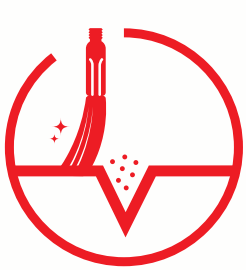
PREMIUM WELD CLEANERS

ANT WELD CLEANER MARKING

USER GUIDE



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THANK YOU FOR PURCHASING ANT WELD CLEANER PRODUCTS!

Dear customer,

Welcome to the Ant Weld Cleaner family!

We're thrilled to have you join us on your journey to cleaner welds and smoother operations. Your decision to choose Ant Weld Cleaner products reflects your commitment to quality and efficiency in your work.

Ant Weld Cleaner is dedicated to providing top-notch solutions that exceed your expectations. Whether you're a seasoned professional or just starting, our products are designed to streamline your welding process and enhance your results.

As you begin this journey with us, know we're not just here to support you; we're committed to your success. We'll be by your side, ready to assist you at every step of the way.

Best Regards,
AWC Team

ANT WELD
CLEANER

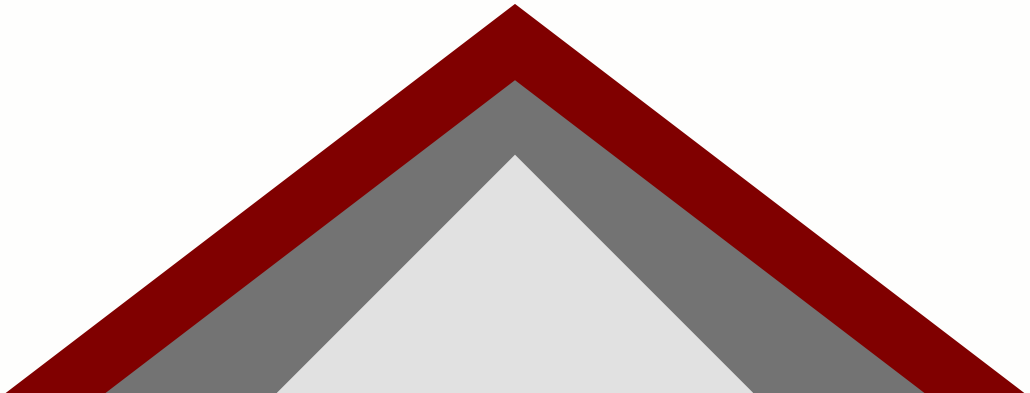
ABOUT US...

Ant Weld Cleaners are innovative machines specifically engineered for cleaning, passivating, and polishing all grades stainless steel.

Ant Weld Cleaner powered by **Intelligent Surface Sensing Technology.**

Intelligent Surface Sensing Technology is utilized to identify welds made of stainless steel and to enhance passivation until the welds are impeccable. Our accessories are unique, and the fluids used in the electrochemical process are non-toxic.

The Ant Weld cleaner product line includes four models: **AWC 35, AWC 70, AWC 120, and AWC 200.**



INTENDED USE

These devices are specifically designed for electrochemical marking of stainless steel and other conductive metal surfaces.
If you need to apply durable, high-contrast markings such as logos, serial numbers, or part identifiers, this marking device is highly effective.
It not only ensures precise and permanent marking but also maintains the integrity of the base material without mechanical stress or surface damage.
We recommend using only original accessories and approved marking electrolytes to ensure optimal performance and safe operation.
It is important to note that any use beyond the intended or specified purpose is considered non-compliant with safety and operational regulations.
The manufacturer shall not be held responsible for any damages or malfunctions resulting from improper use.
Intended use includes following all operating instructions, complying with maintenance and inspection requirements, and using appropriate personal protective equipment.

ANT WELD CLEANER SAFETY NOTICE

EXPLANATION OF SYMBOLS

01

DANGER!

This symbol indicates an immediate danger that, if not avoided, can result in death or serious injury.

02

WARNING!

This symbol indicates a potentially hazardous situation that, if not avoided, may result in death or serious injury.

03

CAUTION!

Hospitality-specific Training Modules
Soft Skills Enhancement for Staff

04

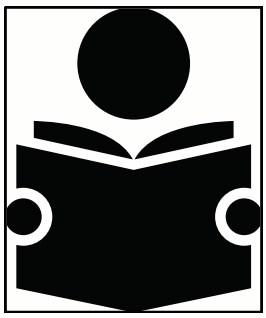
NOTE!

