

# **1500°C**

# **TUBE FURNACE**

## **Gas Flow Package**



SH-FU-50/80/100/120TH-WG



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Keep this manual on-hand so it can be used by all operators of the unit.  
Use the unit only in the way described in this manual.  
Failure to follow the instruction in this manual may cause wrong  
operation.

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## 01. General Description

Thank you for purchasing our product. We know that in today's competitive marketplace, customers have many choices when purchasing laboratory equipments.

We appreciate your choosing our quality product. We stand behind our products and want to let you know we are here if you need us.

Before you use the unit, read this entire manual carefully to understand how to install, operate and maintain the unit in a safe manner.

Your satisfaction with the unit will be maximized as you read this manual thoroughly.

Our capable products will satisfy you by the best performance with easy operation.



SH SCIENTIFIC

## 02. Graphic Symbols

BE SURE THAT YOU UNDERSTAND ALL OF THESE SYMBOLS BEFORE OPERATING THE UNIT.



Important operating and / or maintenance instruction.  
Read the accompanying text carefully.



This symbol indicates items and procedures that are **STRICTLY PROHIBITED** with regards to the unit.



Potential electrical hazards.



Explosive.



No disassemble.

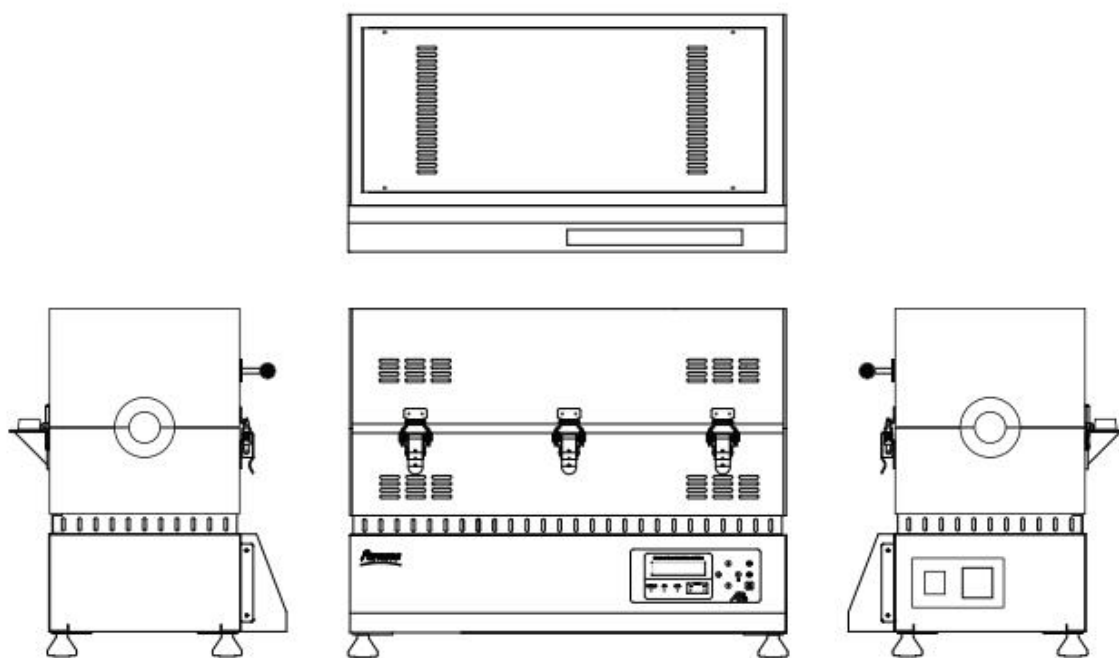


Flammable.



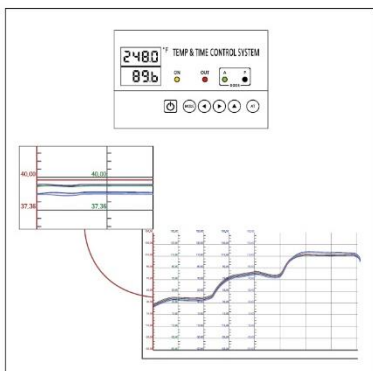
Hot surface or steam.

