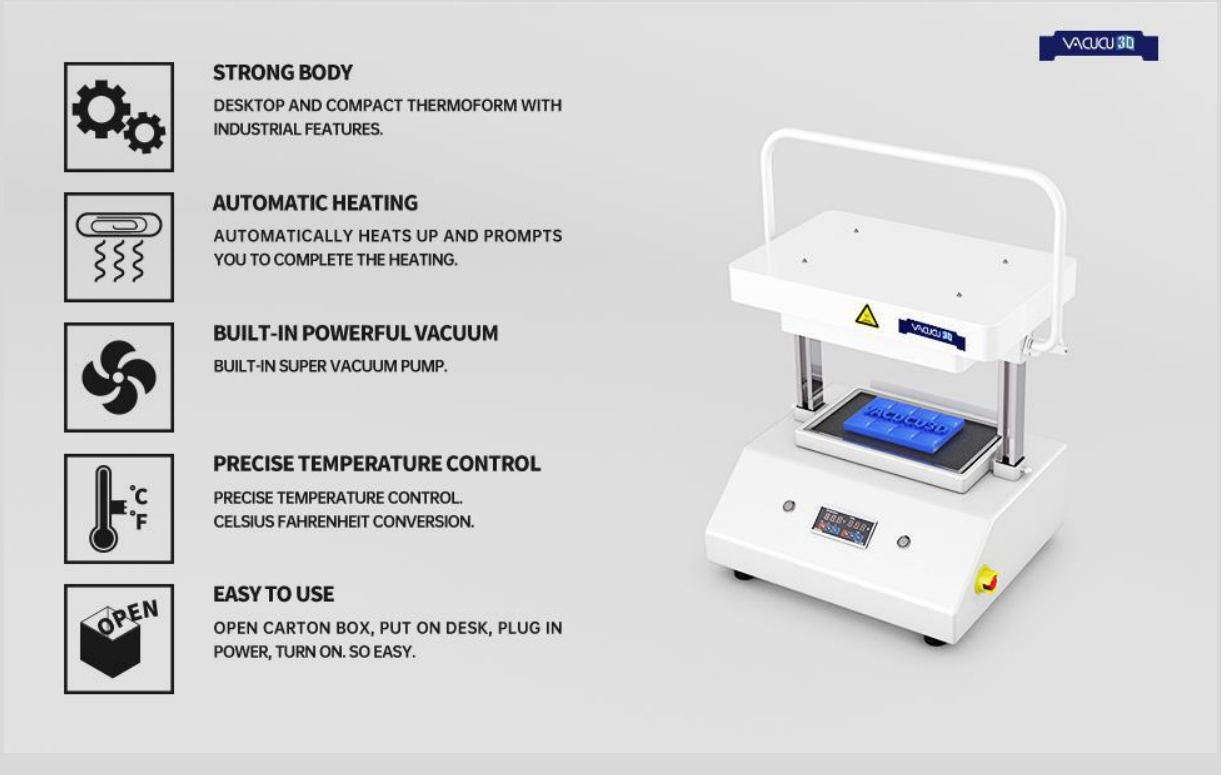


ray@vacucu3d.com - Version 1.0

USER MANUAL

Vacucu3d Vacuum Former: A4 / A3

Thank you for choosing our product.

We hope you will enjoy using this great machine.

Vacucu3d former is designed for heat forming of plastic films.

Before you start working on Vacucu3d
Please watch the instructional video on our website: www.vacucu3d.com