This symbol indicates a risk of flawed results and possible damage to the equipment.

05

CAUTION!

This symbol indicates a situation where damage or injury could occur. If not avoided, minor injury and/or damage to property may result.

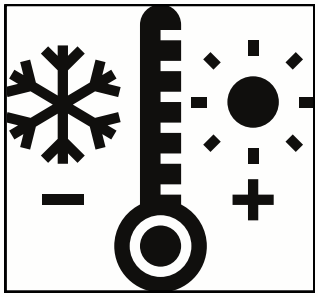


READ MANUAL

- Before start operating any product or equipment, it is important to thoroughly read and understand the manual or guide that accompanies it.

- **Improper use of equipment can cause:**
  - Potential harm to the operator or others
  - Damage to equipment and assets
  - Reduced device efficiency

- The person who operates the machines must be quilfied or professional.
- The person who operates the machines must always have the manual with them during operation.
- The person who operates familiar with the fundamental instructions regarding safety.
- It's important to follow all **safety and environmental** regulations in addition to the operating instructions.
- It is important for individuals who operate any machinery or equipment to follow the local regulations and guidelines. This ensures the safety of not only the operator, but also those around them.
- It is important to ensure that all safety and danger notices on the device are easy to read, not damaged, not removed, and not covered, pasted or painted over.
- It's important to prioritize safety when using any device. Before turning it on, take the time to check for and address any potential faults or issues that could compromise your safety. This simple precaution can go a long way in preventing accidents or injuries..

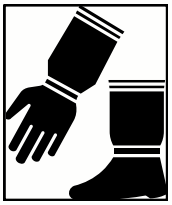


ENVIRONMENTAL CONDITIONS

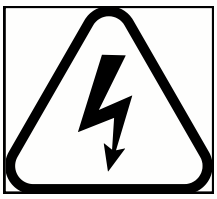
- You'll want to ensure clarity and comprehensiveness when including environmental conditions in a user manual for weld cleaning machines and equipment.
- **Temperature Range:** Specify the acceptable temperature range for operating the equipment. Weld cleaning machines may have specific requirements to function optimally, and extreme temperatures might affect performance.
- **Humidity Levels:** Mention if the equipment is sensitive to humidity. High humidity can sometimes cause corrosion or affect electrical components, so users must be aware of any limitations.
- **Ventilation Requirements:** Proper ventilation is required for weld cleaning processes that produce fumes or gases to maintain a safe working environment.
- **Dust and Debris:** If the equipment is sensitive to dust or debris, advise users to operate it in clean environments or provide recommendations for cleaning and maintenance to prevent damage.
- **Electrical Environment:** Specify any electrical requirements, such as voltage, frequency, or grounding specifications. Ensure users understand the importance of adhering to these safety and proper functionality requirements.
- **Outdoor Use:** If the equipment is suitable for outdoor use, mention any additional precautions or considerations users should take when using it outdoors, such as protection from rain or extreme weather conditions.
- **Storage Conditions:** Provide recommendations for storing the unused equipment, including temperature and humidity considerations to prevent damage or deterioration.
- **Altitude:** In some cases, altitude can affect equipment performance.
- **Chemical Exposure:** If the equipment comes into contact with chemicals during operation or cleaning, specify compatibility requirements and precautions to prevent damage or hazards.

- **Shock and Vibration:** Mention any sensitivity to shock or vibration and advise users on safely handling and transporting the equipment to avoid damage.
- **Certifications and Compliance:** Ensure the equipment meets relevant safety standards and regulations for the intended environmental conditions and provide information on certifications or compliance.

SAFETY AND HAZARD NOTICE



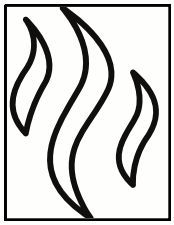
- **Personal Protective Equipment (PPE):** Always wear appropriate personal protective equipment, including safety glasses, gloves, and protective clothing, when operating the weld cleaner to prevent injuries.



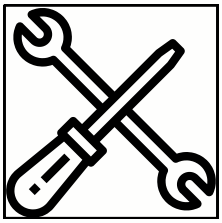
- **Electrical Safety:** Ensure that the weld cleaner is connected to a properly grounded electrical outlet. Do not operate the equipment if the power cord is damaged or if there are any exposed wires.

