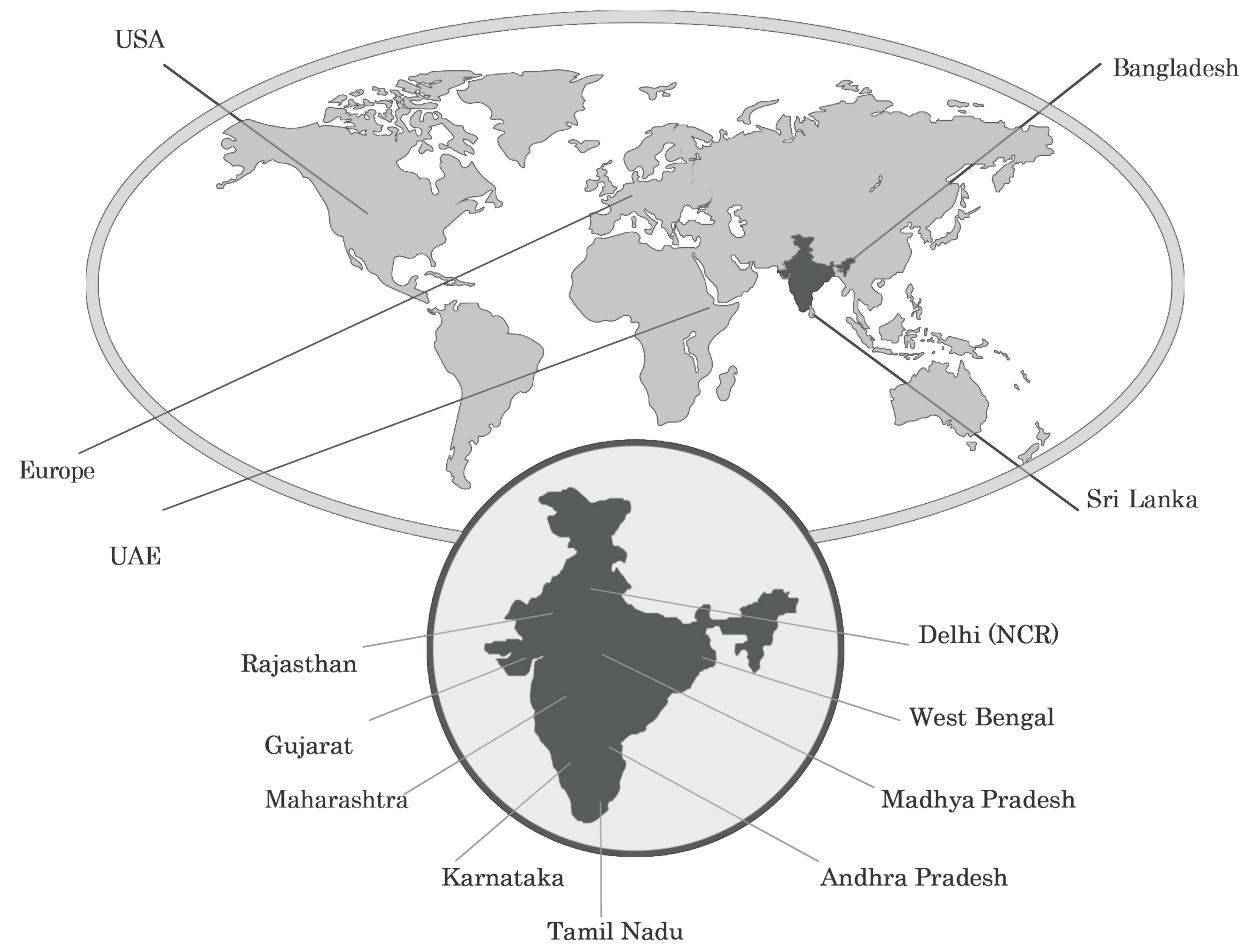




HEAD QUARTERS

Plan S Business Park, First Floor 103/104, Plot D 108/1,
Opposite D Y Patil Stadium, Navi Mumbai 400706,

