

User Manual



Sri Huchhanna Tower, #4,1st Main,7-A Cross, Maruthi Layout, Dasarahalli, HAF Post, Hebbal, Bangalore 560024, Karnataka, INDIA

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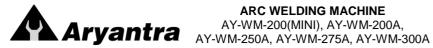
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ARC WELDING MACHINE



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ARC WELDING MACHINE AY-WM-200(MINI), AY-WM-200A, AY-WM-250A, AY-WM-275A, AY-WM-300A

SAFETY INSTRUCTIONS



On the process of welding or cutting, there will be possibility of injury, so please take protection into consideration during operation. For more details please review the Operator Safety Guide, which complies with the preventive requirements of the manufacturer.

Electric shock - May lead to death!

- Set the earth fitting according to applying standard.
- Forbidden to touch the bare electric parts and electrode with uncovered skin, wet gloves or clothes.
- Make sure you are insulated from the ground and the work piece.
- Make sure you are in safe position.

Gases and fumes - May be harmful to health!

- Keep your head out of the gases and fumes.
- When arc welding, ventilators or air extractors should be used to avoid breathing gases.

Arc rays - Harmful to your eyes, burn your skin.

- Wear suitable protective mask, light filter and protective garment to protect eyes and body.
- Prepare suitable protective mask or curtain to protect looker-on.

Fire

- Welding spark may cause fire, make sure there is no tinder stuff around the welding area.
- Noise Excessive noises will be harmful to hearing.
- Use ear protector or others means to protect ear.
- Warn looker-on that noise is harmful to hearing.

Malfunction

When trouble happens, contact with authorized professionals

- If trouble happens during installation and operation, please follow this manual instruction to check up.
- If you fail to fully understand the manual, or fail to solve the problem with the instruction, you should contact the suppliers or the service center for professional help.

WARNING!

Cree-page protecting switch should be added when using the machine!

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ABOUT THE MACHINE

The welding machine is a rectifier adopting the most advanced inverter technology.

The development of inverter welding equipment profits from the development of the inverter power supply theory and components. The inverter welding power source utilizes high-power component single tube IGBT to transfer 50/60Hz frequency up to 15 KHz/20KHz /55KHz, then reduce the voltage and commutate, and output high-power voltage via PWM technology. Because of the great reduce of the main transformer's weight and volume; the efficiency increases by 30%. The appearance of inverter welding equipment is considered to be a revolution for welding industry.

The welding power source can offer stronger, more concentrated and more stable arc. When stick and work piece get short, its response will be quicker. It means that it is easier to design into welding machine with different dynamic characteristics, and it even can be adjusted for specialty to make arc softer or harder.

The welding machine has the following characteristics: effective, power saving, compact, stable arc, good welding pool, high no-load voltage, and good capacity of force compensation and multi-use. It can weld stainless steel, alloy steel, carbon steel, copper and other color metal. It can apply to electrode of different specifications and materials, including acidity, alkalescency, and fiber. It can apply in high altitude, the open air and inside and outside decoration. Compared with the same products of home and abroad, it is compact in volume, light in weight, easy to install and operate.

The welding machine is most suitable for welding tube, boiler, vacuum pressure vessel or the higher quality for welding, which can gain perfect welding quality. In addition, this series machine have enough no-load voltage and the ability of output, ideal for long cable welding.

Thanks for purchasing our product and hope for your precious advice. We will be dedicated to produce the best products and offer the best service.

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CAUTION !

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machine is mainly used in industry. It will produce radio wave, so the worker should make fully ion for protection.



PRODUCT RANGE

KisanKraft has a large range of products to serve the farmers. A list of our products is given below:

