

# **Operating instructions** Workstation

Workstation M Workstation L Workstation XL Pro EP-06-030 EP-06-020 EP-06-015



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# 1 Foreword

Thank you for choosing the workstation series from REUTER GmbH & Co. KG.

This instruction manual is intended to explain the safe handling and operation of the workstation.

The user is provided with practical information and adjustment aids in order to avoid operating errors.

Your specialist dealer will be happy to support and advise you on commissioning, application or problems.

Our telephone hotline +49(0)171-5450200 is always available to provide you with competent advice.

Please read these operating instructions carefully before using them. We wish you a lot of fun and successful work with our devices.

# **1.1 Validity of these operating instructions**

These operating instructions refer to the following work tables:

- EP-06-030Workstation M 800x400x1000mm
- EP-06-020Workstation L 1200x800x1000mm
- EP-06-015 Workstation XL Pro 1200x800x2000mm (with arm)

Type-specific differences are marked and described accordingly.

#### **1.2 Target group of these operating instructions**

These operating instructions are intended for the operator and the operating personnel of the workstation.

Before putting the "workstation" into operation, familiarize yourself with the contents of this operating manual. In this way, you achieve better work results and work safely.

If you have any difficulties or uncertainties, please contact our customer service team who will be happy to assist you.

We reserve the right to make technical changes that contribute to the improvement of our components.

#### **1.3 Observance of the operating instructions**

This manual is an integral part of the work.

The detailed operating instructions for the devices and components are available on our homepage under the "Download" menu.

The operating instructions must be available to the operating personnel at all times.

The operating instructions must be read by the operating personnel before commissioning.

The operator must have understood the content of the operating instructions before commissioning.

If the "workstation" is passed on or resold, all operating instructions and documentation belonging to the system must be handed over to the new owner.



# 1.4 EC and VDE directives



The electrochemical processing equipment complies with the CE certificate of conformity:

- 2014/35/EU Low Voltage Directive  $\geq$
- 2014/30/EU EMC Directive  $\triangleright$
- ⊳ 2011/65/EU RoHS Directive

# 1.5 Accident Prevention (UVV)

#### Hazards can occur due to:

- Electric current  $\triangleright$
- **Pollutants**
- $\triangleright$ Gases
- $\triangleright$ Electrolytes
- Carelessness
- Read our safety data sheets on the electrolytes we use.
- Observe the hazard warnings.
- Please note the following UVV regulations and information:
  - DGUV 1 Principles of Prevention  $\triangleright$
  - DGUV 3 Electrical installations and equipment  $\triangleright$ 
    - Electrical installations and equipment DGUV 4
  - $\geq$ DGUV 6 Occupational health care
  - $\triangleright$ DGUV 9 Safety and health and safety signage at the workplace
  - $\triangleright$ DGVU 209-074 Industrial robots
  - DGVU 109-602 Industry Electroplating  $\geq$
  - $\triangleright$ DGVU 209-009 Electroplating
  - DGUV 209-073 Workplace ventilation decision-making aid for  $\triangleright$ **Operational practice**
  - DGUV 204-007 First Aid Manual  $\geq$
  - DGUV 204-022 First aid in the company
  - DGUV 251-003 Up-to-date occupational health and safety  $\geq$
  - $\triangleright$ SDS's Safety Data Sheets
  - ChemG Act on Protection against Hazardous  $\triangleright$ Substances (Chemicals Act)
  - TRGS528 **Technical Rules for Hazardous Substances**





# Hint

As of 1.05.2014, all UVV regulations and regulations have been renumbered and named.

Abbreviations such as: BGV/GUV-V, BGR/GUV-R, BGI/GUV-I/BGG/GUV-G or GUV-SI will no longer exist.

Throughout, the fonts are divided into four categories.

- DGUV regulations
- DGUV rules
- DGUV Information
- DGUV Principles

Detailed information can be found e.g. Among <u>www.dguv.de</u>



2 For your safety							
	Read these operating instructions carefully. The following chapter explains the pictograms used in this manual.						
2.1 Convention 2.1.1 Pictograms							
	The pictograms meanings:	used in these instructions have the following					
	Warning sign						
▲		Indications of possible hazards in the handling of the device and accessories					
$\wedge \wedge$	$\succ$	Warning signs are indicated by:					
		- a yellow triangle with a black border					
•		- or white square with a red border - and a symbol in the middle, which is based on					
		indicates a special hazardous situation.					
	Prohibition signs	Beforences to prohibitions in the handling of the					
	F	device and accessories					
	$\mathbf{A}$	Warning signs are indicated by:					
		- a white circle area with a red border					
		special ban.					
	Mandatory sigr	IS					
	~	Indications for the use of protective equipment.					
		- a blue circle area with a thin black border					
		- and a symbol in the middle, which indicates a					
C		special commandment, e.g.: Wearing protective clothing.					
	Sentinel						
	<b>&gt;</b>	References to sections of these operating instructions that must be paid special attention.					

# 2.1.2 Types of display

The normal descriptions in the operating instructions are displayed in the standard font size "Arial".

 Safety instructions to be observed are shown as shown in the following example:

#### Security:

Hihe is the corresponding text...

• Tipsthatmake it easier to work with or use the device or accessories are shown as shown in the following example:

#### Tipp:

Here is the corresponding text...



# 2.1.3 Warning sign



- Electromagnetic field warning
- Hot surface warning
- Warning of explosive substances
- > Warning of substances harmful to health
- > Warning of dangerous electrical voltage
- > Warning of dangers to life and limb
- > "Caution" warning about corrosive chemicals
- Risk of crushing
- Warning of flammable substances

# 2.1.4 Mandatory signs

- Use eye protection
- Use protective gloves
- Use protective clothing
- > Pull out the power plug before opening
- > Safety footwear



# 2.1.5 Prohibition signs



> Prohibition for people with pacemakers

# 2.1.6 Note Characters



Indication of general sources of danger.
 Be sure to read this section



- Reference to tips or important information about working
- with the workstation and accessories. Be sure to read this section!
- Disposal of old electrical and electronic equipment (valid in the European Union and other European countries with a separate collection system).
- > This symbol on the product or on the packaging means:
  - This product must not be treated as household waste.
  - This product must be disposed of properly.

