



CELETTE®



# EASY DENT 3000

ORIGINAL MANUAL

PRODUCT REF NO: CEL.1 1244-G-01

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## FOREWORD:

**IMPORTANT:** Before starting the equipment, read the contents of this manual, which must be stored in a place familiar to all users for the entire operative life-span of the machine. This equipment must be used solely for welding operations.

# 1. SAFETY PRECAUTIONS:

Protect yourself and others from injury - read, follow, and save these important safety precautions and operating instructions.

## 1.1 SYMBOL USAGE:



**DANGER!** Indicates a hazardous situation which, if not avoided, will result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.



Indicates a hazardous situation which, if not avoided, could result in death or serious injury. The possible hazards are shown in the adjoining symbols or explained in the text.

**Notice:** Indicates statements not related to personal injury.  
Indicates special instructions.



This group of symbols mean WARNING! WATCH OUT! ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazard. Consult symbols and related instructions below for necessary actions to avoid the hazards.

## 1.2 OPERATION HAZARDS:

- ▶▶ The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the safety standards listed in section below. Read and follow all safety standards.
- ▶▶ Only qualified persons should install, operate, maintain, and repair this equipment. A qualified person is defined as one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated ability to solve or resolve problems relating to the subject matter, the work, or the project and has received safety training to recognize and avoid the hazards involved.
- ▶▶ During operation, keep everybody, especially children away.

### SPOT WELDING CAN CAUSE FIRE OR EXPLOSION:

- ▶▶ Sparks can fly off from the welding arc. The flying sparks, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.
- ▶▶ Remove all flammables within 35 ft (10.7 m) of the weld. If this is not possible, tightly cover them with approved covers.
- ▶▶ Do not spot weld where flying sparks can strike flammable material.
- ▶▶ Protect yourself and others from flying sparks and hot metal.
- ▶▶ Be alert that welding sparks can easily go through small cracks and openings to adjacent areas.
- ▶▶ Watch for fire, and keep a fire extinguisher nearby.



- ▶▶ Do not weld on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards).
- ▶▶ Do not weld where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline).
- ▶▶ Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.
- ▶▶ After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.
- ▶▶ Do not exceed the equipment rated capacity.
- ▶▶ Use only correct fuses or circuit breakers. Do not oversize or bypass them.
- ▶▶ For hot work and have a fire watcher and extinguisher nearby.
- ▶▶ Wear body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.

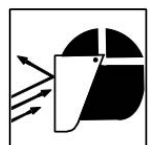
### **ELECTRIC SHOCK CAN KILL:**

- ▶▶ Touching live electrical parts can cause fatal shocks or severe burns. The input power circuit and machine internal circuits are also live when power is on. Incorrectly installed or improperly grounded equipment is a hazard.
- ▶▶ Do not touch live electrical parts.
- ▶▶ Wear dry, hole-free insulating gloves and body protection.
- ▶▶ Additional safety precautions are required when any of the following electrically hazardous conditions are present: in damp locations or while wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or when there is a high risk of unavoidable or accidental contact with the workpiece or ground. And, do not work alone!
- ▶▶ Disconnect input power before installing or servicing this equipment.
- ▶▶ Properly install, ground, and operate this equipment according to this manual and national, state, and local codes.
- ▶▶ Always verify the supply ground - check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.
- ▶▶ When making input connections, attach the grounding conductor first - double-check connections.
- ▶▶ Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- ▶▶ Frequently inspect input power cord and ground conductor for damage or bare wiring - replace immediately if damaged - bare wiring can kill.
- ▶▶ Turn off all equipment when not in use.
- ▶▶ For water-cooled equipment, check and repair or replace any leaking hoses or fittings.
- ▶▶ Do not use any electrical equipment if you are wet or in a wet area.
- ▶▶ Use only well-maintained equipment. Repair or replace damaged parts at once.
- ▶▶ Wear a safety harness if working above floor level.
- ▶▶ Keep all panels, covers, and guards securely in place.



### **FLYING SPARKS CAN INJURE:**

- ▶▶ Very often sparks fly off from the joint area.
- ▶▶ Wear approved face shield or safety goggles with side shields.
- ▶▶ Wear body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- ▶▶ Protect others in nearby areas by using approved flame-resistant or noncombustible fire curtains or shields. Have all nearby persons wear safety glasses with side shields.