### 03. The Outward



〈 50/80/100/120TH 〉

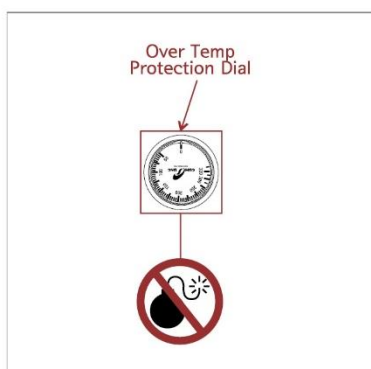
## 04. Key Feature



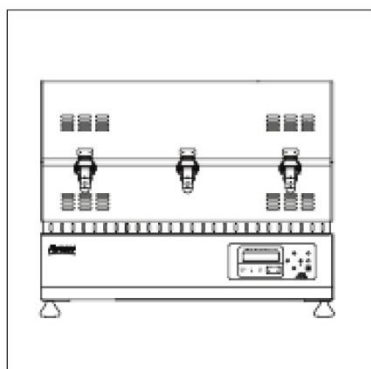
- Digital display of temp and time
- Multi key-in (100Ω(DIN Pt100Ω), KPt100Ω(JPt100Ω), K(CA))
- Precise temperature control
- Alarm when timer ends



- Auto back up

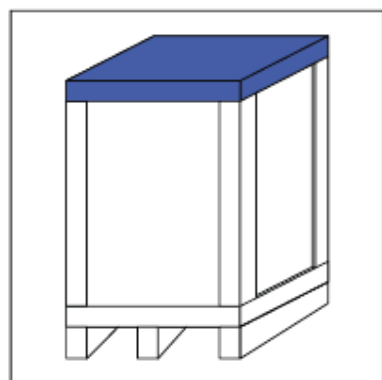


- Over-temperature protection function(FU-xxTG)

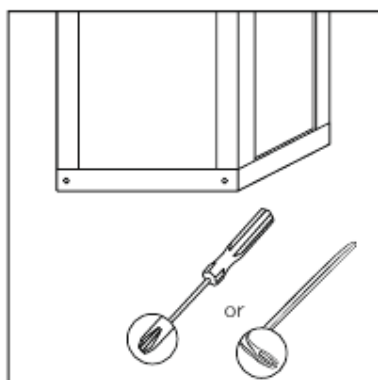


- Separated body and control box design protecting from thermal shock(FU-xxTG)

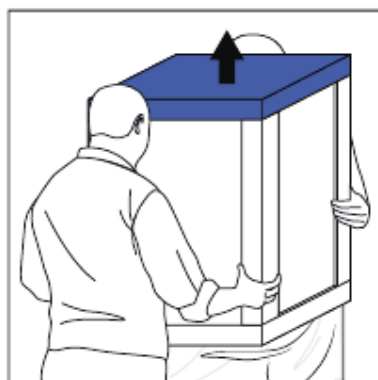
## 05. Installation



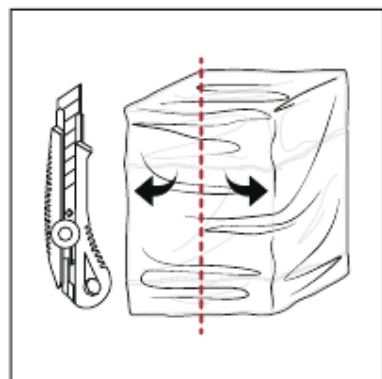
① Once the product is delivered, place the package on a flat location.



② Unscrew the bottom of the box.



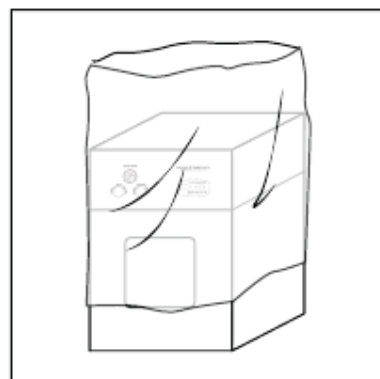
③ Lift the box as shown in the picture.



④ Unwrap the bag.

