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**INVERTER S-200 A  
WELDING MACHINE**



## USER GUIDE



Turkish Patent Institute Design Registration No: 201102002

Manufacturer reserves the right to make changes in the specifications without prior notification. Specifications may vary between countries.



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## INDEX

INTRODUCTION	2
WARRANTY CONDITIONS	2
SAFETY PRECAUTIONS	3
STATUS INDICATOR	4
PLACE OF INSTALLATION AND OPERATING INSTRUCTIONS	4
TECHNICAL SPECIFICATIONS	5
OPERATING INSTRUCTIONS	5-6
SELECTION OF WELD OUTPUT SLOTS AND CABLE SIZES	6
ELECTRODE WELDING PROCEDURE	7-8
SAFETY WARNINGS	8
MAINTENANCE	9

# INVERTER S-200 A WELDING MACHINE

## **INTRODUCTION**

It occupies small space and it is lightweight. Therefore, it is highly portable and can be operated anywhere upon being moved.

It operates with high power. Has not load loss and ensures energy saving.

It has stable performance, can be operated continuously, does not cause electromagnetic noise. Arc is constant during welding process, arcing is very low. Fluid bath control is convenient. Appearance of the weld is good with perfect quality.

High open circuit voltage and power surges are balanced very well.

Can be used with various acids and basic welding electrodes used in welding procedures. Thus, it has an extensive area of application. Can be used in many works, site works, indoor and outdoor decorations etc. It is easy to install and operate.




## **WARRANTY CONDITIONS**

- 1) Warranty period starts on the delivery date of the product and is 2 years.
  
- 2) All parts of the product are covered by our company's warranty.
  
- 3) Should the product fail within the warranty period, the period of repair shall be added to the warranty period. Reparation period of the product shall be maximum 30 business days. This period starts with the notification of failure in the product to service station, if there is no service station, to any one of those, vendor, dealer, agency, importer or manufacturer of the product.
  
- 4) In case that the product fails within warranty period because of material and workmanship defects, its repair shall be made without demanding any charge for labor, for the replaced parts or under any name whatsoever.
  
- 5) Failures resulting from using the product without observing the instructions in this operating manual are not covered by the warranty.







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## **SAFETY PRECAUTIONS**

-  Do not operate the function switch during welding process. Otherwise, the device will be damaged.
-  To prevent electric shock, unplug the adapter which is connected to the device with the holder before commencing welding process to disconnect the holder section from the device.
-  Earth leakage protection shall be installed to use the device.


### **Electric shock may cause severe injuries!**

-  Install the earth leakage equipment pursuant to the application standard.
-  Do not contact electrical parts or welding tip with bare hands or while wearing wet gloves or wet clothes.
-  Ensure sufficient insulation on the floor and at the workplace where you operate the device.
-  Ensure that operating area of the device is safe.


### **Fumes are hazardous for health!**

-  Keep your head away from fumes. Use ventilation or gas removal system to avoid inhaling the fumes.
-  Particles produced by arc may damage your eyes and burn your skin. Use a suitable welding mask, wear protective clothing to protect your eyes and body.
-  Ensure that bystanders people also use welding masks or use curtains to avoid others to be affected. Welding arcs may cause fire. Ensure that there are no flammable materials at the welding location. Take required fire measures.

### **Noise can be harmful for your ears!**

-  Protect your ears. Use ear plug or other hearing protective equipment. Noise can be harmful for bystanders.

### **Seek for expert aid in case of failure and difficulties.**

-  Refer to the concerning chapters of the operating manual if you experience difficulties during installation or operation. In case that you are not able to solve the problem using the information specified in the operating manual, you can seek expert aid by contacting your supplier.

# INVERTER S-200 A WELDING MACHINE

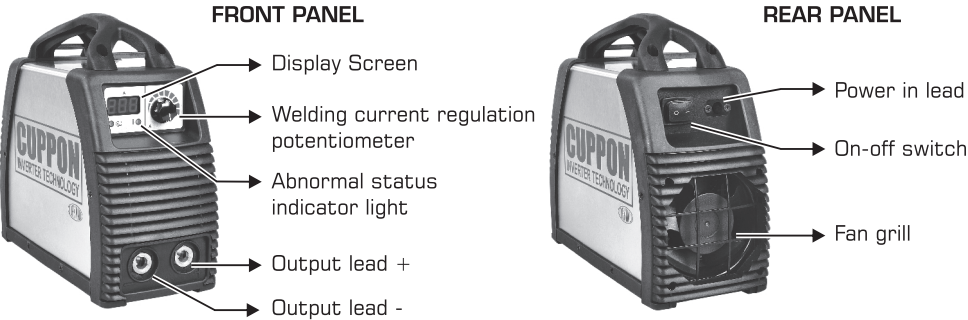
## STATUS INDICATOR

### DEVICE STATUS INDICATOR

Power indicator light is lit while the device is on.

