

# **HA**

## **Hot Air Dryer**

Date: Dec. 2013

Version: Ver.A (English)





## Contents

<b>1. General Description .....</b>	<b>7</b>
1.1 Coding Principle .....	8
1.2 Features .....	8
1.3 Technical Specifications.....	10
1.3.1 Specifications .....	10
1.3.2 Outline Drawing .....	10
1.4 Safety Regulations .....	11
1.4.1 Safety Signs and Labels.....	11
1.5 Exemption Clause .....	12
<b>2. Structure Characteristics and Working Principle .....</b>	<b>13</b>
2.1 Function .....	13
2.1.1 Working Principle.....	13
2.2 Parts Drawing.....	14
2.2.1 Structural Drawing (HA-30~400) .....	14
2.2.2 Parts Drawing (HA-30~400) .....	15
2.2.3 Parts List (HA-30~400) .....	16
2.3 Electrical Diagram .....	17
2.3.1 Electrical Diagram (HA-30~400 230V).....	17
2.3.2 Main Circuit (HA-30~400 230V).....	18
2.3.3 Control Circuit (HA-30~400 230V) .....	19
2.3.4 Components Layout (HA-30~400 230V).....	20
2.3.5 Electrical Components List (HA-30~400 230V) .....	21
2.3.6 Electrical Diagram (HA-30~400 400V).....	27
2.3.7 Main Circuit (HA-30~400 400V).....	28
2.3.8 Control Circuit (HA-30~400 400V) .....	29
2.3.9 Components Layout (HA-30~400 400V).....	30
2.3.10 Electrical Components List (HA-30~400 400V) .....	31
2.4 Installation Diagram .....	37
2.4.1 Installed on the injection molding machine with heat preservation hopper. ....	37
<b>3. Maintenance and Repair .....</b>	<b>38</b>

3.1 Blower .....	39
3.2 Maintenance Schedule.....	39
3.2.1 General Machine Information .....	39
3.2.2 Installation & Inspection.....	39
3.2.3 Daily Checking.....	39
3.2.4 Weekly Checking.....	39
3.2.5 Monthly Checking .....	39
3.2.6 Half-yearly Checking .....	40

### Table Index

Table 1-1: Specifications.....	10
Table 2-1: Parts List (HA-30~60) .....	16
Table 2-2: Parts List (HA-100~400) .....	16
Table 2-3: Electrical Diagram (HA-30~400 230V).....	17
Table 2-4: Electrical Components List (HA-30 230V).....	21
Table 2-5: Electrical Components List (HA-40 230V).....	22
Table 2-6: Electrical Components List (HA-60 230V).....	23
Table 2-7: Electrical Components List (HA-100 230V).....	24
Table 2-8: Electrical Components List (HA-200 230V).....	25
Table 2-9: Electrical Components List (HA-400 230V).....	26
Table 2-10: Electrical Diagram (HA-30~400 400V).....	27
Table 2-11: Electrical Components List (HA-30 400V).....	31
Table 2-12: Electrical Components List (HA-40 400V).....	32
Table 2-13: Electrical Components List (HA-60 400V).....	33
Table 2-14: Electrical Components List (HA-100 400V).....	34
Table 2-15: Electrical Components List (HA-200 400V).....	35
Table 2-16: Electrical Components List (HA-400 400V).....	36

### Picture Index

Picture 1-1: Outline Drawing .....	10
Picture 2-1: Working Principle.....	13

Picture 2-2: Structural Drawing (HA-30~400).....	14
Picture 2-3: Parts Drawing (HA-30~400).....	15
Picture 2-4: Main Circuit (HA-30~400 230V).....	18
Picture 2-5: Control Circuit (HA-30~400 230V).....	19
Picture 2-6: Components Layout (HA-30~400 230V).....	20
Picture 2-7: Main Circuit (HA-30~400 400V).....	28
Picture 2-8: Control Circuit (HA-30~400 400V).....	29
Picture 2-9: Components Layout (HA-30~400 400V).....	30
Picture 2-10: Installation on the Injection Molding Machine .....	37



## 1. General Description



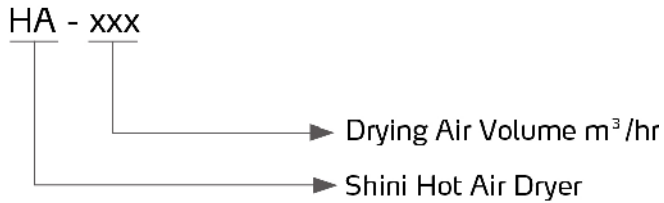
Read this manual carefully before operation to prevent machine damage or personal injuries.

