



GeKaMac®



PoWer ARC 400 C

Users Manual

Please Read and Understand This Manual
Before Operating The Welding Machine

www.gedikwelding.com

This machine is for internal use only.

It complies with the WEEE Directive.

This machine has been designed in accordance with the EN 60974-1 and EN 60974-10 standards.

The machine is safe when installation, operation, and maintenance are performed in accordance with the user manual and regulations. The operator and machine owner are responsible for adhering to safety rules.

Gedik Kaynak San. Ve Tic. A.Ş. assumes no responsibility for safety or CE compliance if any modifications are made to the machine or if safety rules are not followed.



This Class A equipment is not suitable for use in homes and similar residential areas where the power supply is provided by the low-voltage public electricity network.



This machine is not household waste and cannot be disposed of in the trash.

When the machine reaches the end of its service life or becomes obsolete, it must be disposed of in accordance with regulations.

COMPLIES WITH THE WEEE DIRECTIVE.

Eco Design Statement

This machine has been designed and manufactured in accordance with the requirements of the 2009/125/EC Eco Design Directive concerning the environmentally friendly design of energy-related products.

Accordingly, machines with an idle mode are as follows.

	Idle Mode
MMA	X
MIG	√
TIG	√
Plazma	√
SAW	Out of Scope

Efficiency measurements should be conducted only on the power unit. The water cooling system should be disabled. For more information on measurements and machine settings, Gedik Kaynak Sanayi ve Ticaret A.Ş. should be consulted.

**AT UYGUNLUK BEYANI****EU DECLARATION OF CONFORMITY**

Bu uygunluk beyanı yalnızca imalatçının sorumluluğu altında düzenlenir.

This declaration of conformity is issued under the sole responsibility of the manufacturer.

İstanbul, Turkey, 08.03.2024

İmalatçı / Manufacturer

GEDİK KAYNAK SANAYİ ve TİCARET A.Ş.

Ankara Cad. No.306 Seyhli Pendik İSTANBUL TÜRKİYE

Ürün / Product

ARC WELDING MACHINE

Marka-Model / Brand- Model

POWER ARC 400 C

Yukarıda tanımlanan beyanın nesnesi ilgili uyumlaştırılmış AB mevzuatı ile uyumludur.

The object of the declaration described above, is in conformity with the relevant union harmonisation legislation.

Direktifler / Directives

2014/30/EU & 2014/35/EU & 2009/125/EC

Uyumlaştırılmış standartlar ve uygunluğun deklare edilmesiyle ilişkili diğer referanslar.

References to the relevant harmonised standards used and references to the other technical specifications in relation to which conformity is declared.

EN IEC 60974-1:2018-A1:2019

EN IEC 60974-10:2021

Bu ekipman, talimatlara uygun kurulduğunda, bakımı yapıldığında ve kullanıldığında belirtilen standartlara uygundur. Makine üzerinde bir değişiklik yapıldığında veya yanlış kullanımda deklarasyon geçersiz olur.

The equipment is in compliance with pertinent legislation when installed, utilized, and maintained in accordance with the enclosed instructions. This declaration will be invalid under any modification or improper use.

İmalatçı Adına imzalayan / Signed for and on behalf of:

Hatice Özel, Equipment Business Unit Director



Dear Customer

Thank you for choosing our product! This instruction manual will help you get to know your new machine. Read the manual carefully and you will soon be familiar with all the many great features of your new product. Please also take special note of the safety rules in the manual and follow exactly the instructions.

If you treat your product carefully, this definitely helps to prolong its enduring quality and reliability. For more information, please contact us or consult authorized distributor.

The products in the manual may be changed without prior notice. The model you purchase is for:

☐ **Power ARC 400 C**

Please find corresponding models from the "Contents".

Important:

Please read carefully the safety rules given in the manual and follow exactly the instructions to avoid potential hazard and injury.

Safety Rules



“**Danger**” indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



“**Warning!**” indicates a possible hazardous situation which, if not voided, could result in death or serious injury. The possible hazards are explained in the text.



“**Caution**” indicates a possible hazardous situation which, if not avoided, may result in slight or moderate injury.



“**Note!**” indicates a situation which implies a risk of impaired welding result and damage to the equipment.



Utilization for intended purpose only

- The machine may only be used for jobs as defined by the “Intended purpose”.

Utilization for any other purpose, or in any other manner, shall be deemed to be “not in accordance with the intended purpose”. The manufacturer shall not be liable for any damage resulting from such improper use.



Safety signs

- All the safety instructions and danger warnings on the machine must be kept in legible condition, not removed, not be covered, pasted or painted cover.



Safety inspection

- The owner/operator is obliged to perform safety inspection at regular intervals.
- The manufacturer also recommends every 3-6 months for regular maintenance of power sources.

Electric shock can kill



- Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on. In MIG/MAG welding, the wire, drive rollers, wire feed housing and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.
- Do not touch live electrical parts of the welding circuit, electrodes and wires with your bare skin or wet clothing.
- The operator must wear dry hole-free insulating welding gloves and body protection while performs the welding.
- Insulate yourself from work and ground using dry insulating protection which is large enough to prevent you full area of physical contact with the work or ground.

- Connect the primary input cable according to rules. Disconnect input power or stop machine before installing or maintenance.
- If welding must be performed under electrically hazardous conditions as follow: in damp locations or wearing wet clothing; on metal structures such as floors, gratings, or scaffolds; when in cramped positions such as sitting, kneeling, or lying; or in occasion when there is a high risk of unavoidable or accidental contact with the work piece or ground. Must use additional safety precautions: semiautomatic DC constant voltage (wire) welder, DC manual (Stick) welder and AC welder with reduced open-load voltage.
- Maintain the electrode holder, ground clamp, welding cable and welding machine in good, safe operating condition. Replace damaged part immediately.



Electric and magnetic fields (EMF) may be dangerous

- If electromagnetic interference is found to be occurring, the operator is obliged to examine any possible electromagnetic problems that may occur on equipment as follow:
 - minas, signal and data-transmission leads
 - IT and telecoms equipment
 - measurement and calibration devices
 - Wearers of pacemakers
- Measures for minimizing or preventing EMC problems:
 - Mains supply

If electromagnetic interference still occurs, despite the fact that the mains connection in accordance with the regulations, take additional measures

- Welding cables

Keep these as short as possible

Connect the work cable to the work piece as close as possible to the area being welded.