### ABNORMAL STATUS INDICATOR

In the case that internal temperature of the device is higher than the normal value, overheating indicator light is lit and overheating protection of the device is activated. In the case that temperature falls under the normal value, indicator light turns off and overheating protection is deactivated. Thus, welding procedure may continue



## PLACE OF INSTALLATION AND OPERATING INSTRUCTIONS

### PLACE OF INSTALLATION

Shall be installed in a room away from direct sunlight, precipitation, free from humidity and dust. Intrusion of metal dusts in the welding machine shall be prevented. Maximum distance between the wall socket and the welding machine shall be 2 meters.

### OPERATING ENVIRONMENT

Operate in dry environments. Humidity rate shall be 80%. Ambient temperature shall be between -10°C and +40°C. Do not operate in environments which are exposed to direct sunlight or precipitation. Do not operate in environments which contain excessive dust or corrosive gases.



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## TECHNICAL SPECIFICATIONS

Input Voltage	: 220V AC $\pm$ %10 / 1 Phase (PH)
Power Drawn from the Utility Supply	: 4,7 kW @%60 / 5,4 kW @35
Frequency	: 50/60 Hz
Conversion Rate	: %60 - %40
Output Current	: 170 - 200 A
Output Voltage	: 25 V DC - 26 V DC
Welding Current Range	: 20 - 200 A
Max. Open-circuit Voltage	: 55 V DC
Value and Type of the Fuse Protection	: 30 A Time Delay
Protection	: Fan Cooling / Thermo Protection
Unloaded Watt	: 40 W
Efficiency	: %85
Power Factor	: 0,93
Isolation Class	: B
Protection Class	: IP 21
Net Weight	: 6,5 Kg.
Dimensions	: 295 x 330 x 140 mm.

## OPERATING INSTRUCTIONS

### POWER LIGHT

This light is lit when the power switch on the rear panel is switched to "ON" position. It shows that the device is powered and ready for welding operations.

### OVERLOAD INDICATOR

### TEMPERATURE INDICATOR

### WELDING CURRENT SWITCH ADJUSTMENT

Adjust the welding current using the regulator switch to ensure that welding performance is at the desired level. Recommended welding currents listed in the following table shall be used to employ welding electrodes with different diameters than the normal.

WELDING ELECTRODE DIAMETER (mm)	RECOMMENDED WELDING CURRENT (A)
1.0	20 ~ 60
1.6	44 ~ 80
2.0	60 ~ 100
2.5	80 ~ 120
3.2	100 ~ 150
4.0	140 ~ 180
5.0	180 ~ 220

# INVERTER S-200 A WELDING MACHINE

## POSITIVE WELDING OUTPUT SLOT

Connect the electrode cable to this slot for ELECTRODE welding. (Normally reverse polarity connections are used, however, electrode recommendations shall always be checked.) Connect the work cable to this slot for TIG welding. (Normally straight polarity is used.)

## NEGATIVE WELDING OUTPUT SLOT

Connect the work cable to this slot for ELECTRODE welding. (Normally reverse polarity connections are used, however, electrode recommendations shall always be checked.) Connect the blower cable to this slot. (Normally straight polarity is used.)

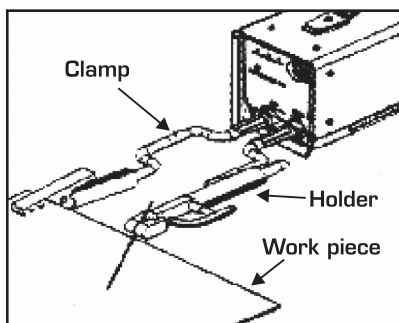
## INPUT POWER CABLE

Cable which supplies input power.

## INPUT POWER SWITCH (CIRCUIT BREAKER)

Switches off or on the input power supply.

## SELECTION OF WELD OUTPUT SLOTS AND CABLE SIZES



**Arc welding may cause electromagnetic interference**  
Keep the weld cables as short as possible and close to each other and at a low height close to the floor to minimize possible interference. Ensure that this welding machine is mounted and grounded according to the manual provided with the device. In the case that the interference continues, the user is required to take additional measures. For instance; changing the location of the welding machine, using shielded cables, using line filters or isolating the workplace.

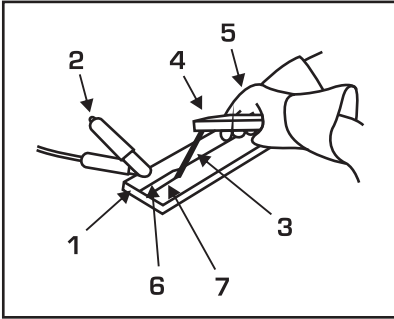
## WELD OUTPUT CONNECTIONS

Suitable weld cables shall be selected, prepared and connected in order to obtain full performance from the device. In the case that any of these aspects are not followed, this may result in unsatisfactory welding operations.

