Shanghai Pengwang Machinery Co., Ltd.

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PW601 Metabo Extruder

Manual

General

Please read this manual carefully before using this machine, and retain it for future reference.

This plastic extrusion welding machine pioneered using of the function of double independent heating systems, 360-degree rotating welding head, motor cold start protection, which is applicable to welding HDPE,PE,PP and other hot melt materials.

It plays its most characteristic especially for welding PE membrane. But do not apply to conductive plastic (PE-EL), otherwise the machine will produce conductive short circuit.

Replacement of different welding shoe can be applied to:

1. Plastic containers of welding, splicing, etc.
2. Plastic pipe fittings welding, repairing, stitching, sealing, etc. Especially for plastic pipe with large diameter.
3. Thick plastic film, geomembrane splicing, repairing and so on.

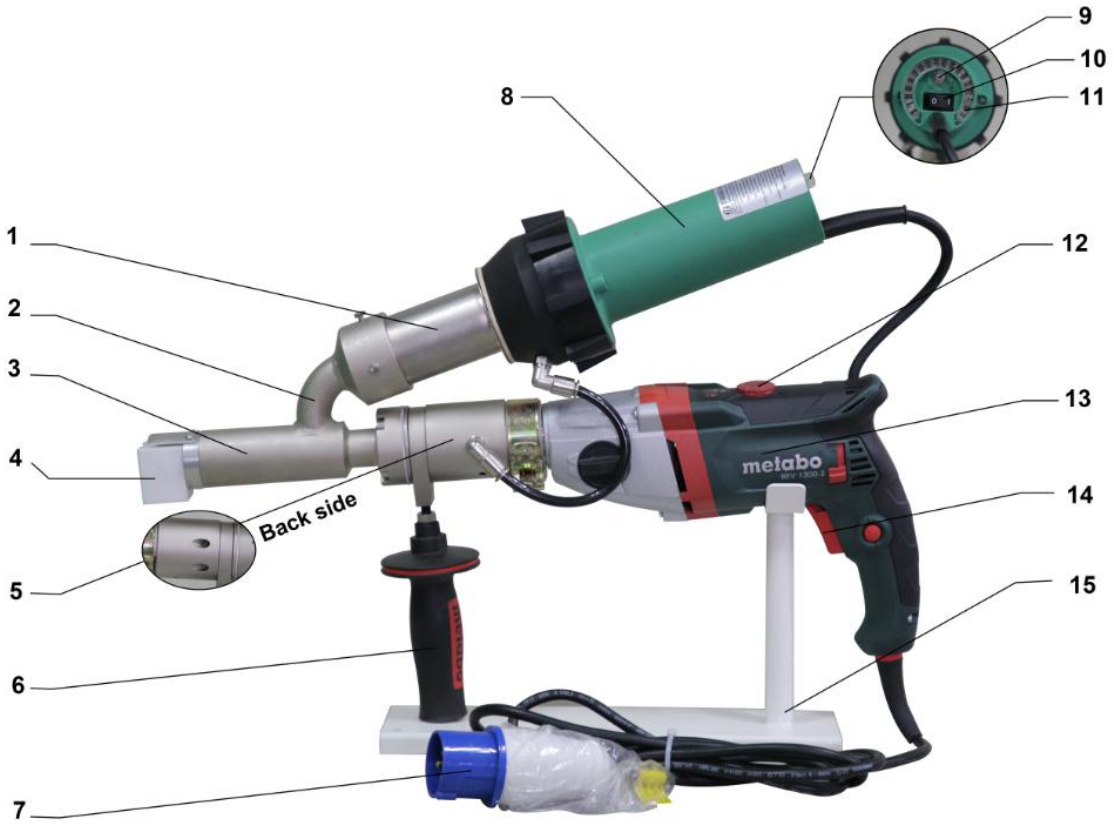
Ⅰ. Notice

1. **CAUTION DANGER**. Please confirm that the plug has been removed while disassembling the equipment!
2. Incorrect use of the equipment will result in fire and burns!
3. The voltage on the equipment **(220V)** must be the same as the main voltage on the plug, and the supply voltage shall not exceed 10% of the rated voltage of the equipment.
4. To ensure the safety of users and reliable operation of the equipment, the power supply should be installed voltage stabilizer and leakage protection device;
5. Do not touch the soldering nozzle and metal case to prevent scalding, and do not point the hot air to human and animals.
6. Please protect the equipment from moisture.
7. Please focus while operating.