# 2.2 Safety measures in the event of a malfunction



- Turn off the workstation immediately.
- Pull the power plug.
- Secure and mark the "system" against being switched on again.
  - After each repair, restore the full functionality of the device.
  - Inspect cables for damage.
  - > Check all safety devices for functioning.
- If electrolyte fluid gets into the eyes:
  - rinse your eyes immediately with plenty of water.
  - > consult an ophthalmologist immediately.
- Secure heated workpieces from unauthorized access







# 2.2.1 Safety-relevant environmental conditions

#### • The use of the workstation is:

- Iimited to closed industrial and commercial areas.
- expressly prohibited in potentially flammable and explosive environments.
- > expressly prohibited in a humid environment
- Cover stone and concrete floors well.
  - Acids react with alkaline soil coverings such as:
    - Granite Marble Lime-sandstone Stoneware Tile Screed
  - Wash off electrolyte splashes or stains immediately with plenty of water and/or neutralit.
- The process to be used (electrochemical weld cleaning) may:
   can only be operated in well-ventilated rooms.
- Chlorine-containing solvents must be removed from the work area.
- During electrochemical cleaning/polishing, harmful fumes can be produced by chemical reactions.
  - > Always work with the suction device switched on
  - Procedures that result in flying sparks must not be carried out on the extraction table or in the vicinity.
  - > Particles could be sucked in and set the filter on fire.



#### Security

The operator is obliged to ensure adequate ventilation of the work area









#### 2.3 Possible sources of danger and protective measures 2.3.1 Possible sources of danger

- Improper handling of the workstation and its components.
- Unfavorable position of the cleaning electrode or the handle on the workpiece or work surface:
  - The Elektrode or the felt or carbon fiber brush are in contact  $\triangleright$ with the metal surface.
  - In this case, electricity will continue to flow.
- If the components are connected incorrectly, vagabond currents can lead to the destruction of electrical protective conductors.
  - $\triangleright$ Defective live cables.
  - $\triangleright$ Damaged or defective switching elements.
  - Defective plug connections.  $\triangleright$

Non-use of protective clothing

Apron or jumpsuit

Goggles

Gloves.

 $\geq$ 

 $\geq$  $\triangleright$ 

- Non-existent or damaged Teflon insulation  $\geq$



- The carbon fiber brush, the electrode and the workpiece can get about 200°C hot. **Risk of burns!** 
  - Improper handling of chemicals.
    - Electrolyte splashes can cause chemical burns to the eves.
    - Splashed electrolyte liquid can stain stone floors or other surfaces
  - Electromagnetic fields can affect pacemakers.
  - Squeeze:
    - on the doors  $\geq$
    - when moving the table up and down  $\triangleright$
    - when folding down the hood  $\geq$



Carrying out work in the vicinity of the extraction table that generates flying sparks.





# 2.3.2 Protective measures



- Never use third-party devices on/on the workstation that is not connected to our intended electrical protection device.
- Repairs to electrical parts of the workstation or power supply lines may only be carried out by qualified electricians.
  - In the event of a short circuit or malfunction, have the workstation checked immediately by a qualified electrician.
  - > Do not use the workstation and accessories as intended.
  - Only operate the workstation in the designated working environment.
- Avoid stray streams.
  - Connect the ground cable directly to the workpiece or to the receptacle intended for the workpiece.
- Place the cleaning electrode/handle on the workpiece or work surface as follows:
  - that the electrode, felt or carbon fiber brush is not in contact with the metal surface.
  - Electricity continues to flow, which can lead to damage or hazards.
  - In the event of an accident, disconnect the workstation from the mains immediately.
- In the event of a malfunction, disconnect the workstation from the mains immediately.
  - > Always unplug the power cord during maintenance
- Work at the workstation only with appropriate, personal, acid-resistant protective equipment.

Always turn off the workstation before changing the editing

- > Gloves
- > Apron and safety shoes.
- ➢ Goggles.

tools (brushes, felts...).

Never eat or drink at work!





- €
- After working with electrolytes, always wash your hands thoroughly with soap and plenty of water.

Secure hot objects against accidental touching.

Wipe away splashed electrolyte liquid immediately with plenty of water.

It's forbidden!



I







- Please note the detailed instructions in our EC safety data sheet for electrolytes.
  - Store the workstation, cleaning equipment, accessories or chemicals so that they cannot get into the reach of children.
- Pacemaker wearers may:
  - do not work with the workstation
  - > are not in the immediate vicinity of the workstation!
- Never use the workstation for work that generates flying sparks, such as: Grind.
  - > The flying sparks can damage filter mats.
  - > The flying sparks can lead to a fire.



- Work that generates flying sparks may only be carried out at a sufficiently large safety distance from the workstation.
- Do not load the table with more than:
  - Workstation M 100 kg
  - Workstation L 200 kg
  - Workstation XL Pro 200 kg





# 2.3.3 Checks before each start of work

Before each start of work, check:

- > All live cables and wires for damage to the insulation.
- All live cables and wires for breaks and kinks of the strands within the insulation.
- > All plugs and connectors for damage.
- > All switches for damage, e.g. chipped housing parts.
- > The workpiece clamp for external damage.
- > Whether all Teflon insulation is present and undamaged.
- Make sure that you do not pull or lay electrical wires over sharp edges.
- Your workplace must be freely accessible
- Eliminate stumbling blocks.
- Is the suction running?
- Fill level of the canister (risk of overflow).
- Sewage canister connected?
- Sewagetap on the hose is open?
- Visual inspection on the control box +SKT1 (viewing window)
  - > Are all protective devices switched on?
  - ➢ If not → have immediately checked by qualified electricians!

