Premiumline

BYMAT® GmbH

User Manual

6024 RS / 7024 RS

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1. Preface

Thank you for choosing a device from BYMAT. This user manual is intended to guide you in the safe handling and operation of our Premiumline. Additionally, you will find practical tips for usage and the possible applications of this product line because safety is our top priority.

Before you begin reading, ensure that you have checked all supplied components and that the device is in perfect condition. If there are any uncertainties or if you need technical support, do not hesitate to contact our customer service.

Please note that your opinion is important to us. If you encounter any issues or have suggestions for improvement during the use of the device, please let us know. Your feedback contributes to continuously improving our products and services.

We wish you much enjoyment with your new device and thank you for your trust.

1.1 Validity and Target Audience

This user manual is intended for the operator and user of this product line, focusing exclusively on the use of the BYMAT Premiumline. Reading the user manual is essential for the device user.
Please take sufficient time to familiarize yourself with the basic features and functions of the Premiumline. The user manual provides an overview of the versatile application possibilities and facilitates the effective use of the device.
BYMAT GmbH reserves the right to make technical changes to enhance the quality and functionality of the Premiumline.

1.2 Application and Accident Prevention

This user manual is exclusively intended for trained or qualified personnel possessing the necessary qualifications and training for the safe operation of the device. Before using the device, ensure that you fully understand the contents of this user manual. Additionally, it is mandatory to carefully review the safety data sheets for the electrolytes used before using the device.

1.2.1 Instructed or qualified personnel

This device may only be operated by personnel who have been properly instructed or qualified. Operators must be familiar with the potential hazards and safety precautions associated with the use of the device. Unauthorized individuals are prohibited from using the BYMAT. Explicit training on usage and safety instructions regarding the chemicals used must have taken place. The required knowledge and skills should only be conveyed by BYMAT GmbH or other authorized individuals. The operator is obligated to regularly instruct their personnel in accordance with legal requirements.

1.2.2 Understanding the Operating Instructions

Before putting the device into operation, carefully read the entire user manual. Ensure that you have fully understood the instructions, warnings, and safety guidelines. If there are any uncertainties, please contact the manufacturer.

1.2.3 Safety Data Sheets for the Electrolytes

Electrolytes can pose specific risks. Before use, thoroughly read the safety data sheets of the electrolytes being used. Observe all specified safety precautions and protective measures.

1.2.4 Protective Measures and Personal Protective Equipment (PPE)

Always wear the recommended personal protective equipment (PPE) as indicated in this user manual and the safety data sheets. Follow the specified protective measures to prevent injuries.

1.2.5 Contact and Support:

If you have any questions or uncertainties regarding operation or safety aspects, we are happy to assist you. Contact our customer service for further information.

1.2.6 Hazards to be taken into account

- Electrical Current
- Gases
- Acids
- Electrolytes
- Burns from hot workpieces
- Other pollutants
- Inattention
  - Please pay attention to safety warnings

1.2.7 The UVV regulations and information to be observed (German Employers' Liability Insurance Associations and Accident Insurances references)

❖ DGUV 1	Principles prevention
❖ DGUV 3	Electrical systems and equipment
❖ DGUV 4	Electrical systems and equipment
❖ DGUV 6	Occupational health care
❖ DGUV 9	Health and safety signs at work
❖ DGVU 209-074	Industrial robots
❖ DGVU 109-602	Galvanising industry
❖ DGVU 209-009	Galvanising
❖ DGUV 209-073	Workplace ventilation decision support for operational practice
❖ DGUV 204-007	First Aid manual
❖ DGUV 204-022	First Aid at workplace
❖ DGUV 251-003	Modern occupational safety
❖ Safety data sheets	
❖ ChemG law on the protection against Hazardous substances (Chemical act)	
❖ TRGS528 Technical rules for hazardous substances	

2 General safety instructions

In this chapter, you will be informed about general hazards that may arise during the use of the device and the application scope of the device. Please read this carefully. All instructions marked with a pictogram throughout the user manual are intended to communicate important information about hazards, tips, safety, and other guidance. Please take the time to carefully study these pictograms and the associated information to ensure safe usage.

