

## USER MANUAL

**FORMART<sup>®</sup> SE**  
SMART VACUUM FORMER



# Thank you for choosing FORMART SE

Please read and follow the below **SAFETY** instruction before START



Do not install or operate the machine before reading these instructions carefully.

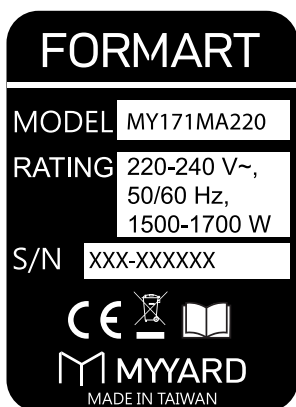
Turn the machine off and disconnect the AC plug when not in use.

Do not allow the power cord to hang (e.g., over the edge of a table or counter) or place/run the power cord under rugs, carpeting, or in high-traffic areas where it may be tripped over or pulled.

Do not use FORMART SE near gasoline, paint, or flammable liquids, as there may be a risk of fire or explosion.

Only use FORMART SE for vacuum forming. It is not intended for any other purpose.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



Check your supply voltage and frequency. Make sure it is compatible with this machine's specification plate next to the back power socket.



The heaters within the TOP UNIT can reach 280°C during heating. Never touch the heating element, heater case or heated plastics without wearing protective gloves to reduce the risk of burns.

# **Safety**

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## **Fire**

Parts of this machine can reach temperatures greater than 280°C. DO NOT STACK ANY ITEMS ON TOP OF FORMART SE. There may be a risk of fire.

## **Injury from Trapping**

There is a risk of trapping fingers when loading plastic or pull the top/bottom frames. Ensure that appropriate care is taken to prevent trapping and use suitable personal protection.

## **Electric Shock**

Never attempt any repair unless the ELECTRICAL SUPPLY IS DISCONNECTED. Only switch ON when all covers have been replaced.

## **Toxic Fume Inhalation**

Assess the risks of the materials to be formed prior to use. Make sure to operate the machine in an adequately ventilated place.

# Introduction

FORMART SE is a smart Vacuum Forming Machine which produces high definition mouldings in up to 3mm thick plastic sheet. FORMART SE is ideal for prototype development or small volume production.

## Main Features

- Complete material database
- Capable of using 4 different sheet sizes
- Time-out protection for heater operation
- Adjustable heating curve
- Plastic sheet dehumidification function

## FORMART SE Parts List:



Bottom Unit x 1



Top Unit x 1



Stainless Tube x 4



Size Adjustment Kit



Forming beds



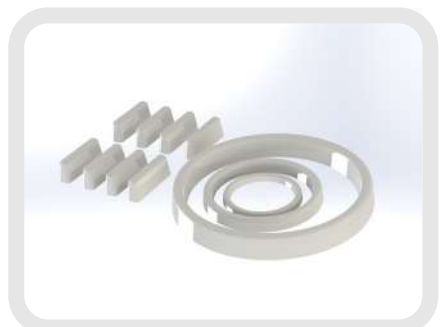
Protective cover



Screw & Tool



Cat bowl mold



Webbing Remover Kit

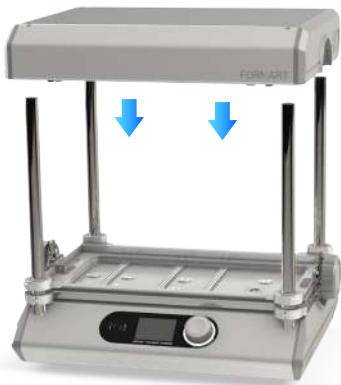
# Machine Setup

## Machine Setup Guide

Please follow the instructions below to assemble your FORMART SE.



Step 1: Align the tube hole and assemble the 4 tubes by turning clockwise until tightened



