

SHD-E

“Standard” Hopper Dryer

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Version: Ver. D



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1. General Description

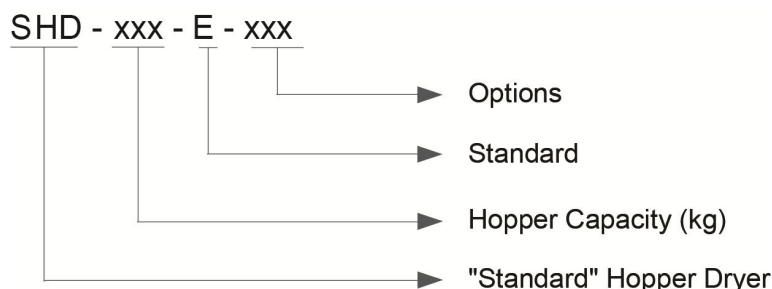


Please read through this operation manual before using the machine to prevent damages of the machine or personal injuries.



Picture 1-1: SHD-50E

1.1 Coding Principle



1.2 Feature

- 1) Adopt hot air diffuser to keep plastics dry and temperature stable, thus improve drying efficiency.
- 2) All material contact surfaces are made of stainless steel to eliminate material contamination.
- 3) All models are equipped with external power switch.
- 4) For SHD-25~150, heater pipes are connected by lead sheets and other models are equipped with temperature protector to prevent heater pipe from damaging by blower fault.
- 5) When the actual drying temp. exceeds the set value, the system will cut off the heater power automatically, and the alarm light will flicker and alarm.
- 6) Adopt heat-insulated blower to prolong blower lifespan.
- 7) All models standard equipped with 7-day timer and intermittent operation
- 8) The whole series of models are equipped with the microcomputer control.
- 9) Max. drying temperature is 160°C.
- 10) The series of blowers are equipped with overheat protector.

1.2.1 Options

- 1) For high temp. (180°C) models, add "H" at the end of the model code (applicable to SHD-12E~200E)
- 2) The option of magnetic base is available, add "M" at the end of the model code.
- 3) Optional RS485 interface is available, add "C" at the end of the model code.
- 4) For models optional with 24V microcomputer, RS485 interface and three color alarm light, add "A" at the end of the model code.

The option of insulated hopper is available, add "I" at the end of the model code.

All service work should be carried out by a person with technical training or corresponding professional experience. The manual contains instructions for both handling and servicing. Chapter 5, which contains service instructions intended for service engineers. Other chapters contain instructions for the daily operator.

Any modifications of the machine must be approved by SHINI in order to avoid personal injury and damage to machine. We shall not be liable for any damage caused by unauthorized change of the machine.

Our company provides excellent after-sales service. Should you have any problem during using the machine, please contact the company or the local vendor.

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Table 1-1: Dryer drying capacity(kg/hr)(Selection guide)

Mo del Material	SHD- 12E	SHD- 25E	SHD- 50E	SHD- 75E	SHD- 100E	SHD- 150E	SHD- 200E	SHD- 300E	SHD- 400E	Actual Drying Time	Drying Temp.
Polystyrene	8	20	50	75	100	150	200	300	400	0.75hrs	80°C
Polyethylene	8	20	50	75	100	150	200	300	400	0.75hrs	80°C
Polypropylene	8	20	50	75	100	150	200	300	400	0.75hrs	80°C
Polyethylene (EPR)	6	14	38	57	80	115	150	225	300	1hrs	80°C
ABS	4	8	20	30	40	60	80	120	160	1hrs	80°C
Nylon (Nylon)11,12	2	4	10	13	20	27	35	60	80	4hrs	75°C
(Nylon)6,6,6/10	1.5	3.2	8	11	16	22	30	45	65	5hrs	75°C
(Nylon) 6	1	2	5	7	10	15	20	35	50	7hrs	75°C
Acrylic fiber	2.5	6	12	22	30	45	60	100	140	2.5hrs	80°C
Cellulose acetate	2.5	6	17	26	35	52	70	110	150	2.25hrs	75°C
Butyrate	4	10	25	37	50	75	100	160	220	1.5hrs	-
Polycarbonate	1.5	4	10	15	20	30	40	75	90	3hrs	120°C
Rigid PVC	5	12	30	45	60	90	120	185	250	1.25hrs	70°C

Notes:Based on relative humidity 65% with ambient temperature of 20°C,moisture content after drying can be 0.2% or less.

1.3 Safety Regulations



Note:

Electrical installation should be done by qualified electrician only.

Before connecting to AC Power Source, turn power switch to OFF position. While AC power source is connected, make sure specifications and overload protection rating of the power switch are suitable and reliable. When the machine is under care or maintenance, turn off both power switch and automatic operation switch.

1.3.1 Safety Signs and Labels



Danger!

High pressure!

It is attached to the control box.



Warning!

High temperature surface may burn hands!

It is attached on the cover of pipe heater.



Attention!

This mark reminds you to be more careful!



Warning!

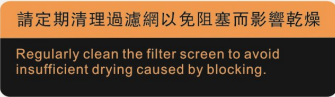
High temperature surface may burn hands!

This label should be stick to the shell of electric heating box.

1.3.2 Sign and Labels

Table 1-2: Label Description

Label	Description
	Protection device activates when overheat occurs; After faults are discharged, press blue key to reset and turn on the switch to restart.

	Push-and-pull switch for shut-off plate: I: Means "Pull" O: Means "Push"
	Regularly clean the filter screen to avoid insufficient drying caused by blocking.

