

# VEVOR<sup>®</sup>

## TOUGH TOOLS, HALF PRICE

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### MIG Welder

**Model:MIG-200/ MIG-200AU / MIG-250**

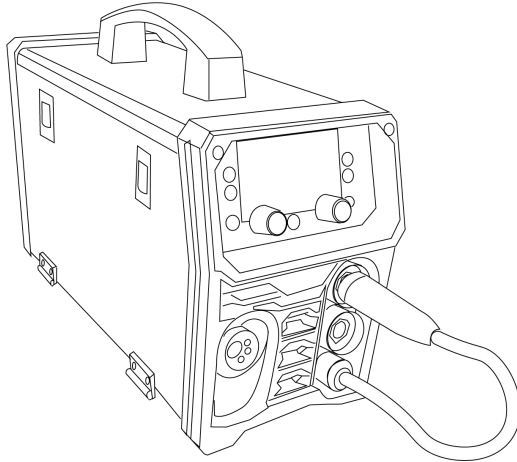
We continue to be committed to provide you tools with competitive price. "Save Half", "Half Price" or any other similar expressions used by us only represents an estimate of savings you might benefit from buying certain tools with us compared to the major top brands and does not necessarily mean to cover all categories of tools offered by us. You are kindly reminded to verify carefully when you are placing an order with us if you are actually saving half in comparison with the top major brands.

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**Model:** MIG-200 / MIG-200AU / MIG-250







Note: The product picture is for reference, the actual details shall prevail

### NEED HELP? CONTACT US!

Have product questions? Need technical support? Please feel free to contact us:

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This is the original instruction, please read all manual instructions carefully before operating. VEVOR reserves a clear interpretation of our user manual. The appearance of the product shall be subject to the product you received. Please forgive us that we won't inform you again if there are any technology or software updates on our product.

	<p>Warning-To reduce the risk of injury, user must read instructions manual carefully.</p>
	<p><b>CORRECT DISPOSAL for Display</b>  This product is subject to the provision of european Directive 2012/19/EU. The symbol showing a wheeled bin crossed through indicates that the product requires separate refuse collection in the European Union. This applies to the product and all accessories marked with this symbol. Products marked as such may not be discarded with normal domestic waste, but must be taken to a collection point for recycling electrical and electronic devices.</p>
	<p>Compliance is a EC security certification.</p>
	<p>FCC Information:  <b>CAUTION:</b> Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment!  This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:  1) This product may cause harmful interference.  2) This product must accept any interference received, including interference that may cause undesired operation.  <b>WARNING:</b> Changes or modifications to this product not expressly approved by the party responsible for compliance could void the user's authority to operate the product.  <b>Note:</b> This product has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules, These limits are designed to provide reasonable protection against harmful interference in a residential installation.  This product generates, uses and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there</p>

is no guarantee that interference will not occur in a particular installation. If this product does cause harmful interference to radio or television reception, which can be determined by turning the product off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

- Reorient or relocate the receiving antenna.
- Increase the distance between the product and receiver.
- Connect the product to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

## Machine Operating Safety

- Do not switch the function modes while the machine is operating. Switching of the function modes during welding can damage the machine. Damage caused in this manner will not be covered under warranty.
- Disconnect the electrode-holder cable from the machine before switching on the machine, to avoid arcing should the electrode be in contact with the work piece.
- Operators should be trained and or qualified.



**Electric shock: It can kill.** Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and internal machine circuits are also live when power is on. In MIG/MAG welding, the wire, drive rollers, wire

feed housing, and all metal parts touching the welding wire are electrically live.

Incorrectly installed or improperly grounded equipment is dangerous.

- Connect the primary input cable according to Australian and New Zealand standards and regulations.
- Avoid all contact with live electrical parts of the welding/cutting circuit, electrodes and wires with bare hands.
- The operator must wear dry welding gloves while he/she performs the

welding/cutting task.

- The operator should keep the work piece insulated from himself/herself.
- Keep cords dry, free of oil and grease, and protected from hot metal and sparks.
- Frequently inspect input power cable for wear and tear, replace the cable immediately if damaged, bare wiring is dangerous and can kill.
- Do not use damaged, under sized, or badly joined cables.
- Do not drape cables over your body.
- We recommend (RCD) safety switch is used with this equipment to detect any leakage of current to earth.



**Fumes and gases are dangerous.** Smoke and gas generated whilst welding or cutting can be harmful to people's health.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health. Do not breathe the smoke and gas generated whilst welding or cutting, keep your head out of

the fumes

- Keep the working area well ventilated, use fume extraction or ventilation to remove welding/cutting fumes and gases.
- In confined or heavy fume environments always wear an approved air-supplied respirator.
- Welding/cutting fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.
- Do not weld/cut in locations near de-greasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapours to form highly toxic and irritating gases.
- Materials such as galvanized, lead, or cadmium plated steel, containing elements that can give off toxic fumes when welded/cut. Do not weld/cut these materials unless the area is very well ventilated, and or wearing an air supplied respirator.



