MIG-270P Pro

Pulse MIG

USER MANUAL

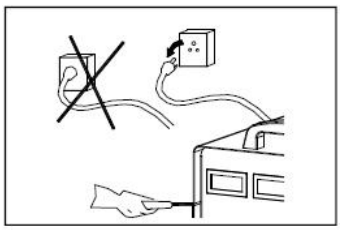
CONTENTS

Hereby we state that we provide one year of guarantee for this welding machine since the date of purchase.
Please read and understand this instruction manual carefully before the installation and operation of this machine.
The contents of this manual may be revised without prior notice.

1. SAFETY

Welding and cutting is dangerous to the operator, people in or near the working area, and the surrounding, if the machine is not correctly operated. Therefore, the performance of welding/cutting must only be under the strict and comprehensive observance of all relevant safety regulations. Please read and understand this instruction manual carefully before the installation and operation.

The switching of function modes is possibly damaging to the machine, while the welding operation is performed.

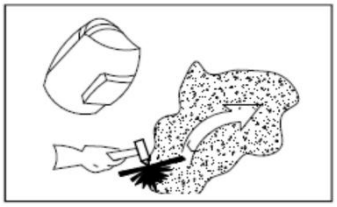


Do disconnect the electrode-holder cable with the machine, before the performance of welding.
A safety switch is necessary to prevent the machine from electric-leakage.
Welding tools should be of high quality.
Operators should be qualified.

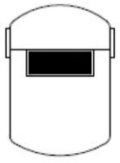
Electric shock: It could be fatal!

Connect the earth cable according to standard regulation.
Avoid all contact with live electrical parts of the welding circuit, electrodes and wires with bare hands. It is necessary for the operator to wear dry welding gloves while he performs the welding task.
The operator should keep the working piece insulating from himself/herself.

Smoke and gas generated while welding or cutting: harmful to people's health.

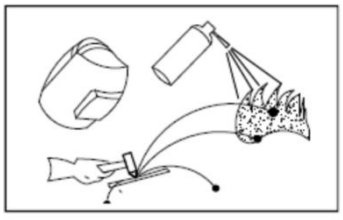


Avoid breathing the smoke and gas generated while welding or cutting.
Keep the working area well ventilated.
Arc rays: harmful to people's eyes and skin.



Wear welding helmet, anti-radiation glass and work clothes while the welding operation is performed.
Measures also should be taken to protect people in or near the working area

Fire hazard



The welding splash may cause fire, thus remove flammable material away from the working place.
Have a fire extinguisher nearby, and have a trained person ready to use it.
Noise: possibly harmful to peoples' hearing.

Noise is generated while welding/cutting, wear approved ear protection if noise level is high.。
Machine fault:
Consult this instruction manual.
Contact your local dealer or supplier for further advice.

2.GENERAL DESCRIPTION

This welding machine is composed of the inverter MIG welder power supply with invariable voltage output external characteristics manufactured with advanced IGBT inverter technology designed by our company. With high-power component IGBT, the inverter convert the DC voltage, which is rectified from input 50Hz/60Hz AC voltage, to high-frequency 20KHz AC voltage; as a consequence, the voltage is transformed and rectified. The features of this machine are as follows:

- IGBT inverter technology, current control, high quality, stable performance;
- Closed feedback circuit, invariable voltage output, great ability of balance voltage up to ±15%;
- Electron reactor control, stable welding, little splash, deep molten pool, excellent welding bead shaping;
- Welding voltage can be preset, and the voltmeter displays the preset voltage value when not welding.
- Both welding current and welding voltage can be observed at the same time.
- Slow wire feeding during arc starting, remove the melting ball after welding， reliable arc starting;
- Wire feeding part is separated from the welding machine, wide welding operation range.
- Small-sized, light-weighed, easy to operate, economical, practical.

Unpacking your machine

When unpacking, inspect carefully for any damage that may have occurred during transit. Check carefully to ensure all the contents on the list below have teen received in good condition

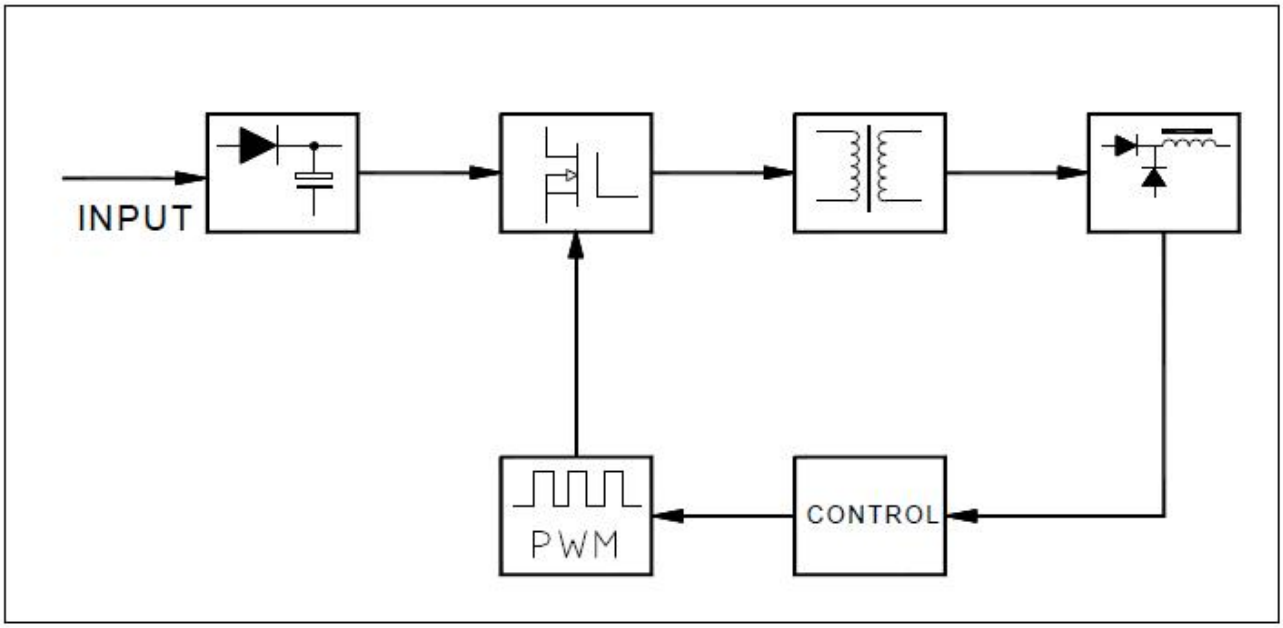
Included items:

- MIG Welder
- Operator's Manual
- Electrode Holder with cable
- Earth Clamp with cable
- MIG torch

Operating environment

Adequate ventilation is required to provide proper cooling for the machine. Ensure that the machine is placed on a stable level surface where clean cool air can easily flow through the unit. The machine has electrical components and control circuit boards which will be damaged by excessive dust and dirt, so a clean operating environment is essential

