

Please send to the customer who is used this operation manual without fail.

Preservation type

Multi-dryer *HAS-series*

Operation manual

● **Please read without fail before use.**

- ◆ Thank you very much for purchasing Hot-air generator this time.
- ◆ Please confirm the model, type, and voltage by the name plate of this machine.



1. **Installation**
 2. **Piping**
 3. **Power supply**
 4. **Usually operation**
 5. **Timer operation**
 6. **When External sensor is used**
 7. **Warning detection**
 8. **Maintenance inspection**
- Guarantee**

Multi-dryer

- HAS-11
- HAS-21
- HAS-35
- HAS-35F
- HAS-42

Electric hot-air generator for the construction

- HAS-42K



Contents of this operation manual are changed without notice. The figure and display in the operation manual does not guarantee actual specification. We prohibit that changes this operation manual without taking our permission.

Kansai Electric Heat Corp.

1. Installation

- ① Please establish to the horizontal position. Please use HAS-42K in horizontal condition.
 - ② Please fix it firmly as occasion demands. Please fix HAS-42K by the stopper of the caster.
 - ③ Place where can not establish
 - Place where back is stuck to wall etc.
 - Outdoor, and place where is exposed to the storm
 - Places of there are many dust
 - Upper part of generation thing
 - Neighborhood of combustible
 - Place where air pressure is low
 - Place where height is more than 1000m
 - Place where acid and corrosiveness gas is floating
 - Room where is tightly sealed and case inside
 - Place where ambient temp. is more than 0 - +40 °C.
 - Place where ambient humidity is more than 85%R.H.
 - Place where has vibration
 - Place where has floating objects that pass electricity (Carbon fiber etc.)
- Attention : Please do not hang the band and hoist to the handle at the time of carrying.

2. Piping

- ① Please fix the piping to the outlet and inlet

Leakage of the hot-air is occurred without fail on the characteristic of the flexible hose in the case of the piping by the flexible hose to the outlet of Multi-dryer. Electron devices inside the operation panel are damaged by the hot-air of the high temp. that leaked flows backward to the Multi-dryer inside. So, please execute the glass tape for the air leakage prevention that was enclosed to the outlet.
- ② Please pipe as thickly, short, and gradual curve as possible.
- ③ Please insulate sufficiently without fail to piping.
- ④ Hose superior in flexibility Please use the synthetic rubber hose superior in flexibility to the piping of HAS-42K.
- ⑤ Please do not insert the piping is smaller than the bore of the outlet to the outlet. Outlet sensor is bent, and the sensor contacts to the heater.

4. Power supply

- ① Please ask the connection of the power supply and ground construction work to the electric repairing work technician.
- ② Please do not use HAS-11 at the same time as other devices with the same power supply.
- ③ Please use the outlet of the belonging about HAS-21.
 - ※ Please connect the power cord of HAS-21, 35, and 35F in accordance with R(Red), S(Block), and Ground(White: with ground seal).
- ④ Please connect the power cord of HAS-42 and 42K in accordance with R(Red), S(White), T(Black), and Ground(Green).
- ⑤ Please use the socket of the belonging about HAS-42K.
- ⑥ Please use the commercial power supply (50/60Hz) that has the sine wave-like to the power supply of Multi-dryer. Please do not use the power supply that has the distortion wave including a high tone wave from the frequency transformation device absolutely.
- ⑦ Please establish the exclusive use circuit. Please select the electric leakage circuit breaker that has the sensitivity current of about 50mA.
 - ※ About 10 times of the early period leakage current are general as the sensitivity current of the electric leakage circuit breaker.
- ⑧ Please execute the ground construction work to prevent electric shock accident prevention. (Less than 300V : D-class ground Less than 600V : C-class ground)

Attention The voltage depression is occurred by too long wiring. So, please pay attention.