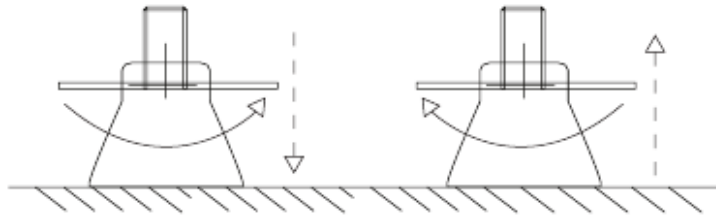


⑤ Place the equipment on your desired location.



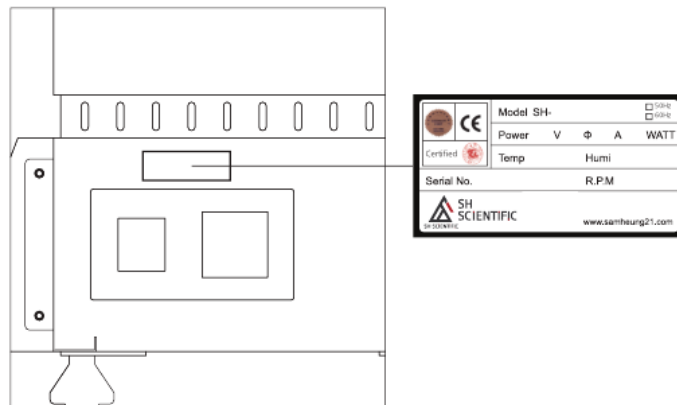
⑥ Lift the remaining plastic up.

## 05. Installation



<Fig-1>

Refer to above fig-1, level the equipment by adjusting the feet.



Serial label shows the electric power specification of the unit.  
Connect power and turn on the main switch(E.L.B).



Please do not raise up it high temp at once.  
It case to decline durability.  
We recommend raise temp under 15°C/min



## 05. Installation

### -How to use assemble pipe lines

1) Please check if all parts are in the package;

- 1 panel of 1 Flow meter and valve,
- 3 pipe lines with nuts,
- 1 Gas gauge with valve

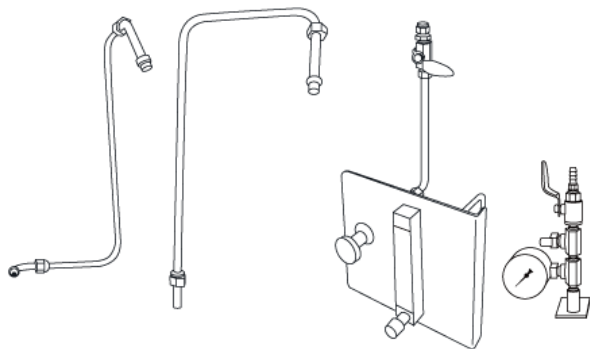


Fig-2)

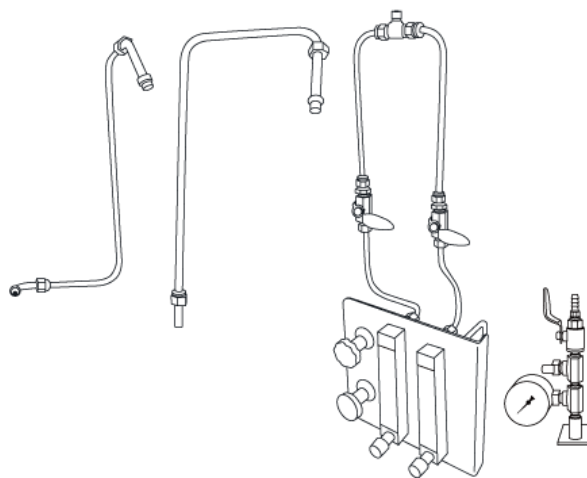


Fig-3)

Fig-3) In case of Pipe parts for 2 gas channels; 1 panel of 2 Flow-meters and valves, 4 pipe lines with nuts, 1 Gas gauge with valve.

## 05. Installation

- 2) Screw down the panel of flow meter and valve, connect 3 pipe lines each(Fig-4, -5, -6). Tighten the each bolt and nut with spanner.

