MMA160GDsv MMA200GDsv

Operator's Manual

LINLONG LIMITED
www.weldpro.com

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Take a moment and subscribe to our youtube channel. Weldpro is committed to releasing lots of tutorial and how-to videos to help you fine tune your welding skill.

WELDPRO®

Dear Valued customer,

We at Weldpro would like to thank you very much for being our valued customer. We take great pride in providing quality welding equipment at an affordable price.

As an experienced welder, your feedback (no matter positive or negative) will be an important factor for us to improve the quality of our product and our customer service. We would greatly appreciate if you would take a moment to provide feedback for the product that you purchased.

Weldpro is always there to assist you should you have any questions.

Sincerely, your friends at Weldpro!

WARRANTY 3 YEAR WARRANTY

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Technical support: 651 329 2686
Email: support@weldpro.com

IMPORTANT

For any questions, concerns, or problems contact Weldpro Support directly at 651-329-2686

Introduction

This manual contains the description of the hardware and the operating instructions of the equipment. For your safety and that of others, please read this manual carefully.

Attention

Pay attention to the words following the signs below.

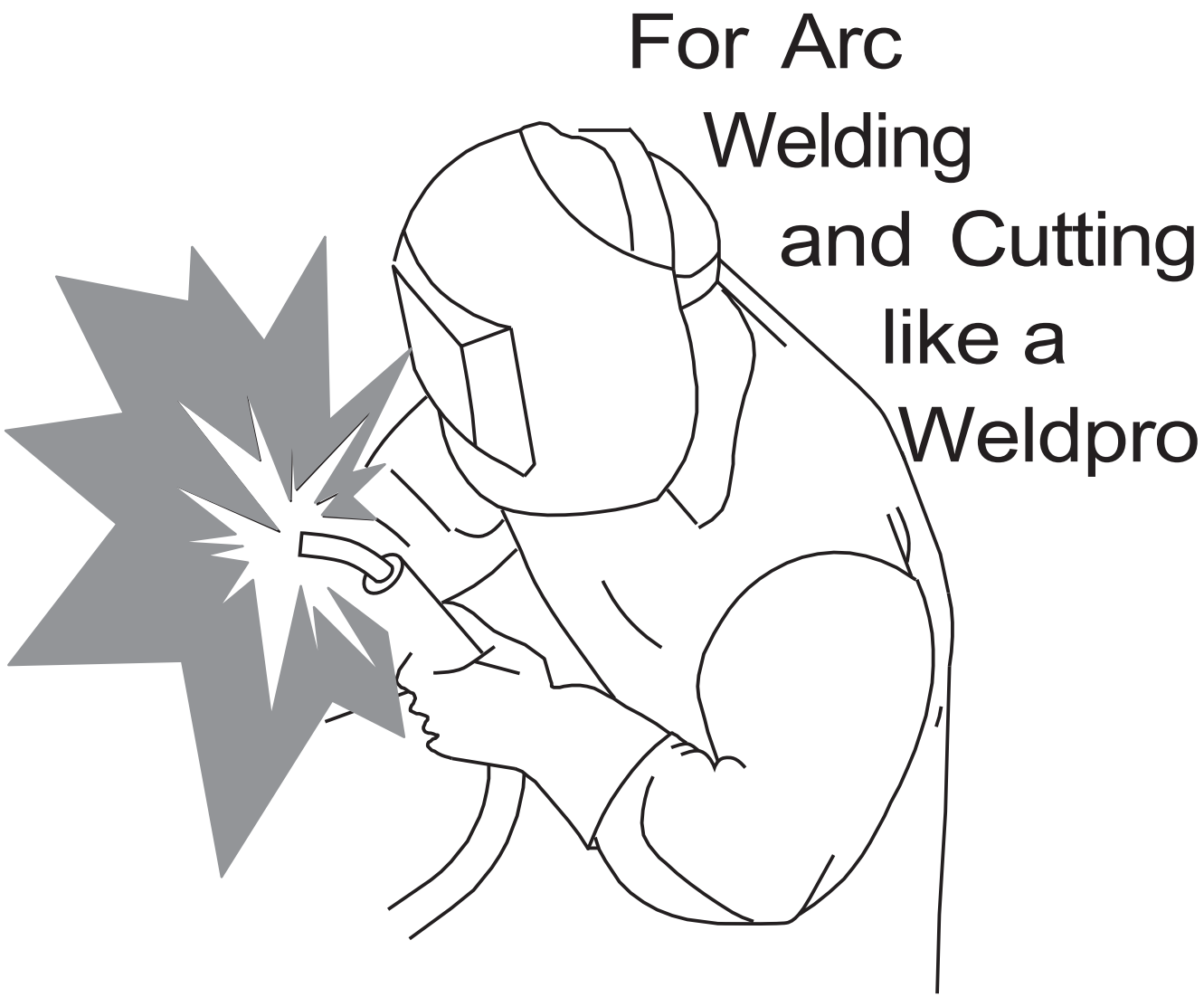
Sign	Description
 **DANGER**	The word following this sign means that there is great potential danger, which may cause a major accident, damage or even death, if the instructions are not followed.
 **WARNING**	The word following this sign means that there is some potential danger, which may cause bodily injury or property damage, if the instructions are not followed.
 **ATTENTION**	The word following this sign means that there is potential risk, which may cause malfunctions and/or breakdowns, if the instructions are not followed.

Edition

The contents of this manual are updated regularly in order to include all product updates. The manual is to be used solely as a user's guide, except where indicated otherwise. No warranties of any kind, whether expressed or implied are made in relation to the information, descriptions, suggestions or any other content of the manual.

The images of this manual are for reference only. If there is any inconsistency between the image and the actual product, the actual product will govern.