1.4 Exemption Clause

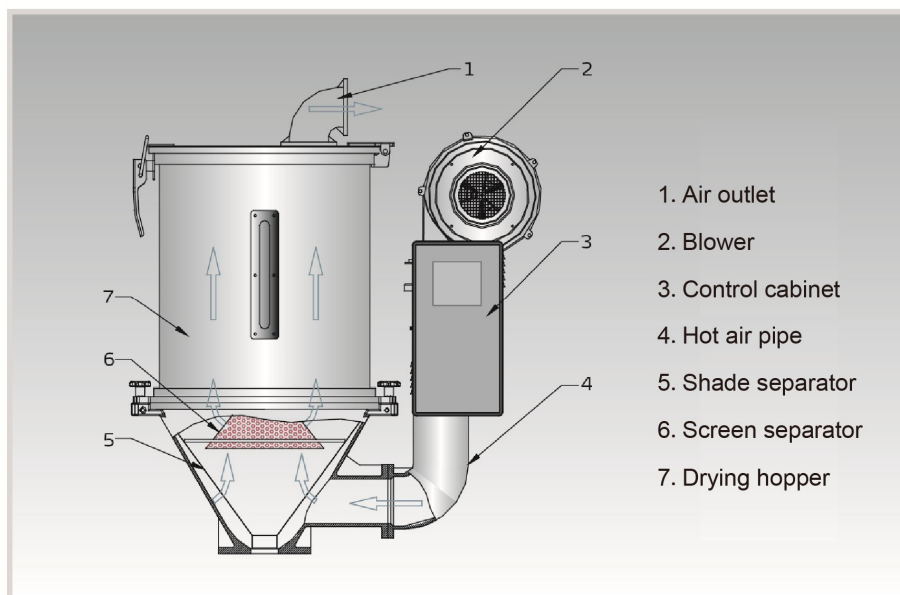
The following statements clarify the responsibilities and regulations born by any buyer or user who purchases products and accessories from Shini (including employees and agents).

Shini is exempted from liability for any costs, fees, claims and losses caused by reasons below:

1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible natural disasters including fire, flood, storm and earthquake.
3. Any operational actions that are not authorized by Shini upon machine, including adding or replacing accessories, dismantling, delivering or repairing.
4. Employing consumables or oil media that are not appointed by Shini.

2. Structure Characteristics and Working Principle

2.1 Working Principle



Picture 2-1: Working principle

In the drying process, hot air with constant temperature is blown by the drying blower of SHD-E. After drying, moisture will be separated out and taken away by hot air, thus to gain a satisfied drying effect. Air blown out of blower via pipe heater became high temperature drying air after being heated. Through shade separator and screen protector, hot air can be evenly dispersed to the material in drying hopper (see picture). Hot air recycler is optional so the air entered drying blower after being filtered by return air will get into the drying blower to form a closed loop circle, which saves electricity.

2.2 Options(Purchased Separately)

2.2.1 Magnetic Base

Table 2-1: Configuration Table



Model	Applied to
MB-12EB	SHD-12E
MB-50	SHD-25E~75E
MB-100EB	SHD-100E~150E
MB-200EB	SHD-200E~300E
MB-400EB	SHD-400E

Made of aluminum with built-in hopper magnet, can effectively separate metal scraps out to avoid material contamination and protect the screw.

2.2.2 Hot Air Recycler

Table 2-2: Configuration Table



Model	Filtering Barrel Dia. (mm)	Inlet Air Pipe Dia. (inch)	Flange of Air Outlet (inch)	Applied to
HAR-12	157	2		SHD-12E
HAR-25EB	157	2.5		SHD-25E
HAR-50	177	3		SHD-50E/75E
HAR-100EB	219	3		SHD-100E/150E
HAR-200EB	249	4		SHD-200E/300E
HAR-400EB	221	4		SHD-400E

Work with hopper dryer to make the hot air form a semi-closed circulated loop and has features as follows:

- 5) Hot air recycling and circulating avoids indoor temperature rising up.
- 6) Keep air in factory clean and ensure good product quality.
- 7) Heating by fast hot air circulation can lower energy consumption by 40%.

2.2.3 Air Filter

Table 2-3: Configuration Table



Model	Applied to
ADC-1	SHD-12E
ADC-2	SHD-25E~150E
ADC-3EB	SHD-200E ~400E

Effectively filter 99% of dust-contain air discharged from dryer to avoid air pollution.

2.2.4 Blower Inlet Filter

Table 2-4: Configuration Table



Model	Filtering Barrel Dia. (mm)	Overall height (mm)	Applied to
AIF-12	157	195	SHD-12E
AIF-25EB	157	195	SHD-25E
AIF-50	177	201	SHD-50E/75E
AIF-100EB	219	191	SHD-100E/150E
AIF-200EB	249	268	SHD-200E~300E
AIF-400EB	221	380	SHD-400E

Notes: refill air input of the blower is adjustable.

2.2.5 Hopper Magnet



Model	Applied to
MR-5	SHD-12E
MR-7	SHD-25E/50E/75E
MR-9	SHD-100E/150E/200E/300E/400E

Absorb metal scraps in the material to avoid the damage of molding screw.

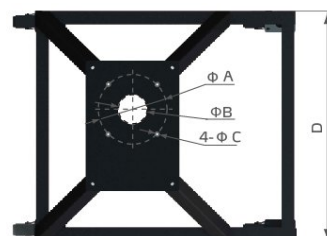
2.2.6 European Suction Box/Shut-off Suction Box



Model \ Applied	SHD-12E~75E	SHD-100E~400E
SBU	-20-38S	-160-38S
SBU	-20-50S	-160-50S
SBU	-20-38D	-160-38D
SBU	-20-50D	-160-50D

- Notes: 1) Install pneumatic shut-off valve (Add "V" at the end of the model code.)
 2) Change into stainless steel material (Add "S" at the end of the model code.)
 3) Stainless steel polishing (Add "P" at the end of the model code.)
 4) "S" stands for single tube suction box and "D" stands for double tubes suction box.
 5) It must use with the floor stand.