Step 2: Align the top unit with the tubes and put it on

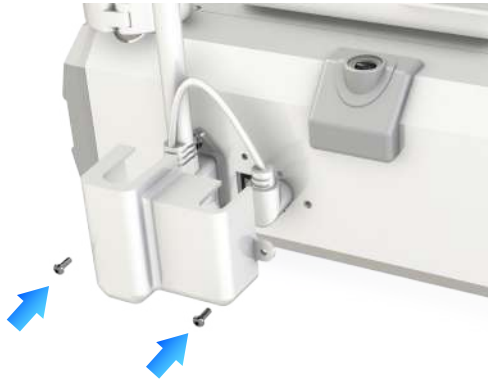


Step 3: Fasten screws of top unit



Step 4: Plug in heater wires

# Machine Setup

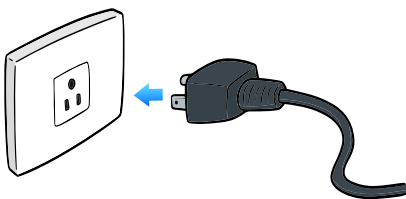


Step 5: Assemble protective coover with screws

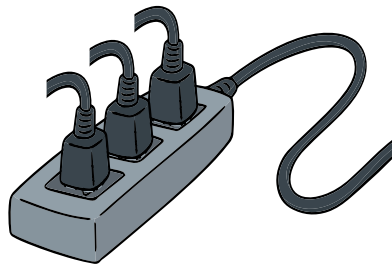


Step 6: put on the forming beds on the top of bottom unit

## Warning!



Make sure the plug is fully inserted

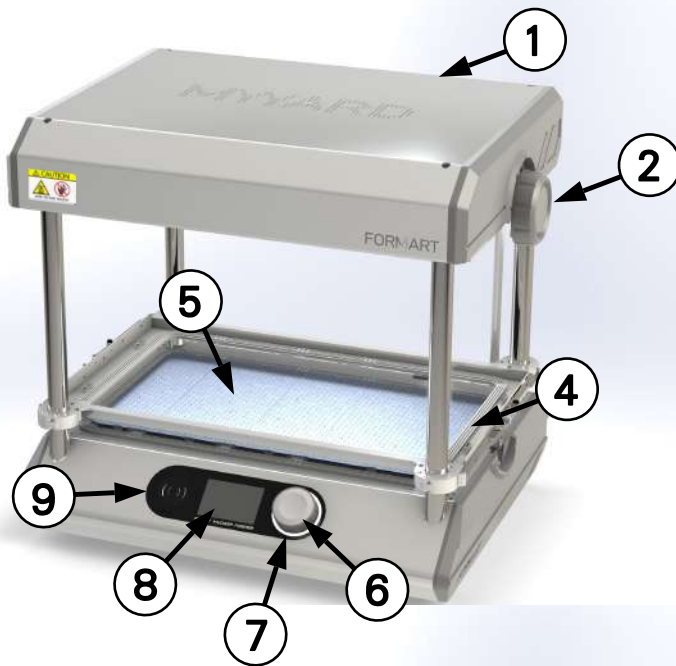


Do not share power extension cord

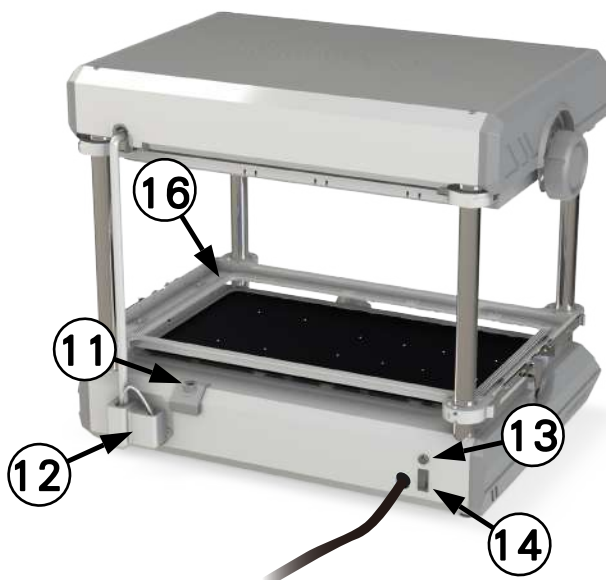
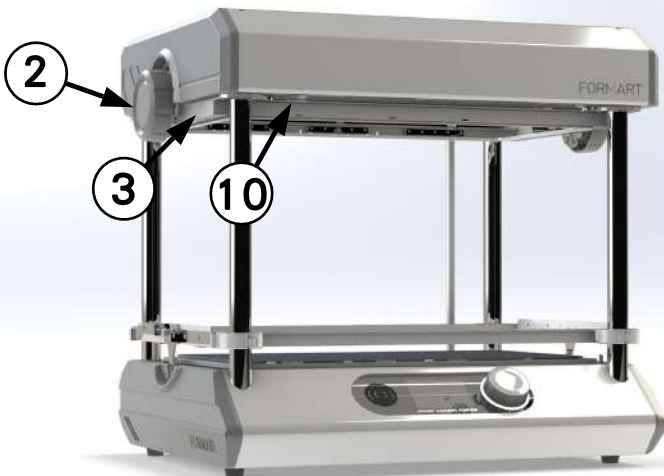


Do not place objects on top of FORMART SE

# Machine Introduction



1. Heater
2. Side wheel
3. Top frame
4. Bottom frame
5. Forming beds
6. Navigation controller
7. Status LED ring
8. LCD display
9. Speaker
10. LED light
11. IR sensor
12. USB connector
13. Fuseless protector
14. Power switch



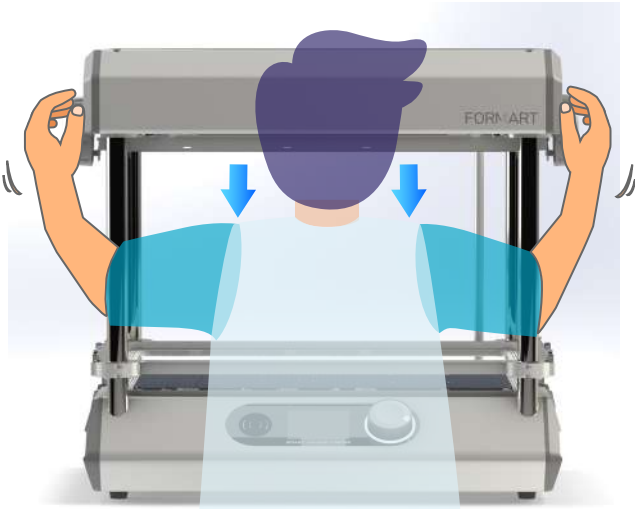
## Current Protector

The machine is protected with fuseless current protector. In case of a blown fuse, please do not reset it before consulting service.

## ON/OFF switch

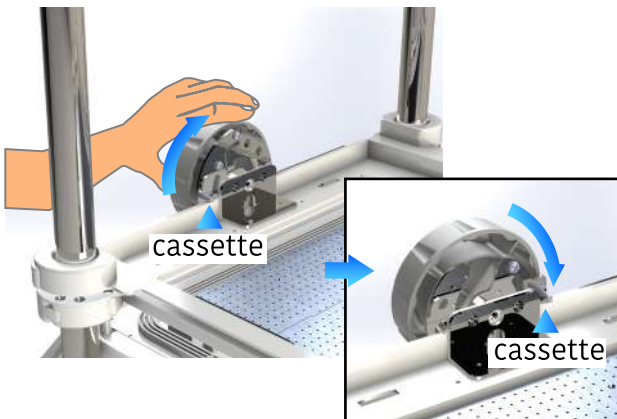
The main power switch to provide power to FORMART SE.

# Basic Operation



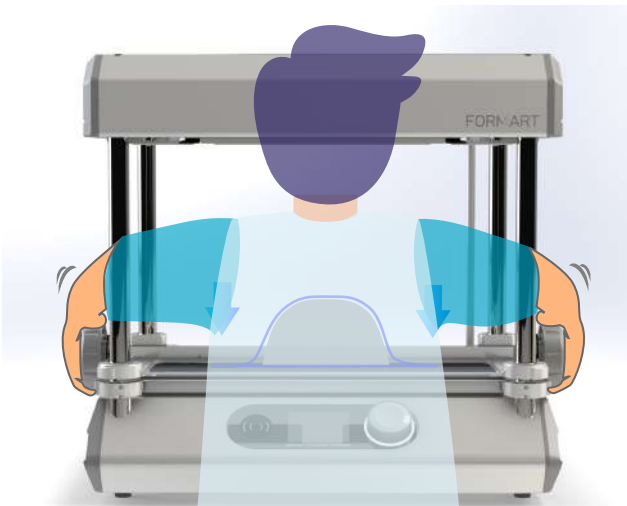
## Top frame operation

FORMART SE top frame is held by magnets, once it is released from the top, it will slide smoothly on the steel rails. Be sure to support the frame with both hands when pulling downward to avoid excessive impact to the bottom frame.



## Sheet locker

Plastic sheet is secured in place by two side wheels. Turn forward to lock the sheet and turn back to release.



## Frame down to form

When preparing the frame for forming, gently press the frames to the bottom and wait 3 seconds before releasing your hands. Please do not use excessive force on the frame to avoid damaging the machine.



## Emergency stop

The main operation knob is also an emergency stop button. Simply press the main knob whenever you want to cancel the task.

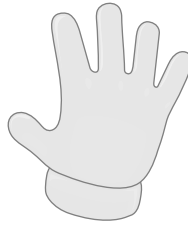


# Basic Operation

## Switch Sheet Size

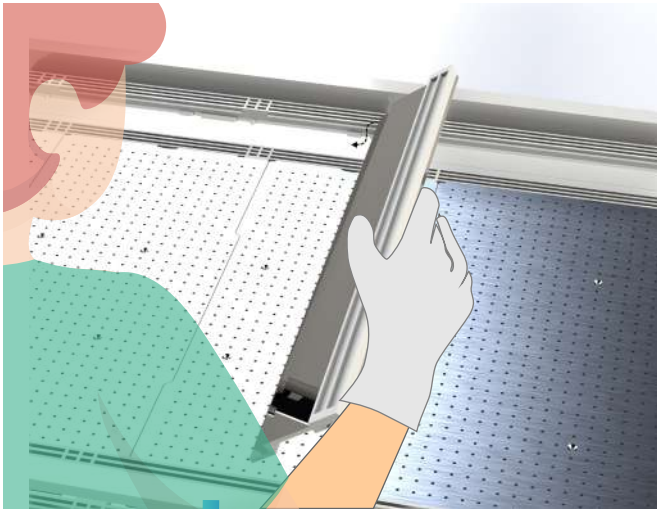


# HOT!

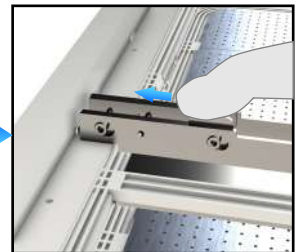
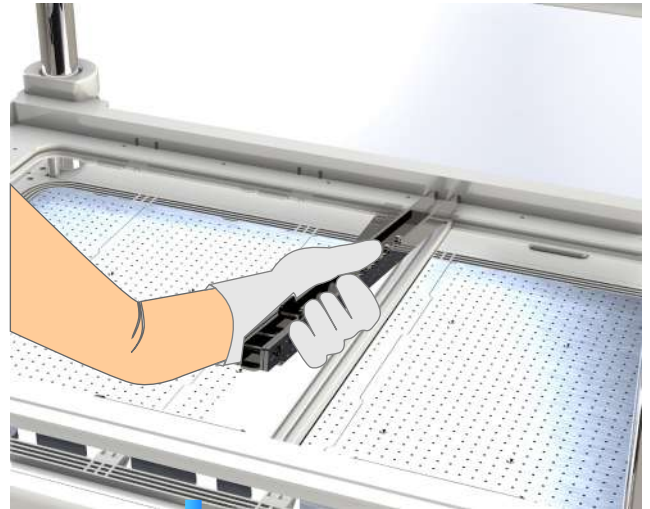


# Glove Required!

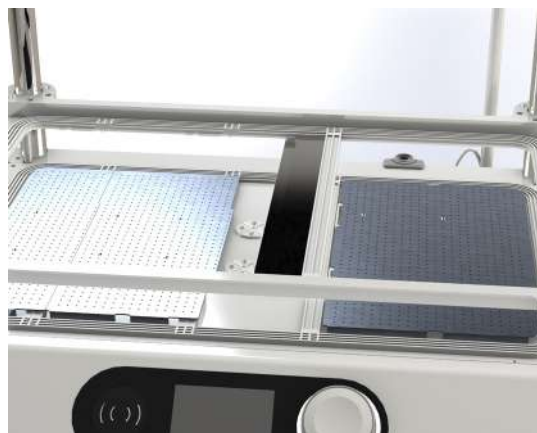
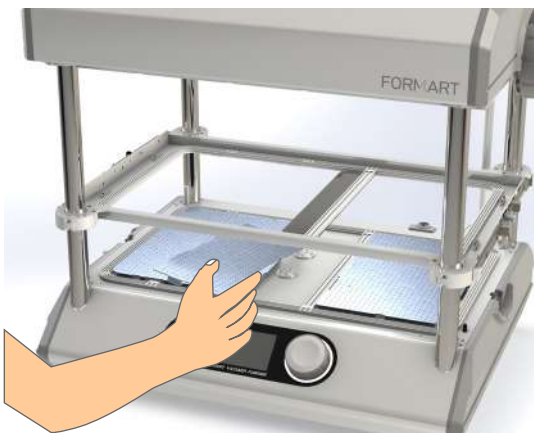
- Bottom Frame: Put the bottom adjustment plate into the notch of the bottom frame



- Top Frame: Put the top adjustment rod into the notch of the top frame

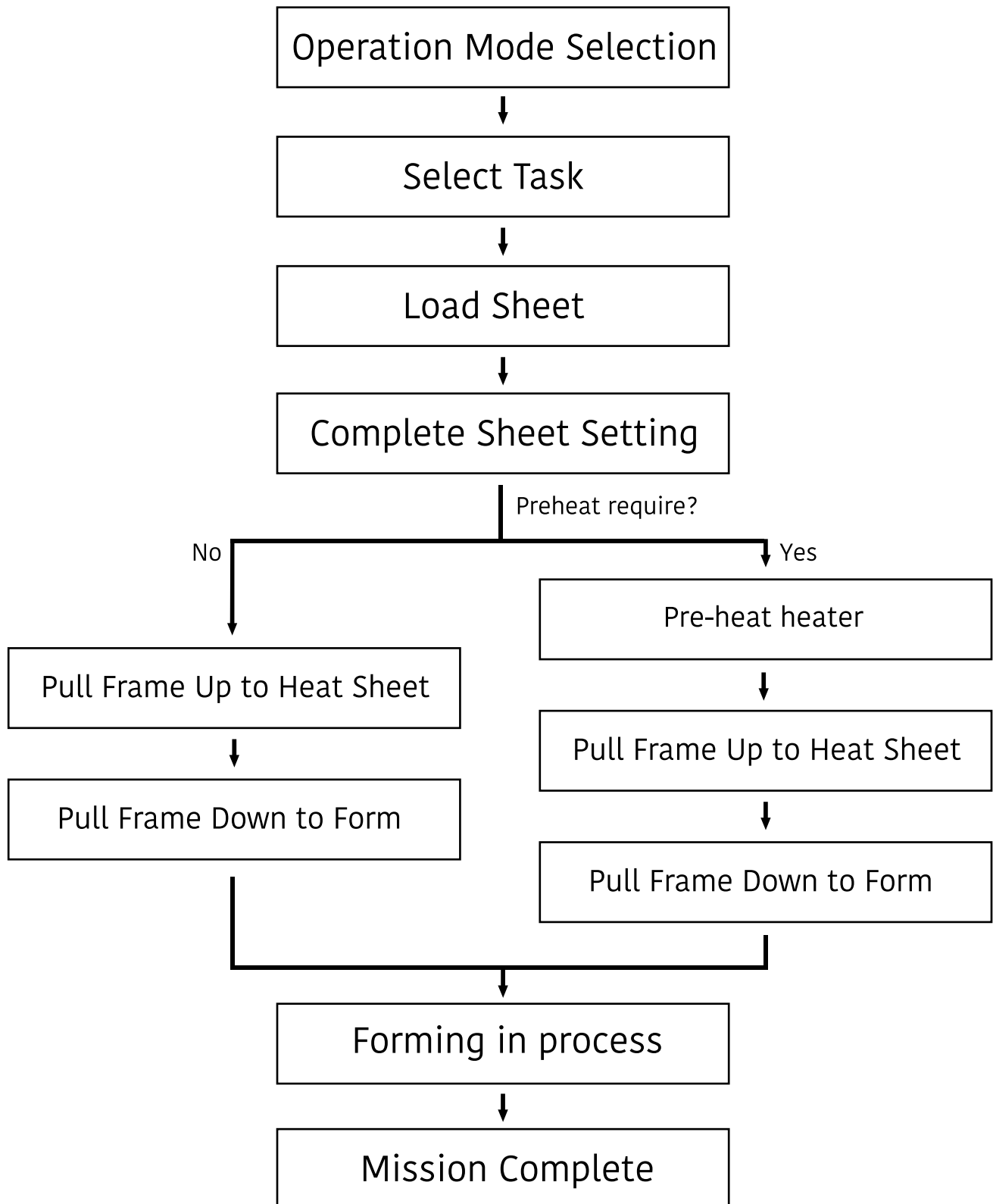


Please remember to **remove the forming bed** that below the adjustment plate, or the frame may be damaged from operation



# Operation Procedure

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# Operation Procedure

## Select Operation Mode & Task

FORMART provides two operation modes. **Simple mode** & **Advanced mode**. Rotate the knob to move selection between modes and **press** to confirm.



### Simple Mode

The mode is suitable for beginners. With this mode you can form objects by default without dealing with complicated settings.



### Advanced Mode

The mode is suitable for professionals. It allows revisions of most settings, including heating curves & forming pressure.



### Select Task

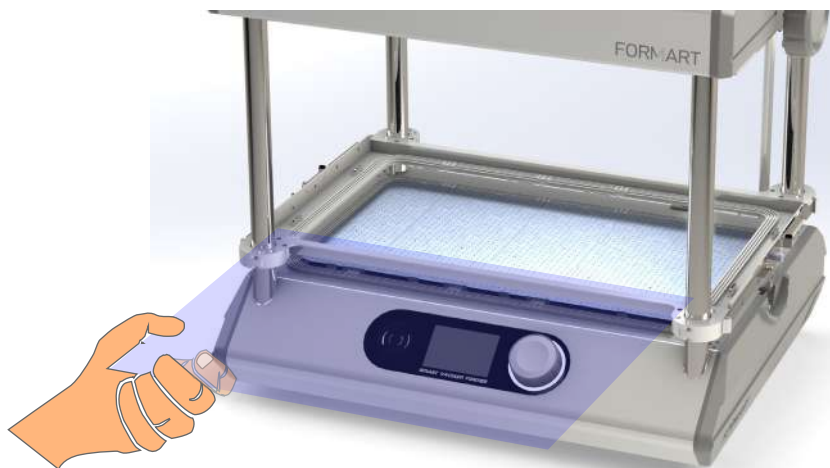
Turn knob to select between different tasks.

- Rough: form object with lowest pressure
- Standard: form object with meddium pressure
- Fine: form object with highest pressure
- Dehumid: to dehumidify plastic sheet



### Load Sheet

Please load the sheet into the frame and align with the sealing rubber then press knob to setup the task.



(Please press the knob and rotate it to select your **Material**, then FORM-ART will load corresponding parameters. Repeat above step to set the sheet **Thickness**.)

# Operation Procedure

## Simple mode



Set Complete



Some sheet materials may require preheating before heating the plastic sheet. Please wait until the heater achieves target temperature.



Pull the frame down toward the forming bed and secure the sheet in the frame by turning the side wheels forward until they lock. Then pull the frame up to attach it to the top magnet.



Start heating the sheet to its target temperature. During this period, please load the mold on the forming bed.



When the sheet has reached its target temperature, quickly pull the frame down to form over your mold. (Must pull down within 3 seconds if using PET sheet)

## Advance mode



Advance Set.

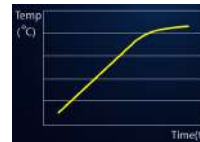


Within advanced settings, you can edit configurations:

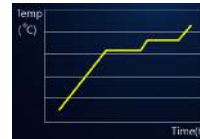
- 1.LCD bri.: Change LCD brightness
- 2.Heater setting:
  - 2-1.Preheat: Switch heater pre-heating ON or OFF
  - 2-2.Heating curves: To change heating curves A,B,C



Curve A:  
Heating sheet in linear curve



Curve B:  
Heating sheet in parabolic curve



Curve C:  
Heating sheet in step curve

Tune (1~9): To modify heating speed. Higher value will result in longer heating time.

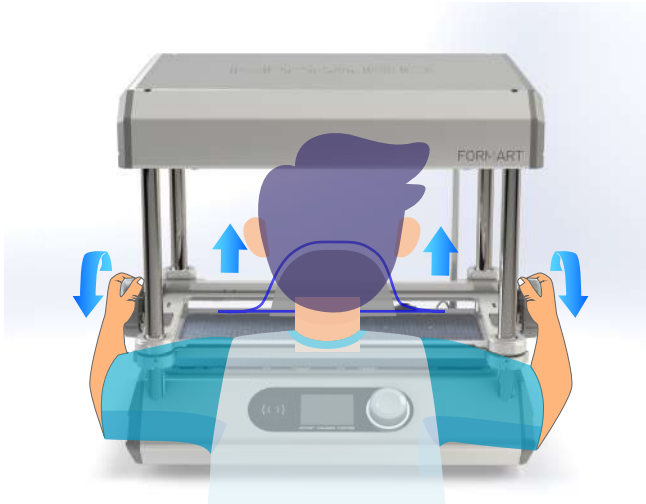
# Operation Procedure



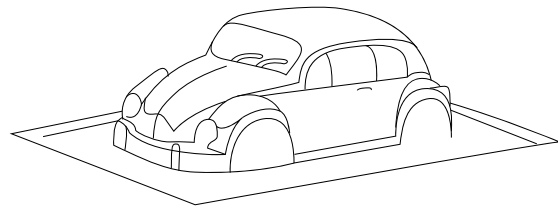
Blister forming in process



Task finished. Press to restart.



Turn side wheels backward to release finished blister and pull the top frame up and repeat for the next task.



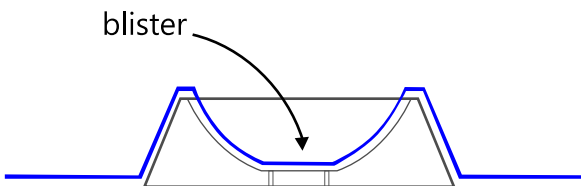
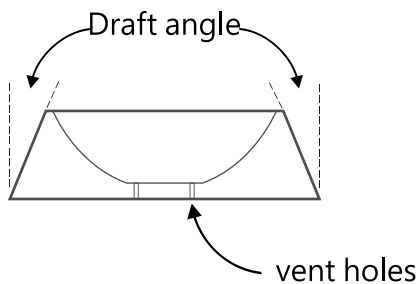
# Accessory Instructions

## Cat bowl mold

In the accessory box, you will find a cat bowl mold and a nose cap as a reference for your vacuum mold design. You can use the mold to make blisters and compare the results between wearing the nose cap and not wearing it.



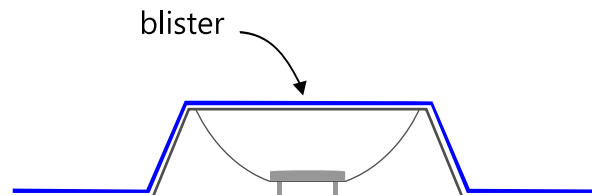
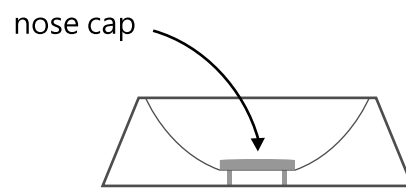
Without nose



The blister forms smoothly including the center hollow



With nose



Nose cap blocks the vent holes and the center hollow cannot be formed

1. When you design a vacuum mold, the draft angle must be larger than  $3^\circ$  to ensure the mold can be easily released out of the blister.
2. Please remember to leave vent holes in the recesses of the mold.



# Accessory Instructions

## Webbing remover

Webbing problem is the most common phenomenon during vacuum forming, especially at corners or taller shapes.