Weldpro Safety



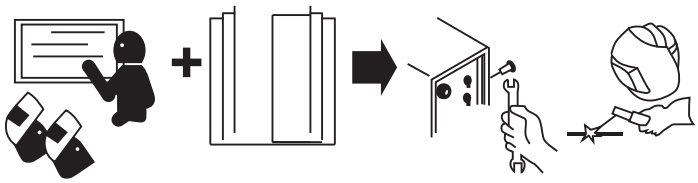
Thank you for using Weldpro arc welding and cutting equipment.
We ask you to work like a weld-pro and weld-pros weld and cut safely. Please read and comply with the sample safety procedures outlined in this guide and the equipment Owner's Manual.

Always read and follow the Owner's Manual, the safety labels on the product, and all applicable safety standards, especially ANSI Z49.1, Safety in Welding, Cutting, (we recommend you get a copy and keep it handy).

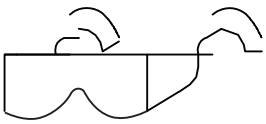
Only qualified persons should install, operate, maintain, and repair this equipment. A qualified person is defined as one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, has successfully demonstrated the ability 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.

Thank you for working safely.

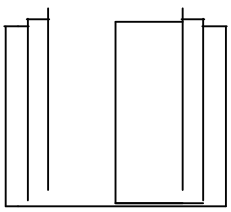
1. General Safe Practices



Become trained and read the instructions before working on the machine or welding or cutting. Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, de-greasers, fluxes, and metals.



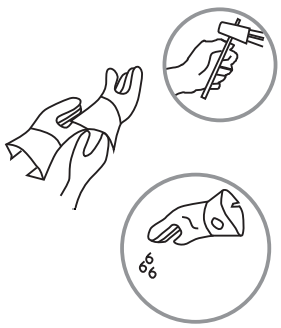
Wear approved safety glasses with side shields under your welding helmet or face shield and at all times in the work area.



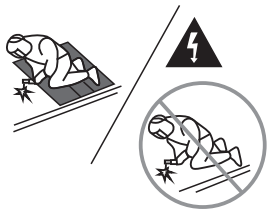
Read and follow all labels and the Owner's Manual carefully before installing, operating, or servicing unit. Read the safety information at the beginning of the manual and in each section.
Wear a safety harness if working above floor level. Keep children away from all equipment and processes.
Do not install or place machine on or over combustible surfaces.
Use GFCI protection when operating auxiliary equipment in damp or wet locations.
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.

2. Arc Welding Hazards

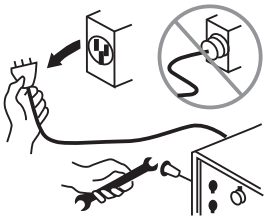
Electric shock from welding electrode or wiring can kill.



Wear dry, hole-free insulating gloves and body protection. Do not touch electrode with bare hand. Do not wear wet or damaged gloves.
Do not touch live electrical parts.
Do not use AC weld output in damp, wet, or confined spaces, or if there is a danger of falling.
Use AC output ONLY if required for the welding process.
If AC output is required, use remote output control if present on unit. Do not use worn, damaged, undersized, or repaired cables.
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. For these conditions, use the following equipment in order presented: 1) a semiautomatic DC constant voltage (wire) welder, 2) a DC manual (stick) welder, or 3) an AC welder with reduced open-circuit voltage.



Protect yourself from electric shock by insulating yourself from work and ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground and watch for fire.



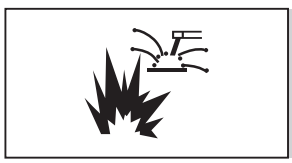
Disconnect input plug or power before working on machine. Do not make input connections if color blind.
Frequently inspect input power cord and ground conductor for damage or bare wiring – replace immediately if damaged – bare wiring can kill. Keep cords dry, free of oil and grease, and protected from hot metal and sparks. Be sure input ground wire is properly connected to a ground terminal in disconnect box or receptacle.
Properly install, ground, and operate all equipment according to its Owner's Manual and national, state, and local codes.

Breathing welding fumes can be hazardous to your health.

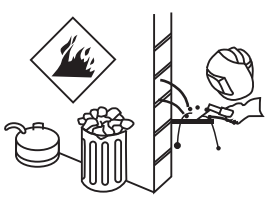
Keep your head out of the fumes. Do not breathe the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.
Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.

Use enough forced ventilation or local exhaust (forced suction) at the arc to remove the fumes from your breathing area.

Use a ventilating fan to remove fumes from the breathing zone and welding area.
If adequacy of ventilation or exhaust is uncertain, have your exposure measured and compared to the Threshold Limit Values (TLV) in the Safety Data Sheet (SDS).



Welding can cause fire or explosion.

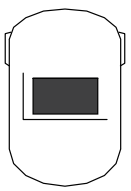


Do not weld near flammable material or where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline). Move flammables at least 35 feet (11 meters) away or protect them with flame-proof covers (see NFPA 51B listed in Section.

Welding sparks can cause fires. Have a fire extinguisher nearby and have a trained fire watcher ready to use it. After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.

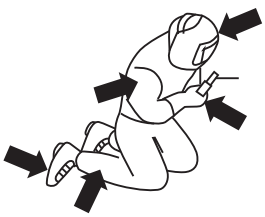
Do not weld on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards in Section 9).

Welding can cause fire or explosion.



Use welding helmet with correct shade of filter (see Section to choose the correct shade).

Wear welders cap and safety glasses with side shields. Use ear protection when welding out of position or in confined spaces. Button shirt collar.

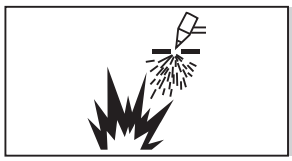


Wear body protection made from durable, flame-resistant material (leather, heavy cotton, wool). Body protection includes oil-free clothing such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.

Moving parts can injure.

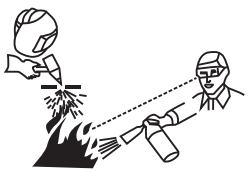
Keep hands, hair, loose clothing, and tools away from moving parts such as fans, belts, wire drive rolls, and rotors. Keep all doors, panels, and guards closed and secured.