**Arc rays:** harmful to people's eyes and skin. Arc rays from the welding/cutting process produce intense visible and invisible ultraviolet and infrared rays that can burn eyes and skin. Always wear a welding helmet with correct shade or filter lens and suitable protective clothing including welding gloves whilst the

welding/cutting operation is performed.

- Measures should be taken to protect people in or near the surrounding working area. Use protective screens or barriers to protect others from flash, glare and sparks; warn others not to watch the arc.



**Fire hazard.** Welding/cutting on closed containers, such as tanks, drums, or pipes, can cause them to explode. Flying sparks from the welding/cutting arc, hot work piece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire.

Check and be sure the area is safe before doing any welding/cutting.

- The welding/cutting sparks & spatter may cause fire, therefore remove any flammable materials well away from the working area. Cover flammable materials and containers with approved covers if unable to be moved from the welding /cutting area.
- Do not weld/cut on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to the required Safety Standards to insure that flammable or toxic vapours and substances are totally removed, these can cause an explosion even though the vessel has been “cleaned”. Vent hollow castings or containers before heating, cutting or welding. They may explode.
- Do not weld/cut where the atmosphere may contain flammable dust, gas, or liquid vapours (such as petrol)
- Have a fire extinguisher nearby and know how to use it. Be alert that welding/cutting sparks and hot materials from welding/cutting can easily go through small cracks and openings to adjacent areas. Be aware that welding/cutting on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.



**Gas Cylinders.** Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Because gas cylinders are normally part of the welding/cutting process, be sure to treat them carefully. CYLINDERS can explode if damaged.

- Protect gas cylinders from excessive heat, mechanical shocks, physical damage, slag, open flames, sparks, and arcs.

- Insure cylinders are held secure and upright to prevent tipping or falling over.
- Never allow the welding/cutting electrode or earth clamp to touch the gascylinder, do not drape welding cables over the cylinder.
- Never weld/cut on a pressurised gas cylinder, it will explode and kill you.
- Open the cylinder valve slowly and turn your face away from the cylinder outlet valve and gas regulator.



**Gas build up.** The build up of gas can causes a toxic environment, deplete the oxygen content in the air resulting in death or injury. Many gases use in welding/cutting are invisible and odourless.

- Shut off shielding gas supply when not in use.
- Always ventilate confined spaces or use approved air-supplied respirator.



**Electronic magnetic fields.** MAGNETIC FIELDS can affect Implanted Medical Devices.

- Wearers of Pacemakers and other Implanted Medical Devices should keep away.
- Implanted Medical Device wearers should consult their doctor and the device manufacturer before going near any electric welding, cutting or heating operation.



**Noise can damage hearing.** Noise from some processes or equipment candamage hearing.

- Wear approved ear protection if noise level is high.



**Hot parts.**Items being welded/cut generate and hold high heat and can cause severe burns.

Do not touch hot parts with bare hands. Allow a cooling period before working on the welding/cutting gun. Use insulated welding gloves and clothing to handle hot parts and prevent burns.

## CAUTION

### 1. Working Environment.

- i. The environment in which this welding/cutting equipment is installed must be free of grinding dust, corrosive chemicals, flammable gas or material setc, and at no more than maximum of 80% humidity.
- ii. When using the machine outdoors protect the machine from direct sun light, rain water and snow etc; the temperature of working environment should be maintained within  $-10^{\circ}\text{C}$  to  $+40^{\circ}\text{C}$ .
- iii. Keep this equipment 30cm distant from the wall.
- iv. Ensure the working environment is well ventilated.

## **2. Safety Tips.**

### **i. Ventilation**

This equipment is small-sized, compact in structure, and of excellent performance in amperage output. The fan is used to dissipate heat generated by this equipment during the welding/cutting operation. Important: Maintain good ventilation of the louvres of this equipment. The minimum distance between this equipment and any other objects in or near the working area should be 30 cm. Good ventilation is of critical importance for the normal performance and service life of this equipment.

### **ii. Thermal Overload protection.**

Should the machine be used to an excessive level, or in high temperature environment, poorly ventilated area or if the fan malfunctions the Thermal Overload Switch will be activated and the machine will cease to operate. Under this circumstance, leave the machine switched on to keep the built-in fan working to bring down the temperature inside the equipment. The machine will be ready for use again when the internal temperature reaches safe level.

### **iii. Over-Voltage Supply**

Regarding the power supply voltage range of the machine, please refer to "Main parameter" table. This equipment is of automatic voltage compensation, which enables the maintaining of the voltage range within the given range. In case that the voltage of input power supply amperage exceeds the stipulated value, it is possible to cause damage to the components of this equipment. Please ensure your primary power supply is correct.

iv. Do not come into contact with the output terminals while the machine is in operation. An electric shock may possibly occur.