Email: ray@vacucu3d.com
Manufacturer: Rayming Smart Tech
www.vacucu3d.com

Vacucu3d Vacuum Former: A4/A3

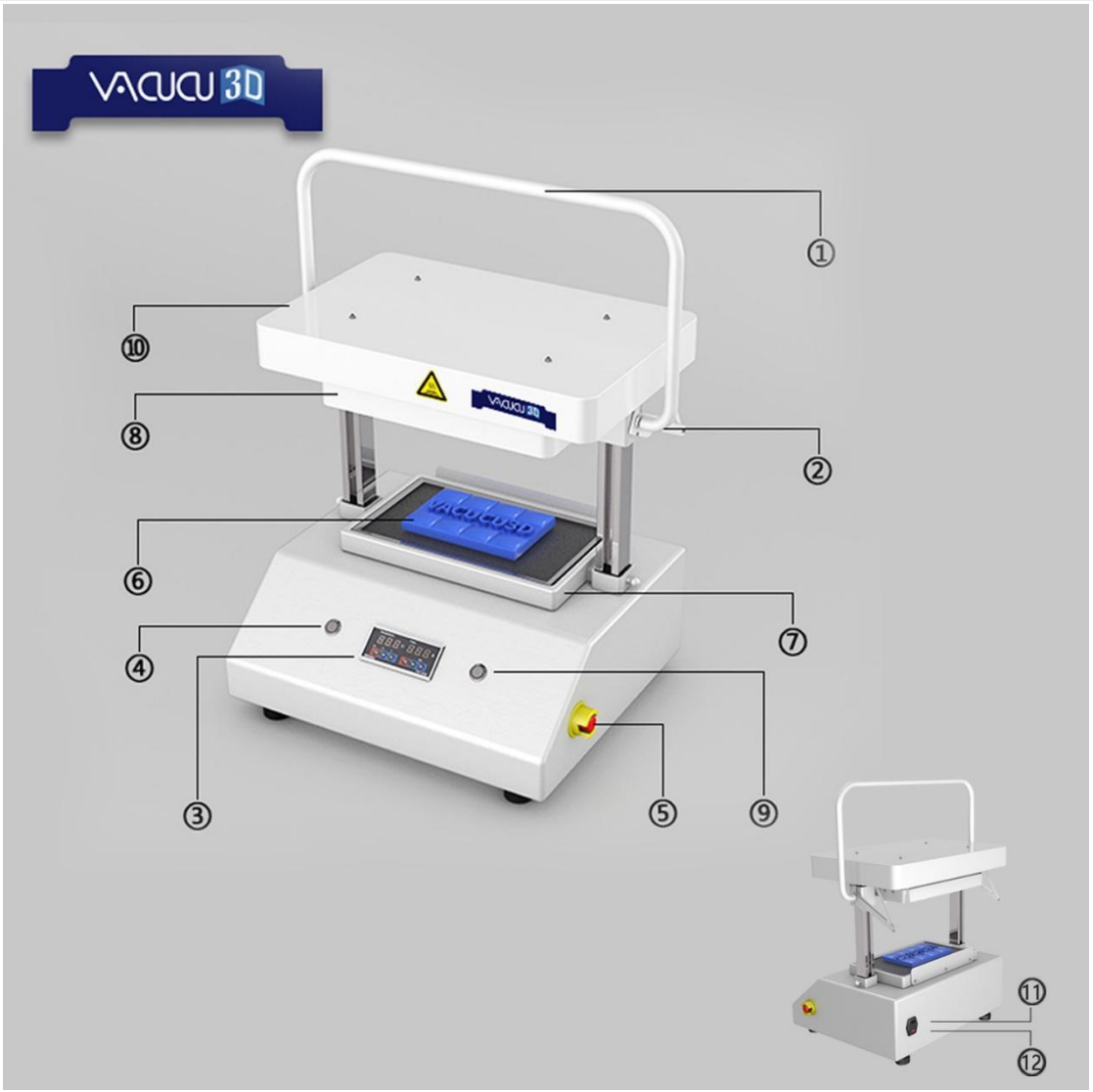


Figure 1

1. Handle	2. Locking handle
3. Controller	4. Heating button
5. Emergency stop button	6. Mold bed
7. Underside frame	8. Upside frame
9. Vacuum pump button	10. Heater
11. Power cord receptacle	12. Power switch (Might also be near #5)

Step 1

Open the package.
The carton box should contain the following:
- Vacucu3d machine
- User manual
- 0.5/0.75mm PETG start-up films
- Start-up model
- Power cord

Step 2

Read the Vacucu3d Vacuum Former user manual.

Step 3

Place the Vacucu3d Vacuum Former on a table or desk.
Adjust the bottom 4 feet.
Make sure the machine is stable and even.

Step 4

Plug in the power cord. (Fig. 1, #11)

Step 5

Place the power switch in "I" position, and Vacucu3d's controller will light up. (Fig. 1, #11)

Figure 2

Setting Temperature - Fig. 2

 Press the left-side button under “Temperature” one time on the display and the digital readout above it will flicker.

 Press the up and down arrows to set the temperature. Now click the  button again to return.

Setting time - Fig. 2

 Press the right-side button under “Time” only once on the display. The digital readout will flicker.

 Press the up and down arrows to set the heating time. Now click the  button again to return.

