Operating instructions

HAUG GB®

Mini Jet Ionisator II

Keep for future use!

Mini Jet Ionisator II	04.7614.000
Mini Jet Ionisator II with air gun	04.7618.000

Air Line

Table of contents

1 Operator instructions

Make sure you read the complete operating instructions before installing and commissioning the **"Mini Jet Ionisator II"**. They form a constituent part of the **"Mini Jet Ionisator II"** and must be retained for later use or a subsequent owner.
Safety instructions must be observed and followed at all times.

For reasons of convenience, **"Mini Jet Ionisator II"** is abbreviated **MJ II** below.

The **MJ II** is an air-assisted ionizing unit which is available in two versions:

- With compressed air connection
- With air gun

The **MJ II** is operationally safe when used as intended.

The following signal words are used:

WARNING!

If ignored

- severe personal injury.
- or death may result.

CAUTION!

If ignored

- light personal injury may result.

ATTENTION!

If ignored

- light material damage may occur as a consequence which might lead to damage to the ionizing unit.

NOTE: *Important notes and additional information.*

2 Safety

All activities must be performed only by persons authorized by the owner. Such persons must

- have basic knowledge in the field of electrical engineering.
- have basic knowledge in the field of mechanical engineering.
- have been instructed in the installation and handling of compressed air devices and the resulting dangers.
- have read and understood the operator instructions.

Make sure to switch off the compressed air and power supply before starting work on the **MJ II**, and protect against inadvertent activation. In the event of damage to the ionizing unit, the risk of electric shocks arises. Immediately take the ionizing unit out of operation in the event of visible damage and suspected electrical failure, and protect against reuse.

Never use air-asissted ionizing units without pressure reducer and compressed air filter, and never exceed the permissible maximum pressure. The compressed air must be filtered (< 20 µm), dry and oil-free. Secure air hoses with suitable clamps.

The ionizing unit does not contain any parts which can be repaired by the operator.
For reasons of safety, unauthorized conversions and modifications of the **MJ II** are not permitted.

⚠ WARNING!

The ionizing unit may influence heart pacemakers.
The electric high voltage in the ionizing unit results in an electric alternating field of 50 Hz which may influence the function of the heart pacemaker.
Malfunction of the heart pacemaker may result in ventricular fibrillation or cardiac arrest.

- Persons wearing heart pacemakers must maintain a safety distance of more than 50 cm from the ionizing unit.
- The operator must mark the danger zone around the ionizing unit by means of a warning sign.
- The accident prevention regulations according to BGV A8 must be observed.
- An expert study on the influence of ionization systems on implanted heart pacemakers is available from HAUG GmbH & Co. KG.

⚠ CAUTION!

Injuries may be caused by the ionizing pins of the ionizing unit.
When touched, the ionizing pins may lead to stab or tear injuries to the hands.

- Protective gloves must be worn when working on the ionizing unit (EN 388 3122).

During operation, small amounts of ozone are generated by the ionizing units.
A very high ozone concentration and prolonged continuous exposure times may result in headache, irritation to the eyes, circulatory problems etc.

- To ensure that the maximum permissible ozone concentration at the workplace is not exceeded, adequate ventilation must be provided during operation of the ionizing units.
- An expert study on ozone emissions of ionization systems is available from HAUG GmbH & Co. KG.

ATTENTION!

Wetness and moisture may result in spark-overs and leakage paths. Damage to the ionizing unit and short-circuits are a likely consequence.

- Protect the ionizing units from moisture and wetness.
- Never use high-pressure cleaners to clean the units.

Insertion/removal of the high-voltage plug into/from the ionizing unit while the power pack is switched on may result in contact or separation sparkovers.
This may result in damage to the power pack or defects.

- Always switch off the power pack before plugging in/unplugging the high-voltage plug.

Pulling the high-voltage cable of the ionizing unit may result in gaps at the contact points within the high-voltage plug and connection of the unit. Arcing may occur at the gaps due to the high voltage. Resulting in damage to the unit.

- Do not pull the high-voltage cable.

3 Intended use

The **MJ II** is intended for the contact-free cleaning of surfaces in industrial production processes. It removes electrostatic charges and contamination (e.g. dust or similar) from paper, film, textiles, glass, plastics etc.

The **MJ II** must be operated with filtered (< 20 µm), dry and oil-free compressed air only.
Never exceed the maximum operating pressure of 6 bar.

This ionizing unit is only approved for alternating high voltage.
The high-voltage connector (system X-2000) of the ionizing unit matches all popular HAUG power packs. The ionizing unit must only be connected to a HAUG power pack. Any warranty only extends to the units and accessories of HAUG GmbH & Co. KG.

