

# **R**RONCH™

RONCH WELD **SERIES**

// USER MANUAL



# 200MAX

STICK · TIG

ENGLISH

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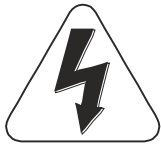
# 1. SAFETY

Welding may damage your body or others, so please take protection measure in operation.



Only ones who are trained professionally can install, debug, operate, maintain and repair the equipment.

Do not maintain and repair the machine when the machine is connected with power.



Electric shock can kill.

Never touch electrical parts.

Wear dry, hole-free gloves and clothes to insulate yourself.

Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

Ensure to install the equipment correctly and ground the work or metal to be welded to a good electrical (earth) ground according the operation manual.

Ensure to operate the equipment in safe position.



Fumes and gasses can be dangerous!

Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out the fume.

Using enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone.



Welding sparks can cause fire or explosion.

Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and not materials from welding can easily go through small cracks and openings to adjacent areas.

Do not weld enclosed tanks or containers.

Prohibit to use welder to unfrozen.



Have a fire extinguisher readily available.

Hot parts can lead to burn.

Do not touch the hot parts.



Please use the torch after cooling or use the welding blow lamp.

The people with heart-pacemaker should be away from the welding arc.

Rotating parts may be dangerous.



Far away from rotating parts. (Like fan)

Keep the parts of machine in the safe position.

## **2. SUMMARY**

ARC series (discrete) welder is a MMA arc welder which adopts the insulated gate bipolar transistor (IGBT) power module.

It can change work frequency to medium frequency so as to replace the traditional hulking work frequency transformer with the cabinet medium frequency transformer.

Thus, it is characterized with portable, small size, light weight, low consumption and noise etc. ARC series (discrete) has excellent performance: constant current output makes welding arc more stable; fast dynamic response speed reduces the impact from the arc length fluctuation to the current.

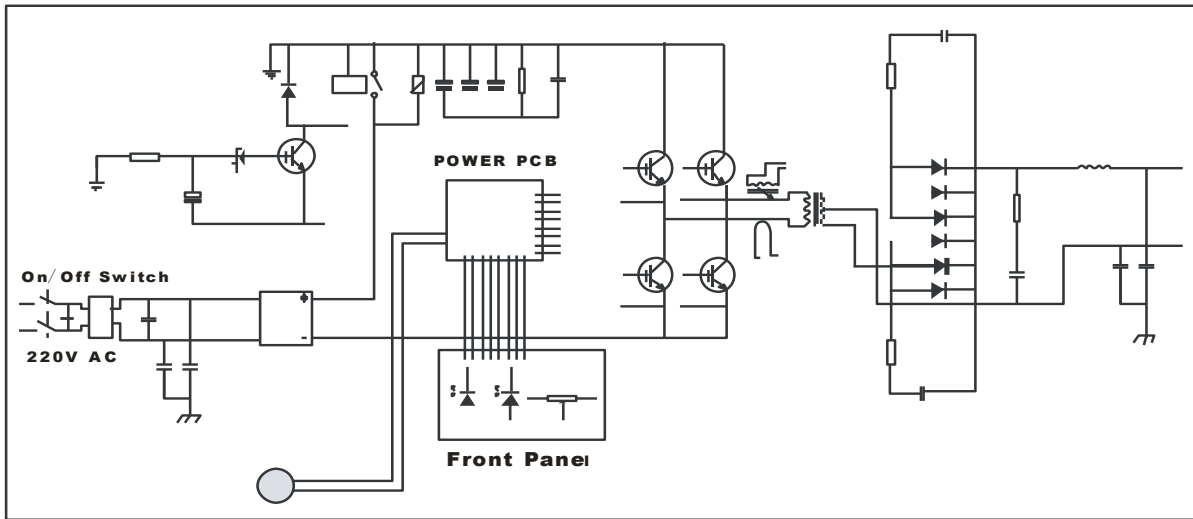
There are also some automatic protection functions for under voltage, over current, over heat, etc. inside the welders, when the problems listed before occurred, the alarm on the front panel is light and at the same time the output current will be cut off. It can self-protect and prolong the using life and greatly improved the reliability of the welders.

ARC series can be ignited easily, also with little splash and good weld bead.

ARC series (discrete) is widely used in Petroleum, chemical, mechanical, shipbuilding, architecture, boiler, pressure container, war industry and installation and so on. This machine has high duty cycle even in the 40°C, which can keep the continuous operation. The frame is Stability of the machine, which can keep working under high temperature and corrosion environment.