Lay tem well away from other cables.

Do not place your body between your electrode and work cables.

- Equipotential bonding
- Work piece grounding (earthing)
- Shielding

Shield the entire welding equipment and other equipment nearby.

ARC rays can burn.



- Visible and invisible rays can burn eyes and skin.
- Wear an approved welding helmet or suitable clothing made from durable flame-resistant material (leather, heavy cotton, or wool) to protect your eyes and skin from arc rays and sparks when welding or watching.
- Use protective screens or barriers to protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch

the arc nor expose themselves to the arc rays or to hot spatter or material.



Fumes and gases can be dangerous

- Welding may produce fumes and gases, breathing these fumes and gases can be hazardous to your health.
- When welding, keep your head out of the fume. If inside, ventilate the area at the arc to keep fumes and gases away from the breathing zone. If ventilation is not good, wear an approved air-supplied respirator.
- Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator.
- Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.



Welding and cutting sparks can cause fire or explosion.

- When not welding, make sure the electrode circuit is not touching the work or ground. Accidental contact can cause sparks, explosion, overheating, or fire. Make sure the area is safe before doing any welding.
- Welding and cutting on closed containers, such as tanks, drums, or containers, can cause them to blow up. Make sure proper steps have been taken.
- When pressure gas is used at the work site, special precautions are required to prevent hazardous situations.
- Connect work cable to the work as close to the welding zone as practical to prevent welding current from passing too long and creating fire hazards or overheating.
- Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.
- Be attention that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas and start a fire. Remove fire hazardous from the welding area, if not possible, cover them thoroughly. Do not weld where flying sparks can strike flammable material and where the atmosphere may contain flammable dust, gas, or liquid vapors (such as gasoline).
- Protect yourself and others from flying sparks and hot metal. Remove any combustibles from operator before perform any welding.
- Keep a fire extinguisher readily available.
- Empty containers, tanks, drums, or pipes which have combustibles before perform welding.
- Remove stick electrode from electrode holder or cut off welding wire at

contact tip when not in use.

Apply correct fuses or circuit breakers. Do not oversize or bypass them.



Cylinder can explode if damaged.

- Pressure gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.
- Cylinders should be located away from areas where they may be struck or subjected to physical damage. Use proper equipment, procedures, and sufficient number of persons to lift and move cylinders.
- Always install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling over or tipping.
- Keep a safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.
- No touching cylinder by welding electrode, electrode holder or any other electrically "hot" parts. Do not drape welding cables or welding torches over a gas cylinder.
- Use only correct compressed gas cylinders, regulators, hoses, and fittings designed for the process used; maintain them and associated parts in good condition.
- Use only compressed gas cylinders containing the correct shielding gas for the and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.
- Open the cylinder valve slowly and keep your head and face away from the cylinder valve outlet.

Valve protection caps should be kept in place over valve except when the cylinder is in use or connected for use.



Hot parts can burn

- Do not touch hot parts with bare hand or skin.
- Ensure equipment is cooled down before perform any work.
- If touching hot parts is needed, use proper tools and/or wear heavy, insulated welding gloves and clothing to prevent burns.



Flying metal or dirt can injure eyes

- When welding, chipping, wire brushing, and grinding can cause sparks and flying metal. It can hurt your eyes.
- Remember wear appropriate safety glasses with side shields when in welding zone, even under your welding helmet.



Noise can damage hearing

- Noise from some processes or equipment can damage hearing.

Remember wear approved ear protection to protect ears if noise level is high.



Moving parts can injure

- Stay away from moving parts such as fans.
- Stay away from pinch points such as drive rolls.
- Keep all doors, panels, covers, and guards closed and securely in place.
- Have only qualified persons remove doors, panels, covers, or guards for servicing and maintenance.
- Reinstall doors, panels, covers, or guards when servicing and maintenance is finished and before reconnecting input power.



Overuse can cause overheating

- Use machine follow duty cycle. Reduce current or reduce duty cycle before starting to weld again.
- Allow cooling period.

Do not block or filter airflow to unit.



Safety markings

Equipment with CE-markings meets the basic requirements of the Low-Voltage and Electromagnetic Compatibility Guideline (e.g. relevant product standards according to EN 60974).



Safety markings

Equipment with CCC markings meets the requirements of implementations rules for China compulsory certification (e.g. relevant product standards according to GB/T 15579) .



Safety markings

CSA marked equipment meets the requirements of the North American market safety certification implementation rules (e.g. relevant product standards according to CAN/CSA-E60974,ANSI/IEC 60974)

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1-GENERAL REMARKS

1-1 Power source features

This series welding machine include 400A., which are novelty high-efficient and energy-saving DC Arc welding machines, suitable for mild steel, alloy steel welding with perfect welding performance.

Features and benefits:

- MCU controlled technology
- Adjustable arc force and knee point voltage to make sure that arc does not broken and stick when on long cable welding.
- Adjustable hot start and arc starting time, ensure 100% success rate of arc stating.
- Self-diagnostic function with error code display
- Soft switch technology, high efficiency, high power factor.

1-2 Functional principle

This series welding machines apply IGBT HF inverter technology. 3- phase input volt is rectified, then transformed into HF AC by the inverter which includes IGBT, etc., reduced by HF transformer, rectified and filtered by HF rectifier, then output. After this process, the welding machine dynamic response ability has been greatly improved, size and weight of transformer and reactor are reduced noticeably, and whole machine efficiency has been improved.