### **HOT PARTS CAN BURN:**

- ▶▶ Do not touch hot parts bare handed.
- ▶▶ Allow cooling period before working on equipment.
- ▶▶ To handle hot parts, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.

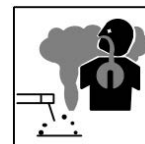


### **SIGNIFICANT DC VOLTAGE EXISTS AFTER REMOVAL OF INPUT POWER ON INVERTERS:**

- ▶▶ Turn Off inverter, disconnect input power, and discharge input capacitors according to instructions in Maintenance Section before touching any parts.

### **FUMES AND GASES CAN BE HAZARDOUS:**

- ▶▶ Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.
- ▶▶ Keep your head out of the fumes. Do not breathe the fumes.
- ▶▶ Ventilate the work area and/or use local forced ventilation at the arc to remove welding fumes and gases. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
- ▶▶ If ventilation is poor, wear an approved air-supplied respirator.
- ▶▶ Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.
- ▶▶ Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watchperson nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- ▶▶ Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.
- ▶▶ Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.



### **1.3 ADDITIONAL SYMBOLS FOR INSTALLATION, OPERATION, AND MAINTENANCE:**

#### **FIRE OR EXPLOSION HAZARD:**

- ▶▶ Do not install or place unit on, over, or near combustible surfaces.
- ▶▶ Do not install or operate unit near flammables.
- ▶▶ Do not overload building wiring - be sure power supply system is properly sized, rated, and protected to handle this unit.



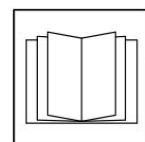
#### **FALLING EQUIPMENT CAN INJURY:**

- ▶▶ Use correct procedures and equipment of adequate capacity to lift and support unit.
- ▶▶ Follow the guidelines in the Applications Manual for the Revised NIOSH Lifting Equation (Publication No. 94-110) when manually lifting heavy parts or equipment.
- ▶▶ Secure unit during transport so it cannot tip or fall.



#### **READ INSTRUCTIONS:**

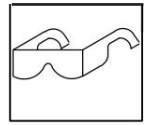
- ▶▶ Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.



- ▶▶ Use only genuine replacement parts from the manufacturer.
- ▶▶ Perform installation, maintenance, and service according to the Owner's Manuals, industry standards, and national, state, and local codes.

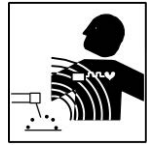
**FLYING METAL OR DIRT CAN INJURE EYES:**

- ▶▶ Wear approved safety glasses with side shields or wear face shield.



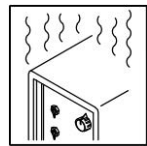
**ELECTRIC AND MAGNETIC FIELDS (EMF) CAN AFFECT IMPLANTED MEDICAL DEVICES:**

- ▶▶ Wearers of Pacemakers and other Implanted Medical Devices should keep away.
- ▶▶ Implanted Medical Device wearers should consult their doctor and the device manufacturer before going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations.



**OVERUSE CAN CAUSE OVERHEATING:**

- ▶▶ Allow cooling period; follow rated duty cycle.
- ▶▶ Reduce duty cycle before starting to weld again.



**1.4 EMF INFORMATION:**

This machine is manufactured in compliance with the instructions contained in the harmonized standard, **and must be used solely for professional purposes in an industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in non-industrial environments. IN CASE OF MALFUNCTIONS, REQUEST ASSISTANCE FROM QUALIFIED PERSONNEL.**