- **Compressed gas:** Use the weld cleaner in a well-ventilated area to prevent the buildup of fumes or gases. If working in a confined space, use additional ventilation or respiratory protection as necessary.

- **Chemical danger:** When working with this machine, you may encounter various **potential hazards**, such as skin irritation upon contact with cleaning agents (cleaning solutions), serious eye injuries due to contact with cleaning solutions, and general risks associated with handling chemicals. It is important to take necessary precautions and follow proper safety guidelines to avoid any mishaps.



- **Hot Surfaces:** Be mindful of hot surfaces on the weld cleaner, particularly during operation. Allow the equipment to cool down before performing maintenance or cleaning to avoid burns or other injuries.



- **Moving Parts:** Keep hands and fingers away from moving parts of the weld cleaner while operating. Wait for the equipment to come to a complete stop before performing any maintenance or adjustments.

- **Overloading:** Do not exceed the weld cleaner's recommended capacity or duty cycle. Overloading the equipment can lead to overheating, damage, or safety hazards.

- **Emergency Procedures:** Familiarize yourself with emergency procedures, including how to shut off the weld cleaner in case of malfunction or emergency.

WARNING

- **Electric Shock Hazard:** The weld cleaner operates on electricity and contains high-voltage components. Do not attempt to disassemble or repair the equipment while it is connected to a power source. Contact qualified personnel for servicing or repairs.
- **Chemical Exposure:** Avoid direct contact with cleaning solutions or chemicals used with the weld cleaner. In case of skin or eye contact, flush with water immediately and seek medical attention if necessary.
- **Fire Hazard:** Exercise caution when using the weld cleaner near flammable materials or in environments where sparks could ignite combustible substances.

1.5. BEFORE START WORKING

When operating a electro chemical marking machine, it's crucial to prioritize safety by wearing appropriate protective gear. Here's a list of recommended protective gear for operating with a weld cleaner:

- **Safety Glasses or Goggles:** Protects the eyes from debris, splashes, and chemical splatter. Choose goggles with side shields for additional protection.

- **Chemical-Resistant Gloves:** Wear gloves made of neoprene, nitrile, or PVC to protect your hands from contact with cleaning solutions and chemicals.

- **Apron or Protective Clothing:** Wear a chemical-resistant apron or protective clothing made of materials such as PVC or rubber and a mask to shield the body from splashes and spills.

- **Closed-Toe Shoes:** Wear sturdy, closed-toe shoes with non-slip soles to protect the feet from spills and falling objects.

- **Emergency Eyewash Station:** Ensure that an eyewash station is readily available in case of accidental eye exposure to cleaning solutions.

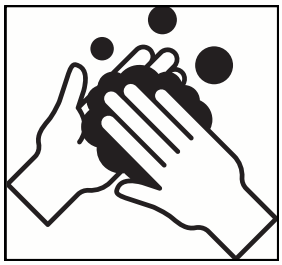
- **First Aid Kit:** Have a well-stocked first aid kit on hand in case of minor injuries or chemical exposure. Be familiar with its contents and know how to administer first aid as needed.

Before operating :

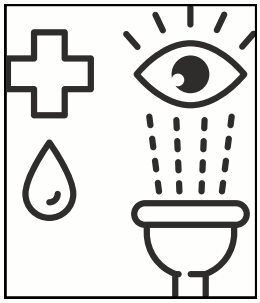
1. Familiarize yourself with the manufacturer's instructions, safety data sheets (SDS) for cleaning solutions, and relevant safety guidelines and regulations.
2. Inspect all protective gear regularly for signs of wear or damage and replace items as needed to maintain optimal protection.
3. Always follow proper safety procedures to minimize the risk of injury or exposure to hazardous chemicals.

IMPORTANT NOTES:

- Please remember that it is not advisable to consume any food or beverage while you are working. Moreover, to ensure the safety of everyone involved, make sure that you store all cleaning solutions away from any food or drink.



- Remember to wash your hands before taking breaks and at the end of your workday. If your skin comes into contact with potentially harmful substances, use soap and water to clean the affected area, and rinse thoroughly. If you experience continued irritation, seek medical attention.



