



**GREISING**

# INSTRUCTIONS FOR USE

Kai Greising  
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## Clean Marker V



Clean Marker V I  
Clean Marker V II  
Clean Marker V III

# INSTRUCTIONS FOR USE

## PRODUCT DESCRIPTION

Model:

Unit No.:

Built:

## CUSTOMER REGISTRATION

Stock No.:

## THE USER IS OBLIGED TO:

- observation of EC Regulations 89/655 and their national implementation
- observation of the current national regulations concerning industrial safety
- utilisation of the machine in accordance with instructions

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## **KAI GREISING KG CLEAN MARKER**

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## 1 SAFETY REGULATIONS

### 1.1 CORRECT UTILIZATION

The units are intended for cleaning welded seams, for removing oxide coating on stainless steel welded seams, for etching conductive metal surfaces and for galvanizing and blasting small areas.

The function is only guaranteed when original parts are used.

Any other or any use beyond those determined is not considered to be correct.

The manufacture cannot be held responsible for any damages resulting from such incorrect use.

The following are also considered to be part of correct utilization:

- Compliance with instructions on use.
- Compliance with inspection and maintenance requirements.
- Use of protective clothing, especially gloves and goggles.

### 1.2 TIPS AND DEFINITIONS



**Warning**

*A possibly dangerous situation which could lead to serious injury or even death.*



**Warning**

*A possibly dangerous situation, which could lead to light physical injury. This sign is also used as a warning for heavy material damage.*



**Information**

*Concerning usage and other useful information.*



**Information**

*The arrow describes a following process occurring automatically and / or the condition which should now be set.*

### 1.3 OBLIGATIONS AND LIABILITY

#### 1.3.1 Necessary qualifications of operators

Operation, maintenance and inspection may only be carried out by authorised and qualified specialists. The minimum age of the operator is 18. Authorised specialists are understood to be specialists trained by the user, the manufacturer or the service partner.

These operators must be:

- trained in the use of the unit
- conversant with the instructions for use
- conversant with the safety equipment of the unit
- conversant with the relevant regulations, (especially with accident prevention regulations)
- authorised to use the necessary chemicals

# INSTRUCTIONS FOR USE

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## 1.3.2 Risks involved when using the unit

The unit has been built in accordance with the latest technical standards and the recognized regulations concerning safety. In spite of this, danger of injury to the user or a third party and/or damage to the unit or other materials could arise during use. The unit may only be used:

- for the process previously determined
- in a perfectly safe condition

## 1.3.3 Guarantee and liability

Our „General Conditions of Sale and Supply“ apply. Claims of warranty and liability made for personal injuries and material damages are excluded if they are resulting from one or more of the following causes:

- incorrect use of the unit
- non-observance of instructions for use
- unauthorised structural changes on the unit

## 1.3.4 Safety measures

The instructions for use are to be kept near the unit and are to be passed on by sale or exchange of the machine.

All safety and danger signs on the unit are to be clearly visible at all times.

## 1.3.5 Risks arising from electrical energy

- Work on the power supply is only to be carried out by the same electrician.
- The electrical equipment is to be checked regularly.
- Loose connections and damaged cables must be remedied immediately

## 1.3.6 Special risks arising from chemicals

Dealing with chemicals should be considered a special risk. Pay attention to the Safety Data Sheets and the following remarks in these instructions.

### Eye protection

- Eyes should be protected from chemicals with goggles

### Hand protection

- Put on rubber gloves before working with chemicals

### Clothes protection

- Wear protective clothing before using chemicals (acid-proof apron, working coat)

### Breathing protection

- Fumes arise when using chemicals. Always wear a face mask!

### Accident with chemicals

Should chemicals come into contact with eyes in spite of wearing goggles, then:

- rinse the eyes with plenty of clear water
- seek medical attention.

### Further information

- Should skin or clothes come into contact with chemicals, they should be washed immediately with plenty of water.
- Do not eat or drink at the workplace.

- Always wash your hands before taking a break.
- Keep the equipment and chemicals away from children.

### 1.3.7 Maintenance and servicing, repairing faults

The prescribed maintenance work and inspections are to be carried out on schedule.

Before beginning maintenance work, inspection or repairs, switch the unit off and secure by „pulling the plug“.