Block Diagram



3.MAIN PARAMETER

MODEL	MIG-270P Pro		
Power Supply Voltage	220±10%		
Rated Input Capacity	8.5	6.4	10
Rated Input Current	39	29	45
Output Current Range	30-200	15-200	15-200
Function	MIG	TIG	MMA
Duty Cycle(40℃ 10min)	30% 200A	30% 200A	30% 200A
	60% 141A	60% 141A	60% 141A
	100% 110A	100% 110A	100% 110A
No Load Voltage	64		
Efficiency	77%		
Power Factor	0.73		
IP	21S		
Insulation Class	H		
Cooling Way	FAN & AIR		
Dimension	495x210x330		
Wire Diameter	0.8-0.9-1.0-1.2		Ø2.5,Ø3.25,Ø4.0
Net Weight	12		

Note:

The welding duty cycle is the percentage of actual continuous welding time that can occur in a ten minute cycle. For example: 15% at 200amps- this means the welder can weld continuously at 200 amps for 1.5 minutes and then the unit will need to be rested for 8.5 minutes.

The duty cycle can be affected by the environment in which the welder is used. In areas with temperatures exceeding 40℃, the duty cycle will be less than stated. In areas less than 40 ℃, higher duty cycles have been obtained

All tests on duty cycles have been carried out at 40℃, so in practical working conditions the duty cycles will be much greater than those stated above.

4.INSTALLATION AND STRUCTURE

4.1 Front Panel Instruction

Figure 1

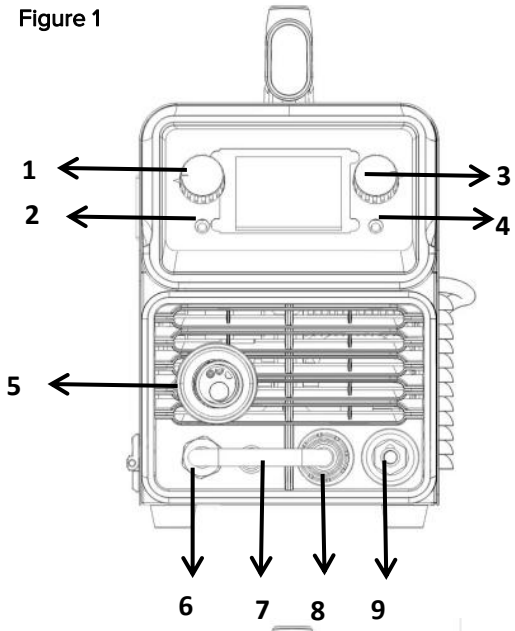
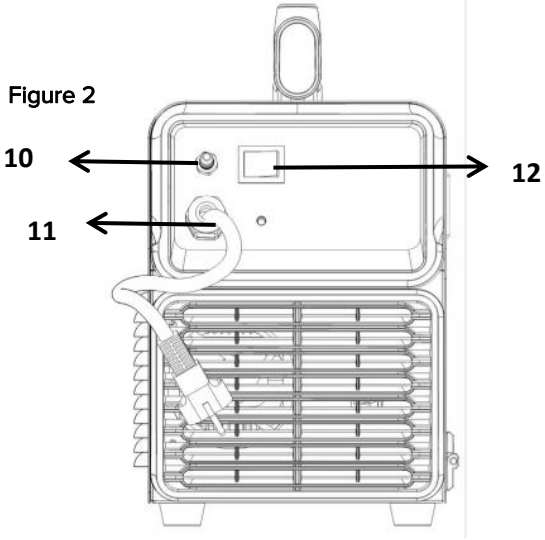


Figure 2



1.Left knob-welding mode selection knob/MIG voltage refine

2.Left button-home button

3.Right knob-Parameter adjust knob

4.Right button -Parameter adjust button for Wire speed/Diameter/Inductance/2T&4T/HOTSTART/ ARC FORCE

5.MIG Torch 'Euro Style' Connection Socket

6.Polar conversion line

7.Aero socket -For spool gun function

8.Positive (+) Welding Output Terminal

9.Negative (-) Welding Output Terminal

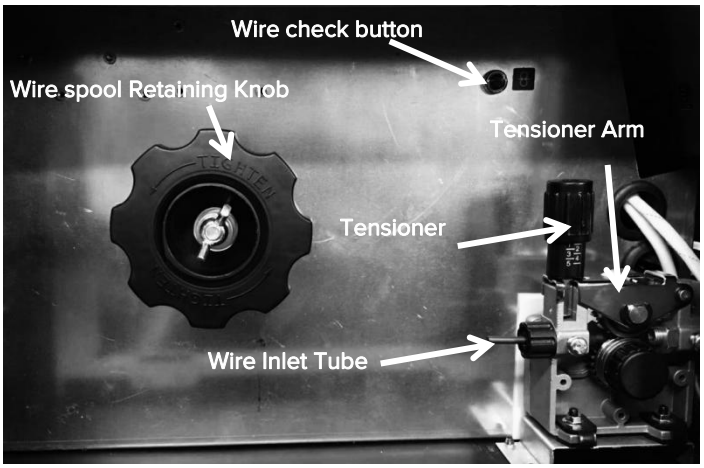
10.Welding gas inlet

11.Power cable

12.Power switch

4.2 MIG Welding Set Up & Operation

Wire feeder for MIG-270P Pro



- Open the door of the Welder and remove the Spool Retaining Knob from the Wire Spool Spindle.
- Slide the Wire Spool onto the center of the Spindle.When doing so, be sure the Drive Pin of the Spindle is engaged with a spoke of the wire Spool.
- Reinstall the Spool Retaining Knob.
- To set the spool tension, incrementally tighten the Spool Retaining Knob until there is a slight resistance to spinning the wire spool on the spindle.
- If the tension is set too loose the wire spool will freely spin on the shaft and unspool all of the wire.
- If the tension is too tight, the Drive Roller will have difficulty pulling the wire off the spool and some slipping may occur.

Warning! - Before changing the feed roller or wire spool, ensure that the mains power is switched off

Warning! - The use of excessive feed tension will cause rapid and premature wear of the drive roller, the support bearing and the drive motor.