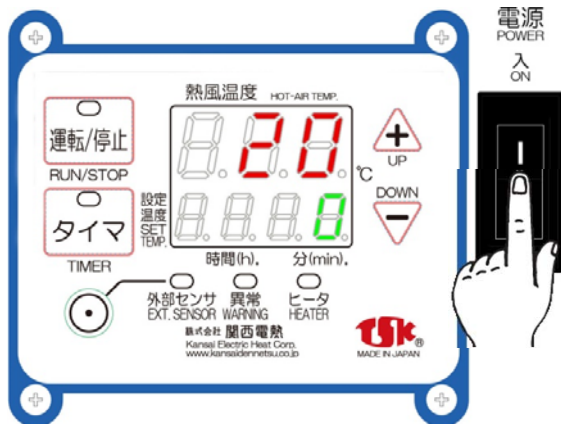
Attention Please block the power supply without fail at the time of wiring and inspection. Please block the factory power supply without fail because electricity is flowing to the control circuit even if POWER switch (the breaker at HAS-42and 42K) of Multi-dryer is turned OFF. You receive an electric shock when work is conducted in the condition that the power supply is turned ON.

Attention Please secure sufficient capacity in the case that the socket was established for connection. Socket may cause contact defectiveness, absence phase, generation, and malfunction by passing year change. So, please refrain from the use of the socket.

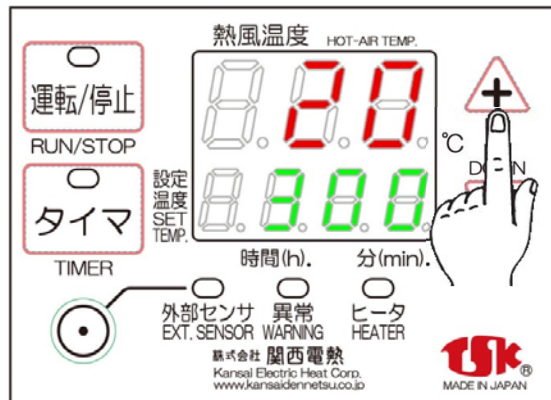
Attention Multi-dryer is the device that is used in industry environment mainly. Radio wave obstacle may occur if this is used in residence environment. User of this product must take the appropriate means for obstacle reduction.

4. Usually operation

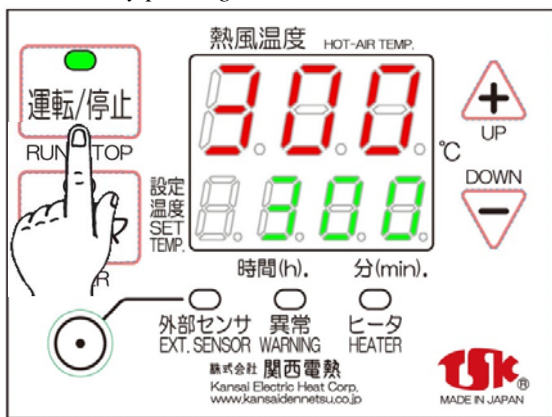
- ① Please turn on the factory (primary side) power supply and turn on the POWER switch of this machine. And, please turn on the breaker (NFB) of this machine about HAS-42 and HAS-42K. Present temp. is displayed to HOT-AIR TEMP. "0" is displayed to SETTING TEMP.



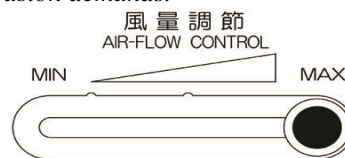
- ② Please set up the optional outlet temp. by the UP-DOWN key.



- ③ RUN/STOP lamp (Green) and HEATER lamp (Green) is lighted and hot-air operation is started by pushing RUN/STOP switch.

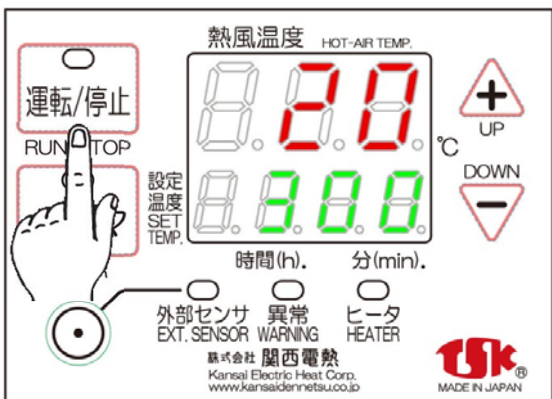


Please adjust the air volume by the slide shutter as occasion demands.



Outlet temp. may not reach to setting temp. when there are many air volumes. Please refer to the performance curve that was entered to the catalog, and Please squeeze to the proper air volume.

- ④ RUN/STOP lamp (Green) and HEATER lamp (Green) turn of the light and operation is stopped by pushing RUN/STOP switch once again during the hot-air operation..



