GB

Operating instructions
RI LG

Keep for future use!

Ident number:
04.7204.000
04.7205.000
04.7214.000
04.7215.000

Air Line

Table of contents

1 Operator instructions

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

The "**RI LG**" is an air-assisted ionizing unit.

The ionizing unit is safe to operate if used as intended.

The term "high voltage" is abbreviated **HV** as part of the following expressions:

- HV connection
- HV plug
- HV cable
- HV socket

Symbols

WARNING

If this safety instruction is ignored, consequences may include fatal or critical injuries.

CAUTION

If this safety instruction is ignored, consequences may include slight injuries.

IMPORTANT

If this safety instruction is ignored, consequences may include damage to assets.

NOTE: *Important notes and additional information.*

Do not dispose of with household garbage.

2 Safety

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

The installer must

- have been instructed in the installation and handling of compressed air devices and the resulting dangers.
- have read and understood the operator instructions.

Users must

- have been instructed in handling of compressed air devices and the resulting dangers.
- have read and understood the operator instructions.

When handling air-assisted units, always observe the following rules:

- Never use without pressure reducers and compressed air filters.
- Never exceed the permissible working pressure.
- The compressed air must be filtered (< 20 µm), dry and oil-free.
- Secure air hoses with suitable clamps.
- Always wear personal protective equipment for units operated with compressed air (e.g. safety goggles, hearing protection, dust mask etc.).

Interference with pacemaker.
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.

Electric shocks due to manipulated or faulty ionizing units.
In the case of unauthorized conversions, wetness, moisture, or damage to the ionizing unit, there is a risk of electric shock.

- The ionizing unit does not contain any repairable parts.
- Unauthorized conversions and modifications of the ionizing unit are prohibited for safety reasons.
- Immediately take the ionizing unit out of operation in the event of visible damage and suspected electrical failure, and protect against reuse (refer page 17).
- Never operate the ionizing unit when your hands are wet.
- Never place or drop into liquids.
- Protect the ionizing unit from wetness and moisture.
- Clean any wetness off the ionizing unit carefully and allow to dry.

High voltage at the ionizing pins.
After the power pack is switched on, high voltage is present at the ionizing pins. The compressed air lever merely controls the compressed air supply, but not the high voltage.
A tingling sensation can be felt when the ionizing pins are touched. This may startle the user and result in consequential accidents.

- Never leave the ionizing unit unattended.
- Do not touch the ionizing pins.
- Switch the power pack off during longer operating breaks.

Physical complaints due to an excess of ozone.
During operation, small amounts of ozone are generated by the ionizing unit.
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.

3 Intended use

⚠ WARNING

Risk of explosion in areas with potentially explosive atmospheres.
The ionizing units may generate ignitable sparks which may ignite gases, dust or similar substances.

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

The ionizing unit is intended to eliminate electrostatic charges in industrial production.
The air stream is used to clean surfaces (e.g. from dust) and to convey the ions.
The ionizing unit is particularly suited for:

- photo and film processing
- electronic production and precision engineering
- construction of measuring and switching equipment
- circuit board insertion
- screen, pad and other printing methods

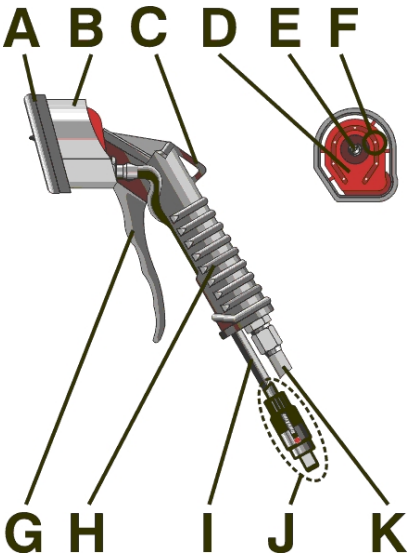
The ionizing unit must only be operated with a suitable power pack supplied by HAUG GmbH & Co. KG. The power pack and ionizing unit work in coordination with each other and ensure safe operation.