The design of control circuit makes the welding machine enjoy strong ability against power grid fluctuation and perfect welding performance. Welding machine has the following features: easy arc-starting, stable arc, good welding seam formation and capability of continuous welding current regulation. The schematic diagram is as shown in Fig. 1-2-1:

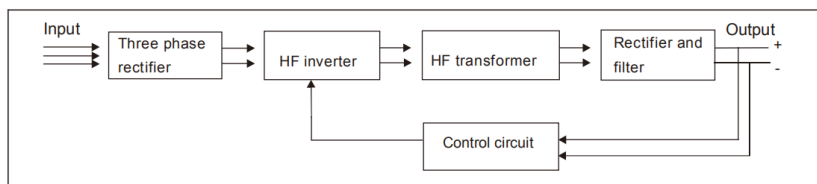


Fig. 1-2-1: Schematic diagram

1-3 Output characteristics

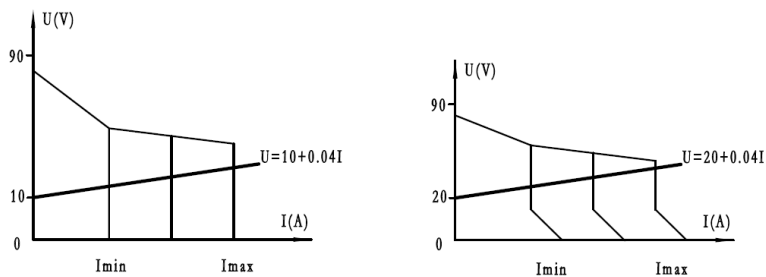



Fig. 1-3-1: Output characteristics

1-4 Duty cycle

Duty cycle is percentage of 10 minutes that a machine can weld at rated load without overheating. If overheats, thermostat(s) will open, output stops. Wait for fifteen minutes for the machine to cool down. Reduce amperage or duty cycle before welding.

 **Note!** Exceeding duty cycle can damage the machine and greatly reduce its lifespan.

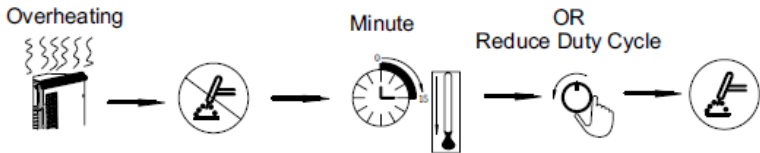
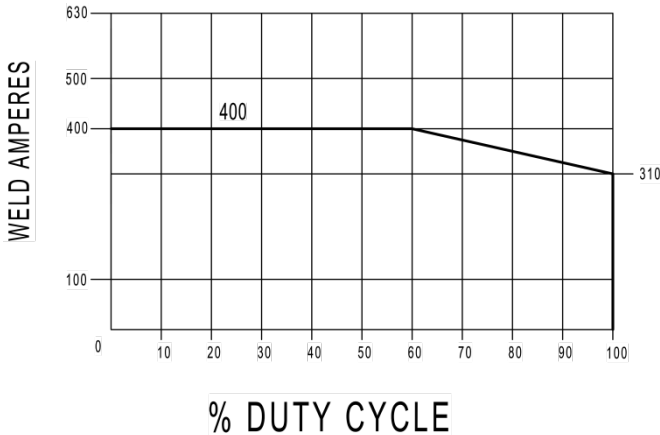


Fig. 1-4-1: Duty cycle

1-5 Applications

The power source is suitable for mild steel, alloy steel, stainless steel, copper, silver and titanium welding, and is designed for the following recommended areas:

Shipbuilding and offshore engineering

Maintenance and repair

Industry plant construction

Pipeline industry

Shipyard

1-6 Warning label

The warning label is affixed on the top of machine.

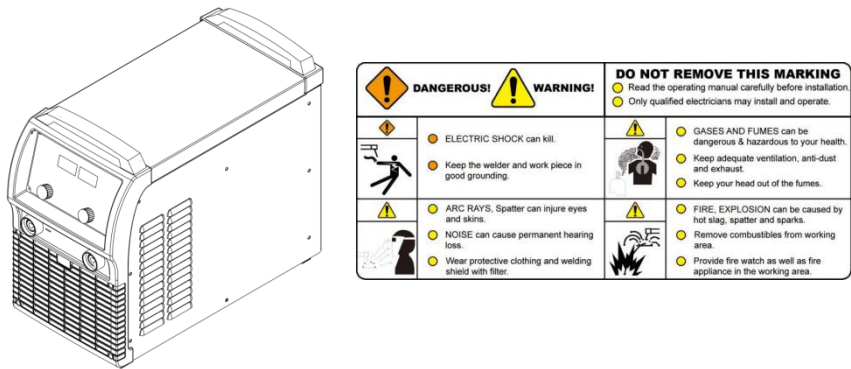


Fig. 1-6-1: Warning label

2-VERSIONS BRIEFS

Professional welding of special materials requires special welding parameters. Different models of the power sources are matched to different welding.

● PoWerARC400 C

The power sources have logical arranged control panel for convenient operation, with digital display, which can perform SMAW welding. Welding cable can be extended to 50m. .

3-BEFORE COMMISSIONING



Warning! Operating the equipment incorrectly can cause serious injury and damage. Do not use the functions described here until you have read and completely understood "safety rules".

3-1 Utilization for intended purpose only

The power source may only be used for SMAW. Utilization for other purposes, or in any other manner, shall be deemed to be "not in accordance with the intended purpose". The manufacturer shall not be liable for any damage resulting from such improper use. Operate, inspect and maintain should follow all the instructions given in this manual.

3-2 Machine installation rules

According to test, protection degree of this power source is IP21S. However, the internal key components must be protected from direct soaking.



Warning! A machine that topples over or falls from its stand can cause injury. Place equipment on an even, firm floor in such a way that it stands firmly.

The venting duct is very important for safety protections. When choosing the machine location, make sure it is possible for the cooling air to freely enter and exit through the louvers on the front and back of machine. Any electro conductive metallic dust like drillings must not be allowed to get sucked into the machine.

3-3 Power source connection

- The power source is designed to run on the voltage given on the nameplate.
- The mains cables and plugs must be mounted in accordance with the relevant technical standards.
- The power supply sockets that come with power source are designed to use strictly according to the marked voltages.



Note! Inadequately dimensioned electrical installations can lead to serious damage. The mains lead, and its fuse protection, must be dimensioned in accordance with the local power supply. The technical data shown on the nameplate shall apply.

3-4 Welding cables instruction

When welding, please pay attention to the followings:

- a. The welding cables should be kept as short as possible;

b. If extended cable is used, please do as shown in Fig. 3-4-1.