### 1.3.8 Constructional changes on unit

Without the prior consent of the manufacturer, no alterations, additions or removals of any sort may be made on the unit.

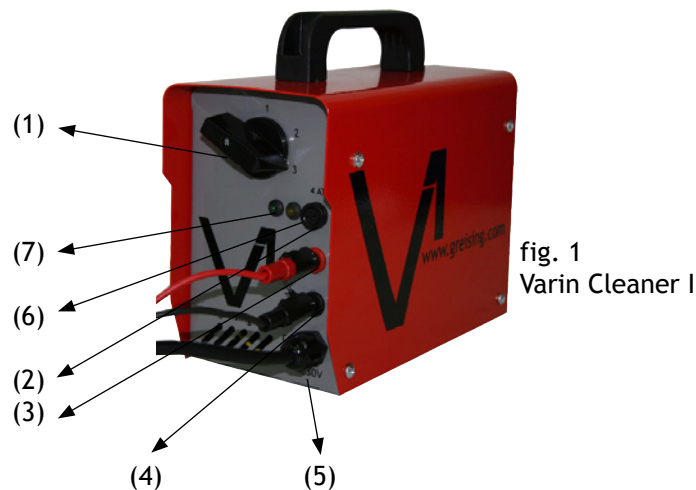
Only spare or replacement parts originating from the manufacturer or his authorised dealer may be used.

### 1.3.9 Emission

Electrolyte may vaporise during etching and cleaning. These vapours should not be inhaled. Provide fresh air circulation in your place of work.

## 2 INTRODUCTION

### 2.1 GENERAL VIEW



# INSTRUCTIONS FOR USE

## 2.2 TECHNICAL DATA

general data	Clean Marker V I	Clean Marker V II	Clean Marker V III
dimensions: WxHxD [mm]	115x180(210)x240	145x220(250)x330	140x220x325
weight, ca.:	4,7 kg	7,6 kg	7,4 kg
power supply			
voltage	230 V 50-60 Hz	230 V 50-60 Hz	230 V 50-60 Hz
voltage for cleaning and etching	low voltage	low voltage	low voltage
capacity	200 VA	320 VA	320 VA
fuse	4 A tr.	4 A tr. v. 16 A tr.	4 A tr. v. 16 A tr.

## 2.3 CONFORMITY

The unit fulfils the following regulations and standards:

- EMV - Regulations 89 / 336 / EWG
- Low Voltage Regulations 73 / 23 / EWG
- changed by the altered regulations 93 / 68 / EWG

The CE - label is on the front of the unit.

The type plate with the special unit number is attached to the rear.

## 2.4 TRANSPORT, SETTING UP

Please pay attention to the transport instructions on the packaging. Keep upright. If possible, store vibration - free.

### 2.4.1 Surrounding conditions

Temperature	-5°C bis + 55°C
Humidity	dry, roofed, dew protected
Installation location	dust free, flat, free of explosive gases
Processible materials	all electric conducted metall surfaces

## 2.5 ACCESSORIES

The contents of the various accessory sets can be read in the current pricelists. The unit price only includes the power cable.

## 3 FUNCTION, METHOD OF OPERATION

### 3.1 FUNCTION

With this device you can remove temper colors and oxid layers on stainless steel surfaces. Furthermore you can do etching and marking.



### 3.2 METHOD OF OPERATION

- electrochemically pickling and cleaning
- ealvanically refining
- etching electrochemically

### 3.3 SAFETY AND MONITORING EQUIPMENT

- 4 Amp (1) und 16 Amp (3)
- A excess current switch on the front of the unit 6,3 A cut - out fuse on the rear of the unit (12).
- 2 LED's at the panel:  
green = Device ON  
yellow = Device ready for use

### 3.4 SWITCHING OVER SUPPLY VOLTAGE

Not possible.