Fig-4)

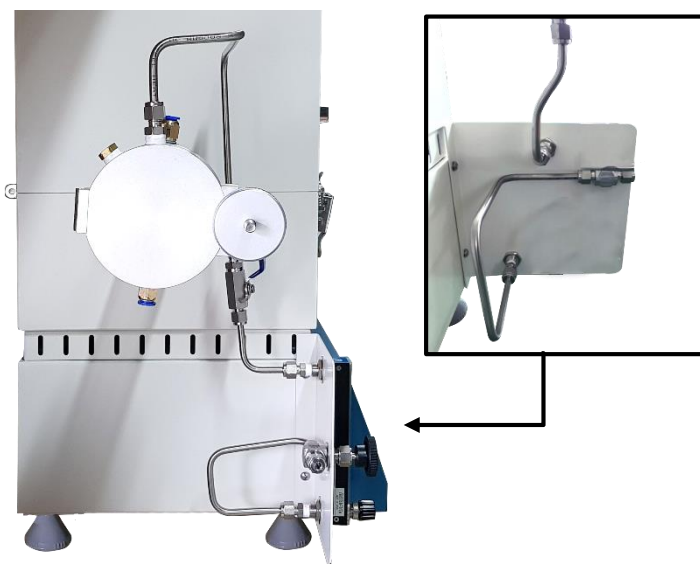
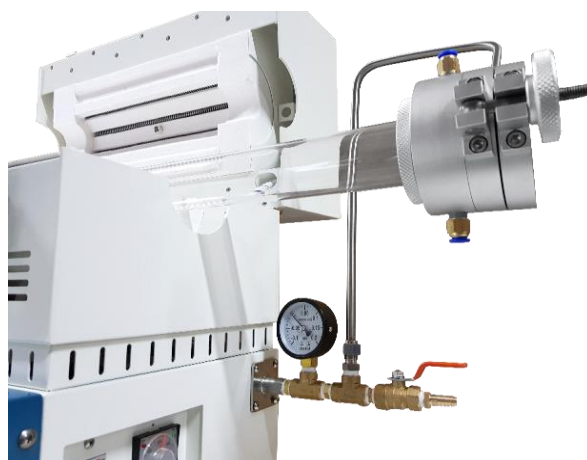
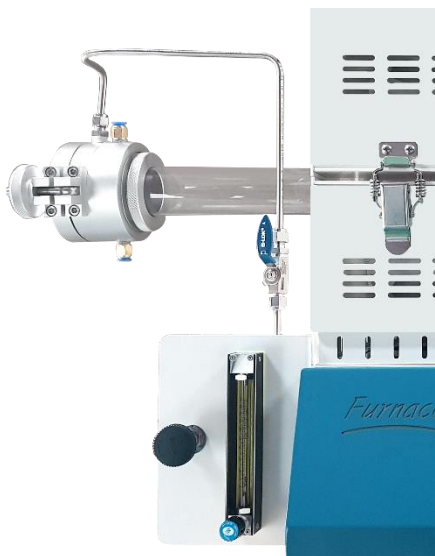


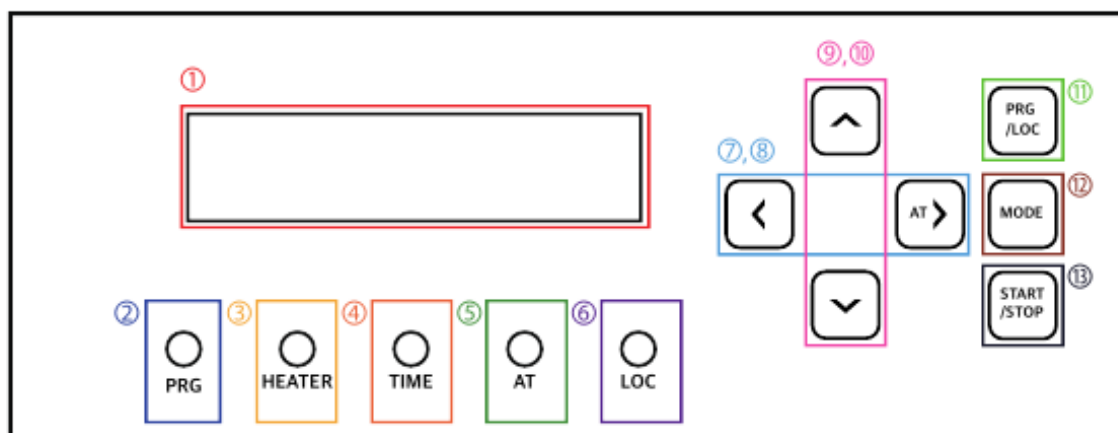
Fig-5)