# ATTENTION! - CHECK FOR GAS LEAKAGE

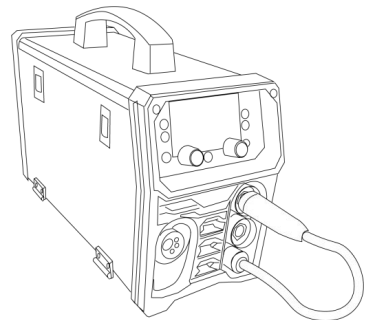
At initial set up and at regular intervals we recommend to check for gas leakage  
Recommended procedure is as follows:

1. Connect the regulator and gas hose assembly and tighten all connectors and clamps.
2. Slowly open the cylinder valve.
3. Set the flow rate on the regulator to approximately 8-10 L/min.
4. Close the cylinder valve and pay attention to the needle indicator of the contents pressure gauge on the regulator, if the needle drops away towards zero there is a gas leak. Sometimes a gas leak can be slow and to identify it will require leaving the gas pressure in the regulator and line for an extended time period. In this situation it is recommended to open the cylinder valve, set the flow rate to 8-10 L/min, close the cylinder valve and check after a minimum of 15 minutes.
5. If there is a gas loss then check all connectors and clamps for leakage by brushing or spraying with soapy water, bubbles will appear at the leakage point.
6. Tighten clamps or fittings to eliminate gas leakage.

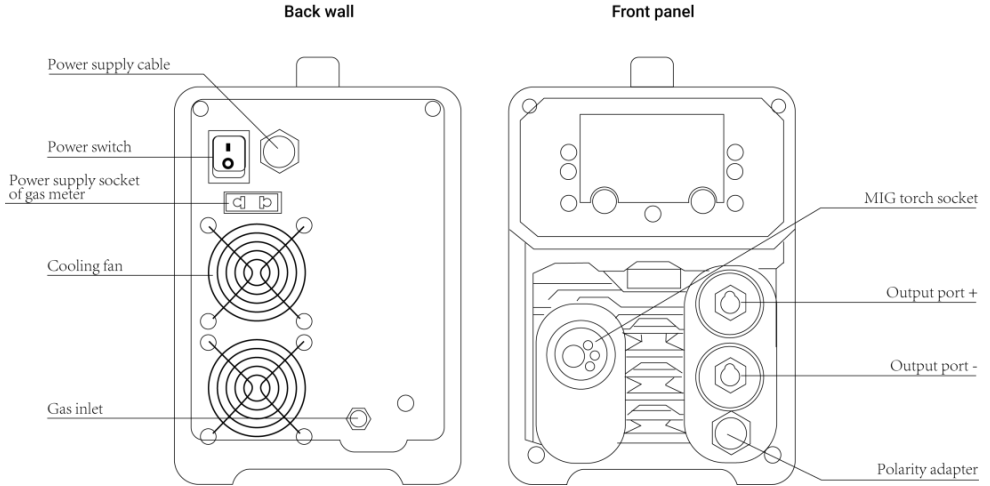
**IMPORTANT!** - We strongly recommend that you check for gas leakage prior to operation of your machine. We recommend that you close the cylinder valve when the machine is not in use.

## TECHNICAL DATA

Gas Metal Arc Welding (GMAW) is an arc welding process where a consumable wire is fed by motor driven feed rolls to a welding gun, and where welding current is supplied from the welding power source. The welding arc is struck between the work piece and the end of the wire, which melts into the weld pool. The arc and the weld pool are both shielded by gas flow from the gun, or in the case of “self shielded” wires, by gases generated by the wire core. The process is very versatile in that by selection of the correct wire composition, diameter and shielding gas, it can be used for

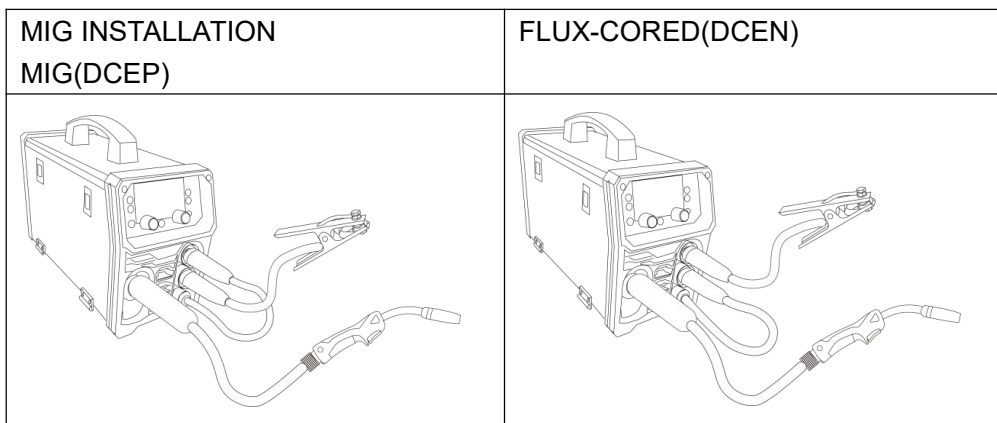


applications ranging from sheet-metal to heavy plate, and metals ranging from carbon steel to aluminum alloys.