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

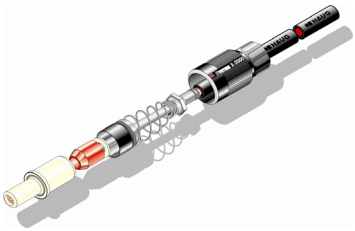
4 Description of unit

RI LG

A	Edge protection
B	Counter-electrode
C	Retaining hook
D	Insulating section
E	Nozzle
F	Ionizing pin
G	Compressed air lever
H	Handle
I	HV cable
J	HV plug (System X-2000)
K	Compressed air connection



HV plug "System X-2000"
The HV plug system can be taken apart. This allows the HV plug to be assembled or dismantled.

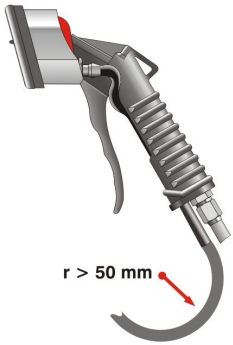


5 Installation

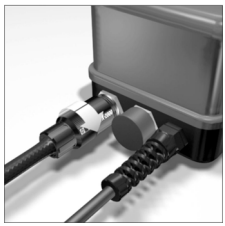
IMPORTANT

Kinking or bending may damage the HV cable and insulation. This may result in a short-circuit.

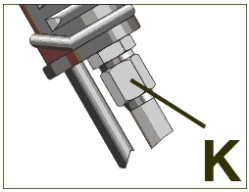
- The HV cable must not be kinked.
- When routing around bends, the bending radius must not be smaller than 50 mm.
- Check the HV cable for kinks, cuts etc.



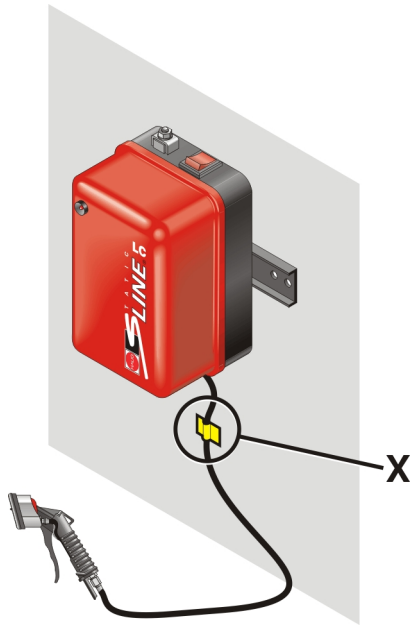
1. Switch off power pack and secure against inadvertent operation.
2. Insert the ionizing unit's HV plug in the HV socket of the power pack and press the HV cable until it reaches the stop.
3. Screw the screw cap onto the HV socket and tighten by hand.



4. Connect the compressed air supply to compressed air connection (K). Use compressed air hose (Ø 15 x 9 mm).



5. **IMPORTANT** Pulling the HV cable may cause interruptions of the contacts in the HV plug. This may result in a failure of the power pack or HV plug.
   - The HV plug must be provided with a strain relief.
6. The HV cable must be provided with a strain relief (X) near the HV plug. Use the hose clamp or cable tie supplied with the unit.
   - From the strain relief, the cable should be oriented towards the workplace.
   - The permissible bending radii of the HV cable must be observed at all times.



7. The ionizing unit is ready to operate.

6 Application

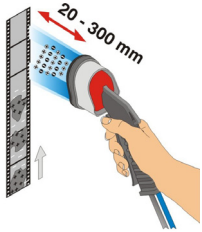
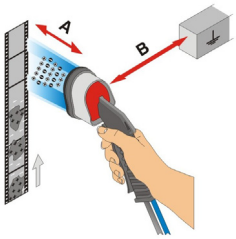
⚠ CAUTION

Improper application may cause injuries.

- Users must have read and understood the Safety Chapter (see page 5).

Connect and install the ionizing unit according to the operating instructions.

1. Switch on power pack.
2. Switch on compressed air supply.
3. The ionizing unit is ready to operate.
4. Take the ionizing unit and orient it towards the substance to be cleaned.
5. Activate the compressed air lever.

• The best ionizing effect is achieved at a distance between 20 - 300 mm.	
• The distance (A) to the substance to be cleaned must be smaller than the distance (B) to a grounded machine part.	

7 Cleaning

⚠ CAUTION

The ionizing pins are sharp and pointed. During cleaning of the ionizing head, there is a risk of injuries to the hand due to needle-pricks, tears or cuts.