Mobile: +91- 9699143372



support@rentease.co | www.rentease.co



MODEL: RE MIG400/MIG500

User's Manual

Welding Machine Multi Functions (MIG & MMA)



PLEASE READ THE USER MANUAL BEFORE USE

Contents

1	SAFETY	1
1.1	Safety Precautions	1
1.2	User Responsibility	2
2	INTRODUCTION	3
3	TECHNICAL DATA	4
4	INSTALLATION	5
4.1	Location	5
4.2	Welding Parameter	5
4.3	Power Supply	6
5	OPERATION	6
5.1	Overview	6
5.2	Panel and backboard introduction	7
5.3	Function introduction	8
5.4	Turning the Power On/Off	9
5.5	Thermal Protection	9
5.6	Welding Operation and diagram	10
6	MAINTENANCE	12
6.1	Routine Maintenance	12
6.2	Cleaning Instructions	12
7	TROUBLE SHOOTING	14

1 SAFETY



WARNING!

Before use, read and understand the instruction manual and follow all labels, employer's safety practices and Safety Data Sheets (SDSs).

1.1 Safety Precautions



WARNING!

Arc welding and cutting may cause injury to yourself and others. Take precautions when welding and cutting.

ELECTRIC SHOCK - Can kill



- Install and ground the unit in accordance with instruction manual.
- Do not touch live electrical parts or electrodes with bare skin, wet gloves, or wet clothing.
- Insulate yourself from work and ground.
- Ensure your working position is safe

ELECTRIC AND MAGNETIC FIELDS - Pose health risks



- Welders with pacemakers fitted should consult their doctor before welding. EMF may interfere with some pacemakers.
- Exposure to EMF may have other health effects which are unknown.
- Welders should follow these steps to reduce their exposure to EMF:
 - Route the electrode and work cables together on the same side of your body. Secure them with tape when possible. Never coil the torch or work cable around your body. Keep the welding power source and cables as far away from your body as possible.
 - Connect the work cable to the work piece as close as possible to the area being welded.



FUMES AND GASES - Can be dangerous to your health

- Keep your head out of the fumes.
- Use ventilation, extraction at the arc, or both, to take fumes and gases away from your breathing zone and the general area.



ARC RAYS - Can injure eyes and burn skin

- Protect your eyes and body. Use the correct welding screen and filter lens and wear protective clothing.
- Protect bystanders with suitable screens or curtains.



NOISE - Excessive noise can damage hearing

Protect your ears. Use ear defenders or other hearing protection



MOVING PARTS - Can cause injuries



- Keep all doors, panels and covers closed and securely in place. Have only qualified people remove covers for maintenance and troubleshooting as necessary. Reinstall panels or covers and close doors when service is finished and before starting engine.
- Stop engine before installing or connecting unit.
- Keep hands, hair, loose clothing and tools away from moving parts.



FIRE HAZARD

- Sparks (spatter) can cause a fire. Make sure there are no inflammable materials nearby.
- Do not use on closed containers.

**MALFUNCTION - Call for expert assistance in the event of malfunction.
PROTECT YOURSELF AND OTHERS!**



WARNING!

Do not use the power source for thawing frozen pipes.



CAUTION!

This product is solely intended for arc welding.

1.2 User Responsibility

Users of the equipment have the ultimate responsibility for ensuring that anyone who works on or near the equipment observes all the relevant safety precautions. Safety precautions must meet the requirements that apply to this type of equipment. The following recommendations should be observed, in addition to the standard regulations that apply to the workplace.

All work must be carried out by trained personnel well-acquainted with the operation of the equipment. Incorrect operation of the equipment may lead to hazardous situations, which could result in injury to the operator and damage to the equipment.