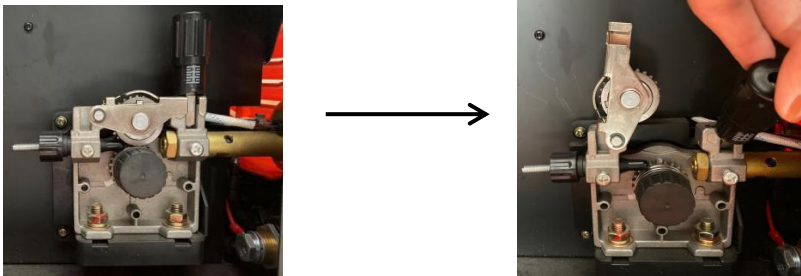


TECHNICAL DATA MIG-200 / MIG-200AU		
Power Supply / Phases	220V +/- 10% 50/60Hz	220V/110V +/- 10% 50/60Hz
Rated input power	MIG:30-200A	MIG:220V:30-200A/110V:30-120 A
	MMA:30-140A	MMA:220V:30-140A/110V:30-120 A
	TIG:20-140A	TIG:220V:20-140A/110V:20-120A
Duty cycle	MIG: 20% 200A / 60% 115A / 100% 89A	220V: MIG: 20% 200A / 60% 115A / 100% 89A 110V: MIG::20% 120A/ 60% 70A / 100% 54A
Feeding mode	ALL IN ONE	ALL IN ONE
Wire feeding speed	2-15M/min	2-15M/min
Welding plate Thickness	0.5-15mm	0.5-15mm
Welding wire diameter	0.8-1.2	0.8-1.2

TECHNICAL DATA MIG-250		
Power Supply / Phases	220V +/- 10% 50/60Hz	220V/110V +/- 10% 50/60Hz
Rated input power	MIG:30-250A	MIG:220V:30-250A/110V: 30-120A
	MMA:30-160A	MMA:220V:30-160A/110V: 30-120A
	TIG:20-160A	TIG:220V:20-160A/110V:2 0-120A
Duty cycle	MIG: 20% 250A / 60% 145A / 100% 112A	220V: MIG: 20% 250A / 60% 145A / 100% 112A 110V: MIG::20% 120A/ 60% 70A / 100% 54A
Feeding mode	ALL IN ONE	ALL IN ONE
Wire feeding speed	2-15M/min	2-15M/min
Welding plate Thickness	0.5-15mm	0.5-15mm
Welding wire diameter	0.8-1.2	0.8-1.2



1. Connect the welding torch into the Euro Mig torch connection socket on the front panel, and tighten it.
2. Insert the earth cable plug into the required polarity and tighten -negative for gas shielded wires positive for gasless wires. + positive for gas wire. The weld power cable goes into the opposing negative or positive socket.
3. Connect Gas Line to Gas Regulator and connect the gas regulator to the Gas Cylinder. Carefully open the valve of the gas cylinder, set the flow to 5l/min.(When using gasless wire)
4. Fit the correct type and size of drive rollers (see the chapter of wire feed roller selection)
5. Place the Wire Spool onto the Spool Holder. Feed the wire into the wire feeder inlet guidetube through to the drive roller.



6. At the wire feed assembly, release the compression screw by swiveling it outwards. This allows the top roller arm to spring to the open position. The end of the welding wire can now be passed through the inlet guide, over the bottom driven roller, and into the output wire guide tube.
7. Check that the drive roll groove is correct for the wire in use. The appropriate size is stamped on the visible side of the installed roller. Check also that the correct size contact tip is fitted at the gun end.
8. Return the top roller arm to the closed position and adjust the compression screw to provide sufficient clamping of the drive roll to achieve constant wire feed. Do not over tighten.
9. With the equipment energized, operate the gun switch to feed wire through the gun cable.

# WIRE FEED ROLLER SELECTION

We provide 3 kinds of feeding rolls including V-type, U-type and Knurled.

V-type: for carbon steel, stainless steel, or copper welding.

U-type: for aluminum welding

Knurled: for Flux-cored wire welding

## Accessories:

### MIG-200

1. MB15 MIG TORCH x 3m, the kit included 1.0 tip assembled,
2. 0.8 tip x 2pcs, 1.0 tip x 2pcs,
3. small wrench x1pcs
4. Electrode holder x 2m
5. Earth clamp x 1.5m
6. Self-shielded welding wire(1.0mm) x 1roll
7. Mesh hose x2m
8. Feeding roll: V-type0.8/1.0 1pcs; Knurled0.8/1.0 1pcs.
9. Hose clamp 6/12 x2pcs
10. American transition plug 110v-220v 0.3m x1pc (Available for110V/220V models only)

### MIG-200AU

1. MB15 MIG TORCH x 3m, the kit included 1.0 tip assembled
2. 0.8 tip x 2pcs, 1.0 tip x 2pcs
3. small wrench x1pcs
4. Electrode holder x 2m
5. Earth clamp x 1.5m
6. Self-shielded welding wire(1.0mm) x 1roll
7. Mesh hose x2m
8. Feeding roll: U-type1.0/1.2 1pcs; V-type0.8/1.0 1pcs; Knurled0.8/1.0 1pcs.
9. Hose clamp 6/12 x2pcs
10. American transition plug 110v-220v 0.3m x1pc (Available for110V/220V models only)