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# 3. ELECTRICAL PRINCIPLE DRAWING



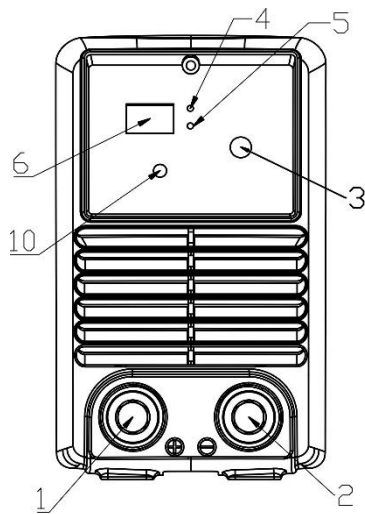
# 4. PARAMETERS

Parameters \ Models	RONCHWELD 200MAX
Power Supply Voltage (V)	1~220/230/240±10%
Frequency(HZ)	50/60
Rated Input Power(KW)	6.8 MMA
	4.5 TIG
Rate Input Current(A)	47 MMA
	32 TIG
Duty Cycle(40°C 10min)	60% 200A
	100% 155A
No Load Voltage(V)	61
Welding Current Range(A)	10-200
Efficiency (%)	≥85%
Power Factor	0.70
Net Weight(Kg)	6.2
Protection Class	IP23
Insulation Class	H
Dimensions(mm)	365*150*240
Electrode Diameter	Φ1.6 ~Φ5.0
Electrode Type	6013,7018 etc.

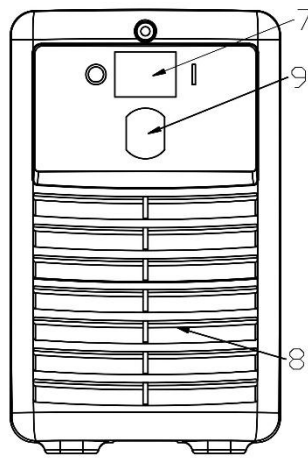
**Note: The above parameters are subject to change with the improvement of machines.**

# 5. OPERATION CONTROL & CONNECTORS

- (1) Positive output: Connect the welding the clamp.
- (2) Negative output: Connect to pliers.
- (3) Welding current adjustment knob: Turn this knob to adjust the output current size.
- (4) Power indicator: power indicator, power on light on.
- (5) Alarm light: alarm indicator, lights that occurred over voltage, over current, or overheating inside the machine, is protected.
- (6) Current digital display
- (7) Power switch: control power through and break.
- (8) Fan: Help plant cooling.
- (9) Power Access client: access to cable.
- (10) Conversion switch: choose (left) LIFT TIG; choose (right) MMA.



FigureA



FigureB

# **6. INSTALLATION & ADJUSTMENT**

**Note: Please follow steps in strictly accordance with installation!**

Electrical connection operation must be shut after power distribution box power switch!

The equipment protection level is IP23. Do not use it in the rain!

## **6.1. INSTALLATION**

- (1) Each machine is equipped with a power cable should be based on the input voltage welding power cable connected to the appropriate position, not to pick the wrong voltage.
- (2) With the corresponding input power supply terminal or socket good contact and prevent oxidation.
- (3) With a multi meter measure the input voltage is within the fluctuation range.
- (4) To clamp the with welding front panel connector into the jack at the bottom of the cathode, clockwise tighten.
- (5) To clamp the cable plug into the front panel below the negative welding socket, tighten clockwise.
- (6) The power ground is well grounded.

Above (4) and (5) for the DC reverse method. Operator also on the base metal and welding rod to choose DCSP method. In general, the basic electrode reverse method is recommended (ie, connected to the positive electrode), acid electrode makes special provisions.

## **6.2. OPERATION**

- (1) According to the above method to install is correct, turn the power switch, so that the power switch is "ON" position, then the power indicator light, the fan comes on, the device work properly.
- (2) Note the polarity of wiring, the general DC welding wire in two ways: positive and reverse polarity connection method. Positive Connection: Welding clamp then negative, then positive, then positive work piece; reverse law contrary. Selected according to the technical requirements of welding the appropriate connection, is you choose incorrectly will result in arc instability and spatter large adhesion and other phenomena, such cases can be quickly reversed to joints.
- (3) If the work piece distance from the welding machine, the second line (electrode holder and ground) is longer, so choose the appropriate conductor cross-sectional area should be larger to reduce cable voltage drop.
- (4) According to the standard, model pre-set welding electrode current, electrode clip will be good, you can use short-circuit arc welding, welding parameters can refer to 6.3.



## 6.3. WELDING TABLE

Note: The following table applies to low-carbon steel, other materials, please refer to related information.