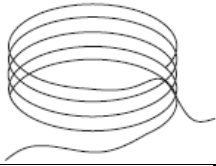
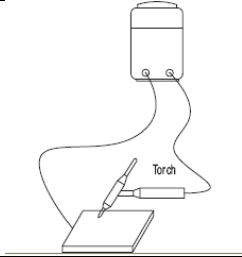
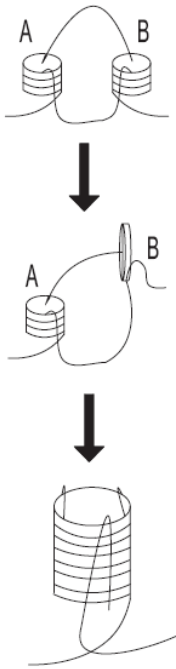
<p>Wrong</p> <p>Coil the excess ground cable and welding cable in same direction respectively.</p>	
<p>Correct</p> <p>Straighten the ground cable and welding cable and make them close to each other.</p> <p>Bundle the ground cable and welding cable together, running the wires close to the ground.</p>	
<p>Correct</p> <p>When the excess cables are only be used by rolling up, coil the cables to two windings in reverse direction and overlap them.</p> <p>The number of turns for A is same as the number for B.</p> <p>Handle the welding cable and ground cable according to above-mentioned method.</p>	

Fig. 3-4-1: Welding cables instruction

4-PoWerARC 400 C

4-1 System components

This series welding machine can be equipped with many different accessories and can be used in different special sites with different configurations.

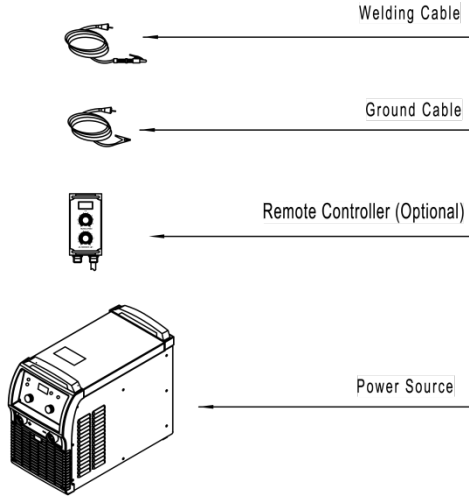


Fig. 4-1-1: System components

4-2 Basic equipments for welding

Only be equipped with the necessary accessories, can the power source operate well. The following is the needed accessories list.

STICK welding

- Power source
- Ground cable
- Electrode holder
- Electrode

4-3 Control panel



Note! You may find that your machine has certain functions or some parameters that are not described in this operating manual. Also, certain illustrations may be very slightly different from the actual controls on your machine. However, these controls function in exactly the same way.

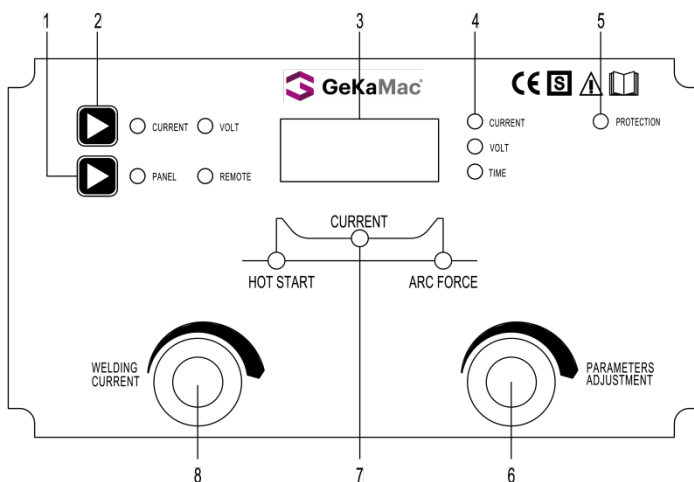


Fig. 4-3-1: Control panel

1.Current/ Volt selection button

Select between welding current and welding voltage. When choose current, digital display current, when choose voltage, it displays voltage.

2.Remote/Panel selection button

On “Panel” position, adjust welding parameters by welding machine front panel;

On “Remote” position, adjust welding current, arc force current and down-slope time by remote controller.

3.Current/Volt displayer

When CURRENT indicator lights up:

Displayer displays preset current value, min. current is 20A;

Displayer displays actual welding current during welding.

When VOLT indicator lights up, displayer displays voltage between output terminals of welding machine.

4.CURRENT/VOLT/TIME indicator

The three red indicators on the right side of digital displayer indicate which one is displayed on displayer: current, voltage and time.

5.Protection indicator

The indicator is yellow; it doesn't light on when working normally. Welding machine stops welding automatically while in overheat or water insufficient, and the indicator is on.

6.Welding parameters:

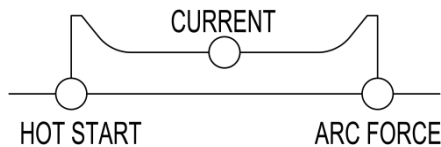


Fig. 4-3-2:Parameters

Parameters	Description	Unit	Setting range	Factory setting
HOT START	Current of starting arc	A	10-200	50
CURRENT	Welding current	A	4~410	100
ARC FORCE	Current of arc- force	A	5-200	50

Table. 4-3-1: Parameter list

7.Parameters selection and adjustment knob

Used for selecting and adjusting welding parameters except welding current.

Default setting is for adjusting arc force current by tuning the knob. Shift between arc-force current and arc-starting current by simply pressing the knob.

8.Welding current adjustment knob

Used only on “Panel” control mode for adjusting welding current. Pressing down and tuning can realize quick adjustment.

4-4 other function

4-4-1 Adjustment of knee point volt(10-30V)

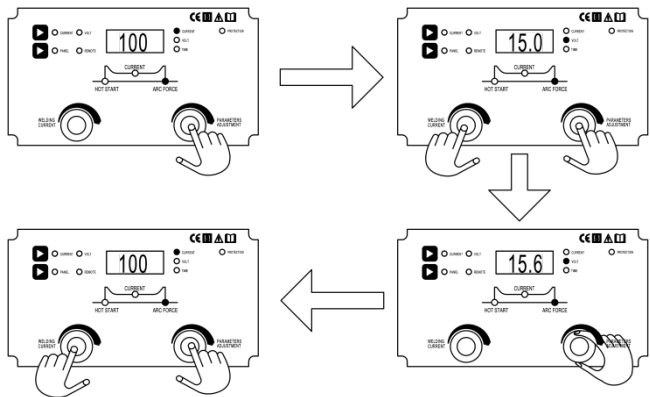


Fig. 4-4-1:Adjustment of knee point volt

When the “Arc force” indicator lights up, operator can adjust knee point voltage by pressing the “Welding current ” and “Parameters adjustment” knobs simultaneously. Redo it can come back to arc-force current adjustment mode.