HA series which is with simple structure and in light weight is particularly suitable for working with heat-preservation hopper to dry engineering plastics. This series is capable of offering air volume within  $30\text{m}^3/\text{hr}$ ~ $400\text{m}^3/\text{hr}$ ; there are 6 models.



Model: HA-100

## 1.1 Coding Principle



Notes: It's of CE conformity.

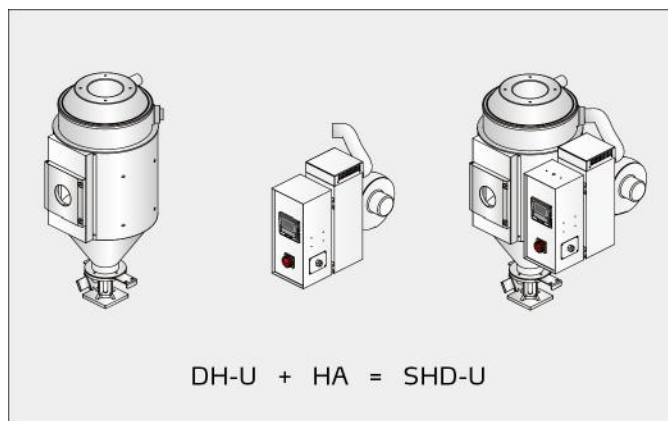
## 1.2 Features

### 1) Standard configuration

- Microcomputer control helps to control temperature accurately.
- Digital P.I.D. temperature control with LED display.
- With overheat protection, it can avoid accidents caused by man or machine failure.
- 7-day automatic start/stop timer helps to save power.

### 2) Accessory option

- Exhaust cyclone, exhaust air filter, hot air recycler and blower inlet filter are optional.
- Collocate with DH-U to constitute SHD-U dryer.





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 6, which contains service instructions intended for service engineers. Other chapters contain instructions for operators.

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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## 1.3 Technical Specifications

### 1.3.1 Specifications

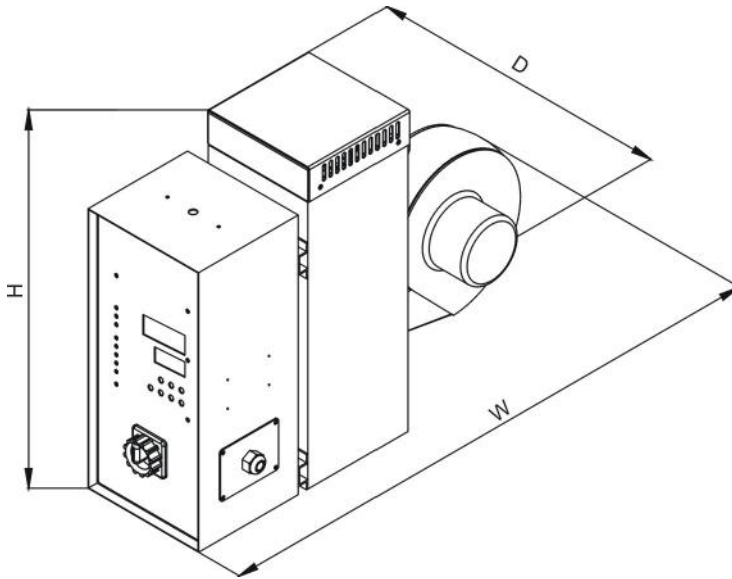
Table 1-1: Specifications

Model	Drying Air Volume (m <sup>3</sup> /hr)	Drying Heater (kW)	Blower (kW)	Dimensions H×W×D (mm)	Air Outlet Pipe Dia. (inch)
HA-30	30	2.2	0.05	437×558×284	2
HA-40	40	3	0.12	437×608×334	2
HA-60	60	3.9	0.12	505×669×334	2.5
HA-100	100	6	0.12	613×725×347	2.5
HA-200	200	12	0.18	755×817×363	3
HA-400	400	18	0.55	645×975×442	3

Power supply: 3Φ, 230 / 400 / 460 / 570V, 50 / 60Hz.

