
email: ce@meech.com