## **MIG-250**

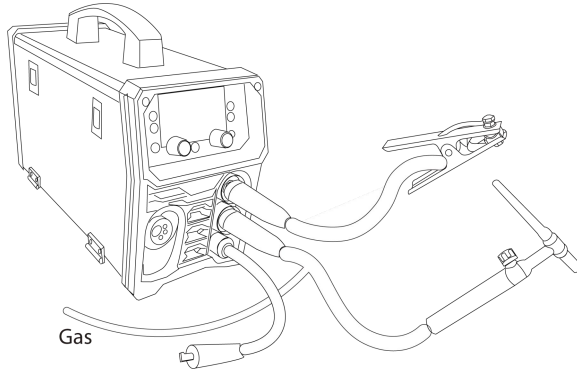
1. MB15 MIG TORCH x 3m, the kit included 1.0 tip assembled,
2. 0.8 tip x 2pcs, 1.0 tip x 2pcs,
3. small wrench x1pcs
4. Electrode holder x 2m
5. Earth clamp x 1.5m
6. Self-shielded welding wire(1.0mm) x 1roll
7. Mesh hose x2m
8. Feeding roll: U-type1.0/1.2 1pcs; V-type0.8/1.0 1pcs; Knurled0.8/1.0 1pcs.
9. Hose clamp 6/12 x2pcs
10. American transition plug 110v-220v 0.3m x1pc ( Available for110V/220V models only )

## **LIFT TIG INSTALLATION**

In the TIG (Tungsten Inert Gas) method, the electric arc strikes under an inert gas (argon) shield, between the welded element and the non-fusible electrode made of pure tungsten or tungsten with additives.

The TIG method is especially recommended for aesthetic and high-quality joining of metals, without laborious mechanical treatment after welding. However, this requires proper preparation and cleaning of the edges of both welded elements. The mechanical properties of the additive material should be similar to the properties of the welded parts. The role of shielding gas is always played by pure argon, supplied in quantities depending on the welding current set.

## TIG(DCEN)



Note: 1, When you do Lift-TIG welding, you need to use external pure argon gas;  
2, The Lift-TIG torch is not included in standard package.

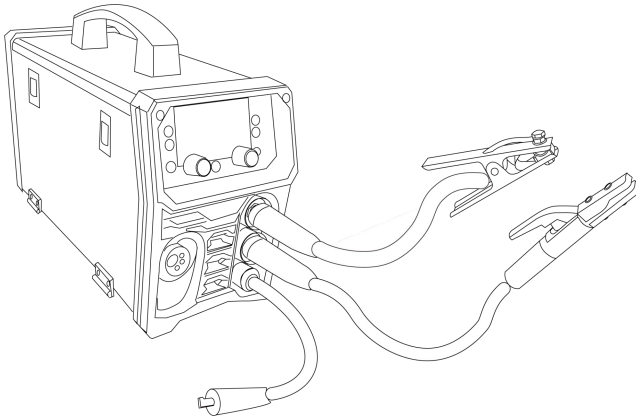
1. Connect the welding torch into the Euro Mig torch connection socket on the front panel, and tighten it.
2. Insert the earth cable plug into the positive socket. The TIG torch plug into negative socket.
3. Connect Gas Line from the torch to Gas Regulator and connect the gas regulator to the Gas Cylinder. Carefully open the valve of the gas cylinder, set the flow to 5l/min.
- 4.

### MMA INSTALLATION

Arc welding is also called the MMA (Manual Arc Welding) method and is the oldest and most versatile arc welding method.

The MMA method uses a coated electrode, consisting of a metal core covered with a lagging. An electric arc is created between the end of the electrode and the material being welded. Arc ignition is created by touching the electrode with the end of the work piece. The welder feeds the electrode as it melts into the work piece so as to maintain a constant arc length and at the same time moves its melting end along the welding line. The melting coating of the electrode gives off protective gases that protect the liquid metal from the influence of the surrounding atmosphere, and then solidifies and forms a slag on the surface of the lake, which protects the coagulating weld from cooling too quickly and harmful environmental influences.

## STICK(DCEP)



Connect the welding and mass leads to the appropriate output connectors of the welder, according to the polarity recommended by the manufacturer of the electrodes you intend to weld.



1	LED display screen
2	The welding mode selector, there are 4 modes: MIG-200: MIG manual/MIG SYN/MMA/LIFT TIG MIG-200AU: MIG manual/MIG Pulse/MMA/LIFT TIG
3	The trigger mode selector for 2T/4T and VRD mode.
4	The material selector for Iron/Stainless steel/Flux-cored/Aluminum
5	The welding wire diameter selector, 0.8/1.0/1.2
6.	The Job recalling button, you can call out the job setting memory that you saved before
7.	The Job saving button, you can save the current setting data in job memory.
8.	The gas selector, pure CO <sub>2</sub> /mixed gas
9.	The welding voltage adjustment knob, click it enter a loop option: Pre-gas/inductance/Post-gas/peak current setting
10	The welding current adjustment knob, click it enter a loop option: Pre-gas/inductance/Post-gas/peak current setting