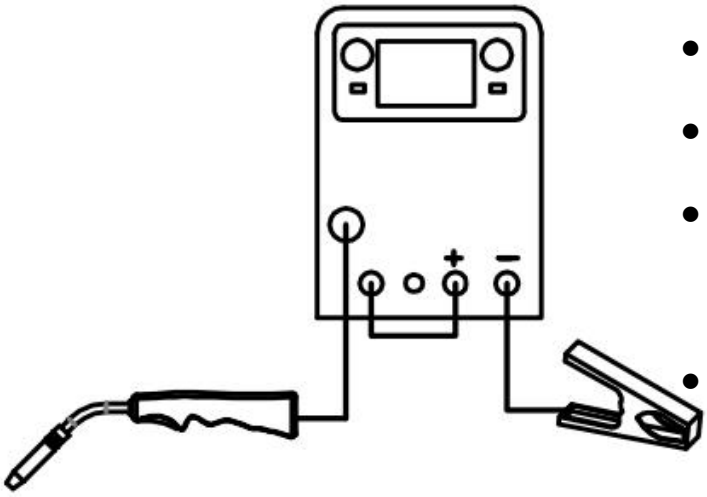
4.3 Welding Set Up & Operation

NOTE:

Please connect the power line of the welder to the input voltage consistent with the parameters on the machine nameplate Setup operation as below,please operate refer Figure1 & Figure3 on Page6

4.3.1 Setup for gas shielded MIG welding operation

Note： Please operate refer Figure1 & Figure3 on Page6

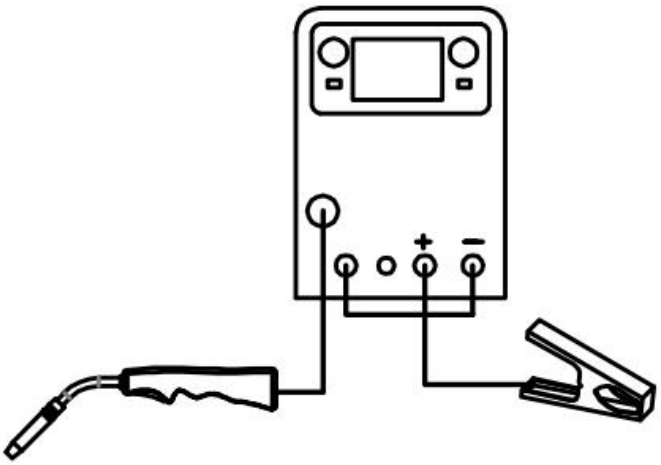


- Connect the MIG Torch Euro Connector to the torch socket on the front of the welder . Secure by firmly hand tightening the threaded collar on the MIG Torch Euro Connector clockwise.
- Check that the correct gas shielded wire, matching drive roller and welding tip are fitted
- Connect Polar conversion line to the positive (+) welding output terminal
- Connect Earth Lead Quick Connector to the negative (-) output welding terminal .
- Connect Earth Clamp to the work piece. Contact with work-piece must be strong contact with clean, bare metal, with no corrosion, paint or scale at the contact point.
- Connect the gas regulator (optional) and gas line to the inlet on the rear panel . If the regulator is equipped with a flow gauge, the flow should be set between 8 – 15 L/minute depending on application. If gas regulator is not equipped with a flow gauge, adjust pressure so gas can just be heard coming out of the torch conical nozzle . It is recommended that gas flow is checked again, just prior to starting weld This can be done by triggering the MIG torch with the unit powered up.

Warning!-Gas shielded MIG welding requires a shielding gas supply, gas regulator and gas shielded MIG wire. These accessories are not supplied standard with the MIG machine. Please contact your local dealers for details

4.3.2 Setup for gasless MIG welding operation

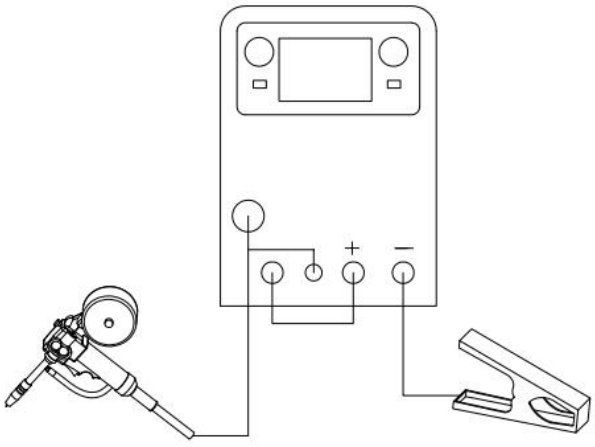
Note： Please operate refer Figure1 & Figure3 on Page6



- Connect the MIG Torch Euro Connector to the torch socket on the front of the welder . Secure by firmly hand tightening the threaded collar on the MIG Torch Euro Connector clockwise.
- Check that the correct flux cored, gasless wire, matching drive roller and welding tip are fitted
- Connect Torch Connection Power Lead to the negative (-) welding output terminal
- Connect Earth Lead Quick Connector to the positive (+) output welding terminal .
- Connect Earth Clamp to the work piece. Contact with work-piece must be strong contact with clean, bare metal, with no corrosion, paint or scale at the contact point.

4.3.3 Setup for spool gun operation

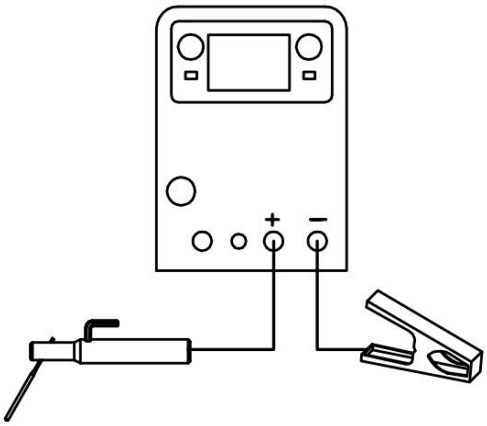
Note： Please operate refer Figure1 & Figure3 on Page6



- Connect Earth Lead Quick Connector to the negative (-) output welding terminal
- Connect polar conversion line to the positive (+)
- Connect the spool gun to the euro type torch connector on machine ,and fasten by clockwise
- Connect the spool gun switch plug to the aviation socket on machine ,and fasten by clockwise

4.3.4Setup for MMA/STICK mode operation

Note：Please operate refer Figure1 & Figure3 on Page6

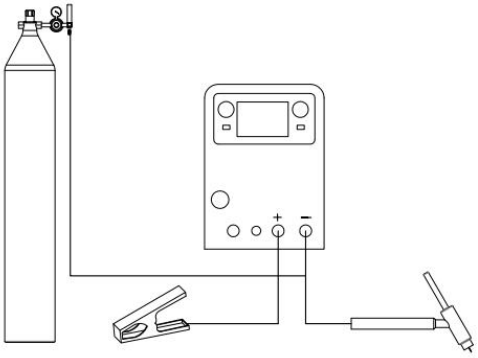


- Connect Electrode holder Quick Connector to the positive (+) welding output terminal
- Connect Earth Lead Quick Connector to the negative (-) output welding terminal See picture below

Warning! - MMA/Stick Welding requires an MMA lead set.

4.3.5 Setup for Lift TIG welding operation

Note：Please operate refer Figure1 & Figure3 on Page6



- Connect Lift TIG torch Quick Connector to the negative (-) output welding terminal
- Connect Earth Lead Quick Connector to the positive (+) welding output terminal
- Connect the air hose of Lift tig torch with the Argon meter connector. See picture below

Direct Current Straight Polarity (DCSP)

Torch is connected with the negative (-)terminal of the power source and work-pieceis connected with the positive(+)terminal.