# 2.4 Possible misuse

- Connecting to an incorrect mains voltage can lead to the destruction of the components.
- The connection of third-party components that are not approved by Reuter GmbH can:
  - lead to the destruction of the extraction table and components.
  - lead to a risk to persons.
- The use of chemicals that are not approved by Reuter GmbH & Co. KG can:
  - lead to damage to health,
  - negatively affect the result of the work.
- The use of an unsuitable electrolyte for a specific application. Example: The use of cleaning electrolytes for signing/labeling:
  - > may result in staining or illegible signing/labeling.
- Carry-over of marking electrolyte into the cleaning electrolyte
  - Leads to matt spots or blackening on the workpiece surface.







# 2.5 Residual risks

Possible risk	Effect	Remedy
Electrolytes get into the hands of children or people who are inexperienced in handling chemicals.	<ul> <li>Depending on the misuse:</li> <li>Chemical burns of the skin</li> <li>Chemical burns of clothing</li> <li>Chemical burns of other objects</li> <li>Severe internal injuries when ingesting the chemicals</li> </ul>	Store electrolytes and other chemicals in such a way that they are only accessible to authorized persons.
Device is used by unauthorized persons (curiosity, play instinct)	<ul> <li>Burns of the skin in case of too</li> <li>Strong heat generation of the electrode or workpiece</li> <li>Inhalation of vapors with Corresponding damage to health</li> </ul>	Make sure that the device can only be used by authorized persons. After use, secure the appliance against improper use.
Uncontrolled rollingof the work table	- Damage to other items	Operation of the parking brakes
Squeeze	- Skin abrasions -Broken bones	Be careful when taking out and inserting the grating or drip pan.
Overflowing canister	<ul> <li>Contamination of the soil</li> <li>Injury to persons</li> <li>Contamination of the table</li> </ul>	<ul> <li>Regular emptying of the collection canister</li> <li>Collection canister with level sensor</li> </ul>
Non-company electrolytes	<ul> <li>Injury to the operator</li> <li>Destruction of machines and tools</li> </ul>	Only use electrolytes from Reuter GmbH
Cable damage	- Destruction of the machine	<ul> <li>Before moving the workstation, disconnect all plugs from the mains</li> <li>Secure the cables to the workstation</li> </ul>
Too much weight	-Collapse - Tilt	Maximum payload: - Workstation M: 100kg - Workstation L: 200 kg - Workstation XL Pro: 200 kg

Table 1 Residual risks



# 3 Requirements for personnel and operators

- 3.1 Operator
- The following knowledge is required:
  - > A briefing on how to operate the "Works".
  - Instruction on how to handle the components.
  - Safety instruction on the dangers of handling electrical equipment.
  - Safety instruction on the dangers of handling chemicals.
  - The following activities may be carried out:
    - Electrochemical cleaning with machines from Reuter GmbH.
    - Selection and use of electrolytes for appropriate applications.
    - Change of cleaning, marking tools and wear parts.
    - > Turn the workstation and components on and off.
    - Rectification of minor malfunctions after instruction.

This knowledge is imparted either by REUTER GmbH & Co. KG or other authorized persons or institutions.

# 3.2 Operator



- The operator must regularly instruct the staff in accordance with the legal requirements.
- Untrained personnel or unauthorized persons are not allowed to use the workstation and components.





# 4 Warranty and liability

Warranty and liability claims for personal injury and property damage are excluded if they are attributable to one or more of the following causes:

- Non-Intended use
  - the "Workstation".
  - of the components belonging to the "Workstation".
  - the chemicals associated with the electrochemical processing equipment.
  - Use of inappropriate chemicals. Only use electrolytes that have been approved by Reuter GmbH!
  - Overload
    - Workstation M 100 kg payload
    - Workstation L 200 kg payload
    - Workstation XL Pro200 kg Loading capacity
- Failure to comply with the
  - > Work and safety instructions in this manual.
  - Operating instructions of the "workstation" or the components.
- Improper
  - Commissioning
  - Commissioning in the event of improperly installed guards
  - Service
  - Maintenance
  - Repairs carried out
  - Repair by unqualified personnel.
- Use
  - The "workstation" in residential and office spaces
  - > in potentially flammable and explosive environments
  - > in a humid environment
  - arbitrary structural changes
- Noncompliance
  - the prescribed maintenance intervals

#### Hint

For damages and malfunctions caused by operating with components and chemicals from other manufacturers, no claims of any kind can be made against REUTER GmbH & Co. KG. Unless it is proven in a factual manner that the damage was clearly caused by negligent design or production by REUTER GmbH & Co. KG and was foreseeable at the time of construction.





4.1	Material defects		
		•	The purchaser must immediately notify the supplier in writing of material defects within 14 days.
(1		•	If the supplier and consumer have not agreed on limitation periods for claims for material defects, the statutory provisions shall apply.

• In the event of a claim for material defects, submit a certificate showing that the limitation period has not been exceeded.