2.2.7 N-Type Floor Stand



Model	Applied to	Dimension H×W×D(mm)	A / B / C (mm)
FSN-50	SHD-12E~75E	600×700×640	140/54/ 9
FSN-100	SHD-100E/150E	615×800×710	210/90/11
FSN-200	SHD-200E/300E	680×1000×840	210/90/11
FSN-400	SHD-400E~600E	700×1200×1010	260/116 /13

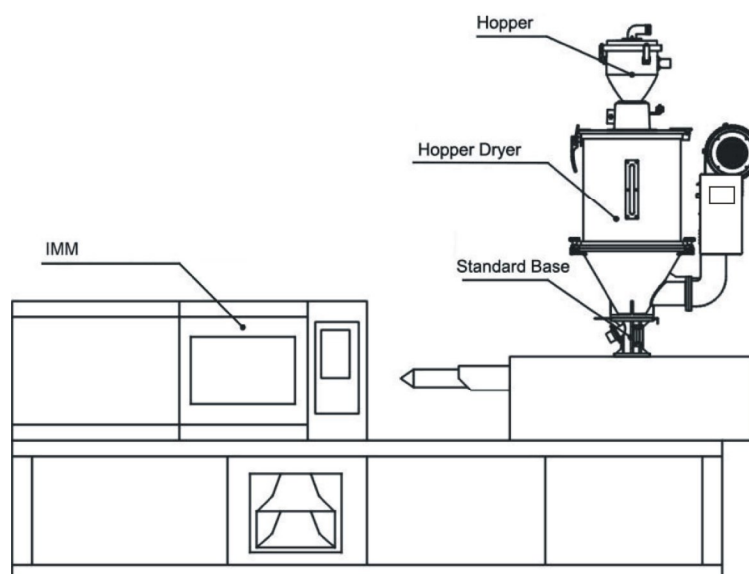
With which machines can be easily moved out of workplace which is suitable for the factories with height limited workshops and also it can make operations more convenient. The N-type floor stand can replace any machine that is applicable to the SHD-E series.

3. Installation and Debugging

Notes for Installation and Positioning:

- 1) Machine just can be mounted in vertical position. Make sure there's no pipe, fixed structure or other objects above the installing location and around the machine which may block machine's installation, hit objects or injure human person.
- 2) In order to maintain convenient operation, it's suggested to keep 1m space around the machine. Please keep at least 2m distance between the device and the inflammable goods.
- 3) This series of models only could be applied in working environment with good ventilation.

3.1 Direct Installation



Picture 3-1: Direct Installation

Direct installation type is to mount the hopper dryer directly on the injection molding machine via a standard base.

When using the method to mount the dryer, the equipped standard base must according to material inlet diameter of the molding machine mounting drill holes. Then use the screw to fasten the base and the molding machine inlet.

3.2 Power Connection

- 1) Make sure the voltage and frequency of the power source comply with those indicated on the manufacturer nameplate that attached to the machine.
- 2) Power cable and earth connection should conform to your local regulations.
- 3) Use independent electrical wires and power switch. Diameter of electrical wire should not be less than those used in the control box.
- 4) The power cable connection terminals should be tightened securely.
- 5) This series power adopts three phase five wire, the power (L1,L2,L3) is connected to the firing line, N is connected to the zero wire, and PE is connected to the earth wire.
- 6) Power supply requirements:
Main power voltage: +/- 5%
Main power frequency: +/- 2%
- 7) ***Please refer to the circuit diagram of each model for specific power access specifications.***

Note: Keep 2m distance between the machine and flammable materials.

Note: Before connecting the power, turn the main power switch to "OFF" state, and the heater switch on dryer's control box to "OFF" state.

3.3 The Hopper Dryer Test

After ensuring all the circuits have been connected firmly, turn on the main switch to "ON" status, and observe whether the rotating direction of the blower is same as the arrow indicated direction. If it is not, randomly exchange two of the three power firing lines and connect them firmly.



Picture 3-2: Blower

3.4 Installation of the Options

3.4.1 Installation of Air-Exhaust Filter

If the materials contain dust or to avoid the dust-contain air exhausted by dryer polluting the workshop's environment. Option with air-exhaust filter ADC can filter the exhausted air from the dryer. ADC can reach filter efficiency of 99%.

ADC is installed on air-exhaust elbow of the dryer. Point it to the installed holes then tighten up the screws, use rubber ring to seal the combined place.



Picture 3-3: Left Air-exhaust elbow of dryer Right: Air-exhaust filter

3.4.2 Suction Box Installation



Picture 3-4: European suction box

When SHD-E is mounted on the floor stand, suction box should be equipped, so as to convey the dried plastic material conveniently. The installation of European suction box and shut-off suction box is simple. Install them at bottom of the hopper, point to the holes and tighten up the screws.



Picture 3-5: Shut-off suction box

3.4.3 Blower Inlet Filter Installation

When dryers in the dust-contain environment or hot air requires high cleanliness, it can option with AIF blower inlet filter.



Picture 3-6: Right: AIF blower inlet filter

Installing AIF at blower inlet port when installing it, firstly loosen screws of the blower inlet screen, take down the screen; Then install the AIF at blower inlet port, point to the holes and tighten up the screws.

3.4.4 Hot Air Recycler Installation

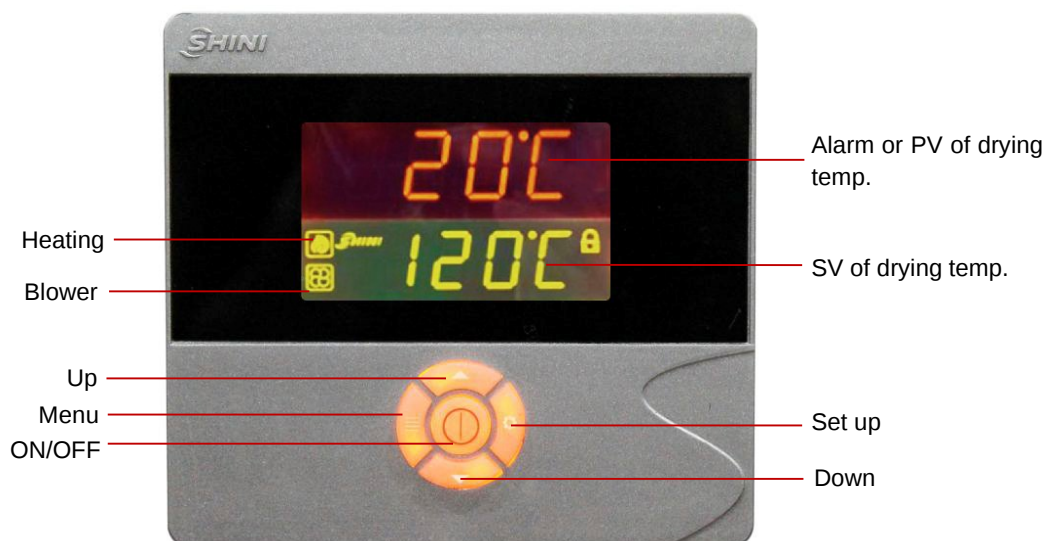
Based on AIF blower inlet filter, using a hear-resistance pipe to connect the hopper exhausting air to AIF. Thus to form a hot air recycler. By recycling the hot air can at most save energy consumption by 40%.