## Weld Mode



**MIG(Manual)** - The welding voltage can be adjusted individually at a fixed current;

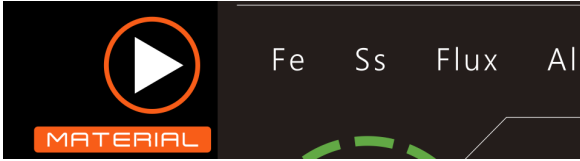
**MIG(SYN)** – Synergy mode, this is achieved by amperage setting, the machine will automatically set the welding voltage and wire feed speed, to the optimal and most efficient settings apply to the machine. (Just apply to MIG-200 AU only)

**MIG(Pulse)** -This mode is especially suitable for aluminum welding, and effectively improve the forming effect of welding seams.(Just apply to MIG-200only)

**MMA** –Stick arc welding mode

**TIG (Lift)** –Lift-TIG welding mode, on this mode, you should use pure argon gas

## Material Mode



**Fe** –for carbon steel, mild steel or iron;

**Ss**– for stainless steel;

**Flux** –for Flux-cored wire(gasless weld) only;

**Al**– Aluminum alloy welding, for example AISi, AIMg.

There are 4 selections for different materials, Fe(carbon steel), Ss(stainless steel), Flux(gasless welding), Al(aluminum)

## TRIGGER MODE



### 2T

The 2T light will illuminate when the power source is in 2T welding mode. In this mode, the torch trigger must remain pressed (closed) for the welding output to be active. See example below: Press and hold the torch trigger to activate the power source, the gas valve and gas will flow. After the gas pre flow time ends, HF discharge begins and then the welding arc will ignite and then the current rises up (slope up time) to the welding current value gradually until you achieve the preset welding current. When the torch switch is released, the current begins to drop gradually (slope down time) and when it drops to the minimum current value, the welding output is cut off and the gas valve will close, once the post flow time ends, this is the end of the welding process. If the torch switch is pressed down during the current downslope period, the current will rise up again to the preset welding current value and the slope out process will only start again once the torch switch to be released.

## 4T

The 4T light will illuminate when the power source is in 4T welding mode, this trigger mode is mainly used for long welding runs to assist in reducing operator finger fatigue. In this mode the user can press and release the torch trigger and the output will remain active until the trigger switch is depressed again and released. In 4T mode, the gas valve opens when the torch switch is pressed down, after the pre flow time ends, HF discharge occurs which ignites the welding arc. Once the welding arc has successfully ignited the initial current value is active and the torch switch can now be released, the welding current rises up to the preset welding current value gradually and you will continue to weld your material. To finish welding, simply press the torch switch down again and the current will begin to gradually drop (slope out time) to the final current value. When the torch switch is released the current output is cut off and the gas will continue to flow until your preset post flow time has elapsed.

## VRD

Voltage Reduction Devices (VRD) are critical components in the welding industry, designed to enhance safety by reducing the open-circuit voltage when the welding equipment is not actively in use. **Their primary function is to minimize the risk of electric shock** to the welder, which can occur if they come into contact with the electrode while the equipment is idle.

## WIRE DIAMETER

0.8/1.0/1.2

## GAS SELECTOR



CO2 100% - This option is only available in Fe mode and Ss mode

MIXED - This option is only available in Fe mode and Ss mode

MIG Welding Current-Wire Diameter And Plate Thickness Chart

Wire diameter	Plate thickness	1mm	2mm	3mm	4mm	5mm
AL-Si1.0/(4043) (DCEP)	Wire speed (M/min)	2.0	4.2	5.8	7.0	8.5
	Welding current (A)	24	58	85	107	133
	Arc voltage	16.0	18.3	19.2	21.0	22.5
AL-Si1.2/(4043) (DCEP)	Wire speed (M/min)	1.5	3.0	4.5	6.5	7.8
	Welding current (A)	27.0	64	100	143	173
	Arc voltage	16.5	17.8	19.5	22.5	24.5
Al-Mg1.0/(5356) (DCEP)	Wire speed (M/min)	2.5	6.0	8.0	11.0	12.5
	Welding current (A)	30	70	95	130	148
	Arc voltage	14.8	18.3	19.8	22.8	23.4
Al-Mg1.2/(5356) (DCEP)	Wire speed (M/min)	2.2	4.0	5.3	7.5	8.5
	Welding current (A)	33	65	89	128	141
	Arc voltage	15.7	17.2	17.7	19.3	20.0
AL1.0/(1070) (DCEP)	Wire speed (M/min)	2.8	5.3	7.0	8.5	10.0
	Welding current (A)	37	77	107	133	160
	Arc voltage	16.9	18.9	21.0	22.5	23.6
Al-Si 1.2/(1070) (DCEP)	Wire speed (M/min)	1.7	3.2	4.0	5.8	6.9
	Welding current (A)	30.0	68.0	88.0	127.0	152.0
	Arc voltage	16.7	18.0	18.8	21.6	22.9
Cu-Si 1.0/(CuSi)	Wire speed (M/min)	4.0	9.0	12.0	14.0	16.0

(DCEP)	Welding current (A)	70.0	156.0	200.0	237.0	260.0
	Arc voltage	19.0	23.8	25.5	27.0	29.0
Cu-Si 1.2/(CuSi) (DCEP)	Wire speed (M/min)	2.8	5.4	6.8	8.5	9.4
	Welding current (A)	72.0	153.0	194.0	220.0	241.0
	Arc voltage	19.7	23.5	25.6	28.5	29.6

Instruction: Al and Al-Si wire both use Al-Si Function.