- If you get any substance into your eyes, rinse them thoroughly under running water for several minutes while keeping your eyelids open (you can use an eye shower for this purpose). Afterwards, it's highly recommended that you seek medical attention from a doctor.

Safekeeping Storage Solutions

When storing and safekeeping cleaning solutions, it is important to follow some safety guidelines.

- Firstly, only use containers that are approved for cleaning solutions.

- Secondly, keep the container tightly closed. Do not store the cleaning solution together with alkali (lyes) and metals.
- Store it in a cool and dry place and provide an acid-proof floor.

- Finally, for added safety, keep the cleaning solution under lock and key and out of the reach of unauthorized personnel.

- Keep it securely locked away and out of the reach of children.

1.5.4. MACHINES PREPARATION

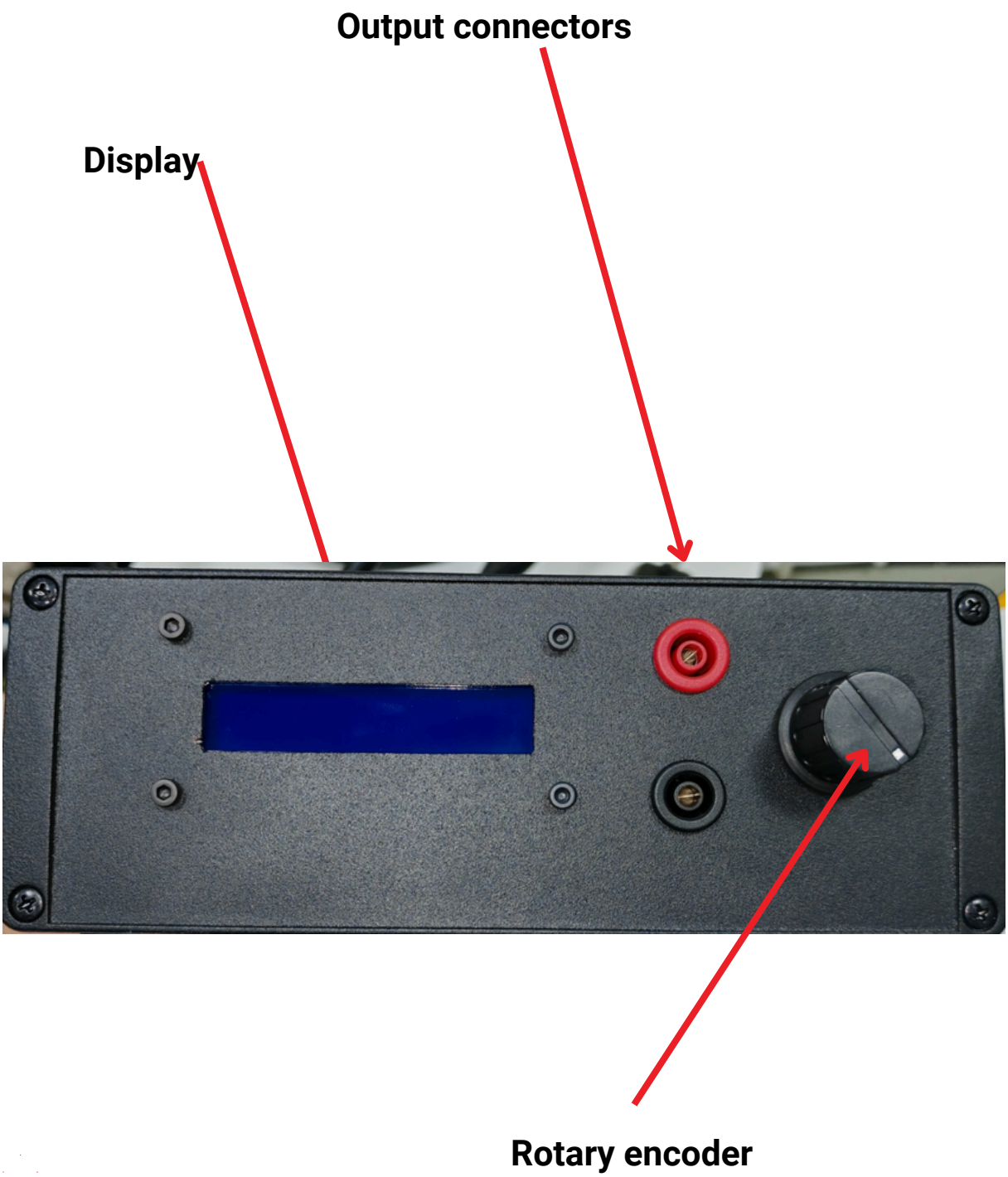
Preparing machines **before operation** ensures safety, efficiency, and optimal performance. Here's a general checklist you can follow.