1. Anyone who uses the equipment must be familiar with:
 - its operation
 - the location of emergency stops
 - its function
 - the relevant safety precautions
 - welding and cutting or other applicable operation of the equipment
2. The operator must ensure that:
 - no unauthorized person is within the working area of the equipment when it is started up
 - no-one is unprotected when the arc is struck or work is started with the equipment
3. The workplace must:
 - be suitable for the purpose
 - be free from
4. Personal safety equipment:
 - Always wear recommended personal safety equipment, such as safety glasses, flame-proof clothing, safety gloves
 - Do not wear loose-fitting items, such as scarves, bracelets, rings, etc., which could become trapped or cause burns
5. General precautions:
 - Make sure the return cable is connected securely
 - Work on high voltage equipment **may only be carried out by a qualified electrician**
 - Appropriate fire extinguishing equipment must be clearly marked and close at hand
 - The equipment should not be lubricated or maintained during operation.

2 INTRODUCTION

The **RE MIG400/MIG500** is a **Three-phase** welding system that is capable of performing MIG / MAG / MMA / SMAW / Stick welding processes.

- **【MIG/MMA 2 in 1 Welder】** : Adopting advanced IGBT welding technologies, this machine can provide stable welding current and voltage, with less spatter, deep molten pool. Perfect for your professional use.
- **【 Wide application range】** Applicable to the welding of different thickness and various materials , such as carbon steel, low-alloy steel, stainless steel and other metals, which can meet the needs of different workpieces and welding processes.
- **【Powerful Performance】** Designed humanely with a simple and understandable operation adjustment interface. SYN welding method stabilize the welding quality and improve productivity. Manual welding method suit for more different shape of materials, with the characteristic of flexibility, help welders improve their welding level. Built-in ARC FORCE, ANTI STICK, HOT START, and INDUCTANCE makes the welding result more satisfactory.
- **【Safe and Stable】** With over-current, over-voltage, over-heat automatic protection, multiple protection mechanisms to improve welding efficiency and protect your safety. High-performance fan motor can provide cooling function to promote heat dissipation of the body and prolong the service life of the welder.
- **【Portable and Powerful】** This machine can be easily moved around workshop with four wheels, increasing the productivity and efficiency. Meanwhile, maintain stable output within a certain range of grid voltage fluctuations $\pm 15\%$

3 TECHNICAL DATA

Parameters \ Model	RE MIG400	RE MIG500
Power voltage (v)	3P 380V $\pm$ 15%	3P 380V $\pm$ 15%
Frequency (HZ)	50/60 Hz	50/60 Hz
No-load voltage (V)	58	58
Output current MIG (A)	50-400	50-500
Output current MMA (A)	20-360	20-460
Rated input current (A)	28 A	29.5 A
Rated output voltage (V)	34 V	39 V
Duty cycle (%)	60 %	60 %
Efficiency	85 %	85 %
Power factor	0.75 cos ϕ	0.75 cos ϕ
Insulation class	H	H
Protection class	IP21S	IP21S
Weight (KG)	26 kg	27 kg
Dimensions (MM)	588X295X547mm	588X295X547mm

Duty cycle

The duty cycle refers to the time as a percentage of a ten-minute period that you can weld or cut at a certain load without overloading.

Enclosure class

The **IP** code indicates the enclosure class, i.e. the degree of protection against penetration by solid objects or water.

4 INSTALLATION

The installation must be carried out by a professional.

4.1 Location

Position the power source so that its cooling air inlets and outlets are not obstructed, otherwise the cooling system could not work

4.2 Welding Parameter

Prepare correct diameter for work piece thickness.