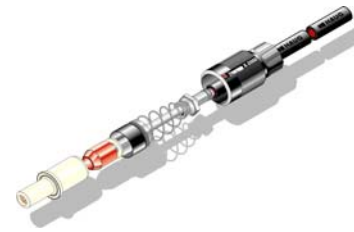
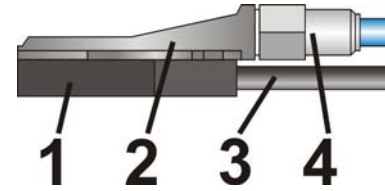
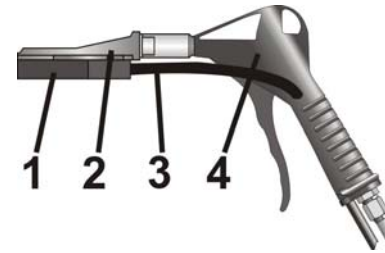
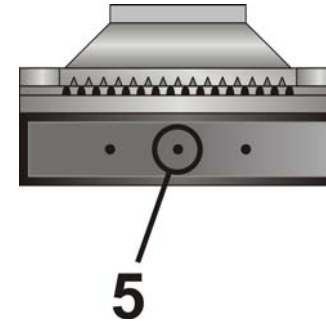
The installation and operating conditions indicated in these Operating Instructions must be adhered to.

WARNING

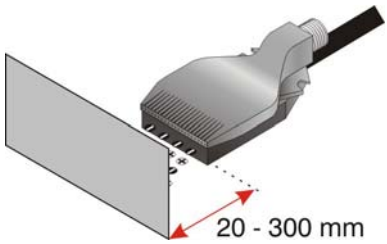
Risk of explosion!
Ignitable sparks may form at the ionizing units.

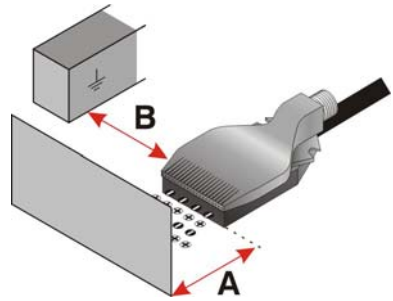
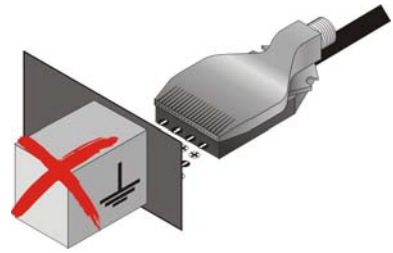
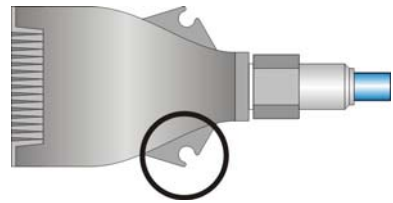
- Do not install or use the ionizing units in area with potentially explosive atmosphere.

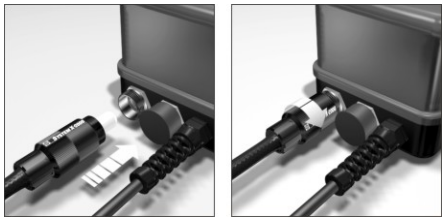
4 Description of unit

High-voltage plug **System X-2000** The high-voltage plug system can be taken apart. This allows the high-voltage plug to be assembled or dismantled.	
Mini Jet Ionisator II: 1. Ionizer 2. Flat jet nozzle 3. High-voltage cable 4. Compressed air connection	
Mini Jet Ionisator II with air gun: 1. Ionizer 2. Flat jet nozzle 3. High-voltage cable 4. Air gun	
5. Ionizing pins	

5 Installation

1. Check whether the **MJ II** corresponds to the ordering data. • In the event of any damage to the **MJ II**, contact HAUG GmbH & Co. KG.	
2. Prepare the installation site with regard to the following installation parameters:	
ATTENTION!	
No ionization is possible at locations where the ionizing pins are covered by fixing elements or machine parts. At the covered points, an arc or leakage path may form due to contamination of electrically conductive materials, and damage the ionizing unit. • Never attach mounting elements or machine parts over the ionizing pins.	
The most favourable distance of the **MJ II** to the material to be ionized is approx. 20 – 300 mm. The limit values for the ionizing effect are at 10 mm min. and 500 mm max.	

The distance of the **MJ II** to an earthed machine part (B) must be greater than the distance to the material to be ionized (A).	
No earthed machine parts must lie behind the material to be ionized.	
3. Pick up and attach the **MJ II** in the machine using the grooves.	

