

TIG 315P AC/DC
WELDING MACHINE




USER MANUAL

Preface

This manual includes hardware description and operation introduction of equipment. For your and other people's safety, please read the manual carefully.

Pay attention

Pay attention to the words after the signs below.

| Sign | Description |
|--|---|
|  DANGER | The words after this sign means there is great potential danger, which may cause major accident, damage or even death, if it is not followed. |
|  WARNING | The words after this sign means there is some potential danger, which may cause hurt or property lose, if it is not followed. |
|  ATTENTION | The words after this sign means there is potential risk, which may cause equipment fault or break, if it is not followed. |

Version

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The contents of this manual are updated irregularly for updating of product. The manual is only used as operation guide, except for other promises. No warranties of any kind, either express or implied are made in relation to the description, information or suggestion or any other contents of the manual.




The images shown here are indicative only. If there is inconsistency between the image and the actual product, the actual product shall govern.

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SAFETY WARNING

- Please read this manual carefully before using it.
- The safety notes listed in this manual is to ensure correct use of the machine and to keep you and other people from being hurt.
- The machine is safety considered designed, please refer to the safety warning listed in the manual when using it in case of bad accidents.
- Wrong use of the machine will cause different extent of hurt as follows, and there will be warning sign and description for remind.

| Warning sign | Description | Meaning |
|---|--------------------|---|
|  | High-danger | “High-danger” means there is possibility of severe dangerous, and may cause dead if not avoid. This sign is used in extreme case, which is normally related to body dangerous neither than property loss. |
|  | Danger | “Danger” means there is possibility of dangerous situation, and may cause badly hurt if not avoid. It can also refer to property loss. |
|  | Notes | This means it may cause body hurt if not avoid. Please refer to the related description when this sign occurred. |



Danger! Please follow the rules below in case of bad accidents:

1. Do not use the machine in none-welding areas.
2. The machine is safety considered designed, please do read the warning notes carefully in case of dead or other bad accidents.
3. Follow related regulations for the construction of the input drive force, selection of the setup place, usage of the high-pressure gas, storage and configuration, safe-keeping of the workpiece after welding and management of the offal etc.
4. No entry of unrelated person to the welding area.
5. People using heart pacemaker cannot get close to the welding machine and area without the doctor's permit. The magnetism caused when connecting the machine will cause influence to the pacemaker.

6. Ask profession person to install, check and maintain the machine.
7. Please correctly understand the contents of this manual to ensure safety, and ask those professional people with safety knowledge and technique to operate the machine.



Danger! Please follow the rules below in case of electric shock:



*** Any contact of electric parts may cause fatal electric shock or burnt.**

1. Don't touch any electric parts.
2. Ask professional person to connect the machine and workpiece to the ground.
3. Cut off the power box before the installation or checking, and restart after 5 minutes. For the capacitance is chargeable, please ensure it has no voltage before restart even if the power source is cut off.
4. Do not use cable without enough section or with worn-out cover or broken conductor.
5. Do ensure insulation at the cable joint parts.
6. Do not use the machine when the housing is off.
7. Do not use broken or wet insulation gloves.
8. Use safety net when work at high position.
9. Check and maintain regularly, don't use it until the broken parts are fixed well.
10. Cut off all the input power when not use.
11. Follow the national or local related standard and regulations when using the AC/DC machine at narrow or high position.



Danger! Please use preventive measures to avoid gas and fumes.



*** Gas and fumes are harmful to health.**

*** It may cause choke when operate in narrow space.**

1. In case of accidents like gas poisoning or choke, please use suggested exhaust equipment and breathe preventive facilities.
2. In case of hurt and poisoning by gas and other powder, please use suggested part exhaust equipment and breathe preventive facilities.
3. When operated on trunks, boilers, cabins etc., the CO₂ and argon gas will stay in the bottom. Please replace gas sufficiently and use gas respire facilities in case of oxygen shortage.
4. Please accept the supervisor's check when operate in narrow space, and ensure enough gas supply and use breathe preventive facilities.
5. Do not weld in degrease, washing and spray space.