TABLE FOR SELECTION OF THE WELDING CURRENT MMA			
Diameter Electrodes E6013	plate Thickness	Minimum Current(A)	Maximum Current(A)
2.5MM	2.00-4.00 MM	60	100
3.2MM	4.00-6.00 MM	100	130
4.0MM	6.00-7.00 MM	120	170
4.0MM	7.00-8.00 MM	140	180
4.0MM	8.00-10.00 MM	160	200
5.0MM	10.00- 15.00 MM	180	250
6.0MM	12.00- 20.00 MM	250	/

TABLE FOR SELECTION OF THE WELDING CURRENT MIG			
Welding Wire Diameter	plate Thickness	Minimum Current(A)	Maximum Current(A)
0.6MM	0.6-1.6mm	40	100
0.8MM	0.8-2.3mm	50	150
1.0MM	1.0-6.0mm	70	200
1.2MM	2.0-10mm	90	350
1.6MM	>6.0mm	300	/



When the distance of work piece is far from the machine, and the cables (torch cable and earth cable) are long, please choose cable of bigger section to minimize the reduction of the voltage.

4.3 Power Supply

The Machine is quipped with power compensation. When the power voltage fluctuation between $\pm 15\%$ of rated voltage, it still can work normally.

The power source can be supplied from different types of generators. However, some generators may not provide sufficient power for the welding power source to operate correctly. Select input voltage grade in the permission range.

5 OPERATION

5.1 Overview

General safety regulations for handling the equipment can be found in the chapter "Safety." Read it before you start using the equipment.



NOTE!

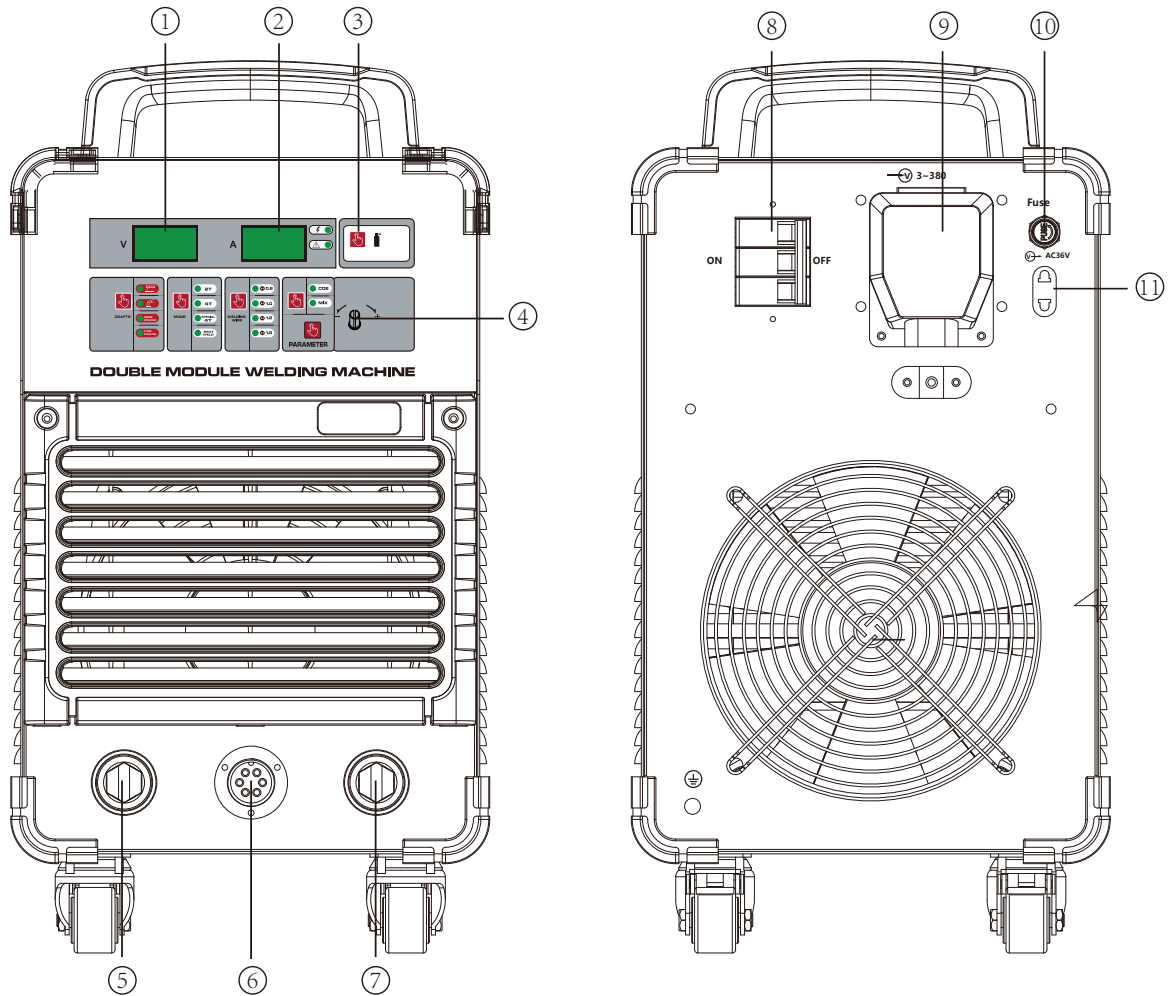
When moving the equipment, use the handle. Never pull the cables.



