ANDELI TIG-250MPL

ANDELI TIG-250MPL Multifunctional Cold Welding Machine User Manual

Model: TIG-250MPL | Brand: ANDELI

1. Product Overview

The ANDELI TIG-250MPL is a versatile MOS Tube Multifunctional TIG Welder designed for various welding applications. It integrates TIG, Pulse, and COLD welding functions, optimized for flawless welds with minimal spatter and post-weld cleanup. This machine is suitable for welding ordinary thin steel, carbon steel, stainless steel, iron, and other materials, making it ideal for household DIY projects and general maintenance work.



Figure 1: ANDELI TIG-250MPL with TIG, Cold Welder, MMA, Clean, and Pulse functions highlighted.



Figure 2: Applicable materials for the TIG-250MPL, including metal cage, aluminum, mild steel, and square pipe.

2. Safety Information

Always prioritize safety when operating welding equipment. Failure to follow safety guidelines can result in serious injury or death.

- Wear appropriate personal protective equipment (PPE), including a welding helmet with proper shade, flame-resistant clothing, welding gloves, and safety shoes.
- Ensure adequate ventilation in the work area to prevent inhalation of welding fumes.
- Protect bystanders from arc rays and hot metal. Use welding screens or barriers.
- Always disconnect power before performing any maintenance or changing accessories.
- Do not operate the welder in damp or wet conditions.
- Ensure proper grounding of the equipment.

3. Package Contents

Upon receiving your ANDELI TIG-250MPL, please verify that all items listed below are included:

- 1 x 110/220V TIG-250MPL Welding Machine
- 1 x Ground Clamp (2m)
- 1 x COLD Torch WP-9F (4m)
- 1 x TIG Torch WP-17F (4m)
- 1 x Gas Pipe (3m)
- 20 x Nozzles
- 20 x Collets
- 2 x House Clamps
- 1 x Tungsten Electrode
- 1 x Foot Switch



Figure 3: All components included in the ANDELI TIG-250MPL package.

4. Setup and Installation

4.1 Power Connection (Dual Voltage)

The TIG-250MPL supports dual voltage input (110V/220V), offering flexibility for various operational environments. Ensure the correct power plug and conversion line are used for your specific power supply.



Figure 4: The TIG-250MPL supports both 110V and 220V power inputs.

4.2 Torch and Ground Clamp Installation

Follow these steps to properly install the welding torches and ground clamp:

1. **Install WP-17F Hot Welding Gun:**
   Connect the quick plug of the WP-17F TIG torch to the negative terminal on the machine. Connect the two-pin plug to the corresponding two-pin port. Then, connect the ground clamp to the positive terminal.

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   Video 1: Detailed instructions for installing the WP-17F hot welding gun, including connecting the quick plug, two-pin plug, and ground clamp.

2. **Install WP-9F Cold Welding Gun:**
   The installation method for the WP-9F cold welding gun is identical to the WP-17F. Connect its quick plug to the negative terminal and its two-pin plug to the two-pin port. Ensure the ground clamp is connected to the positive terminal.

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   Video 2: The installation process for the WP-9F cold welding gun is shown, mirroring the steps for the hot welding gun.

4.3 Gas Bottle and Regulator Installation

Proper gas connection is crucial for TIG and Cold welding. Follow these steps:

1. **Tighten the Argon Regulator:**
   Securely tighten the argon regulator to the gas bottle. Ensure a tight seal to prevent gas leaks.
2. **Connect Air Tube:**
   Connect one side of the air tube to the argon regulator. Connect the other side of the air tube to the interface located behind the main body of the welding machine.

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Video 3: Instructions for installing the gas bottle and regulator, including tightening the regulator and connecting the air tube to the machine.

5. Operating Instructions

5.1 Function Panel Overview

The TIG-250MPL features a user-friendly control panel for easy operation and parameter adjustment.