2.1 Pictograms

Pictogram	Category	Information
	Warning sign	W001 General warning signs
	Warning sign	W002 Warning of explosive substances
	Warning sign	W012 warning of electrical current
	Warning sign	W017 Warning of hot surface
	Warning sign	W005 Warning of non-ionizing radiation (e.g., electromagnetic field)
	Warning sign	W023 Warning of acid substances
	Forbidden sign	P001 Generally forbidden sign
	Forbidden sign	P007 Prohibition for individuals with pacemakers
	Forbidden sign	P022 Eating and drinking prohibited
	Forbidden sign	No Access for children

	Mandatory sign	M004 Use eye protection, face protection
	Mandatory sign	M009 Use hand protection, acid-resistant with long cuffs
	Mandatory sign	M026 Use protective apron
	Mandatory sign	M011 Wash hands
	Mandatory sign	M021 Deactivate before maintenance or repair
	Mandatory sign	M022 Use skin protection
	Emergency sign	E011 Eye wash station
	Information sign	Information, tips, or other important instructions for handling the device. Read absolutely

2.2 Environment

The use of this device is exclusively permitted in industrial and commercial environments. It is important to note that the device is not intended for use in areas prone to fire or explosion hazards. Please do not use the device in rooms or environments where there is an increased risk of fire, whether due to flammable materials or gases.

Additionally, the use of the device is not intended for wet environments. Therefore, avoid using it under damp or wet conditions, as the device is not protected against the direct penetration of water, and damage could occur. Take into account the protection rating specified for the respective device.

It is mandatory that the room in which the device is operated is well-ventilated. Please ensure there is sufficient fresh air supply to guarantee optimal ventilation. This is particularly crucial as vapours may be generated during the operation of the device.

It is strongly recommended to wear appropriate personal protective equipment during operation. This may include respiratory protection, safety goggles, or other protective gear. Please refer to the instructions in the respective safety data sheet. Furthermore, it is advisable to use an extraction device when operating the equipment, although it is not mandatory. The extraction helps to effectively remove vapours.

It is advisable to cover stone and concrete floors in the immediate vicinity of the device. Acids can react with alkaline floors.
In the case of electrolyte splashes, it is extremely important to remove them immediately. Clean spots from electrolyte splashes promptly by thoroughly washing with water. This swift reaction minimizes the risk of damage to floors or other surfaces.

For stronger electrolytes, tap water alone may not be sufficient. In such situations, we recommend using Neutralyt to effectively remove stains and residues. The exact application can be found in the instructions on the Neutralyt packaging.

For detailed information and specific instructions on handling the respective electrolyte, you should consult the safety data sheet. Here, you will find crucial information to help you handle the electrolyte safely and minimize potential risks.

The use of this device is exclusively permitted in industrial and commercial environments. It is important to note that the device is not intended for use in areas prone to fire or explosion. Please do not use the device in rooms or environments where there is an increased risk of fire, whether due to flammable materials or gases.

In addition, the use of the device is not intended for wet environments. Avoid using it in humid or wet conditions, as the device is not protected against direct water ingress and could be damaged. Please consider the IP rating of the specific device.
It is mandatory that the room where the device is operated is well-ventilated. Ensure there is sufficient fresh air supply to provide optimal ventilation. This is particularly important as vapors can be generated during the operation of the device.

It is strongly recommended to wear suitable personal protective equipment during operation. This may include respiratory protection, safety goggles, or other protective gear. Refer to the information provided in the respective safety data sheet.

Furthermore, it is advisable to use an extraction system while using the device, although it is not mandatory. The extraction helps effectively remove vapors.
It is recommended to cover stone and concrete floors in the vicinity of the device. Acids can react with alkaline floors. In the event of electrolyte splashes, it is crucial to remove them immediately. Clean spots from electrolyte splashes promptly by thorough washing with water.
This swift reaction minimizes the risk of damage to floors or other surfaces

When dealing with stronger electrolytes, tap water alone may not be sufficient. In such situations, we recommend using Neutralyt to effectively remove stains and residues. Detailed application instructions can be found on the Neutralyt packaging.
For comprehensive information and specific instructions on handling each electrolyte, refer to the safety data sheet. It provides essential details to help you handle electrolytes safely and minimize potential risks

2.3 To be checked before starting any work

Cable Inspection

Before commissioning the device, carefully inspect all cables for signs of breaks or damage to the insulation. Damaged cables should be replaced immediately. This ensures a reliable power supply and minimizes the risk of short circuits.

Connections and Sharp Edges
Inspect the connections for a secure fit and proper connection. Avoid sharp edges in the cable's working area to prevent abrasion and damage. Secure the cables to prevent them from being pulled through sharp edges.

