

沃维电气 深圳市沃维电气制造有限公司

Shenzhen Woweld Electric Co., Ltd.

Inverter MIG-400 welding mahine

MMA & MIG, Three phase, 50~60 Hz

Heavy Industrial fabrication, such as steel construction and shipbuilding

1.Features

- * Digital Meter-Accurate weld parameter readings
- * Unique design provides dramatically lower power consumption
- Fast Arc Response-Yields tight output control and more consistent bead appearance, smooth arc action, and excellent puddle control
- * Excellent Arc Performance-All welding parameters are digitally controlled by advanced software design.

Accessories



I Torch	☑ Earth Cable	⊠Clamp	☑ Wire Feeder	
QTB-350 torch/3m	3m/35mm ²	500A	CS-403/5 m	

2. Process: MIG, MMA(stick)

3. Technical Data

Item No.	Function	Rated Input Voltage V	Rated Input Power KVA	Rated Output Current A	Duty Cycle	Dimension L*W*H CM
MIG-400	MMA	200/445	10	280	- 60%	60*30*52
	MIG	380/415	17.2	400		



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SAFETY

WARNING

ARC WELDING CAN BE HAZARDOUS. PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.

BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.



ELECTRIC AND MAGNETIC FIELDS may be dangerous.

1.a Electric current flowing through any conductor causes localized Electric and Magnetic Field (EMF). Welding current creates EMF fields around welding cables and welding machines.

- EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physican before welding.
- 1.c All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
- 1.d.1 Route the electrode and work cables together Secure them with tape when Possible
- 1.d.2 Never coil the electrode lead around your body.
- 1.d.3 Do not place your body between the electrode and work cables. If the electrode cable is on your right side, the work cable should also be on your right side.
- 1.d.4 Connect the work cable to the workpiece as close as possible to the area being welded.



ARC RAYS can burn.

- 2.a Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc. Headshield and filter lens should conform to ANSI Z87. I standards.
- 2.b Use suitable clothing made from durable flame-Resistant material to protect your skin and that of your helpers from the arc rays.
- 2.c Protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.



ELECTRIC SHOCK can kill.

- 3.a The electrode and work (or ground) circuits are electrically "hot" when the welder is on. Do not touch these "hot" parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hand.
- 3.b Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

In addition to the normal safety precautions, if welding must be performed under electrically hazardous conditions (in damp locations or while wearing wet clothing; on metal structures such as floors, grating or scaffolds; when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with the workpiece or ground) use the following equipment:

- Semiautomatic DC Constant Voltage (Wire) Welder.
- DC Manual (Stick) Welder.
- AC Welder with Reduced Voltage Control.
- 3.c In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically "hot".
- 3.d Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.
- 3.e Ground the work or metal to be welded to a good electrical (earth) ground.
- 3.f Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.
- 3.g Never dip the electrode in water for cooling.



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FUMES AND GASES can be dangerous.

- 4.a Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases.When welding, keep your head out of fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. When welding with electrodes which require special ventilation such as stainless or hard facing (see instructions on container or MSDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and below Threshold Limit Values (TLV) using local exhaust or mechanical ventilation. In confined spaces or in some circumstances, outdoors, a respirator may be required. Additional precautions are also required when welding on galvanized steel.
- 4.b Do not weld in locations near chlorinated hyfrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays or the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- 4.c Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- 4.d Read and understand the manufacturer's instructions for this equipment and the consumables to be used, including the material safety data sheet (MSDS) and follow your employer's safety practices. MSDS forms are available from your welding distributor or from the manufacturer.



FOR ELECTRICALLY powered equipment.

- 5.a Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- 5.b Install equipment in accordance with the national standard all local standards and the manufacturer' recommendations
- 5.c Ground the equipment in accordance with the national standards and the manufacturer's recommendations.



WELDING SPARKS can cause fire or explosion.

- 6.a Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines. Have a fire extinguisher readily available.
- 6.b When not welding, make certain no part of the electrode circuit is touching the work or ground.
 Accidental contact cab cause overheating and create A fire hazard.
- 6.c Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned".
- 6.d Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and over your hair.



CYLINDER may explode if damaged.

- 7.a Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.
- 7.b Always keep cylinders in an upright position securely chain undercarriage or fixed support.
- 7.c Cylinder should be located:
 - •Away from areas where they may be struck or subjected to physical damage
 - •A safe distance from arc welding or cutting operations any other source of heat, sparks, or flame.
- 7.d Never allow the electrode, electrode holder or any Other electrically "hot" parts to touch a cylinder.
- 7.e Keep your head and face away from the cylinder valve Outlet when opening cylinder value.