WARNING!

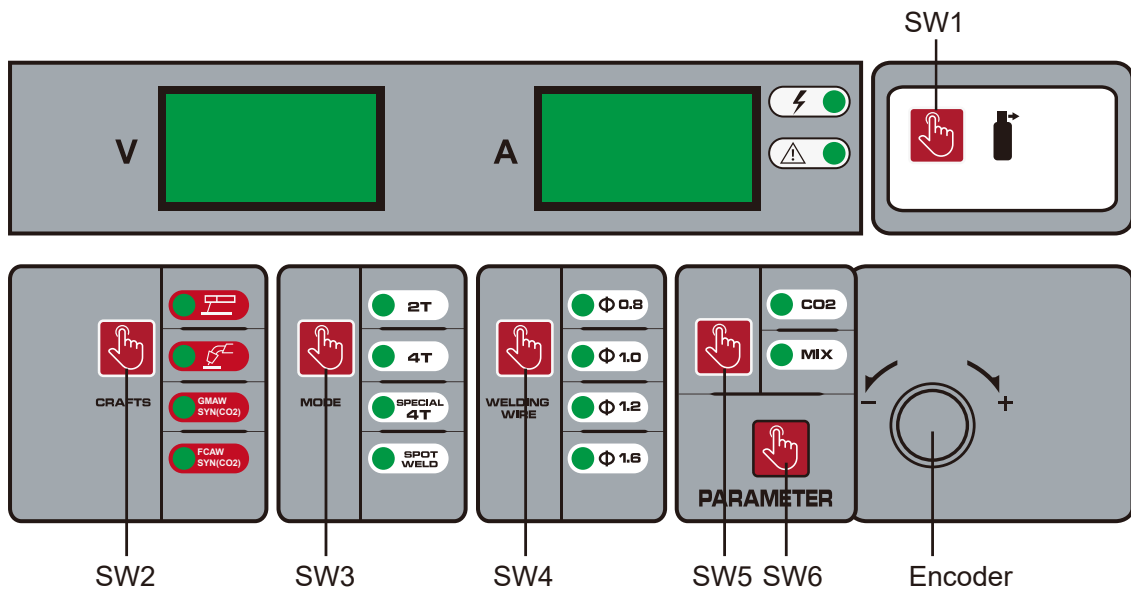
Electric shock! Do not touch the workpiece or the welding head during operation!

5.2 Panel and backboard introduction



NO.	Object
1	Voltage meter
2	Welding current meter
3	Check gas button
4	Welding current adjustment
5	Positive electrode(+)
6	External wire feeder interface
7	Negative electrode(-)
8	Power switch
9	Junction Box
10	Fuse
11	Heater socket

5.3 Function introduction



SW1: Gas detection button.