Electrode diameter (mm)	Recommended welding current(A)	Recommended welding voltage(V)
1.0	20~60	20.8~22.4
1.6	44~84	21.76~23.36
2.0	60~100	22.4~24
2.5	80~120	23.2~24.8
3.2	108~148	23.32~24.92
4.0	140~180	24.6~27.2

# **7. OPERATION NOTICES**

## **■ 7.1. INSTALLATION**

- (1) Welding environmental temperature should be between -10°C to 40°C.
- (2) Welding should be done in relatively dry environments, the air humidity of not more than 90%.
- (3) To avoid areas containing dust or corrosive gas welding operation environment.
- (4) To avoid sunlight or rain, welding, do not let water or rain water infiltrated the welding machine.
- (5) To avoid the strong air flow environment for gas welding operations.

## **■ 7.2. SAFETY**

Welding machine has been installed in over-voltage, over current and over temperature protection circuit, when the grid voltage, output current and the internal temperature exceeds the set temperature, the welding machine will automatically stop working; but excessive use will result in welding damage, so you need to note the following:

- (1) To ensure good ventilation!

The welder at work have a greater current flow through the cooling of natural ventilation van not meet the requirements of welding, it is equipped with cooling fans to help the welder. Before using, please check the vents to make sure it has not been blocked or covered the distance between the object and the surrounding welding should not be less than 0.3 meters, welding machines should have been so good ventilation, to ensure the normal operation of welding machine extending welder life.

- (2) Prohibit the overload!

By welding machine operators should ensure that the duty cycle to allow use of welding (see technical data table), keeping the welding current within the normal range, if the current overload will shorten the life of welding machine welding machine and may even burn.

- (3) Prohibits the over-voltage!

Supply voltage listed in the "Technical Data Sheet", the general case, the welding voltage within the circuit will automatically compensate to ensure that the welding current in the permitted range. If the voltage exceeds the allowable value, will damage the welder, the user should be fully aware of this situation, take appropriate preventive measures.

- (4) After each welding machine comes with grounding screw, and marked with ground markers. Before use, use a larger than 2.5mm cable, in the welding chassis ground to discharge any static electricity or to prevent leakage accidents.

- (5) If the welding work over the standard loading time, the welding machine may suddenly stop working into the protected status, which means that the load beyond the standard rate of welding, excessive heat triggered a temperature control switch, the welding machine to stop working, while front panel alarm indicator lights up. In this case, you do not unplug the power plug, to maintain the cooling fan rotation. The red light goes out, the temperature dropped to a reasonable extent, and then you can restart welding.

# 8. MAINTENANCE

The following operations require the operator has sufficient electrical expertise and comprehensive Safety knowledge, the operator can demonstrate its capacity to be held valid qualifications and knowledge Documents. Make sure to open the case welding power input cable power input cable has broken.

- (1) Periodic inspection welding internal circuit connections, make sure connections are correct and reliable connection, (especially the joints or components). If any rust and loose application of sanding off rust layer and the oxide film, reconnect, and tighten.
- (2) The machine power, do not allow hands, hair and tools near live components inside the machine, such as: fans, so as not to hurt or cause damage to the machine.
- (3) Regularly with a clean dry compressed air to dust the machine, compressed air pressure should be at reasonable levels in order to avoid damage to the welding of small components inside. Dust the machine works well, no dust under normal circumstances (except in exceptional circumstances).
- (4) Avoid water or water vapor into the welding machine inside, if there is such a case, the internal welding machine should be dried. Then measured with a megger insulation of the welding machine (including the connections between nodes and the connection point with the case of companies). Only confirms that no unusual circumstances, can continue to welding work.
- (5) Regular inspections for damage the cable insulation, if any, to wrap or replace the cable.
- (6) If not using welding machine, welding machine should be back in the box and kept in a dry environment.

# 9. TROUBLESHOOTING & SERVICE

The following operations require the operator has sufficient electrical expertise and comprehensive Safety knowledge, the operator can demonstrate its capacity to be held valid qualifications and knowledge Documents. Make sure to open the case welding power input cable has broken.

Common Faults and exclusion method:

Symptom	Solution
Power indicator does not light, fan does not turn, no welding output.	Make sure the power switch is turned on. Confirm that the power input cable are connected with electricity.
Symptom	Solution
Fan switch, or not subject to potential instability in the welding current control, current, big, sometimes small	The current potential is damaged, should be replaced. Bad connections, such as plug-in to be checked.
Power indicator light shows the normal fan rotating normal, no welding output.	Check all connectors inside the machine if there is bad. A circuit output connections or bad. the alarm indicator light (1) That access to protected status because of overheating, in which case, To maintain power, so that the temperature dropped to the machine fan Reasonable temperature, until light goes out, you can continue working; (2) Check the thermal switch is damaged, such damage, to be Replacement.
Hot welding clamp	Welding clamp rated current is too small, the replacement of larger size welding clamp.
Manual welding big splash	Output polarity is unreasonable, reversed output connector

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