

PORTABLE INVERTER WELDER

USER'S MANUAL

MODEL: CUT

PLEASE READ THE INSTRUCTION SHEET CAREFULLY BEFORE USING!

PRODUCTS INTRODUCTION

Congratulations for your purchase.

CUT30, CUT40, CUT60 are made by international most advantaged invert technical .50Hz/60Hz frequency is inverted to high frequency (frequency is over 100KHz) by V-MOSFET, then step down voltage and rectification current, inverter power supply generates powerful DC welding current through PWM technical. Because inverter technical of switch power is used, dimensions and weight of main transformer has reduced substantially and efficiency has increased 30%. Piloting arc system can strike arc easily with principle of high frequency oscillating .It has functions that it can supply gas ahead and turn off gas delayed. Rilon cutting machine has characteristics as following:

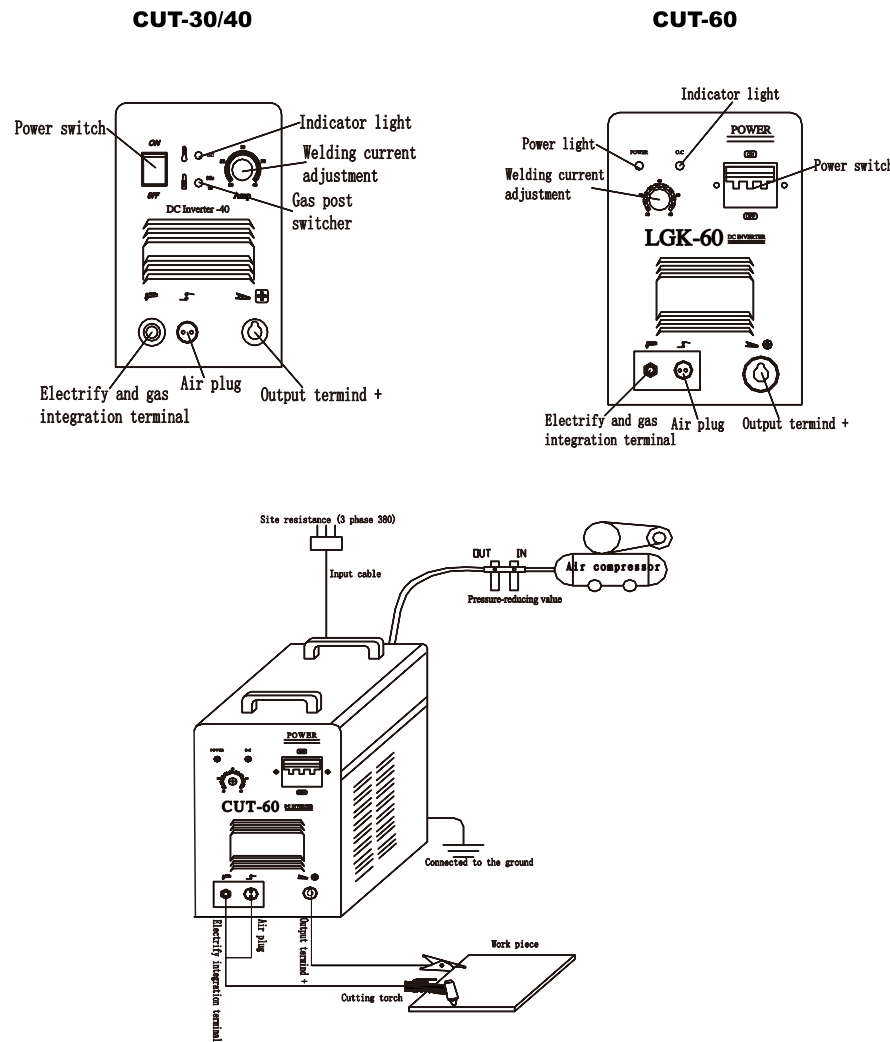
- 1. Stabilizing.
- 2. Reliability.
- 3. Lightness.
- 4. Save-energy and no noise.
- 5. High cutting speed.
- 6. Cutting smoothly and no polish demands.