6. Use breathe preventive facilities as it will cause poisonous dust and gas when weld shielded steel.



Danger! Please follow the below notes to avoid accidents like fire and explode:



* **Spark and hot workpiece can cause fire.**

* **It may cause fire if the cable is not connected well or when the current circuit of the steel or other workpiece are not connected completely.**

* **Do not weld on the case of tinder stuff, or it may cause explode.**

* **Do not weld airtight containers such as slot, pipe etc., or may break.**

1. Do not put tinder stuff in welding area.
2. Do not weld around tinder gas.
3. Do not put heat workpiece near the tinder stuff.
4. When weld the dooryard, ground and wall, do move away the tinder stuff around.
5. The cable joint place should be insulated.
6. The cable joint of the workpiece should be close enough to the welding place.
7. Do not weld those facilities with gas pipe or airtight slot.
8. Put fire extinguisher around the welding area in case of fire.



Notes! Please wear protective appliance to avoid arc, spark, residue and noise.



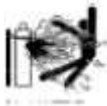
Arc ray can cause eye inflammation or skin burnt.

* **Spark and residue will burn your eyes and skin.**

1. When welding or supervise welding, please use preventive facilities with enough shielding.
2. Please wear preventive glasses.
3. Please wear preventive facilities such as leather gloves, coat, foot-safeguard and apron.
4. Set preventive shield screen around the welding area to protect other people from harmful arc rays.



Notes! Please follow the below notes to avoid gas cylinder toppling over or broken.



* **Toppling over of the gas cylinder will cause body hurt.**

* **Wrong use of the gas cylinder will lead to high-pressure gas eruption and cause human hurt.**

1. Use the gas cylinder correctly.
2. Use the equipped or recommended gas adjustment.
3. Read the manual of the gas adjustment carefully before using it, and pay attention to the safety notes.

4. Fix the gas cylinder with appropriate holder and other relative parts.
5. Do not put the cylinder under high temperature and sunshine.
6. Do not put your face close to the gas cylinder exit when opening it.
7. Put on the gas shield when not use.
8. Do not put the torch on the gas cylinder or touch the electrode.



Notes! Any touch of the switch part will cause injury, please pay attention to the below notes:



* **Do not put fingers, hair, clothes etc. near to the moving parts such as the fan.**

1. Do not use the machine when the housing is off.
2. Ask professional person to install, operate, check and maintain the machine.
3. Do not put fingers, hair, clothes etc. near to the switch parts such as the fan.



Notes! Follow the below note as the wire end may cause body hurt:



* **The wire shoot out from the torch can stab eyes, face and other naked parts.**

1. Before feeding the wire, do not look into the electric conduction hole, or the wire shoot out may stab your eyes and face.
2. When feeding the wire manually or press the torch, do not put the torch end near to your eyes, face and other naked parts.



Notes! Follow the below notes to ensure better work efficiency and power source:



* **No person under of in front of the machine when swing in case of injury!**

1. Precautions against toppling over.
2. Warning against the use of welding power source for pipe thawing.
3. Lift the power source from two sides when use the up-down forklift truck in case of toppling over. 4
- . When using the crane for lift, tie the rope to the ears with an angle no more than $\phi 15$ to the vertical direction.
5. If the machine is equipped with gas cylinder and wire feeder, download them from the power source and ensure the horizontal of the machine. Do fix the gas cylinder with gallus or chain when moving it in case of body hurt.
6. Ensure fastness and insulation when using the swing ring to lift the wire feeder in welding.
7. If the machine is equipped with gallus or handles, they are only for hands not for crane, fork-lift truck or other swing equipments.