Please turn off the POWER switch after using. And, turn off the factory (primary side) power supply too. Please store after cooling down sufficiently because this machine and outlet have heat after using.

* Breaker of this machine (NFB) of HAS-42 and 42K does not need to turn off.

Attention : Please turn of the factory (primary side) power supply after turning off the RUN/STOP switch.

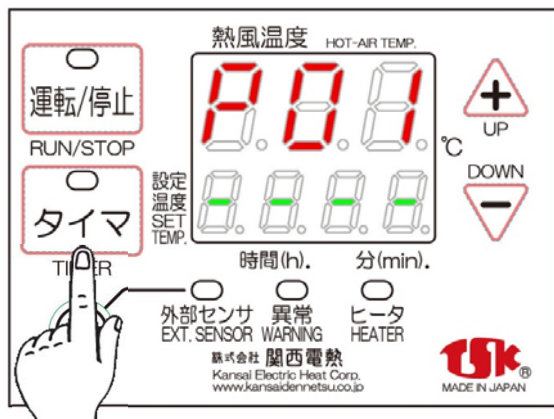
Please do not operate and stop Multi-dryer by the electromagnet contact device etc. that was established to the primary side of Multi-dryer . The inside electron devices damage by serge voltage. And please turn on the breaker (NFB) of HAS-42 and 42K. Please do not do on/off as the operation witch. The inside electron devices damage by serge voltage.

5. Timer operation

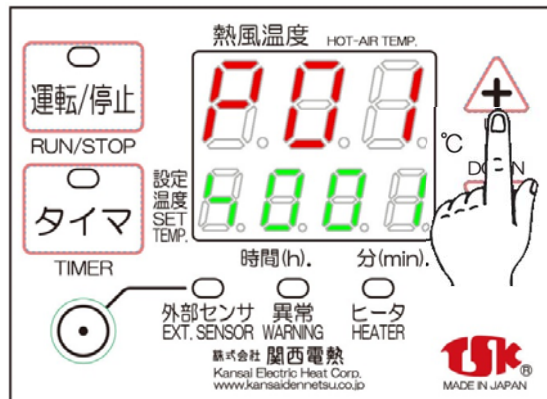
● Timer operation

- ① Please push **TIMER** switch 1 time in stoppage condition after setting the output temp. and gas volume

"P01" is displayed to **HOT-AIR TEMP.**, and "----" is displayed to **SET TEMP.**

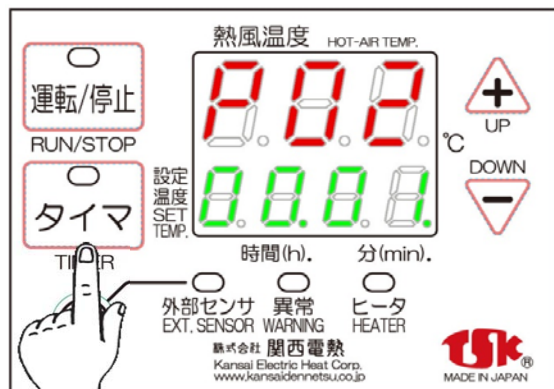


- ② Please change **SETTING TEMP.** to "S001" by the up down key.

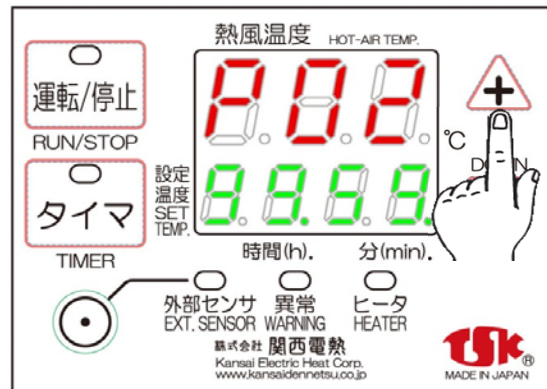


- ③ Please push **TIMER** switch 1 time once again.