Check Connectors

Examine all connectors for a secure fit and proper connection. Loose connections can lead to malfunctions and should be addressed immediately.

Housing Integrity

Pay attention to chipped or broken parts on the device's housing. Any damage to the housing should be promptly repaired to ensure the structural integrity of the device.

Rotary Encoders and Switches

Check all buttons and switches for proper functionality. Ensure they are easy to operate and lock into the correct positions.

Clear Workspace

Keep the workspace clear of obstacles to prevent tripping hazards. This is particularly important to create a safe and efficient working environment

2.4 Possible hazards and measures to prevent them






When handling electrolytes, there is a risk of burns or skin irritations. Liquids can come into contact with the skin or accidentally splash into the eyes during work. To minimize these risks, it is crucial to wear the prescribed acid-resistant personal protective equipment (PPE). This includes wearing suitable acid-resistant gloves and safety goggles, as well as an acid-resistant overall or apron and a protective mask.

Additionally, an eye wash station should be available to begin immediate rinsing in case of contact with the electrolyte. It is crucial that rinsing takes place as quickly as possible to minimize potential damage. Furthermore, other means for rinsing electrolytes on the body may also be present to ensure a swift response to accidents.

The training of employees in the safe handling of electrolytes and the regular review of safety measures are also crucial to prevent accidents and ensure a safe working environment. It is important to closely follow applicable safety regulations and guidelines to identify potential hazards and respond accordingly.

Read the safety data sheets of our electrolytes carefully before use and pay attention to the safety instructions contained therein.


Keep the devices, chemicals, and other accessories away from children. Everything must be stored out of the reach of children. Unauthorized access should also be prevented to protect individuals from the mentioned risks.

Consuming food is prohibited during work, as well as in the general work area.


It is of utmost importance to thoroughly wash hands with soap after completing work, as well as after unintended contact. Subsequently, use appropriate skincare products to prevent skin dryness. Before doing so, no food should be consumed. Ingesting chemicals accidentally poses a risk in case this precaution is not observed.


The unintentional ingestion of chemicals poses potential health hazards. If you realize that you have accidentally ingested chemicals and feel unwell, it is advisable to seek medical assistance immediately.



Ensure that the handle, carbon fibre brush, carbon anode, or any other components electrically connected to the BYMAT do not rest on metallic or electrically conductive surfaces during or after the work steps. This can lead to a continuous flow of current, potentially causing unnecessary heating, fires, and the risk of damaging the workpiece. Additionally, there is a serious risk of burns.

Always ensure that all electrically conductive elements are safely and properly stored between and after work steps to avoid potential damage or hazards. Improper placement of such components can not only affect the quality of the end product but also pose safety risks. Turn off the BYMAT after each use.


During use, the tools on the device and the processed workpiece can become very hot depending on the application and duration of use. It is important to secure hot objects against unintentional touching by others to minimize the risk of burns. Therefore, appropriate protective measures, such as heat-resistant gloves or handles, should be taken. This not only contributes to personal safety but also helps protect the workpiece from undesired alterations.

Improper handling poses a serious risk of tearing off the protective conductor, which in turn presents a potential risk of electric shocks. If the device accidentally falls, it is strongly advisable to contact the dealer or manufacturer immediately. Repairs should only be carried out by qualified electrical personnel.


In case of a fall, malfunction, or suspicion of damage inside the device, as well as visible external damage, the device should be immediately turned off and secured against accidental restart. These safety measures are crucial to minimize the risk of electrical hazards and ensure safe use of the device.


Individuals with pacemakers are advised to refrain from operating and staying in close proximity to the device. The electronics inside the device generate high frequencies and currents, which could create an electromagnetic field. This field may interfere with the functionality of the pacemaker, jeopardizing its proper operation.

3.0 Liability and Warranty Disclaimers

3.1 Improper use

In case of damages or problems resulting from misuse, improper handling, as well as non-compliance with the instructions in the operating manual or the handling conveyed in training, BYMAT GmbH disclaims any liability and warranty claims.

3.2 Unauthorized modifications

All modifications, repairs, or other changes not authorized by BYMAT GmbH result in the exclusion of liability and warranty by BYMAT GmbH.

3.3 Wear parts and normal wear and tear

BYMAT GmbH is not liable for normal wear and tear or the deterioration of consumables.

3.4 Natural disasters or extraordinary circumstances

Liability and warranty are excluded for damages caused by natural disasters or other extraordinary circumstances, as these are beyond the control of the manufacturer.