### 3.5 OPERATING AND DISPLAY ELEMENTS

#### 3.5.1 Front Side, Operating Panel

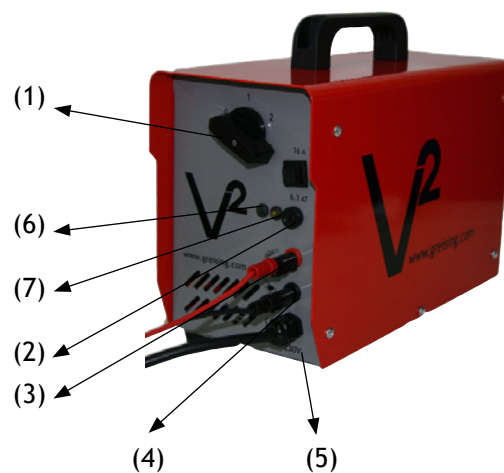


fig. 2  
Varin Cleaner II

- (1) selection switch
- (2) micro-fuse 4 A tr.
- (3) ground jack red
- (4) tool port black
- (5) power cable
- (6) control lamp green (voltage)
- (7) control lamp yellow (ready for use)

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## 4 TRANSPORT, SETTING UP

### 4.1 SAFETY REGULATIONS

#### 4.1.1 Temporary storage

Always keep the unit in its outer packaging and in a dry room indoors.

#### 4.1.2 Unpacking

Without using sharp tools, remove the outer packaging carefully.

Keep the original packaging. Always use it for storing and transporting the unit.

#### 4.1.3 Putting the machine into operation

- Check if the voltage of the power supply suits to the information written on the device, see point 2.2.
- using the mains cable connect the unit to the mains voltage
- push the red cable into the red connecting socket (3)
- fix the earthing clamp to the red cable and then on the workpiece
- push the black cable into the black connecting socket (4)
- fix the other end of the cable into the tool for lettering/cleaning
- Start the device with the selection switch, the yellow light (7) and the green light (6) should be lit, the unit is ready.

#### Varin Cleaner I:

The device has a thermo cutoff. Is that one activated, the yellow lamp (7) doesn't shine anymore. You have to wait until the Varin Cleaner is ready for use again.

#### Varin Cleaner II:

The device has a 16 A protection switch (...), when that one is activated, the yellow lamp (7) doesn't shine anymore! You have to push the button of the Protection switch again.

## 5 OPERATING

### 5.1 INITIAL OPERATION

Carry out a check and inspection, not only prior to initial operation, but also prior to every set up.

Set up the unit as described above.

Working with chemicals can be dangerous. Always wear a face mask, acid-proof apron, goggles and gloves.

When using the electrolytes, please read the Safety Data Sheets first (currently to be found under [www.greising.com](http://www.greising.com) / Clean Marker / Service).

Do not ingest the vapours arising. Should there be skin contact, wash with plenty of water.

#### 5.1.1 Unit adjustments for cleaning Varin Cleaner

Cleaning: Put the red cable into the red socket (3), black cable into socket (4), adjust selection switch to level 2 or 3, depends on the intensity of the temper color. When using level 3 damp development can be caused.

Lettering: Put the red cable into the red socket (3), black cable into socket (4). Adjust selection switch to level 1.

## 5.2 CLEANING WITH THE VARIN CLEANER (60°-TOOL)

### 5.2.1 Tips for maximum cleaning effect

When using thin fibreglass material, we recommend placing a piece of felt between the tool and the fibreglass. To get into the smallest angles, just use the felt.

Change fibreglass pads frequently. Failure to do so could lead to a short. Never use the tool with cleaning felt for etching nor vice versa. This could result in your work piece becoming black. If the tool head becomes too warm, exchange it.



*Slag and scale spots can only be removed by blasting (Clean Marker T1)*

### 5.2.2 The „Cleaning“ Process

- cut off a strip from the thick / thin fibreglass material or take a piece of cleaning felt
- use the „O“- ring to fix the strip on the tool head
- adjust the unit according to Chapter 5.1.1
- fill about 1 cm Greinox Polish or Rapid into the wide-neck container more can be filled into the containers for pump units
- moisten the tool
- run the tool over the bloom until the surface is clean



*To avoid white edges on the work piece: polish the cleaned work piece with the cleaning cloth supplied, lightly moistened with water and Neutralyt.*

## 5.3 LETTERING WITH THE CLEAN MARKER (FLAT TOOL)

### 5.3.1 Tips for maximum lettering effect

Every electrolyte contains salts. Depending on the material, these salts can have a strongly oxidizing effect. Extreme cleanliness must be used when handling the chemicals. Avoid carry-over of electrolytes and wash your hands frequently.