given below:	
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Backpack Brush Cutter Tea Pruner	Sprayers and Accessories
Pole pruner with Engine	Battery Sprayer
Reaper Attachment	Portable Power Sprayer
Blades-Circular	Trolley Sprayer Manual Knapsack Sprayer
Blades (2 &3 points)	Manual Pressure Sprayer
Baffle Nylon Rope	Rose Cans
Tap & Go	Hose Crimping Machine
Chainsaws	HTP Sprayer
Petrol Chainsaw	HTP Delivery Hose HTP Hose Reel
Electric Chainsaw	HTP Stand
Chain Sharpening Machine	HTP Gun / Lance(Brass Rod
Engines and Water Pumps	Knapsack Power Sprayer
Engine –Diesel-(Horizontal)	Mister / Duster / Granules Spreader HTP Sprayer Set with Diesel Engine
Engine –Diesel(Vertical)	HTP Sprayer Set with Kerosene Engine
Engine-Kerosene	Fogging Machine
Water Pump with Petrol Engine Water Pump with Kerosene Engine	Milking Machine
Water Pump with Diesel Engine	Wood Shredder
Hand Tools	Fodder Ensiling Chaff Cutter
Secateurs	Fodder Grinder Chaff Cutter
Folding Saw Garden Rake	Fodder Mini Chaff Cutter
Garden Shovel	Harvester
Hedge Shear	Maize Sheller
Lopper	Maize Sheller + Dehusker Maize Combine Harvester
Telescopic Hedge Shear	Onion Digger Carlotta Italy
Telescopic Lopping Shear Tree Pruner	Tea Leaf Harvester
Telescopic Steel Pipe & Fruit	Sugarcane Combine Harvester
Picker Bag	Sugarcane Leaf Stripper
Sheep Shear	Transplanter and Post Hole Digger
Garden Tools	Paddy Transplanter (2 & 8 Rows)
Electric Pressure Washer	Transplanter-Vegetable & Tobacco Post Hole Digger(4" to 14"Augers)
Hedge Trimmer	i usi i ule Digger (4 tu 14 Augels)
Lawn Mower (Electric, Petrol & Manual)	
Leaf Blower	



TROUBLESHOOTING



Notes: The following operations must be performed by gualified electricians with valid certifications. Before maintenance, please contact with us for professional suggestion.

Fault symptom and solution of ARC 400I J2/500IJ/630I:

Fault symptom	Solution	
	1. Make sure power switch is off.	
Meter doesn't display, fan doesn't work, no welding output.	 Make sure the power source connecting to input cable is working alright. Make sure the input voltage is 3 phase. 	
	 Check if all kinds of components of machine are poor contact. 	
Meter is normal, fan is working, no welding output.	2. Check if connector of output terminal is broken or damaged.	
working, no weiding output.	 Check if the control board is damaged (contact with the supplier or manufacturer). 	
Abnormal indicator is on, fan is working, meter is normal	 IGBT is damaged. Rectifier of quick recovery is damaged. Control board is broken. The feedback circuit is in fault. Please contact with the supplier or manufacturer. 	
Too much spatter during MMA welding	 Output terminal polarity connection is wrong. So please change the polarity. 	
Erratic welding output current or out of control of	 The potentiometer is damaged. All kinds of connectors are poor contact, especially plugs. 	
potentiometer.	Check them.	
Power switch doesn't work	 Power switch is broken. Three phase rectifier bridge is broken, replace it. Check if there is any short circuit of inner-machine. 	

If the welding machine doesn't work after the above examination and repair, please contact the local

dealer or after-sales service department of our company.



ARC WELDING MACHINE AY-WM-200(MINI), AY-WM-200A, AY-WM-250A, AY-WM-275A, AY-WM-300A

INSTALLATION

The machine is equipped with power voltage compensation equipment. When the power voltage fluctuation between±15% of rated voltage, it still can work normally.

When the machine is used with long cables, in order to prevent voltage from going down, bigger section cable is suggested. If the cable is too long, it may affect the performance of the power system. So we suggest you use cables of configured length.

- 1. Make sure the intake of the machine is not blocked or covered, otherwise the cooling system could not work.
- 2 Use inducting cable whose section is not less than 6 mm² to connect the machine to the ground. The way is from the ground-connecting screw at the back to the earth device.
- 3. Correctly connect the arc torch or holder according to the sketch. Make sure the cable, holder and fastening plug have been connected with the ground. Put the fastening plug into the fastening socket at the "-"polarity and fasten it clockwise.
- 4. Put the fastening plug of the cable to fastening socket of "+" terminal at the front panel, fasten it clockwise. and the earth clamp at the other terminal clamps the work 3 Phase 415V piece.
- 5. Please pay attention to the connecting terminal, DC welding machine has two connecting ways: positive connection and negative connection. Positive connection: holder connects with "-" terminal, while work piece with the "+" terminal. Negative connection: work piece with the"-" terminal, holder with the "+" terminal. Choose suitable way according to the working situation. If unsuitable choice, it will cause unstable arc, more spatters and conglutination. If such problems occur, please change the Polarity of the fastening plug.
- Conneted to the around 000 ARC4001 ۲ Ô Q G Workpiece Welding forch
- 6. According to input voltage grade, connect power cable with power supply box of relevant voltage grade. Make sure no mistake is made and make sure the voltage difference is among permission range. After the above job, installment is finished and welding is available.