3.5 Non-Compliance with safety guidelines

Damages resulting from the disregard of safety guidelines or precautions are not covered by warranty or liability.

3.6 External interference

Damages caused by improper installation, improper power supply, or external factors such as lightning, result in a warranty and liability disclaimer.

3.7 Use in an unsuitable environment

BYMAT GmbH does not assume liability for the use of the device in an unsuitable environment.

3.8 Use of inappropriate operating materials or chemicals

When using chemicals or tools not supplied by BYMAT GmbH, liability and warranty from BYMAT GmbH are void. We can only guarantee the safety and performance of our products when the recommended materials and tools are used in accordance with the manufacturer's guidelines. Any deviations may increase the risk of damage or injury and are not subject to our responsibility for liability or warranty.

3.9 Material defects

The statutory regulations apply to material defects after delivery or missing delivery scope. When claiming material defects, it is advisable to include proof of non-expiration for any claims.

4.0 Delivery scope and storage

4.1 Packing and Unpacking

During delivery, the devices are traditionally shipped in a box with suitable Styrofoam protection. Pay attention to any external damage to the box. Open the box carefully to avoid damaging the device. Pull the device out of the box by the handle, removing the Styrofoam protection. Be sure to do this gently to ensure that your device is in perfect condition, and no damage occurs during unpacking

After gently pulling the device out of the box and removing the Styrofoam protection, you should promptly inspect it for any possible damage. Carefully examine the device for external damage or signs of transport damage. If you notice any defects, it is advisable to contact your dealer or the manufacturer immediately. Prompt contact allows for a smooth handling of warranty claims or clarification of damage cases. Your satisfaction with the product is a priority, and timely communication can help efficiently resolve any issues.


B Exercise caution when using cutting tools to open the packaging, as there is a risk of cutting injuries. Always wear cut-resistant gloves to protect your hands.

4.2 Packaging/Delivery contents

The standard delivery includes only the device itself, including a cold device plug. This means that no additional accessories or cables are included in the delivery besides the actual device. In this case, it is advisable to check in advance whether you may need additional accessories, such as starter kits or specific adapters. If necessary, these can be purchased separately to ensure that the device can be properly operated. A thorough check of the delivery contents and knowledge of the necessary accessories make the preparation and use of the new device easier. To find the accessories you need, contact the dealer or manufacturer, check our catalog, or visit our website.

4.3 Storage

Store the device ideally at room temperature in a dry environment. The recommended storage temperature should be between 2 degrees Celsius and 40 degrees Celsius. Avoid exposing the device to direct weather conditions to prevent potential damage. Furthermore, it is important to protect the device from external influences such as moisture and dust to ensure optimal functionality.

5.0 General commissioning


Make sure you have followed the instructions mentioned in section 2.3. Before commissioning the device, it is essential to place it on a stable surface to ensure it is securely positioned and cannot fall. Use only an appropriate power source that meets the required specifications. Connect the device to this power source by inserting the cold device socket into the corresponding connector of the device. Then plug the protective contact plug. of the cable into the socket. To turn on the device, please use the on/off switch located on the back of the device.
Only turn on the device once you have connected all the necessary work materials to the device. Do not exchange work materials under any circumstances while the device is in operation.

6.0 Operation

6.1 General information about 6024 RS / 7024 RS and required materials

The 6024 RS and 7024 RS do not differ in terms of operation. The devices are controlled via a single-button operation. After turning on the device, you are in the program selection mode. The desired program can be selected using the rotary switch. By turning the switch, you can choose the desired program point. Pressing the switch on the selected program point takes you into the selected program. Caution: The device is ready for operation as soon as you are in the selected operating program. To set the language, please select the 'Language' option. By turning the switch in the respective program point, you can adjust the output voltage and align it with the work process.
To determine which program you need and the recommended voltage, refer to the respective operating procedure description. Both devices in the Premiumline have a connection for an automatic electrolyte pump. We explain how to use it in the operating manual of the electrolyte pump (1200 EP).