3. Plasma Arc Cutting Hazards



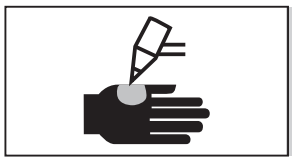
Cutting sparks can cause fire or explosion.

Do not cut near flammable material or where the atmosphere can contain flammable dust, gas, or liquid vapors (such as gasoline). Move flammables at least 35 feet (11 meters) away or protect them with flame-proof covers (see NFPA 51B listed in Section 9).

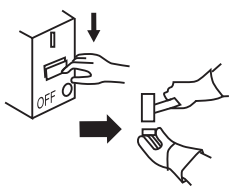


Cutting sparks can cause fires. Have a fire extinguisher nearby, and have a trained fire watch ready to use it. After completion of work, inspect area to ensure it is free of sparks, glowing embers, and flames.

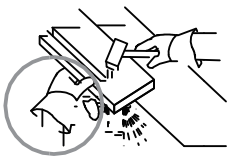
Do not cut on containers that have held combustibles, or on closed containers such as tanks, drums, or pipes unless they are properly prepared according to AWS F4.1 and AWS A6.0 (see Safety Standards in Section 9).



Plasma arc can injure.



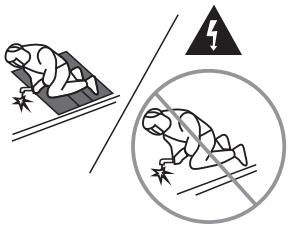
Turn off power before disassembling torch.



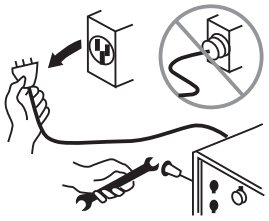
Do not grip material near cutting path.
Do not touch hot parts bare-handed.

Electric shock from torch or wiring can kill.

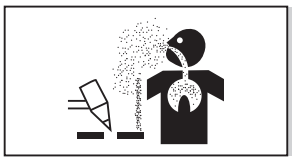
Wear dry insulating gloves. Do not wear wet or damaged gloves. Do not touch live electrical parts.
Do not use worn, damaged, undersized, or repaired cables.



Protect yourself from electric shock by insulating yourself from work and ground. Use non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground. Watch for fire, smoke, and sparks.



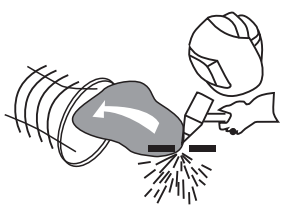
Disconnect input plug or power before working on machine. Do not make input connections if color blind.
Frequently inspect input power cord and ground conductor for damage or bare wiring – replace immediately if damaged – bare wiring can kill. Keep cords dry, free of oil and grease, and protected from hot metal and sparks. Be sure input ground wire is properly connected to a ground terminal in disconnect box or receptacle.
Properly install, ground, and operate this equipment according to its Owner's Manual and national, state, and local codes.



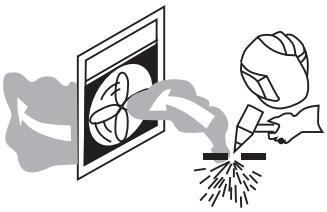
Breathing cutting fumes can be hazardous to your health.

Keep your head out of the fumes. Do not breathe the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone and the general area. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases to which personnel are exposed.

Read and understand the Safety Data Sheets (SDSs) and the manufacturer's instructions for adhesives, coatings, cleaners, consumables, coolants, degreasers, fluxes, and metals.

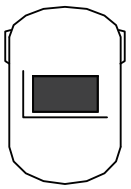


Use enough forced ventilation or local exhaust (forced suction) at the arc to remove the fumes from your breathing area.



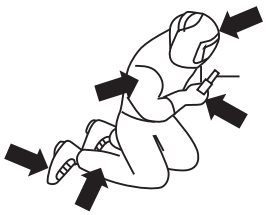
Use a ventilating fan to remove fumes from the breathing zone and cutting area.
If adequacy of ventilation or exhaust is uncertain, have your exposure measured and compared to the Threshold Limit Values (TLV) in the Safety Data Sheet (SDS).

Arc rays can burn eyes and skin.



Use welding helmet or face shield with correct shade of filter (see Section to choose the correct shade).

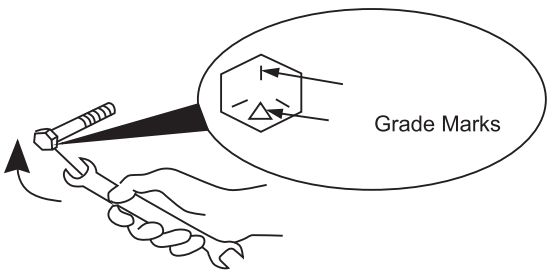
Wear welders cap and safety glasses with side shields. Use ear protection when cutting out of position or in confined spaces. Button shirt collat.



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 acap.

Periodically double-check all nuts and bolts for tightness and condition

Loose or incorrect hardware and fasteners can injure, and damage equipment.

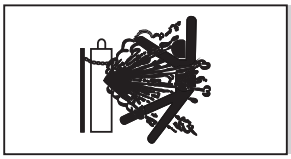


If necessary, always replace any fastener with one of equal size, grade, and type.
Be sure the grade marks on replacement fastener match the original bolt. The manufacturer's identification mark .

4. Special Situations & Equipment

Confined spaces can be hazardous.

Confined spaces are areas which lack room for full movement and often lack ventilation, such as storage tanks, vats, tunnels, boilers, pipes, hold of a ship, corners of a room, near a ceiling or floor corner, or in a pit. Gases can collect and form dangerous concentrations.
Always open all covers, remove any hazardous or toxic materials, provide forced ventilation, and provide a means to turn off power and gas from the inside.
Never work alone — have constant communication with someone outside who can quickly turn off power and gas, is trained in rescue procedures, and is able to pull you out in case of emergency.
Do not use AC weld output in confined spaces.
Insulate yourself from work and ground using non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground, and watch for fire.
Always check and monitor the air quality in the space. Welding or cutting fumes and gases can displace air and lower the oxygen level — use ventilation and, if needed, an air-supplied respirator. Be sure the breathing air is safe. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases.
Always remember: All normal arc welding and cutting hazards are amplified in confined spaces. See ANSI Z49.1 listed in Principal Safety Standards (Section 9).