#### 5 Terms

Term	Meaning					
Distilled water	Distilled water does not contain minerals and is therefore very "soft". It is obtained by distillation.					
Demineralized water	Demineralized water is obtained by filtration. It contains hardly any minerals and is also very "soft".					
Electrolyte	<ul> <li>Electrolytes are electrically conductive chemicals that are used in various compositions and concentrations for cleaning, polishing and marking.</li> <li>SIGNING - Electrolyte is used for labeling.</li> <li>Cleaning electrolyte (Cleaner, SuperCleaner, Polisher) is</li> </ul>					
Felts	<ul> <li>Felts are absorbent fabrics that are impregnated with electrolytes and used to:</li> <li>Sign</li> <li>Clean</li> <li>Polish</li> </ul>					
Carbon electrode	Carbon electrodes consist of a rigid carbon body, which is used to attach the marking and cleaning felts and to transmit electricity.					
Carbon Fiber Brush	Carbon fiber brushes consist of up to 1.5 million individual carbon fibers. During the cleaning process, the current is distributed over the individual fibers. A small arc ( $\sim$ 3 – 7 µm in size) forms on each fiber that comes into contact with the workpiece surface.					
Passivate	Passivation is the inactivation of oxidation processes on the workpiece surface by chemical treatment.					
Signing/labeling	Signing/marking is a targeted oxidation process that takes place in the metal surface and not a superficial application of paint particles. Therefore, permanent and forgery-proof! During signing, a marking electrolyte and electr. Stream information is transferred from a template to the workpiece surface. All electrically conductive metal surfaces can be labeled with the appropriate electrolyte.					
Signing stencils	Signing templates contain the information that can be obtained by means of the marking tool, marking electrolyte and electr. current can be transferred to the workpiece surface.					



Signing stamps	A marking stamp is the combination of carbon electrode, handle and signing felt attached to it.				
Water hardness	The mineral content in the water determines the degree of hardness. The higher the concentration of certain minerals in the water, the higher the degree of hardness. The degree of hardness is given in "degree of German hardness" [°dH].				

# 6 Delivery, internal transport, unpacking

Security



# 6.1 Delivery



# Failure to follow safety rules and regulations can lead to severe cuts, bruises and broken bones. The devices and components are delivered in

As a matter of principle, all activities required for delivery, transport, unpacking and storage must be carried out with the utmost care and all rules and regulations required for safety must be observed.

- The devices and components are delivered in orange Euro plastic boxes on pallets by forwarding agent, parcel service or with Reuter GmbH's own vehicle.
  - For safe transport, the extraction arm was dismantled and packed separately. (XL Pro Workstation only).
  - Cleaning equipment and accessories were also packaged separately.
  - See chapter Setup and Commissioning for more information.

# 6.2 Unload



- For unloading the scope of delivery, you may only use hoists and means of transport that are approved for the corresponding load.
  - All hoists and their accessories must be suitable for the intended use and comply with current safety standards.
- The workstation can be moved on its own wheels after unloading.



# 6.3 In-house transport



- For internal transport, you may only use lifting equipment and means of transport that are suitable for the intended use and comply with current safety standards.
- The workstation can be moved on its own wheels after unloading.
- Move the table unloaded.
- Move the table slowly
  - Avoid jerky movements.
  - > Jerky movements can create a tipping moment.

# 6.4 Unwrap



#### Security

When unpacking the devices and components, be sure to follow the corresponding operating instructions

- Remove the protective film, if any.
- Remove the tension straps that secure the load on the pallet.
- To do this, cut the tension straps with a side cutter.
- Carefully lift the workstation off the pallet and place it upright on the four wheels.
- For this purpose, use suitable lifting equipment with secure slinging aids.
- Carefully open the door of the workstation.
  - Components that may have been stowed inside may have come loose.

#### Security

The tension belts are under strong mechanical tensile stress. Do not stand in the "trajectory" of the two tension belt parts.

In no case do not hold the tension straps when cutting them.

- Cuts can be the result.
- Wear appropriate safety clothing.



# 7 Scope of delivery



- When unpacking the delivery, check the completeness of the delivery.
- Complain about missing or damaged parts immediately.

# 7.1 Scope of delivery and consumables

	Available at					
Description	М	L	XL FOR	Quantity	Order No.	Illustration
Workstation M 800x400x1000mm	~			1	EP-0 6-030	
Workstation L 1200x800x1000mm		~		1	EP-0 6-020	Grautan
Workstation XL Pro 1200x800x1000mm			~	1	EP-0 6-015	



Accessories								
Description	Av M	ailabl	e at XL FOR	Quantity	Order No.	Illustration		
Option level sensor on the wide-mouth canister	Optional	Optional	~	1	EP-07-130			
Hydrojet gun Combination gun for compressed air and water with 2 functions.	Optional			1	EP-06-040			
Bracket AutoFeed - Grip for workstation	Optional		1	EP-06-042				
Bracket Hydrojet gun for workstation	Optional		1	EP-06-041				
Fixing Clips / Pine Tree Clips 9,5mm	Optional		al	8	EP-B-6063			
Brush switch box, two-stage	C	Optiona	al	1	EP-0 7-701	0.00		



Suction-incl. Activated carbon filter Standard 800m³/h			~	1	EP-0 6-023P	
Post-filter/ Rear silencer for activated carbon filter box D <sub>a</sub> =115mm L=410mm			•	1	EP-06-150	
Activated carbon filter replacement cartridge for suction			~	2	EP-06-027	
Set Cleanox 1.0	Optional			1	EP-01-011	Constant of the second
Set Cleanox 3.0	Optional		1	EP-01-013	CREUTER CHEUTER	
Set Cleanox 5.0	Optional		1	EP-01-015	Chauter	
Set SuperCleanox IV+	C	Optiona	al	1	EP-01-021	ARELITER REPORTED TO A



Set SuperCleanox VI	Optional	1	EP-0 1-017	CREWER CONT
Set SuperCleanox VI HD Heavy-duty version	Optional	1	EP-01-017- HD	CREWER CONTRACTOR
Set EasyCleanox	Optional	1	EP-01-030	
Set AutoCleanox	Optional	1	EP-01-033	
MagicBox	Optional	1	EP-0 1-060	

Table 2 Delivery list



# 8 General information for all workstations/workstations



8.2 Condition of the installation site



#### Hint:

Treat the floor generously with an acid-resistant layer or lay an acid-resistant floor covering.

Phosphoric acid (Cleaner, **SuperCleaner, Polisher)** is highly reactive to stone floors!



# 8.3 Workspace



- Work workpieces only above the working surface of the grating.
  - In this way, used electrolyte and rinsing water are collected directly.
  - > Keep the work area clean and tidy.
  - This will prevent contamination or damage to other components!
  - > The grating is made of acid-resistant GRP.