ATTENTION!	
The shielding and insulation of the cable may be damaged if the cable is kinked or bent. This will result in a short-circuit. • The high-voltage cable must not be kinked. • When routing around bends, the bending radius must not be smaller than 50 mm.	
4. Switch off power pack and secure against inadvertent operation. 5. Insert the ionizing unit's high-voltage plug in the high-voltage socket of the power pack and press the high-voltage cable until it reaches the stop. 6. Screw the screw cap onto the high-voltage socket and tighten by hand.	

6 Maintenance

Clean the **MJ II** at intervals of no more than 14 days.
The dirtier the enviroment, the shorter the cleaning interval. Once the ionizing and cleaning effect drops off, clean the unit to bring the ionization and cleaning effect back to normal.

ATTENTION

The ionizing unit may be damaged if inappropriate brushes or cleaning agents are used.

- We strongly recommend the exclusive use of **cleaning accessories** from HAUG GmbH & Co. KG. Refer to Section Accessories.

Dry cleaning

1. Switch off power pack and secure against inadvertent operation.
2. Switch off the compressed air supply.
3. Disconnect the ionizing unit from the power pack.
4. Brush the ionizing pins of the ionizing unit using special cleaning brush RB1.
5. Blow off the **MJ II** with clean compressed air (max. 6 bar).
6. Check the high-voltage connections and high-voltage plugs for contamination. The connections must be clean and dry.
7. Reconnect the ionizing unit to the power pack.
8. Switch the compressed air supply back on.

NOTE: *If dry cleaning does not yield the desired result, continue by using a wet cleaning process.*

Moist cleaning

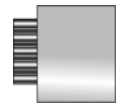
1. Switch off power pack and secure against inadvertent operation.
2. Switch off the compressed air supply.
3. Disconnect the ionizing unit from the power pack.
4. Wet the special cleaning brush **RB1** with the special cleaning agent **SRM1**. The special cleaning system **RS2** may also be used for cleaning.
5. Brush the ionizing pins of the ionizing unit.
6. Blow off the **MJ II** with clean compressed air (max. 6 bar) and allow to dry.
7. Check the high-voltage connections and high-voltage plugs for contamination. The connections must be clean and dry.
8. Reconnect the ionizing unit to the power pack.
9. Switch the compressed air supply back on.

7 Troubleshooting

Error	Cause	Measure for elimination
No ionization	The ionizing unit is dirty.	Clean the ionizing unit.
	No high voltage.	Check power pack.
		Check connections.
Sparks-over	The ionizing unit is covered with an electrically conductive deposit.	Clean the ionizing unit.
	The ionizing pins are too close to an electrically conductive material.	Increase distance to the cause.
	The ionizing unit is damaged.	Switch off the **MJ II** automatically and secure against switching on.

NOTE: *If the error cannot be removed in this way, return the power pack and **MJ II** for checking to HAUG GmbH & Co. KG (for address, see reverse).*

8 Accessories

Article	Illustrations	Order number
HAUG power pack		On request
Special cleaning fluid **SRM1**		10.7220.000
Special cleaning brush **RB1**		10.7218.000
Special cleaning system **RS2**		10.7218.004
Circular brush for special cleaning system		X – 5677
Compressed air service station		11.7210.001
Compressed air hose		X – 3310

9 Technical data

9.1 Supply voltage

Electric connection to HAUG power pack	7 – 8 kVAC

9.2 Air supply system

Compressed air	Filtered (< 20 µm), dry and oil-free.
Maximum pressure	6 bar
Air consumption	315 l/min at 2 bar

9.3 Ambient conditions

Do not use in areas with potentially explosive atmospheres.	
Only for inside use.	
Temperature:	
Rated application range	+5 °C to +45 °C
Extreme range for storage and transport	-15 °C to +60 °C
Humidity:	
Rated application range	20 % to 65 % RF
Extreme range for storage and transport	0 % to 85 % RF

9.4 Dimensions

Dimensions:	
Height	approx. 28 mm
Width	approx. 50 mm
Depth	approx. 75 mm
High-voltage cable	Length customer-specific
Compressed air hose	Length customer-specific

10 Decommissioning

1. Switch off the machine and secure against unintended switching on.
2. Switch off power pack and secure against inadvertent operation.
3. Switch off the compressed air supply.
4. Disconnect the **MJ II** from the power pack.
5. Disconnect the **MJ II** from the air supply system.
6. Dismantle the **MJ II** from the machine.

11 Disposal

Observe and maintain national and regional waste disposal regulations for the disposal of the **MJ II**.

NOTES:

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