Cylinders can explode if damaged.

Confined spaces are areas which lack room for full movement and often lack ventilation, such as storage tanks, vats, tunnels, boilers, pipes, hold of a ship, corners of a room, near a ceiling or floor corner, or in a pit. Gases can collect and form dangerous concentrations.
Always open all covers, remove any hazardous or toxic materials, provide forced ventilation, and provide a means to turn off power and gas from the inside.
Never work alone — have constant communication with someone outside who can quickly turn off power and gas, is trained in rescue procedures, and is able to pull you out in case of emergency.
Do not use AC weld output in confined spaces.
Insulate yourself from work and ground using non-flammable, dry insulating material if possible, or use dry rubber mats, dry wood or plywood, or other dry insulating material big enough to cover your full area of contact with the work or ground, and watch for fire.
Always check and monitor the air quality in the space. Welding or cutting fumes and gases can displace air and lower the oxygen level — use ventilation and, if needed, an air-supplied respirator. Be sure the breathing air is safe. The recommended way to determine adequate ventilation is to sample for the composition and quantity of fumes and gases.
Always remember: All normal arc welding and cutting hazards are amplified in confined spaces. See ANSI Z49.1 listed in Principal Safety Standards (Section 9).

Electric and magnetic fields (EMF) can affect Implanted Medical Devices.

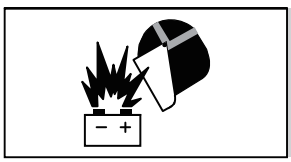
Wearers of Pacemakers and other Implanted Medical Devices should keep away.
Implanted Medical Device wearers should consult their doctor and the device manufacturer before going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations.

Hot parts can burn.

Do not touch hot welded or cut parts with bare hand. If handling is needed, use proper tools and/or wear heavy, insulated welding gloves to prevent burns.
Allow cooling period before handling parts or working on equipment.

Falling equipment can injure, and damage equipment.

Use lifting eye to lift unit only, NOT running gear, gas cylinders, trailer, or any other accessories. Use correct procedures and equipment of adequate capacity to lift and support unit.
If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.
Do not place unit where it can easily tip over or fall.



Battery charging output and battery explosion can injure.

Sparks can cause battery gases to explode.
Do not smoke and keep matches and flames away from battery.
Wear a face shield or safety glasses when working near or on a battery.
Do not use welder or plasma cutter to charge batteries or jump start vehicles unless the unit has a battery charging feature designed for this purpose.

5. EMF Information

Electric current flowing through any conductor causes localized electric and magnetic fields (EMF). The current from arc welding (and allied processes including spot welding, gouging, plasma arc cutting, and induction heating operations) creates an EMF field around the welding circuit. EMF fields can interfere with some medical implants, e.g. pacemakers. Protective

measures for persons wearing medical implants have to be taken. For example, restrict access for passers–by or conduct individual risk assessment for welders. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

1. Keep cables close together by twisting or taping them or using a cable cover.
2. Do not place your body between welding cables. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.
4. Keep head and trunk as far away from the equipment in the welding circuit as possible.
5. Connect work clamp to workpiece as close to the weld as possible.
6. Do not work next to, sit or lean on the welding power source.
7. Do not weld whilst carrying the welding power source or wire feeder.

About Implanted Medical Devices:
Implanted Medical Device wearers should consult their doctor and the device manufacturer be- fore performing or going near arc welding, spot welding, gouging, plasma arc cutting, or induction heating operations. If cleared by your doctor, then following the above procedures is recommended.

6. California Proposition 65 Warnings

WARNING: The machine is mainly used for industrial purpose. It will cause radio interference indoor, operators shall take fully preventative measures.

For more information, go to www.P65Warnings.ca.gov.

WARNING: Cancer and Reproductive Harm – www.P65Warnings.ca.gov.

For Diesel Engines:

WARNING: Breathing diesel engine exhaust exposes you to chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

- Always start and operate the engine in a well–ventilated area.
- If in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information, go to www.P65Warnings.ca.gov.

7. Principal Safety Standards

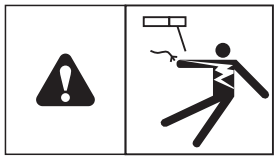
Safety in Welding, Cutting, and Allied Processes, American Welding Society standard ANSI Standard Z49.1. Website: www.aws.org.
Safe Practices for the Preparation of Containers and Piping for Welding and Cutting, American Welding Society Standard AWS F4.1 from Global Engineering Documents.
Website: www.global.ihs.com.
Safe Practices for Welding and Cutting Containers that have Held Combustibles, American Welding Society Standard AWS A6.0 from Global Engineering Documents.
Website: www.global.ihs.com.
National Electrical Code, NFPA Standard 70 from National Fire Protection Association. Website: www.nfpa.org and www.sparky.org.
Safe Handling of Compressed Gases in Cylinders, CGA Pamphlet P-1, from Compressed Gas Association. Website: www.cganet.com