Picture 3-7: HAR Hot air recycler

4. Operation Guide

4.1 Control Panel



Picture 4-1: Control Panel

4.1.1 Panel Operation

- 1) Turn on main switch of control box.
- 2) Press "ON/OFF" key, it starts drying process, indicator turns green.
- 3) Press "ON/OFF" key again, it stops drying process, indicator turns yellow.

4.1.2 Temperature Setting

- 1) The setup number will flicker after pressing "Setting" key, add or decrease temperature by pressing "Up" or "Down" key.
- 2) Press "Setting" key again to confirm the input value.

4.1.3 Temperature Lock

- 1) Press "menu" key for 2 seconds, it displays "TIME".
- 2) Press "Up" key repeatedly, till it display "LOCK";
- 3) Press "Setting" key, the set value flickers, press "Up" or "Down" key to select "YES" (lock temperature setting) and "NO" (don't lock).
- 4) Press "Setup" key to confirm the input value.

- 5) Press “Menu” key to return operation menu.

Notes: When “LOCK” is set as “YES, temperature setting value will be locked which not accessible to change.



Picture 4-2: Temperature Lock

4.1.4 PID Setting

- 1) Press both “Menu” and “Down” keys for 3 seconds, it shows “P” (proportion) setting;
- 2) Press “Setting” key, the set value flickers, then press “Up” or “Down” key to add or decrease the value.
- 3) Press “Setting” key to confirm the input value.
- 4) Press “Up” key again and again, it displays “I” (integral time) and “D” (differential time) setting accordingly.
- 5) Repeat above step 2 and step 3, input and confirm related parameters.
- 6) Press “Menu” key, it returns operation menu.

Notes: The PID parameter will directly influence the effect of temperature control, please be careful to set the value!

Table 4-1: PID Setting Parameter

Parameters	Codes	Factory Default
Proportion	P	40
Integral time	I	140
Integral time	D	20
Over-temp alarm	OTP	15°C
Control cycle	HCLE	20
Blower delay	FDLY	180
Temp. unit	UNIT	°C

4.1.5 Intermittent Operation Setting

- 1) Hold “Menu” for about 2 secs. to set current time and week. Press “Up” or “Down” key to set start/stop function of AUTO timer, the time for RONE intermittent operation, the OFF time of ROFF intermittent operation, the ON time of RON intermittent operation.

4.1.6 One-week Timing Setting

- 1) After current time is set, hold “menu” for about 5 secs, press “Up” or “Down” key to set OFF1 (Mon. off time), OFF2(Tues. off time), OFF3 (Wed. off time), OFF4(Thur. off time), OFF 5(Fri. off time), OFF6(Sat. off time), OFF7(Sun.off time).
- 2) Hold “Menu” for about 7S, press “Up” or “Down” key to set ON1(Mon. start time), ON2(Tues. start time), ON3(Wed. start time), NO4(Thur. start time), ON5(Fri. start time), ON6(Sat. start time), ON7(Sun. start time).

4.1.7 Communication Setting (optional functions)

- 1) Press both “Menu” key and “Up” key for 3 seconds, it displays “PRO” (communication protocol) setting.

Notes: Communication protocol is fixed to Modbus RTU protocol—“RTU”.

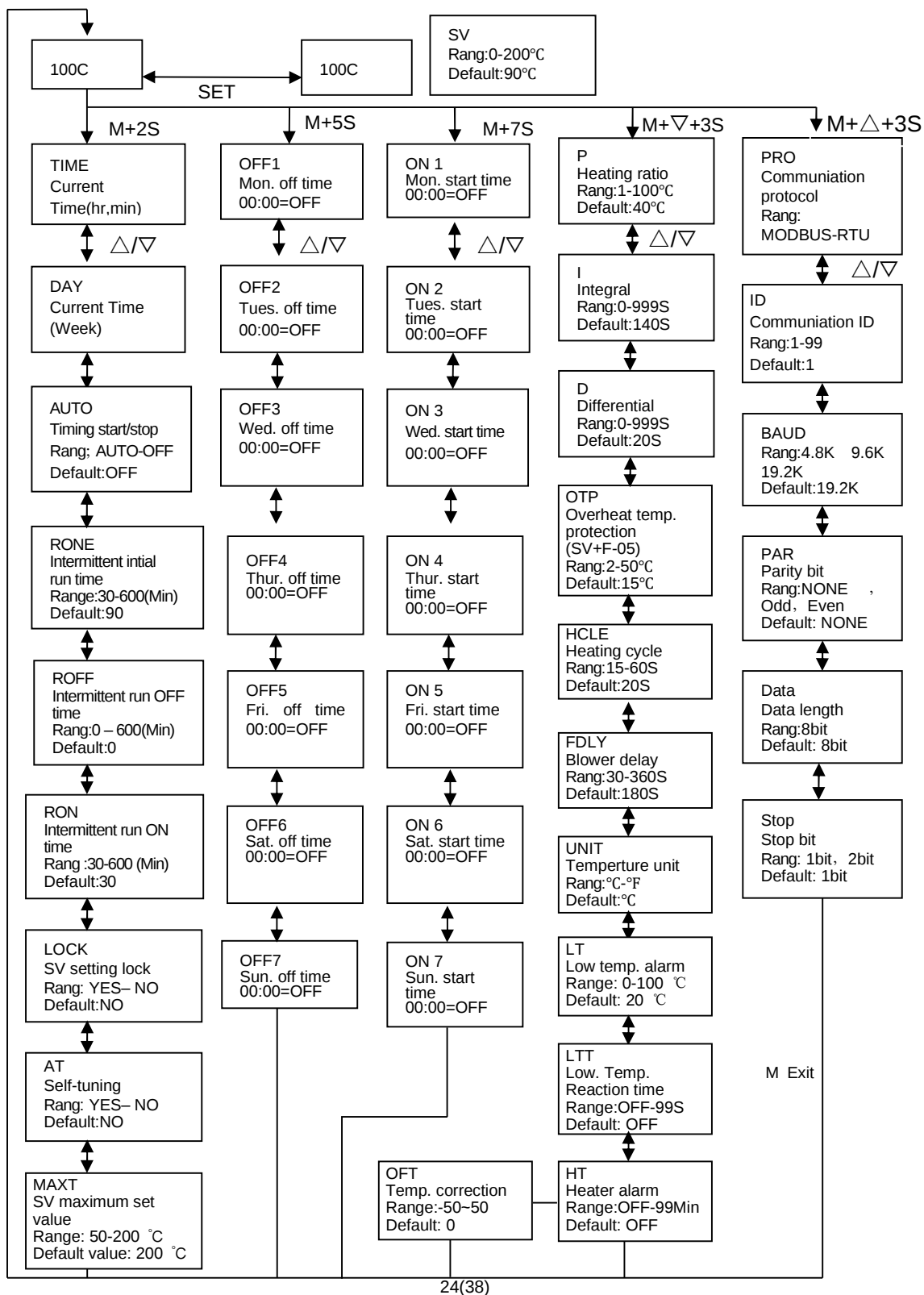
- 2) Press “Up” key to enter “ID” (communication address) setting;
- 3) Notes: The communication address of every controller in the same system must be the only one, no repeat use. In principle: communication address of hopper 1 is 1, communication address of hopper 1 is 2, and so on.