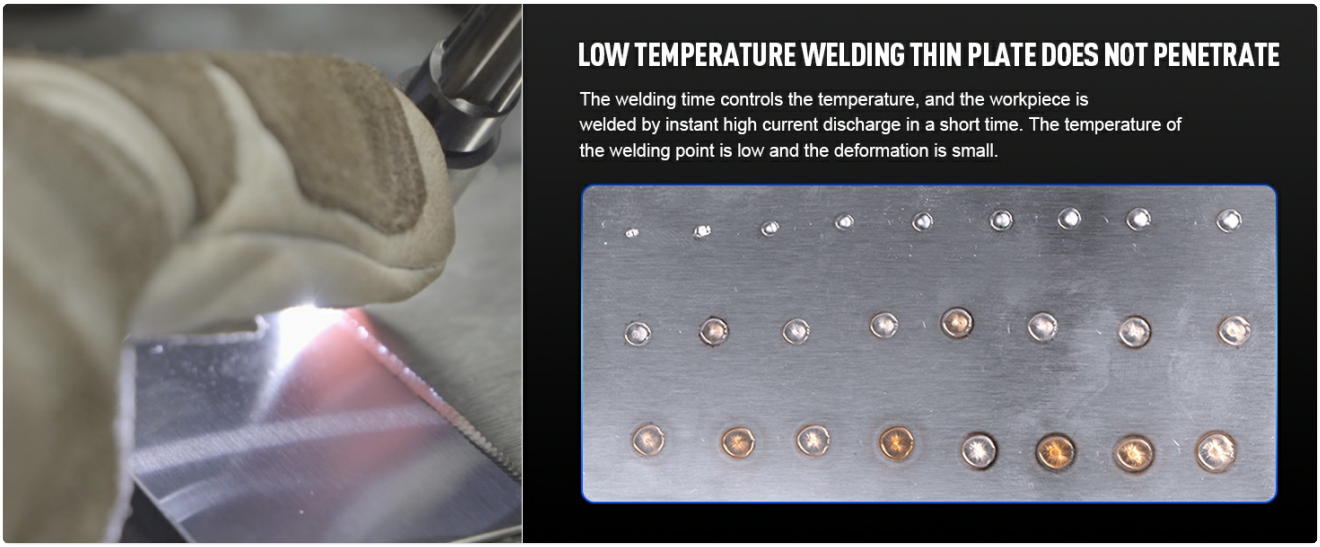


Figure 5: Detailed view of the TIG-250MPL function panel, showing mode selection, menu switching, and numeric adjustment controls.

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Video 4: Explanation of the function panel keys, including TIG, TIG DC, TIG Pulse, Cold Single, Cold Continue, Save, and Retrieval functions.

5.2 Argon Arc Welding (TIG DC) Settings

To adjust TIG DC welding parameters:

1. Switch to DC mode under the TIG function.
2. Adjust the welding current (maximum 250A).
3. Adjust the post-flow time (e.g., to 2 seconds) and pre-flow time (e.g., to 0.3 seconds).

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Video 5: Demonstrates how to adjust TIG DC welding parameters, including current, post-flow, and pre-flow settings.

Example of TIG DC welding on 3.0mm stainless steel plate:

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Video 6: Shows the effect of argon arc welding (TIG DC) on a 3.0mm stainless steel plate with a current of 150A, post-flow of 2s, and pre-flow of 0.2s.

5.3 Argon Arc Pulse Welding Settings

To adjust TIG Pulse welding parameters:

1. Select PULSE mode under the TIG function.
2. Adjust the duty ratio, frequency, base current, pre-flow, and post-flow settings.

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Video 7: Demonstrates how to adjust argon arc pulse welding parameters, including duty ratio, frequency, base current, pre-flow, and post-flow.

Example of TIG Pulse welding on 3.0mm stainless steel plate:

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Video 8: Shows the effect of argon arc pulse welding on a 3.0mm stainless steel plate with specific settings for current, duty ratio, frequency, base current, post-flow, and pre-flow.

5.4 Cold Welding Settings and Effects

Cold welding can be performed in single (spot welding) or continuous modes. This mode is ideal for reducing deformation and discoloration, resulting in a silver-white stainless steel welding bead. Pure argon gas is required for cold welding.

1. **Single (Spot Welding) Mode:**
   Adjust the welding current, welding time, and interval for precise spot welds.
2. **Continuous Welding Mode:**
   Adjust the welding current, welding time, and interval for continuous welding. Also adjust pre-flow and post-flow.

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Video 9: Explains cold welding function settings for both single (spot) and continuous modes, including adjustments for current, welding time, interval, pre-flow, and post-flow.

