

ZX7 SERIES

INVERTER AC ARC WELDERS



**Thank you for buying welding machines.
Please read this manual carefully before using the
machine**

SAFETY INSTRUCTIONS

When using power equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and personal injury, including the following.

If used correctly welding pose little risk to the operator however, care should always be taken to ensure safe and proper performance. Read all owner operating instructions before attempting to operate any product.

FOR SAFE OPERATION:

- **Keep the work area clean.**
Cluttered work areas invite injuries (indoor and outdoor).
- **Consider the work environment.**
Don't expose power equipment to rain or any other liquid. Don't use welding equipment in damp or wet locations. Keep your work area well lit. Don't use welding equipment in the presence of flammable liquids or gases.
- **Guard against electric shock.**
Avoid body contact with grounded surfaces (e.g. Pipes, radiators and electrical appliances).
- **Keep children and visitors away.**
Keep children and visitors away from the area of operation. Do not let children or visitors touch equipment or extension cables.
- **Store idle machinery.**
When power equipment is not in use, keep them in a dry, high or locked up area away from children.
- **Wear safety glasses.**
Always wear safety glasses or other suitable eye protection when using welding equipment.
- **Secure Work.**
Use clamps or a vice whenever possible to secure your work piece
- **Don't over reach.**
Keep proper footing and balance at all times.
- **Dress properly.**
DO NOT wear loose clothing or jewellery; they can be caught in moving parts. Wear protective hair covering to cover long hair,

using gloves and non-slip footwear is recommended when working outdoors.

- **Take care of cables.**
Never carry welding equipment by the cable and never pull the cable to disconnect it from the socket. Keep cables away from heat, oil and sharp edges. Replace damaged cables.
- **Disconnect Tools.**
Disconnect welding equipment when not in use, before servicing, and when changing accessories on other tools such as blades, bits and cutters.
- **Avoid unintentional operation.**
Don't carry plugged in welding equipment with a finger on the switch. Be sure that the switch is off when plugging in the machine.
- **Outdoor use; extension cables.**
When electric power equipment is used outdoors, only use extension cables market as suitable for outdoor use.
- **Stay Alert.**
Watch what you are doing. Use common sense. Do not operate welders when you are tired or under the influence of alcohol or drugs.
- **Check damaged parts.**
Before using welding equipment, parts that are damaged should be carefully checked to determine that they will operate properly and perform their intended function. Any part that is damaged should be properly repaired or replaced by an authorized service agent. Do not operate power equipment if it cannot be turned OFF and ON by the switch.
- **Repair of power equipment by experts.**
Power equipment is built in accordance with relevant safety authority requirements. The repair of power equipment must only be carried out by experts; non-expert repairs may cause considerable danger for the user and void warranty.

DESCRIPTION OF MACHINES

These models are portable inverter DC ARC Welders. The robust format makes them versatile and effective for a variety of uses. The welder compliance to current regulations and the optimum quality of materials used will ensure a long working life with complete safety.

	ZX7-120	ZX7-140	ZX7-160	ZX7-180	ZX7-200
Main Voltage (V)	1PH 220V-240V 50/60HZ				
Rated Input Capacity(KVA)	3.9	4.5	4.9	5.3	5.8
Welding Current (A)	20~120	20~140	20~160	20~180	20~200
Duty Cycle % (25°C)	60	60	60	60	60
Rated Load Voltage(V)	24.5	25.5	26.5	27.2	28
No Load Voltage	65	65	65	65	65
Efficiency %	85	85	85	85	85
Power Factor cos	0.93	0.93	0.93	0.93	0.93
Electrode (mm)	1.6~3.2	1.6~3.2	1.6~4.0	1.6~5.0	1.6~5.0
Weight (kg)	3	4	4.5	4.5	4.5
Protection Degree	IP21S	IP21S	IP21S	IP21S	IP21S
Insulation Class	F	F	F	F	F
Dimension (mm)	300x240 x115	300x240 x115	300x240 x115	300x240 x115	300x240 x115

	ZX7-250	ZX7-280	ZX7-300	ZX7-315
Main Voltage (V)	1PH 220V-240V 50/60HZ			1PH 220V/380V
Rated Input Capacity(KVA)	9.1	10.1	11.8	12.7
Welding Current (A)	20~250	20~280	20~300	20~315
Duty Cycle % (25°C)	60	60	60	60
Rated Load Voltage(V)	30	31.2	32	32.6
No Load Voltage	65	65	65	65
Efficiency %	85	85	85	85
Power Factor cos	0.93	0.93	0.93	0.93
Electrode (mm)	1.6~5.0	1.6~5.0	1.6~5.0	1.6~5.0
Weight (kg)	5.4	5.7	6.2	7.0
Protection Degree	IP21S	IP21S	IP21S	IP21S
Insulation Class	F	F	F	F
Dimension (mm)	360x200x 235	360x200x 235	360x200x 235	400x220 X170