## WELDING POLARITY IN THE TIG METHOD

Negative polarity is used for most TIG welding operations. The welding gun is connected to the negative pole, while the earth gun is connected to the positive pole. In this way, the electrode consumption is reduced, the amount of heat accumulated in the welded material increases.

## INFLUENCE OF ARC IN THE TIG LIFT METHOD

To ignite the welding arc in the TIG LIFT method, unscrew the valve on the handle, press the button, then gently rub the tungsten electrode against the workpiece and raise the torch lightly so that the arc ignites. Releasing the switch button ends the welding process (2T).



An example of a welding gun for the TIG lift method with a valve in the torch.

## ATTENTION!

The TIG torch is not standard equipment of the set

TIG WELDING CURRENT AND PLATE THICKNESS CHART			
Tungsten Diameter/ Plate Thickness	1.6mm Amps.	2mm Amps.	2.4mm Amps.
24ga (0.61mm)	10	/	/
22ga (0.8mm)	20	20	
20ga (1.0mm)	30	30	30
18ga (1.024mm)	40	40	40
17ga (1.5mm)	50	50	50
14ga (2.0mm)	65	65	65
1/8"ga(3.0mm)	80	80	80
5/36"ga(4.0mm)	100	100	100
5/36"ga $\geq$ (4.0mm)	/	100-150	100-150

## MMA SETTING GUIDE

Arc welding is also called the MMA (Manual Arc Welding) method and is the oldest and most versatile arc welding method.

The MMA method uses a coated electrode, consisting of a metal core covered with a lagging. An electric arc is created between the end of the electrode and the material being welded. Arc ignition is created by touching the electrode with the end of the workpiece. The welder feeds the electrode as it melts into the workpiece so as to maintain a constant arc length and at the same time moves its melting end along the welding line. The melting coating of the electrode gives off protective gases that protect the liquid metal from the influence of the surrounding atmosphere, and then solidifies and forms a slag on the surface of the lake, which protects the coagulating weld from cooling too quickly and harmful environmental influences.

MMA WELDING ELECTRODE DIAMETER PLATE THICKNESS AND CURRENT DIAMETER			
Electrode Diameter/ Plate Thickness	2.5mm Amps.	3.2mm Amps.	4mm Amps.
17ga (1.5mm)	30	/	/
14ga (2.0mm)	50	50	/
1/8"ga(3.0mm)	70	70	70
5/32"ga(4.0mm)	90	90	90

## TROUBLE SHOOTING

Malfunctions	Solution
The meter show nothing; Fan does not rotate; No welding output	<ul style="list-style-type: none"> <li>➤ Confirm the power switch is on.</li> <li>➤ Power supply available for input cable.</li> <li>➤ Check if the three phase commute bridge is damaged.</li> <li>➤ There is malfunction occurs in the supplementary power source on control board (contact dealers).</li> </ul>
The meter shows; Fan works normally; No welding output	<ul style="list-style-type: none"> <li>➤ Check if all the sockets in the machine are connected well.</li> <li>➤ There is open circuit or badness of connect at the joint of output terminal.</li> <li>➤ The control cable on the torch is broken off or the switch is damaged.</li> <li>➤ The control circuit is damaged.(contact to dealers)</li> </ul>

<p>the meter shows; Fan works normally; Abnormal indicator lights.</p>	<ul style="list-style-type: none"> <li>➤ It might be over-current protection, please turn off the power switch; restart the machine after the abnormal indicator light winked.</li> <li>➤ It might be overheating protection, please wait for about 2-3 minutes until the machine renew without turn off the power switch.</li> <li>➤ It might be multifunction of inverter circuit. (contact dealers)</li> </ul>
<p>Power indicator light is not on, fan does not turn, no welding press output</p>	<ul style="list-style-type: none"> <li>➤ Power switch is broken</li> <li>➤ Verify that the electrical grid connected to the input electromechanical regulations has electricity</li> <li>➤ Enter whether there is a break in the cable</li> </ul>
<p>The power switch indicator is on and the fan does not turn</p>	<ul style="list-style-type: none"> <li>➤ It is possible that the input is misconnected to the 380V power supply, causing the over-voltage protection circuit to start, which is changed to the 220V power supply, and it can be started again.</li> <li>➤ 220V power instability (too long input line) or input line overlap on the grid,resulting in overvoltage protection</li> <li>➤ Open and close the power switch continuously for a short period of time, causing the over-voltage protection circuit to start, shut down and wait for 2-3 minutes before starting up again.</li> </ul>