Recommended accessories:

Figure	Label	Article Number
	Ground cable with clamp and bayonet connector	5024 KR
	Working cable with bayonet connector male/female	5024 KF
	Copper paste	5400 KP
	10mm carbon fiber brush incl. PTFE adjustable sleeve	6026 PI
	PTFE- Handle with bayonet lock	5024 HG
	O-rings for fastening signing felts 26x2mm	1205 OR
	Signing felts 38x60x2,6mm	1206 SF
	Embossing anode 90° included PTFE-Handle	5025 SZ
	Wide neck container 500ml	2500 WB

	Electrolyte A (Yellow, Mild)	2030 DH (1 L) 2035 DH (5 L)
	Electrolyte C+ (Pink, Very strong)	2040 DC (1 L) 2045 DC (5 L)
	Neutralyt	2211 NT (1 L) 2250 NT (5 L)
	Electrolyte EC-S (Dark marking)	2111 EC-S (1 L) 2115 EC-S (5 L)
	Electrolyte EN (Bright marking)	2171 EN (1 L) 2185 EN (5 L)
	Marking template	Upon request from your dealer or directly from BYMAT GmbH

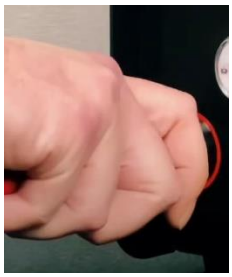
The selection of the carbon fibre brush and electrolyte provided here is merely a suggestion; of course, you are free to use larger or smaller brushes as needed, as the handling remains the same. For more severe contamination, we recommend the use of a more intensive electrolyte. However, it is important to note that stronger electrolytes have a higher acid content and are therefore more corrosive. For applications in the food industry, it may be advisable to use electrolyte LF (acid-free) to ensure that no harmful acid residues remain. Choosing the right cleaning agent is crucial to maximize cleaning effectiveness while ensuring that the application complies with specific requirements and standards. For further information, feel free to visit our website or contact your dealer or the manufacturer.

6.2 Cleaning with the 6024 RS / 7024 RS

Prepare your work equipment and the necessary materials, and start as follows:

Connection of the ground clamp

Connect the bayonet locks of the ground cable and the ground connection on the device (marked in red) with each other and tighten them securely. Attach the ground clamp directly to the workpiece or another well-conductive location across the workpiece. Proper placement of the ground clamp ensures effective and secure grounding during the work process. By attaching the clamp directly to the workpiece or to an area with good electrical conductivity, you ensure that the circuit is closed, and the necessary grounding is established.

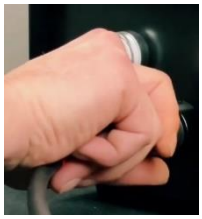


This is especially important to prevent potential electrostatic charges and ensure a safe working environment. Be sure to securely attach the ground clamp to establish a reliable connection and thus create efficient working conditions. A poorly connected ground clamp can significantly impede the work process.

Connect the working cable and the carbon fiber brush as follows:

To prevent the threads of the brush from seizing, it is recommended to moisten the threads with a drop of copper paste before screwing them together. The application of copper paste creates a protective layer that ensures the smooth rotation of the threads. This is particularly important as the working material can expand and contract due to temperature fluctuations. Without the use of copper paste, it could become difficult or even impossible to unscrew the brush.
Copper paste creates a barrier against friction and corrosion, significantly facilitating the maintenance and replacement of the brush. Regularly applying copper paste helps extend the lifespan of the tools and ensures their reliable performance even under changing environmental conditions.

After applying copper paste to the threads of the brush, screw it onto the handle. Now you can attach the brush with the handle to the working cable. To do this, tighten the bayonet lock securely.



Now connect the working cable to the corresponding socket on the device.

By turning the adjustment sleeve, you can adjust the bundling of the brush, allowing for a gentler and more precise operation. The further the brush protrudes, the more the bristles spread out. This can result in ineffective cleaning.


The adjustment sleeve on the brush plays a crucial role in generating the desired pressure on the workpiece, thereby achieving an effective cleaning result. Without this sleeve, there is a risk that the carbon fibres may yield and shift to the side, inefficiently transferring the necessary pressure to the workpiece. This can cause the metallic base of the carbon fibres to come into contact with the workpiece, leading to discoloration. Additionally, there is a risk of a short circuit, which not only significantly increases brush wear but also results in uneconomical use.
The carbon fibre brush is worn out when the length of the carbon fibre reaches less 1 cm. Once this wear limit is reached, the brush should be replaced. Adhering to this guideline is crucial, as anything below it could lead to a potential short circuit. The danger of sparks and a possible short circuit can not only affect the functionality of the device but also lead to more serious damage or even the destruction of the device. Therefore, it is advisable to regularly check the condition of the brushes and promptly replace them when reaching the specified wear limit. This ensures that the device operates safely and efficiently, minimizing potential risks due to inadequate brush wear.