We reserve the right to change specifications without prior notice.

### 1.3.2 Outline Drawing



HA-30~400

Picture 1-1: Outline Drawing

## 1.4 Safety Regulations



Note!

Electrical installation should be done by qualified electrician. Before connecting to power source, make sure that specifications and overload protection rating of the power switch are suitable and reliable; what's more, turn power switch to OFF position. When maintaining, turn off both power switch and automatic operation switch.

### 1.4.1 Safety Signs and Labels



Danger!

High Voltage!

It is attached to the control box.



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.



Attention!

All screws for installing the electrical components inside the control box are locked tight. There is no need to check on them regularly.



Attention!

The EGO protection value has been set before delivery. Please don't adjust it.



Attention!

When starting up, all hot air pipes of all models should be connected well to avoid damage of the blower.



Attention!

When starting up, adjust the air-in valve of the blower to half-open state to prevent it from damage.

## 1.5 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:

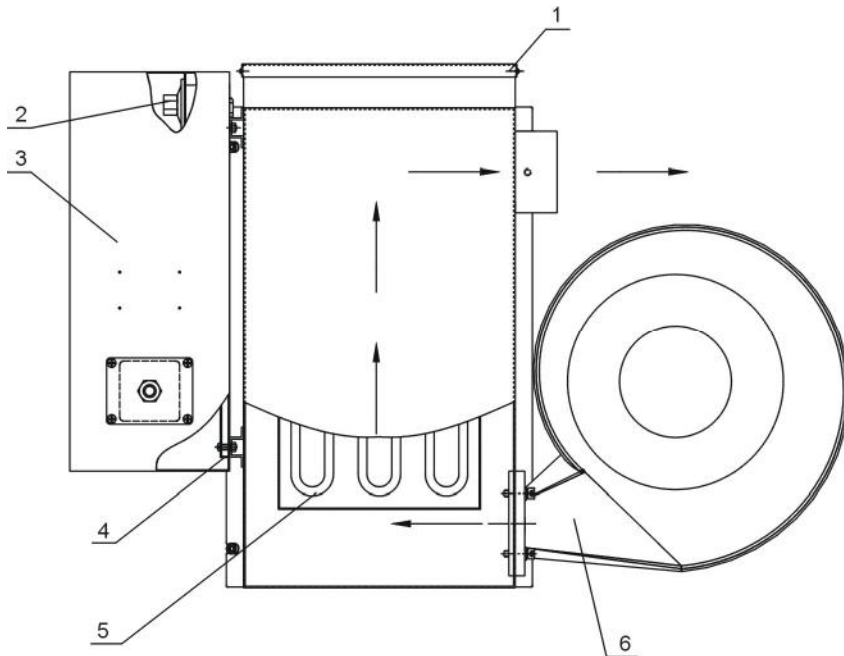
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible 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 Function

HA hot air dryer offers constant high temperature air to material tank by blower.

#### 2.1.1 Working Principle



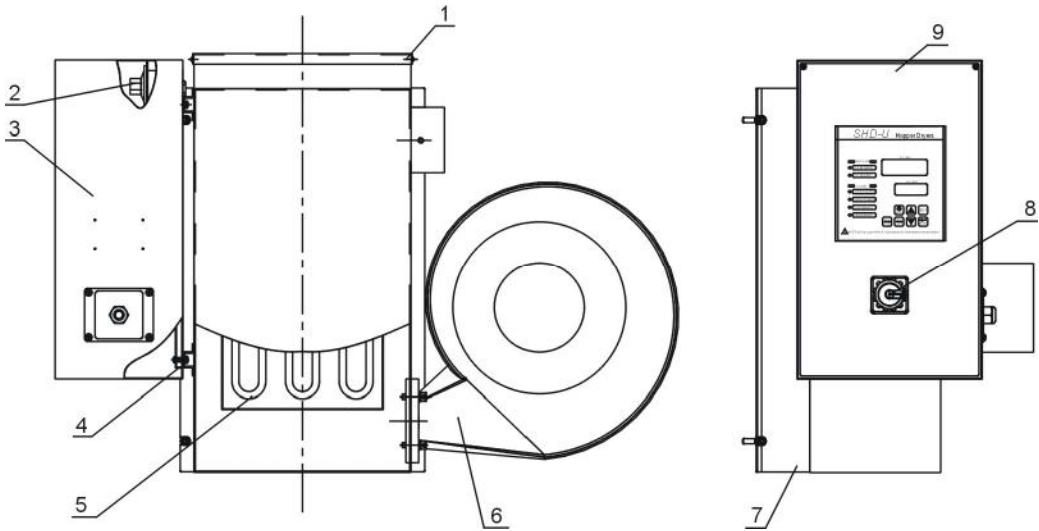
#### Names of Parts:

- |                             |                                    |                |
|-----------------------------|------------------------------------|----------------|
| 1. Heating box cover        | 2. Over temperature protection EGO | 3. Control box |
| 4. Heating box fixing plate | 5. Pipe heater                     | 6. Blower      |

Picture 2-1: Working Principle

## 2.2 Parts Drawing

### 2.2.1 Structural Drawing (HA-30~400)

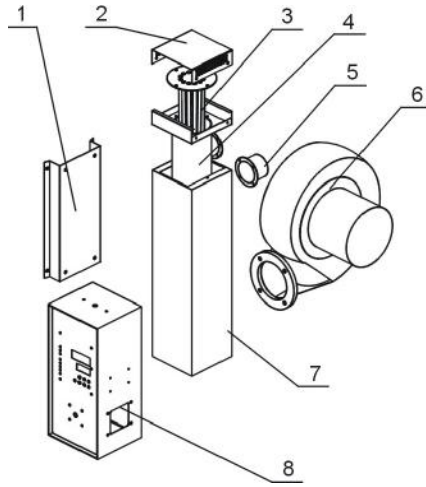


#### Names of Parts:

- |                                |                                    |                              |
|--------------------------------|------------------------------------|------------------------------|
| 1. Heating box assembly        | 2. Over temperature protection EGO | 3. Control box               |
| 4. Base plate of control box   | 5. Pipe heater                     | 6. Blower                    |
| 7. Fixing plate of heating box | 8. Main power switch               | 9. Door plate of control box |

Picture 2-2: Structural Drawing (HA-30~400)

## 2.2.2 Parts Drawing (HA-30~400)



Remarks: Please refer to material list 2.2.4 for specific explanation of the Arabic numbers in parts drawing.

Picture 2-3: Parts Drawing (HA-30~400)

## 2.2.3 Parts List (HA-30~400)

Table 2-1: Parts List (HA-30~60)

No.	Name	Part No.		
		HA-30	HA-40	HA-60
1	Heating box fixing plate	-	-	-
2	Heating box cover	-	-	-
3	Pipe heater*	BH70202200050	BH70400300350	BH70123900150
4	Hot air pipe	-	-	-
5	Air outlet flange of heating box	-	-	-
6	Blower*	YM40001500400	BM40253200150	BM40338000150
7	Heating box shell	-	-	-
8	Control box	BH90003000050	BH90004000150	BH90006000050

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-2: Parts List (HA-100~400)

No.	Name	Part No.		
		HA-100	HA-200	HA-400
1	Heating box fixing plate	-	-	-
2	Heating box cover	-	-	-
3	Pipe heater*	BH70160600250	BH70301200150	BH70601800250
4	Hot air pipe	-	-	-
5	Air outlet flange of heating box	-	-	-
6	Blower*	BM40432200150	BM40532200150	BM30055000060
7	Heating box shell	-	-	-
8	Control box	BH90010000050	BH90020000150	BH90040000050

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.