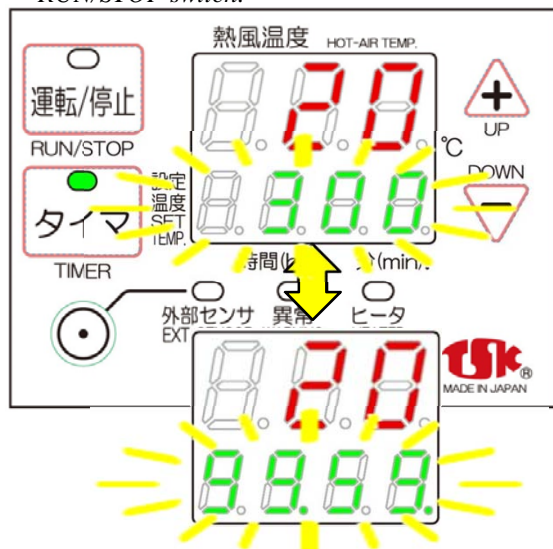
"P02" is displayed to **HOT-AIR TEMP.**, and "00.01." is displayed to **SET TEMP.**



- ④ Please set up optional time by the up down key.
Time can be set up until 99 hours 59 minutes



- ⑤ Please return to the display of usually operation condition by pushing **TIMER** switch 1 time and please start the timer operation by pushing **RUN/STOP** switch.



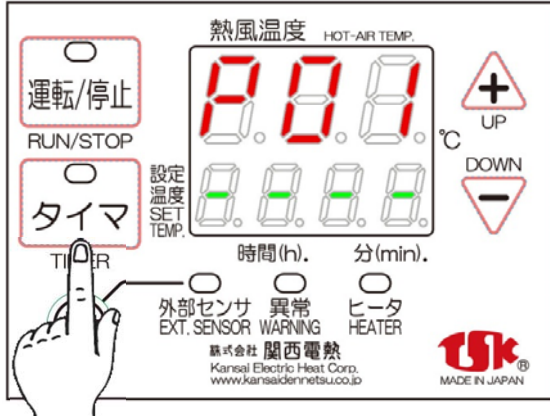
TIMER lamp (Green) is lighted at the time of stoppage. Setting temp. and timer time flicker alternately to **SET TEMP.** when timer operation was started. And, the time counting (reduction) is started. After time up, the hot-air operation is started.

- ※ *TIMER* lamp flickers at the time of the operation after time up.
- ※ Time counting is stopped if **RUN/STOP** switch is pushed during time counting. Time is counted from the beginning by **RUN/STOP** switch is pushed once again.
- ※ The operation after the time up is stopped by pushing the **RUN/STOP** switch. But, time is counted from the beginning by **RUN/STOP** switch is pushed once again because the timer setting is remembered (Even if the power switch or factor power supply is turned off).
- ※ About the cancellation of timer setting, please push the **TIMER** switch 1 time once again and please change S001 of **SET TEMP.** to ----.

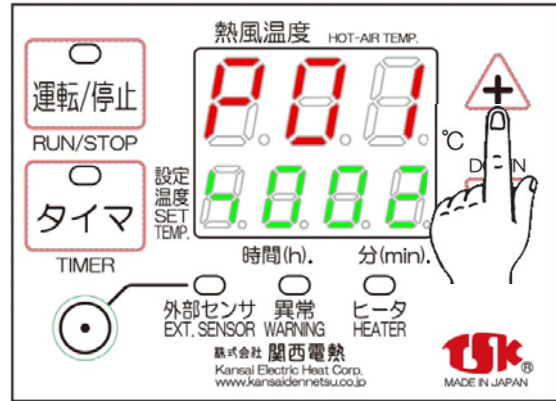
● *Timer stop*

- ① Please push **TIMER** switch 1 time in stoppage condition after setting the output temp. and gas volume

"P01" is displayed to **HOT-AIR TEMP.**, and "----" is displayed to **SET TEMP.**

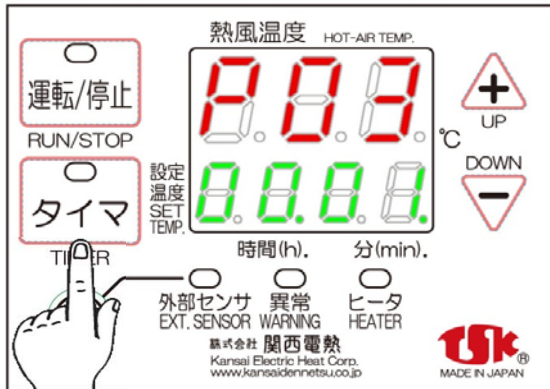


- ② Please change **SETTING TEMP.** to "S002" by the up down key.

