

Servo High Temperature Vacuum Laminating Machine

Specification



Table of Contents

1. Product Images

2. Product Introduction and Applications

3. Mechanical Structure

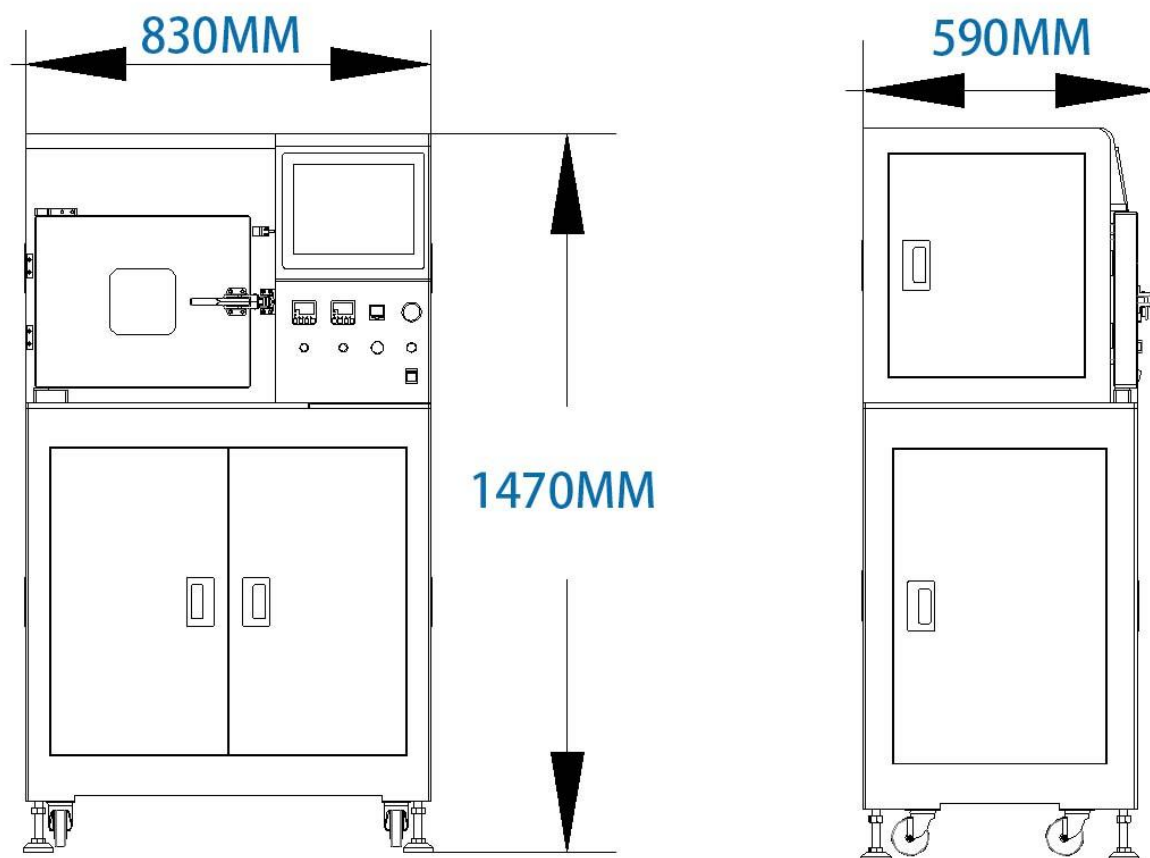
4. Product Specifications

5. Product Acceptance

6. After-Sales Service

7. Delivery

1. Product size picture:



The appearance of customized models may vary according to actual conditions

2. Product Introduction and Application

(Only need to be powered on, no need to connect to gas source)

1. Product application (for products that require high temperature, high pressure, and high-precision press-fitting, suitable for equipment needs such as university research institutes, laboratory research and development, and large-scale factory batch production)

(1) Suitable for high-temperature hot pressing of products related to the new materials industry, and for bonding products using SCA/OCA adhesive processes. Suitable for hot pressing of liquid crystal, TP/LCM, and polymer materials such as COP, COC, PMMA, and PC.