Example of Cold welding on 1.0mm stainless steel plate:

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Video 10: Demonstrates the effect of continuous cold welding on a 1.0mm stainless steel plate, showing the precise and clean weld result.

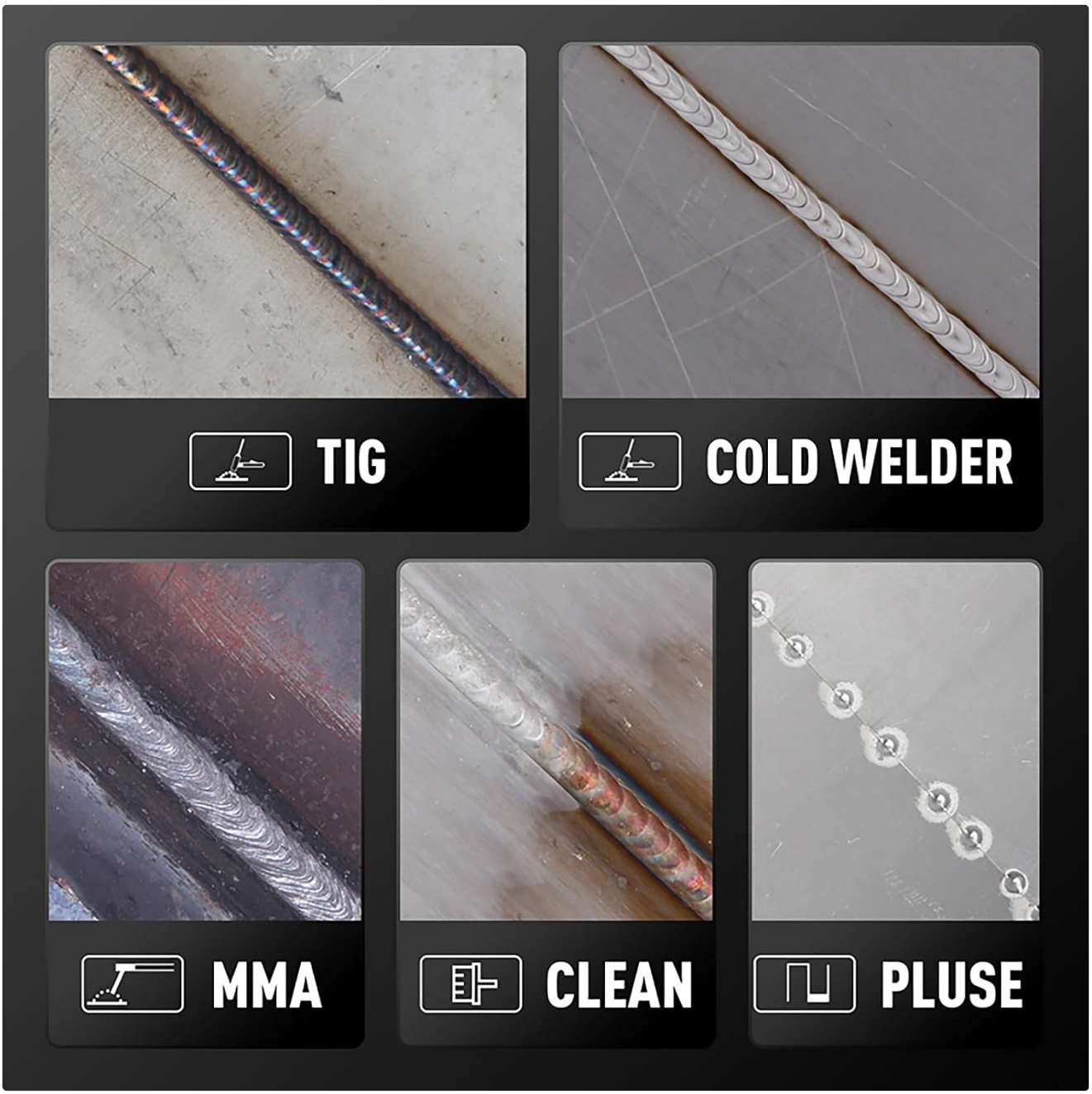


Figure 6: Visual examples of weld results from different functions, including the clean finish of cold welding.