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

IMPORTANT

An incorrect cleaning agent may result in damage to the ionizing unit.

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

7.1 Cleaning interval

The efficiency of the ionizing unit suffers as a result of contamination of the unit. This can be eliminated by cleaning.

- Clean the ionizing pins of the ionizing units **at least every 14 days**.
- The cleaning interval should be shortened when working in a heavily contaminated environment.

7.2 Dry cleaning

1. Switch off power pack and secure against inadvertent operation.
2. Disconnect the ionizing unit from the power pack.
3. Brush the ionizing pins of the ionizing unit using special cleaning brush **RB1**.
4. Blow off the ionizing unit with clean compressed air (max. 6 bar).
5. ***IMPORTANT*** Contamination can cause short-circuits in the HV connection. Short-circuits cause failures of the power pack and HV plug.
   - Check the HV connections and HV plugs for contamination.
   - The connections must be clean and dry.
6. Reconnect the ionizing unit to the power pack.

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

7.3 Moist cleaning

1. Switch off power pack and secure against inadvertent operation.
2. Disconnect the ionizing unit from the power pack.
3. Wet the special cleaning brush **RB1** with the special cleaning agent **SRM1**. The special cleaning system **RS2** may also be used for cleaning.
4. Brush the ionizing pins of the ionizing unit.
5. Blow off the ionizing unit with clean compressed air (max. 6 bar) and allow to dry.
6. ***IMPORTANT*** Contamination can cause short-circuits in the HV connection. Short-circuits cause failures of the power pack and HV plug.
   - Check the HV connections and HV plugs for contamination.
   - The connections must be clean and dry.
7. Reconnect the ionizing unit to the power pack.

8 Troubleshooting

⚠ CAUTION

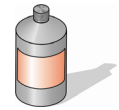
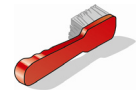
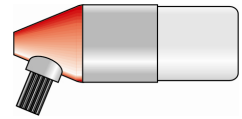
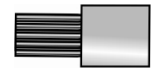
Improper troubleshooting may cause injuries.

- Users must have read and understood the Safety Chapter (see page 5).

Error	Cause	Measure for elimination
No ionization	The ionizing unit is dirty	Clean the ionizing unit (refer to page 12, Chapter 7).
	No high voltage	Check voltage supply
	Error in ionization system	Check ionizing unit and power pack using the Combicheck (refer to page 15, Accessories)
Sparks-over	Fault in the ionizing unit	Shut down the ionizing unit immediately and secure against inadvertent switching on
No compressed air assistance	Failure of compressed air supply	Check compressed air supply

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

9 Accessories, spare parts

Article	Illustrations	Order number
Special cleaning fluid **SRM1**		10.7220.000
Special cleaning brush **RB1**		10.7218.000
Special cleaning system **RS2**		10.7218.001
Circular brush for special cleaning system		X – 6822
Combicheck		12.7231.000
Fastening clamp		X – 8149
Compressed air service station		11.7210.001
Compressed-air hose Ø 15 x 9 mm		X – 6614

10 Technical data

10.1 Supply voltage

Electric connection to HAUG power pack	7 – 8 kVAC

10.2 Air supply system

Compressed air	Filtered (< 20 µm), dry and oil-free
Maximum pressure	10 bar
Compressed air consumption 04.7204.000, 04.7214.000	bar 1 2 3 4 5 6 l/min 20 40 70 90 120 140
Compressed air consumption 04.7205.000, 04.7215.000	bar 1 2 3 4 5 6 l/min 57 112 164 214 262 308

10.3 Ambient conditions

Use in areas with potentially explosive atmospheres is prohibited (refer to page 7)	
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

11 Decommissioning

1. Switch off power pack and secure against inadvertent operation.
2. Disconnect the ionizing unit from the power pack.
3. Disconnect the ionizing unit from the air supply system.

11.1 Storage

Store the ionizing unit at a dry and cool location.

11.2 Disposal

Do not discard electrical applicances with household garbage. Electrical appliances must be collected separately and recycled in an environmentally responsible way.

All national and regional waste disposal regulations must be observed and complied with during disposal.

If no facilities exist for the proper disposal of electrical appliances, the unit may be retured to HAUG GmbH & Co. KG for environmentally responsible disposal.

NOTES:

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