Direct Current Reverse Polarity (DCRP)

Work-pieceis connected with the negative (-)terminalof the power source and torch is connected with the positive(+) terminal.

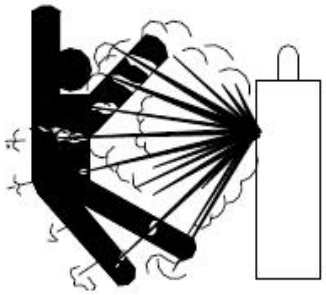
Generally, it is usually operated in Direct Current Straight Polarity (DCSP) in TIG welding mode

Warning! - TIG operation requires an argon gas supply, TIG torch, consumables and gas regulator. These accessories are not included standard with the MIG machine; contact your supplier for further details.

4.3.6 Gas bottle Installation

Connection of Shield Gas

Connect the CO2 hose, which come from the wire feeder to the copper nozzle of gas bottle. The gas supply system includes the gas bottle, the air regulator and the gas hose, the heater cable should be inserted into the socket of machine's back, and use the hose clamp to tighten it to prevent leaking or air-in, so that the welding spot is protected.



Please note

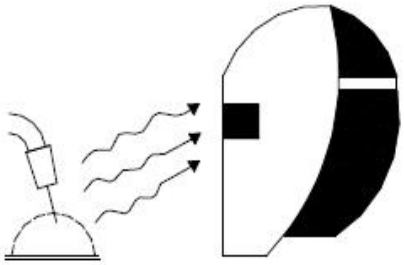
1) Leakage of shielding gas affects the performance of arc welding.

2) Avoid the sun shine on the gas cylinder to eliminate the possible explosion of gas cylinder due to the increasing pressure of gas resulted from the heat.

3) It is extremely forbidden to knock at gas cylinder and lay the cylinder horizontally.

4) Ensure no person is up against the regulator, before the gas release or shut the gas output.

5) For machine with heating power output, insert the power supply plug of the heater into the 36 VAC (5A) socket on the back panel of the welding machine. For machine without heating power output, should use the AC220V heater .



6) The gas output volume meter should be installed vertically to ensure the precisely measuring.

Warning!-Since the arc of MIG welding is much strong than that of MMA welding, please wear welding helmet and protective clothing.

4.3.7 The welding material,wire diameter, process and gas selection

MIG-270P Pro			
Welding material	**Wire diameter**	**Process**	**Gas**
Carbon steel	0.8/0.9/1.0	Constant voltage MIG	100% CO_2
Carbon steel	0.8/0.9/1.0	Constant voltage MIG	75% Ar+25% CO_2 mixed gas
Carbon steel	0.8/0.9	Single/ Double Pulse	80% Ar+20% CO_2 mixed gas
Stainless steel	0.8/0.9	Single/ Double Pulse	80/20 mixed gas
Stainless steel	0.8/0.9	Single/ Double Pulse	97.5/2.5 mixed gas
Aluminum silicon	0.9/1.0/1.2	Single/ Double Pulse	100% pure argon
Aluminum magnesium	0.9/1.0/1.2	Single/ Double Pulse	100% pure argon
CUSI	0.8/0.9	Single/ Double Pulse	100% pure argon

5.WELDING FUNCTION &OPERATION

5.1 Controls for DC Normal MIG welding

Note： Please operate refer Figure1 on Page6

- Switch the machine on using the mains power switch . Wait 5 seconds for the digital control program to load up. Press the Left button to mode section, and select the DC MIG mode by Left knob , and press the Left knob to confirm the selection.

- The multi function digital display will show two numbers. On the top is the preset welding voltage, on the bottom is the preset wire feeding speed. These values are adjusted by rotating the Left knob. Wire feeder speed(welding current) is adjusted by rotating the Right knob Because of the synergic digital programming, both the voltage and the wire speed will adjust together.

Actual welding voltage

Actual welding current

Welding Voltage and Current

- Press the Right Button again to return to the main wires peed/voltage adjustment screen. If the control panel is not adjusted after 5 seconds it will also return to the primary MIG adjustment mode. Or press the Left/Right to return to the primary MIG adjustment mode directly.

- During welding the screen display will change to show the actual welding voltage and welding current as picture show.

Voltage fine adjustment

- To adjust the voltage independently, Rotate Left Knob to adjust the welding voltage. This will change and give the display screen as below.
- Then use the Left knob to adjust the welding voltage -5 - +5V from the standard synergic setting. This will not change the wire speed. It is recommended for ease of use that the wire feed target speed is adjusted first and then the voltage setting fine- tuned if necessary.

Inductance adjustment

- Press the Right button again to adjust the inductance of the welding arc. Use the Right Knob (3) to adjust the inductance from -10 (less inductance) to +10 (more inductance).

Inductance adjustment

Caution

A quick note regarding inductance – this effectively adjusts the intensity of the welding arc.inductance makes the arc 'softer', with less weld spatter. Higher inductance gives a stronger driving arc which can increase penetration. Optimum inductance settings are affected by many welding variables such as: material type, shielding gas joint type, welding amperage, wire size. welding amperage, wire size.

Wire Diameter

- Wire diameter selection-Press the right button,enter the wire diameter selection.Turn the right knob to select the wire diameter.

2T/4T function

- press the Right Button ,2T/4T Selection Switch to move between 2T and 4T modes. 4T operation means the trigger is pulled once to start welding and pulled again to stop. This is useful for long weld joints. 2T mode, the trigger must be depressed and held during welding.

Post-flow time

- Press the right button, to adjust the post-flow time. Turn the right knob to adjust post time.

Slow wire-feeding

- Press the right button,turn the right knob to adjust the slow wire-feeding.

5.2 Controls for Single & Double Pulse MIG welding

Note： Please operate refer Figure1 on Page6

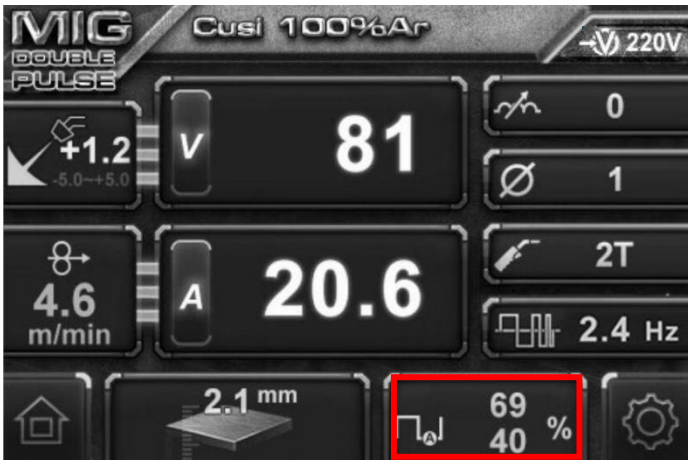
5.2.1 Controls for Double Pulse MIG

Note: In Double pulse MIG mode, Voltage fine adjustment, Welding voltage and current adjustment, Inductance/ Wire diameter/ 2T&4T adjustment same as 5.1 DC MIG mode.