**2. GENERAL TECHNICAL DESCRIPTIONS:**

|                               |               |
|-------------------------------|---------------|
| Model: EASY DENT 3000         | SN            |
| CE EN60971-10<br>EN61000-3-12 |               |
| ~                             | U20=38V       |
| I2cc=3000A                    | I2p=1200A     |
| 1~50/60Hz                     | Uin=200V~230V |
| Smax=20kVA                    | Sn=3.3kVA     |

|                |   |
|----------------|---|
| <b>MODEL:</b>  | The model of the machine  |
| <b>SN</b>      | Machine Serial Number which must appear on requests or inquiries concerning the machine |
| <b>CE, EN</b>  | International Standards<br>~ Alternating current (AC)                                   |
| <b>U20</b>     | Range of rated AC no-load voltage and number of adjustable steps                        |
| <b>I2CC</b>    | Maximum short circuit current of the output corresponding to the minimum inductance     |
| <b>I2</b>      | Output welding current  |
| <b>1~50/60</b> | Single-phase input supply at 50 or 60 Hz  |
| <b>U1N</b>     | Rated supply voltage  |
| <b>Smax</b>    | Maximum power   |
| <b>Sn</b>      | Power at normal duty cycle  |

## 3. INSTALLATION:

### 3.1 SETUP:

Place the machine in a ventilated area.

Dust, dirt, or any other foreign material that might enter the machine may restrict the ventilation which could affect the machine's performance.

### 3.2 INPUT POWER CONNECTIONS:

1. All sections concerning the installation of this machine must be read carefully.
2. This machine must be installed by skilled personnel.
3. Make sure that the input power plug has been disconnected before inspecting, maintaining, or servicing.
4. Connect the yellow-green wire to a good electrical ground.
5. **Do not use water pipes as earth conductor.**
6. **After a final inspection, the machine should be connected to the input supply voltage marked on the input power cord.**
7. Mount a plug on the power supply cable that corresponds to the input power drawn by the machine.

### 3.3 CONNECTING THE WORK RETURN LEAD CLAMP:

Attach the work return clamp to the work to be welded.

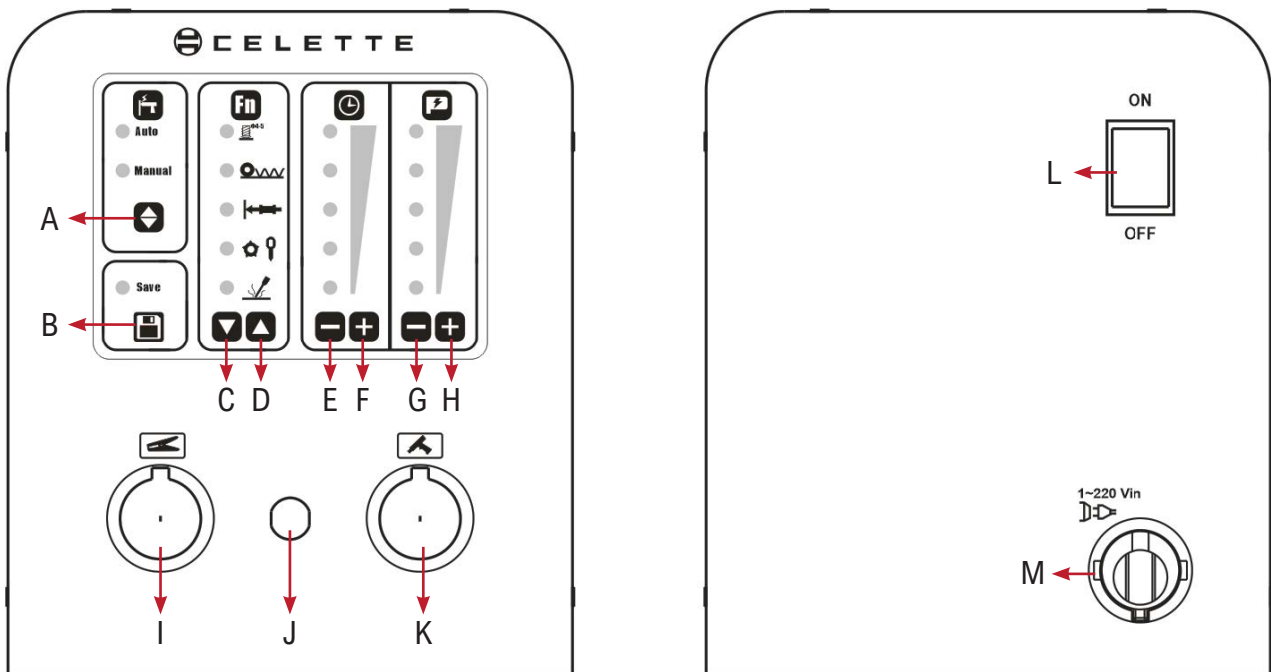
Make sure that the ground clamp is tightly fastened to the work return cable and periodically check that this connection remains well tightened. A loose connection can cause weld current drops or overheating of the work return lead and clamp which, in turn, creates the risk of burns from accidental contact with the work return lead. The weld circuit must not be placed deliberately in direct or indirect contact with the ground conductor if it is not in the work to be welded.