Lifting way for the machines with swing ring on the top ($\varphi \leq 15^\circ$)

Notes for electromagnetism disturb:

1. It may need extra preventive measures when the power is used in some partial space.
2. Before the installation, please estimate the potential electromagnetism problems of the environment as follows:
 - a) Upper and down parts of the welding equipments and other nearby power cable, control cable, signal cable and phone cable.
 - b) Wireless electric as well as TV radiation and reception equipment.
 - c) Computer and other control equipments.
 - d) Safety-recognition equipment etc. Eg: supervise of industrial equipments.
 - e) Health conditions of the people around. Eg: use of the heart pacemaker and audiphone.
 - f) Equipments for adjustment and measurement.
 - g) Anti-disturb capability of other used equipments .Users should ensure these equipments and the environment are compatible, and this may need extra preventive measures.
 - h) Practical state of the welding and other activities.
3. Users should follow the below notes to decrease radiation disturb:
 - a) Connect the welding equipments to the power supply lines.
 - b) Maintain the welding equipments regularly.
 - c) The cable should be short enough to be close to each other and near to the ground.
 - d) Ensure the safety of all the metal parts and other parts nearby.
 - e) The workpiece should be well connected to the ground.
 - f) Shield or protect the other cable and equipments to decrease the influence of disturb. The welding equipments can be fully shielded under special conditions.
4. Users are responsible for the disturb problems caused by welding.

MACHINE DESCRIPTION

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

The development of inverter gas-shielded welding equipment profits from the development of the inverter power supply theory and components. Inverter gas-shielded welding power source utilizes high-power component MOSFET to transfer 50/60Hz frequency up to 100KHz, 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.

AC/DC series machine are the AC/DC and MMA three-way machines, which are developed by our company newly. Its biggest characteristics is that DC function can be used to weld stainless steel, alloyed steel, carbon steel, copper and other color metals and AC function can be used to weld aluminum and aluminum alloy materials, such as welding of scooters, bicycles.

AC/DC series machine adopts our company's exclusive HF inverter technology. Compared with traditional machine, it is compact in volume, light in weight, effective in transfer, power-saving; compared with imported machine, it is low in price, strong in power net adaptability. What's more, it adopts twice inverter technology, has characteristics of pure square wave output, good arc force, wide cleaning range and continuous arc with small current, which guarantee excellent welding result.

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.



WARNING !

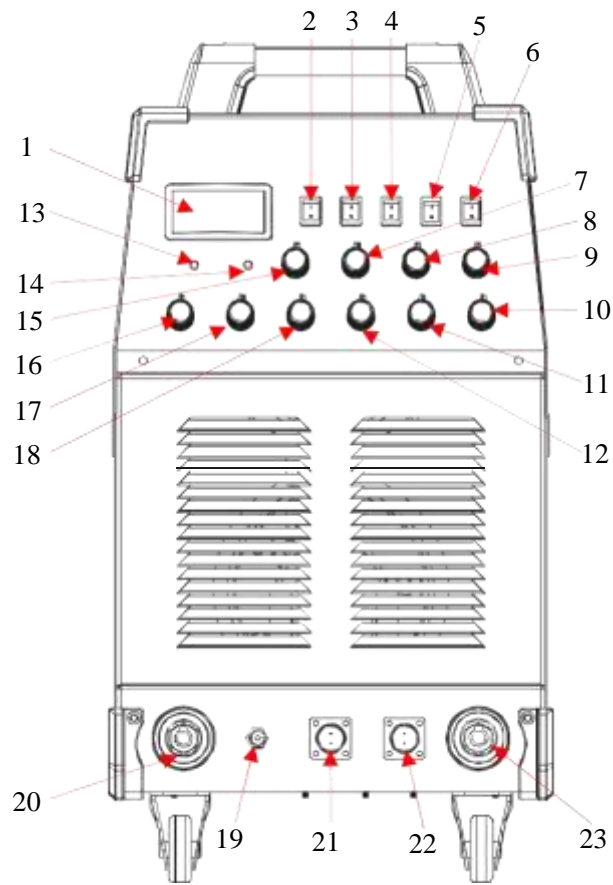
The machine is mainly used in industry. It will produce radio wave, so the worker should make fully preparation for protection.