<p>When the fan turns, the abnormal indicator light is not on and there is no high frequency discharge sound, and no gas flow from the cutting torch</p>	<ul style="list-style-type: none"> <li>➤ The vh-07 plug-in voltage of multimeter to MOS panel should be about DC308V</li> <li>➤ The auxiliary power on MOS panel has a green indicator light. If the light is not on, the auxiliary power is not working</li> <li>➤ Control circuit problem, find the cause or contact the dealer to cut the control line on the gun. Cutting gun cable is broken.</li> </ul>
<p>Output current during cutting is not stable or not controlled by the potentiometer</p>	<ul style="list-style-type: none"> <li>➤ 1K potentiometers should be replaced if damaged.</li> <li>➤ Poor contact at various joints, especially connectors, shall be checked</li> </ul>
<p>Abnormal indicator light is not on, high frequency discharge sound, can not cut</p>	<ul style="list-style-type: none"> <li>➤ It may be overcurrent protection, please turn off the machine, and restart the machine after the abnormal light is off.</li> <li>➤ May be overheat protection, do not shut down waiting for 2-3 minutes machine can be restored to normal.</li> <li>➤ It may be the inverter circuit fault, please unplug the power plug of the main transformer on the MOS panel (close to the wind</li> </ul>



## MAINTENANCE

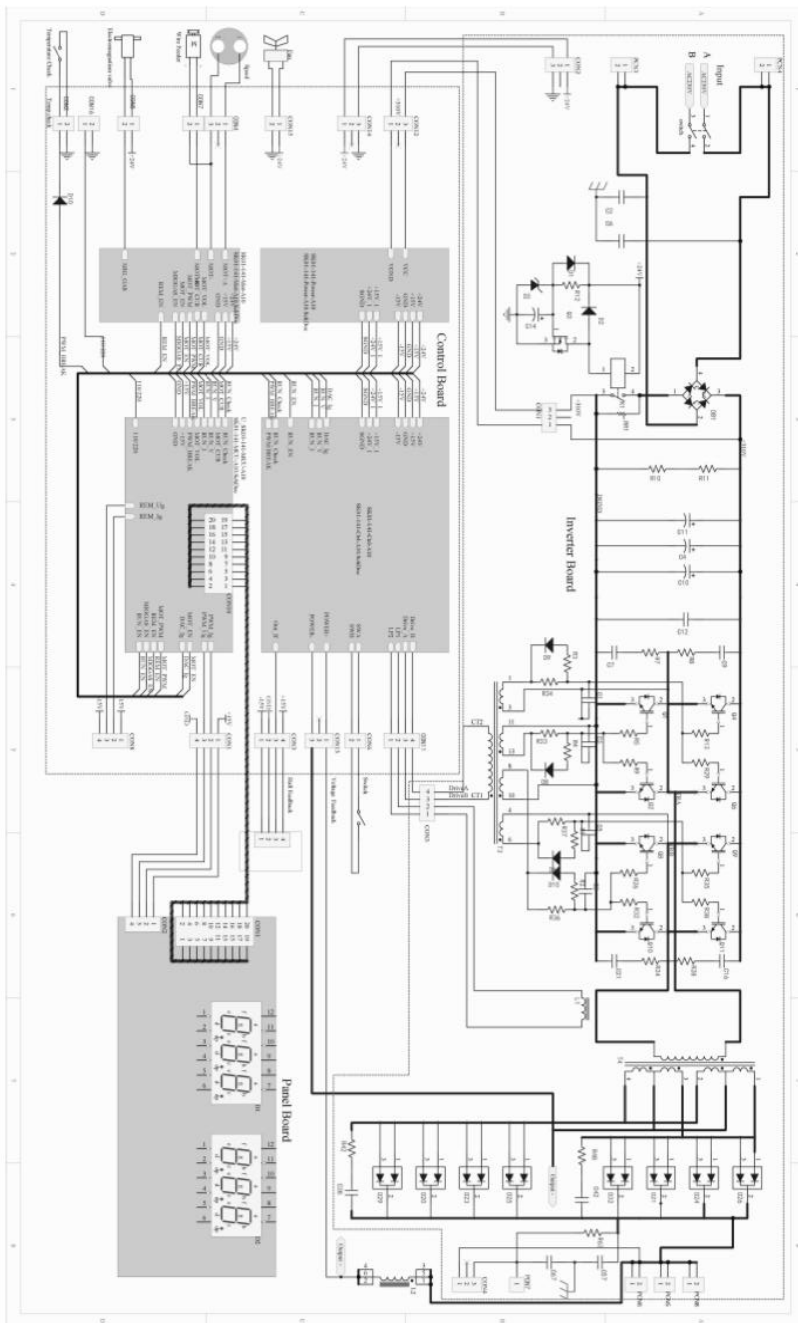
Regularly remove dust with clean, compressed air. If the welding machine is working in smoky conditions, in heavily polluted air, remove accumulated dust daily.

The compressed air pressure should be maintained at such a level as not to damage small parts inside the device max. 2-4 bar.

Regularly check the internal systems of the welder, check the correctness and reliability of connections (especially equipment and parts). If you notice rust and loose the connection, remove the rust or oxide coating with sandpaper, reconnect and tighten.

Avoid situations where water or steam can enter the device. If the welder gets wet, dry it and then check the insulation of the device (also between joints and contacts). After checking that everything is OK, you can continue working.

# CIRCUIT



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