OMEGA™

2 YEAR WARRANTY

CE

User's Guide



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" to1.1mm / 0.043"
Duty Cycle:	5-10 welds per minute
Input:	90-260 VAC / 50-60 Hz
Engergy 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 maxinum 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 Directives(s). The CE marking could be affixed only when all the relevant and effective EC Directives are complied with.

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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!



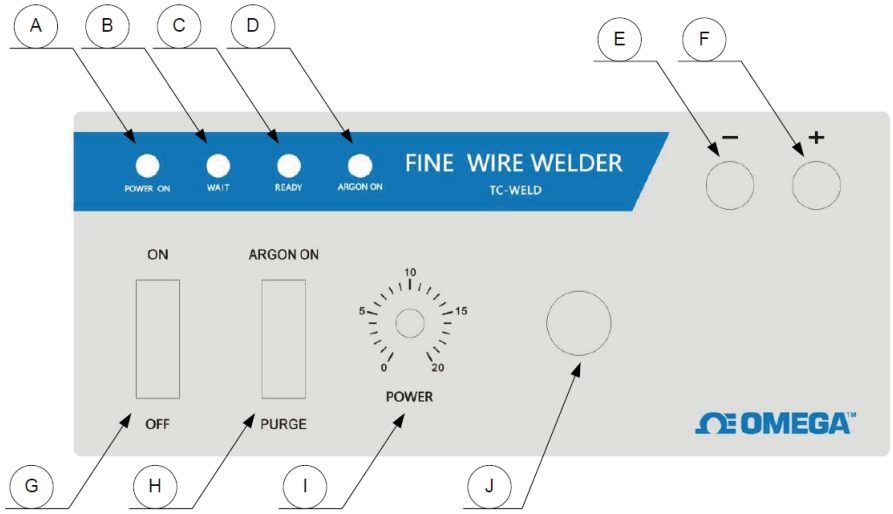


Set Up Your Welder

- 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.

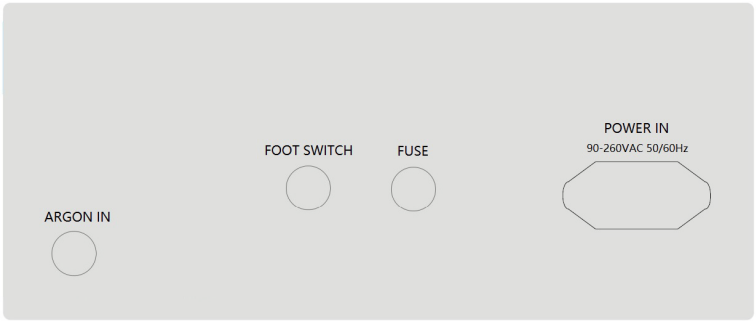
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Front Panel Controls



A	Power On LED	Indicates power is connected.
B	Wait LED	Glows 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 electode. Negative end.
F	Red (+) Socket	Output socket for using the pliers. Positive end.
G	ON / OFF Switch	To switch the poswer ON and OFF.
H	Argon Control Switch	ARGON ON allows continuous flow of argon. LEVEL position is turning the argon off. 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 .

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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 approapriate 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 swtich 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 Elctroctode

NOTE

Switch power off before you replace or adjust the Electrode!

- Unscrew the black weld nozzle cap and put aside.
- Reveals the electrode holder with the hexegonal 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.

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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 receivee 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.

OMEGA is pleased to offer suggestions on the use of its various products. However, OMEGA neither assumes responsibility for any omissions or errors nor assumes liability for any damages that result from the use of its products in accordance with information provided by OMEGA, either verbal or written. OMEGA warrants only that the parts manufactured by the company will be as specified and free of defects. OMEGA MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, EXCEPT THAT OF TITLE, AND ALL IMPLIED WARRANTIES INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED. LIMITATION OF LIABILITY: The remedies of purchaser set forth herein are exclusive, and the total liability of OMEGA with respect to this order, whether based on contract, warranty, negligence, indemnification, strict liability or otherwise, shall not exceed the purchase price of the component upon which liability is based. In no event shall OMEGA be liable for consequential, incidental or special damages.

CONDITIONS: Equipment sold by OMEGA is not intended to be used, nor shall it be used: (1) as a "Basic Component" under 10 CFR 21 (NRC), used in or with any nuclear installation or activity; or (2) in medical applications or used on humans. Should any Product(s) be used in or with any nuclear installation or activity, medical application, used on humans, or misused in any way, OMEGA assumes no responsibility as set forth in our basic WARRANTY/DISCLAIMER language, and, additionally, purchaser will indemnify OMEGA and hold OMEGA harmless from any liability or damage whatsoever arising out of the use of the Product(s) in such a manner.

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.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

OMEGA's policy is to make running changes, not model changes, whenever an improvement is possible. This affords our customers the latest in technology and engineering.

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