1) Current is classified for 60% duty cycle. (Duty factor)

2) In the case that connection devices are operated at the specified level in excess of 40°C ambient temperature, weld cables which have a coating that cannot resist to 85°C conductivity temperature will be damaged.

## ELECTRODE WELDING PROCEDURE



1) Ensure that work piece is clean prior to the welding process.

2) Work clamp

3) Electrode: electrode with smaller diameter requires less current compared to larger diameters. Observe the electrode instructions of the manufacturer while adjusting weld ampere power.

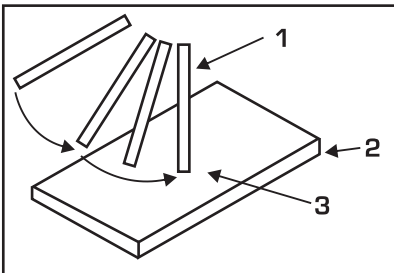
4) Insulated electrode holder

5) Electrode holding position

6) Arc distance: Arc distance is the distance between the electrode and work piece. A short arc with correct ampere power will have a sharp striking sound.

7) Spatter: A chip hammer or wire brush shall be used to clean spatter. Clean the spatter before performing another welding pass and check the weld drop.

If the electrode contacts with the work piece it may discharge weld current. Weld current may damage the electronic systems on the vehicles. Disconnect both cables before performing welding work on the vehicle. Place the work clamp as close to the weld as possible.



### ARC STRIKE - Scratch Commencing Technique

1) Electrode

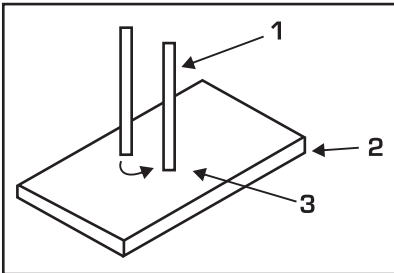
2) Work piece

3) Arc

Rub the electrode from one side to the other side of the work piece as if striking a match, lift the electrode lightly upon touching the work. If the arc is lost, electrode is lifted too high. If the electrode sticks to the work piece bend it quickly to release it.



# INVERTER S-200 A WELDING MACHINE










## ARC STRIKE - Slight Hitting Technique

- 1) Electrode
- 2) Work piece
- 3) Arc

Hold the electrode vertical to the work piece and lift it lightly to commence arc. If the arc is lost, electrode is lifted high. If the electrode sticks to the work piece bend it quickly to release it.

## SAFETY WARNINGS

-  Do not insert any cable in the device during welding process or remove any cables and connections. Operation of the machine otherwise may cause severe damage for human health and equipment.
-  Ensure proper cooling.  
The device occupies small space and has a compact structure, since its output current is high natural cooling effect of the ambient air is not sufficient. Therefore, a fan shaped like a pipe is installed in the device for cooling air.
-  Do not overload.  
Please operate the welding machine within the range of permissible operating speeds and up to maximum current. NEVER overload the device, otherwise lifespan of the device is shortened and even it can catch fire.
-  Do not operate under high voltage.  
In the case that the voltage of the device rises to impermissible levels, the device shuts down automatically to prevent damaging the device.
-  A grounding terminal marked with grounding sign is located at the rear part of the welding machine. Select a wire with 4mm<sup>2</sup> cross-section to fix the frame of the device and connect the device to earth before operating it to prevent electrostatic leakage.
-  Fire measures and proper ventilation shall be ensured at the operating area of the welding machine.
-  Operator shall use protective equipment and have the respective operation certificate.



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## **MAINTENANCE**

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**Please perform maintenance tasks only when the device is off!**

Clean off the dust of the machine regularly. Clean off the duct with dry and clean compressed air. In the case that you operate the welding machine in environments which have excessive smoke and dirty air, you shall clean the dust of the machine at least monthly.

While performing maintenance tasks on small parts of the welding machine, pressure of the compressed air shall be reduced to prevent damaging the device.

Check that whether the electrical parts (particularly connector) of the machine has become loose or not. Remove oxidation layer if any using sandpaper and install the part again.

The device shall be free from water or moisture. Dry immediately if present. Measure the insulation status using megameter. (Including the area between connection points, connection points and frame.) You can continue welding operations upon eliminating all abnormal conditions.

In the case that you will not use the welding machine for extended periods, place it in the original packaging and keep in a dry and cool place.



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# INVERTER S-200 A WELDING MACHINE

## WARRANTY

### Seller's

Company Name:.....

.....

Name, Surname:.....

Phone:.....

Address:.....

.....

Invoice Date:.....

Invoice No:.....

Model:.....

Serial No:.....

Signature

Our products are guaranteed for 2 years against manufacturing defects.