Press the button to activate the air valve and detect the gas flow. Release it to stop.

SW2: Welding process selection button

1. manual metal arc welding (MMA/SMAW)
 2. manually gas metal arc welding with mix gas or CO₂ (GMAW)
 3. synergic gas metal arc welding with CO₂ mix gas as default(GMAW)
 4. synergic flux cored arc welding with CO₂ mix gas as default(FCAW)
- P.S. If the button is marked with "SYN"(synergic mode), the machine will set voltage and ampere automatically.

SW3: Operation steps button

1. **2T**: Non-self-locking
2. **4T**: Self-locking with arc end adjustment
3. **Special 4T**: Self-locking belt arc starting and ending adjustment
4. **Spot weld**: Spot welding

SW4: Wire diameter selection button

SW5: Gas selection button Pure CO₂ or Mixed Gas

SW6: Parameter adjustment button

Press the button to activate the parameters adjustment on the electronic display. Turn the knob (encoder) to change the numbers.

P.S. Manual adjustment is only necessary if the default parameters do not satisfy the requirements.

Parameter list

parameter	Voltmeter display	maximum value	minimum	default	unit	Remark
Pre gas	PRG	20	0	0.1	second	
post gas	POG	20	0	0.2	second	
Burn back time	bbt	10	0	2	second	
Slow wire feed speed	rin	10	0	2		Proportion
Thermal arc ignition	HS	10	0	2		Proportion
Thrust	DIG	10	0	2		Proportion
Arcing voltage	U1	10	-10	0		Proportion
Arcing current	I1	machine max	50	80	A	
Crater voltage	U2	10	-10	0		Proportion
Arc current	I2	machine max	50	80	A	
Inductance	Ind	10 (soft)	-10 (hard)	0		Proportion
Electric shock	Urd			Off _		ON or OFF
Anti-stick	Ant			Off _		ON or OFF

5.4 Turning the Power On/Off

Turn on the power by turning the switch to the “ON” (I) position.

Turn the unit off by turning the switch to the “O” position.

Whether the power supply is interrupted or the power source is switched off in the normal manner, weld programs are stored so that they are available the next time the unit is started.



CAUTION!

Do not turn off the power source during welding (with load).