- Press the Left button to mode section, and select the Double pulse MIG mode by Left knob , and press the Left knob to confirm the selection

Pulse Frequency (from 1.0 to 2.5)

- Press the right knob, and trun the right knob to adjust the pulse frequency. After pulse frequency selected,press the right knob to storage it.



“W” Pulse Width (from 20 to 80

- Press the right knob to enter the pulse width adjustment, turn the right knob to select pulse width, and press the right knob to storage it.
- Pulse width is to adjust the duration of pulse welding current, the wider the pulse width, the weld bead is wide and deep, vice versa is narrow and shallow

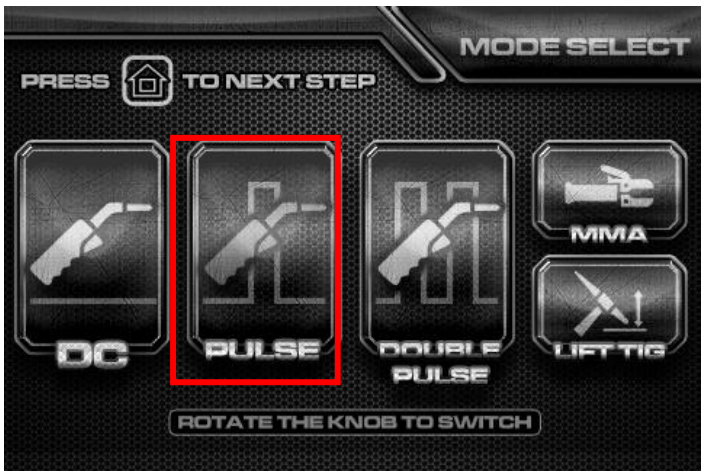
“A” Base Current (from 20 to 99)

- Press the right knob to enter the pulse base current adjustment, turn the right knob to adjust the base current , and press the right knob to storage it.

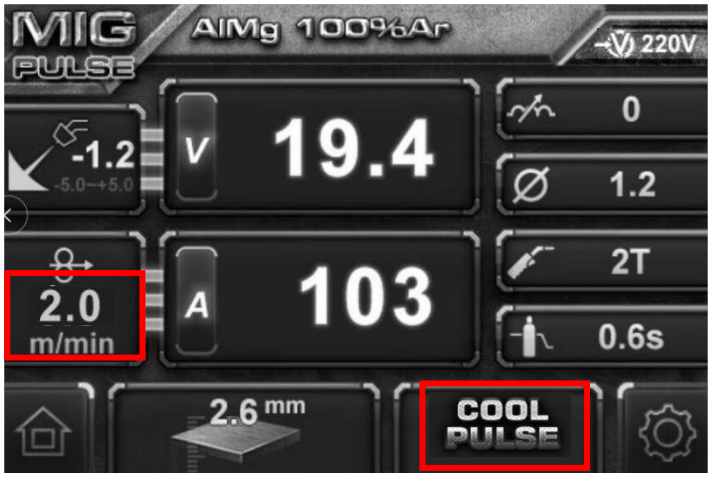
Note: Pulse Frequency / Pluse Width / Base current only available for DOUBLE PULSE mod

5.2.2 Controls for Single Pulse MIG

Note: In Single pulse MIG mode, Voltage fine adjustment, Welding voltage and current adjustment, Inductance/ Wire diameter/ 2T&4T adjustment same as 5.1 DC MIG mode.



- Press the Left button to mode section, and select the Single Pulse MIG mode by Left knob , and press the Left knob to confirm the selection.



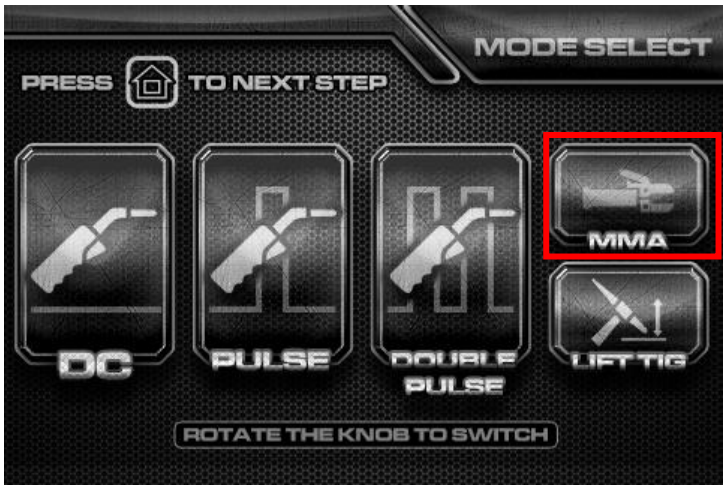
Cool Pulse

- Single pulse frequency is automatically matched and adjusted (pulse frequency is proportional to current). When the wire feeding speed is less than 2.5m/min in single pulse mode,welder will enter COOL PULSE mode automatically. Welding material use in single pulse mode is suitable for cold pulse welding.

NOTE, COOL PULSE welding only appear under the single pulse mode

5.3 MMA/STICK mode operation

Note： Please operate refer Figure1 on Page6



- Press the Left button to mode section, and select the mode by Left knob, and press the Left knob to confirm the MMA selection.

Welding current adjustment

- When welding the display will change to show actual welding volts and amperage.
- Turn the right knob to adjust the welding current

Hot start 0-10

- Press the right button to enter Hot Start adjustment. Twist the right knob to adjust the HOT START range

ARC force 0-10

- Press the right button to enter Arc Force adjustment. Twist the right knob to adjust the ARC FORCE range

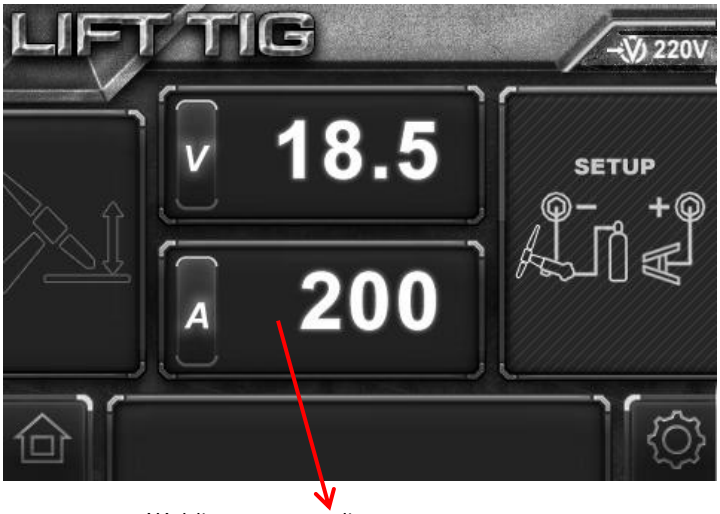
VRD

- VRD stands for Voltage Reduction Device. The open circuit voltage at the output terminals of an MMA welding power source is high enough to potentially cause an electric shock to a person if they come into contact with the live terminals.
- VRD is a safety system that reduces this open circuit voltage to a level where the risk of electric shock is minimized. It does, however, make striking of the arc more difficult. Press the Right button to switch VRD on/off.