Preparing machines before operation ensures safety, efficiency, and optimal performance. Here's a general checklist you can follow:

- **Inspect the Machine:** Check for any visible damage, loose parts, or signs of wear and tear. Ensure all components are in good working condition.
- **Review Operating Manual:** Familiarize yourself with the manufacturer's instructions and operating procedures. Pay attention to safety precautions and emergency shutdown procedures.
- **Check Fluid Levels:** Verify that all necessary CLEANING SOLUTIONS fluids are at the recommended levels. Top up as needed.
- **Clean the Machine:** Remove any debris, dirt, or buildup from the machine and its components. Cleanliness not only helps prevent accidents but also ensures proper functioning.
- **Inspect Electrical Connections:** Ensure all electrical connections are secure and free from damage. Look for frayed wires or exposed connections that may pose a safety hazard.
- **Perform Pre-Startup Checks:** Before starting the machine, perform any additional checks specified in the manual or standard operating procedures.
- **Secure Work Area:** Clear any obstacles or hazards around the machine. Ensure proper ventilation and lighting as needed.
- **Personal Protective Equipment (PPE):** Before operating the machine, put on the necessary PPE, such as safety glasses, gloves, mask, etc.

By following these steps, you can ensure that the machine is in good working order, minimize the risk of accidents, and achieve efficient and safe operation.

2.1.MACHINES COMPONENTS


Output connectors
Display
Rotary encoder

Technical data sheet

Description	Model: AWC Marking		
Power Supply		220V/50Hz - 1A	110/60Hz - 1A
Output Power			120W
Output current	AMP Range		1-10 Ampere
Operating voltage	Voltage Range		10-14V AC
Operating temperature	Temperature range		-20 +55 degrees c
Duty cycle			100%
Input cable	length		2m
Output cable	length		1.5m
Output cable	size		$10mm^2$
Brush holder	option		1
Enclosure	material		Aluminium
SIze	H 6cm	W 20cm	D 19cm

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2.1.1. AWC Marking MACHINES KIT

Ant Weld Cleaner marking machine kit includes:

- Ant Weld Cleaner marking machine
- Output cable black and red
- Handle
- Graphite tip
- Cotton pads 10 pcs
- Marking fluid
- Neutralizing fluid
- Start manual
- Warranty 2 Years

2.3. SAFETY PRECAUTION - BEFORE START TO WORK

Here are some detailed safety precautions to keep in mind when working with mild acid fluids:

- **Wear Personal Protective Equipment (PPE)**: Always wear appropriate protective gear, including safety goggles, gloves, and a lab coat or apron to protect your eyes, skin, and clothing from accidental splashes or spills.
- **Work in a Well-Ventilated Area:** Perform acid-related tasks in a well-ventilated area to minimize inhalation of fumes. If working indoors, use a fume hood if available.
- **Handle with Care:** Handle acids carefully to avoid spills. Use appropriate containers and equipment for transferring and diluting acids.
- **Use the Correct Concentration:** Ensure you use the correct acid concentration for your intended purpose—dilute acids as necessary following established protocols.
- **Add Acid to Water, Not Water to Acid:** When diluting acids, always add the acid slowly to the water while stirring continuously. Never add water to concentrated acid as it can cause a violent reaction.
- **Neutralize Spills Safely:** In case of a spill, neutralize the acid with a suitable neutralizing agent following established procedures. Clean up spills promptly using appropriate absorbent materials and dispose of them properly.
- **Dispose of Waste Properly:** Dispose of used acids and any contaminated materials according to local regulations and guidelines. Do not pour acids down the drain unless it is safe and permitted by laws.
- **Emergency Preparedness:** Know the location of safety equipment such as eyewash stations, safety showers, and fire extinguishers. Familiarize yourself with emergency procedures for acid spills and exposure.
- **Training and Education:** Ensure that personnel handling acids are adequately trained in safe handling procedures and are aware of the potential hazards associated with acids.
- **Read Safety Data Sheets (SDS)**: Familiarize yourself with the safety data sheet for the specific acid you work with. SDS provide essential information on hazards, safe handling, storage, and disposal.

Note: These safety instructions will help minimize the risks of handling mild acids and ensure a safe working environment.

WHAT IS ELECTRO-CHEMICAL METAL MARKING?

ELECTRO-CHEMICAL METAL MARKING is the process used for stress free permanent marking on most conductive metals. The process is economical, simple, fast and safe. The one restriction to this process is that it will not function on painted parts, already anodized aluminum or through certain heavy phosphate coatings. However, by deep etching the parts prior to any of these non-conductive coatings, the mark shows through very legibly. This allows positive traceability throughout the life of the parts. MAWC marking Electro-Chemical Metal marking system is designed to provide maximum performance and ease of operation. The assembly includes all the necessary equipment and supplies to most effectively mark all parts....from tiny semiconductors to massive aircraft and aerospace components. Depth of mark from one ten thousandth (.0001) of an centimeter deep for feeler and plug gages to ten thousandths (.010) deep for absolute traceability of parts is easily attainable. The power unit is equipped with an AC-DC output. The AC (alternating current) alternately etches out and redeposits back a combination of the metal oxide and electrolytic salts producing a black mark. The DC (direct current) charges the applicator negatively (cathodic) which dissolves metal out, etching a frosted or clear mark. To prevent corrosion, the parts must be thoroughly cleaned after marking to remove any residual salts. No special skill is required to operate the equipment except pride in doing a good job. Electro-Chemical marking does not deform, weaken or fracture the metal because molecular structure is not altered beyond the depth of the mark. Methods such as steel stamping, electric arc etch-ing or vibratory marking alter the grain structure of the metal in the area of the mark causing possible stress or fracture to the parts.

1. Initial Setup & Kit Contents Check

Before powering the machine, ensure all components from the kit are present:

- Ant Weld Cleaner marking machine
- Output cable black and red
- Handle
- Graphite tip
- Cotton pads 10 pcs
- Marking fluid
- Neutralizing fluid
- Start manual

2. Hardware Connections

1. Plug the power cord into a grounded 220–240V AC outlet or 110–120V, find that info written back on machine
2. Connect the black cable to the electrode output on the machine and the other end to the hand pad.
3. Connect the red cable to the GND output, then attach the other end (alligator clip) directly to the metal part to be marked or etched.

3. Preparing the Electrode Pad

1. Place a clean cotton graphite pad onto the flat end of the hand pad.
2. Secure the pad tightly using the rubber band provided.
3. Add several drops of the electrolyte directly onto the cotton pad until it's saturated but not dripping.

4. Selecting the Operating Mode

This machine uses an encoder with a built-in push-button and a digital display to select and confirm the operating mode.

1. Turn the encoder left or right to navigate between:
    - Dark– for high-contrast surface marking (e.g. logo or serial number)
    - Light– for deeper electrochemical engraving into the metal
2. Once the desired mode appears on the display, press the encoder (click) to confirm the selection.

The active mode will be clearly shown on the screen throughout operation.

5. Operating Instructions

1. Position the stencil flat and securely on the metal surface. Ensure it’s clean, dry, and aligned correctly.
2. Hold the hand pad (with wetted cotton) firmly over the stencil.
3. Press the ON button or footswitch (if available).
4. Blot or press gently for 2–4 seconds per contact. Lift the pad briefly and repeat until the desired darkness or depth is achieved.
5. If marking becomes uneven, reapply a few drops of electrolyte and continue.
6. For cleaning during process, press the stencil lightly onto a cleaner pad (optional) soaked with electrolyte.

6. After Marking / Etching

1. Carefully remove the stencil from the workpiece.
2. Clean the surface immediately with a cloth and neutralizing cleaner (or water if not available).
3. Dry the surface thoroughly with a clean, dry cloth.

7. Cleaning & Maintenance

After use:

1. Turn off the machine using the ON/OFF switch.
2. Disconnect all cables.
3. Remove the used cotton pad and dispose of it if contaminated.
4. Rinse the hand pad, grounding clip, and other components with cold water.
5. Dry everything thoroughly before storage.
6. Discard any used electrolyte – never return it to the original bottle to avoid contamination.

ANT WELD
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