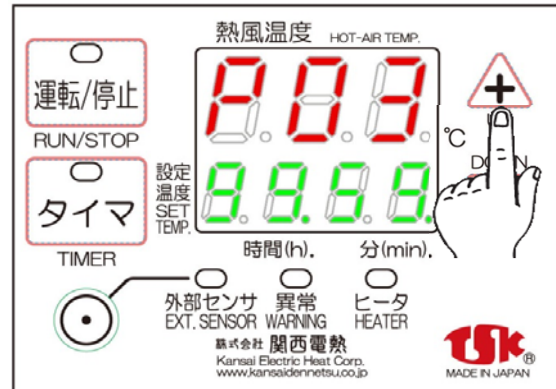


- ③ Please push **TIMER** switch 1 time once again.

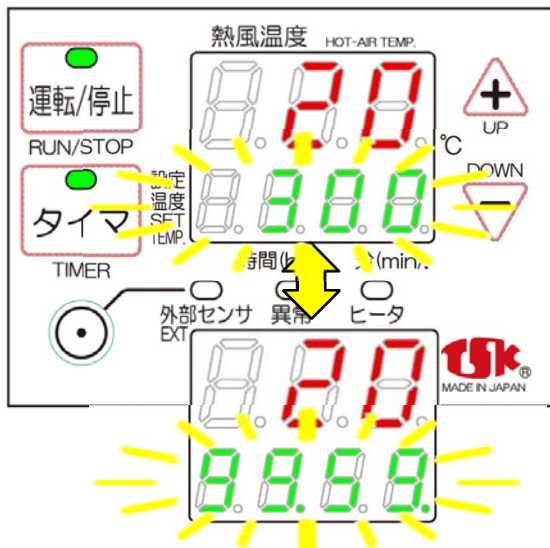
"P03" is displayed to **HOT-AIR TEMP.**, and "00.01." is displayed to **SET TEMP.**



- ④ Please set up optional time by the up down key.
Time can be set up until 99 hours 59 minutes



- ⑤ Please return to the display of usually operation condition by pushing **TIMER** switch 1 time and please start the timer operation by pushing **RUN/STOP** switch.



TIMER lamp (Green) is lighted at the time of stoppage. Setting temp. and timer time flicker alternately to **SET TEMP.** when timer operation was started. And, the time counting (reduction) is started. After time up, the hot-air operation is stopped.

- ※ *TIMER* lamp flickers at the time of the stop after time up.
- ※ Time counting is stopped if **RUN/STOP** switch is pushed during time counting. Time is counted from the beginning by **RUN/STOP** switch is pushed once again.
- ※ Please push **RUN/STOP** switch 1 time when timer operation is started once again. And, please start timer operation by pushing **RUN/STOP** switch after that the flickering of *TIMER* lamp changed to illumination is confirmed. And, time is counted from the beginning by **RUN/STOP** switch is pushed once again because the timer setting is remembered (Even if the power switch or factory power supply is turned off).
- ※ About the cancellation of timer setting, please push the **TIMER** switch 1 time once again and please change S001 of **SET TEMP.** to ----.

6. In the case that External sensor is used

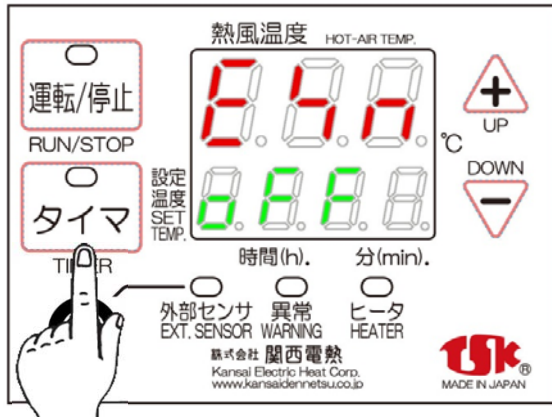
- Temp. of the place that parted can be controlled by the external sensor. Please set up after the external sensor KX350AJ is plugged to the external sensor socket of the operation panel, and fixes firmly by the band base and INSULOK which was belonged.

※ Please plug the external sensor after the yellow seal of the external sensor socket is peeled off.