5.3 Lift TIG operation

Note： Please operate refer Figure1 on Page6

- Press the Left button to mode section, and select the mode by Left knob , and press the Left knob to confirm the LIFT TIG selection.



Welding current adjustment

- When welding the display will change to show actual welding volts and amperage.
- Turn the right knob to adjust the welding current

5.4 Error Code WARNING! & Operation

OVER TEMPERATURE!

When welder operates at full load maximum current for a long time, a OVER TEMPERATURE will appear . This means that the temperature inside the machine has exceeded the standard temperature. Please stop welding immediately, but do not turn off the power and let the fan continue to operate and let the welder cooling. Welding can be resumed after the welding temperature drops below the standard temperature and there is no warning display of OVER TEMPERATURE.

OVER CURRENT!

When the IGBT current exceeds the safety value when the welding machine is running, the welding machine will enter the OVER CURRENT protection to prevent the damage of IGBT. Please stop welding immediately, turn off the welder for 10-30s and then restart it.If the OVER CURRENT warning still appear, need to be repaired by professional maintenance personnel.

6.WELDING PARAMETERS TABLE

The option of the welding current and welding voltage directly influences the welding stability, welding quality and productivity. In order to obtain the good welding quality, the welding current and welding voltage should be set optimally. Generally, the setting of weld condition should be according to the welding diameter and the melting form as well as the production requirement.

The following parameter is available for reference.

Parameter for butt-welding (Please refer to the following figure.)

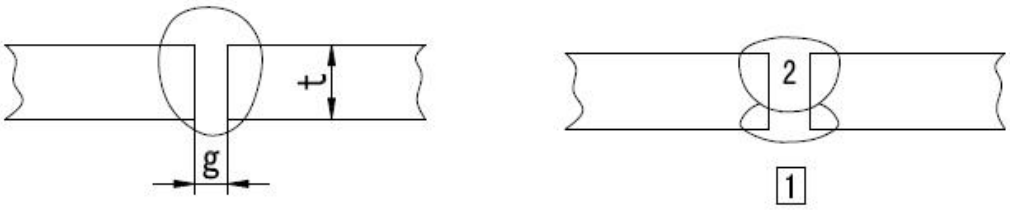


Plate thickness t (mm)	Gap g(mm)	Wire Φ(mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (L/min)
0.8	0	0.8~0.9	60~70	16~16.5	50~60	10
1.0	0	0.8~0.9	75~85	17~17.5	50~60	10~15
1.2	0	1.0	70~80	17~18	45~55	10
1.6	0	1.0	80~100	18~19	45~55	10~15
2.0	0~0.5	1.0	100~110	19~20	40~55	10~15
2.3	0.5~1.0	1.0 or 1.2	110~130	19~20	50~55	10~15
3.2	1.0~1.2	1.0 or 1.2	130~150	19~21	40~50	10~15
4.5	1.2~1.5	1.2	150~170	21~23	40~50	10~15

Parameter for flat fillet welding (Please refer to the following figure.)

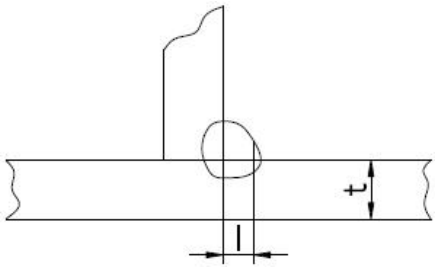


Plate thickness t (mm	Corn size l (mm)	Wire Φ(mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (L/min)
1.0	2.5~3.0	0.8~0.9	70~80	17~18	50~60	10~15
1.2	2.5~3.0	1.0	70~100	18~19	50~60	10~15
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	10~20
2.3	2.5~3.0	1.0 ~ 1.2	120~140	19~21	50~60	10~20
3.2	3.0~4.0	1.0 ~ 1.2	130~170	19~21	45~55	10~20
4.5	4.0~4.5	1.2	190~230	22~24	45~55	10~20

Parameter for fillet welding in the vertical position (Please refer to the following figure.)

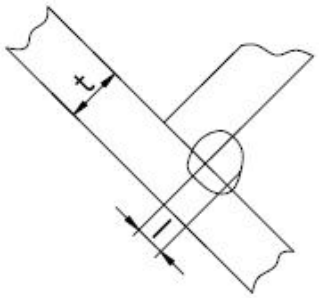
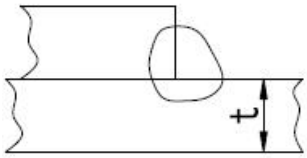
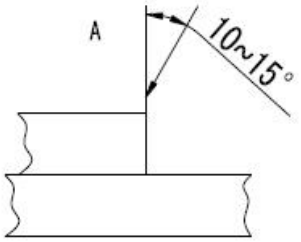


Plate thickness t (mm)	Corn size l (mm)	Wire Φ (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (L/min)
1.2	2.5~3.0	1.0	70~100	18~19	50~60	10~15
1.6	2.5~3.0	1.0 ~ 1.2	90~120	18~20	50~60	10~15
2.0	3.0~3.5	1.0 ~ 1.2	100~130	19~20	50~60	10~20
2.3	3.0~3.5	1.0 ~ 1.2	120~140	19~21	50~60	10~20
3.2	3.0~4.0	1.0 ~ 1.2	130~170	22~22	45~55	10~20
4.5	4.0~4.5	1.2	200~250	23~26	45~55	10~20

Parameter for Lap Welding (Please refer to the following figure.)





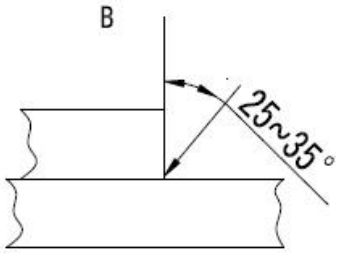


Plate thickness t (mm)	Welding position	Wire Φ (mm)	Welding current (A)	Welding voltage (V)	Welding speed (cm/min)	Gas volume (L/min)
0.8	A	0.8~0.9	60~70	16~17	40~45	10~15
1.2	A	1.0	80~100	18~19	45~55	10~15
1.6	A	1.0 ~ 1.2	100~120	18~20	45~55	10~15
2.0	A or B	1.0 ~ 1.2	100~130	18~20	45~55	15~20
2.3	B	1.0 ~ 1.2	120~140	19~21	45~50	15~20
3.2	B	1.0 ~ 1.2	130~160	19~22	45~50	15~20
4.5	B	1.2	150~200	21~24	40~45	15~20

7.CAUTION

7.1 Working environment

(1) Welding should be carried out in a relatively dry environment with its humidity of 90% or less.