TECHNICAL PARAMETERS TABLE

| Model Parameters | TIG 315PAC/DC(with angle) | | |
|------------------------------------|---------------------------|----------------------|----------------------|
| Power voltage | 3phase AC380V±15% | 3phase AC400V±15% | 3phase AC415V±15% |
| Frequency (Hz) | 50/60 | | |
| Rated input current (A) | 17.2(TIG) | 16.3 (TIG) | 15.7(TIG) |
| | 15.5(MMA) | 14.7(MMA) | 14.2(MMA) |
| Output current (A) | 12-300(TIG) | | |
| | 15-240(MMA) | | |
| No-load voltage (V) | 62 | 65 | 68 |
| Rated output voltage (V) | 22 (TIG) | | |
| | 29.6(MMA) | | |
| Pulse duty cycle(%) | 10-90 | | |
| Post time(S) | 1-10 | | |
| Pulse frequency (LF) Hz | 0.5-15 | | |
| Pulse frequency (MF) Hz | 15-450 | | |
| Basic value current (A) | 12-300 | | |
| Arc initiation current (A) | 12-300 | | |
| Attenuation time(S) | 0-10 | | |
| Remote control | Yes | | |
| Arc initiation way | HF | | |
| Efficiency (%) | 85 | | |
| Duty cycle | 20% (TIG) | | |
| | 60%(MMA) | | |
| Power factor | 0.93 | | |
| Insulation grade | H | | |
| Protection grade | IP21 | | |
| Weight (kg) | 38 | | |
| Dimensions (mm) (without angle) | 616*325*638 | | |
| Dimensions (mm) With angle | 609*332*622 | | |

PANEL FUNCTION INSTRUCTION

Front Panel Installation:



| | | | |
|-----------|------------------------------------|-----------|-------------------------------|
| 1 | Current meter | 13 | Over-current protection light |
| 2 | Remote control switch | 14 | Over-heat protection light |
| 3 | AC/DC switch | 15 | Start current adjustment |
| 4 | TIG/MMA switch | 16 | Up slope adjustment |
| 5 | Pulse frequency change-over switch | 17 | Pulse wd. adjustment |
| 6 | 2T / 4T / Repeat switch | 18 | Pulse frequency adjustment |
| 7 | Peak welding current adjustment | 19 | Gas connector |
| 8 | Base current adjustment | 20 | Negative output terminal |
| 9 | Crater current adjustment | 21 | Torch switch socket |
| 10 | Post time adjustment | 22 | Remote control socket |
| 11 | Down slope adjustment | 23 | Positive output terminal |
| 12 | Clean pulse width adjustment | | |

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

INSTALLATION INSTRUCTION

The welding machine is equipped with power voltage compensation device. When power voltage fluctuation is between $\pm 15\%$ of rated voltage, it can still work normally.