Now, add some electrolyte to the wide-neck container, being careful not to spill anything. Do not leave the brush in the container, as it may tip due to the weight of the handle.


Now switch on the device. Next, select the desired program 'Clean (Brush).'
Caution: After selecting the program, the device is immediately ready for use. By turning the switch, you can vary the voltage (here between 4-12 V-AC). We recommend starting with a voltage of 10 V-AC. While working with the device, you can determine your optimal voltage. However, it is important to know that increasing the voltage also increases the wear of the brush.

The differences between the program points 'Clean' and 'Clean (Brush)' are as follows:

In essence, the two programs do not differ significantly in the cleaning method. The primary distinction lies in the voltage selection, which is considerably higher in the 'Clean' mode (6-24 V AC).

Now you can start the cleaning process. Dip the brush into the electrolyte and let it drain.

Place the brush on the workpiece and begin cleaning. Apply gentle, consistent pressure to the area to be cleaned. Move the brush back and forth. Do not press too hard on the brush. Ensure that the maximum contact surface of the brush meets the workpiece, as this ensures better cleaning effectiveness.

The brush should not dry out during the process; dip it again into the electrolyte as described above. Stir the brush in the container a bit to remove dissolved oxides from the carbon fibre and cool the brush, thereby reducing wear. The duration of the cleaning process varies depending on the degree of contamination. Choose your electrolyte based on the level of contamination.

If you are satisfied with the result, neutralize the cleaned area with Neutralyt. By using Neutralyt, you prevent later formation of lime residues or other salt deposits on the surface of your workpiece. Now, dry the workpiece, a paper towel is sufficient to remove any remaining residues.

For simplified rinsing of the electrolyte, a spray bottle (Item No. 2100 SF) is excellent. Ensure that the electrolyte can drain well during the work process and flows into a separate disposal container.

6.3 General tips for cleaning

- During cleaning, only oxides, discoloration, and dirt are removed; it does not alter the material itself.
- Use Neutralyt to remove electrolyte residues; compared to water, you consume significantly less fluid for the same or even better results, saving time and ensuring no white spots after drying.
- To achieve a flawless result, neutralize the warm workpiece while the electrolyte is still in the wet phase.
- In the heat-affected zone of the weld seam, matt spots (low chrome content) may remain after cleaning, as cleaning cannot eliminate the chrome depletion caused during welding. However, a light polishing can visually enhance the surface.
- For additional tips and information, refer to the catalog or visit the website.

6.4 Polishing with the 6024 RS / 7024 RS

Polishing does not differ significantly from the working process of cleaning. Select the program 'Polishing (Brush)' (4-12V DC) for this purpose.

Distinctions between the program points 'Polishing' and 'Polishing (Brush)' are as follows:

In essence, the two programs do not differ significantly in the way of polishing; the main distinction lies in the voltage selection, which is considerably higher in the 'Polishing' mode (6-24V DC).

For polishing, we recommend a voltage of 12V.

Attention:

When polishing, use the polishing electrolyte C or C+. We recommend our electrolyte C+.

Dip the brush into the electrolyte container more frequently during polishing, as the workpiece and the brush become hotter than during cleaning. Polishing is abrasive and removes microscopic material tips. Polish until you achieve the desired result. The longer you polish, the shinier and smoother the surface becomes (tip removal).

During extended polishing, it is recommended to cool the workpiece with deionized water in between.

Now, follow the operating instructions from step 6.2.

6.5 Bright Marking with the 6024 RS / 7024 RS

Ground cable, working cable, marking template, marking stamp with anode, and marking felt, wide-neck container, Electrolyte EN, Neutralyt.

When marking, follow all safety instructions from the previous points. Set up the device and the tool as described in section 6.2. Instead of the carbon fibre brush, install the marking stamp; attach a marking felt to it using an O-ring, as shown in the illustration.

Ensure that the marking felt cannot slip during the working process. Attach the marking felt as shown in the illustration.

A worn or missing marking felt can cause serious issues during work, such as short circuits. If it slips off, there is a risk of a short circuit on the workpiece, leading to deep burn marking. This, in turn, can damage the carbon anode and even the entire device. Moreover, there is a serious risk of sparks, which, in addition to other risks, can pose a potential threat. Therefore, it is crucial to regularly check the condition of the marking felt and ensure that it does not slip during work to avoid accidents and damage. Handling the marking felt with care significantly contributes to the safety and efficient operation of the device. We recommend replacing the marking felt after approximately 10 uses.