#### Attention!

Do not operate the Workstation L and Workstation XL Pro without the grid holders.

- > Otherwise, the drip tray may be damaged.
- Leaks are the result.



# 9 Specific information Workstation/Workbenches 9.1 Workstation "M"



- The Workstation/Workbench "M" is the smallest work table (from the Workstation series) for electrochemical cleaning of weld seams of Reuter GmbH & Co. KG.
  - Maximum payload: 100 kg.
- Composed of:
  - 1. Working area (GRP grating)
  - 2. Drip pan
  - 3. Acid-resistant cladding
  - 4. Base frame
  - 5. Storage space
  - 6. Four swivel castors with two parking brakes
- Underneath the drip pan there is enough storage space for:
  - Devices and accessories from Reuter GmbH & Co. KG. Available.

- To place larger devices, proceed as follows:
  - > Clear the work surface of the grating.
  - Remove the grating and drip pan.
  - ➢ To do this, lift the grating and the drip pan upwards from the "workstation".
  - Place the appliance in the appropriate tray from above.
  - Place the device so that you can operate it from the front.
  - Place the tub and the grating in their spring position.



# Attention! Danger of jamming!

Pay attention to your fingers when inserting the grating or tub.

# 9.1.1 Placing the accessories

Cleanox 3.0



# 9.1.2 Emptying the drip pan



- Check the level of the drip pan before each start of work.
- Empty the drip pan regularly
  - So v prevent this from becoming too heavy.
- To empty the drip pan, proceed as follows:
  - Clear the work surface.
  - Dry the grid.
  - Lift the grating out of the drip pan.
  - Lift the drip pan out of the workstation.
  - Empty the tub into suitable and marked containers.
- Dispose of the collected wastewater properly.



#### Security!

Pay attention to your fingers when inserting the grating or tub.

Risk of crushing

# 9.1.3 Optional: canister with level sensor



- As an option, we offer a canister with a waste water hose and filling level monitoring.
- The canister is equipped with a level check (optionally).
  - When the canister is full, an acoustic signal sounds and the warning light starts flashing red.



#### Info!

For detailed information, please Read chapter10 "*Emptying,* connecting and replacing the waste water canister".



# 9.2 Workstation "L"



# 9.2.1 Placing the cleaning device

- The Workstation "L" is a larger variant (from the Workstation series) for electrochemical cleaning of weld seams from Reuter GmbH & Co. KG.
  - Maximum payload: 200 kg.
- Composed of:
  - 1 Work area (GRP grating)
  - 2 Drip pan
  - 3 Storage space for cleaning equipment
  - 4 Sewage canister with sewer hose
  - 5 Four swivel castors with two parking brakes
  - 6 Storage space for waste water canisters
  - 7 Base frame made of acid-resistant materials
- Behind the drip tray there is enough storage space for accessories or a device from Reuter GmbH & Co. KG. Available.
  - Devices of the SuperCleanox series from Reuter GmbH & Co. KG must be placed in the compartment from above.
- To do this, proceed as follows:
  - Carefully lift the tub and the grating out of the rack.
  - Proceed with caution.
- Place the drip pan on the frame.
  - > Carefully turn the drip pan to the side.
  - To do this, lift the frame slightly



Be careful not to disconnect the sewer hose!

• Place the appliance in the appropriate compartment.







• Place the device so that you can operate it from the front.



• Carefully replace the tub and grating in reverse order.



#### Security!

Pay attention to your fingers when inserting the grating or tub.➢ Risk of crushing

# 9.2.2 Emptying the canister



- Proceed as follows:
- > Close the stopcock on the sewer hose.
- Loosen the swivel and remove the sewer hose from the dishwasher.
- Empty the canister into suitable and labelled waste water containers.
- Dispose of the collected wastewater professional.
- Screw the lid back onto the canister.
- Open the Shut-off valve!



#### Info!

For more information, please also read chapter10 "*Emptying, connecting and replacing the waste water canister*".



# 9.3 Workstation "XL Pro"

- The workstation/workbench "XL Pro" is the largest and most powerful variant (from the workstation series) for electrochemical cleaning of weld seams from Reuter GmbH & Co. KG.
  - Maximum load capacity: 200 kg.



# 9.3.1 Workstation XL Pro Component Overview



# 9.3.2 Set up and set up





#### Safety note!

For safe transport, the extraction arm must be dismantled. Instructions for installation can be found in chapter 9.3.3 *"Assembly of the extraction arm".* 

# 9.3.2.1 Grating holder

- The GRP grating is placed on two VA holder belches.
  - This ensure a stable working surface for heavy workpieces.



#### Security!

Do not operate the workstation/workbench without the grid holder.

- > Otherwise, the drip tray may be damaged.
- Leaks are the result.





# 9.3.3 Installation of the extraction arm



- The joints are connected with tension screws.
  - The friction force of the brakes is adjusted by tightening or releasing.
- If the arm sags after assembly in the determined state,
  - Check that the tightening screws are sufficiently tightened.
- If this does not help, please contact us.

#### Tools required for mounting the extraction arm:



- 1 x Ratchet with SW 10mm socket
- 1 x Allen wrench 4mm
- 1 x Allen wrench 6mm
- 1 x Phillips Screwdriver



- Carefully lift the tub and the grating out of the rack.
  - Carefully lay the pieces aside.
  - ➢ Loosen the lid of the canister before lifting the tub.
  - Proceed with caution.







- Insert the tee of the extraction arm into the lower flange.
  - Tighten the Phillips fastening screws to connect the parts together.
  - > To do this, use the Phillips screwdriver.

- Next, screw the black tube bracket to the rack.
  - Use the corresponding two countersunk screws for this purpose.
  - Use the Allen wrench 4mm.
- Secure the countersunk screws with self-locking nuts.
  - > Use the ratchet with SW 10mm socket.