 Press the heating button, (Fig 1, #4). The button’s light will turn on and heating will begin. Once the preset temperature, (Fig. 2, “Temperature), is achieved the heating will end and the button’s light will turn off. If the temperature falls below the preset temperature, then the heating will begin again. Turn off the button to prevent the heating from restarting.

Step 6

Open the frame by turning both locking levers counterclockwise. (Fig 1, #2)

Step 7

Lift the frame up using the handle. (Fig 1, #1)

Step 8

After removing the protective film, place the 0.5/0.75mm PETG start-up film on the bottom frame. (Fig 1, #6)

Step 9

Use the handle to lower the upper frame and place it on the film. (Fig 1, #1)

Step 10

Turn both locking levers forward. The frames will be locked. (Fig 1, #2)

Step 11

Lift the frame up using the handle, (Fig 1, #1). The display will start a countdown to

completion of the film heating process (Fig 2, “Time”). Some models will make a “beeping” sound until the timer counts down to 0. Later models will “beep” once when the timer starts, and once when the timer ends. Functionality is the same otherwise.

Step 12

Place the start-up model in the middle of the bed. (Fig 1, #6)
If the model is covered in spray-on mold separator or slightly greased with petroleum jelly, it will help release it from the mold.

Step 13

The end of the heating process will be indicated by a sound signal. After hearing the signal, Press the right button, the vacuum pump start work. Use the handle to immediately lower the frame.
Make the film forming.

Step 14

Check that the forming has finished then turn off the vacuum pump. (Fig 1, #9) Open the frame by turning both locking levers clockwise towards you. (Fig 1, #2)
Lift the frame up using the handle. (Fig 1, #1)
Allow the model and film to cool down.
Carefully remove the pressed film from the bed, together with the model. (Fig 1, #6)
Remove the mold from the pressed film.

Heating temperature, heating time, and vacuum time has a great relationship with the ambient temperature and material. Please carefully observe the state of the material after heating to judge the production time.

Precautions and safety measures related to the operation of Vacucu3d

There is a warning symbol on the product: WARNING – risk of burns. In the upper housing of Vacucu3d there are infrared radiators which emit significant amounts of heat during operation. Be careful. Do not place your hands directly under the IR radiators. Do not touch the upper housing.

1. When using Vacucu3d, always follow basic safety precautions and read the user manual.
2. Never leave Vacucu3d on without supervision.
3. Vacucu3d should only be used for its intended purpose.
4. Vacucu3d should be connected to a grounded power source consistent with the parameters indicated on the nameplate on the back of the housing.
5. Do not attempt any maintenance or repair work that is not described in this manual.
6. Vacucu3d may only be used in ventilated and dry rooms.
7. Do not operate the device with wet hands.
8. The device may only be operated by adults.
9. Be particularly careful when using Vacucu3d near children!
10. If you detect any damage or malfunction, contact your dealer, service or Vacucu3d manufacturer.

Technical specifications

Type:	**Vacucu3d Vacuum Former A4**
Power supply:	230V/ 120V
Max. Output:	2200W/1600W, Max. temperature 150°C, Film size A4 Max.
Film thickness:	2 mm
Types of film:	HIPS, ABS, PE, PETG

Max. Dimensions of a convex model:

- width 155 mm
- length 240 mm
- height 100 mm

Max. Dimensions of a concave model:

- width 170mm
- length 260mm
- height 100 mm

Internal vacuum turbine.
Digital controller.
Original Vacucu3d controller.
Industrial design structure.

Type:	**Vacucu3d Vacuum Former A3**			
Power supply	230V/ 120V			
Max. Output	3200W/1600W	Max. temperature	150°C Film size	A3
Max. Film thickness	2 mm			

Types of film: HIPS, ABS, PE, PETG

Max. Dimensions of a convex model:

- width 260 mm
- length 380 mm
- height 100 mm

Max. Dimensions of a concave model:

- width 240mm
- length 360mm
- height 100 mm

Internal vacuum turbine.

Digital controller.

Original Vacucu3d controller.

Industrial design structure.

Vacucu3d models

The manufacturer of Vacucu3d offers ready-made models of various pieces adapted for heat forming. The constantly expanded range of models is available on the websites of the manufacturer and distributors.