Make sure of good power contact and moist felt. Felt which is too dry restricts the flow of power. Stencils become clogged with salts and metals after a while. They should also be rinsed and cleaned frequently. Electrolyte can also be used for cleaning stencils. Small surfaces can best be etched by simply pressing the felt on the stencil. Larger areas are best etched by stroking the tool head several times over the entire surface of the stencil. This takes between 1.5 and 2 seconds. If the etching appears rusty, then either do not use the tool quite so long or decrease the voltage. The tool should be held at right angles to the work piece and the whole surface used for contact with the stencil.

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⇒ the electrolyte flows better through the stencil

Do not allow the stencil to become too warm as this could lead to premature wear and tear. When electrolyte vaporises it leaves residues in the stencil tissue. In time this reduces the clarity of the etching. Dark, i.e. dirty, felts must be changed frequently and the larger the stencil, the quicker the felt needs changing.

The results of lettering depend on various factors. The results can vary depending on material or within a material batch. Test the lettering for quality on a piece of waste material before beginning to work. The lettering can usually be optimised by using various parameters and electrolytes. By using switch (2) you can set whether the lettering should be dark or light. The result differs with different materials.

## 5.3.2 The „Lettering“ Process

- clean the spot to be etched
- cut off 30 mm etching felt (t = 2 mm) from the 60x2x1000 strip or from the sheet
- using the „O“-ring, fix the felt pad to the tool head
- adjust the device like described in point 5.1.1.
- add enough electrolyte to the felt on the underside of the tool (6 drops)
- position the stencil in the desired position on the work piece
- using light pressure and small swivelling movements stroke over the stencil or, if the stencil is small enough to be covered by the tool head, then simply press down and move slightly to and fro, holding the tool at right angles to the work piece
- 1.5 to 2 seconds should be long enough to produce a good etching although this depends on the material to be etched
- clean the surface and the etching
- neutralize the surface with a cloth soaked in Neutralyt GN 2 several times
- then finally conserve the surface and the etching with Konservat GK 2



*There is a special tool head for etchings wider than 30 mm.*

## 5.3.3 DEALING WITH SHORT-TERM STENCILS

- place the short-term stencil with the blue/green side facing you into the typewriter/matrix printer (without ribbon)
- type the desired lettering onto the blue/green side
- remove the short-term stencil and cut it to the desired size.
- remove the white protective paper
- moisten the upper side of the short-term stencil with electrolyte
- put the stencil into position on the workpiece
- press the tool head onto the stencil so that the whole surface covers the stencil and move it around gently
- after about 1.5 to 2 seconds (depends on the material) the process should be finished
- clean the surface so that no electrolyte remains on the workpiece
- neutralize the surface using a cloth soaked in Neutralyt GN 2
- conserve the lettering and the metal surface with Konservat GK 2

## 5.4 ELECTROPOLISHING WITH THE VIII

When electro-polishing, material is removed from the surface of the workpiece by specific electrolytes used in conjunction with an external DC source.

The material set free by the electrolyte is non-polluting and follows under flattening conditions. In contrast to mechanical removal processes, flattening by electro-polishing begins in the micro range and includes, during longer polishing periods, larger structures which are rounded and flattened off on their top surface. During electro-polishing, two different mechanisms work simultaneously, one flattens the upper surface in the micro range and the other achieves fine deburring in the macro range.

## 5.5 CLOSING DOWN THE UNIT

- switch off at the selection switch and remove the mains plug
- dismantle all the accessories
- clean all parts. See 6.2 maintenance.

## 6 MAINTENANCE

### 6.1 SAFETY REGULATIONS

Maintenance may only be carried out by an authorised person. Before beginning maintenance, switch off the unit and secure against inadvertent switching on, e. g. by „pulling the plug“. Work must be executed along the lines prescribed in Chapter 1 „safety measures“ .

### 6.2 MAINTENANCE AND INSPECTION CHECK LIST

#### 6.2.1 GENERAL REMARKS

Do not use cleaning agents, metal objects or compressed air. Dust and glue residues must be removed with a scraper made of plastic.