Fig-6)



## 06. Setting and Operation

### 1) Controller



- ① LCD display
- ② Program mode
- ③ Heater
- ④ Timer
- ⑤ Auto tune
- ⑥ Standard mode
- ⑦,⑧ Shift button (Mute)
- ⑨,⑩ Setting
- ⑪ Pattern
- ⑫ Set parameter
- ⑬ Start/Stop button

## 06. Setting and Operation

(1) Stand by

PV:	23 ℃	TM: * *: * *
SV:	450 ℃	READY

(2) Stand mode

(SV INPUT)		
SV:	0450 ℃	TM:00:0

Push ⑪ for operating with set Temp and set Time.

PV:	24 ℃	TM:00:06
SV:	450 ℃	READY

Set Temp and Time use ⑦,⑧,⑨,⑩

PV:	24 ℃	TM:00:06
SV:	450 ℃	RUN..

Push ⑫ to return stand by.

## 06. Setting and Operation

PV:	24 °C	SV: 450 °C
***	AUTO	TUNING ***

Push ⑬ start/top, ⑥ means operating with LED,  
③ means heater, ④ means to reach set temp.

### (3) Program mode

PV:	23 °C	P1-STEP1
PRESS START KEY ..		

<PV : Present Temp, P1-Step1 : Pattern No.1 and Step No.1

Push ⑪ for 3 sec, goes to program mode.

PV:	24 °C	CYC1: 4
SV:	40 °C	TS:00:30

<Program mode>

## 06. Setting and Operation

### (4) Program mode

Push ⑪ for 1 sec and you will set the screen of pattern,  
Use ⑧,⑨ for pattern, ⑬ for selection.

P1-STEP(1)	TS:00:30
SV: 0040	TM:00:30

<P1-Step1 : Pattern No.1 and Step No.1, SV : Setting Temp, TM : Setting Time>

When you change setting push ⑫ and then you can see the below screen with buzzer.

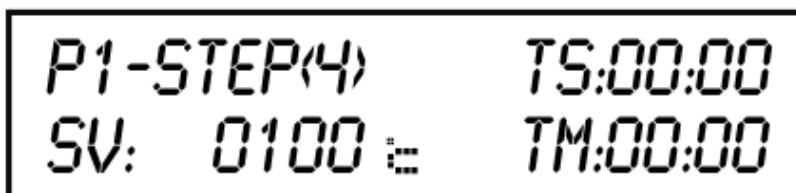
P1-STEP(2)	TS:00:30
SV: 0060	TM:00:30

Push ⑫ goes to next step2 and operating same way.

P1-STEP(3)	TS:00:30
SV: 0080	TM:00:30

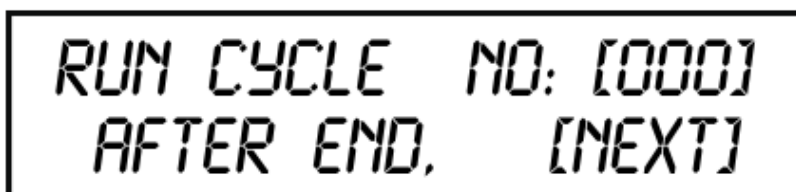
Push ⑫ goes to next step3, Max step is 9.

## 06. Setting and Operation



P1-STEP(4) TS:00:00  
SV: 0100 TM:00:00

Input "0" to TS,TM and push ⑫,  
It finish step of pattern refer to below screen.