Next, screw the lower part of the black pipe bracket.
 > Use the Allen wrench 6mm.

- Connect the plugs to the lower part of the black pipe bracket.
  - > Tighten the blue union nut to lock the plugs.





- Insert the extraction arm into the pipe.
  - > Align the arrows with each other.



- Fasten the pipe with the Phillips screws.
  - > To do this, use the Phillips screwdriver.



- Set the
  - > Tub and the grating back into the frame.
- Pay attention to the drain hose.
  - > Do not bend or squeeze.



# 9.3.4 Installation of the suction hood





- Suction hood
- Threaded ring



 Insert the threaded ring over the end of the suction arm.



• Now put the hood over the end of the suction arm.



- Insert the second threaded ring onto the end of the pipe
  - Position it so that the extinguishers match the holes in the suction pipe.
- Attention: The ring sits very tightly on the tube.
- Use the four metal pins to secure the ring.







- The metal pins move powerfully into the extinguishers.
  - > To do this, use pliers or another suitable tool.



The pins must be so deep that they do not block the thread.



Finally, screw the first threaded ring to the second.
 This is how the suction hood is fixed.



# 9.3.5 Placing and connecting the accessories



- To facilitate the placement of larger devices in the L and XL Pro workstations, the grating and drip pan must be lifted out.
  - > Before lifting the tub, loosen the lid of the canister.
  - Carefully lift the tub and the grating out of the rack.
  - Lay parts aside.
  - > Be careful with drain under the tub.
- Place the appliance in the tray.





Thread the power plug through one of the holes.

• Connect the mains plug it to the socket for cleaning equipment.

• Now replace the drip pan and the grating.





#### **Optional:**

- Now insert the MagicBox into the lower compartment.
- > Connect the MagicBox and the device.
- Please note the detailed instructions for the two components!

Attention!



Be sure to follow the appropriate operating instructions for the respective device.



- Run the ground cable and the hose package of the riff through the corresponding openings in the side wall.
  - ➢ so that you can close the door.



• Connect all components according to the operating instructions for "MagicBox".





# 9.3.6 Electrical connection



- The Workstation XL Pro is connected in a three-phase 400VAC network system.
- An H07RN-F 5m mains cable with a three-phase plug according to IEC 60309 is installed.
  - > CEE plug 16A, 400VAC 3L+N+PE, 6h

# 9.3.7 Fuse box

# 9.3.7.1 Control box +SKT1



#### Security!

In the event of a malfunction, check the circuit breakers through the viewing window in the control box +SKT1.

- If one of the circuit breakers has tripped, there is a malfunction.
   A qualified electrician or an authorized person who can open the control box,
- > eliminate the malfunction,
- put the system back into operation.



# 9.3.8 Specifications/Nameplate (Workstation XL Pro only)

# Technical data:

Connection voltage	3~400VAC
Power consumption "The total power consumption depends on the power of the terminated devices."	See nameplate
Hedging max.	16A
Feed	CEE plug-in device 3L+N+PE, 6h, 16A
Cable length	5m
Sound pressure level at a distance of 1m	< 70dB
Power	0,37kW
Suction capacity max.	950m³/h
Workstation Width	1200mm
Workstation Depth	800mm
Workstation Height	1000mm (with suction arm approx. 2m)
Weight (without devices and accessories)	125Kg
Maximum payload weight	200kg

# Nameplate:

Reuter GmbH & Co. KG Schimmelbuschstr. 9e 40699 Erkrath Germany Tel.:+49-211-17177456 Frax:+49-211-17177458 mail@orguter.de	R GE Made in Germany							
Workstation XL Pro								
Serien-Nr.: BestNr.: Baujahr: Nennspannung: Frequenz: Leistung: Uorsicherung: Vorsicherung: Anschlußstecker: Zeichnungsnummer: Gewicht:								
v	www.oreuter.de							



# 9.3.9 First start-up



- A main switch on the side of the fuse box serves as a mains disconnection device.
- Make sure that the main switch is set to " 0" before the CEE three-phase plug is plugged in.
  - If so, then connect the CEE plug to the CEE socket.
  - The workstation is equipped with a three-phase plug according to IEC 60309. CEE plug 16A, 400VAC 3L+N+PE, 6h.
- To turn on the workstation: Main switch "ON"
  - Position " 1"
  - Tension is on
  - The suction starts.
  - Sockets are active
  - Hour meter counts.

#### Attention! Check the direction of rotation:

The workstation works exclusively with **a right-hand rotation field**. In the case of the left-hand rotation field, the exhaust fan runs in the wrong direction of rotation.

- > The extraction performance is impaired!
- Before initial start-up, make sure that the right-hand rotation field is in contact with you.
- > Only a qualified electrician is allowed to open the control box to carry out a rotating field test.
- The CEE socket has a phase inverter e<sup>®</sup>. The phases can thus be easily adjusted with a flat-head screwdriver.

#### Tip:

The difference is clearly audible.

When the deer field is set correctly, the suction fan has more suction power and is louder.



#### Security:

It is imperative that the workstation is turned off before connecting the cables and changing the handles, brushes, carbon electrodes or felts.

Set the main switch to "0".







# 9.3.10 Replacing the activated carbon filter



- > The exhaust system has two activated carbon filters.
  - > They must be replaced at regular intervals.
  - The intervals and replacements are described below.



- The activated carbon filters are connected to the suction box by a bayonet lock.
  - Loosening the activated carbon filters: turn to the left.
  - Tighten the activated carbon filter: turn to the right.



#### Hint

The replacement intervals of the activated carbon filters can be found in the chapter "Inspection and maintenance plan".



# 9.3.11 Replacing the filter insert (silencer)





Unscrew the activated carbon filters as described in the previous chapter "Replacing the activated carbon filter".



- > Unscrew the 6 hexagon socket screws.
  - Remove the cover.