- 4) Press “Setup” key, the set value flickers, then press “Up” or “Down” key to add or decrease the value.
- 5) Press “Setting” key to confirm the input value;
- 6) Press “Up” key again and again, it displays “Baud” and “PAR” settings, (as below)
- 7) Repeat step 3 and step 4, then confirm the related input parameters.
- 8) Press “Menu” key to return operation menu.

Table 4-2: Communication Setting Parameter

Communication Parameters	Communication Codes	Factory Default
Communication Protocol	PRO	RTU
Communication Address	Id	1(current address)
Baud Rate	Baud	19.2K
PAR	PAR	none
Data Length	Data	8
Stop Bit	Stop	1

4.1.8 Operation Flow



4.1.9 Wrong Codes Remark



Picture 4-3: Wrong Codes Remark

Table 4-3: Error Code Description

Wrong Codes	Remark
bR	Thermocouple break
oH	Overheat
REV	Temperature sensor reversely connected
oL	Overload
bAT	Battery error
EGO	EGO Over-temp
xATx	Auto-turning error
LT	Low temperature
HT	Heating alarm

4.2 Controller Parameter Address Table

Table 4-4: Controller Parameter Address

Indication	Item	Initial Value	Setting Range	Unit	Remarks
User parameters (open): Press the “Menu” button for two seconds to enter the main interface. Press the “Up” or “Down” button to check or modify the parameter, and press the “Set” button to enter modification or confirmation, and press “Menu” key to exit.					
TIME	current time	/	00:00~23:59		
WEEK	current week	/	1~7		
AUTO	Timing on/off function	OFF	AUTO-OFF	sec.	OFF: preset timing function

					is disabled. AUTO: preset timing function is enabled.
RONE	Initial running time of the intermittent operation	90	30-600	min.	
ROFF	Intermittent running OFF time	0	0-600	min.	0: intermittent function is disabled. Non-0: intermittent function is enabled.
R ON	Intermittent running ON time	30	30-600	min.	
LOCK	SV set lock	NO	NO~YES		NO: The set temperature can be modified on the main interface promptly. YES: The set temperature can't be modified on the main interface promptly.
AT	Auto-tuning	NO	NO~YES		Visible in operation.
MAXT	Set maximum value of the drying temperature	200	50-200	°C	
Shutdown time parameter (open): Press the "Menu" button for 5 seconds to enter the main interface. Press the "Up" or "Down" button to check or modify parameters, press the "Set" button to enter modification or confirmation, and press the "Menu" button to exit.					
OFF1	Mon. timing OFF time	00:00	00:00~23:59	Time: min.	When the time is set to 00:00, the timing OFF function is disabled.
OFF2	Tues. timing OFF time	00:00	00:00~23:59	Time: min.	
OFF3	Wed. Timing OFF time	00:00	00:00~23:59	Time: min.	
OFF4	Thus. timing OFF time	00:00	00:00~23:59	Time:	

				min.	
OFF5	Fri. timing OFF time	00:00	00:00~23:59	Time: min.	
OFF6	Sat. timing OFF time	00:00	00:00~23:59	Time: min.	
OFF7	Sun. timing OFF time	00:00	00:00~23:59	Time: min.	

Start time parameter (open):

Press the "Menu" button for 7 seconds to enter the main interface. Press the "Up" or "Down" button to check or modify parameters, press the "Set" button to enter modification or confirmation, and press the "Menu" button to exit.

ON 1	Mon. timing ON time	00:00	00:00~23:59	Time: min.	When the time is set to 00:00, the timing ON function is disabled.
ON 2	Tues. timing ON time	00:00	00:00~23:59	Time: min.	
ON 3	Wed. timing ON time	00:00	00:00~23:59	Time: min.	
ON 4	Thus. timing ON time	00:00	00:00~23:59	Time: min.	
ON 5	Fri. timing ON time	00:00	00:00~23:59	Time: min.	
ON 6	Sat. timing ON time	00:00	00:00~23:59	Time: min.	
ON 7	Sun. timing ON time	00:00	00:00~23:59	Time: min.	

Comm. Parameter (open):

Press the "Menu"+"Down" button for 3 seconds to enter the main interface. Press the "Up" or "Down" button to check or modify parameters, press the "Set" button to enter modification or confirmation, and press the "Menu" button to exit.