RUN CYCLE NO: [000]  
AFTER END, [NEXT]

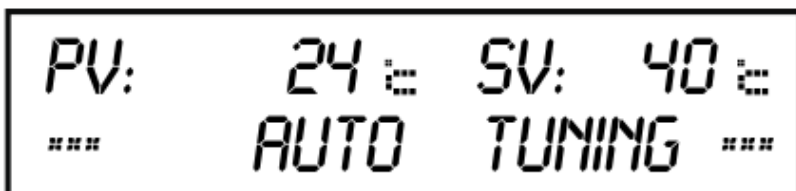
Setting repeat time with ⑦,⑧,⑨,⑩ Max 999times.  
Push ⑪ for select "STOP","NEXT","MENU".



PV: 23 P1-STEP1  
PRESS START KEY ..

<Program mode>

Push ⑩ for 5 sec, light on ⑤ LED and start Auto tune below screen.

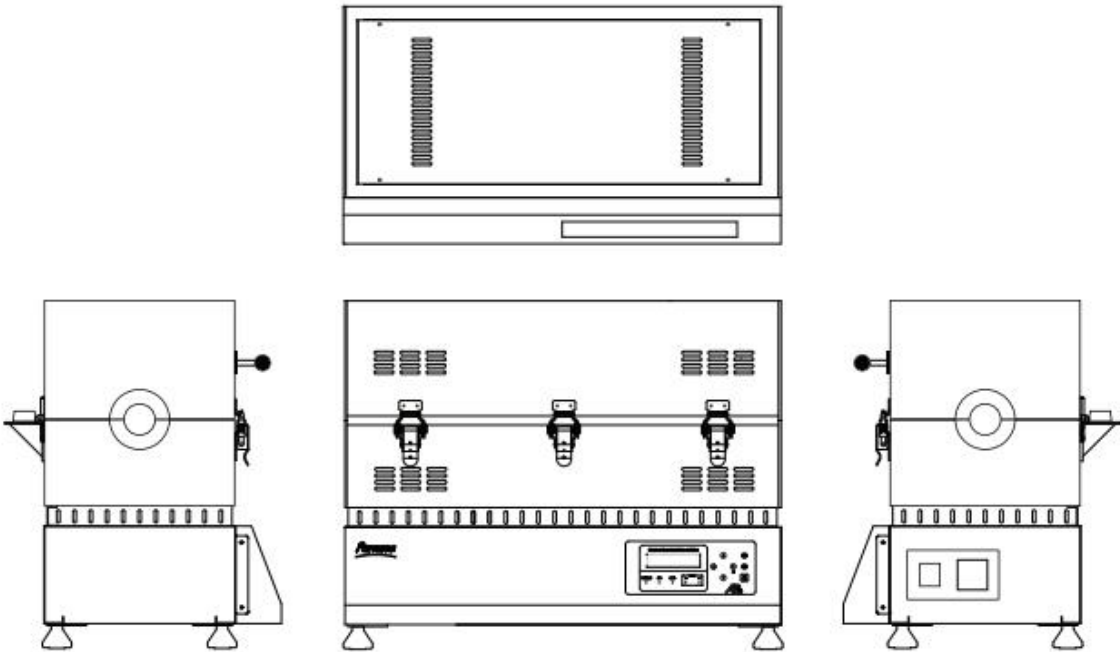


PV: 24 SV: 40  
\*\*\* AUTO TUNING \*\*\*

In operating program, push ⑨ goes to next step.  
ex) Step2 TS → Step2 TM → Step3 TS  
In case of <Step3 Ts> is 00:00 goes to <Step3 TM>

# 07. Specifications

## 1500°C Tube Furnace Gas Flow Package - 50/80/100/120TH-WG



Model		SH-FU-50TH-WG	SH-FU-80TH-WG	SH-FU-100TH-WG	SH-FU-120TH-WG
Furnace		SH-FU-50TH	SH-FU-80TH	SH-FU-100TH	SH-FU-120TH
Components		Gas Flowmeter 1EA			
		Stainless Steel Pipe & Connector			
		Gas Sealing Mask			
		Alumina Tube (Length 1000 mm)			
Cat. No.	230 V, 1Φ	FU50THWG230	FU80THWG230	FU100THWG230	FU120THWG230



# Memo

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# Memo

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# Memo

This image shows a blank sheet of white paper with horizontal dashed lines. The lines are evenly spaced and run across the width of the page, providing a guide for handwriting or drawing. There are no other markings, text, or illustrations on the page.