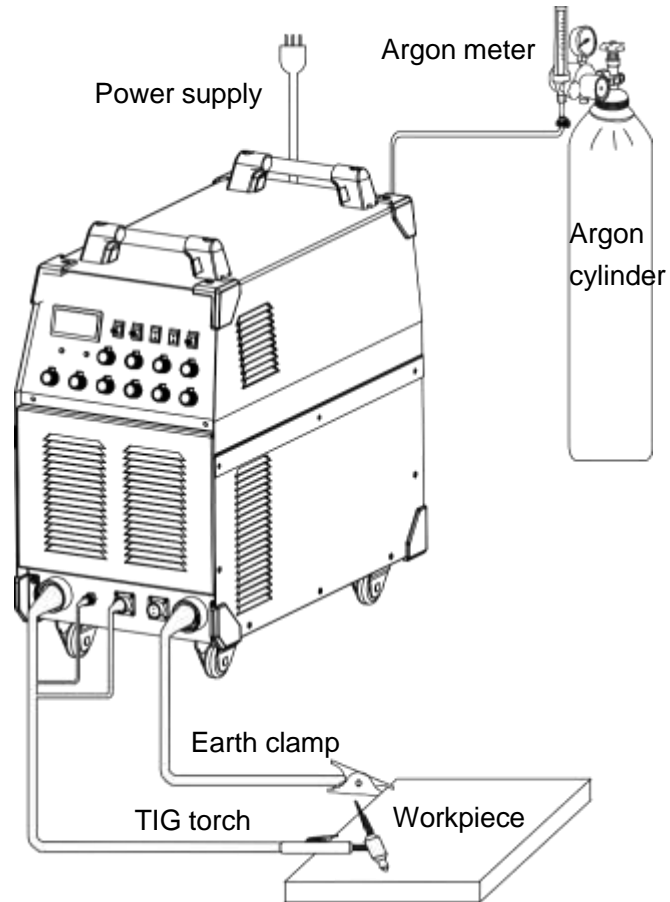
When long cable is in use, bigger section cable is suggested in order to prevent voltage from going down. If the cable of the torch is too long, it may affect the performance of the power system. So we suggest you to use configured length.

1. Make sure intake of the machine not blocked or covered, lest cooling system could not work.
2. Make good connection of shielded gas source. Gas supply passage includes cylinder, argon decompress flow meter and pipe. Connecting part of pipe should use hoop or other things to fasten, lest argon leaks out and air get in.
3. Make sure the earth end of power interface has been reliably and independently grounded.
4. Put the loop cable fastening plug to the fastening socket at “+” polarity of the panel, turn clockwise and fasten, clamp at the other side clamps the work piece.
5. When use pedal control, connect its two-core air plug and three-core air plug with the relevant air socket at the panel.
6. According to input voltage grade, connect power cable with power supply box of relevant voltage grade. Make sure so mistake and make sure the voltage difference among permission range. After the above job, installation is finished and welding is available.

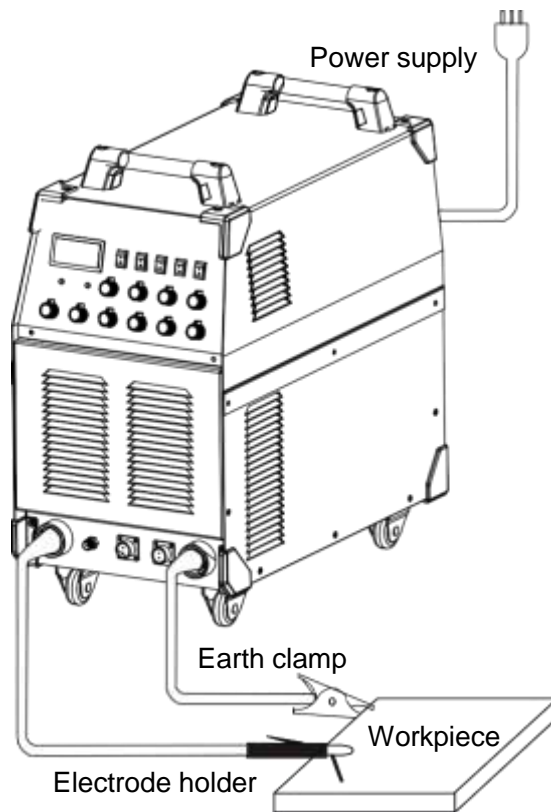
Appendix: Component type list.

| Type | | TIG 315PAC/DC |
|----------------------------|-------------|--------------------------|
| Power switch rated current | | 32A |
| Cable | Input side | $\geq 1.5\text{mm}^2$ |
| | Output side | 35mm^2 |
| | Earth calbe | $\geq 1.5\text{mm}^2$ |
| Welding torch | | above 300A is suggested. |