4-4-2 Adjustment of hot start time(0.1-1.5s)

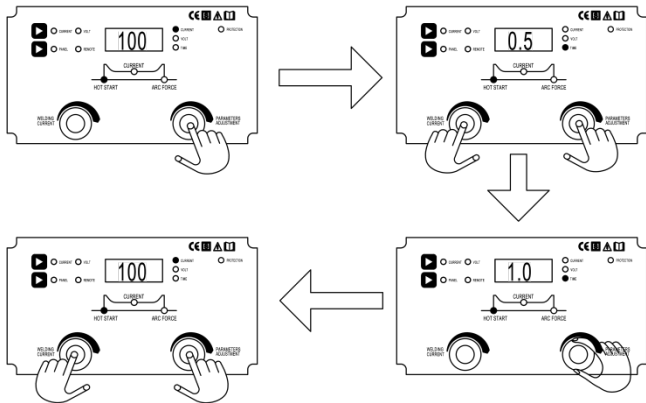


Fig. 4-4-2:Adjustment of hot start time

When the “Hot start” indicator lights up, operator can adjust arc-starting time by pressing the “Welding current adjustment” and “Parameters selection and adjustment” knobs simultaneously. Redo it can come back to arc-starting current adjustment mode.

Welding machine can save settled parameters automatically for next time using while turning off the machine.

4-4-3 Shift between long/short cable

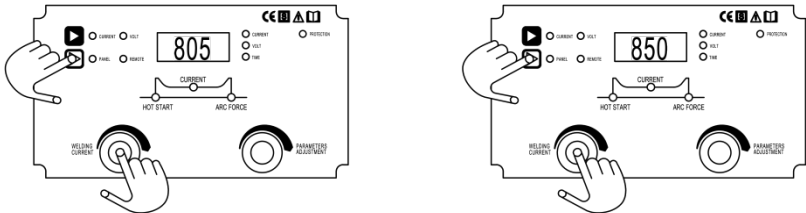


Fig. 4-4-3:Shift between long/short cable

You can shift long/short cable when pressing “welding current” knob and remote/panel button simultaneously (5 seconds). When it displays 850, it means welding machine is on long cable mode; when it displays 805, it means welding machine is on short cable mode.

4-5 Interface

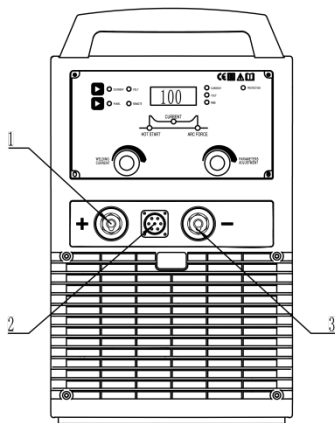


Fig. 4-5-1: Front panel

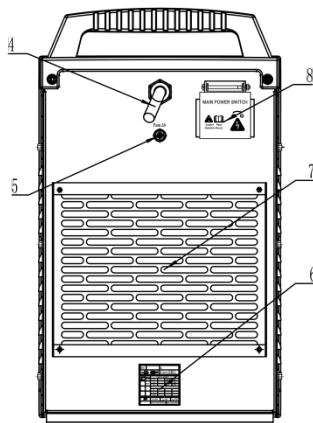


Fig. 4-6-2: Rear panel

1.Output terminal (+)

Connect electrode holder when in SMAW mode; Connect with the work piece when in TIG mode.

2.Control socket

Connect to remote controller.

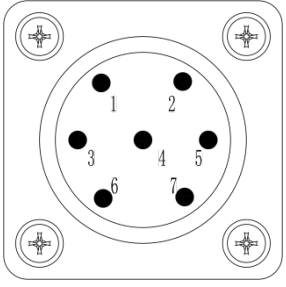
	Pin no.	Description
	1-2	Null
	3	9VDC power supply
	4	Remote preset current signal
	5	Power GND
	6	Remote preset arc force current signal
	7	Remote controller digital display signal

Table 4-5-1 Description of control socket

3.Output terminal (-)

Connect work piece when processing SMAW; connect with TIG torch when processing TIG welding.

4.Power cord

It is 4-pin cable. The mixed-colored wire must be firmly grounded, the rest wires are connected with corresponding 3-phase power supply.

5.Fuse

6.Nameplate

7.Fan

Cooling down the heating components in the welding machine.

8.Circuit breaker

The function of circuit breaker is to protect welding machine and operator by automatic trip to turn-off power supply when overload or short circuit happens to the power source. Normally, the switch flipped to upward means power-on. To start or stop the welding machine is done by the mains switch in the distribution box. Please do not take this circuit breaker as the power switch.

4-6 Installation

● Installation environment requirements

1. It should be placed indoors without direct sunlight, rainproof, low humidity and less dust. The ambient air temperature range is $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$.
2. The inclination to the ground should not exceed 10° .
3. There should be no wind in the welding station, if any, it should be covered.
4. The welding machine is more than 20cm away from the wall, and the distance between the welding machine is more than 10cm.
5. When using water-cooled welding torch, pay attention to anti-freezing.

● power supply and cable requirement

Please note the size of fuse and circuit breaker in the table below are for reference only.

Model		400
Power supply		AC400V \pm 10%
Electricity grid min. power (KVA)	Power grid	23
	Generator	43
Input protection(A)	Fuse	50
	Circuit breaker	63
Cable size (mm ²)	power cord	≥ 4
	Output cable	50
	Protective GND wire	≥ 4

Table 4-6-1: Power supply and cable requirement



Note! Welding machine must be taken special design if it is powered by generator, please contact with manufacturer if you have such needs.

connections of power cord and distribution box



Warning! -Avoid hot-line work

- Operating by professional electrician
- Avoid connecting two power sources to one breaker
- Please refer to Table 4-6-1 to check if standard of input voltage, breaker and input cable is suitable

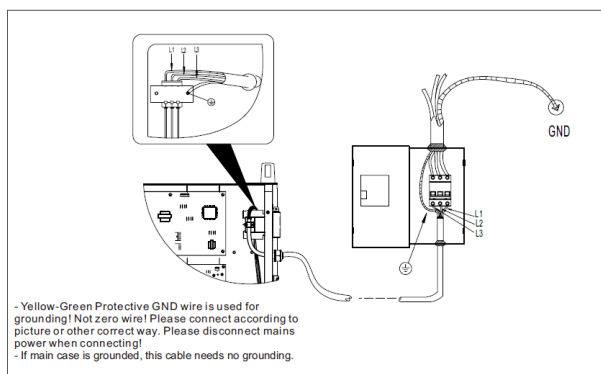


Fig.4-6-1: Connections of power cord and distribution box

•SMAW welding



Warning! Operating the machine incorrectly can cause serious injury and damage.

