

**MISUMI**

## Hot Air Generating Unit

# Operating Instructions

### -Models-

**MAHY1310(100V 1.3kW)**

**MAHY3020(200V 3.0kW)**

**MAHY5020(200V 5.0kW)**

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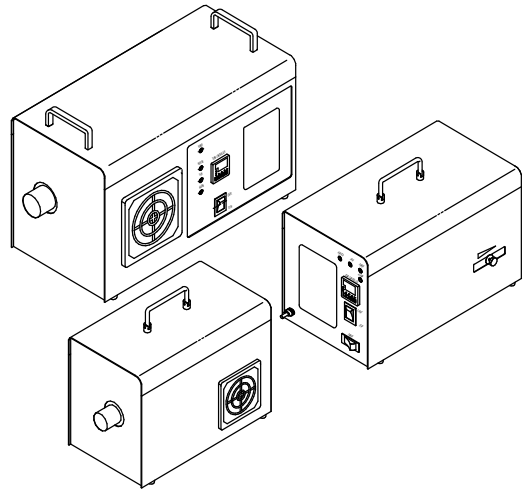
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- - Thank you for purchasing our hot air generating unit.
- - These operating instructions describe the necessary information for using this product properly. Be sure to read before use.
- - After reading, keep these instructions at hand for reference.











## Safety precautions











- - Before use, read these safety instructions and use correctly.
- - The instructions described here include very important information about safety. Be sure to observe them strictly.
- - The indication signs are classified into warnings and cautions. The meanings are as follows.

Signs	Descriptions
 <b>Warning</b>	Indicates an incorrect handling could result in death or serious personal injury.
 <b>Caution</b>	Indicates an incorrect handling could result in personal injury or property damage.



## Warning

 No modification	Do not make modifications This could cause fire, electric shock, or injury.	 No outdoor use	Do not use the appliance outdoors. Rain or water splash could cause ground fault or electric shock.
 No disassembly and repair	Do not disassemble or repair by yourself. This could cause fire, electric shock or injury. Disassembly will void warranty. For repair, contact the store for from which the purchase is made.	 Prohibited	Do not place on an unstable surface. This could cause injury or unexpected accident.
 Ensure grounding.	Do not operate without grounding. Without grounding, fire or electric shock could occur during breakdown or ground fault.	 Prohibited	Do not use in explosive atmosphere. This could cause injury or fire.
 No water splash	Do not splash or spray water/detergent. This could cause ground fault resulting in fire or electric shock.	 Prohibited	Do not apply hot air to human body. This could cause burns due to high temperature.
 Prohibited	Do not damage power cable. Forcible power cable bending, pulling, or pinching could cause cable damage and lead to fire or electric shock.	 Prohibited	Do not put things on the appliance body. This could cause appliance breakage or unexpected accident.

 <p>Do not touch the fan or heater with the cover removed during operation.</p> <p>This could cause electric shock, injury, or burns.</p> <p>Prohibited</p>	 <p>Do not touch the outlet opening during or immediately after the operation.</p> <p>This could cause burns due to high temperature.</p> <p>Caution</p>
 <p>Do not use at places in which there could be direct flame contact, greasy</p> <p>This could cause fire.</p> <p>Prohibited</p>	 <p>Ensure that the rated voltage and input voltage correspond with each</p> <p>If not, damage or fire could occur.</p> <p>Caution</p>
 <p>Do not place obstacles around the product that could block ventilation.</p> <p>This could cause burns or fire.</p> <p>Prohibited</p>	 <p>Turn off the circuit breaker if the product is not used over a prolonged period.</p> <p>An unexpected accident could occur.</p> <p>Caution</p>
 <p>Do not drop the product, or do not give it a strong shock.</p> <p>These could cause failure or fire.</p> <p>Caution</p>	 <p>Do not run a withstand voltage test.</p> <p>This could cause damage.</p> <p>Caution</p>
 <p>Check the piping for disconnection and leakage.</p> <p>Otherwise burns or fire could occur.</p> <p>Caution</p>	 <p>For disposal, contact qualified service provider or public agencies.</p> <p>Otherwise an accident could occur.</p> <p>Caution</p>

## Before use

### Installation

- Do not heat explosive gases, flammable gases, or corrosive gases. Also do not use the product in the atmosphere of these gases.
- Do not use under condition in which condensation or water splash occurs.
- When in use, place the machine on a level surface and fix it with a bracket.
- Use in the atmospheric temperatures of 0°C to 40°C.
- When in use, make sure that there is the space of about 1 m around the intake port.