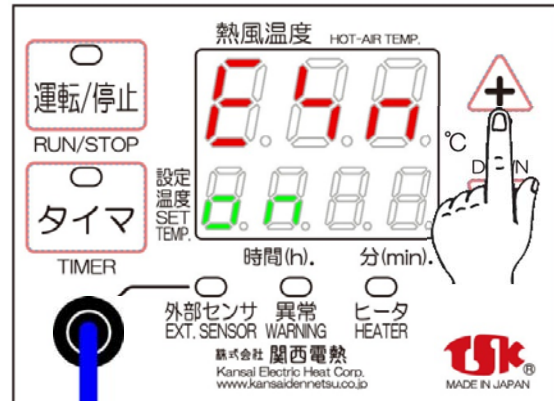
- Please use KX350AJ without fail to the external sensor.
- The hot-air temp. setting of SET TEMP. is the setting of the position of the external sensor, and . the hot-air temp. instruction of SET TEMP. is the temp. of the position of the external sensor when the external sensor was used.

- ① Please continue to push the TIMER switch for 2 seconds during stoppage.

"Esn". is displayed to HOT-AIR TEMP., "oFF" to SET TEMP.

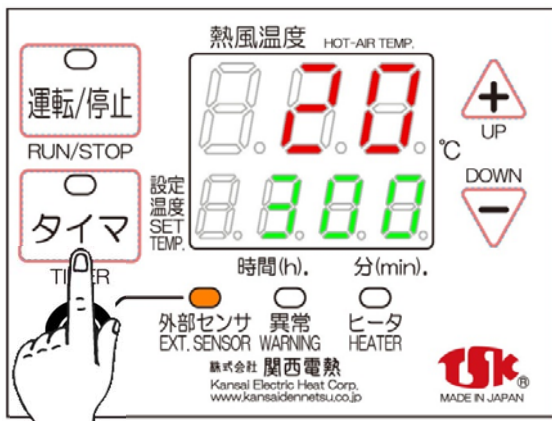


- ② Please change "oFF" to "on" by the up key.



- ③ Please push the TIMER switch two times once again. And, please start hot-air operation in the condition of usually operation.

At this time, EXT. SENSOR lamp (Orange) is lighted.



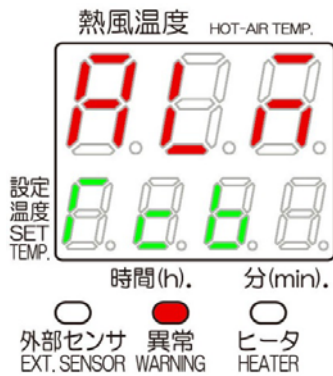
Abnormality of the external sensor snapping of a wire is displayed if external sensor setting is conducted without the external sensor is connected. Please refer to P6 about the cancellation method of this case.

7. Display of each abnormality

- Each abnormal content are displayed and operation is stopped when Multi-dryer is abnormality (Blow operation condition only inside temp. abnormality). Please resume operation by inputting POWER switch once again after abnormal contents are removed without fail. (Operation may be able to return by RUN/STOP switch about abnormal contents. And, only overheat for the heater case temp. perception is

① Overheat

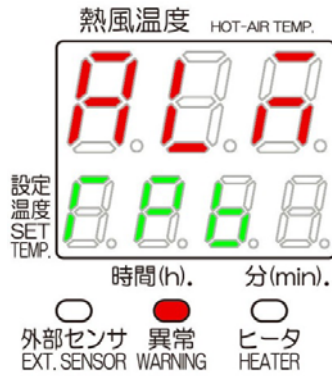
(For heater inside temp. perception)
 WARING lamp (Red) is lighted, and "ALM" is flickered to HOT-AIR TEMP., "Tcb" to SET TEMP. in the case that the heater inside became the abnormal high temp.



《Main cause》
 Clogging of the inlet filter, air-flow insufficient by the excessive resistance on the side of the outlet.

② Overheat

(For heater case temp. perception)
 WARING lamp (Red) is lighted, and "ALM" is flickered to HOT-AIR TEMP., "TPb" to SET TEMP. in the case that the heater case became the abnormal high temp.

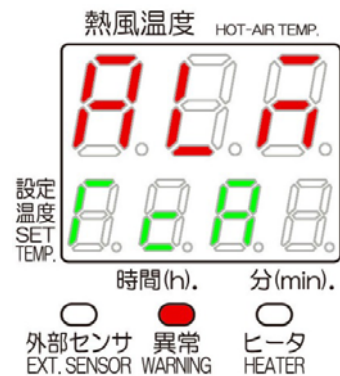


《Main cause》
 Supply stoppage of air volume by clogging of the inlet filter, the excessive resistance on the side of the outlet, and lock of the blower.