If distance of work piece and machine is too far (50-100m), and the cables (Torch cable and earth cable) are too long, please choose cable of bigger Section to minimize the reduction of the voltage



OPERATION INSTRUCTIONS

- Open the power switch, the screen will show set current volume and ventilator is beginning to 1. revolve
- Adjust knobs of welding current and arc-striking push, make welding function complies with 2. demands.
- Generally, welding current is adequate to welding electrode according with as following: 3.

Specification	φ2.5	φ3.2	φ4.0	φ5.0
Current	70-100A	110-140A	170-220A	230-280A

- Knob of arc-striking drive is use to adjust welding function, especially in low current arrange, that 4. is cooperated with knob of welding current adjustment, they may adjust current of arc striking and be out of control of knob of welding current adjustment. So machine can grain powerful energy and push current can achieve effect that may .
- VRD equipment is installed in the machine. When the switch of back panel is put "ON" position, 5. the VRD indictor is lit, and when the switch is put "OFF" position, the VRD indicator is off, then the no-load voltage is 67V.swich of VRD is put inside the machine, with the "on" condition. the noload voltage changes to be less than 15V, which is safe for people.
- 6. The welding machine has been coordinated with remote control device:
 - 1) Check the switch position of remote control device before operation. If the switch is on "OFF" Position then is out of remote control. Switch is on "ON" position then is using remote control device.
 - 2) Insert plug of remote control in socket of remote control correctly and tighten firmly in order to prevent poor contact.
 - If remote control device is not used, make sure the switch is on "OFF" position, or welding 3) current will not be able to be adjusted on panel.

warning!

Before connecting operation please make sure all the power is turned off. The right order is to connect the welding cable and ground cable to the machine first, and make sure they are firmly connected and then put the power plug to the power source.



ARC WELDING MACHINE AY-WM-200(MINI), AY-WM-200A, AY-WM-250A, AY-WM-275A, AY-WM-300A

MAINTENANCE

- 1. Remove dust by dry and clean compressed air regularly, if welding machine is operating in environment where is polluted with smokes and pollution air, the machine needs to be cleaned once a month.
- 2. Pressure of compressed air must be within the reasonable range in order to prevent damaging to small components of inner-machine.
- 3. Check internal circuit of welding machine regularly and make sure the circuit connections are connected correctly and tightly (especially plug-in connector and components). If scale and rust are found, please clean it, and connect again tightly.
- 4. Prevent water and steam from entering into the machine. If that happens, please blow it dry and check insulation of machine.
- 5. If welding machine will not be used for long time, it must be put into the packing box and stored in drv and clean environment.



WARNING!

Connected welding machine to dynamotor directly will damage machine. The heavy voltage pulse which is produced by dynamotor will burn out machine when machine connected to dynamotor, only can use asynchronous dynamotor whose frequency and voltage both are steady. Because of connecting welding machine to dynamotor directly lead to damage and malfunction, which is not in quarantee.

TECHNICAL SPECIFICATION

Model	AY-WM- 200(MINI)	AY-WM- 200A	AY-WM- 250A	AY-WM-275A	AY-WM-300A
Rated Voltage (V∼)	Single Phase 220V Single PCB IGBT inverter				
IGBT	40N60*2 pcs 60N60*2 pcs 40N60*4 pcs		60A/600V*4 pcs		
Output diode	D92 *2 pcs	D92-02 *3 pcs	60F3	0 *3 pcs	60A/300V*4 pcs
Capacitor	300UF/400 V*2pcs			60A/300V*4 pcs With MCB ,two knobs	

Note: Technical data is subject to change without prior notice.

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4) The operator should understand this situation and take preventive measures.

- a. There is a grounding screw behind welding machine, with a grounding marker on it. Before operation, welding crust must be grounded reliably with cable which section is over 6 square millimeter, in order to prevent from static electricity, and accidents because of electricity leaking.
- b. If welding time is exceeding duty cycle limited, welding machine will stop working for protection. Because machine is overheated, temperature control switch is on "ON" position and the indicator light is red. In this situation, you don't have to pull the plug, let the fan cool the machine. When the indicator light is off, and the temperature goes down to the standard range, it can weld again.