Installation diagram (TIG mode)



Installation diagram (MMA mode)



OPERATION INSTRUCTION

DC Welding Function Instruction

1. Turn on the power switch on the front panel, the current meter shows normally, and the fan begins to work.
2. Turn on valve of the argon cylinder; adjust the current meter according to the need.
3. When the AC/DC alter switch is on the "DC" position, it is AC arc welding and can weld the metal such as stainless steel, iron and copper.
4. When the local/remote alter switch is on the position of "OFF", the current can be adjusted by the knob on the panel, while the switch is on the "ON" position, the welding current is adjusted by the floor push.
5. Choose the "pulse alter switch" according to the need. When the switch is on the down position, there is no pulse, while on the up position, there is low frequency pulse. Adjust the "frequencyknob" according to the need.
6. Adjust the pulse duty according to the need.
7. Adjust the value of the arc initiation and arc stop according to the need.
8. Set the peak value and the lowest value of the current according to the thickness of the work piece (when the pulse switch is on low position, there is no current).
9. Press the control knob of the torch, the e electromagnetic valve begins to work, and the sound of the HF arc initiation discharge is heard, and at the same time the argon flow from the nozzle of the welding torch.
10. When the Tungsten is 2-4mm from the work piece, press the knob of the welding torch, the arc is initiated and the HF arc initiation sound disappears and the machine is ready to work.
11. When the welding is finished, please adjust the gas sending knob to the suitable place to protect the welding pipe.
12. During the argon arc welding, choose the 2T/4T switch for long welding or spot welding. When the switch is on the "2T" position, the arc initiation current and the arc stop current doesn't work, and only the welding current can work.
13. When the switch is on the 4T position, press the torch switch and there is the arc initiation current, while letting go the torch switch, there is arc stop current. Press the switch again, there is arc stop current, while letting go the torch switch again, tHhe welding machine stop working.

AC Welding Function Instruction

- Put the AC/DC alter switch to the "AC" position as the above1-4 instruction items; there is AC arc welding for the aluminum.
- Adjust the cleaning pulse width knob according to the oxidation degree of the surface on the work piece: during the AC arc welding, the current alters continuously. When the current flows from the tungsten to the work piece, the current is in the positive direction, the heat is concentrated and it is apt for welding. When the current flows from the work piece to the tungsten, the current is in the negative direction, and the tungsten can be cleaned and is helpful to achieve the excellent welding effect. However, the tungsten may be burned on account of extreme heat. This knob is used to adjust the time of positive and negative current.

- Same as the above10-12 instruction items.

Note: (1) When the current is heavy, please choose larger pulse duty.

(2) AC argon arc is hard to initiate, please set the current value to 20A to weld.

Attached: TIG welding parameter of different materials

| Workpiece thickness (mm) | Current (A) | Tungsten diameter (mm) | Wire diameter (mm) | Gas flow (L/min) | | |
|--------------------------|-------------|------------------------|--------------------|------------------|--------|----------|
| | | | | Stainless steel | Copper | Titanium |
| 0.3~0.5 | 10~40 | 1.0 | 1.0 | 4 | 6 | 6 |
| 0.5~1.0 | 20~40 | 1.0 | 1.0 | 4 | 6 | 6 |
| 1.0~2.0 | 40~70 | 1.6 | 1.6 | 4~6 | 8~10 | 6~8 |
| 2.0~3.0 | 80~130 | 2.0~2.5 | 2.0 | 8~10 | 10~12 | 8~10 |
| 3.0~4.0 | 120~170 | 2.5~3.0 | 2.5 | 10~12 | 10~15 | 10~12 |
| 4.0 | 160~200 | 3.0 | 3.0 | 10~14 | 12~18 | 12~14 |