8. Lens Shade Selector Guide

Operation/Process	Electrode Size in. (mm)	Arc Current (Amperes)	Minimum Protective Shade	Suggested* Shade No. (Comfort)
Shielded metal arc welding (SMAW)	Less than 3/32 (2.5) 3/32–5/32 (2.5–4) 5/32–1/4 (4–6.4) More than 1/4 (6.4)	Less than 60 60–160 160–250 250–550	7 8 10 11	— 10 12 14
Gas metal arc welding (GMAW) and flux cored arc welding (FCAW)		Less than 60 60–160 160–250 250–550	7 10 10 10	— 11 12 14
Gas tungsten arc welding (GTAW)		Less than 50 50–150 150–500	8 8 10	10 12 14
Air carbon arc cutting (CAC–A)	(Light) (Heavy)	Less than 500 500–1000	10 11	12 14
Plasma arc welding (PAW)		Less than 20 20–100 100–400 400–800	6 8 10 11	6 to 8 10 12 14
Plasma arc cutting (PAC)		Less than 20 20–40 40–60 60–80 80–300 300–400 400–800	4 5 6 8 8 9 10	4 5 6 8 9 12 14
Torch brazing (TB)		—	—	3 or 4
Torch soldering (TS)		—	—	2
Carbon arc welding (CAW)		—	—	14
	Plate thickness			
	in.	Mm		
Oxyfuel gas welding (OFW) Light Medium Heavy	 Under 1/8 1/8 to 1/2 Over 1/2	 Under 3.2 3.2 to 12.7 Over 12.7		 4 or 5 5 or 6 6 or 8
Oxygen Cutting (OC) Light Medium Heavy	 Under 1 1 to 6 Over 6	 Under 25 25 to 150 Over 150		 3 or 4 4 or 5 5 or 6

As a rule of thumb, start with a shade that is too dark to see the weld or cut zone. Then go to a lighter shade which gives sufficient view of the weld or cut zone without going below the minimum. In oxyfuel gas welding, cutting, or brazing where the torch produces a high yellow light, it is desirable to use a filter lens that absorbs the yellow or sodium line in the visible light of the (spectrum) operation.
Guide adapted from ANSI Z49.1, 2012.

9. Weld Cable Selector Guide



Turn Off power before connecting to weld output terminals.

Do not use worn, damaged, under- sized, or repaired cables.

NOTICE : The Total Cable Length in Weld Circuit (see table below) is the combined length of both weld cables. For example, if the power source is 100 ft (30 m) from the workpiece, the total cable length in the weld circuit is 200 ft (2 cables x 100 ft). Use the 200 ft (60 m) column to determine cable size.

Welding Amperes	Weld Cable Size** And Total Cable (Copper) Length In Weld Circuit Not Exceeding			
	100 ft (30 m) Or Less		150 ft / (45 m)	200 ft / (60 m)
	10 – 60% Duty Cycle AWG (mm2)	60 – 100% Duty Cycle AWG (mm2)	10 – 100% Duty Cycle AWG (mm2)	
100	4 (20)	4 (20)	4 (20)	3 (30)
150	3 (30)	3 (30)	2 (35)	1 (50)
200	3 (30)	2 (35)	1 (50)	1/0 (60)
250	2 (35)	1 (50)	1/0 (60)	2/0 (70)
300	1 (50)	1/0 (60)	2/0 (70)	3/0 (95)
350	1/0 (60)	2/0 (70)	3/0 (95)	4/0 (120)
400	1/0 (60)	2/0 (70)	3/0 (95)	4/0 (120)
500	2/0 (70)	3/0 (95)	4/0(120)	2x2/0 (2x70)
600	3/0 (95)	4/0 (120)	2x2/0 (2x70)	2x3/0 (2x95)
700	4/0 (120)	2x2/0 (2x70)	2x3/0 (2x95)	2x4/0 (2x120)
800	4/0 (120)	2x2/0 (2x70)	2x3/0 (2x95)	2x4/0 (2x120)
900	2x2/0 (2x70)	2x3/0 (2x95)	2x4/0 (2x120)	3x3/0 (3x95)
1000	2x2/0 (2x70)	2x3/0 (2x95)	2x4/0 (2x120)	3x3/0 (3x95)
1250	2x3/0 (2x95)	2x4/0 (2x120)	3x3/0 (3x95)	4x3/0 (4x95)

* This chart is a general guideline and may not suit all applications. If cable overheating occurs (normally you can smell it), use next size larger cable.

** Weld cable size (AWG) is based on either a 4 volt or less drop or a current density of at least 300 circular mils per ampere.

*** For distances longer than those shown in this guide, see AWS Fact Sheet No. 39, Welding Cables, available from the American Welding Society at http://www.aws.org.

CONTENTS

PRODUCT DESCRIPTION

The MMA series welding machines are equipped with the world's most advanced inverter technology.

The appearance of the inverter arc welding machines is based on the power inverter theory and components. The inverter's working principle is that the 60Hz power line frequency is transformed to direct current and inverted to a high frequency (50KHz) using a high power IGBT device. After that, a voltage drop is generated and it is transformed to a to high-current DC using the Pulse Width Modulation (PWM) technology. Using the power inverter technology, the volume and the weight is substantially reduced and the conversion efficiency is increased by 30%.

Our power supply offers a stronger, more concentrated and more stable arc. When the welding rod and the workpiece get short-circuited, its response is quicker. This means that it is easier to design welds with different dynamic characteristics and that these characteristics can be adjusted to make the arc stronger or softer.

In MMA mode, the machine has inclination characteristics. The welding current, the inrush current and the arc initiation current are established with the same knob synchronously, which translates into superior performance during arc starting, stable power output, and better internal weld quality.

The MMA series welding machines are widely used to weld different materials like carbon steel, stainless steel, metal alloys, copper, non-ferrous metals, etc. They can be used with different types of electrodes, including acidic electrodes, basic electrodes and cellulose electrodes. Compared with other welding machines, they are lighter, handier, easier to install and to use, more efficient and help to save energy. Their conversion rate is over 85%. They can be used for high level welding, fieldworks and indoor operations as well.

Thank you for purchasing our products and we are looking forward to receiving your valuable feedback which will help to improve our products and services.

WARNING

The machine is mainly used for industrial purposes. It causes radio interference when used indoor. Users must take preventative measures.

THREE YEARS WARRANTY

All Weldpro welders and plasma cutters are covered under the following specific terms of warranty. All welders and plasma cutters are warrantied to the original purchaser only, when purchased through an authorized seller of Weldpro products for a period of three (3) years from the date of purchase, to be free of manufacturers defect or failure. Proof of purchase and date of purchase paperwork will be required by Weldpro at the time of the claim.