Ⅱ. Technical Parameter

Voltage	220V
Frequency	50Hz
Motor Power	1300W
Hot Air Power	3400W
Hot Air Temperature.	20-650℃
Extruding Temperature	300-420℃ Adjustable
Preheating Temperature	200-400℃
Rod DIA	Φ3.5-4.5mm
Welding Speed	1.8-3.6kg/h
Welding Material	HDPE/PP/PVC/PVDF

Ⅲ. Main Components and Name



1. Heating Element	6. Handle	11. Dust Shield
2. Y Style Extrusion Gun Body	7.Power Cord & Plug	12. Motor Speed Control
3. Cylinder (Screw Inside)	8. Torch Chimney	13. Motor of Extruder
4. Welding Shoe	9. Air Temperature Regulation Knob	14. Motor Switch
5. Feed Inlet	10. Heat Gun Power Switch	15. Shelf

Ⅳ. Operation

1. Put the extruder on the shelf and install the handle, connect the power supply.

2. Turn on the hot air gun power switch, then adjust the temperature control knob, and set the temperature to the required figure(during preheating you can adjust to the highest temperature, when formal operation can adjust to the appropriate temperature). Preheating the extruder for about 3-5 minutes, until the residue on the welding nozzle outlet get softened, using tools to pick the softened residue out of the welding nozzle. The length of preheating time needs to be judged according to the scene. The residue of the outlet of the welding nozzle has not yet softened, which means that the preheating time is not enough. If the residue become thinning, it means that the preheating time is too long. The proper preheating time is very necessary: if the preheating time is insufficient and the forced starting of the extruding welding gun will cause the motor overload, it will destroy the motor rotor seriously. If the preheating time is too long, the heat of the outlet will fall back, which will cause the motor overheated and stopped. The welding rod will be melted before it enters the extrusion chamber, and the blade cannot be fed.

3. Use right hand to pull the motor switch, and the motor starts to work. If a new machine has a slight noise, it may be related to the resonance of the machine with the shelf or the tightness of the parts inside the machine, which does not affect the normal operation of the machine. If the motor works smoothly and the internal sound of the feed is disappearing, it is normal. But if the motor works not smoothly, the jitter is intense, and the noise is aggravated, it indicates that the preheating time is not enough and the residue inside the gun is not melted out. It is necessary to extend the preheating time.

4. When the motor is determined to start, it is best to standby for 2-3 minutes. After that, it can be inserted into the welding rod. According to the plasticizing of the extruded material, the temperature control knob should be carefully adjusted till the welding rod in the screw is softened completely.

5. Before put welding rod into the extrusion cavity the rotation rates of motor is lively.

After feeding welding rod the rotation rates of motor will become heavier, if it becomes very difficult, please stop immediately, may be the screw heating time is too short or the temperature is not high enough. Or the temperature is so high that lead to the cut solder particle has been melt and clinging to the cutting blade to cause the plugging before it falls into the extrusion gun body. In this case, it is necessary to remove the Y type extrusion gun body and clean the scrap on the cutting blade to ensure that the equipment is not damaged normally.

6. Faster welding speed need to higher heating temp. At general condition, the hot air temperature is between 260℃ to 450℃. Choose suitable hot air temperature is important during welding.

7. Adjusting the temperature and speed to make sure the welding rod is melting and extruding perfectly when actual operation.

8. The operator needs to press the hand extruder on welding seam during operating, to make sure the melting material can bond well on seam.

9. Flat welding shoe and 90-degree welding shoe suitable for different welding ways. Pls rotate and pull out of the welding shoe or preferably with a little heat and remove when you need to replace it, do not pull or knock directly.