Do not use the machine until you have read the following

Safety rules

Before putting the machine into service

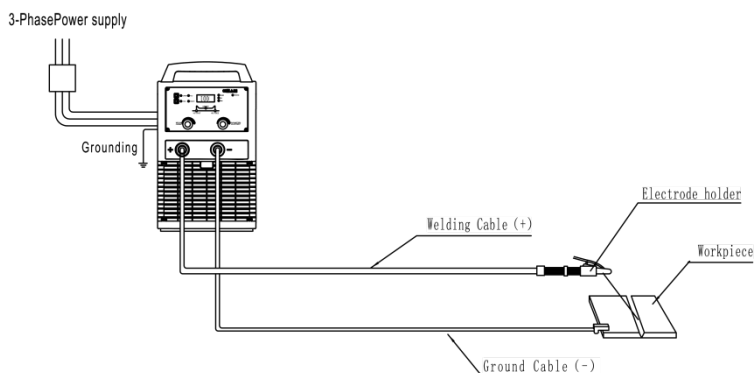


Fig.4-6-2:SMAW welding

4-7 Technical data



Note! For machines designed for special voltages, below is the technical data on the name plate.

Model	Power ARC 400 C
Input voltage/frequency	AC400V
Rated input capacity (KW)	18
Rated input current (A)	26.6
Output current adjustment range (A)	20~400
Duty Cycle (%)	60
OCV (V)	76/22(VRD)
Weight (Kg)	40
Dimension (cm)	67x33x58
Insulation class	H
Electrode diameter(mm)	2~6

Table 4-7-1 Technical data

4-8 Dimension

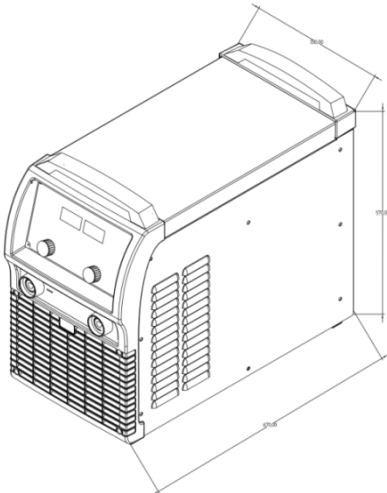


Fig. 4-8-1: Dimension

NO	Item	Unit(mm)	Unit(inches)
1	length	670	26.4
2	Width	330	13
3	Height	572	22.5

Table. 4-8-1: Dimension

4-9 Disassembly and reassembly

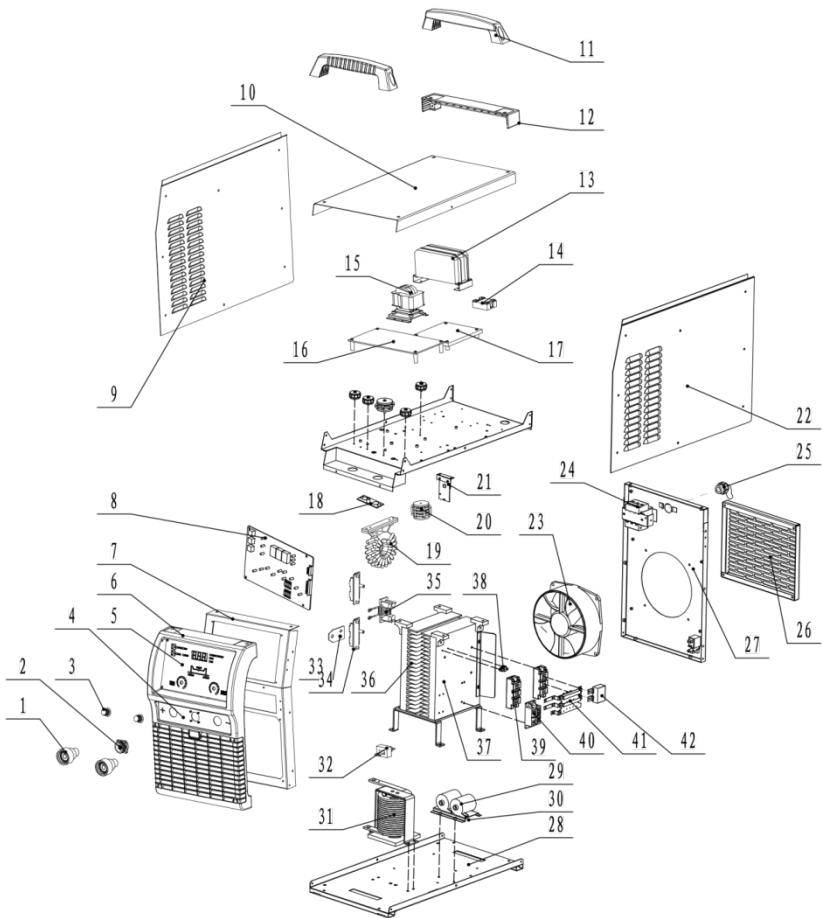


Fig.4- 10-1:Disassembly and reassembly

NO.	Item	Stock NO.	Qty
1	Quick socket	740002-00026	2
2	Control socket	740001-00030	1
3	Knob	730031-00137	2
4	Output socket mounting plate	766003-02400	1
5	Control panel sticker	771001-01103	1
6	Plastic front panel	262005-01040	1
7	Front panel	262035-01039	1
8	Display board	220503-00018	1
9	Left side panel	262017-00602	1
10	Top cover	262029-00476	1
11	Handle	766003-02388	2
12	Plastic back edging	766003-02389	1
13	Filter	752004-00017	1
14	solid state relay	715004-00014	1
15	Power Transformers	763001-00035	1
16	Main control board	210580-00140	1
17	Driver board	210310-00020	1
18	Rack Capacitor Board	220293-00009	1
19	Main transformer	220629-00020	1
20	Resonant inductance	220521-00007	1
21	Current Transformer	220149-00016	1
22	Right side panel	262023-00586	1
23	Fan	746001-00010	1
24	Circuit breaker	745011-00021	1
25	Waterproof cable clamp	773002-00009	1
26	Fan cover	766003-02403	1
27	Back panel	262011-00739	1
28	Bottom plate	263065-00067	1
29	Polypropylene capacitor	722001-00070	2
30	Input capacitor bracket	766002-00104	1