Extended warranty coverage may be available for Weldpro welders and plasma cutters at an additional cost. Always check with Weldpro.

The Weldpro warranty is limited to defects, malfunctions or failure of the equipment to operate properly based specifically and solely from manufacturer defects. Any malfunctions from improper use, lack of maintenance, incorrect or insufficient source supply power to the units, shipping damage, and similar failures not related to specific manufacturers defect will not be honored.

Weldpro will not be responsible in the event of a product failure, for lost time in operation or use of said product. Rather it will honor solely the product itself only.

Further, the warranty will cover the repair or replacement of the unit in question for the term of the warranty with either a new or a refurbished unit, or in some cases replacement parts of the same model, at the discretion of Weldpro. As a term of the Weldpro warranty, if and when applicable, individual parts are needed, they may be supplied to the customer rather than replacing the entire unit. Situations like this may include, but are not limited to items such as foot pedals, torches, mig wire rollers, feed spools, or any other item Weldpro deems more practical to supply individually.

Weldpro will provide free shipping return of the damaged product due to manufacturers defect for the first 30 days of the warranty term if shipping is within the lower 48 United States. Customers outside this area must check with Weldpro for further shipping instructions. Failures after the initial 30-day period, and due to manufacturers defect, may not enjoy free return shipping.

If it is determined when the product is returned to Weldpro that there is no malfunction, or that the assumed malfunction by the customer was user error, Weldpro may request a shipping fee refund prior to the return of the item to the customer.

Prior to returning any item thought to be malfunctioning or damaged due to manufacturers defect, customers are required to contact Weldpro first, to explain the failure and to obtain a Return Merchandise Authorization number, or the item may not be covered under the terms of this warranty.

Weldpro ships in the USA from third party shippers such as, but not limited to UPS, FedEx, and the USPS. Weldpro is not responsible for damage that occurs during shipping. It is the customer's responsibility to check the item at the time of delivery. If a customer receives an item damaged, they must immediately contact both Weldpro and the shipper to document and report the damage as soon as possible, and in no circumstances later than 48 hours after delivery. All shipping and delivery dates are tracked for arrival. Weldpro may require photo image of the damage at their discretion.

Returned items within the first 30 days. Undamaged items in good working condition may be returned within the first 30 days of purchase. In such a case, these items are not eligible for the free return shipping policy associated with items that have manufacturers defects. A restocking fee will be charged for said return of up to 25% on any item returned with a valid RMA number that are undamaged and not covered or subject under the terms of this warranty. The amount of the restocking fee is solely at the discretion of Weldpro and based on the condition of the returned item and its accessory parts and packaging. Further, should Weldpro receive an item in good working condition that has sustained physical damage, Weldpro has the right to refuse acceptance of said returned item completely, and the customer will be responsible for return shipping of the product to them.

Weldpro does not imply or suggest any interpretation of the above warranty beyond what is stated in this print of its terms.

Weldpro is not responsible for injury due to improper use of the equipment or failure to heed all of the safety precautions associated with the dangers of welding or cutting metals.

The terms and conditions of the Weldpro warranty are subject to change without notice. Be sure to check the terms of the Weldpro warranty prior to your purchase.

TECHNICAL PARAMETERS

Parameters \ Model	MMA160GDsv		MMA200GDsv	
Supply voltage (V)	1 phase 115V±15%	1 phase 230V±15%	1 phase 115V±15%	1 phase 230V±15%
Frequency (Hz)	60			
Rated input current (A)	MMA : 44.3A TIG : 26.4A	MMA : 31.4A TIG : 19.5A	MMA : 44.3A TIG : 26.4A	MMA : 41.7A TIG : 26.8A
Open circuit voltage (V)	65			
Output current (A)	15-120	15-160	15-120	15-200
Output voltage (V)	MMA : 20.6-24.8 TIG : 10.6-14.8	MMA : 20.6-26.4 TIG : 10.6-16.4	MMA : 20.6-24.8 TIG : 10.6-14.8	MMA : 20.6-28 TIG : 10.6-18
Duty cycle	MMA : 30%120A TIG : 30%120A	MMA : 30%160A TIG : 30%160A	MMA : 30%120A TIG : 30%120A	MMA : 30%200A TIG : 30%200A
Power factor	⩾0.73			
Efficiency (%)	⩾80			
Electrode Diameter (in)	1/16-3/32	1/16-1/8	1/16-3/32	1/16-5/32
Housing protection class	Ip21			
Insulation class	F			
Cooling method	Forced Air Fan			
Weight (lb)	12		17.4	
Dimensions (in)	11.8x5.4x10.4		15.7x6.7x12.4	

INSTRUCTIONS FOR THE INSTALLATION

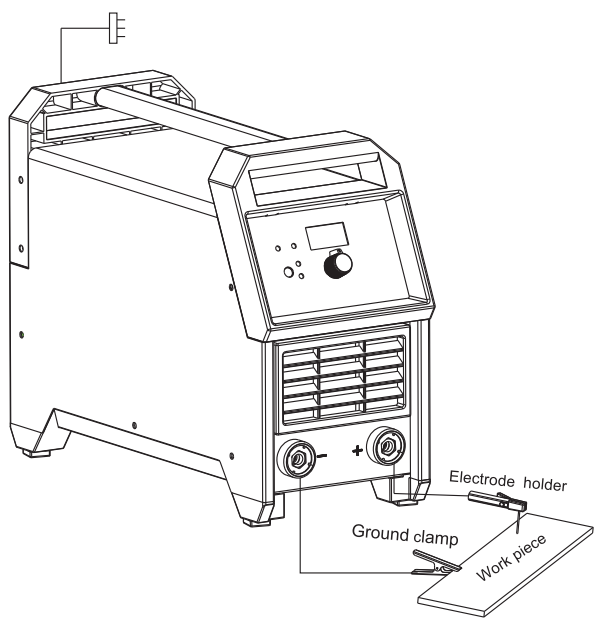
The welding machine is equipped with an input voltage compensation device. This device allows the machine to work without interruption when the input voltage fluctuates ±15% with respect to the nominal voltage.
When using a long cable in order to reduce the voltage drop, a cable with big cross section area is suggested. If the cable is too long, this will affect the arc starting performance and other system functions, we suggest to use the recommended length.