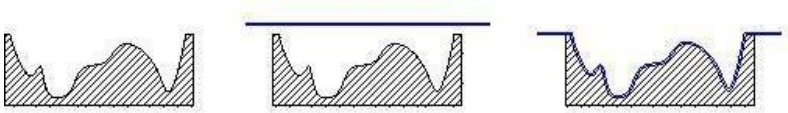
Models prepared on your own

Vacucu3d models can be prepared from various materials and using various techniques. Currently, the most popular method is ABS 3D printing and SLA/MSLA Resin printing for fine detail. Another one is CNC machining. This is an advanced technology that allows you to produce models with high dimensional requirements and complex shapes. Materials suitable for CNC-machined models include polyurethane, aluminum, and wood.

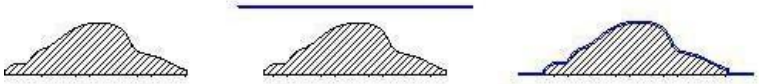
For people who want to experiment with shapes and prepare them manually, gypsum, soft wood, and concrete will be excellent materials. Spatial molds can be glued together, and various materials can be combined. It should be remembered that the models must withstand short-term temperatures of the film up to 150°C.

Models can be prepared in two variants:

1. Convex models
2. Concave models



Both have advantages and disadvantages. The decision on the type of mold is made



individually and depends on many factors. To make good decisions, it is necessary to have some experience working on Vacucu3d as well as to learn about the heat forming technology and the capabilities of the device.

It should be remembered when creating a model not to have any so-called 'negative angles', to ensure that it will be possible to remove the pressed piece from the model. Ventilation holes are another very important element of the mold. It is best to drill the mold with a ⌀1-2 mm bit at the places where were expect that the extraction of air may be difficult. Usually, the molding of the first pressed piece will show us where the vent holes should be located.

With more complicated models, they can be made in the form of detachable blocks. Such models are complicated, but allow to make negative angles, which in many cases may be to the advantage of the molded shape.

As the film heats up, watch when the film has a sag of about 1-2 cm, this means that the film has been heated enough and you can lower the handle. Before you do this, note the temperature reached and how much film heating time has elapsed. The noted parameters should be entered in the program for the given plastic and film thickness.

You must also assess the mold you created. If wrinkles appear, reduce the temperature. If the film does not reflect the details sufficiently, the temperature or heating time should be increased. To select the correct parameters, two or three adjustments must be made in the automatic settings. Describe the film that you have - note the manufacturer, heating time and temperature so that next time you use this film you do not have to determine its heat forming parameters again.

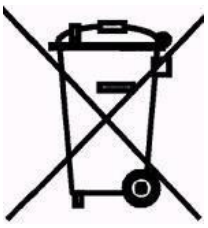
The manufacturer of Vacucu3d offers the most basic PETG films. Other films can be purchased at plastics wholesalers. Each plastic has its own parameters and application. Some of them can be heat formed easily, others pose problems.

Most plastics should be dried for as long as a few hours before heat forming. Drying removes the water contained in plastics, whose presence in the film cannot be evaluated without special gauges. It is important to know the parameters and requirements for the heat forming process before buying a given material.

Environmental protection

Vacucu3d is built from recyclable materials. Should it be necessary to decommission the device, those materials must be handed over to a collection point for electrical and electronic equipment.

All waste left after consumables used in Vacucu3d is also recyclable. It should be placed in the PLASTICS container.



Warranty

Vacucu3d is covered by a 1-year warranty period. The only document required for filing a complaint is the receipt or invoice confirming the purchase of the device. The warranty expires if the device is operated improperly.

Warranty and post-warranty service

If malfunctioning of Vacucu3d is observed, please contact the Rayming Smart manufacturer's service department, whose contact details are available on our website www.vacucu3d.com or send email to ray@vacucu3d.com or contact the dealer.

Servicing is carried out in an on-line system and in cases requiring direct repair, in a door-to-door system, which involves sending the device to the service department by courier.

The courier is ordered only by the Service department.

Shipping is performed only if it has been agreed with the Service department. At the Customer's request, the device will also be accepted for repair by the dealer. In the case of unjustified complaints during the warranty period, any costs are covered by the Customer.

Vacucu3d maintenance

Vacucu3d is an electrical device. Before cleaning, it is essential to remove the plug from the outlet!

Vacucu3d can be cleaned with a damp cloth with a bit of dishwashing liquid. Do not pour liquid over the bed or any other Vacucu3d components, as this may result in electric shock.