Maintenance interval	Controlpoint//Maintenance advise	Support
Daily before operation	<ul style="list-style-type: none"> <li>• Check the device for damages and defects.</li> <li>• Check tool for wastage. If necessary change the tool and the felt.</li> </ul>	
After every use	<ul style="list-style-type: none"> <li>• Clean tool and cable.</li> </ul> <p><b>Cleaning of the tool:</b> Remove the handle from carbonheadpiece and clean both with a lot of water.</p> <p><b>Cleaning of the device and the cables:</b> Wipe it off with a wet rag.</p>	Soft rag, brush.



*Dismantle and clean the tool after use. If not, acid could concentrate to such a degree that it becomes a health hazard. The supply of power through the cable could also be affected and the performance reduced.*

# INSTRUCTIONS FOR USE

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## 7 DISTURBANCES

### 7.1 SAFETY REGULATIONS

Maintenance may only be carried out by an authorized person. Before beginning maintenance, switch off the unit and secure against inadvertent switching on, e. g. by „pulling the plug“. Work must be executed along the lines prescribed in Chapter 1 „safety measures“.

### 7.2 REMOVING DISTURBANCES

Disturbance	Reason/Cause	Corrective
Short circuit	The fibre glass is used and has to be changed.  Possibly the 4,0 Amp main fuse is melted down.	Change the fibre glass and push the overcurrent-protection-switch again after a short waitingtime. In case off a too high current flow it is possible that the 4,0 Amp main fuse melted down.
Too less or no capacity	<ul style="list-style-type: none"><li>• Cleaningtool isn` t clean</li><li>• Contact problems</li><li>• Plug is oxidiced</li></ul>	Renew cable, renew clamp, separate and clean the tool.

## 8 CORRECTIVE MAINTENANCE

### 8.1 SAFETY REGULATIONS

Maintenance may only be carried out by an authorized person. Before beginning maintenance, switch off the unit and secure against inadvertent switching on, e. g. by „pulling the plug“. Work must be executed along the lines prescribed in Chapter 1 „safety measures“.

## 9 CLOSING DOWN, STORING

The unit must be stored in the environment described in Chapter 4.1.

### 9.1 PREPARING FOR STORAGE

Clean the unit and accessories and make sure that all the equipment is carefully packed and the chemical containers are closed firmly.

### 9.2 PACKAGING, TRANSPORTING AND RETRANSPORTING

Always store the original packaging. Use it for storing and for transport

### 9.3 MAINTENANCE DURING STORAGE

There is no maintenance to be carried out during storage. Electrolyte, Neutralyt and Konservat should be kept in a cool and dark place, protected from direct sunlight

### 10 DISPOSAL



*Disposal of old Electrical & Electronic Equipment (Applicable throughout the European Union and other European countries with separate collection programs)*

This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city office, household waste disposal service or the retail store where you purchased this product.

### 10.1 METHOD OF PROCEDURE

- Use Neutralyt GN 2 to neutralize Greinox waste to pH 7.
- Used fibreglass pads, cloths and fluid remains should be neutralised to pH 7 with Neutralyt GN 2.
- The soiled water can then be disposed off in the normal way.
- Fibre glass and cloths contain metal components and should be disposed of as if metal waste.

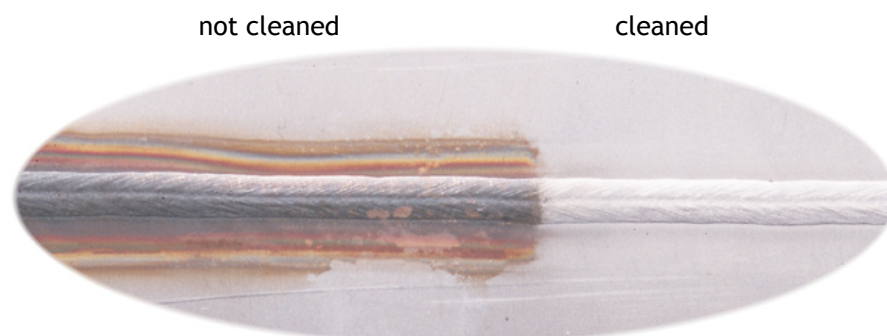
#### Electronic waste

Dismantle into component parts (transformers, mother boards, cables, etc.) and disposed of in accordance with local regulations.