PRO	Comm. protocol	Rtu	Rtu		
ID	Comm. ID	1	1~99		
BAUD	Baud rate	19.2K	4.8K/9.6K/19.2K		

PAR	Check bit	NONE	NONE/ODD/ EVEN		
Data	Data length	8	8		
Stop	Stop bit	1	1~2		
Manufacturer parameter (non-open): Press the "Menu"+"Down" button for 3 seconds to enter the main interface. Press the "Up" or "Down" button to check or modify parameters, press the "Set" button to enter modification or confirmation, and press the "Menu" button to exit.					
P	Heating proportional band	40	1~200	°C	
I	Integral	120	1~3600s	sec.	
D	Differential	20	1~3600s	sec.	
OTP	Overheat protective temp.	15	2~50	°C	
HCLE	Heating start cycle	20	1~60	sec.	
FDLY	Blower delay stop time	180	30~360s		
UNIT	Temp. Unit	°C	°C~°F		
LT	Low temp. Alarm	20	0~100	°C	
LTT	Low temp. reaction time	OFF	OFF~99	sec.	
HT	Heating alarm	OFF	OFF~99	min.	
OFT	Temperature compensation	0	- 50~50	°C	

5. Troubleshooting

Table 5-1: Common Faults and Troubleshootings

Fault	Possible Reasons	Solution
Blower rotating on the contrary with arrow	Blower circuit connection reverse phase.	Exchange two of the electrical wires.
Blower not turning	1. Motor fault. 2. Failures of solenoid switch.	1. Check and change. 2. Change or repair.
Blower not rotating and not heating	1. Overload jumped. 2. Transformer fault. 3. Fuse melted. 4. Power supply fault.	1. Check and change. 2. Check and change. 3. Check and change. 4. Check if lack of phase.
No temperature for blower runs while	1. Lead sheet of heater pipe melted. 2. Magnetic switch fault. 3. Heater fault. 4. Controller fault. 5. Thermocouple fault.	1. Check and change. 2. Check and change. 3. Check and change. 4. Check and change. 5. Change.
The blower can run but temperature is too low	1. Lead sheet of heater pipe fault. 2. EGO broken. 3. Magnetic switch is lack of phase. 4. Controller is damaged .	1. Check and change. 2. Check or re-set. 3. Check and change. 4. Change the temperature controller.
The blower can run but temperature is too high	1. Hot-air pipe is jam. 2. Controller is fault. 3. Magnetic switch contacts stuck up.	1. Cleaning. 2. Change the controller or adjust PID. 3. Change.



Notes: Before inspecting or changing spare parts, make sure the main switch should be off.

6. Maintenance and Repair

6.1 Blower

- 1) Clean the blower regularly (especially the air inlet path) to remove the dust on surface.
- 2) Eliminate the blower's dirt regularly to avoid the blower damage.



Note: No need for regular inspection because all the electrical parts in the control unit are fixed tightly!

6.2 The Service Life of the Key Parts of the Product

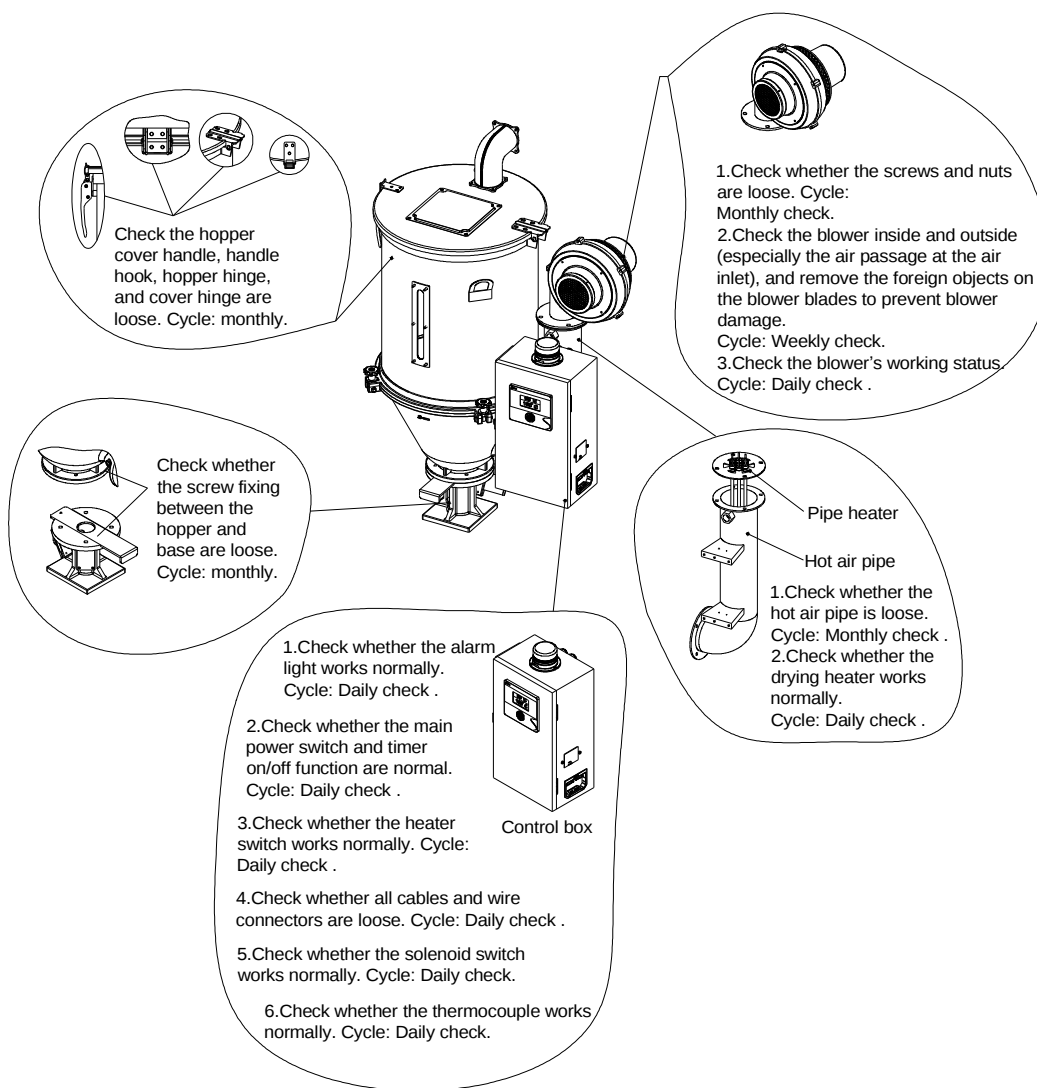
Table 6-1: The Service Life of the Key Parts of the Product

