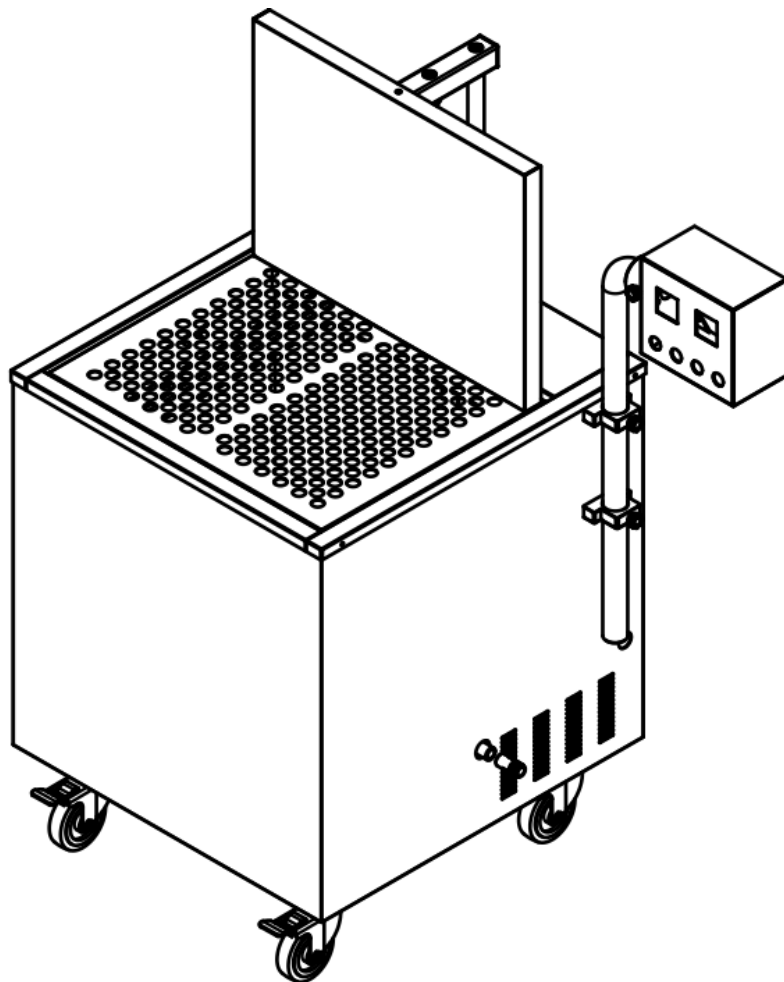


ST-6050 Hot Water Tank

Use and Maintenance Manual



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1. Purpose and features of the product

This equipment is a kind of shrinker using water as the heating medium for sterilizing food packing bags. In the market, most poultry, meat and other foods are sold with vacuum package. In the process of packaging, packing bags will be contaminated, and the surface of packing bags will be uneven due to vacuum adsorption, which will affect the safety and appearance of food. Therefore, this kind of equipment should be used together with assembly line or vacuum packaging machine to solve the problem of packing bag contamination and folding during packaging.

The main structure of this equipment adopts quality 304 stainless steel. The equipment is safe and healthful, with adjustable temperature and time, multiple operation modes, easy operation and convenient maintenance, thus it is the ideal equipment in the food packaging industry.