5.5 Thermal Protection

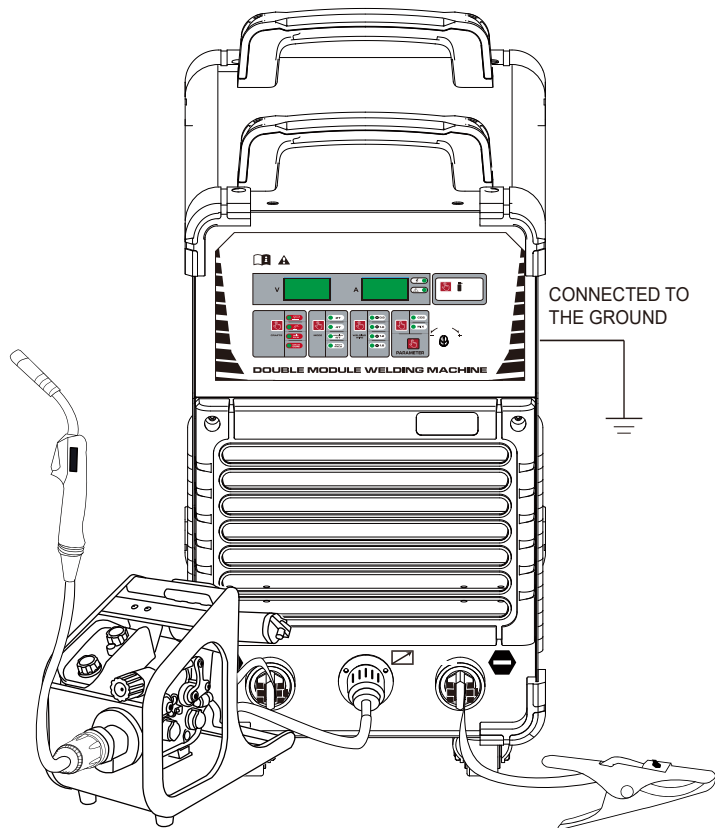


The power source includes thermal protection against overheating. When overheating occurs, welding stops, the overheating indicator on the panel illuminates, and an error message appears on the display screen. The protection is automatically reset once the temperature has decreased to a safe level.

5.6 Welding Operation and diagram

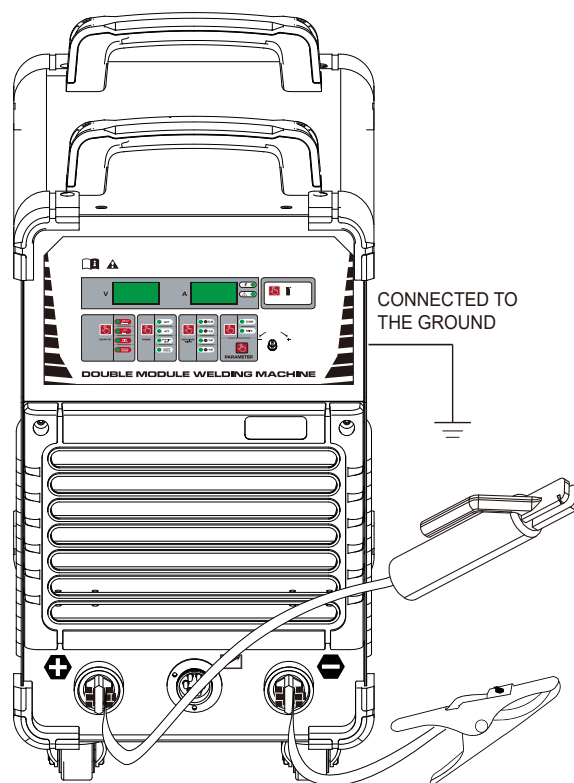
MIG (GMAW+FMAW) welding

1. Connect the power cord of the MIG welding machine to the power socket.
2. Install the wire spool on the welding machine and thread the welding wire through the wire guide tube.
3. Connect the MIG welding gun to the welding machine and ensure a firm connection. Connect the Ground Clamp Cord into the Negative socket(-) and tighten it.
4. Connect the shielding gas cylinder to the welding machine and adjust the gas flow.
5. Turn on the welding machine power and adjust the welding parameters.
6. Press the button on the MIG torch begin to MIG Gas shield welding



MMA (STICK) welding

1. Correctly connect the the earth clamp (-) and electrode holder(+) to the respective outlets according to the sketch
2. Connect the Earth Clamp to the work piece
3. Press the electrode release button and insert the electrode
4. Select correct electrode diameter according to work piece thickness
1. Turn on the welding machine power and select MMA Welding method
5. Rotate knob to get desired amps for welding,start small and work your way up.

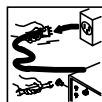


6 MAINTENANCE



WARNING!

Disconnect power before maintaining.



NOTE!

Regular maintenance is important for safe and reliable operation.



NOTE!

Perform maintenance more often during severe dusty conditions.



NOTE!

Ensure welding lead plugs are connected tightly.



NOTE!

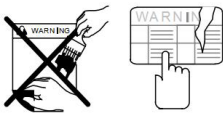
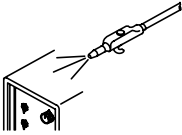
Check welding leads and power cord for damage. If damaged replace parts.

Before each use, make sure that the:

- Product and cables are undamaged
- The torch is clean and undamaged.

6.1 Routine Maintenance

Maintenance schedule during normal conditions. Check equipment before every use.