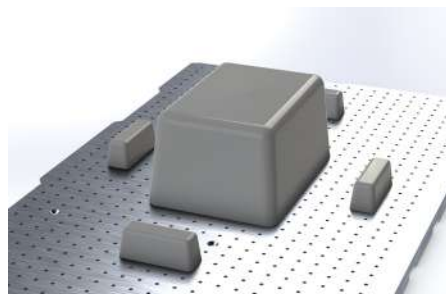
Corner Webbing



Tall Shape Webbing

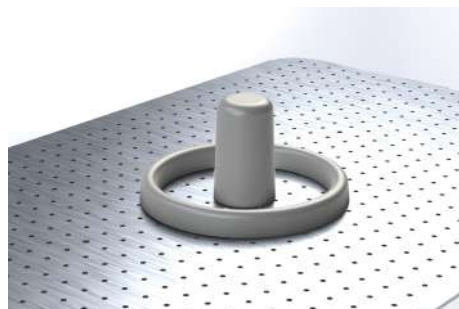
### 1. Webbing remover cubes

Place the webbing removing cubes in the proper place to minimize corner webbing.



### 2. Webbing remover collars

Place you mold in the center of the webbing removing collar to minimize webbing.



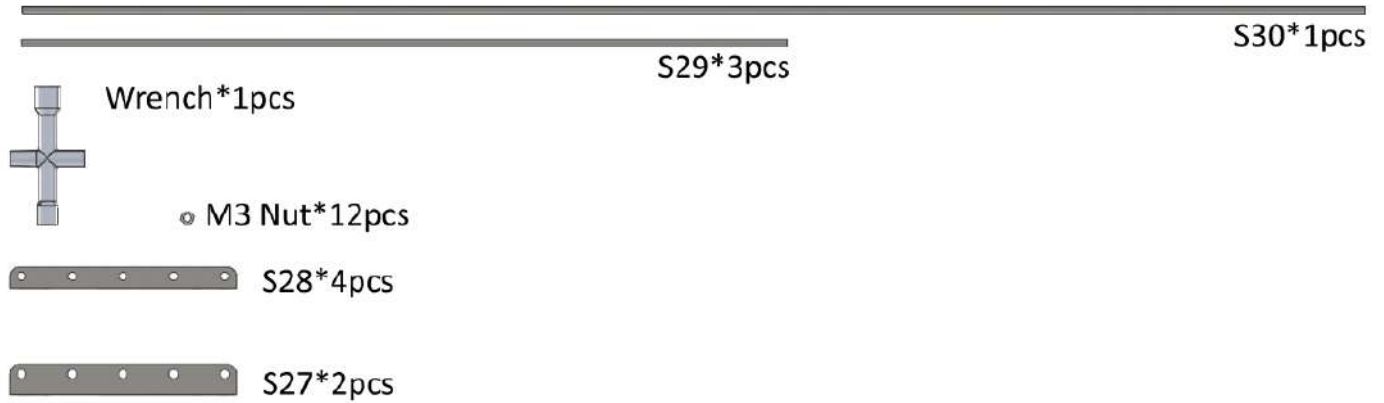
\*Those webbing cubes & collars are provided as potential solutions for solving the webbing issues you may encounter. Larger objects may require additional cubes/collars(not provided).

# Accessory Instructions



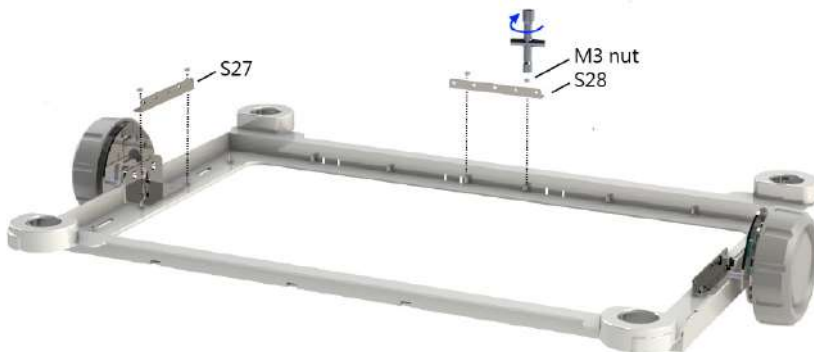
Volume Control Kit(Optional - Purchased Separately)  
It is used to eliminate the webbing between two molds.

Scan QR code to see video instruction

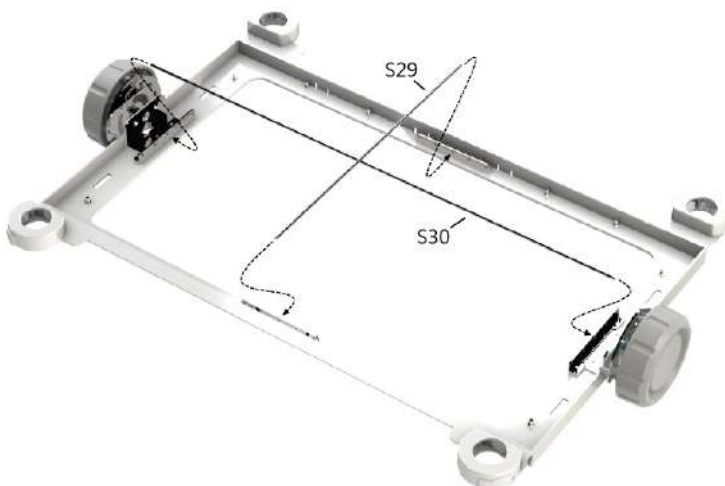


Please follow below steps to setup the volume control kit

(Figure 1) Please install S27 & S28 in the appropriate place as shown below.