INSTRUCTIONS TO BE FOLLOWED DURING WELDING

Fittings, welding materials, environment factor, supply powers maybe have something to do with welding. User must try to improve welding environment.

A. Arc-striking is difficult and easy to pause:

- 1. Make sure quality of tungsten electrode is high.
- 2. If the electrode is not dried, it will cause unstable arc, welding defect increases and the quality is down.
- 3. If use extra-long cable, the output voltage will decrease, so please shorten the cable.

B. Output current is not to rated value:

- 1. When power voltage departs from the rated value, it will make the output current not matched with rated value;
- 2. When voltage is lower than rated value, the max output may lower than rated value.

C. Current is not stabilizing when machine is being operated

- 1. This may be caused by the following factors:
- 2. Electric wire net voltage has been changed.
- 3. There is harmful interference from electric wire net or other equipment.

D. Too much spatter during MMA welding:

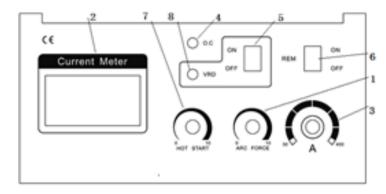
- 1. Maybe current is too heavy while welding rod diameter is too small:
- 2. Output terminal polarity connection is wrong. The positive connection should be applied at the normal technique, that is to say, welding rod connects with the negative polarity while the work piece with the positive polarity. So please change the polarity.



ARC WELDING MACHINE AY-WM-200(MINI), AY-WM-200A, AY-WM-250A, AY-WM-275A, AY-WM-300A

PANEL INSTRUCTION

Front Panel Instruction

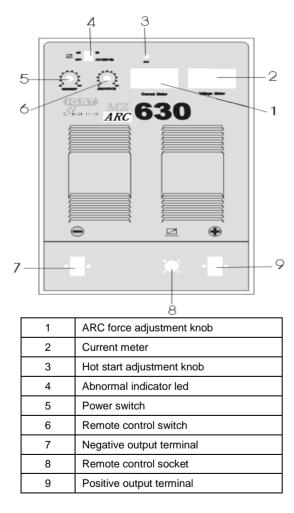


1	ARC force adjustment knob
2	Current meter
3	Current adjustment knob
4	Abnormal indicator led
5	VRD control switch
6	Remote control switch
7	Hot start adjustment knob
8	VRD indicator



PANEL INSTRUCTION

Front Panel Instruction of ARC 6301:





ARC WELDING MACHINE Aryantra AY-WM-200(MINI), AY-WM-200a, AY-WM-250A, AY-WM-275A, AY-WM-300A

The panel picture above is for reference only. If any difference with the real machine, please follow with the real machine.

NOTES OR PREVENTIVE MEASURES

1. Environment

- 1) The machine can perform in environment where conditions are dry with a dampness level of max 90%.
- Ambient temperature is between -10 to 40 degrees centigrade. 2)
- Avoid welding in sunshine or drippings. Do not let water enter the gas. 3)
- 4) Avoid welding in dust area or the environment with corrosive gas.
- 5) Avoid gas welding in the environment with strong airflow.

2. Safety norms

Our welding machine has installed protection circuit of over voltage, over current and over heat. When voltage, output current and temperature of machine are exceeding the rated standard, welding machine will stop working automatically. Because this will be damage to welding machine, user must pay attention to following.

The working area is adequately ventilated !

Our welding machine is powerful machine, when it is being operated, it generated high currents, and natural wind cannot satisfy with machine cool demands. So there is a fan inside the machine for its cooling demands. Make sure the intake is not in block or covered, there should be 0.3 meter distance from welding machine to objects of environment. User should make sure the working area is adequately ventilated. It is important for the performance and the longevity of the machine.

2) Do not over load!

The operator should remember to watch the max duty current (Response to the selected duty cycle) Welding current should not exceed max duty cycle current. Over-load current will damage and burn up the machine.

3) No over voltage!

Power voltage can be found in diagram of main technical data. Automatic compensation circuit of voltage will assure that welding current keeps is in allowable range. If power voltage is exceeding allowable range limits, it can damage the components of machine.