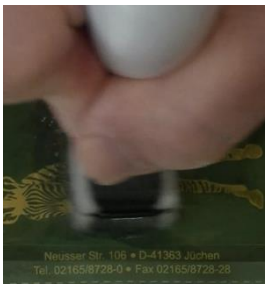
Switch off the device when changing all accessories that can be connected to the device.

Before turning on the device, ensure again that the tool you have connected is not on an electrically conductive surface.
After following all instructions that need to be completed before turning on, switch to the 'Bright Marking' program (6-16 V DC). For bright marking, we recommend a voltage of 12V. However, this is only a recommendation and not a fixed value; try different settings to find the most effective one for you.

Fill a small amount of Electrolyte EN into a clean wide-neck container. Fill it enough so that you can moisten the marking felt well, but the carbon anode is not excessively dipped into the electrolyte. Alternatively, the felt can also be directly dripped.

Tipp: For better distribution of the marking electrolyte for marking and optimal moistening of the marking felt, we recommend placing a sponge in the wide-neck container. This way, you can soak the sponge with the electrolyte. Now you just have to press the marking stamp onto the sponge to ensure optimal moistening of the marking felt.

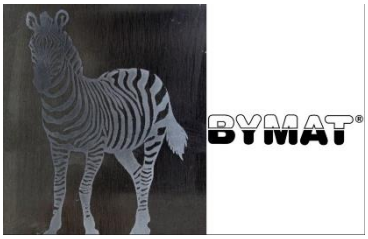
Now, place the template on the spot of the workpiece where you want the bright marking to be performed.



Now, press the moistened marking stamp at a 90° angle onto the template, holding the template firmly with the other hand or securing it well, as the marking stamp requires a slightly firmer pressure. Move the stamp in circular motions over the template several times.

Be very thorough and take a little time for this process to achieve optimal marking. Over time, you will develop a good feel for marking; it is recommended to practice a bit on scrap pieces beforehand.

After completing the process, remove the template and spray the marked area with Neutralyt. Wipe the area dry with a paper towel.



Finished!

6.6 Marking dark with the 6024 RS / 7024 RS

Ground cable, working cable, marking stamp, wide-neck container, Electrolyte ET, Neutralyt.

When marking, follow all safety instructions from the previous points. Set up the device and the tool as described in section 6.2. Instead of the carbon fibre brush, install the marking stamp; attach a marking felt to it using an O-ring, as shown in the illustration.

Ensure that the marking felt cannot slip during the working process. Attach the marking felt as shown in the illustration.


A worn or missing marking felt can cause serious issues during work, such as short circuits. If it slips off, there is a risk of a short circuit on the workpiece, leading to deep burn marking. This, in turn, can damage the carbon anode and even the entire device. Moreover, there is a serious risk of sparks, which, in addition to other risks, can pose a potential threat. Therefore, it is crucial to regularly check the condition of the marking felt and ensure that it does not slip during work to avoid accidents and damage. Handling the marking felt with care significantly contributes to the safety and efficient operation of the device. We recommend replacing the marking felt after approximately 10 uses.

Switch off the device when changing all accessories that can be connected to the device.

Before turning on the device, ensure again that the tool you have connected is not on an electrically conductive surface. After following all instructions that need to be completed before turning on, switch to the 'Dark Marking' program (6-14V AC). For dark marking, we recommend a voltage of 12V. However, this is only a recommendation and not a fixed value; try different settings to find the most effective one for you.

Fill a small amount of Electrolyte ET into a clean wide-neck container. Fill it enough so that you can moisten the marking felt well, but the carbon anode is not excessively dipped into the electrolyte. Alternatively, the felt can also be directly dripped.

Tipp: For better distribution of the marking electrolyte for marking and optimal moistening of the marking felt, we recommend placing a sponge in the wide-neck container. This way, you can soak the sponge with the electrolyte. Now you just have to press the marking stamp onto the sponge to ensure optimal moistening of the marking felt.

Now, place the template on the spot of the workpiece where you want the bright marking to be performed.

Now, press the moistened marking stamp at a 90° angle onto the template, holding the template firmly with the other hand or securing it well, as the marking stamp requires a slightly firmer pressure. Move the stamp in circular motions over the template several times.

