

PUR hot melt glue injection machines are now widely used in packaging, wood processing, automobiles, textiles, electromechanical, aerospace and other national economic fields. PUR adhesive contains polar and chemically active urethane group (-NHCOO-) or isocyanate group (-NCO) in its molecular structure. It has excellent adhesion with materials containing active hydrogen, such as wood, leather, fabric, paper, ceramics and other porous materials, and plastics, metals, glass, rubber and other smooth surface materials.

Features and working principle of PUR hot melt glue machine:

Due to the particularity of PUR hot melt glue machine, it is also called moisture-curing reactive polyurethane hot melt glue, also called moisture-curing reactive polyurethane hot melt glue, or PUR hot melt glue for short. When hot melt is used, it will react and solidify if it comes into contact with water vapor in the air. Therefore, it needs to be completely isolated from the air during its melting and use. The PUR hot melt glue machine is specially designed for the application of polyurethane hot melt glue. The biggest difference between polyurethane hot melt glue machines and ordinary hot melt glue machines is that the entire hot melt glue coating process is completely isolated from the air. Ordinary hot melt glue machines melt the hot melt glue from bottom to top. The PUR hot melt glue machine melts PUR hot melt glue from top to bottom, so one of the core components of the machine is the hot melt glue plate heating element.

Things to note when installing PUR hot melt glue machine:

1、 When installing this machine, a correct and effective ground wire must be connected. Any equipment that uses high-voltage electricity needs to have a grounding wire. If a grounding wire is not used, any components on the hot melt adhesive machine that are protected by insulators may still form voltage

conductors, posing a risk of electric shock.

2、 According to the load required by the hot melt glue machine and its attached peripheral equipment, check whether the power cord used and the insulation protection comply with the regulations. The load of the wire must be higher than the rated power of the hot melt glue machine.

3、 Make sure that the external voltage connected to the hot melt glue machine is consistent with the hot melt glue machine itself. For example, if a hot melt glue machine has a single-phase 220V voltage standard, if a 380V power supply is used, the hot melt glue machine spraying equipment will be damaged. For example, if a hot melt glue machine with a single-phase 220v voltage standard uses a power supply lower than 220V, it will not be able to achieve the design performance of the equipment and may also damage the machine. When wiring, make sure that the power cord is correctly connected to the external breaker.

4、 Make sure the machine is operating at the specified voltage. If the voltage used is different from the specified voltage, the machine may be burned.

How to use PUR hot melt glue:

1、 Storage conditions: The storage temperature of PUR hot melt glue is 8~22℃. Store it in a dry and dark place to avoid excessive air humidity.

Do not use products with damaged packaging.

2、 Please note before use:

1)、 Before using PUR glue, you need to check whether the vacuum packaging is in good condition. Do not use if there is air leakage;

2)、 Allow the glue to return to room temperature before use;

3)、 Preheating: The glue is preheated without tearing off the aluminum foil (usually 5 to 15 minutes). You can also put the well-packaged glue in the oven for preheating. It is recommended to control the temperature to 130 ℃;

(select according to the regional climate temperature difference)

4)、 After preheating is completed, pick out the glue scab at the top and tail of the PUR glue hose before the glue can be used;

5)、 Remove oil, dust, paint, release agent, oxide layer and other substances that affect bonding on the surface of the bonded parts, and ensure that the surface of the bonded workpiece is dry.

3、 Dispensing glue:

1) The temperature and air pressure when dispensing PUR hot melt glue vary depending on the project.

2) Stainless steel needles should be used whenever possible, and the inner diameter of the needle tip will depend on the specific project.

3) Before installing the needle tip, please drain a small amount of glue to ensure that the PUR hot melt adhesive can be used normally.

4) The length of the needle tip exposed outside the heater should be no more than 3mm.

Warm reminder: It is generally recommended not to exceed 4 consecutive hours of heating time. Do not reheat the same hose three times. If the heating time is long, a skin will form on the back of the hose. At this time, the skin can be broken to reduce the pressure of gluing.

4、 Assembly and pressing:

Apply PUR01 to the surface of the bonded part at the gluing temperature; after determining the position of the bonded part, press the two parts of the adherend together within the opening time to complete the preliminary bonding.

5、 Solidification::

Store the initially bonded parts under appropriate conditions for complete solidification (the complete solidification time will vary depending on the amount of glue applied, ambient temperature, and ambient humidity.)