	ZX7-250	ZX7-315	ZX7-400	ZX7-500
Main Voltage (V)	3PH380V-440V 50/60HZ			
Rated Input Capacity(KVA)	8.9	12.7	16.5	26.7
Welding Current (A)	20~250	20~315	20~400	20~500
Duty Cycle % (25°C)	80	80	80	80
Rated Load Voltage(V)	30	32.6	34.4	40
No Load Voltage	65	65	65	65
Efficiency %	85	85	85	85
Power Factor cos	0.93	0.93	0.93	0.93
Electrode (mm)	1.6~5.0	1.6~6.0	1.6~7.0	1.6~8.0
Weight (kg)	11	13	17	25
Protection Degree	IP21S	IP21S	IP21S	IP21S
Insulation Class	F	F	F	F
Dimension (mm)	450x205 x330	450x205 x330	450x205 x330	450x205 x330

OPERATION

- Step 1: Plug in the Earth and Positive cable.
- Step 2: Select desired AMP you wish to use.
- Step 3: Switch on the inverter.
- Step 4: Select the correct diameter electrode according to the thickness of the work piece you intend to weld. Press the side lever to open the clamp, insert the electrode into the V-groove and release side lever. Ensure that the electrode is correctly inserted inside the electrode holder.
- Step 5: To ensure earth has good contact, clean the work piece with a wire brush. Attached the earth clamp to the cleaned area to ensure good contact.



WHAT IS AN INVERTER WELDER

Inverter welders are welders that transform high voltage, low amperage into low voltage, high amperage power which is required for welding. This is done by using a transformer.

The difference between inverters and other types of welders is that inverters welders increase the frequency of the primary power supply, which in turn reduced the size of the transformer. This is done through an ON/OFF action of high powered solid state switches that creates the DC power.

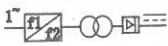




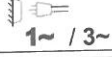

By controlling the power on the primary side of the transformers and boosting the frequency, the inverter welders are able to create light weight solutions compared to ARC and MIG welder types.

KEY POINTS

- Get the amperage right from the chart provided.
- Check that you have the correct electrode.
- Use the correct angle, 30 – 40 degrees to the work piece.
- Arch weld from LEFT to RIGHT
- Please remember the safety aspects, preparation for welding and the correct equipment.

NO.	Components	Note
1	LED	Showing current during welding
2	Over-heat pilot lamp	The lamp is on when the temperature is too high, and the machine will be back to work automatically.
3	Current adjusting	Adjusting the current.
4	Output	Connecting the output cables.
5	Cooling fin(A)	Decreasing the temperature of silicon bridge
6	Silicon bridge	Transferring AC into DC
7	Cooling fin(B)	Decreasing the temperature of IGBT
8	Capacity	Filtering
9	IGBT	Inverter ,switch DC to AC
10	Main Transformer	Transfer the voltage
11	Diode	Switch AC to DC
12	Cooling fin(C)	Decreasing the temperature of Diode
13	fan	Cooling the machine
14	Input	Connecting the electricity(fuse 20-40A)
15	Power switch	On or off the machine
16	Bracket	Hold the electric board
17	Drive transformer	Provide the voltage for IGBT
18	Control transformer	Provide the voltage for control board
19	Control electronic board	Controlling welding

Nameplate Symbol and Graphic Symbol Meaning

NO.	Symbol	Meanings
1		Single phase static frequency changer-transformer-rectifier
2		Static External Characteristics is drooping characteristic
3		Welding Power source symbol of Fit welding operation
4		II Category Protection Symbol
5		Manual arc welding with coated electrode
6	 1~ / 3~	Single phase power source/ three phase power source
7		DC (direct current)
8	COS ϕ	Power Factor
9	IEC60974-1	Confirmed Welding power source files quote
10	~50/60Hz	AC power, rated frequency 50HZ/60HZ
11	U ₀ (V)	No load voltage unit: V
12	X	Symbol for load continuance rate
13	I ₂ (A)	Rated welding current unit: A
14	U ₂ (V)	Rated load voltage unit: V
15	...%.....100%	Duty cycle
16	I ₁ (A)	Rated Input current unit: A
17	U ₁ (V)	Rated Input voltage unit: V
18	I CL.H	Insulation Class
19	IP21S	Protection Degree
20	COOLING AF	Fan cooling