2. Main structure and operating principle

2.1 Main structure

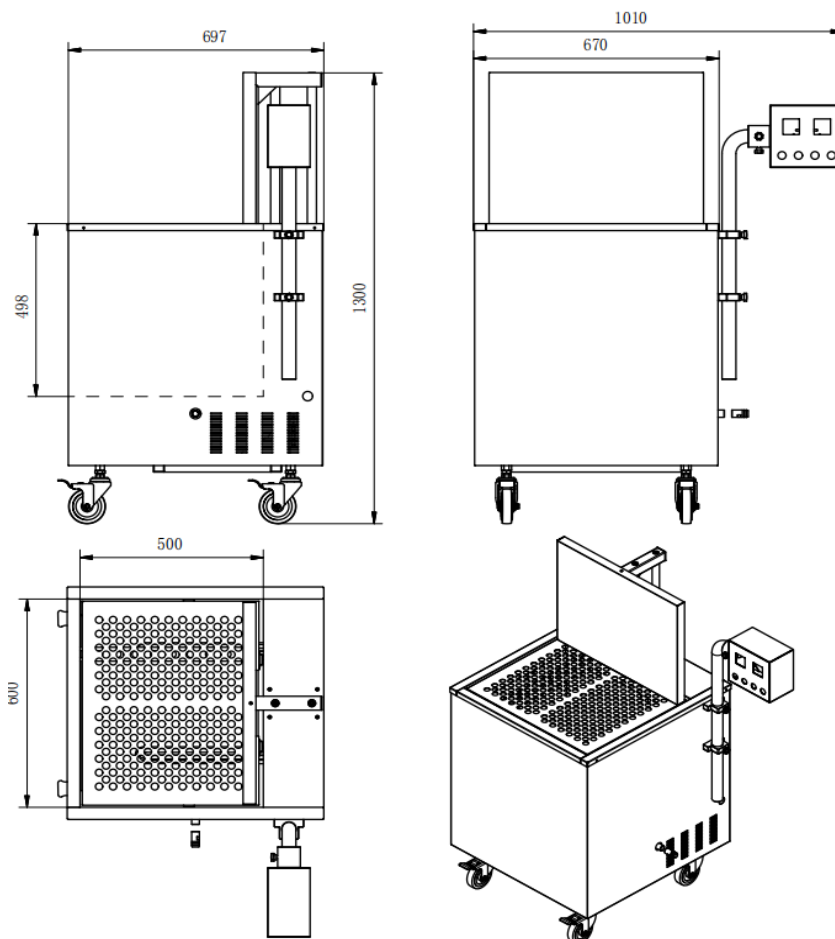
This equipment mainly consists of stainless steel water tank, body, heating system, electronic control system, operation panel, frame, motor drive system and other main components.

2.2 Operating principle

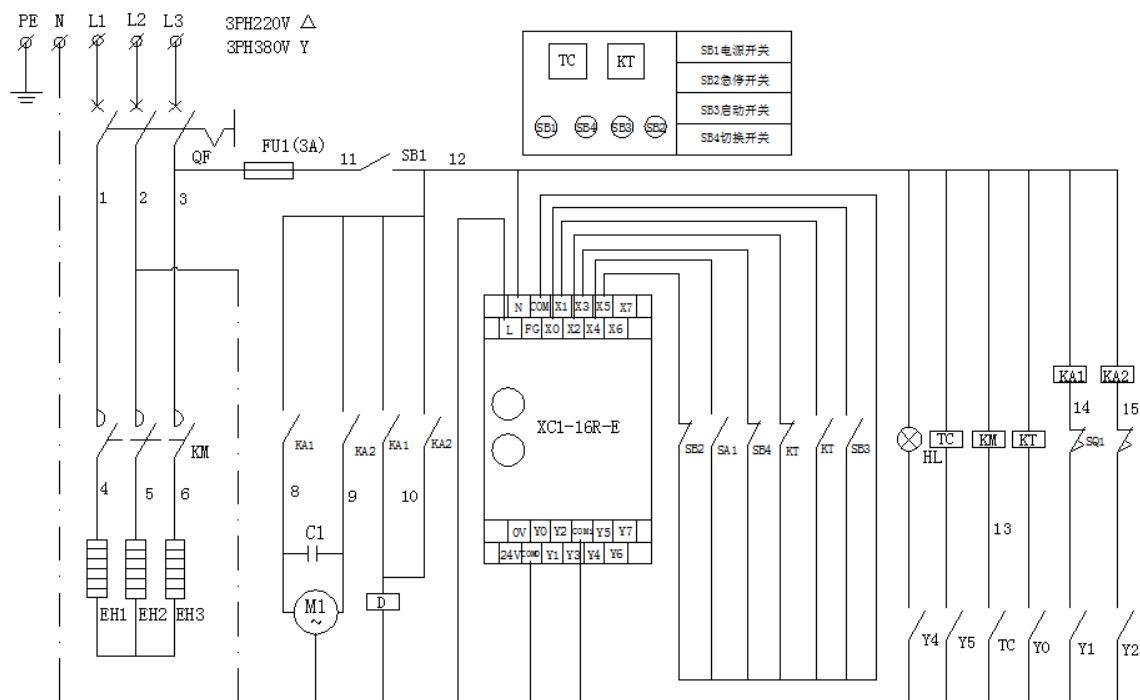
Fill proper water in the water tank and set the heating temperature, immersing time of the frame and the interval time between each operation in advance. While the set temperature is reached, put the packaged object in the frame and start the machine manually, then the frame will descend under the driving force of the motor driving chain and is immersed into the hot water with the packaged object, and it will stop falling when the switch contact piece touches the down limit switch. The packaged object is sterilized and shrunk in the hot water. When the set immersing time is up, the motor will again start the driving chain to roll back and the frame goes up until the switch contact piece touches the up limit switch. Then one cycle of operation is finished. For automatic operation, the interval time shall be set in advance, and then the frame rises until the set time is up, and the machine will be started again. Just like this, the cycle operation will be carried out according to the last set time.