※ Please inquire to manual operation return.

③ Upper limit of the outlet temp.

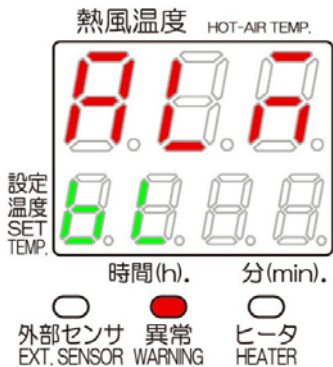
WARING lamp (Red) is lighted, and "ALM" is flickered to HOT-AIR TEMP., "Tca" to SET TEMP. in the case that outlet temp. exceeded the upper limit.



《Main cause》
 Clogging of the inlet filter, air volume insufficient by the excessive resistance on the side of the outlet. Or, upper limit temp. over of the outlet temp. at the time of external sensor is used.

④ Blower warning

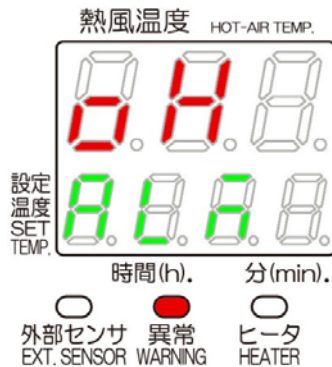
(Only HAS-35, 35F, 42, and 42K)
 WARING lamp (Red) is lighted, and "ALM" is flickered to HOT-AIR TEMP., "bL" to SET TEMP. in the case that the blower became the overload. (Negative phase of HAS-42, 42K are same.)



《Main cause》
 Wear of the bearing, abnormal voltage (Voltage other than the rating), the excessive resistance on the side of the outlet (At negativ phase of HAS-42, 42K).

⑤ Inside temp. warning

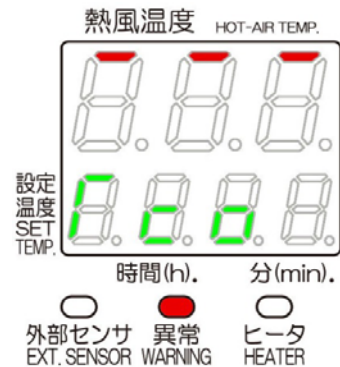
WARING lamp (Red) is lighted, and "oH" is flickered to HOT-AIR TEMP., "ALM" to SET TEMP. in the case that inside temp. of Multi-dryer is more than 65 °C.



《Main cause》
 Establishment ambient temp. is high, inverse current to operation panel inside of the hot-air that leaked from the outlet, influence of the oven radiation by the establishment to the oven upper part.

⑥ External sensor barn out

WARING lamp (Red) is lighted, and "—" is flickered to HOT-AIR TEMP., "Tco" to SET TEMP. in the case that the external sensor snapped when the external sensor of the option is used.



《Main cause》
 Snapping of a wire of the external sensor, snapping of a wire of the external sensor compensating wire, connection defective, and unconnection etc.

※ It can return by RUN/STOP switch after the improvement of the external sensor faulty.

Attention : Please block the source power supply (factory power supply) without fail when the wiring is confirmed and readjusted at the time of abnormal.

8. Maintenance inspection

Inspection of the inlet filter

The filter is equipped to the inlet of Multi-dryer. Please inspect the filter of the inlet always, and please clean periodically. Heater case inside becomes the abnormal high temp. and overheat or temp. warning is occurred if the filter are clogged.

Individual inspection

I recommend that is carried out the individual inspection in the case that the use period exceeded 10 years to have this machine used more safely.

【Item of the individual inspection】

- Measurement of the insulation resistance value
- Increase bundle inspection of each terminal unit
- Foreign substance mixing inspection and cleaning inside the controller
- Foreign substance mixing inspection and cleaning inside this machine and inlet
- Action of the electricity part and generation inspection
- Measurement of the heater current value
- Other inspection by eyes

Please ask to the adjacent electricity businessman about the individual inspection.

Attention Please do not carry out the insulation resistance voltage test of this machine. (It gets finished enforcement at the time of shipment.) It becomes the cause of malfunction.

Inquiry regarding the hot-air generator

Homepage ***www.kansaidennetsu.co.jp***

or,

E-mail ***sales@kansaidennetsu.co.jp***