(2) Suitable for precision pressing of new materials such as plastics/glass/metal parts/aerogels, new energy industry components, aviation components, chips/circuit

boards, and electronic plug-in components.

(3) The fixture can be placed in the corresponding positions between the workpieces to be bonded. The products are manually moved to the work platform for vacuuming, hot pressing, and pressure holding.

2、Machine features

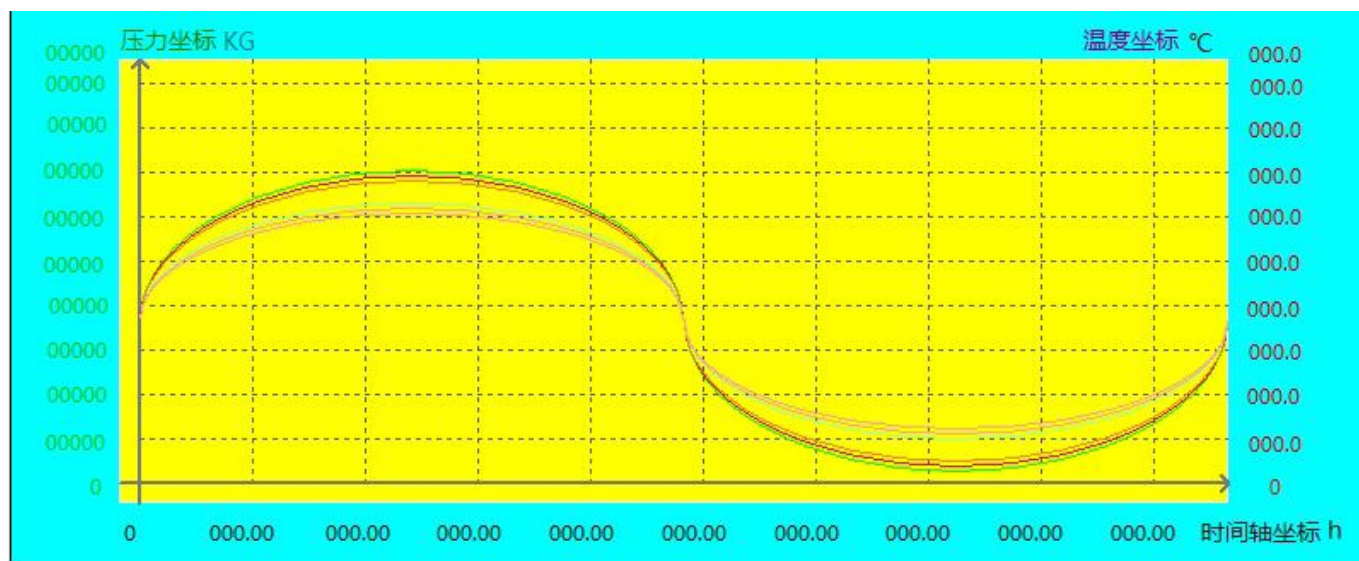
(1) Pressure control: The servo motor drives the high-precision ball screw to perform precise pressure assembly operations, achieving closed-loop control of the press-fitting force and press-in depth throughout the entire process. The independently developed pressure control system adopts the PID precision control algorithm to set the servo press-fitting force and its detection force value. The position sensor is used to set the servo's upper limit position, origin position, press-fitting position, and lower limit position. The press-fitting position can be automatically detected or preset by presetting the press-fitting force;

(2) Temperature control: multi-stage heating (the heating time of each stage can be set), pre-heating and then pressurizing or simultaneous heating during the pressure holding process can be set, electric heating tube heating is used, the temperature is uniform and stable, the upper and lower heating zones are independently controlled, and the heating is automatically and accurately controlled through the temperature control PID algorithm, which greatly improves the product yield;