- The filter insert is located under the activated carbon filter cover.
  - > First, slide the filter insert towards the blowers.
  - Then remove the filter insert diagonally from the suction box.



- When installing the new filter, keep the following in mind:
  - > The filter must be slid over the centering jib.
  - Perform the assembly steps of the new filter in reverse order.





#### Hint

The replacement intervals of the filters can be found in the chapter "Inspection and maintenance plan".



# 9.3.12 Condensate drain



- The extracted vapors can condense on the inside of the extraction arm.
  - These resulting condensates must be removed occasionally.
- To remove the condensate, place a container under the extraction arm.
  - Remove the condensate.
  - Collect the liquids without them getting on the floor.



- Screw the condensate screw tightly.
  - Don't forget the sealing washer.



#### Security

Splashed electrolyte liquid can stain stone floors or other surfaces.

Phosphoric acid (Cleaner, SuperCleaner, Polisher) is highly reactive to stone floors!



# 10 Emptying, connecting and replacing the waste water canister



- Position the connected waste water canister in the designated place.
- > The waste water hose is connected to a hose cover.
- > The hose cover is screwed to the sewage tank.
- Waste water analyzers are optionally equipped with level sensors. (XL-Pro Standard)
  - When the sewage canister is full, a warning signal sounds. (XL-Pro Standard only)
  - Drain the sewer canister immediately.
  - > How to save the battery of the level sensor
- Dispose of waste water properly.



# Attention!

Suspended substances which have settled as sediment in the waste water tank are not allowed to enter the waste water at any level.

# 10.1 Emptying or replacing a full canister



- Warning signal sounds
  - > Close the stopcock on the sewer hose.
  - Remove the lid with sewer hose from the full sewer canister.
  - Close the full sewage box with the lid from the storage compartment.
  - Dispose of waste water properly.
- > Check the functionality of the level sensor.
  - Turn the empty sewage tank upside down for a short time (signal sounds).
  - Screw the lid with sewer hose onto the empty sewer canister.
  - Place the waste water canister back in the holding device.
  - > Open the stopcock on the sewer hose.



# 10.2 Changing the battery of the level sensor on the waste water canister



- Remove the waste water canister from the workstation,
  - Unscrew the 4 lens head screws on the orange electronics housing.



- Replace the battery
- Battery type. No.: (EP-B-1104)



# 11 Maintain



#### Hint

The following maintenance work may be carried out by the operator of the device himself:

- All cleaning work on the device housing.
- All cleaning work on the accessories.
- Proper disposal of waste water
  - Replacement of wear parts
    - Felts, Teflon handles, carbon electrodes, ground terminals, ground cables, marking, carbon filters, filter mats

# Security

The following maintenance work may only be carried out by a qualified electrician:

- Replacing defective power plugs.
- Replacing defective power cords.
- Replacing the ground and marking sockets on the device.
- Replacement or repair of all components in the device housing.

# 11.1 Inspection and maintenance plan

- > The maintenance of the device consists of a thorough cleaning and inspection by a qualified electrician.
- > The frequency depends on the degree of contamination.
- > Adhere to the suggested maintenance intervals.
- Before starting the inspection or maintenance work, disconnect the appliance from the mains (unplug it).
- > Remove dust deposits with a vacuum cleaner.
- > Wipe the components with a dry cloth.
- Only use degreasing agents that are suitable for electrical equipment.
- Follow the instructions for cleaning the appliance and accessories.
- Use the operating hours counter in the control box +SKT1 (see Chapter 9.3.7.2) to record the operating hours.





#### Inspection and maintenance plan

		Workstation			۲.			1)	(
Work to be carried out	Σ	_	XL Pro	before stal	if necessar	Daily	weekly	1/2 Yearly <mark>(</mark>	Annual <mark>(2</mark>
Security check as described in chapter 2.3 and below	х	х	x	х					
Check the instructions for cleaning equipment and accessories to see if maintenance is due	x	x	x	x					
Functional test of the extraction system			x	х					
Disposing of waste water	X	X	Х	Х	Х				
Cleaning the work surface	X	Х	Х	Х		Х			
Replacing the activated carbon filters			Х						Х
Replacing the filter roller			Х						Х
DGUV			X						Х
Check the carbon fiber brush and replace it if necessary	x	x	x	x					

Table 3 Inspection and maintenance plan

> <mark>(1)</mark> (2)

– 1/2 annually or after 500 hours of operation.
– Annually or after 1000 hours of operation.



# 12 Optional accessories

# 12.1 Water treatment module



# 12.2 Connection diagram water / air





# 12.3 Hydrojetpistole EP-06-040



12.3.1 Description



Adjusting screw actuates valve tappet Pressure point 1 exceeded Both valve tappets actuated Pressure point 2 exceeded

#### Workpiece surface with the hydrojet gun

- Dissolved oxides and cleaning electrolytes are removed.
  - 1 Jet Grip 2 Jet Lever 3 Adjusting screws / water / air 4 water hose / Ø6 / max. 4 bar 5 air hose / Ø6 / max. 6 bar

In the pistol grip there are two valves for opening the water-air supply.

Depending on how you press the lever, you will feel two pressure points.

- Pressure point 1 = additional opening of the compressed air supply
- Pressure point 2 = opening of the water valve

If the lever is unconfirmed, both valves are closed

Press the lever over the pressure point 1

Compressed air for drying

Press the lever over the pressure point 1

 <u>Water</u> is switched on Water/air mixture



# 12.3.2 Adjustment of the valve pressure point

Once you have found the right setting, the HydroJet gun is ready for use.

# 12.4 Recording Hydrojet



The receptacle can be conveniently fixed anywhere on the work surface by means of "Christmas tree rivets".

# 12.5 Recording AutoFeed



The receptacle can be conveniently fixed anywhere on the work surface by means of "Fixing Clips/ Pine tree clips"

Fixing Clips / Pine Tree Clips 9,5mm

# 12.6 Fixing Clips / Pine tree Clips for attaching the mounts



Position the base plate of the Hydrojet or AutoFeed receptacle on the grating of the work surface and secure it with 4 Fixing clips.