Cutting machine can be used widely; it is suitable for cutting stainless Steel, alloy steel, mild steel, copper and other color metal materials. Welcome to use products of our Company and make suggestions, we will try our best to perfect our products and service.

MAIN TECHNICAL DATA

Item \ Data	CUT-30	CUT-40	CUT-60
Power voltage(v)	1 phaseAC220V ±15%	1 phaseAC220V ±15%	3 phaseAC380V ±15%
Rate input power(KVA)	4.7	6.6	7.9
No-load voltage(v)	250	250	240
Rate output current(A)	30	40	60
Rate output voltage(v)	92	96	104
Duty cycle	60%	60%	60%
Pilot arc model	HF oscillating	HF oscillating	HF oscillating
Burner inter diameter(mm)	1.0	1.0	1.2
Pressure of air compressor (kg)	4	4.5	5
Thickness (mm)	1-8	1-12	1-23
Weight(kg)	6	8	19
Dimensions (mm)	320x150x250	350x150x250	480x204x303

EXPLANATION SWITCH



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

INSTALLATION

Input cable connection (enclose installing diagram)

- 1. Every machine has been disposed a power cable which must be connected to coordinated voltage class in compliance according to input voltage of cutting machine .If cutting machine whose power voltage is 230v is connected wrong to AC 380v ,that will cause components of inter-machine are burned up .
- 2. Make sure power cable is connected to power switch reliably and prevent from oxidizing . Make sure power voltage is inside the waved range .

Output cable connection

- 1. Make sure tube of pressed air is connected to copper connector by high pressure rubber tube firmly .
- 2. Make sure copper screw of another end of torch is connected to electrify integration terminal then tighten them clockwise relation (prevent from leaking gas) .Mobile plug of another end of grounding cable pincer is connected to positive terminal of front panel then tighten it .
- 3. Make sure air plug of torch is connected to switch connector of panel (If it is arc-supporting cutter ,arc-supporting cable of torch is connected to terminal of arc-supporting .)

CHECK

- 1. Check if cutting machine is grounded reliably according to standard .
- 2. Check if all connectors is connected firmly .
- 3. Check if power voltage is correct .

OPERATION

- 1. Open the power switch of front panel ,make the power switch is in “on” position .At this time indicator of power switch is on .Screen will show the current volume .
- 2. Adjust the gas pressure and make it is adequate to machine ,open the valve of pressed air .

- 3. Press the control knob of torch ,electromagnetic valve is starting ,sound of HF arc-striking can be heard and burner of torch should flow out gas (Burner of arc-supporting cutter should spurt fire)
- 4. Make sure cutting current is adequate to machine according to thickness of cutting piece .
- 5. It is 1mm from copper tip to work piece (it is further if it is arc-supporting cutter .),press knob of torch and burn and strike arc ,sparks of HF arc-striking will diminished immediately .User can begin to cut .

INSTRUCTION NOTES

Operation environment

- 1. The cutting machine cam perform in environment where conditions are particularly harsh and with outside temperature between -10 and +40 degrees centigrade with a dampness level of max 80% .
- 2. Avoid to use in sun shine and dropping environment .
- 3. Keep machine dry and avoid water into machine .
- 4. Do not use the cutting machine in environment where condition is polluted with high concentration of dust or corrosive gas in the air .

SAFTY

- 1. **Make sure the working area is adequately ventilated .** Cutting machine is light and its structure is compact and the electromagnetic fields generated the high current .So natural wind is not satisfy to cool down components ,there are two axial-flow fan in inter-machine in order to force to cool down it . NOTES: Exhaust shutter must not in block or covered ,it is 0.3 m from machine to environment objects .Make sure keep improving ventilated situation ,it is very important to machine .
- 2. **No over-load !** Limited to cutting current strictly according to max allowable current with all kinds of duty cycles . Do not exceed load working in order to prevent from shorting use lifetime of cutting machine even burning up machine .
- 3. **No over-voltage !** Power voltage range of cutting machine is according to main technical data sheet .Voltage automatic compensation circuit will prevent from exceeding allowable arrange .If power voltage is too high ,that will damaged to components .User must be carefully .
- 4. There is a grounding screw which is marked grounding behind cutting

machine .Make sure the mantle is grounded reliably by cable whose section is 6 square millimeter in order to prevent from leaking electrify and bringing electrostatic .