No.	UP Tem	Dn Tem	heat time _{ms}		pos(mm)	hold time H:M:S			vacuum statue
1	0	0		0	0.00	0	0		OFF ▼
2	0	6	0	0	115.00	0	0	0	OFF ▼
3		0		1	0.00	0	0	0	OFF ▼
4	0	0	0	0	0.00	0	0	0	OFF ▼

(3) Process control: The process storage can save 2,000 product formulas. By entering the formula number, the working parameters required by the current press can be called up. The pressing force, pressing position, pressure speed, temperature data, holding time, etc. can all be entered numerically on the operation panel. A variety of pressing modes are available. The heating and pressure as well as the vacuum state inside the cavity can be

controlled in sections to meet your different process requirements. The equipment operation process animation simulates the pressing process, and the pressing force and temperature process curve can be displayed in the window;



(4) Data storage: It can store historical data of displacement, pressure, and temperature during the pressing process, and automatically convert the data into Excel files for saving, which can be used for daily query and printing; it can serve as a basis for daily equipment maintenance; it can be connected to other computers through external ports, and the pressing data can be stored in other computers to ensure the traceability of product processing data and facilitate production quality control management.

(5) Safety protection: The electrical system is equipped with a thermal overload protection switch, a leakage protection switch power supply, an emergency stop button, and an alarm light and buzzer;

(6) Alarm prompts: 1. Alarm for self-test pressing data failure and abnormal operation; 2. Buzzer alarm immediately sounds when the pressing pressure exceeds the maximum value or the pressing position is not reached; 3. Buzzer alarm immediately sounds when the heating plate temperature does not reach the set value; 4. If an emergency occurs during the operation of the equipment, press the emergency stop button to stop the machine and press the reset button to return to the standby mode.

(7) Vacuum mode: You can select the vacuum pressing mode or the non-vacuum pressing mode according to the actual needs of the product.

(8) Automatic mode: After turning on the machine and selecting the product formula settings, switch to the automatic mode and press the start button. The press head will move forward at a fast speed until it approaches the product, then descend at a detection speed to

contact the product surface, and stop when it reaches the preset pressing height or the preset holding height until the holding time ends and the process ends.

3. Mechanical Structure

No.	Item	Specification	QTY
3.1	Machine housing	The surface of the machine shell is powder-coated: the color is corrugated white	1 set
3.2	Cavity structure	With vacuum system	1 set
3.3	Press-fit structure		1 set

4. Product Specifications

4.1 Basic Information

No.	Item	Specification	Remarks
4.1.1	Brand Model	9TU-M040G	
4.1.2	Device Name	Servo vacuum laminating machine	
4.1.3	Device Purpose	Designed for products requiring high temperature, high pressure, and high-precision press-fitting, this machine is suitable for use in universities, research institutes, laboratory R&D, and large-scale factory mass production.	Testing samples are available
4.1.4	Device Dimensions	83cm*59cm*147cm	Subject to actual product
4.1.5	Device Weight	Approximately 250KG	Subject to actual product

4.2 Specifications

No.	Item	Specification	Remarks
4.2.1	Power Specifications	AC380V 50HZ	
4.2.2	Device Power	Pproximately 9.8KW	
4.2.3	Heating Method	Constant Temperature Heating	Both upper and lower plates can be heated
4.2.4	Temperature Range	Room Temperature -250° C (Adjustable)	Customizable
4.2.5	Production efficiency	Depending on the product	
4.2.6	Laminating platform dimensions	400MM*400MM	Customizable
4.2.7	Laminating height	150mm	Customizable
4.2.9	Theoretical pressing force	20KN	
4.2.10	Laminating drive mode	Servo Cylinder	
4.2.11	Segmented heating mode	Four-stage Heating	Customizable multiple segments
4.2.12	Pressing mode	Displacement Mode/Pressure Mode	
4.2.13	Vacuum mode	With Vacuum Pressing Mode/Without Vacuum Pressing Mode	
4.2.14	Press plate pressing speed (mm/s)	0.01-30(Adjustable)	
4.2.15	Probing speed (mm/s)	0.01-20(Adjustable)	
4.2.16	Pressing buffer speed (mm/s)	0.01-20 (Adjustable)	
4.2.17	Displacement accuracy (mm)	±0.02mm	
4.2.18	Pressure accuracy	±‰5	
4.2.19	Machining surface accuracy	±0.02mm	
4.2.20	Vacuum level	-98kpa- -100kpa	Related to local atmospheric pressure
4.2.21	Operation method	Manual Mode/Automatic Mode	