No.	Name of the Parts	Useful Life
1	Blower	Above 3 years
2	Pipe Heater	Above 1 year
3	Circuit Board	Above 3 years
4	Contactor (heater)	Above 500,000 act

Notes:

- 1) For the AC contactor, if the machine works for no more than 8 hours per day, it's recommended to replace it once a year; if the machine works for more than 12 hours per day, it's recommended to replace it every six months.
- 2) Above service life is theoretical. In case of failure, please replace it promptly to avoid any losses.

6.3 Repair and Maintenance



Notice !

- 1) Turn off the main power switch and control switch, and remove the plug before repair and maintenance.
- 2) Make sure not to change the power cable or disassemble the electrical components inside the control box.
- 3) Conduct circuit inspection and maintenance according to the circuit diagram of the manual.
- 4) The circuit repair and maintenance must be handled by a professional electrician.

6.4 Maintenance Schedule

6.4.1 General Machine Information

Model _____ SN _____ Manufacture Date _____

Voltage ____ Φ ____ V Frequency _____ Hz Power _____ kW

6.4.2 Installation and Inspection

- ☐ Check whether the space around the machine is enough.
- ☐ Check whether the fasteners are tightened firmly.

6.4.3 Electrical Installation

- ☐ Voltage: _____ V _____ Hz
- ☐ Fuse: 1 phase _____ A 3 _____ A
- ☐ Check the power phase sequence.
- ☐ Check whether the wiring is correct.
- ☐ Check whether the wiring is tightened.
- ☐ Check the blower running direction.

6.4.4 Daily Check

- ☐ Check the power on/off function.
- ☐ Check all the cables of the machine.

6.4.5 Weekly Check

- ☐ Check the connectors of electrical components are loose.
- ☐ Check whether the pipe heater works normally.

6.4.6 Monthly Check

- ☐ Check whether the indicator and buzzer work normally.

Appendix

Dryer Comm. Address Table (SHINI Standard)

Address Hold Register (40000+i) (Decimal System)	Functional Description	Read-write Type	Date Range	Unit	Remarks
1	Drying display temperature	Read Only	0~200	°C/°F	Actual display value of drying temperature: PV
4	Drying set temperature	Read Only	0~200	°C/°F	Set display value of drying temperature: SV
8	Current time (week)	Read Only	1~7	day	Current time (week)
9	Current time (hour)	Read Only	0~23	hour	Current time (hour)
10	Current time (min.)	Read Only	0~59	min.	Current time (min.)
13	Controller output status	Read Only	/	/	0: stop; 1: start
					Bit0 Power on status Bit8 Reserve
					Bit1 Timed power on/off status Bit9 Reserve
					Bit2 Intermittent operation status Bit10 Reserve
					Bit3 Temp. unit Bit11 Reserve
					Bit4 Heater status Bit12 Reserve
					Bit5 Blower status Bit13 Reserve
					Bit6 Trip status Bit14 Reserve
16	Alarm signal (Input signal)	Read Only	/	/	0: Stop; 1: Start
					Bit0 Temp. sensor breaks Bit8 Reserve
					Bit1 Overheat Bit9 Reserve
					Bit2 Reverse temp. sensor Bit10 Reserve
					Bit3 Overload input Bit11 Reserve
					Bit4 Dead battery Bit12 Reserve
25	Current count-down time (intermittent running)	Read Only	/	/	Bit5 EGO input Bit13 Reserve
					Current countdown time (intermittent operation)

26	Current timing (min.) (scheduled power on/off)	Read Only	0~59	min.	Current timing(hour) (scheduled power on/off)
27	Current timing (hour) (Preset power on/off)	Read Only	0~23	hour	Current timing(hour) (scheduled power on/off)
28	Blower current count-down time (sec.) (delayed shutdown)	Read Only	30~360	secs.	Blower delayed shutdown countdown time (S) after machine stop
103	Power on/off button	Read/ write	/	/	Power on/off button Writing 1(0x01) is equivalent to pressing the button once.
200	SV (temperature set value)	Read/ write	0~200	°C/°F	SV (temp. set value)
201	P	Read/ write	1~200	°C/°F	Controller parameter P
202	I	Read/ write	0~999	secs.	Controller parameter I
203	D	Read/ write	0~999	secs.	Controller parameter D
205	Heating on/off cycle	Read/ write	15~60	secs.	The cycle of PID controlling the heater on-off
207	SV set lock	Read/ write	0/1	/	SV set lock 0: OFF 1:ON
208	Blower delayed shutdown time	Read/ write	30~360	secs.	Blower delayed shutdown time after machine stop
209	Overheat protection temperature	Read/ write	2~50	°C/°F	Drying temp. - set temp. > protection action at the overheat protection temp.
502	Temp. unit	Read/ write	0/1	/	Temp. Unit: 0:°C 1:°F
603	Current time setting (week)	Read/ write	1~7	day	Current time setting (week)
604	Current time setting (hour)	Read/ write	0~23	hour	Current time setting (hour)
605	Current time setting (min.)	Read/ write	0~59	min.	Current time setting (min.)
613	Timed power-on/off enabling	Read/ write	0/1	/	Timing power on/off enabling 0:OFF 1:ON
614	First running time of the intermittent operation	Read/ write	30~600	min.	Drying operation when the machine starts for the first time, intermittent running ON time
615	Intermittent running OFF time	Read/ write	0~600	min.	Drying operation when the machine starts for the first time, intermittent running OFF time