(2) The temperature of the working environment should be within -10℃ to 40℃.

(3) Avoid welding in the open air unless sheltered from sunlight and rain, and never let rain or water infiltrate the machine.

(4) Avoid welding in dusty area or environment with corrosive chemical gas.

(5) Avoid gas shielded arc welding in environment with strong airflow.

7.2 Safety tips

Over-heating protection circuit is installed in this welding machine. If the output current is too high or overheating generated inside this welding machine, this welding machine will stop automatically. However, inappropriate use will still lead to machine damage, so please note:

(1) Ventilation

High current passes when welding is carried out, thus natural ventilation cannot satisfy the welding machine's cooling requirement. Maintain good ventilation of the louvers of this welding machine. The minimum distance between this welding machine and any other objects in or near the working area should be 30cm. Good ventilation is of critical importance for the normal performance and service life of this welding machine.

(2) No over-load.

Over-load current could obviously shorten the welding equipment's life, or even damage the machine.

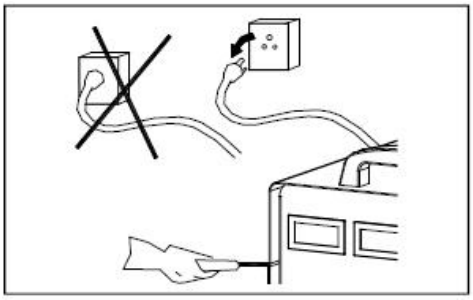
A sudden halt may occur while the welding operation is carried out while this welding machine is of over-load status. Under this circumstance, it is unnecessary to restart this welding machine. Keep the built-in fan working to bring down the temperature inside the welding machine.

(3) Avoid electric shock.

An earth terminal is available for this welding equipment. Connect it with the earth cable to avoid the static and electric shock.

8.MAINTENANCE

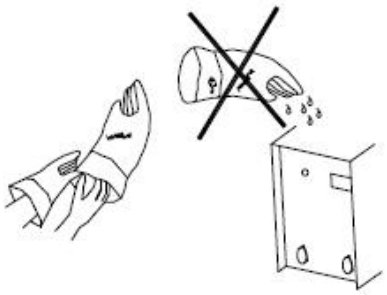
1. Disconnect input plug or power before maintenance or repair on machine.
2. Be sure input ground wire is properly connect to a ground terminal.
3. Check whether the inner gas-electricity connection is well (esp. the plugs), and tighten the loose connection; if there is oxidization, remove it with sand paper and then re-connect.



4. Keep hands, hair, loose clothing, and tools away from electrical parts such as fans, wires when the machine is switched on.

5. Clear the dust at regular intervals with clean and dry compressed air; if the working condition is with heavy smoke and air pollution, the welding machine should be cleaned daily.
6. The compressed air should be reduced to the required pressure lest the little parts in the welding machine be damaged.

7. To avoid water and rain, if there is, dry it in time, and check the insulation with mega-meter (including that between the connection and that between the case and the connection). Only when there is no abnormal phenomenon should the welding continue.
8. If the machine is not used for a long time, put it into the original packing in dry condition.



9.DAILY CHECKING

To make best use of the machine, daily checking is very important. During the daily checking, please check in the order of torch, wire-feeding vehicle, all kinds of PCB, the gas hole, and so on. Remove the dust or replace some parts if necessary. To maintain the purity of the machine, please use original welding parts.

Cautions : Only the qualified technicians are authorized to undertake the repair and check task of this welding equipment in case of machine fault.

1. Power supply

Part	Check	Remarks
Control panel	1.Operation, replacement and installation of Switch.	
	2.Switch on the power, and check if the power indicator is on.	
Fan	1.Check if the fan is functioning and the sound generated is normal.	If the fan doesn't work or the sound is abnormal, do inner check.
Power supply	1. Switch on the power supply, and check if abnormal vibration, heating of the case of this equipment, variation of colors of case or buzz presents.	
Other parts	1.Check if gas connection is available, case and other joints are in good connection.	

2. Welding torch

Part	Check	Remarks
Nozzle	1.Check if the nozzle is fixed firmly anddistortion of the tip exists.	Possible gas leakage occurs due to the unfixed nozzle.
	2.Check if there is spatter sticking on the nozzle.	Spatter possibly leads to the damage of torch. Use anti-spatter to eliminate the spatter.
Contact tip	1.Check if the contact tip is fixed firmly.	Unfixed contract tip possibly leads to unstable arc.
	2.Check if the contact tip is physically complete.	The physically incomplete contact tip possibly leads to unstable arc and arc automatically terminating.
Wire feeding hose	1.Make sure that there is the agreement ofwire and wire feed tube.	Disagreement of the diameters of wire and wire feed tube possibly leads to the unstable arc. Replace it/them if necessary.
	2.Make sure that there is no bending or elongation of wire feed tube.	Bending and elongation of wire feed tube possibly leads to the unstable wire feed and arc. Replace it if necessary.
	3.Make sure that there is no dust or spatter accumulated inside the wire feed tube, which makes the wire feed tub blocked.	If there is dust or spatter, remove it.
	4.Check if the wire feed tube and O-shaped seal ring are physically complete.	The Physically incomplete wire feed tube or O-shaped seal ring possibly leads to the excessive spatter. Replace the wire feed tube or O-shaped seal ring if necessary.

Part	Check	Remarks
Diffuser	1. Make sure that the diffuser of required specification is installed and is unblocked.	Defection weld or even the damage of torch occurs due to the non-installation of diffuser or the unqualified diffuser.