Attached: TIG welding parameter of aluminum alloy

| Workpiece thickness (mm) | Current (A) | Tungsten diameter (mm) | Wire diameter (mm) | Gas flow (L/min) |
|--------------------------|-------------|------------------------|--------------------|------------------|
| <1.0 | 60~90A | 1.0~1.5 | 1.0~2.0 | 4~6 |
| 1.5 | 70~100A | 2.0~2.5 | 2.0 | 6~8 |
| 2.0 | 90~120A | 2.0~3.0 | 2.0~2.5 | 8~10 |
| 3.0 | 120~180A | 3.0~4.0 | 2.5~3.0 | 10~12 |
| 4.0 | 140~200A | 3.0~4.0 | 2.5~3.0 | 12~14 |

MMA Welding Function Instruction

1. Put the welding switch to “ Down position”, at this time, “Pulse choosing switch”, “2T/4T switch”, “AC/DC switch” are out of work, only welding current knob can use.
2. Set the welding current according to the work piece thickness.

Attached: Relative value for electrode and welding current

| | | | | | | |
|-------------------------|-------|-------|-------|--------|---------|---------|
| Electrode diameter (mm) | Φ1.6 | Φ2.0 | Φ2.5 | Φ3.2 | Φ4.0 | Φ5.0 |
| Current (A) | 25~40 | 40~65 | 50~90 | 90~130 | 140~210 | 190~270 |



WARNING:

It is forbidden to pull out or put in the cable or connector during the process of welding, which will threat life safety and damage the machine.

MAINTENANCE



WARNING:

Power must be turned off for all checking and maintenance, before opening the housing, make sure the power plug is disconnected.

1. Remove dust by dry and clean compressed air regularly, if welding machine is operated in environment where is polluted with smokes and polluted air, the machine need remove dust every month.
2. Pressure of compressed air must be inside the reasonable arrangement in order to prevent damaging to small components of inner-machine.
3. Check inter circuit of welding machine regularly and make sure the cable .Circuit is connected correctly and connectors are connected tightly (especially insert connector and components). If scale and loose are found, please give a good polish to them, then connect them again tightly.
4. Avoid water and steam entering into inner-machine, if they enter into machine, please dry inner-machine then check insulation of machine.
5. If welding machine will not be operated for long time, it must be put into packing box and stored in dry environment.

NOTES BEFORE CHECKING



WARNING

Blind experiment and careless repair may lead to more problems and make formal check and repair more difficult. When the machine is electrified, the bared parts contain life-threatening voltage. Any direct and indirect touch will cause electric shock, and severe electric shock will lead to death.



NOTICE: In the period of guarantee maintenance, if user makes wrong check and repair for malfunction of welding/cutting machines without our permission, the free maintenance guarantee offered will be invalid

NOTES OR PREVENTIVE MEASURES

1. Environment

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

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

4) 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.

5) 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.

QUESTIONS TO BE RUN INTO DURING WELDING

Fittings, welding materials, environment factor, supply powers maybe have some impact in welding. User must try to improve welding environment.

A. Black welding spot:

——Welding spot is not prevented from oxidizing .User may check as following:

1. Make sure the valve of argon cylinder is opened and its pressure is enough. argon cylinder must be filled up to enough pressure again if pressure of cylinder is be low 0.5Mpa .
2. Check if the flow meter is opened and has enough flow .User can choose different flow according to welding current in order to save gas .But too small flow maybe cause black welding spot because preventive gas is too short to cover welding spot .We suggest that flow of argon must be kept min 5L/min.
3. Check if torch is in blocked.
4. If gas circuit is not air-tight or gas which is not pure can lower welding quality.
5. If air is flowing powerfully in welding environment, that can lower welding quality.

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

1. Make sure quality of tungsten electrode is high.
2. Grind end of the tungsten electrode to taper .If tungsten electrode is not grinded, that will be difficult to strike arc and cause unstable arc.

C. Output current not to rated value:

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

D. Current is not stabilizing when machine is being operated:

It has something with factors as following:

1. Electric wire net voltage has been changed.
2. There is harmful interference from electric wire net or other equipment.

