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Awgem MF2

Awgem MF2 Dual Farad Spot Welder User Manual

Model: MF2

Introduction

The Awgem MF2 Dual Farad Spot Welder is a versatile and powerful tool designed for precise spot welding applications. Utilizing a 3000F capacitor, it offers adjustable power settings for various materials and thicknesses. This manual provides essential information for the safe and efficient operation, setup, maintenance, and troubleshooting of your device.

Safety Information

WARNING: Always read and understand all safety warnings and instructions before operating this device. Failure to follow these instructions may result in electric shock, fire, and/or serious injury.

- Ensure the work area is clean, well-lit, and free from flammable materials.
- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and protective clothing.
- Do not operate the welder in damp or wet conditions.
- Keep children and bystanders away from the operating area.
- Always disconnect the power source before performing any maintenance or adjustments.
- Do not touch the welding electrodes or workpiece immediately after welding, as they will be hot.
- Use only the provided or approved accessories and components.

Package Contents

Verify that all items listed below are present in your package:

- Awgem MF2 Dual Farad Spot Welder Unit
- Data Cable (TYPE-C)
- Magnets
- Welding Pencil (Handheld Welding Pen)

Product Overview

The Awgem MF2 features a compact design with an intuitive interface. Key components include the main unit, control panel, and the handheld welding pen.

Figure 1: Awgem MF2 Spot Welder with dimensions. The unit measures approximately 9.4 cm (3.7 inches) in width, 16.9 cm (6.65 inches) in length, and 4.5 cm (1.77 inches) in height.

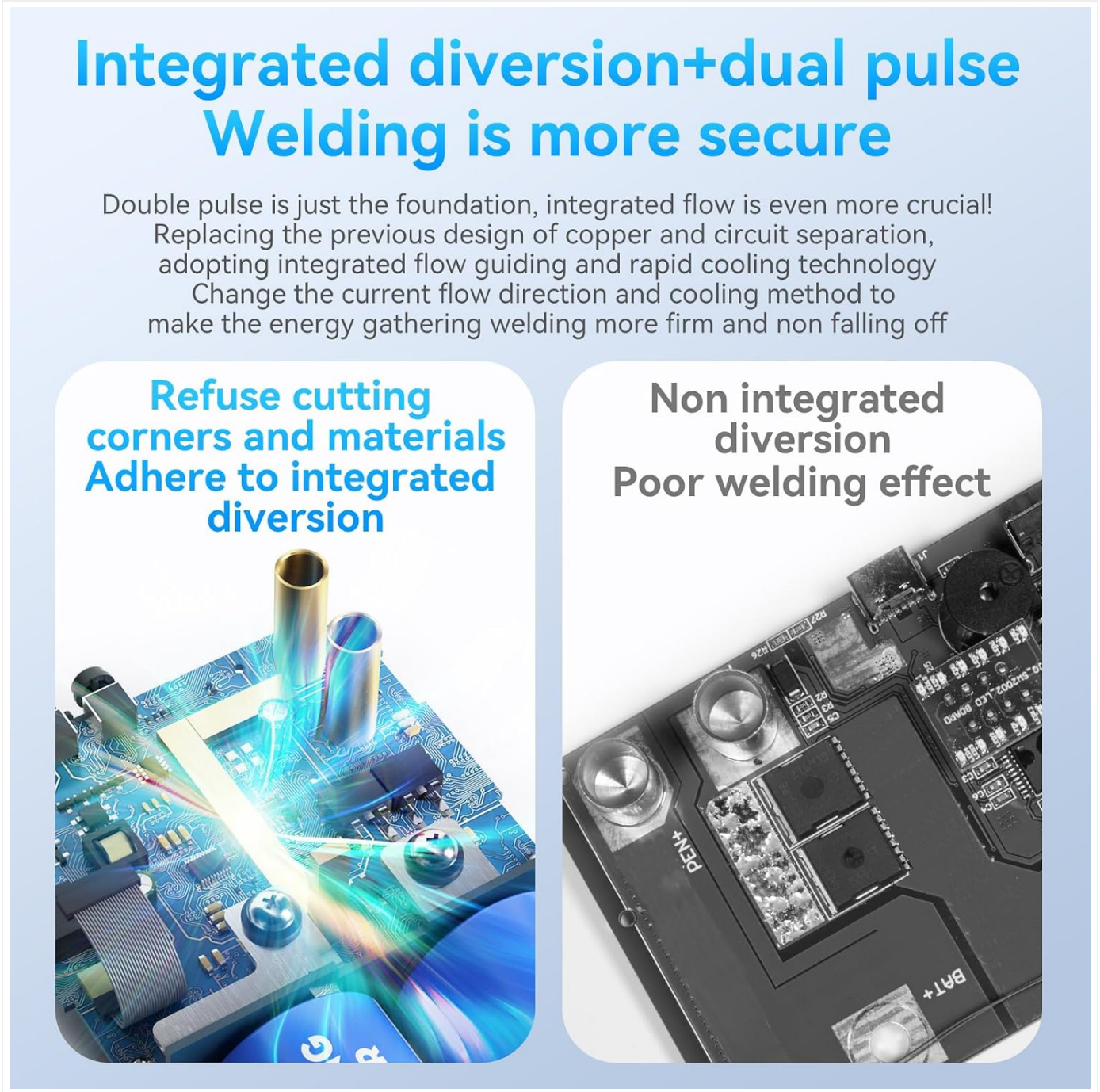

Figure 2: Internal view of the Awgem MF2 Spot Welder, highlighting the Farad capacitors which contribute to its strong output current and extended lifespan.

Setup

1. **Initial Charging:** Before first use, connect the device to a power source using the provided TYPE-C data cable. Allow at least 20 minutes for initial charging. The device requires a continuous power source for operation as Farad capacitors do not store power long-term. Ensure the voltage exceeds 5V for spot welding.
2. **Connect Welding Pen:** Insert the welding pencil into the designated port on the main unit. Ensure a secure connection.
3. **Prepare Workpiece:** Clean the surfaces to be welded to ensure good electrical contact and a strong weld.

Operation

Power On/Off

Press and hold the power button to turn the device on or off. The display will illuminate upon activation.

Adjusting Welding Settings

The Awgem MF2 features 99 adjustable power levels. Use the control interface to fine-tune the power output (1-99 levels) and delay time (1-5 seconds) for optimal welding results. Higher power levels are generally used for thicker materials, while lower levels are suitable for delicate work. Experiment with settings on scrap material to find the ideal parameters for your specific application.

Dual Automatic & Manual Pen Mode

Figure 3: The intelligent handheld welding pen, featuring replaceable soldering pins, a comfortable grip, and a manual trigger button for precise control.

- **Automatic Mode:** In this mode, the welder automatically detects contact between the welding needle and the nickel strip, then outputs a pulse. This mode is suitable for continuous welding tasks.
- **Manual Mode:** For single spot welding, press the button on the manual pen to trigger the weld. This provides greater control for precise applications.

Welding Process

1. Place the material to be welded on a stable, non-conductive surface.

2. Position the welding pen electrodes firmly against the materials to be joined.
3. Initiate the weld using either automatic detection or the manual trigger button.
4. Hold the pen steady until the weld is complete.
5. Allow the welded area to cool before handling.

Welding Thickness

Figure 4: Visual representation of welding capabilities for nickel strips ranging from 0.1mm to 0.4mm thickness.

The Awgem MF2 is capable of strong welding for thicknesses ranging from 0.1mm to 0.4mm. Adjusting the power levels is crucial to achieve optimal results for different material thicknesses and types.

Applications

Figure 5: The Awgem MF2 Spot Welder in use for welding cylindrical batteries (18650, 26650, 32650) and mobile phone batteries, demonstrating its versatility.

Figure 6: Examples of diverse applications for the Awgem MF2, such as transplanting battery cells, battery assembly, general metal welding, repairing phone frames, welding lens frames, and functioning as a burner.

This spot welder is suitable for a wide range of applications, including:

- Battery pack assembly (e.g., 18650, 26650, 32650 cylindrical batteries)
- Repairing mobile phone batteries, lenses, and bezels
- General hardware and electronic component welding
- Metal welding for thin sheets

Maintenance

- **Cleaning:** Regularly clean the welding pen tips and the main unit with a dry, soft cloth. Ensure no metal dust or debris accumulates on the device.
- **Tip Replacement:** The welding pen tips are replaceable. Replace them when they become worn or damaged to maintain welding quality.
- **Storage:** Store the welder in a dry, cool place, away from direct sunlight and moisture.
- **Power Source:** Always ensure the device is connected to a stable power source during operation, as the Farad

capacitors require continuous input.

Troubleshooting

Problem	Possible Cause	Solution
Device does not power on.	No power supply or insufficient charge.	Ensure the TYPE-C cable is securely connected to a power source and the device. Allow at least 20 minutes for initial charge. Verify power source output is above 5V.
Poor weld quality (weak or inconsistent).	Incorrect power settings, dirty electrodes, or improper material contact.	Adjust power levels (1-99) and delay time (1-5 seconds). Clean welding pen tips. Ensure firm and consistent contact with the workpiece. Verify material thickness is within the 0.1-0.4mm range.
Welding pen not triggering in automatic mode.	Poor contact or sensor issue.	Ensure the welding needles make proper contact with the nickel strip. Try manual mode to confirm pen functionality.
Device overheats.	Continuous heavy use without breaks.	While designed for 12 hours of continuous welding, allow the device to cool down if it feels excessively hot. Ensure proper ventilation.

Specifications

Model Number	MF2
Brand	Awgem
Product Dimensions	9.4 x 16.76 x 4.5 cm
Item Weight	953 g
Power Source	TYPE-C
Voltage	20 Volts
Wattage	3000 watts
Capacitor Type	Dual Farad Capacitor (3000F)
Adjustable Power Levels	99 Gears
Adjustable Delay Time	1-5 seconds
Welding Thickness	0.1mm - 0.4mm

Warranty and Support

For warranty information or technical support, please refer to the documentation provided with your purchase or contact Awgem customer service through their official website or the retailer where the product was purchased. Keep your proof of purchase for warranty claims.

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