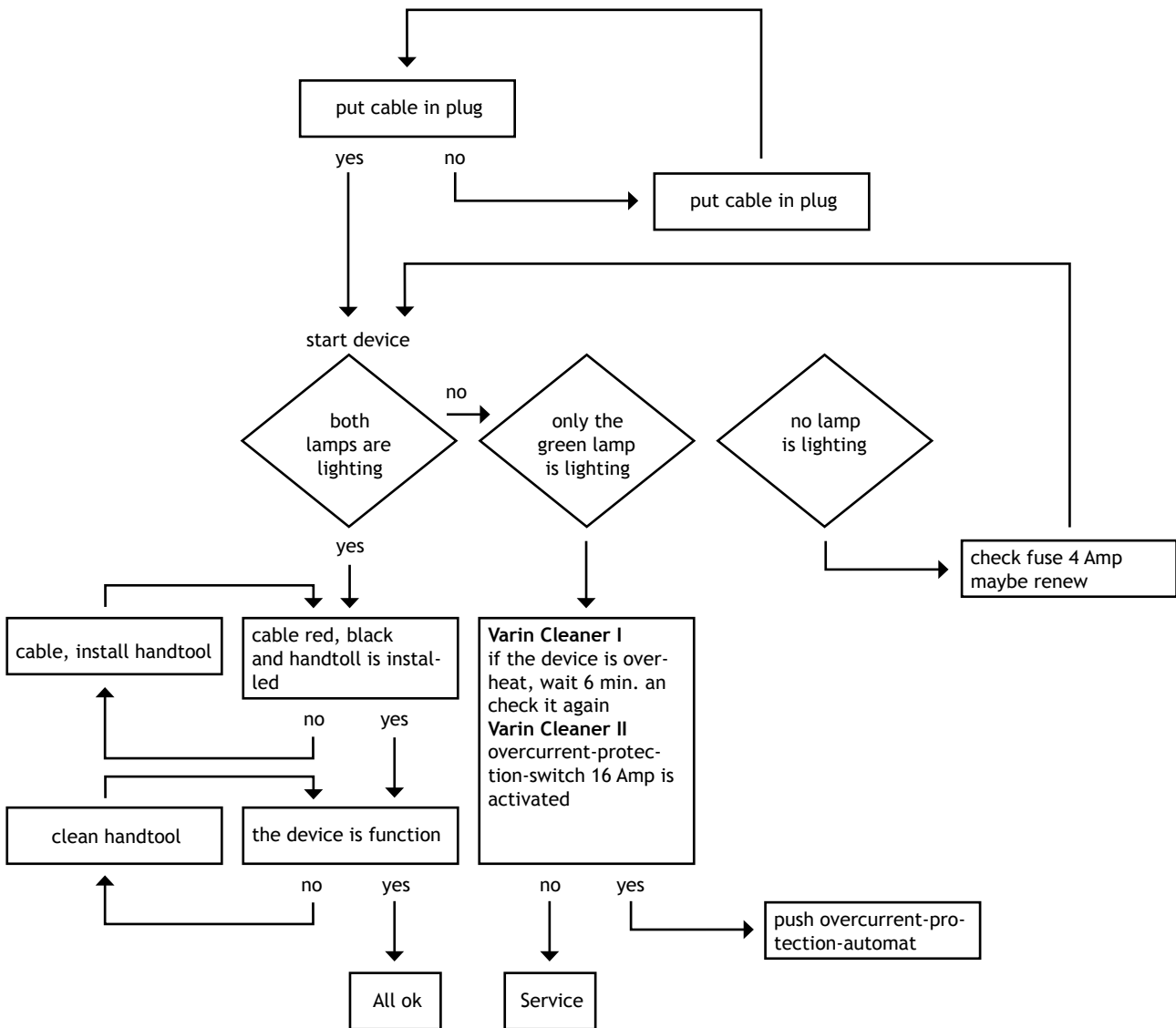
#### Materials

Metals, non - metals, composites and accessories should be sorted and disposed of correctly.

#### Welded seam



# INSTRUCTIONS FOR USE





## 11 YOUR OPINION INTERESTS US

**Telefax (to Fax-No. 073 31/98 17 22) Varin Cleaner**

We constantly strive for an improvement in quality and would be interested to have your opinion concerning our products and instructions for use

Please use this fax form.

Customer:

Unit type:

Order No.:

Please call us back on number:

Remarks, Suggestions:

Date:

Name: