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Weldy 802.235

# Weldy WGW 300 Automatic Hot Wedge Welding Machine User Manual

Brand: Weldy | Model: 802.235

## 1. INTRODUCTION AND OVERVIEW

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The Weldy WGW 300 Automatic Hot Wedge Welding Machine is designed for the reliable and efficient welding of thermoplastic geomembranes. This robust machine is suitable for various applications, including landfills, mines, aquaculture, fish farms, and irrigation systems.

It effortlessly welds materials such as HDPE (0.8 to 2.5 mm), LDPE, TPO, FPO, and PVC (0.8 to 3.0 mm). The WGW 300 features a powerful and durable drive motor, large rollers for secure grip on inclines, and precise temperature control via a sensor located in the hot wedge.

This manual provides essential information for the safe and effective operation, setup, maintenance, and troubleshooting of your Weldy WGW 300 welding machine.

## 2. SAFETY INSTRUCTIONS

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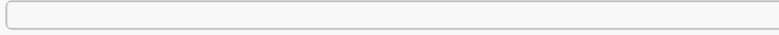
**WARNING: This machine operates on 220V (single phase). If operating in 110V countries, a suitable generator or power transformer is required to match the power source. Failure to do so may result in damage to the machine or electrical hazards.**

- Always read and understand this manual completely before operating the machine.
- Ensure the power supply matches the machine's requirements (220V).
- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and sturdy footwear.
- Do not operate the machine in wet conditions or near flammable materials.
- Keep hands and loose clothing away from moving parts and the hot wedge during operation.
- Disconnect power before performing any maintenance or adjustments.

- Ensure the work area is well-ventilated.
- Only trained personnel should operate and maintain this equipment.

### 3. COMPONENTS AND FEATURES

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**Figure 3.1:** Front view of the Weldy WGW 300 Automatic Hot Wedge Welding Machine. This image shows the main body, the hot wedge assembly, and the large drive rollers designed for stable movement across geomembranes.



**Figure 3.2:** Rear view of the Weldy WGW 300, highlighting the robust handles for easy maneuvering and the power cable connection point. The overall design emphasizes durability and ease of use.



**Figure 3.3:** Detailed view of the WGW 300 control panel. It features a digital display for temperature, switches for "Heating ON/OFF" and "Drive Motor ON/OFF", and a rotary knob for speed adjustment. A speed table is clearly labeled, showing speed in m/min corresponding to settings 1 through Max.



**Figure 3.4:** The Weldy WGW 300 machine stored securely within its robust transport case. The case is designed for easy storage and transportation, protecting the equipment during transit.

#### Key Components:

- **Hot Wedge:** The heating element responsible for melting the geomembrane material to create a strong weld. Features an integrated temperature sensor for precise control.
- **Drive Rollers:** Large, robust rollers that provide consistent traction and movement of the machine along the geomembrane, even on inclines.
- **Control Panel:** Intuitive interface with bilingual (English and Chinese) labels for heating, motor, temperature display, and speed control.
- **Motor:** Powerful and durable motor ensuring consistent welding speed and reliable operation.
- **Transport Box:** Supplied for safe storage and transportation of the 15 kg machine.

### 4. SETUP

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1. **Unpacking:** Carefully remove the WGW 300 from its transport box. Inspect the machine for any signs of damage during shipping.
2. **Power Connection:** Connect the machine to a stable 220V (single phase) power supply. Ensure the power source is capable of providing the required wattage (1750W). If operating in a 110V region, use a suitable step-up transformer or generator.
3. **Work Area Preparation:** Prepare the geomembrane for welding. Ensure the surfaces to be welded are clean, dry, and free from debris. Overlap the geomembrane sheets as required for the welding process.
4. **Machine Placement:** Position the WGW 300 on the geomembrane, ensuring the hot wedge is correctly aligned with the overlap. The large rollers should be firmly on the material to ensure proper traction.

5. **Wedge Selection (for PVC):** If welding PVC geomembranes, ensure a steel wedge is installed. The standard wedge may not be suitable for PVC.

## 5. OPERATING INSTRUCTIONS

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1. **Power On:** Connect the machine to the power supply.
2. **Activate Heating:** Turn the "Heating ON/OFF" switch to the ON position. The digital display will show the current temperature. Allow the hot wedge to reach the desired welding temperature. The temperature sensor in the middle of the wedge ensures precise control.
3. **Set Temperature:** Adjust the temperature setting according to the type and thickness of the geomembrane being welded. Refer to material specifications for recommended temperatures. The maximum temperature range is 450 degrees Celsius.
4. **Set Speed:** Adjust the welding speed using the rotary knob on the control panel. Refer to the "Speed table" on the panel for corresponding speeds (e.g., Min: 0-2.5 m/min, Max: 5.4-8.4 m/min). Start with a lower speed and adjust as needed for optimal weld quality.
5. **Activate Drive Motor:** Once the desired temperature is reached, turn the "Drive Motor ON/OFF" switch to the ON position. The machine will begin to move along the geomembrane, performing the overlap weld.
6. **Monitor Welding Process:** Continuously monitor the welding process to ensure a consistent and high-quality seam. Observe the material flow and adjust temperature or speed if necessary.
7. **Completion:** Once the weld is complete, turn off the "Drive Motor ON/OFF" switch, then turn off the "Heating ON/OFF" switch. Allow the hot wedge to cool down before handling or storing the machine.



**Figure 5.1:** An operator demonstrating the use of the Weldy WGW 300 on a geomembrane. The machine's design allows for effective operation even when the operator is kneeling to guide it.



**Figure 5.2:** An operator observing the Weldy WGW 300 in operation on a large geomembrane installation. The machine's automatic drive allows for monitoring and minor adjustments during the welding process.

## 6. MAINTENANCE

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- **Cleaning:** Regularly clean the hot wedge and drive rollers to prevent material buildup. Use a non-abrasive cloth and appropriate cleaning agents for the materials being welded. Ensure the machine is cool and disconnected from power before cleaning.
- **Inspection:** Periodically inspect the power cord, switches, and all mechanical components for wear or damage. Check the condition of the hot wedge and replace if worn or damaged.
- **Roller Condition:** Ensure the drive rollers are clean and free of debris to maintain optimal traction.
- **Storage:** When not in use, store the Weldy WGW 300 in its supplied transport box in a dry, clean environment to protect it from dust and damage.

## 7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Machine does not power on.	No power supply; Incorrect voltage (110V instead of 220V); Faulty power cord/switch.	Check power connection; Ensure 220V supply or use a suitable transformer; Inspect power cord and switch for damage.
Poor weld quality (weak seam, burning).	Incorrect temperature setting; Incorrect speed setting; Contaminated geomembrane surface; Worn hot wedge; Incorrect wedge for material (e.g., no steel wedge for PVC).	Adjust temperature and speed settings; Clean geomembrane surface; Inspect and replace hot wedge if necessary; Ensure correct wedge type for material.
Machine not moving or moving erratically.	Drive motor off; Rollers dirty or damaged; Obstruction on geomembrane; Insufficient traction on incline.	Turn on drive motor; Clean or inspect rollers; Remove obstructions; Ensure proper placement and traction.
Temperature not reaching set point.	Heating element issue; Sensor malfunction; Insufficient power supply.	Contact qualified service personnel; Verify power supply.

## 8. SPECIFICATIONS

Attribute	Value
Manufacturer	Weldy
Part Number	802.235
Item Weight	33 pounds (approx. 15 kg)
Power Source	AC/DC
Voltage	230 Volts
Wattage	1750 Watts
Temperature Range	Up to 450 Degrees Celsius
Welding Speed	Up to 8.5 m/min
Weldable Materials	HDPE (0.8-2.5 mm), LDPE, TPO, FPO, PVC (0.8-3.0 mm)

## 9. WARRANTY AND SUPPORT

For warranty information and technical support regarding your Weldy WGW 300 Automatic Hot Wedge Welding Machine, please refer to the documentation provided at the time of purchase or contact the seller, NewsinDee, directly. Extended protection plans may also be available through your retailer. It is recommended to register your product with Weldy or NewsinDee, if applicable, to ensure you receive important updates and support.