If the work to be welded is attached deliberately to the ground by a protection lead, then the connection must be the most direct possible and it must be done using a lead that has a cross section that is at least equal to the cross section of the work return lead being used for the weld circuit. The protection lead must also be attached to the work at the same spot as the work return lead. To do so, a second ground clamp, fitted to the protection lead, must be attached next to the ground clamp of the work return lead.

**NOTE: Small cross section and long extension cable will reduce the output current.**



## 4. DESCRIPTION OF CONTROLS:




**A:** There are two mode of choice: Auto mode and Manual mode.

**B:** Save


Save the customer setting. The machine will load the save settings every operation.

**C/C:** **Welding function selection. Keep to press C and D for 2 second, the machine will clean the save setting.**

  $\Phi$  4~5 steel stud

 Round washer/ wiggle wire

 Quick puller slide hammer

 Star washer/steel tab

 Carbon heating

**E/F:** **Welding time adjustment.**

Adjust the welding timer, the larger number the longer welding time.

**G/H:** **Output power adjustment**

The larger number the higher output power.

**I:** **Socket for work clamp.**

**J:** **Control socket for torch.**

**K:** **Socket for torch.**

**L:** **Power switch.**

**M:** **Input power cable** (confirm the power voltage before use).

## THE WELDING MODE SETTING INSTRUCTION:

### 1. AUTO MODE:

When setting auto mode, the machine can do the welding need to press on the torch switch. Make sure the torch, work cable and work piece are good connection, wait for the delay timer, the machine will output power and welding. When the setting welding time up, the machine will stop output, the torch need to left to the work piece. If the torch contacts the work piece again, the machine will output again.

**Note:** The torch can not contact the work piece all the time. After finished welding, if the torch and work piece are still contacting, will show. The power indicator LED will be blinking for warning, the torch need to left to the work piece. And then the machine can be welding again.

### 2. MANUAL MODE:

Contact the torch to the work piece and press the torch switch, the machine will output power. If the user select welding timer, the machine will stop output when the welding time up.

If the user selects continuous welding, the machine will keep output till to the user turn off the torch switch.

## 5. INSTRUCTION FOR CAR REPAIR WORK:

### SPOT WELDING:

1. Power switch on, setting suitable function (Auto, Manual-Timer or Pulse).
2. Setting the spot welding current.
3. Setting work clamp.
4. Spot-welding the washer. Washer drawing with slide hammer.

**Attention:** The work clamp need near the welding spot.



### SHEET UPSETTING:

1. Power switch on, setting suitable function (Auto, Manual-timer or Pulse).
2. Setting output current.
3. Setting work clamp.
4. Sheet upsetting.



### SHEET WARNING:

1. Power switch on, setting suitable function (Manual-2T Ctrl).
  2. Setting output current (low current).
  3. Press the trigger of torch
- The output power is "ON" continually.