Be very thorough and take a little time for this process to achieve optimal marking. Over time, you will develop a good feel for marking; it is recommended to practice a bit on scrap pieces beforehand.

After completing the process, remove the template and spray the marked area with Neutralyt. Wipe the area dry with a paper towel.

Finished!

6.7 Electroplate

For galvanizing, gold plating, chrome plating, etc., turn the selector switch to Electroplating and confirm it. Follow the same steps as for marking. The differences lie in setting the voltage and selecting the electrolyte. Refer to our ECME manual for information on electrochemical metal deposition, where you will find safety instructions and application examples. You do not need a template for electroplating. Two examples for electroplating:

Gold plating: Electrolyte GG, Voltage 8V.
Zinc plating: Electrolyte GZ, Voltage 12-14V.

7. Maintenance and upkeep

The operator is authorized to perform all cleaning work on the tool and the housing of the devices independently. However, it is important to note that any work requiring screwing on the device must be carried out exclusively by an electrician or a person specifically qualified for the respective device. Any screwing or maintenance work beyond cleaning must always be performed by a qualified professional.
Please use surface cleaners designed exclusively for stainless steel surfaces when cleaning the housing. This protects against damage and contributes to the long-term preservation of the aesthetic appearance. Avoid abrasive or aggressive cleaning agents to prevent scratches or damage. Use stainless steel care after each cleaning.
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For optimal cleaning, we recommend using our in-house stainless-steel cleaner/maintenance products.

The black devices are significantly less sensitive and allow for effortless cleaning, even with regular dish soap.

The regular cleaning of the devices depends significantly on various factors, including wear and tear, the nature of the work environment, and the frequency of use. The intensity of device utilization and the specific conditions in the workplace play a crucial role in determining the necessity and timing of cleaning measures. By carefully considering these aspects, effective cleaning schedules can be established, ensuring both the optimal functionality of the devices and extending their lifespan.

Clean everything that has come into contact with electrolytes on a daily basis. This is not only to ensure the longer lifespan of the devices but also for the sake of visual cleanliness. The insulation of the device's cables is particularly susceptible. Regular drying of the electrolytes can make them brittle faster, so be sure to clean them thoroughly as well.

Clean the devices only with a slightly damp cloth.

Please clean the device exclusively with a damp cloth. The protection class of the device is not designed to come into direct contact with water or other liquids. Clean and maintain the device only when it is turned off. Clearly disconnect the device from the power supply for this purpose.

8. Troubleshooting

If an error occurs, we recommend reviewing your procedure. Please ensure that the ground clamp is correctly attached, that you are using the correct program, have selected the appropriate electrolyte, and are using the correct working tool.

Please note that each time you turn off the device, you should wait at least 30 seconds before turning it back on. Observing this waiting time is crucial to avoid potential error conditions.

If you have any questions or unresolved issues, feel free to contact your dealer or manufacturer.

9. Waste disposal

9.1 Disposal of electrolytes

Avoid letting electrolytes enter the environment. In case of accidental leakage, use suitable absorbents, lime, or plenty of water to ensure environmentally friendly containment. More detailed instructions can be found in the safety data sheet for the respective electrolyte. Proper disposal of these substances is crucial to minimize environmental impact and ensure compliance with applicable regulations and safety guidelines. Always follow the instructions in the safety data sheet to ensure safe and environmentally responsible disposal.

9.2 Disposal of electronic waste

The labelling on the product or packaging indicates that it should not be disposed of in household waste. Instead, you should take it to collection points for the recycling of electronic devices. This approach not only helps protect the environment but also ensures the safety of others from the potential hazards of improper disposal.
It is important to obtain accurate information at the local level to find suitable recycling options.

By properly disposing of electronic waste, you actively contribute to reducing environmental impact and promoting sustainable waste management. Always adhere to local guidelines and responsible disposal practices to make a positive contribution to environmental conservation.

10. Technical data

Device	6024 RS	7024 RS
Power	1608 VA	3216 VA
Weight	8,8 KG	10,8 KG
Max. Output current	150A	250A
Measure LxBxH	385 x 163 x 305 mm	385 x 163 x 305 mm
Cleaning (4-26 V AC/500 Hz)	☑	☑
Polishing (4-26 V DC)	☑	☑
Marking Bright (4-26 V DC)	☑	☑
Marking Dark (4-26 V AC/50 Hz)	☑	☑
Electroplate	☑	☑
Connection of Electrolyte pump	☑	☑