E. Stick is burnt out:

Pulse duty is too high, which lead to over heat of stick.

F. When welding aluminum, can not break oxidized film:

1. Wrong welding value
2. Pulse duty too low
3. Twice inverter MOSFET broken

G. Abnormal indicator is lit:

1. When the internal components are fault, this light is lit. When the indicator is lit, turn off the power switch .When the indicator goes out, and turn on the machine again. If the machine is all right, you can work again.
2. When the indicator is still lit, turn to the professionals or the manufacturer for help.

TROUBLESHOOTING AND FAULT FINDING



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

fault symptom and solutions:

| Faults | Resolvable Methods |
|--|--|
| <p>Fan does not Work and numerical screen is not indicating, there is no welding output</p> | <ol style="list-style-type: none"> 1. Make sure power switch is closed 2. Make sure electrify wire net of output cable can supply power 3. Some of heat-variable resistors (four) of power panel is damaged, when it happen ,general DC24V relay is open or connectors is poor contact 4. Power panel (bottom board) is damaged, DC537V or DC587V voltage can be output 5. Auxiliary power of control panel is in fault 6. The transformer is damaged |
| <p>Fan works, abnormal indicator is not lit ,there is no sound of HF arc-striking, wiping arc welding can not strike arc</p> | <ol style="list-style-type: none"> 1. Check if all kinds of cables of inter-machine are poor contact 2. There is some fault in control panel, find out reason and connect with seller 3. Control cable of torch is broken |
| <p>Abnormal Indicator is not lit ,sound of HF arc-striking can be heard, there is no welding output</p> | <ol style="list-style-type: none"> 1. Torch cable is broken 2. Grounding cable is broken or not connected to welding piece 3. Positive electrode terminal or torch electrify terminal is loosed from inter-machine |
| <p>Abnormal indicator is not lit ,there is no sound of HF arc-striking ,wipe welding can strike arc.</p> | <ol style="list-style-type: none"> 1. Primary cable of arc-striking transformer is not connected to arc-striking panel reliably, tighten it again 2. Arc-striking tip is oxidized or too far, give a good polish to it or change it is about 1 mm between arc-striking tip 3. Switch (sticking/argon-arc welding) is damaged, replace it 4. Some of HF arc-striking circuit components is damage, find out and replace it |

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|---|--|
| <p>Abnormal indicator is lit and there is no welding output .</p> | <ol style="list-style-type: none"> 1. Maybe it is overheated protection, please close machine first, then open the machine again after abnormal indicator is not lit 2. Maybe it is overheated protection, wait for 2-3 minutes (argon-arc welding does not has overheated protection function) 3. Maybe inverter circuit is in fault, please pull up the supply power plug (VH-07 insert which is near the fan) near the transformer which is on MOS board then open the machine again <ol style="list-style-type: none"> (1) If abnormal indicator is still lit ,close machine and pull up supply power plug of HF arc-striking power source (which is near the VH-07 insert of fan), then open machine <ol style="list-style-type: none"> a. If abnormal indicator is still lit, some of MOSFET of MOS board is damaged, find out and replace it with same model b. If abnormal indicator is not lit, up-slope transformer of HF arc-striking circuit is damaged, replace it (2) If abnormal indicator is not lit <ol style="list-style-type: none"> a. Maybe transformer of middle board is damage, measure inductance volume and Q volume of main transformer by inductance bridge b. Maybe secondary rectifier tube of transformer is damaged, find out and replace rectifier tube with same model 4. Maybe feedback circuit is broken |
| <p>Stick is burnt out</p> | <p>Pulse duty is too high, reduce it</p> |
| <p>When welding aluminum, can not break oxidized film</p> | <ol style="list-style-type: none"> 1. Wrong welding value 2. Pulse duty too low 3. Twice inverter MOSFET broken |