Shanghai Pengwang Machinery Co., Ltd.

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PW604 HITACHI Double Heating 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, digital display controller, 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. But do not apply to conductive plastic (PE-EL), otherwise the machine will produce conductive short circuit.

Replacement of different welding boots can be applied to:

1. Plastic containers of welding, splicing, etc.
2. Large diameter plastic pipe, pipe fittings welding, repair, stitching, sealing, etc.
3. Thick plastic film, geomembrane splicing, repair 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	50/60Hz
Motor Power	800W
Spiral Heating Tube Power	900W
Hot Air Power	1600W
Hot Air Temperature.	20-550℃
Extruding Temperature	300-420℃ Adjustable
Rod DIA	Φ3.5-4.5mm
Welding Speed	1.8-3.6kg/h
Material	HDPE/PP/PVC/PVDF

Ⅲ. Main Components and Name

1. Y Style Extrusion Gun Body	7.Air Regulation Knob	13. Power Cord & Plug
2. Heating Gun Element	8. Heating Tube Temp Controller	14. Handle

3. Heat Gun Power Switch	9. ON/OFF Switch of Controller	15. Feed Inlet
4. LED Panel	10. Motor	16. Welding Shoe
5. Temperature Button	11. Motor Speed Control Knob	17. Air Outlet
6. Torch Chimney	12. Shelf	

Ⅳ. Operation

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

2. Press the "**POWER**" button to start the green control box, press "▲" and "▼" button to set a wanted temperature value (**temperature is adjustable from 300℃ to 420℃ when welding the HDPE**). Pre-heating the extruder for 30s, until the first lamp on the panel turns to green which means the temperature has reached to setting value. Then operator can start to weld.

3. If the third lamp is on which means the heating temperature is higher than minimum melting temperature, the motor fuse will open automatically. If the third lamp is not light up which means the temperature is lower than minimum melting temperature, the motor will lock automatically; meanwhile the motor will power-off automatically to prevent the wrong operation. The minimum melting temperature can be adjusted, **default value is 300**℃, please contact manufacturer if you want to change the default temperature.

4. Press "**POWER**" button to start the hot air gun, press "▲" to raise and press "▼" to turn down temperature. The hot air gun knob on the back of heat gun can be used to adjust the air volume (0-9 grades adjustable).

5. Put the welding rod into suitable feed inlet, press the motor trigger. You could adjust the motor speed control knob "A to G" to adjust the speed.

6. Adjusting the temperature and speed to ensure the welding rod is melting and extruding perfectly when actual operation.

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

8. The key point of setting warm-up hot air temperature and hot air volume depends on welding strength and speed. Generally, **the working temperature of hot air gun is between 300℃ to 400℃**. If fast welding speed is needed, set higher heating

temperature accordingly is necessary.

9. Keep blowing cold air to cool down the hot air gun and extruder for few minutes before turning off the hot air gun.

10. Make sure the welding rod is extruded totally before turning off the hand extruder. Then clean out the materials on the air outlet.

11. The service life of carbon brush is around 1600 hours, please note and replace it in advance.

12. Flat welding shoe and 90-degree welding shoe are suitable for different welding ways. Please rotate then pull the welding shoe when you need to replace it, do not pull directly.

13. Please turn off the power switch on the green control panel if there is no welding rod feed. Do not keep extruder on working status more than 5 minutes

Precautions for Use (The Content on the Label)

1. Extrusion gun pre-heating stage: Pre-heating the extrusion gun on the shelf, carefully check the power plug and prevent fall off.

2. Hot air gun pre-heating stage: Press “POWER” button for one second to start the hot air gun, press “+” and “-” button to adjust the setting temperature.

3. Melting pre-heating stage: Press “ON/OFF” to start the green control box, self-heating to the setting temperature.

Caution a: If the melting temps do not reach to setting temp, motor trigger switch self-locking and can’t press.

Caution b: the default temp of motor self-locking is 260℃, pls contact manufacturer if you want to change the default temp.

Caution c: Green control box display the setting temp and real-time temp, you can press “↑” and “↓” button to adjust.

Caution d: Do not increase motor speed before not increase the heating temp, otherwise will destroy the rotor.

4. Power Off: Must extrude out all plastic materials (Judgment: when the voice getting lighter).

Caution: After extruding out all materials, adjust the hot air gun to cold wind for at least 5mins, then power off the extruder.

Ⅴ. Product Warranty

1. The welder has a warranty period of 1 year from the date of shipment.

2. After receiving the machine, the user should check if the machine is in good condition. If there is no echo 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 did not promptly give us the feedback of problems encountered in the use of the product, or they did not comply with prompt action to prevent machine from serious damage.

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

c. The user does the diss-assembly and maintenance work 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.
	The temp not reach to motor default temp.	Wait the temp reach to setting temp then operation.
	Overvoltage destroys the motor.	Replace the rotor and stator of motor.
	Motor wire was drop.	Rewiring.
	The motor overheating protection lamp is on.	Wait 2-3 minutes to let motor cold down, and re-start.
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)
	Feed screw was wear, and the clearance was too large.	Replace the feed screw.
Extrusion temp was unusual.	The temp keeps going up, can’t stable.	The thermocouple was broken, replace the heating tube.
	The switch lamp was not light and not heating.	Check and replace the fuse and switch.

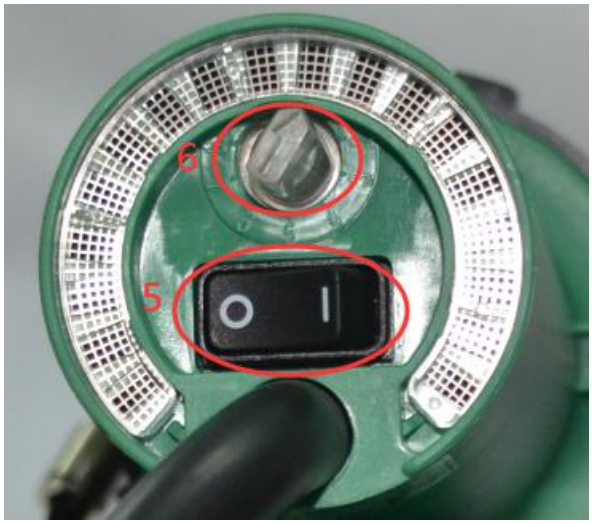
Attentions:

Press the "**ON**/OFF" **(1)** to start the green control box, press **(2)** "" and "" button to adjust the temperature **SV (3)** (the heating temperature could be set to 380℃ when welding the HDPE).

1. Meanwhile press the "O/Ⅰ" **(5)** to start the heat gun, adjust the knob **(6)** to set heat gun temperature and air volume (for PVC rod welding: 5-6 grade, for HDPE rod welding 6-7 grade).

Pre-heating 30 second, the first lamp on panel **(4)** is turns to green means that the temperature **PV**(real-time temp) is reach to **SV** setting temp, can start to weld.

When third lamp "**ALM1**" is light up means that the **PV (4)** temperature is reach to 300℃, the extruder's trigger**(8)** can start up.



2. Put the welding rod into suitable feed inlet **(7)**, press the motor trigger**(8)**. You could

adjust the motor speed by trigger too.

3. After finish work, please adjust knob **(6)** to lower grade, using cold air to cold down the hot air gun and extruder for few minutes before turn off the hot air gun.
4. Finally, turn off the green box **(1).**

Notice: Faster welding speed need to higher heating temperature. Adjusting the temperature and speed to make sure the welding rod is melting and extruding perfectly during actual operation.

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

Make sure the welding rod is extrude totally before turn off the hand extruder. Clean out the materials on the air outlet.

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