Operation

5.1 Front & rear panel layout



1	Voltage display meter	2	Current display meter	3	MMA welding current
4	MMA/MIG	5	Power lamp	6	Inductance
7	Speed mode	8	O.C lamp	9	VS MIG on/off
10	O.T lamp	11	VS MIG voltage	12	Power switch
13	AC input	14	Fuse	15	Input cable
16	Fan	17	"+" Terminal	18	Remote control
19	"-" Terminal				



5.2 Spare parts identification







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1	Input cable	2	Power switch	3	Capacitor PCB board
4	Three-phase rectifier module	5	Control transformer	6	Driving PCB board
7	Control PCB board	8	Isolation board	9	Voltage Display Meter
10	Current Display Meter	11	Fan	12	Rectifier absorbing board
13	Rectifier bridge	14	Heatsink	15	Main transformer
16	Inductor	17	Load board	18	"-" Terminal
19	IGBT absorbing board	20	IGBT Module		

5.2 Install procedure

1. Welding machine should be installed in a stable position and with good

ventilation. Avoid direct sun outdoors. Avoid transport in invert or side position.

- 2.Connect electrode holder, earth cable, according to connection diagram.
- 3.Set welding current according to Table
- 4. Commission the machine after the machine is installed and tested.



6.Wire feeder connection







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Troubleshooting

CAUTION	If for
	perfo
	Field

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your local authorized **WOWELD** Electric Field Service Facility for technical assistance.

Observe all Safety Guidelines detailed in the beginning and throughout this manual.				
Problems (Symptoms)	Possible Areas of Misadjustment(s)	Recommended Course of Action		
Output Problems				
Major physical or electrical	None	Contact WOWELD Electric Field		
damage is evident when the		Service facility for technical		
sheet metal covers are removed.		assistance.		
Input fuses keep blowing, or	1. Make certain that fuses or breakers are			
input breaker keeps tripping	properly sized. See Installation section of this			
	manual for recommended fuse and breaker sizes			
	2. Welding procedure is drawing too much	If there is internal damage,		
	output current, or duty cycle is too high.Reduce	contact WOWELD Electric		
	output current, duty cycle, or both.	Service facility for technical		
	3. There is internal damage to the power source.	assistance.		
Machine will not power up	1. Make certain that the power to device is	1.In a typical installation the		
(no lights, no fan, etc.)	energized and is within the operating range.	main power switch on the		
		controller is the power switch.		
Thermal LED is lit.	1. Check for proper fan operation. (Fan should	Clear obstruction or repair fan		
	run whenever output power is on.) Check for			
	material blocking intake or exhaust louvers, or	After machine has cooled,		
	for excessive dirt clogging cooling channels in	reduce load, duty cycle, or		
	machine.	both		
	2. Machine may have been operated above it's			
	duty cycle			
Machine won't weld, can't get	1. The ALARM light is lit, input voltage is too low	Contact WOWELD Electric Field		
any output.	or too high. Make certain that input voltage	Service facility for technical		
	is proper, according to the Rating Plate.	assistance.		
	2.If the Thermal LED is also lit, see Thermal LED			
	is Lit section.			
Machine won't produce full	1. Input voltage may be too low, limiting output	1.Correct input voltage level.		
output.	capability of the power source. Make certain			
	that the input voltage is proper, according to the			
	Rating Plate.	2.Contact WOWELD Electric		
	2. Secondary current or voltage is not properly	Field Service facility for		
	calibrated.	technical assistance.		
Machine often "noodle"	Secondary current limit has been exceeded, and	Adjust procedure or reduce load		
welds(output is limited to	the machine has phased back to protect itself.	to lower current draw from the		
approximately 100 amps)		machine.		



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	If for any reason you do not understand the test procedures or are unable to
CAOTION	perform the tests/repairs safely, contact your local authorized WOWELD Electric
	Field Service Facility for technical assistance.

Observe all Safety Guidelines detailed in the beginning and throughout this manual.					
Problems (Symptoms)	Possible Areas of Misadjustment(s)	Recommended Course of Action			
General degradation of the weld	1. Check for feeding problems, bad connections,	If the machine need calibration,			
performance	excessive loops in cabling, etc.	contact your local authorized			
	2. Verify weld mode is correct for processes.	WOWELD Electric service facility			
	3. The power source may require calibration.	for technical assistance.			
The 4-step mode is not available	1. Verify the crater on/off toggle switch on the	If the PC board in machine is at			
	front panel of machine is at on position	fault, contact your local			
	2. Verify the parameter of crater current and	authorized WOWELD Electric			
	voltage are set fault.	service facility for technical			
	3. PC board in machine possibly at fault.	assistance.			
The welding arc is not stable and	1. Verify proper polarity is being used for the	If the PC board in machine is at			
soft	weld procedure.	fault, contact your local			
	2. Check all electrode and work connections.	authorized WOWELD Electric			
Starting arc is difficult.	3. Verify the parameters of wire feeding	service facility for technical			
	procedure	assistance.			
	4. PC board in machine possibly at fault				

Warranty:13 months from the BL date for machines ONLY!

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