No.	Item	Specification	Remarks
4.2.22	Temperature balance	$\pm 2^{\circ}\text{C}$	Heating to 100°C test
4.2.23	Dwell time (s)	Adjustable in hours	
4.2.24	Cooling method	Natural Cooling	Customizable water cooling

Note: The specific parameters are subject to the actual confirmed drawings !

4.3 Control Program

No.	Item	Specification	Remarks
4.3.1	Control System	Press Control System	
4.3.2	Operation Interface	10-inch Touchscreen Human-Machine Interface	
4.3.3	Drive Mode	Pressing servo drive	
4.3.4	Home Page	Displays current press force, real-time temperature, press time, real-time position, and current output (accumulative and resettable)	
4.3.5	Parameter Settings	Sets basic operating parameters, including maximum output, temperature data, press time, vacuum time, and automatic press force detection	
4.3.6	Recipe Settings	Sets press recipes based on product type on the touchscreen, with up to 2,000 recipes saved	
4.3.7	Manual Mode	Performs various functional tests	Mainly used for machine adjustment and testing
4.3.8	Permissions and Passwords	Access to parameter settings requires technician privileges	
4.3.9	Monitoring Page	Displays current machine operating status and historical fault alarm information, and monitors all I/O points	
4.3.10	Reports	Pressure curve monitoring, production report generation and downloading, and	

	historical alarm log display.	
--	-------------------------------	--

4.4 Safety measures

No.	Item	Specification	Remarks
4.4.1	Operational safety	Emergency stop button	When the emergency button is pressed, the operating mechanism will immediately stop all operations
4.4.2	Electrical safety	Leakage protection switch	Automatic tripping due to leakage
4.4.3	Operational safety	Automatic pressure detection height can be set based on product and mold thickness	

4.5 Accessories List

No.	Item	Specification	Remarks
4.5.1	Control program	Industrial PCs	
4.5.2	Servo (motor + driver)	Centor electric cylinders + Delta drives	
4.5.3	Pressure sensor	Dayang	
4.5.4	Position sensor	THD	
4.5.5	Power supply	Taiwan Mean Well	
4.5.6	Upper and lower thermostats	Omron or RKC	
4.5.7	Vacuum gauge	Japan SMC	
4.5.8	Leakage switch	Chint	
4.5.9	Electric valve	Flomarvel	
4.5.10	Vacuum pump	Leno	

5. Equipment acceptance criteria

1. Acceptance inspection according to product specifications.
2. Acceptance inspection of equipment components and standards (specifications).
3. Customer sample preparation for trial operation: 10 samples are required. Trial operation will be conducted three days prior to shipment.

6. After-Sales Service

1. Equipment Warranty: One Year
 2. Warranty Coverage: Entire unit (excluding consumable parts and non-machine-related failures)
 3. Paid Repairs: The customer is responsible for any failures caused by natural disasters, accidents, relocation, human error, or consumables outside the one-year warranty period.
 4. Warranty Location: Your company (Shenzhen only)
- Repair Method: 24-hour response, 48-hour repair service (excluding holidays and special circumstances)

7. Delivery

1. One product specification sheet
2. One product manual
3. One free training session (Guangdong only)
 - Equipment Installation
 - Introduction to Equipment Functions
 - Equipment Parameter Settings
 - Common Equipment Troubleshooting
 - Equipment Maintenance
 - Other Precautions