1. Ensure that the air intake of the machine is not covered or blocked to avoid malfunction of the cooling system.
2. Use a grounding cable with a cross sectional are of at least 10AWG to connect the housing with the ground. To do so, connect the grounding interface to the back to the grounding device, or ensure that the grounding end of the power interface has been connected to ground securely and independently. For better security, both solutions can be used at the same time.

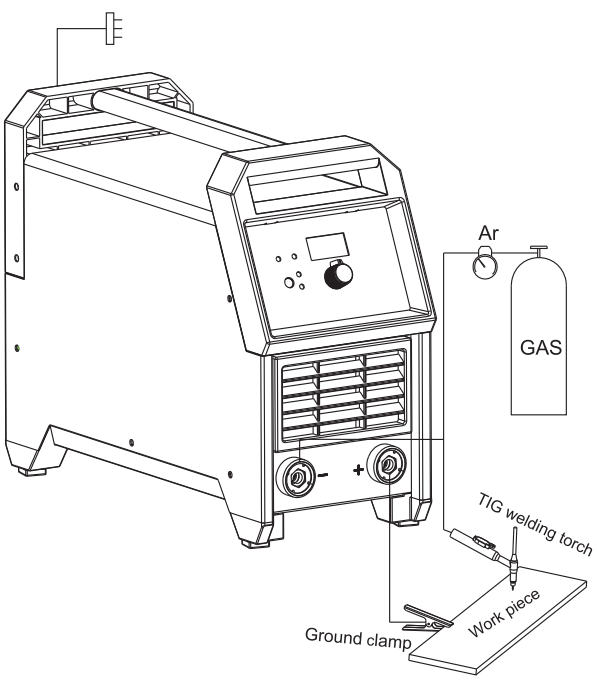
Installation process

a. Ensure that the cord with both the electrode holder, and work clamp dinse connectors are properly connected. Connect the quick connector to the "-" socket of the machine and tighten clockwise.
b. Connect the dinse connector of the cord with the electrode holder to the "+" socket of the machine for standard stick (MMA) welding. Tighten clockwise. Connect the dinse connector of the work clamp to the "-"socket of the machine for standard stick welding (MMA) and tighten clockwise. Pay attention to the terminals of the connection. The DC welders can be connected two different ways. Electrode positive: the electrode holder connects to the "+" terminal and the workpiece clamp to the "-" one. Electrode negative: the electrode holder connects to the "-" terminal, the workpiece clamp to the "+" one. These settings must be selected according to the work carried out. Improperly secured connections can lead to an unstable or no arc. Clean shiny metal is necessary at the work area and ground areas. Clean your metal. The electrode positive connection should be used for (mma) welding with basic electrodes. Check welding rod manufacturer specs for proper polarity. When TIG welding with the optional TIG torch and cable assembly available through Weldpro, your TIG torch should always be connected to the minus connection on the welder, electrode negative.

Installation drawing for the MMA160GDsv/MMA200GDsv (MMA)



Installation drawing for the MMA160GDsv/MMA200GDsv (TIG)

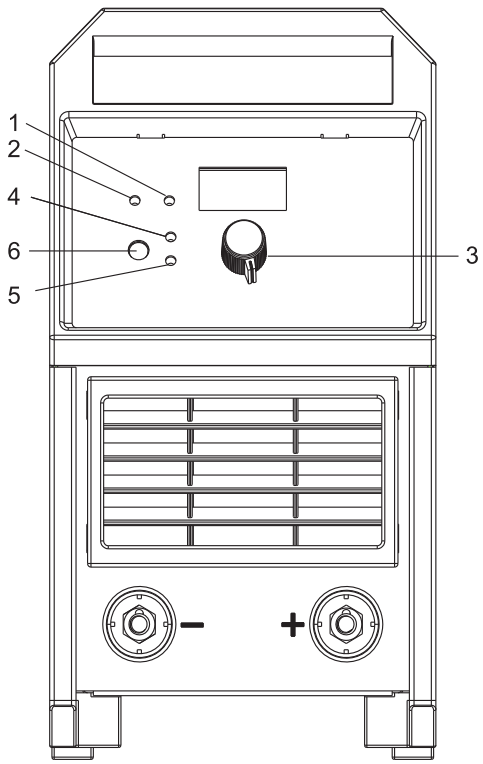


OPERATION

1 panel layout

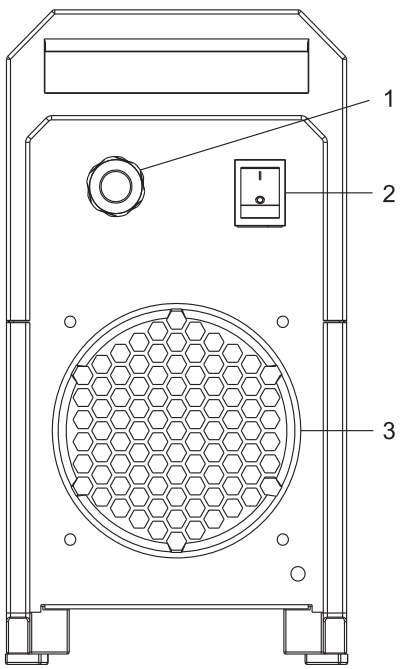
- **Front panel**

1	VRD indicator
2	FAULT indicator
3	Current adjustment knob
4	MMA indicator
5	TIG indicator
6	MODE switch Press MODE button for 8 seconds to control VRD function open and close



- **Back panel**

1	Power supply input
2	Power switch
3	Persiennes



The images shown here are indicative only. The actual product may differ.