31	Output reactor	763004-00041	1
32	current sensor	75300100064	1
33	Positive connection plate	766003-00399	1
34	Fast recovery diode module	735006-00029	1
35	Exchange current inductance	220281-00008	1
36	Output diode radiator	264011-00121	1
37	IGBT radiator	264005-00028	1
38	Temperature relay	745008-00006	1
39	IGBT module	735007-00046	2
40	Three-phase rectifier module	735005-00002	1
41	IGBT protection board	220005-00164	1
42	Polypropylene capacitor	722001-00067	1

Table.4- 10-1: spare parts

5-REMOTE CONTROLLER

5-1 Analog remote controller

The analog wire remote controller can be used for current regulation of this series power sources.

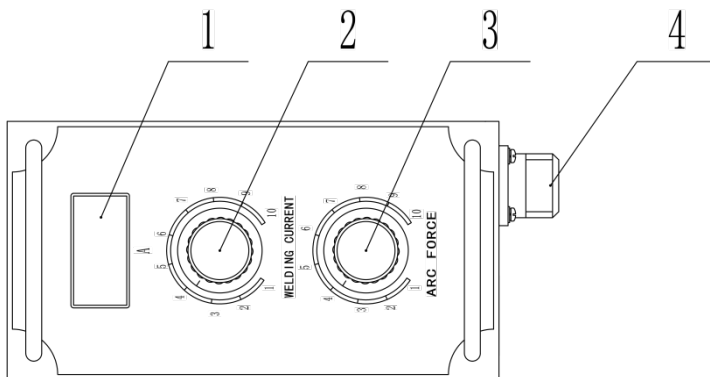


Fig. 5-1-1: Remote controller

1. “Amp” display

It displays preset value while in open load, and displays real value of welding current while in actual working.

2. “Welding current” regulation knob: same function with welding machine knob.

3. “Arc force current” regulation knob: same function with welding machine knob.

4. Socket: connect to remote control cable

Operating guide:

1.Connect welding machine control socket and remote controller via 7-pin control cable;

2.Choose “Remote control” on welding machine control panel;

3.Adjust proper welding current, arc force current.

5-2 Spare parts

NO.	Item	Stock NO.	Qty	Remarks
1	Digital display	220545-00002	1	
2	Potentiometer	720031-00028	2	4.7KΩ
3	Potentiometer knob	720031-00070	2	
4	Control socket	740001-00030	1	

Table.5-2-1 spare parts

6-TROUBLE SHOOTING



Warning! An electric shock can be fatal. Before opening the machine:

- Switch it off and unplug it from the mains

- Unplug machine from the mains

- Put up a clearly legible and easy-to-understand warning sign to stop anybody inadvertently switching it back on again

- Check to make sure the electrically charged components (e.g.capacitors) have been discharged.

- Bolt in outer case also works for ground connection. Never use other bolt, which can not work for ground connection.

Machine problem, cause and remedy



Note! The following troubles and causes are uncertain. However, during the process of This series and the normal using conditions, these might happen.

No.	FAULT	CAUSE	REMEDY
01	Indicator light does not light on and welding machine doesn't work when machine switches on	Default phase	Check power source
		Fuse (2A) is broken	Check whether the fan, power transformer and control board are in good condition
		Wire disconnection	Check and repair
02	Circuit breaker trips automatically except working for a long time in high welding current	IGBT module, three phase rectifier, or output diode module is damaged	Check and replace
		Short circuit	Check and replace
03	Welding current is not stable	Default phase	Check power supply
		Main control board is damaged	Check and replace main control board
04	The welding current is not adjustable	Inner line is broken	Check and replace
		Main control board is damaged	

Table 6-1: Trouble shooting

7-CARE AND MAINTENANCE

Before open the machine



Warning! An electric shock can be fatal. Before opening the machine:

Switch it off and unplug it from the mains

- Put up a clearly legible and easy-to-understand warning sign to stop anybody inadvertently switching it back on again
- Check to make sure the electrically charged components (e.g. capacitors) have been discharged
- Bolts in outer case also work for ground connection. Never use other bolt that can not work for ground connection

Maintenance of welding power source

Please follow the instructions as below to ensure normal use of power source

- Conduct safety check at regular intervals (see "Safety rules")
- Dismantle machine side panels and clean machine inside with clean and low-pressure

compressed air by professional technician, not less than twice per year. Clean the components at a certain distance only

-If a lot of dust has accumulated, clean the cooling-air ducts

Maintenance of water-cooled welding torch

-Check the connections of water cooling system

-Check the coolant level, cleanliness of coolant etc. (clean coolant only)