10. **Finishing stage:** Extrude all welding rods which inside the cylinder (when the motor voice getting lighter that means extrude completely), and clean out the welding materials that on the air outlet. Otherwise it may cause blocked when you use next time.

11. **Shutdown stage:** Adjust the hot air gun to cold wind and cooling the heating element at least 5 minutes before shutdown.

12. It needs to clear out all previous welding rods before next time to starting the hand extruder up.

13. The service life of carbon brush around 1600 hours, pls note that and replace it timely.

Precautions for Use (The Content on the Label)

1. Preparation stage: Preheating the extruder on the shelf, carefully check the power plug and prevent it from falling off.

2. Extrusion gun preheating stage: Preheating the extruder for 3 minutes. Take the softened residue can be clip out with a nipper plier as standard.

Caution a: If forced to start driving motor in the case of insufficient preheating, it may cause motor to be burned because of motor over load.

Caution b: When the preheating time is too long and the high temperature of the cavity makes rod liquefied, it will unable to feed welding rod if the rod is softened and stick to the blade.

Caution c: When start feeding welding rod, try to feed the rod slowly. After the feeding speed go on normal and stable, then work at constant speed.

3. Working stage: Pay attention to the working strength of the welding gun. Do not operate for a long time to prevent the motor from overheating.

Caution: Do not increase the motor speed unilaterally without increasing the heating temperature. Otherwise, the rotor may be burned down.

4. Shutdown stage: It is necessary to extrude all the welding rod and solder out of the cavity to prevent the clogging in the cavity of the next use.

Caution: Extrude the residue out of the cavity, adjust the hot air gun to cold wind and cooling the heating element at least 5 minutes before shutdown.

Ⅴ. Product Warranty

1. The welder has a warranty period of 1 year after shipment.

2. After receiving the machine, the user should check if the machine is in good condition. If there is no feedback within two days, it shall be deemed to be complete and accepted by user.

3. No warranty shall be imposed on the damage caused by the following circumstances:

a. User do not give us the feedback of problems encountered in the use of the product promptly, or they do not comply with prompt action to prevent machine from serious damage.

b. User intentionally damaged or overloaded use of the machine.

c. User disassemble and maintenance the extruder without the manufacturer's permission.

d. Users modify or install the attachment without the manufacturer's permission.

e. User does not operate as specified in the instructions.

f. Using the ceramic electric heating pipes that are not produced by our company.

4. The normal wear and tear of the machine is not warranted.

5. The damage caused by non - resistance (such as lightning, flood, fire, accident and other non - manufacturers) is not guaranteed.

6. The above terms are lapsed automatically after the warranty period expires.

Ⅵ. Maintenance

1. Our company is responsible for the maintenance of the products being sold.

2. Our company is responsible for providing technical training to user.

3. The final right to interpret is owned by our company.

Ⅶ. General Troubles and Eliminations

The fault performance	The possibility caused reasons	Solved ways
No hot air wind	The motor of hot air gun was stop.	Check the rotor, stator and switch of hot air gun, replace them if broken.
	Hot air gun heating element was broken.	Replace the heating element.
	The air outlet of hot air gun was blocked.	Removing the debris.
Noise and shaking during extruding	Extruder outlet was blocked.	Pre-heating enough time and clear the outlet.
	Screw or blade was broken.	Replace the screw or blade.
	Welding rod pellet stuck the blade and feed screw.	Take apart the cylinder, remove the pellet.
Drive motor was stop	Carbon brush was wear after over the service life.	Replace the carbon brush.
	Overvoltage destroys the motor.	Replace the rotor and stator of motor.
	Motor wire was drop.	Rewiring.
Don’t feed	Welding rod not inserted enough.	Insert the welding rod again.
	Welding rod can’t insert the feeding rod.	Φ4mm welding rod just can insert upper feeding hold(Φ 4.5 feeding hold)
	Welding rod pellet stuck the feed inlet	Take apart the cylinder, remove the pellet.

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