616	Intermittent running ON time	Read/write	30~600	min.	After the machine's initial power-on drying time, the intermittent operation ON time
617	Mon. OFF time (min.)	Read/write	0~59	min.	Mon. OFF time (min.)
618	Mon. OFF time (hour)	Read/write	0~23	hour	Mon. OFF time (hour)
619	Tues. OFF time (min.)	Read/write	0~59	min.	Tues. OFF time (min.)
620	Tues. OFF time (hour)	Read/write	0~23	hour	Tues. OFF time (hour)
621	Wed. OFF time (min.)	Read/write	0~59	min.	Wed. OFF time (min.)
622	Wed. OFF time (hour)	Read/write	0~23	hour	Wed. OFF time (hour)
623	Thus.OFF time (min.)	Read/write	0~59	min.	Thus.OFF time (min.)
624	Thus.OFF time (hour)	Read/write	0~23	hour	Thus.OFF time (hour)
625	Fri. OFF time (min.)	Read/write	0~59	min.	Fri. OFF time (min.)
626	Fri. OFF time (hour)	Read/write	0~23	hour	Fri. OFF time (hour)
627	Sat. OFF time (min.)	Read/write	0~59	min.	Sat. OFF time (min.)
628	Sat. OFF time (hour)	Read/write	0~23	hour	Sat. OFF time (hour)
629	Sun. OFF time (min.)	Read/write	0~59	min.	Sun. OFF time (min.)
630	Sun. OFF time (hour)	Read/write	0~23	hour	Sun. OFF time (hour)
631	Mon. ON time (min.)	Read/write	0~59	min.	Mon. ON time (min.)
632	Mon. ON time (hour)	Read/write	0~23	hour	Mon. ON time (hour)
633	Tues. ON time (min.)	Read/write	0~59	min.	Tues. ON time (min.)
634	Tues. ON time (hour)	Read/write	0~23	hour	Tues. ON time (hour)
635	Wed. ON time (min.)	Read/write	0~59	min.	Wed. ON time (min.)
636	Wed. ON time (hour)	Read/write	0~23	hour	Wed. ON time (hour)
637	Thus. ON time (min.)	Read/write	0~59	min.	Thus. ON time (min.)
638	Thus. ON time (hour)	Read/write	0~23	hour	Thus. ON time (hour)
639	Fri. ON time (min.)	Read/	0~59	min.	Fri. ON time (min.)

		write			
640	Fri. ON time (hour)	Read/ write	0~23	hour	Fri. ON time (hour)
641	Sat. ON time (min.)	Read/ write	0~59	min.	Sat. ON time (min.)
642	Sat. ON time (hour)	Read/ write	0~23	hour	Sat. ON time (hour)
643	Sun. ON time (min.)	Read/ write	0~59	min.	Sun. ON time (min.)
644	Sun. ON time (hour)	Read/ write	0~23	hour	Sun. ON time (hour)

Dryer Comm. Address Table (National Standard: GB/T38687-2020)

Address Input Register (30000+i) (Decimal System)	Functional Description	Read-write Type	Date Range	Unit	Remarks
1	Machine status	Read Only	/	/	0: Invalid status; 1: Valid status
					Bit0 Standby status Bit8 Reserve
					Bit1 Running status Bit9 Reserve
					Bit2 Delayed shutdown status Bit10 Reserve
					Bit3 Fault status Bit11 Reserve
					Bit4 Reserve Bit12 Reserve
					Bit5 Reserve Bit13 Reserve
					Bit6 Reserve Bit14 Reserve
					Bit7 Reserve Bit15 Reserve
2	Switch input status	Read Only	/	/	0: Normal; 1: Input error
					Bit0 Blower overload input Bit8 Reserve
					Bit1 Overheat input Bit9 Reserve
					Bit2 Reserve Bit10 Reserve
					Bit3 Reserve Bit11 Reserve
					Bit4 Reserve Bit12 Reserve
					Bit5 Reserve Bit13 Reserve
					Bit6 Reserve Bit14 Reserve
					Bit7 Reserve Bit15 Reserve
3	Relay output status	Read Only	/	/	0: Close; 1: Start
					Bit0 Blower output Bit8 Reserve
					Bit1 Heater output Bit9 Reserve
					Bit2 Trip output Bit10 Reserve
					Bit3 Alarm output Bit11 Reserve
					Bit4 Reserve Bit12 Reserve
					Bit5 Reserve Bit13 Reserve
					Bit6 Reserve Bit14 Reserve
					Bit7 Reserve Bit15 Reserve
4	Fault information	Read Only	/	/	0: No fault; 1: Failure
					Bit0 Blower overload alarm Bit8 Reserve
					Bit1 Overheat protector alarm Bit9 Reserve
					Bit2 Overheat alarm Bit10 Reserve
					Bit3 Temperature protector error Bit11 Reserve
					Bit4 Heater failure alarm Bit12 Reserve

					Bit5	Low temperature alarm	Bit13	Reserve
					Bit6	Reserve	Bit14	Reserve
					Bit7	Reserve	Bit15	Reserve
5	Reserve	/	/	/	/			
6	Actual temperature value	Read Only	/	°C/°F	Actual temperature value of the dryer			
7	Accumulated running time (hours) of the equipment	Read Only	/	hour	Record the cumulative running time of the equipment			
8	Reserve	/	/	/	/			
9	Reserve	/	/	/	/			
Address Hold Register (40000+i) (Decimal System)	Functional Description	Read-write Type	Date Range	Unit	Remarks			
1	Temperature set value	Read/write	/	°C/°F	Temperature set value of the dryer			
2	Maximum temperature	Read/write	/	°C/°F	Define the maximum working temperature of the dryer			
3	Start / shutdown	Read/write	/	/	0: Shut down; 1: Startup			
4	Temperature unit	Read/write	/	/	0: The temperature unit is Celsius (°C) 1: The temperature unit is Fahrenheit(°F)			
5	Reserve	/	/	/	/			
6	Reserve	/	/	/	/			
7	Reserve	/	/	/	/			
8	Reserve	/	/	/	/			
9	Reserve	/	/	/	/			