Safety precautions for daily operation of PUR hot melt glue machine :

- 1、 Avoid using the PUR hot melt glue machine around volatile and explosive raw materials or gases, and do not store flammable and explosive items around its spray equipment.
- 2、 Do not operate a hot melt adhesive machine without proper protective equipment, good insulation or a well-protected panel.
- 3、 When the PUR hot melt glue machine needs maintenance, it must be disassembled and repaired by professionally trained personnel.
- 4、 When the ambient temperature is lower than -20℃ or higher than 80℃, the PUR hot melt glue machine cannot be used.
- 5、 Where PUR hot melt glue machine is used, there should be no fast flowing air. When the PUR glue barrel and melt pressure plate used in the PUR hot melt glue machine are exposed to the rapidly circulating air, the rapid cooling will affect the hot melt glue flow of the machine and waste energy.
- 6、 When replenishing PUR hot melt glue, you should check whether the PUR hot melt glue barrel is deformed. PUR polyurethane hot melt glue barrels with severe deformation should be discarded to avoid damaging the PUR hot melt glue machine pressure plate.
- 8、 If the PUR hot melt glue machine is not used for a long time, silicone oil should be used to seal the circumference of the machine's heating pressure plate to ensure the performance of the PUR hot melt glue in the glue barrel.

Things to note when changing glue in PUR hot melt glue machine:

- 1、 When cleaning the PUR polyurethane hot melt machine, you must first separate the hot melt glue heating plate from the PUR hot melt glue barrel. After the PUR polyurethane hot melt glue barrel is separated from the PUR

hot melt glue machine heating plate, all power should be cut off while maintaining the pressure in the lifting cylinder.

2、 When the polyurethane hot melt glue machine is removing the barrel, the air pressure should be gradually increased from small to large. Under no circumstances is it allowed to directly use high-pressure gas to directly remove the barrel to avoid accidents.

3、 When the heating plate pressure plate of the PUR hot melt adhesive machine is separated from the polyurethane hot melt barrel, before cleaning the remaining PUR hot melt glue, it must pass through the special mechanism on the pressure plate of the PUR hot melt adhesive machine, close the channel between the pressure plate and the pump body to prevent solidification.

4、 When cleaning the heating plate of the PUR hot melt glue machine, staff must wear special high-temperature resistant protective clothing and high-temperature-resistant gloves. The skin must not come into contact with hot melt glue barrels, molten PUR hot melt glue, heating plates and other high-temperature parts. Avoid burns.

5、 When removing the barrel of the PURPUR hot melt glue machine, the best way is to fill the 5-gallon hot melt glue barrel with dry nitrogen to avoid directly using undried compressed air, When it is necessary to fill with compressed air, the compressed air needs to be thoroughly dried. And check the usage of desiccant frequently.

6、 After the PUR polyurethane hot melt glue machine is separated from the hot melt glue barrel, the remaining PUR hot melt glue on the hot melt glue pressure plate must be cleaned immediately and thoroughly. When cleaning the heating rubber plate of the machine, do not use any hard tools to prevent scratching the Teflon coating of the pressure plate.

7、 When cleaning the pressure plate of the specially constructed PUR hot melt glue machine, the heating plate of the PUR hot melt glue machine cannot completely clean the residual PUR polyurethane hot melt glue in a short time

due to the special structure. Dry nitrogen protection must be used when cleaning the residual PUR polyurethane hot melt, and the cleaning time should not exceed 10 minutes. No hard tools should be used to clean the heating plate of the PUR hot melt machine.

8、 After cleaning the pressure plate of the PUR hot melt glue machine, the pressure plate should be pressed into a new PUR hot melt glue barrel immediately to avoid exposing the pressure plate to the air for a long time. When pressing the heating plate into the rubber bucket, the air pressure of the lifting cylinder should increase from small to large. High-pressure gas must not be used directly to prevent accidents and pay attention to the safety of the operator.

9、 When pressing the pressure plate of the PUR hot melt glue machine into the glue barrel, you can appropriately apply a small amount of silicone oil on the sealing ring of the pressure plate for lubrication to lubricate the pressure plate and the glue barrel to protect the sealing ring.

10、 When the PUR hot melt glue machine heating plate is pressed into the new polyurethane glue barrel, the glue overflow valve should be opened to completely discharge the residual air in the glue barrel and remove the PUR hot melt glue with air bubbles, prevent polyurethane hot melt adhesive with air from flowing into the pump body and the throat of the hot melt adhesive machine.

11、 After placing the pressure plate of the PUR hot melt glue machine into the polyurethane hot melt glue barrel and removing the air, lock the overflow valve. At this time, the air pressure in the stroke cylinder can be appropriately increased to make the work smoother.

12、 After replacing the PUR hot melt glue, you must wait for the PUR hot melt glue machine to heat up for at least 20 minutes before starting the gear pump and motor. If you start the gear pump and motor immediately, it will cause damage to the polyurethane gear pump and reduce the service life of the machine.