3. Models and technical parameters

Model	ST-6050
Voltage	220V□ 3PH220V□ 3PH380V 50HZ□60HZ□
Power	heating pipe 2X4.5KW/motor 0.2KW
Size of the water tank	600X500X498mm ≈150L
Load	Max 50KG
Stroke	Max 330mm
Material	SUS304
Boundary dimension	1010X697X1300mm
Control mode	Auto (cycle) /Manual (single operation)
Weight	≈100KG

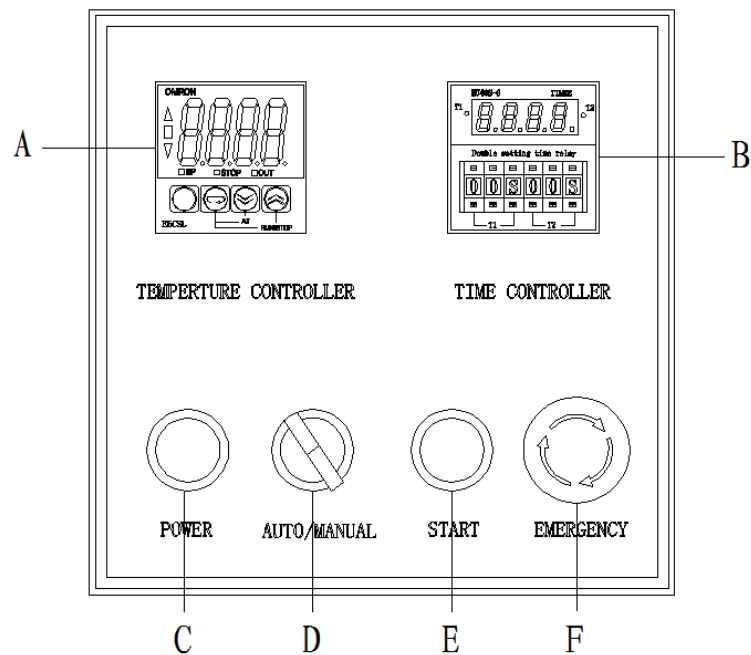


4. Electrical schematic diagram



5. Usage

5.1 Control panel



- A. Temperature controller B. Time relay C. Power switch
D. Mode switch E. Start button F. Emergency stop

5.2 Preparation for start-up

5.2.1. The equipment shall be put vertically and horizontally in an environment with good ventilation and without corrosive gas and relatively large dust, etc..

5.2.2. Connect the equipment to the power supply and ensure that the voltage of the power supply is compatible with that of the equipment. It must be reliably grounded to ensure safe use and personal safety.

5.2.3. Before the operation of the equipment, add proper water according to size of the packaged object, please note that too much water may result in overflow during operation and too little water may affect the packaging or cause no heating.

5.3 Operation method

5.3.1 Settings of the temperature controller

Note: this equipment has low water level protection. The temperature controller is unable to work and power LED glitters when the water level is low or there is no water! According to different water volume, about 30-40 minutes of preheat in advance is required before operation!

•A Display of temperature status

The current temperature exceeds the set temperature when “△” indicator light comes on.

The current temperature reaches the set temperature when “□” indicator light comes on.



The current temperature is lower than the set temperature when “▽” indicator light comes on.