- 5. Inter heat-variable component is starting if machine is exceeded in duty cycles ,that will cause cutting machine will stop working suddenly and inter red diode is lit .User need not break the circuit and the fan may continue working in order to cool down the machine .Once temperature is reduced to allowable arrange ,machine can be operated again .

CUTTING NOTES

- 1. Make sure copper tip must not connect to work piece directly when user is cutting .Torch should be inclined and it is 1 mm from inter-hole of copper tip to work piece in order to protect copper tip .
- 2. As arc-supporting cutting machine ,if arc-supporting frequency is down or there is no arc-supporting ,user may be get rid of oxidized film of inter electrode by abrasive paper .Then machine will be operated normally .

MAINTENANCE AND CHECK TROUBLE

Maintenance

- 1. Remove dust by compressed air regularly .If cutting machine is placed in environment where condition is polluted with smoke and dust ,cutting machine must be removed dust every day
- 2. Pressure is adequate to cutting in order to protect little components .
- 3. Check the electrify connectors and make sure the connectors are connected firmly (specially connect and insert components),tighten the connectors .
- 4. Avoid water into machine and machine become damp ,or the machine must be dried in time and measured insulation by meter .After there is no problem ,the machine can be operated .
- 5. If the machine will not be used long time ,it should be put in its own packing box and store in dry environment .

Check Fault CUT-30/40/60

Faults	Resolvable Methods
1.Switch indicator is on ,fan is not working and control knob is out of work .	1.Over voltage protection is working .Close machine then open it again after several minutes .
2.Switch indicator is lit and fan is working .However ,press control knob of torch ,there is no HF arc-striking sound and electromagnetic valve is not working .	1. Check if torch is open circuit . 2. Check if control knob of torch is damaged . 3. Part of assistant power of top board is damaged and there is no DC 24v output .
3.Switch indicator is lit and fan is working .However ,press control knob of torch ,there is no HF arc-striking sound and inter red diode is lit .	1. Check if MOS K2837 of top board is damaged (driver mould is damaged) . 2. Rising transformer of bottom board is damaged . 3. Control mould is damaged .
4. Switch indicator is lit and fan and electromagnetic valve are working . However, there is no sound of HF	There is some trouble in part of arc-striking ,such as: 1. It is too far between discharge tip or there is adhesion in discharge tip .

arc-striking and inter red diode is not lit .	2. Primary coil of arc-striking transformer is damaged or poor contact . 3. Check if four times voltage rectifier diode is stricken . 4. Check if HF electric capacity 102/10KV is leaking . Relay is damaged .
5.Other of machine is normal ,but arc is not be stricken when it is be operating .	1. Input voltage is too low . 2. Pressure of air compressor is too high or too low .

Check Fault

Faults	Resolvable Methods
1. Open the air switch ,fan does not work and there is nothing in indicator ,knob of torch is out of working .	1. Part of assistant power of control panel is damaged and there is no DC 24v output .
2. Open the air switch ,fan is working ,Press knob of torch ,electromagnetic valve is working ,there is no sound of HF arc-striking and red diode is lit .	1. Circuit of torch is broken . 2. Knob of torch is damaged . 3. Part of assistant power is damaged and there is no DC 24v output .
3. Open the air switch ,fan and indicator are working . Press knob of torch ,electromagnetic valve is starting ,there is no sound of HF arc-striking and red diode is not lit .	There is some fault in part of arc-striking ,such as: 1. It is too far between discharge tip or there is adhesion in discharge tip . 2. Primary coil of arc-striking transformer is damaged or poor contact . 3. Check if four times voltage rectifier diode is stricken . 4. Check if HF electric capacity 102/10KV is leaking . 5. Relay is damaged .
4. If it can not support arc or support arc weakly .	1. Wipe the electrode by abrasive cloth . 2. Magnify arc-striking tip suitably .