5 gallon PUR hot melt glue machine parameters:

Capacity: 5 gallons (20L)

Applicable glue barrel diameter: $\phi 280\text{mm}$ or $\phi 286\text{mm}$

Voltage: 220V/50hz

Power: 4/7.5KW

Pump glue capacity: 15KG/H

Temperature control range: normal temperature -200℃

Ambient temperature range: -20-60℃

Temperature control accuracy: $\pm 3^{\circ}\text{C}$

Temperature sensor: PT100 or K type

Use air pressure: 0.4-0.8Mpa

Weight: about 240/370kg

Motor: 400W variable frequency motor 1set

Pumping system: 12CC high-precision metering gear pump 1/2pc

PUR hot melt glue injection machine operation process:

1.、 Glue installation process:

- 1) .Open the glue barre, cut the aluminum wrapping paper, and use tape to flatten the aluminum wrapping paper and fix it on the glue barre.
- 2) . Evenly apply high-temperature butter on the red sealing ring of the pressure plate of the glue machine (Increase the lubrication of the pressure plate to prevent glue from sticking).
- 3) . Turn the "up/down" switch of the operating knob to downward, and open the air release valve switch. According to the situation, align the glue barrel and the pressure plate so that the pressure plate drops evenly to the glue level of the glue barrel.

4) . When the pressure plate can no longer drop. Turn "Manual/Auto" to "Auto", the green light on the back of the melter will light up, select the melter, hose, and automatically start heating on the display. Heat until the glue softens. When the glue overflows from the vent hole of the air release valve, (note: always pay attention to the overflow of glue), tighten the long rod of the air release valve and fix the limit card of the glue barrel.

2、 Glue outflow process:

- 1) . Parameter settings: glue barrel 1 temperature setting is 135-160℃, hose temperature setting is 135-160℃, glue gun temperature setting is 135-160℃, the temperature can be set according to the glue model and regional temperature difference. The factory setting of the glue outflow time is 600 s. When the glue outflow time becomes "0", it will enter the automatic working environment.
- 2) . The glue pot position sensor is an infrared light. If the glue is not pumped in place, it will show a green light to continue pumping glue. When the glue is pumped in place, it will light up red and stop pumping glue. (Photoelectric wiring method: brown/24V blue/V0 black/X7) (Travel switch wiring method: NC normally closed end. Signal line brown/X12 blue/V0)
- 3) . When the parameters reach the set value, the machine starts automatically pumping glue.
- 4) . The upper handle of the no-clean glue pot adjusts the amount of glue. Push it outward to increase the amount of glue, and pull it inward to decrease the amount of glue. Adjust the lower handle to adjust the glue scraper.
5. Adjust the glue to the required thickness and start the edge sealing debugging test.
6. When sealing the edge for the first time, you need to inspect it first, tear off the edge sealing surface, and check whether the glue is completely applied.

3、 Shut down the machine:

- 1) . Pausing the machine for a short period of time: The melter can be set to

the heat preservation mode for easy use next time.

- 2) . Shut down the machine before get off work: turn off the glue injection machine 15 minutes in advance to use up the glue on the surface of the coating shaft to prevent the remaining glue from overflowing.
- 3) . After the glue pot stops, turn "Manual/Auto" on the melter operation interface to the "Manual" position to stop the automatic pressing mode.
- 4) . Click the "Auto-warming" switch on the display to turn it off, and then turn off the power.
- 5) . If the machine is not turned on for more than 24 hours, wait until the temperature of the glue pot and glue coating shaft drops to about 60°C, and use an air gun to continuously blow off the remaining glue in the glue bin and glue coating shaft.

4、 Glue replacement process:

- 1). Make sure to stop the glue supply, turn the "manual/automatic" switch to the "manual" position and release the glue barrel limit sleeve.
- 2). Use the "Up" knob switch of "Down/Up" to lift the rubber tray, press the inflation button for 5 s, and turn the up knob switch for 5 s to prevent serious negative pressure in the glue barrel, please repeat this action until the glue tray and the glue barrel are separated. (Note: There is negative pressure in the glue barrel at this time, so you must operate carefully and slowly. Do not keep rising or inflating all the time. You must repeat the above actions)

5、 Other things to note:

- 1). When the glue outflow is in manual mode, the operator must not leave for too long to prevent the glue from not stopping automatically and supplying glue continuously.
- 2). The glue stuck to the sealing ring on the glue tray needs to be dealt with regularly, otherwise it will affect the service life of the sealing ring. Use blue cleaning agent to clean the hose and white cleaning agent to clean the glue pot.