### Connection

#### (Piping)

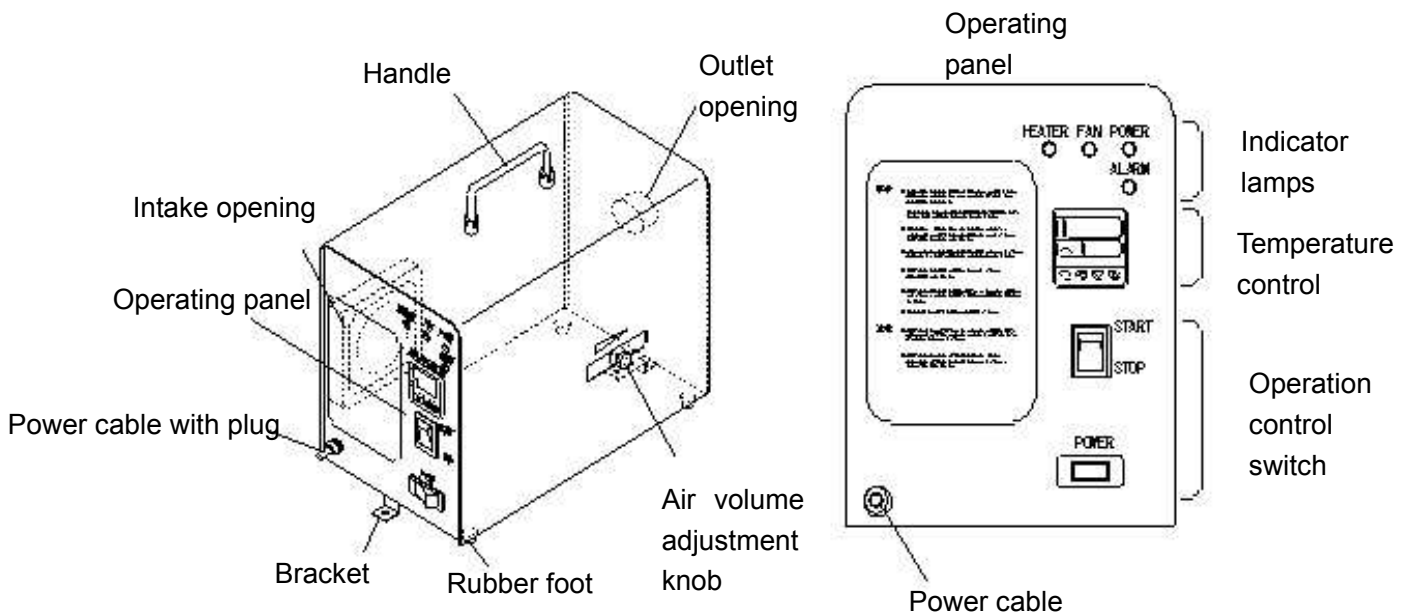
- Use a duct suitable for the service temperature.
- Do not use with the intake opening or outlet opening closed, or blocked with objects.
- Shorten the piping as much as possible. Avoid excessive bending or narrowing of the piping.

#### (Power supply)

- Use a power supply suitable for the power supply voltage of each model.
- Avoid modification, forcible bending, twisting, or pulling of the power code.
- Do not use MAHY1310 with the power outlet shared with other appliances. Because its current value is 13A.
- Avoid linked operation (power ON/OFF) with other appliances.
- Make sure that grounding is provided.

## Names of parts and functions

[Names of each part]



How to use the operation control switch

- POWER switch

When the switch is turned on, the unit is supplied with power, the indication area of the temperature control and the POWER lamp turn on, and the unit is ready for operation.

- START/STOP switch

Operation modes are as shown in the table below.