Interval	Area to maintain		
Every 3 months	 Clean or replace unreadable labels.	 Clean weld terminals.	 Check or replace weld cables.
Every 6 months	 Clean inside unit with reduced compressed air		

6.2 Cleaning Instructions

To maintain the performance and increase the lifetime of the power source, it is mandatory to clean it regularly. How often depends on:

- The welding process,
- The arc time, and
- The working environment.

**CAUTION!**

The repair and maintenance work must be performed by authorized personnel.

**CAUTION!**

The cleaning procedure should be done in a suitable workspace.

**CAUTION!**

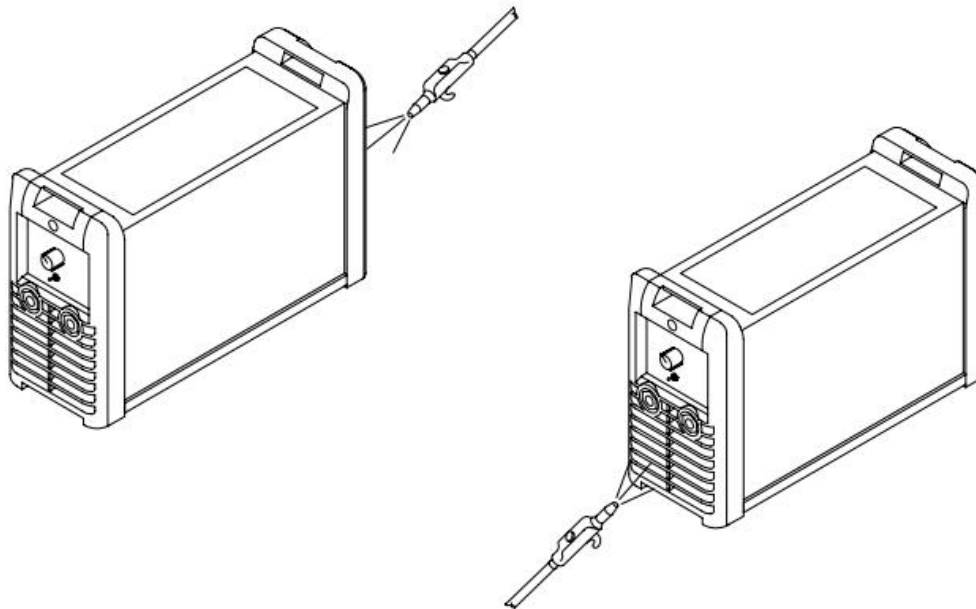
Always wear recommended personal protective equipment, including earplugs, safety glasses, masks, gloves and safety shoes during cleaning.

1. Disconnect the power source from the power supply.

**WARNING!**

Wait for 4 minutes until the capacitors have discharged!

2. Do not remove case when blowing out inside of unit.
Blow out inside. During heavy service clean monthly.



7 TROUBLE SHOOTING

Perform these checks and inspections before contacting an authorized service technician.

Trouble	Remedy
No weld output; unit completely inoperative.	Place line disconnect switch in On position.
	Check that the welding and return cables are correctly connected to the power source.
	Be sure power cord is plugged in and that receptacle is receiving input power.
No weld output; unit is on.	Check and secure loose weld cable(s) into receptacle(s).
	Check and correct poor connection of work clamp to workpiece.
Erratic or improper welding arc or output.	Use proper size and type of weld cable (see your Distributor).
	Clean and tighten weld connections.
	Verify electrode polarity; check and correct poor connections to work piece.
Fan not operating.	Unit not warmed up enough to require fan cooling.
	Check for and remove anything blocking fan movement.
	The fan is faulty, reconnect the cable
Stick welding problems: Hard starts; poor welding characteristics; unusual spattering.	Check that the correct electrodes and polarity are being used.
	Verify electrode polarity; check and correct poor connections.
	Check that the correct Welding current (A) is set.