2 Operating instructions

1. Turn on the power switch, the power indicator light comes on and the fan starts running.
2. Set the welding current according to the requirements of the welding work.
3. Usually, the necessary welding current for stick electrode welding is as follows:

Specification	3/32''	1/8''	5/32''	3/16''
Current	70-100A	110-140A	170-220A	230-280A

3 Welding environment and safety

- **Welding environment**

a) The welding should be carried out in dry surroundings, with an air humidity level of maximum 90%.
b) The temperature must be between 14 and 104 degrees Fahrenheit.
c) Avoid placing the equipment under direct sunlight or rain. Avoid any contact with water.
d) Do not use the machine in environments polluted with dust or corrosive gases.
e) MIG welding should not be carried out in areas with rapid airflow.

- **Safety**

Our machine is equipped with surge, overcurrent and overheat protection. In case the input voltage, the output current or the internal temperature of the machine exceeds the standard values, the machine stops automatically. The excessive use with, for example high voltage, may damage the machine. Please pay attention to the following points.

a) Ensure adequate ventilation!

The welding machines work with high current. Natural air flow is not sufficient to cool down the internal components. For this reason, the machines have fans to provide stable operation.

The exhaust shutter must never be blocked or covered. Keep a distance of at least 12" between the machine and other objects. Ensure a well ventilated work area to ensure the best possible performance and the longest possible lifetime.

b) Do not overload!

Never exceed the maximum allowable current (according to the duty cycle chosen). Make sure that the welding current is never higher than the allowable range. The overcurrent shortens the lifetime of the machine and may damage it.

c) Avoid surging!

The input voltage is to be found on the technical data sheet. The automatic voltage compensation circuit will prevent from exceeding the allowable range. If the input voltage is too high, that may damage the components. Use with care.

d) Before operation, ensure that the machine is grounded

There is a grounding screw on the back side of the cutting machine. To avoid electric leakage and static electricity, ensure that the enclosure is connected to the ground with a cable, which has a cross sectional area of at least 6mm2 (10 AWG).

4 Troubleshooting during welding

The below listed occurrences may happen due to the accessories used, the welding material, the environment or the power supply. Improve the working environment to prevent these issues.

- **Difficult arc starting. The arc is constantly interrupted:**

  a) Check if the grounding clamp is properly connected to the workpiece.
  b) Check if all welding cable connectors are tight and connected properly.

- **The output current does not reach the nominal value:**

  The deviations from the nominal supply voltage may cause that the output current does not match its pre-established value. When the supply voltage is lower than its nominal value, the maximum output current may be lower than its nominal value, too.

- **The output current does not reach the nominal value:**

  There may be the following reasons for this situation:
  a) The voltage of the electrical network has changed.
  b) The electrical network or other electrical installation generate strong interference.

DAILY MAINTENANCE AND CHECKING

- **Daily maintenance**

  a) Remove dust regularly with a dry compressed air. If the welding machine is used in an environment with heavy smoke and/or polluted air, the dust must be removed at least once a month.
  b) Revise the internal connections and ensure a perfect contact (especially plugs and sockets). Fasten any loose connections. If they are oxidized, remove it with sandpaper and connect again.
  c) Prevent water from entering the machine and the machine from getting wet. If so, air dry it. Measure the insulation with a megohmmeter to make sure it's safe to use the machine.
  d) If the machine is not in use for a prolonged period of time, put it in its original package and store it in a dry place.
  e) The wire feeder's electric carbon brush must be sharpened, and its wire guide must be cleaned after each 300 hours of operation. Rinse the speed reducer, apply 2# Molybdenum disulfide lubricant on the turbine, pivot rod and bearing.

WARNING

The power must be cut off completely before starting any repair or maintenance. Make sure that the power supply cable is disconnected before you open the housing.

- **Daily checking**

WELDING MACHINE		
Component	**To check**	**Remarks**
Operation control board	• Operation, conversion and switch installation. • Check the status of the power indicator light.	May result in unstable arc and poor wire supply.
Cooling fan	• Check if the fan works properly, and if the sound emitted by the fan is as usual.	Clean the residue, find out the reason of the problem and correct it.
Electrical components	• Check for any unusual discharge and/or noise when you switch on the machine. • Check if there is any odor emitted when the machine is on. • Check if the housing of the machine changes color or heats up.	
External parts	• Check if the wire supply tube is damaged or its connector is loose. • Check if the housing and other connection parts are loose.	

CABLES		
Component	**To check**	**Remarks**
Output cable	• The insulation is worn down. • The cable connector is naked (damaged insulation) or loose (primary point between the power supply and the cable)	For your safety and to ensure a stable welding, select the appropriate method to carry out the inspection, according to the workplace. • Standard daily inspection. • Thorough and deep inspection in set intervals.
Input cable	• Check if the electrical outlet and the plug are connected properly. • Check if the connector of the input cable is connected properly. • Ensure that the input cable is not worn down and that the conductor is not exposed.	
Grounding cable	• Check if the ground cable connecting to the workpiece is not broken and ensure that it's connected properly.	Carry out daily inspection to extend the lifetime of the machine and to guarantee security.

TROUBLESHOOTING

Note : The following operations must be carried out by a qualified electrician with valid certifications. Before maintenance, it is suggested you contact a local dealer to verify said qualifications.

Fault description	Measures to take
1. The meter shows nothing. The fan does not rotate. There is no welding output.	1. Check if the power switch is on. 2. Check if the power cord has current. 3. Check if the silicone bridge is damaged. 4. Malfunction of the supplementary power source located on the control board. (contact your dealer).
2. The meter works properly. The fan works properly. There is no welding output.	1. Check if all connectors of the machine are well connected. 2. There is a short circuit or a malfunction in the connection of the output terminal. 3. The control cable of the welding torch is broken or the switch is damaged. 4. The control circuit is damaged (contact your dealer).
3. The meter works properly. The fan works properly. The indicator lights function abnormally.	1. The overcurrent protection may be activated. Turn off the power switch and restart the machine. 2. The overheat protection may be activated. Wait 2-3 minutes until the machine starts working again. Do not turn off the power supply. 3. There may be a malfunction in the inverter circuit (contact your dealer).

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