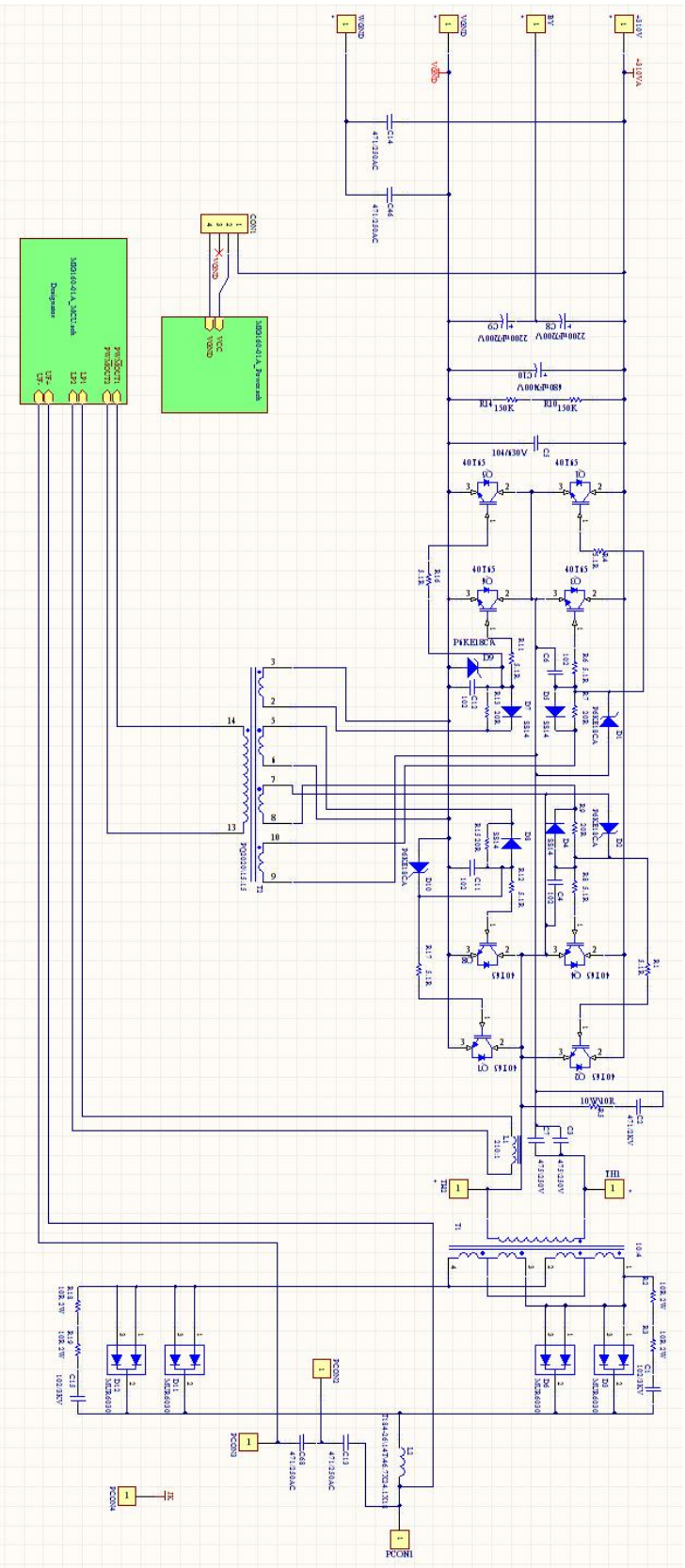
3. Wire feeder

Part	Check	Remarks
Pressure adjusting handle	1.Check if the pressure-adjusting handle is fixed and adjusted to the desired position.	The unfixed pressure-adjusting handle leads to the unstable welding output.
Wire-feeding hose	1.Check if there is dust or spatter inside the hose or beside wire-feeding wheel.	Remove the dust.
	2.Check if there is a diameter agreement of wire and wire-feeding hose.	Non-agreement of the diameter of wire and wire-feeding hose possibly leads to the excessive spatter and unstable arc.
	3.Check if rod and wire feeding groove are concentric.	Unstable arc possibly occurs.
Wire-feeding wheel	1.Check if there is an agreement of wire diameter and wire-feeding wheel.	Non-agreement of wire diameter and wire-feeding wheel possibly leads to the excessive spatter and unstable arc.
	2.Check if the wire groove is blocked.	Replace it if necessary.
Pressure adjusting wheel	1.Check if the pressure adjusting wheel can rotate smoothly, and it's physically complete.	Unstable rotation or physically incompleteness of the wheel possibly leads to unstable wire feeding and arc.

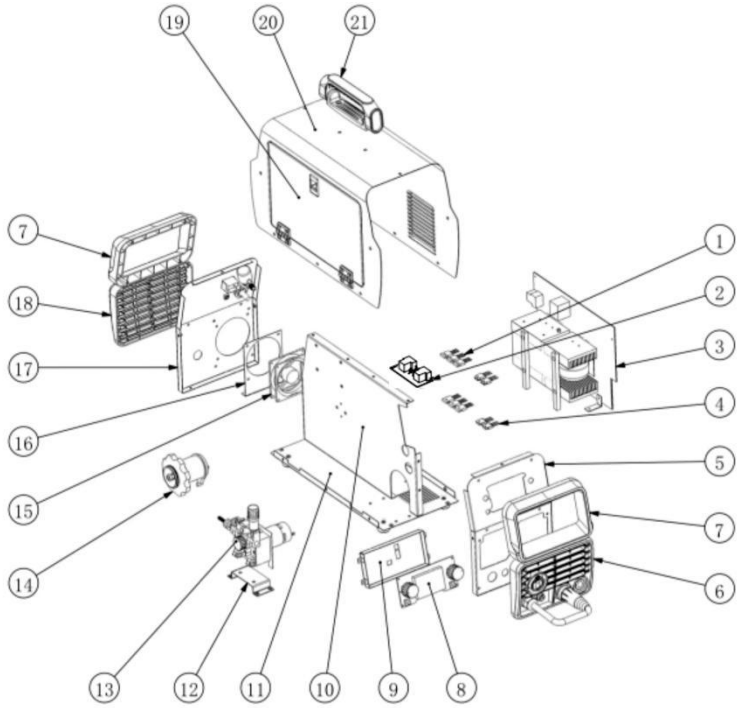
4. Cables

Part	Check	Remarks
Torch cable	1.Check if the cable of torch is twisted	The twisted torch cable leads to unstable wire feeding and arc.
	2.Check if the coupling plug is in loose connection.	
Output cable	1.Check if the cable is physically complete.	Relevant measures should be taken to obtain stable weld and prevent the possible electric shock.
	2.Check if insulation damage or loose connection exists	
Input cable	1.Check if the cable is physically complete.	
	2.Check if insulation damage or loose connection exists.	
Earth cable	1.Check if the earth cables are well fixed and not short-circuited.	Relevant measures should be taken to prevent the possible electric shock.
	2.Check if this welding equipment is well grounded.	

10.CONNECTION DIAGRAM OF THE MACHINE



11. EXPLOSION DRAWING



NO.	Part name	Consumables	NO.	Part name	Consumables
1	IGBT	YES	12	Wire Feeder Fixed Plate	
2	Rectifier plate	YES	13	Wire Feeder Motor	
3	Main PCB Board		14	Wire Spool Shaft	
4	Rectifier Tube	YES	15	Fan	
5	Front Metal Panel		16	Fan Support	
6	Front Plastic Panel(down)		17	Rear Metal Panel	
7	Plastic Front& Rear Panel (Up)		18	Rear plastic panel(down)	
8	Control Panel PCB Board		19	Side Plate	
9	Metal Panel Board Cover		20	Machine Cover	
10	Clapboard		21	Handle	
11	Base Plate				