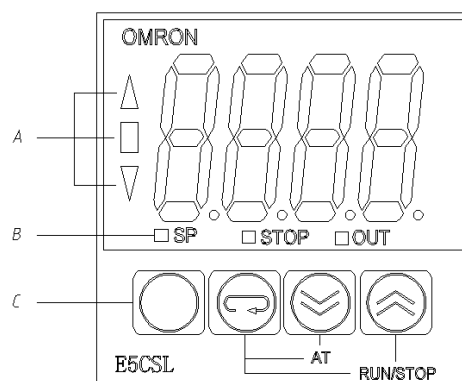
•B Display of heating status

Stop heating when “STOP” indicator light comes on.

Start heating when “OUT” indicator light comes on.

•C Temperature control button

Press the button  , “SP” indicator light comes on; press up and down button, the value glitters; press “△” and “▽” to modify the value, and press button , again to save the settings.



5.3.2 Settings of the time relay

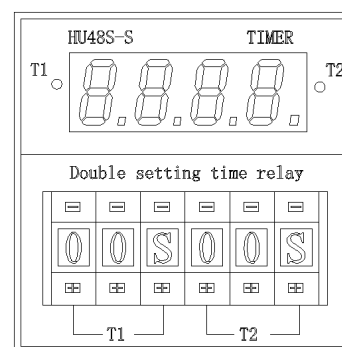
• Press button “+”“-” in the position of T1 to set the immersing time of the frame (0-99 S).

• Press button “+”“-” in the position of T2 to set the interval time between cycles in the automatic mode (0-99 S).

• T2 does not work in the manual mode.

5.3.3 Operation method

Fill proper water in the water tank and set the heating temperature, immersing time of the frame and the interval time between each operation in advance. While the set temperature is reached, choose the automatic or manual operation mode as required and then the packaged object will be put into the frame. Then start the machine and the frame will descend and is immersed into the hot water with the packaged object. When the preset immersing time is up, the frame will stop rising and the operation is finished. Cycle operation will be carried out in the automatic control mode. In the event of emergency during the operation, please press “Emergency Button” to stop the machine immediately.



6. Common malfunction and troubleshooting

Malfunction	Causes	Troubleshooting
No heating or the temperature controller can't be set	No water or low water level	Add water
	The heating pipe is damaged	Check the heating pipe
	Bad contact or damage of temperature sensor	Check the sensor or replace it
	The temperature controller is damaged	Check the temperature controller or replace it
	Bad contact or damage of liquid level switch	Check the liquid level switch or replace it
The frame is unable to go up or descend	The time relay is not set	Set time $\geq 1S$
	The up and down limit switch are not touched	Adjust the position of limit switch
	The chain wheel or chain of the motor is off	Check or replace it
	The motor is damaged	Check the motor or replace it
	The time relay is damaged	Check the time relay or replace it
The packaging result is not good	The temperature is too low	Set higher temperature
	The set immersing time is too short	Set longer time

7. Maintenance and precautions

7.1 Maintenance

7.1.1. Only those who know or are familiar with the performance of the equipment or professional maintenance personnel can perform maintenance for this equipment. The water level of the water tank should be checked regularly, and immediately add water if the water level is lower than the surface of the packaged object.

7.1.2. Check whether the screws of each part of the machine are loose regularly, and fasten them immediately if they are loose. Check whether the lifting shaft, chain and other transmission parts are flexible, and add lubricating oil for lubrication if there is any obstruction.

7.1.3. Regularly check the sealing condition of the joint of each part in the water tank to prevent leakage.

7.1.4. The water in the water tank should be replaced regularly to ensure sanitary condition. The machine can only use water as the heating medium. It is strictly prohibited to use water solution containing strong acid and alkali.

7.2 Precautions

7.2.1. The machine must be reliably grounded before use; otherwise it may cause personal injury.

7.2.2. Please carefully read the Use and Maintenance Manual before installation, maintenance and use, and use or maintain the machine strictly according to the methods described in the manual.

7.2.3. During the operation of the machine, it is prohibited to touch the water tank at high temperature, or you may be scalded.

7.2.4. The power supply should be cut off when performing installation and maintenance for the machine to ensure personal safety, or it may cause personal injury.

7.2.5. When the machine is not in use for a long time, the water in the water tank should be drained, the inside of the tank body should be wiped cleanly and the power supply should be cut off for storage.