-Frequently check coolant's back flow state

Daily maintenance

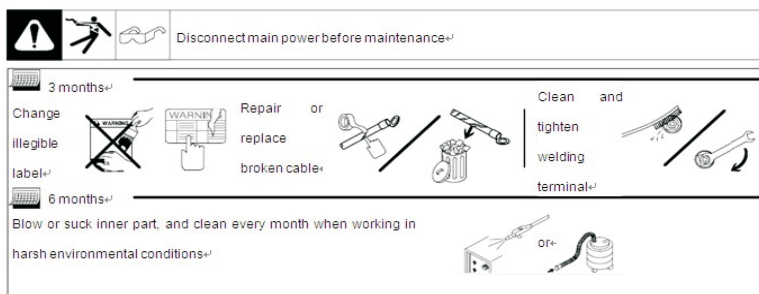
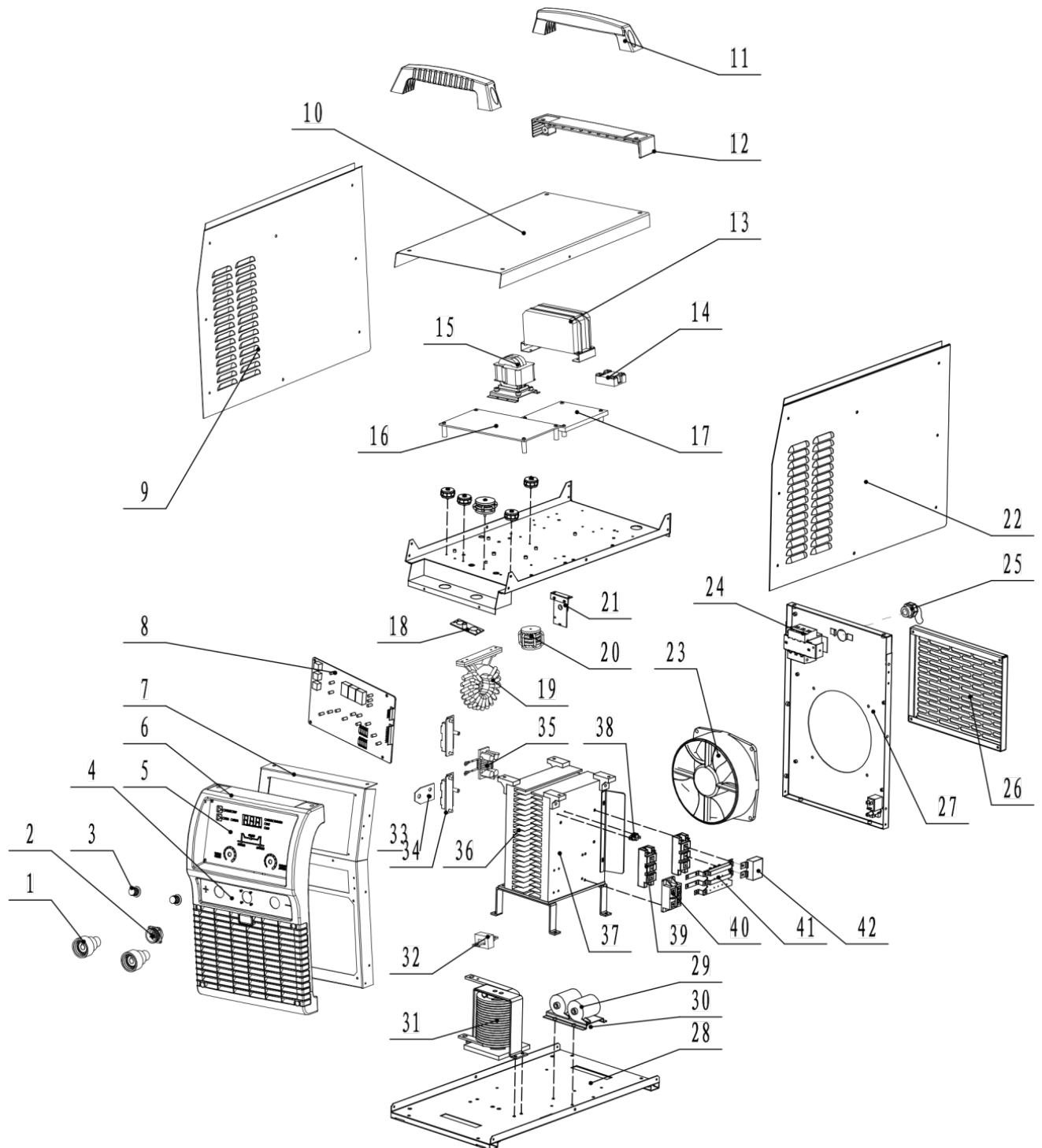


Fig.7-1: Daily maintenance

Ver.20210806

Power ARC 400 C



NO.	ÜRÜN TANIMI	ÜRETİCİ KODU	ADET	SAP KODU
1	Quick socket	740002-00026	2	6064200139
2	Control socket	740001-00030	1	-
3	Knob	730031-00137	2	6064200156
4	Output socket mounting plate	766003-02400	1	-
5	Control panel sticker	771001-01103	1	6064200185
6	Plastic front panel	262005-01040	1	6064200448
7	Front panel	262035-01039	1	-
8	Display board	220503-00018	1	6064000417
9	Left side panel	262017-00602	1	6064200452
10	Top cover	262029-00476	1	6064200454
11	Handle	766003-02388	2	6064200532
12	Plastic back edging	766003-02389	1	6064200461
13	Filter	752004-00017	1	6064000421
14	solid state relay	715004-00014	1	6064100394
15	Power Transformers	763001-00035	1	6064100197
16	Main control board	210580-00140	1	6064000222
17	Driver board	210310-00020	1	6064000204
18	Rack Capacitor Board	220293-00009	1	6064000468
19	Main transformer	220629-00020	1	-
20	Resonant inductance	220521-00007	1	6064100179
21	Current Transformer	220149-00016	1	6064100198
22	Right side panel	262023-00586	1	6064200453
23	Fan	746001-00010	1	6064100552

24	Circuit breaker	745011-00021	1	6064200438
25	Waterproof cable clamp	773002-00009	1	-
26	Fan cover	766003-02403	1	6064200462
27	Back panel	262011-00739	1	-
28	Bottom plate	263065-00067	1	
29	Polypropylene capacitor	722001-00070	2	6064100163
30	Input capacitor bracket	766002-00104	1	6064100192
31	Output reactor	763004-00041	1	6064100194
32	current sensor	753001-00064	1	-
33	Positive connection plate	766003-00399	1	-
34	Fast recovery diode module	735006-00029	1	6064100173
35	Exchange current inductance	220281-00008	1	6064100227
36	Output diode radiator	264011-00121	1	-
37	IGBT radiator	264005-00028	1	-
38	Temperature relay	745008-00006	1	6064100172
39	IGBTmodule	735007-00046	2	6064100213
40	Three-phase rectifier module	735005-00002	1	6064100220
41	IGBT protection board	220005-00164	1	6064000413
42	Polypropylene capacitor	722001-00067	1	6064100169

Power ARC Series



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