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WARRANTY



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# User's Guide

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**TC-WELD**  
**Thermocouple & Fine Wire Welder**



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## General Specification

Product Name:	Fine Wire Welder
Model:	TC-WELD
Dimension:	220 (W) x 100 (H) x 270 (D) mm
Weight:	3.6 kg / 7.94lbs
Weld Wire Diameter:	0.08mm / 0.003" to 1.1mm / 0.043"
Duty Cycle:	5-10 welds per minute
Input:	90-260 VAC / 50-60 Hz
Energy Output:	0 to 60 joules
Power Consumption:	Max 120 VA dropping to 10 VA during charging
Argon Input Port:	6mm (1/4") Push Connection Recommended maximum flow rate 6 liter / minute

## Accessories

- 1x Power Cord
- 1x Foot Switch
- 1x Bonding Carbon Electrode
- 1x Bonding Copper Electrode
- 1x Safety Glasses
- 1x Spare Fuse
- 1x Removable Plier with Lead

## CE Approval

Directive(s):	Low Voltage Directive (2006/95/EC and 2015/35/EU)
Verification No:	T1507055-507
Ratings:	Input: 100-240Vac, 50-60Hz, 0.5A, Class I Output: 22-55Vadc, 50W max

The referred CE test report(s) show that the product fulfills the essential requirements set out in the Directive(s). On this basis, together with the manufacturer's own documented production control, the manufacturer or his European authorized representative can in his EC Declaration of conformity verify compliance with the Directive(s). The CE marking could be affixed only when all the relevant and effective EC Directives are complied with.

## Safety Notes

Thank you for choosing the Fine Wire Welder. This welder is designed for producing commercial grade thermocouple hot junction. It's easy to use and operate. But it is still very important to read the instructions carefully prior using the welder.

- Always wear protective safety glasses during welding. Do not view the weld discharge with the naked eye.
- Do not touch directly welding electrode during welding operation.
- Follow the instruction carefully and use the correct power supply.

NOTE

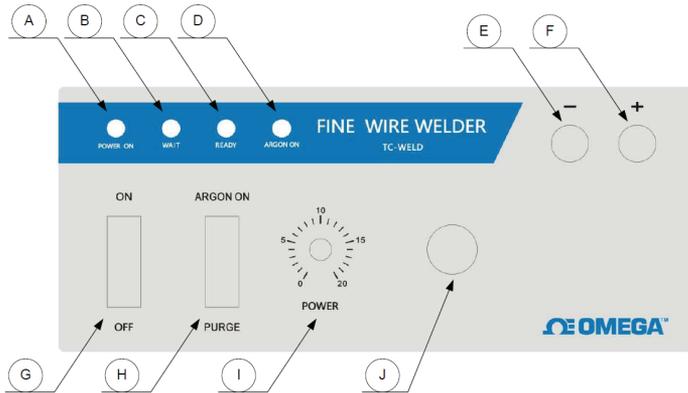
Always wear protective eyewear during welding!



## Set Up Your Welder

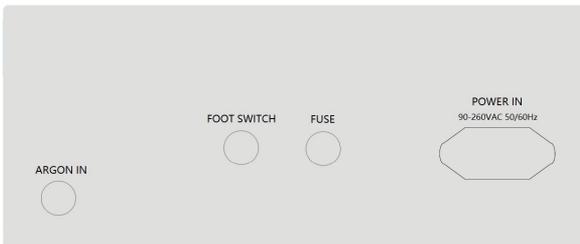
- The welder should be placed on a stable and flat working bench for operation.
- Connect the welder to the power supply with the power cable.
- If using the argon mode, connect the argon hose securely to the argon inlet at the rear of the welder.
- Adjust argon flow to 6 litres per minute. And check to make sure there is no leakage.
- Switch on the power button.
- Now the welder is ready to use.

## Front Panel Controls



- |   |                        |  |
|---|------------------------|--|
| A | Power On LED           | Indicates power is connected.  |
| B | Wait LED               | Glow when weld charge is building.   |
| C | Ready LED              | Indicates it is ready to weld.   |
| D | Argon On LED           | Indicates argon is on.   |
| E | Black (-) Socket       | Output socket connects to the electrode. Negative end.   |
| F | Red (+) Socket         | Output socket for using the pliers. Positive end.  |
| G | ON / OFF Switch        | To switch the power ON and OFF.  |
| H | Argon Control Switch   | ARGON ON allows continuous flow of argon.<br>LEVEL position is turning the argon off.<br>PURGE allows short burst of argon gas flow. |
| I | Power Setting Selector | Adjusts output power level.  |
| J | Welding Nozzle         | Holds the electrode for welding.   |

## Rear Panel Controls



- |             |  |
|-------------|--|
| Argon In    | Connects to the argon hose allowing the welder to weld with argon input.           |
| Foot Switch | Connects to the foot switch and able to use the foot switch to control argon flow. |
| Fuse        | Use a fuse with 2 amps rating only.  |
| Power In    | Connects to the power cable. Range 90-260 VAC / 50-60 HZ .                         |

# Welding Instructions

Adjust the power level according to the thermocouple wire diameter. As a reference, we suggest the following:

Wire Diameter	Power Output Level	Electrode
20AWG (0.80mm)	16-17	Carbon
28AWG (0.32mm)	5-6	Carbon
30AWG (0.25mm)	5-6	Carbon
36AWG (0.13mm)	5-6	Copper
40AWG (0.08mm)	4-5	Copper

- Prepare the wires to the Appropriate length and ready for welding.
- Grip in the pliers, leaving about 1mm or more protruding.
- Adjust the appropriate power setting according to the wire diameter.
- Keep steady and position in front of the Electrode.
- If using the argon weld, connect the argon supply to the argon inlet at the back of the welder.  
Use the argon switch turn the argon flow on and off.
  - ARGON ON keeps the argon flow on constantly.
  - LEVEL position switch off the argon flow.
  - PURGE is pressed to burst argon flow; release the switch to stop argon flow.
- Wait for the READY led light turns green, hold the wires using the pliers and then touch the tip the wires to the Electrode for the welding arc struck.
- Check the wires welded correctly.
- If using foot switch to control the argon flow, connect the foot switch supplied. Press the foot switch to enable argon flow. Release the foot switch to stop argon flow.

## Replace or Adjust Electrode



**NOTE**

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Switch power off before you replace or adjust the Electrode!

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- Unscrew the black weld nozzle cap and put aside.
- Reveals the electrode holder with the hexagonal socket.
- Use the supplied hex key to loose the electrode holder.
- Replace new electrode or adjust the electrode in position. Tilt the welder forward slightly where necessary to pull out the electrode.
- Tighten the electrode holder using the hex key.
- Screw the welding nozzle cap in place securely.
- If there is uneven working surface on the electrode, you may use sand paper or equivalent tools to smooth the working surface of the electrode.

## WARRANTY / DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of     months from date of purchase. OMEGA's WARRANTY adds an additional one (1) grace period to the normal     year product warranty to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each products.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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## RETURN REQUESTS / INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

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1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
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