- To loosen the fixing clips, you can purchase the appropriate tool from us in a set of 10 replacement rivets.
  - Item number: EP-06-056
- To loosen, slide the tool under the rivet and pry upwards.

# 13 Disposal

# **13.1** Disposing of contaminated electrolytes



- Dispose of never contaminated electrolytes undiluted into the sewer system or environment.
- Heavy metal residues from oxidized welds and metal surfaces may be dissolved in the contaminated electrolytes.
- These must be filtered and disposed of properly.
- Before disposing of electrolytes, dilute them with plenty of water, lime or new ones to a pH value greater than 5.



#### Hint

We would be happy to provide you with a concept for professional water treatment. Talk to us.

# 13.2 Disposing of e-waste



- Old appliances and batteries must not be disposed of with normal household waste.
- This device, as well as all components, must be disposed of in an orderly manner at the end of its service life.
- Hand in the old device and components at a collection point for electronic waste.
- For more information, contact your local waste management company or municipal administration.



# 14 Decommissioning / Storage

- For safe and gentle decommissioning/storage of the devices and accessories, please observe the corresponding operating instructions.
- Turn off the device.
- Clean the tub with plenty of water from debris.
- Wipe the wires with a damp cloth.
- Have the electrical cables checked by qualified personnel.
- Dry all items
  - Close the electrolyte container carefully
    - There is no electrolyte leakage
    - If possible, store this and accessories in the compartments under the workstation.
  - Lock the doors.
- Clean the workstation, as well as all associated devices and components, thoroughly!
- Adhering chemicals can cause damage due to corrosion during storage.
- Do not store the workstation loaded.
- For storage, we recommend placing the workstation on a pallet with 2. small pallets underneath to better store and fasten neatly.



#### Security

Chemicals must not get out of the reach of children! Keep them under lock and key!

15 Device technology

In conjunction with the associated devices and components, the workstation is a compact system for electrochemical cleaning of metals.

- It was developed for commercial use in trade and industry.
  - It is suitable as a work table for cleaning and polishing TIG and MAG welds.
- Toxic hydrofluoric, sulphuric or nitric acids are not used, as is the case with conventional pickling processes.
  - These may not be used under any circumstances, as Reuter GmbH & Co. KG. can only confirm resistance to your own electrolytes.
- The electrochemical processing devices operate with low DC and AC voltages.
  - Are harmless to humans.
- The workstation has a strong suction system that runs continuously (noise level <75dB).





#### Security

- The workstation is designed exclusively for electrochemical cleaning/polishing!
- The workstation must not be used for pickling/grinding/welding. can be used!
  - > There is a risk of fire if sparks are sucked in by the suction.
- The workstation is a workbench specially designed for electrochemical cleaning with Reuter devices.
- The materials have been selected for their acid resistance,
  - this resistance can only be assumed against the chemicals we use.
  - The grating made of GRP reinforced acid-resistant plastic prevents scratching of the sensitive stainless-steel surfaces of the workpieces to be machined.
  - In addition, the work table offers a large drip tray directly under the work surface, in which the electrolyte and rinsing water can drain away.
- Depending on the version, there is a collection canister below the tub with which the wastewater can be conveniently collected and disposed of.
- As an additional option, an extraction system can be installed to absorb the process vapors.
- Further options can be realized with our modular system.
- Special designs or other dimensions are feasible.
- If you have any wishes, please do not hesitate to contact us.



#### Hint

The materials are resistant to the electrolytes of the Reuter company. Adhesion is excluded for other acids.



# 16 Cleaning containers, handles and workstations



- Always clean all accessories with plenty of soap and water after each use.
- If necessary, wipe the device case with a slightly damp rag.
- Neutralize the diluted electrolyte residues.
- Clean the workplace thoroughly with plenty of water.

Electrolyte residues can cause chemical burns to the skin or clothing.

- Electrolyte residues can cause damage to the surfaces.
- Wipe the cables and the massing pliers with a damp cloth and water.
- Remove all electrolyte residues in the vicinity of the workplace, the workbench and the floor with plenty of water.
  - To clean the tub, remove the gratings.
     The hand bar makes it easier for you to lift it.



#### Security

Always unplug the mains plug before starting maintenance, servicing and repair work!



# Attention! Danger of jamming!

Risk of finger jamming when inserting the grating or tub.



# **17 EC – Declaration of Conformity**

Original Declaration of Conformity

#### Manufacturer

Reuter GmbH & Co. KG Schimmelbuschstr. 9E 40699 Erkrath Germany



Plenipotentiary for the compilation of the technical documentation

Olaf Reuter

The general responsibility for drawing up this declaration of conformity lies with the manufacturer.

#### Product

Description

Designation

Electrochemical weld cleaning device

Workstation

Function Device for cleaning, polishing, signing and Passivation of weld seams

Due to its design and construction, the object of the declaration described above in the version placed on the market by us fulfills the relevant basic safety and health requirements of the EC directives mentioned below. In the event of a change to the products not agreed with us, this declaration loses its validity.

Relevant Harmonization-2014/35/EU Low Voltage Directive **Regulations of the EU** 2014/30/EU EMC Directive 2011/65/EU RoHS Directive Applied harmonized EN 61558-1; VDE 0570-1:2019-12 Standards EN ISO 12100:2011-03 EN 55014-1; VDE 0875:2018-08 EN 61000-3-2; VDE 0838-2:2019-12 EN 61000-3-3; VDE 0838-3:2020-07 EN 61000-6-2; VDE 0839-6-2:2019-11 IN 50581:2012-09 IN 60974-1:2018-12 IN 60974-10: 2016-10

Erkrath, 17.12.2020

1) Aat

Dipl.-Ing. Olaf Reuter, Managing Director