(Figure 2) Please insert steels S29 & S30 into the holes where the webbing phenomenon appeared.

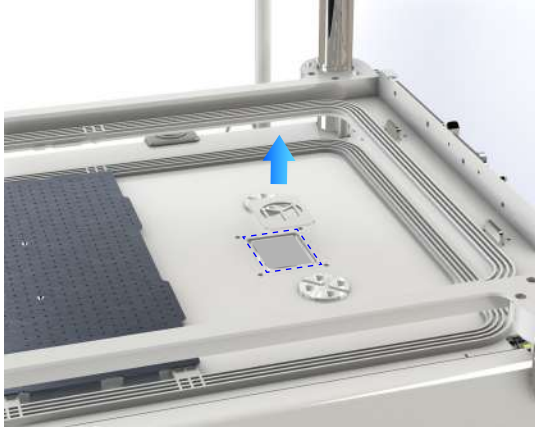




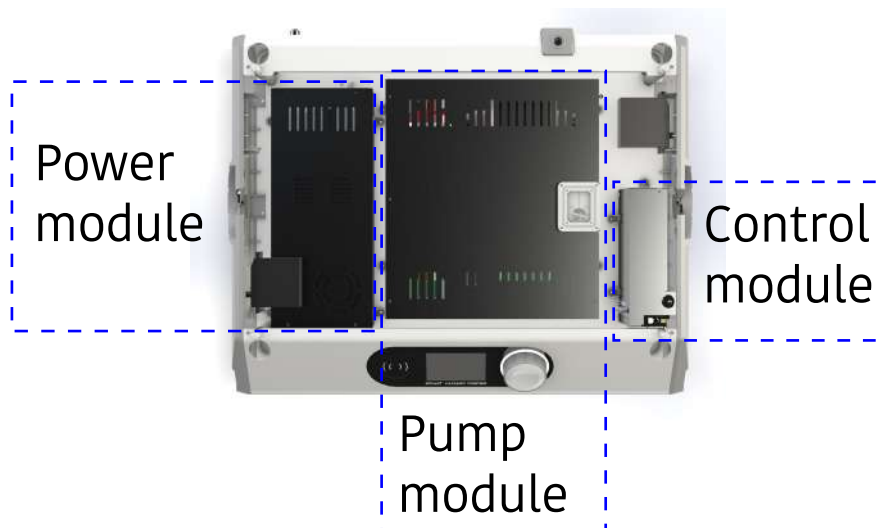
# Maintenance

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1. Ensure the surface of the machine and the heater surround is free of dust, dirt and debris.
2. Please clean the air filter regularly.



3. FORMART SE's 4 steel tubes (frame rails) DO NOT require any lubrication.  
**Please DO NOT apply any lubricants of on the 4 tubes.**
4. In case of FORMART SE failure, we may require you to return defect unit. However, Please DO NOT disassemble any independent module other wise the warranty may invalid.



5. If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.

# Warranty Terms

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1. We provide a two years warranty under normal use on this machine. However, due to the differences of personal operating habits, the following parts are not covered by the warranty.
  - Rubber seals
  - Frames & sheet lockers
2. Due to the damage caused by the following cases, we will charge for the repair or maintenance.
  - Damaged by abnormal operation or exceeding the specification.
  - Damaged by incorrect voltage, falling, accidents or natural disasters.
  - Damaged by unauthorized disassembly.
  - Damaged by unauthorized repairs.
3. MY YARD TECH will pay the shipping costs for the repairs that meet above warranty terms. If repairs exceed those covered by the warranty, the buyer will need to pay the repair & shipping fees.
4. Warranty terms of service apply only to consumers who purchase our products through legal sales channels.
5. For counter-repair products, buyer should agree with us to replace the failed parts by using alternatives or used parts.
6. We do not authorize the use of this machine or its spare parts in life support equipment. We will not be held liable for any personal injury or death caused by the user's misuse of our product.

# Specifications

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Dimension	625(W) x 534(H) x 476(D)mm
Weight	24Kg
Input Power	220~240 or 100~120VAC@1500W
Display	3.5" 480*320 Full color LCD
Heater	Quartz Carbon Heater Tubes
Heating Range	90~230° C
Sheet Size	500 x 300mm; 420 x 300mm(A3); 300 x 300mm ; 300 x 205mm(A4)
Sheet Thickness	0.3~3.0mm
Pump	200W DC pump*1 80W AC pump*1
Suction Flow	>200L/MIN
Max. Vacuum	-10, -20, -90KPA(3 steps)
Max. Draw	160mm Max.
Mold Weight	5Kg Max

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