5.5 Parameter Storage and Retrieval

The TIG-250MPL allows you to store and retrieve up to 10 groups of commonly used parameters for quick access.

1. **Saving Parameters:**
   Adjust the desired parameters. Long press the "Save" button for 3 seconds to store the current settings into a group channel.
2. **Retrieving Parameters:**
   To retrieve stored parameters, hold the "Retrieval" button for one second until the light illuminates. Rotate the adjustment knob to select the desired group channel (e.g., group 10). The machine will then display the saved parameters.

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Video 11: Demonstrates how to save and retrieve welding parameters, including long-pressing the save button and rotating the channel knob for retrieval.



Figure 7: The memory storage feature allows for convenient saving and direct use of up to 10 parameter groups.

6. Specifications

Feature	Specification
Manufacturer	ANDELI
Part Number	TIG-250MPL
Item Weight	30.1 pounds
Package Dimensions	20.1 x 18 x 11.5 inches
Country of Origin	China
Item Model Number	TIG-250MPL

Feature	Specification
Style	110V/220V
Material	Other
Item Package Quantity	1
Batteries Included?	No
Batteries Required?	No
ASIN	B0895VJYFL
Date First Available	May 26, 2020

TIG-250MPL 110V / 220V

Function		Cold Welding		TIG		Cold Welding		TIG	
		Spot	Pulse	DC TIG	Pulse TIG	Spot	Pulse	DC TIG	Pulse TIG
Power Supply Voltage(V)		220V				110V			
Frequency(Hz)		50/60				50/60			
Power Factor		0.93				0.93			
Efficiency(%)		0.85				0.85			
Output Power(KVA)		3.1				2.1			
Rated Input Power(KW)		3.9				2.8			
Rated Input Current(A)I1max		17.8				25			
Effective Input Current(A)I1eff		13.7				19.3			
Welding Current Range(A)		10-180				10-140			
Cold Welding Time(S)		0.035-0.999		/		0.035-0.999		/	
Cold Welding Interval(Hz)		/	0.01-4	/		/	0.01-4	/	
No-Load Voltage(V)		56				56			
Duty cycle (% 40℃ 10min)	60%	180A/17.2V				140A/15.6V			
	100%	140A/15.6V				109A/14.3V			
Pulse Frequency(Hz)		/			0.5-200	/			0.5-200
Base Current(A)		/			5-95	/			5-95
Per-Flow time(S)		0-1				0-1			
Post-Flow Time(S)		1-15				1-15			
Welding Thickness(MM)		0.2-2		1-5		0.2-1.5		1-4	
Protection Class		IP21							
Insulation Class		F							
Cooling		FAN							
Dimension(MM)		152×234×377							
Net Weight(KG)		7.00							

Figure 8: Comprehensive technical specifications for the TIG-250MPL.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your welding machine.

- Keep the machine clean and free from dust and debris. Use compressed air to clear ventilation openings.
- Inspect cables and connections regularly for wear, damage, or loose fittings. Replace any damaged components immediately.
- Check the welding torch consumables (nozzles, collets, tungsten electrodes) for wear and replace as needed.
- Ensure proper gas flow and check for leaks in the gas lines.
- Store the welder in a dry, clean environment when not in use.

8. Troubleshooting

If you encounter issues with your TIG-250MPL, refer to the following common troubleshooting tips:

- **No Power:** Ensure the power cable is securely connected and the power switch is ON. Verify the power source voltage matches the machine's requirements.
- **No Arc:** Check all cable connections, including the ground clamp and torch connections. Ensure the tungsten electrode is properly installed and sharpened. Verify gas flow.
- **Poor Weld Quality:** Adjust welding parameters (current, pulse settings, cold welding time/interval) according to the material thickness and desired weld. Ensure proper gas shielding and clean workpiece surfaces.
- **Overheating:** Allow the machine to cool down if the thermal overload indicator activates. Ensure proper ventilation and avoid exceeding the duty cycle.

For further assistance, please contact the ANDELI customer service team.

9. Warranty and Support

The ANDELI TIG-250MPL comes with a two-year warranty and free replacement parts. If you encounter any problems upon receiving the goods or require technical guidance, please contact our efficient customer service team.

For additional information and support, you can refer to the official User Manual PDF:User Manual (PDF)

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