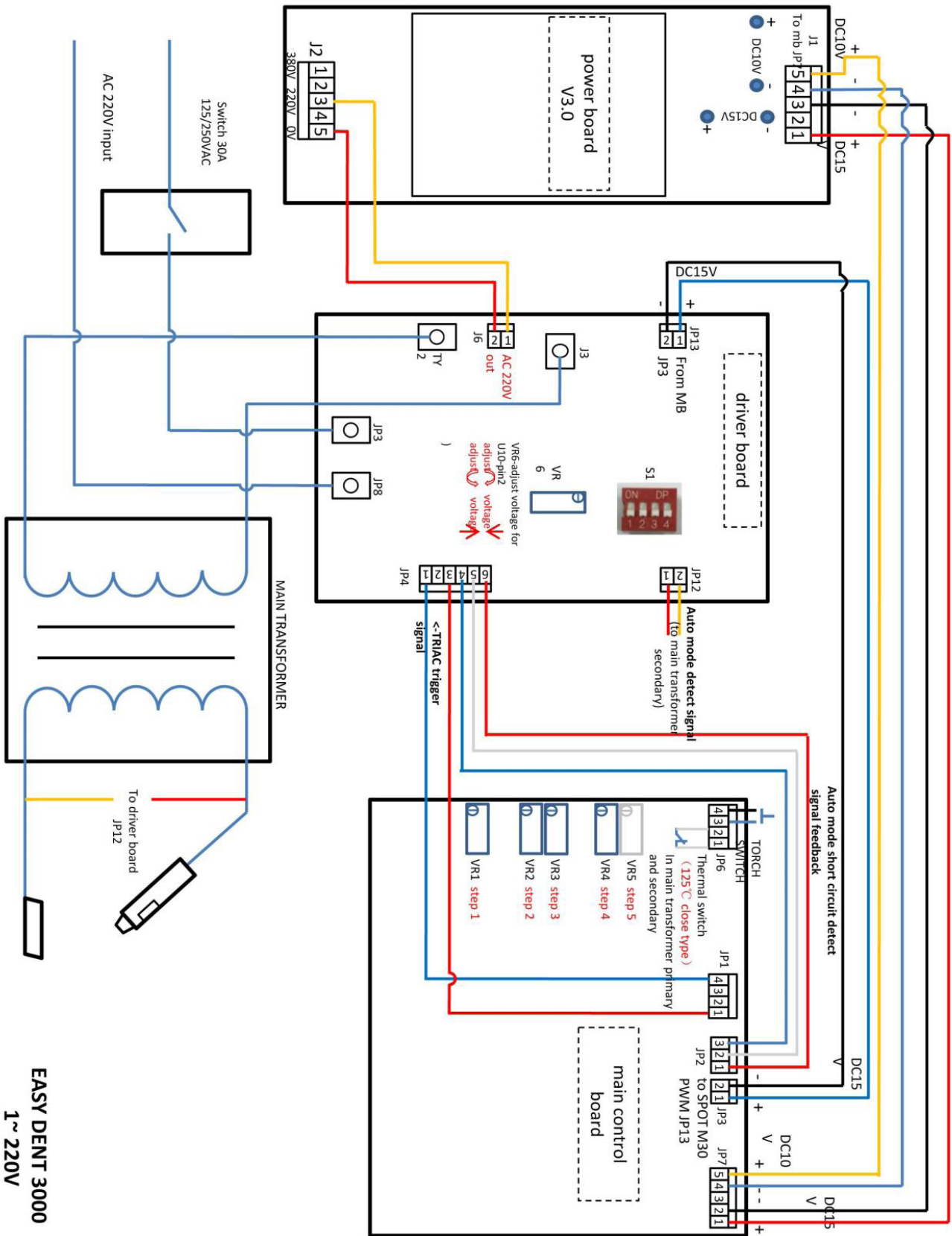
If release the trigger of torch, the output power is "OFF".