Operation mode		Heater	Fan
Control			
START	Operation	Running	Running
	Indicator	Lamp on	Lamp on
STOP	Operation	Running	Running → Stop ※1
	Indicator	Lamp on	Lamp on → Off ※1

※1 When the switch is changed from START to STOP, the fan stops after five minutes of cooling operation.

How to use temperature control

- Temperature setting (operation mode display)

Temperature is set at 50°C at factory shipment.

Set the temperature by the UP/DOWN keys.



Setting of control

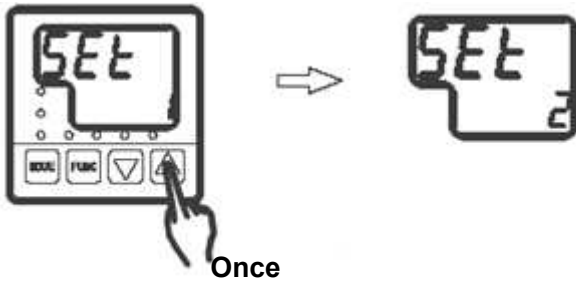
(1) Display screen switching. Press and hold the MODE key for two seconds to switch the display screen.



**Keep pressed for two seconds.**

(2) Change of setting mode screen

After the setting screen mode has been displayed, press UP key to switch from the <Setup mode> 1 to the <Control parameter mode> 2.

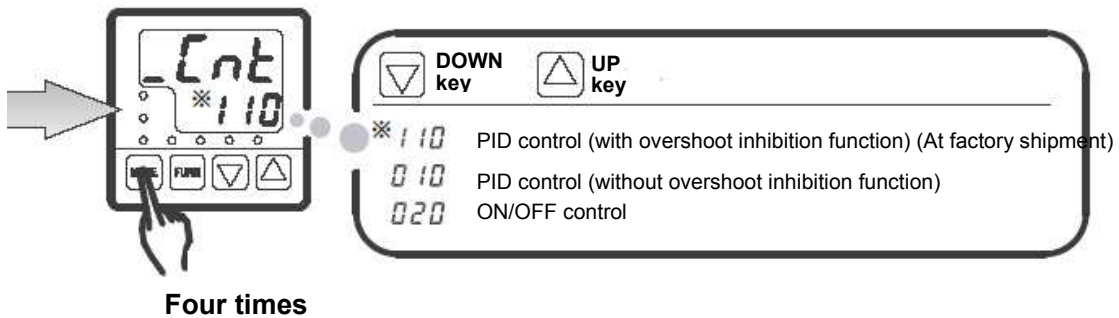


(3) Setting method of PID and ON/OFF

At factory shipment, the setting is PID control (110).

After changing to the control parameter mode, press MODE key four times to switch the screen into the control type. This can be changed by UP/DOWN keys. PID · 0

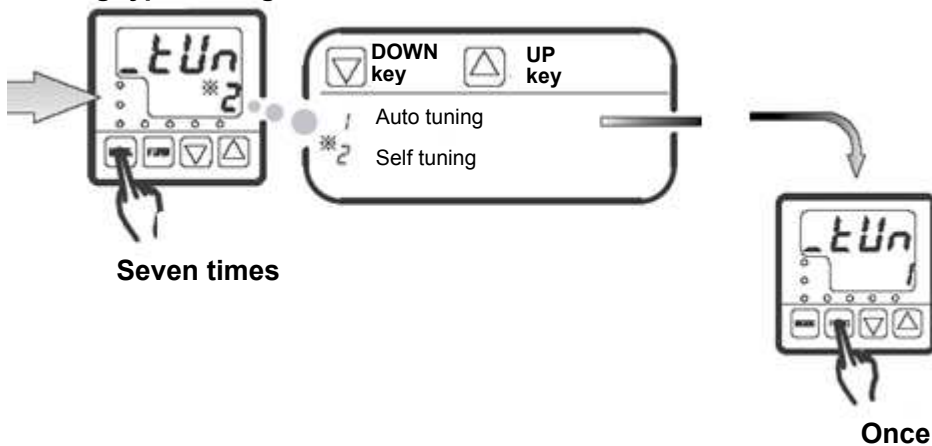
**Control type setting screen**



Auto tuning

After changing to the control parameter mode, press MODE key seven times to switch the screen into the tuning type setting. This can be changed by UP/DOWN keys.

**Tuning type setting screen**



After the setting of auto tuning, it does not take effect until the auto tuning is performed. After checking that the setting is 1, press FUNC key once to start. (Self tuning is set by selecting 2.)

## How to Use

### Operating procedure

(1) Turn on the POWER switch.

(2) Set the temperature for the Temperature control.

- For the setting of temperature and control, refer to [How to use temperature control].

(Note that the temperature control needs about four seconds to change from the initial screen to the operation mode screen, after the turn-on of POWER switch)

(3) Set the START/STOP switch to START.

- The heater and fan start to operate.

- Adjust the air volume with the air volume adjustment knob.

(Air volume can be adjusted by moving the air volume adjustment knob from side to side. When the air volume is too large, the temperature of the hot air may not reach the set temperature. In this case, reduce the air volume.)

### Stopping procedure

(1) Set the START/STOP switch to STOP

- The heater stops.

- The fan stops after the cooling of the unit (about five minutes).

(2) Check that the fan is stopped.

(3) Turn off the POWER switch.

(4) Unplug the AC plug from the power outlet.

Before storing away the unit, check that the outlet opening is cold.

\* Do not shut off the power directly, such as by using the POWER switch or by unplugging the AC plug.

### Operation under abnormal conditions

In abnormal heating, the ALARM lamp turns on and the heater operation is stopped forcibly. After cooling down, the ALARM lamp turns off and the unit automatically recovers.

For checking the cause of abnormality, refer to the Troubleshooting, then check and take necessary steps.

# Troubleshooting

- Check if there are symptoms shown below. If the trouble is not corrected after checking and taking steps, or phenomena other than that described below occurred, immediately shut off the power to prevent breakdown and ask for checking and repair.
- Never repair the unit by yourself. It is dangerous.

Symptoms	Causes/remedies	
The unit does not operate	Is the unit energized? (Is the POWER lamp ON?)	Check the supply-side circuit breaker. Is the AC plug connected? Is it not the power outage?
The unit does not stop.	After the STOP operation, cooling-down operation continues for about five minutes.	This is not a failure.
The air volume is insufficient.	Filter clogging	Clean the filter
The unit does not generate hot air.	Set temperature is too low. Due to abnormal temperature, the unit power is shut off and unit is being cooled down.	Raise the set temperature. If the unit recovers after cooling, it is not a failure.
The hot air temperature does not go up to the set temperature.	Too much air volume	Lower the air volume level using the air volume adjustment knob.
The heater stops working in the middle of operation.	The power supply to the heater is halted due to the abnormal temperature.	If the unit recovers after cooling, it is not a failure. Check for the blockages of the intake/outlet openings.
The unit vibrates.	Is the unit installed correctly? Is the panel setting screw not loosened?.	Install correctly. Tighten the screw securely.



## Specifications

	MAHY1310	MAHY3020
Power supply	Single phase, 100 V	Single phase, 200 V
Heater capacity (W)	1.3	3.0
Temperature adjustment range (°C)	Room temperature to 200	Room temperature to 300
Outlet opening diameter (mm)	$\phi$ 50	
Maximum air volume (m <sup>3</sup> /min)	Air volume adjustment knob at full control, 1.0/1.4 (50 Hz/60 Hz)	
	Air volume adjustment knob at 1/3 control, 0.3/0.4 (50 Hz/60 Hz)	
	* The value shown above is for reference only.	
Intake air temperature (°C)	Room temperature	
Control mechanism : temperature indication	Digital display	
: control drive	SSR drive	
: Temperature sensor	K-type thermocouple	
: safety circuit	Overtemperature/interlock	
Air volume adjustment method	Manual dumper	
Weight (kg)	10	13

Misumi Corporation

2-4-43 Toyo, Koto ward, Tokyo

135-8458

Tel (03) 3647-7173, Fax (03) 3647-7481