**DO NOT USE CONTINUOUSLY THIS FUNCTION FOR LONG TIME, OR ELSE THAT WILL DAMAGE THE TRANSFORMER.**

# 6. WIRE DRAWING:

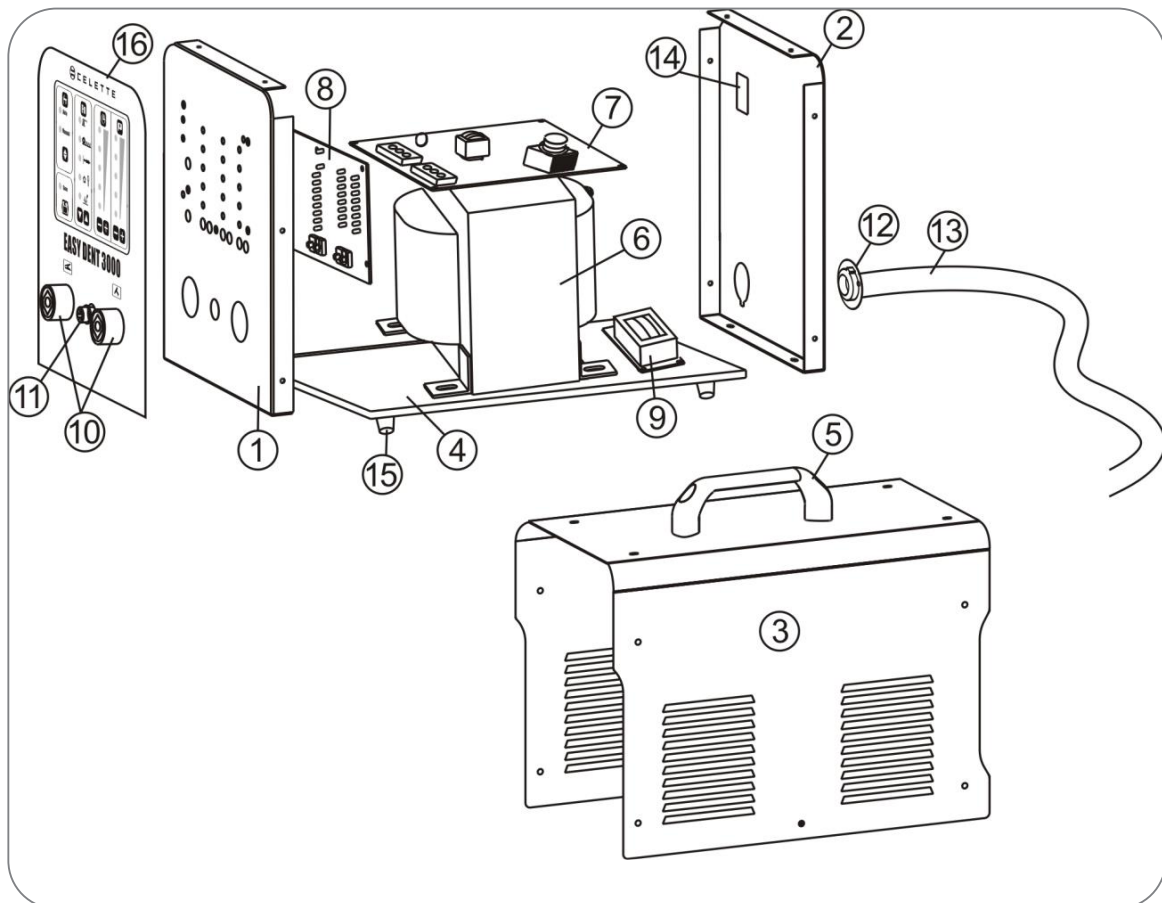
## WIRE DRAWING FOR EASY DENT 3000:



**EASY DENT 3000**  
1 ~ 220V

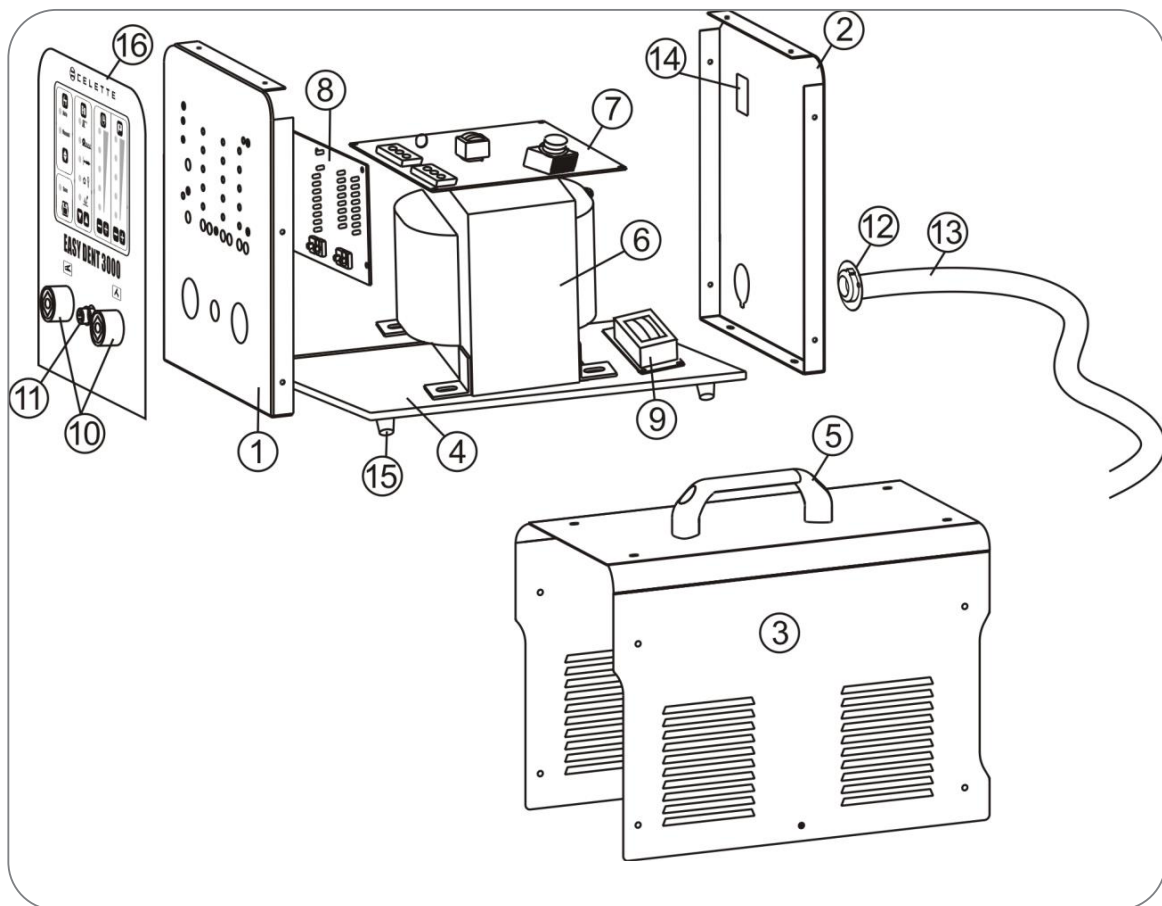
## 7. EASY DENT 3000 1PH/220V EUROPE/INDIA:

| No. | Code              | Description      | No. | Code        | Description        |
|-----|-------------------|------------------|-----|-------------|--------------------|
| 1   | EY1118F-CQ0101B1  | Front panel      | 10  | JC073210    | Quick socket       |
| 2   | EY1118F-CH0101B1  | Back panel       | 11  | JG055070    | Control socket     |
| 3   | EY1118F-CS0101R16 | Top cover        |     | JG071008-1  |                    |
| 4   | EY1118F-CX0101B1  | Bottom panel     | 12  | SE063905    | Cable holder       |
| 5   | SC091120          | Handle           | 13  | XE055000-2E | Power cable        |
| 6   | VM055022-15E-D4   | Main transformer | 14  | KE092440    | Main switch        |
| 7   | PD055500-4B       | Driver board     | 15  | SG055005    | Rubber foot        |
| 8   | PD081000          | Control board    | 16  | ST092108-5  | Front panel paster |
| 9   | PD055371          | Power board      |     |             |                    |



## 8. EASY DENT 3000 1PH/220V USA:

| No. | Code              | Description      | No. | Code       | Description        |
|-----|-------------------|------------------|-----|------------|--------------------|
| 1   | EY1118F-CQ0101B1  | Front panel      | 10  | JC073210   | Quick socket       |
| 2   | EY1118F-CH0101B1  | Back panel       | 11  | JG055070   | Control socket     |
| 3   | EY1118F-CS0101R16 | Top cover        |     | JG071008-1 |                    |
| 4   | EY1118F-CX0101B1  | Bottom panel     | 12  | SE063905   | Cable holder       |
| 5   | SC091120          | Handle           | 13  | XE072000-2 | Power cable UL     |
| 6   | VM055022-15E-D4   | Main transformer | 14  | KE092440   | Main switch        |
| 7   | PD055500-4B       | Driver board     | 15  | SG055005   | Rubber foot        |
| 8   | PD081000          | Control board    | 16  | ST092108-5 | Front panel paster |
| 9   | PD055371          | Power board      |     |            |                    |



**THANK YOU!!!**  
**FOR PURCHASING OUR PRODUCT**



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