## 2.3 Electrical Diagram

### 2.3.1 Electrical Diagram (HA-30~400 230V)

Table 2-3: Electrical Diagram (HA-30~400 230V)

No. Model	a	b	c	d1	d2	e	f	g	h	i	j	k
HA-30	6.1	2.5	16	5	10	0.35	1.5	0.05	0.3	2.5	2.2	5.8
HA-40	8.4	2.5	16	5	15	0.6	1.5	0.12	0.5	2.5	3.0	7.9
HA-60	10.8	2.5	16	5	15	0.6	1.5	0.12	0.5	2.5	3.9	10.3
HA-100	15.4	4.0	25	5	20	0.7	1.5	0.18	0.6	4.0	6.0	14.8
HA-200	30.4	10.0	32	5	40	0.9	1.5	0.25	0.8	6.0	12.0	29.6
HA-400	46.6	16.0	63	5	60	2.2	1.5	0.55	2.1	16.0	18.0	44.5

a Total current

c Main power switch

d2 Circuit breaker of drying heater

f Power cable dia. of drying blower

h Drying blower power

j Power of drying heater

b Main power cable dia.

d1 Circuit breaker of drying blower

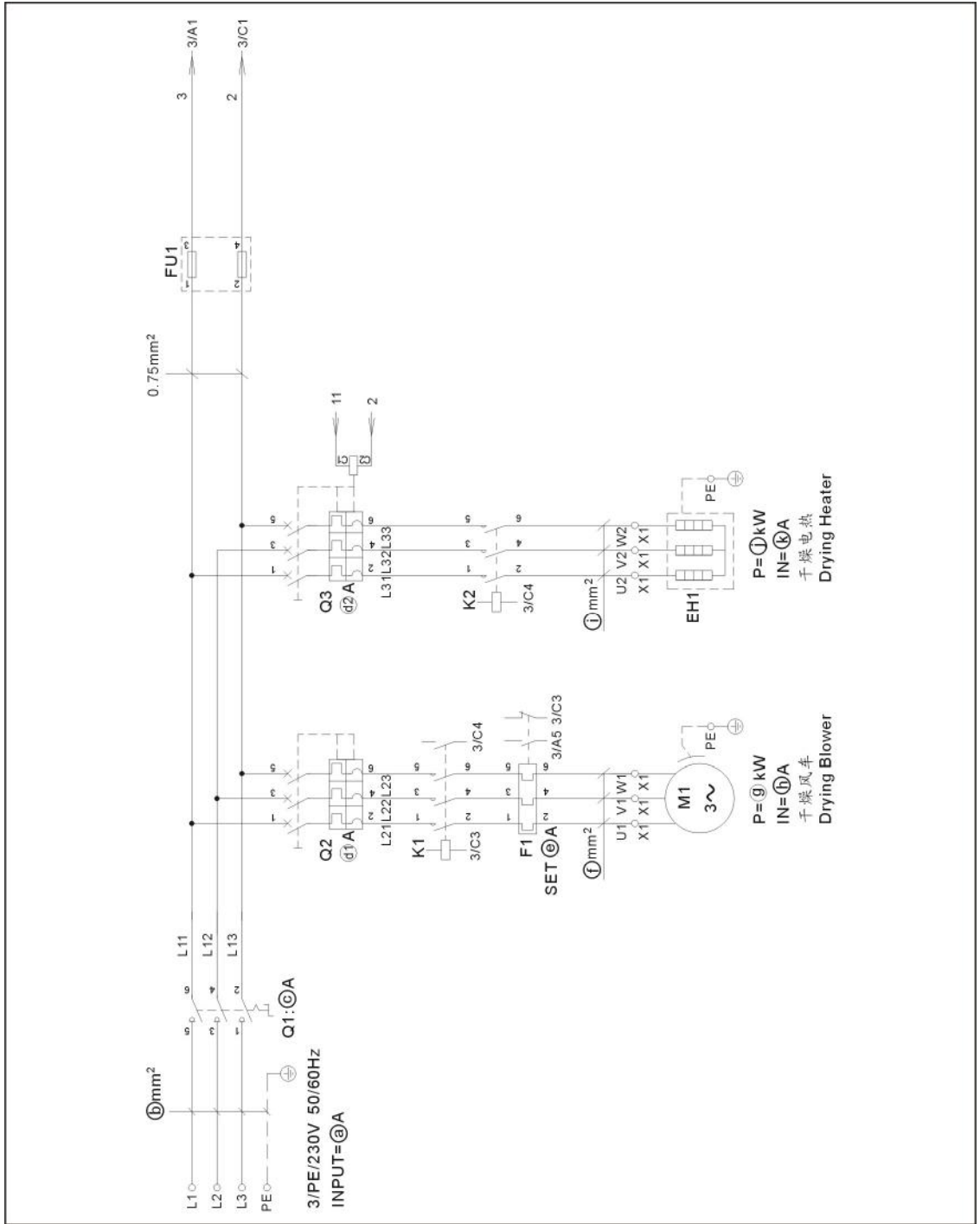
e Setting of drying blower loader

g Power of drying blower

i Power cable dia. of heater

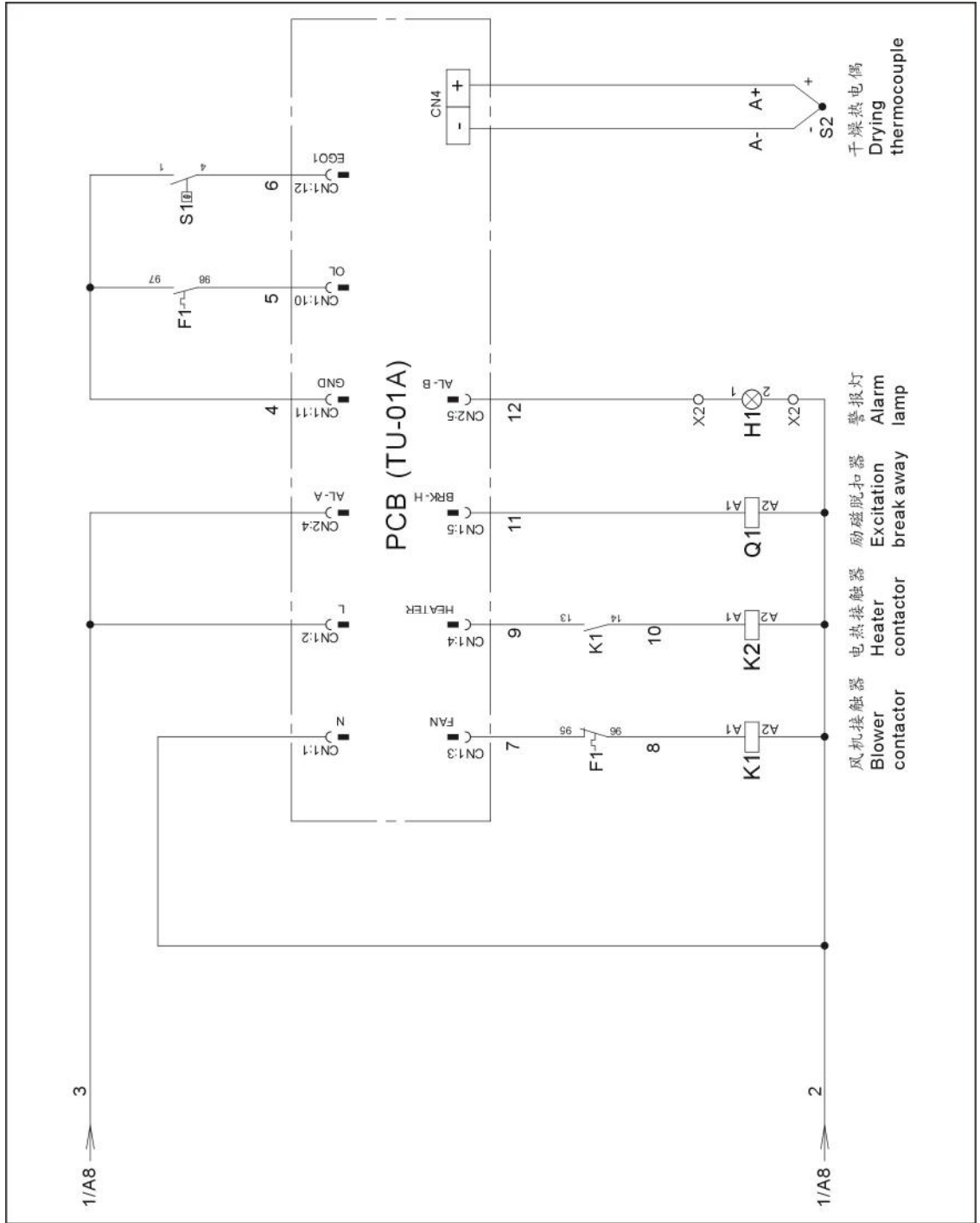
k Current of drying heater

### 2.3.2 Main Circuit (HA-30~400 230V)



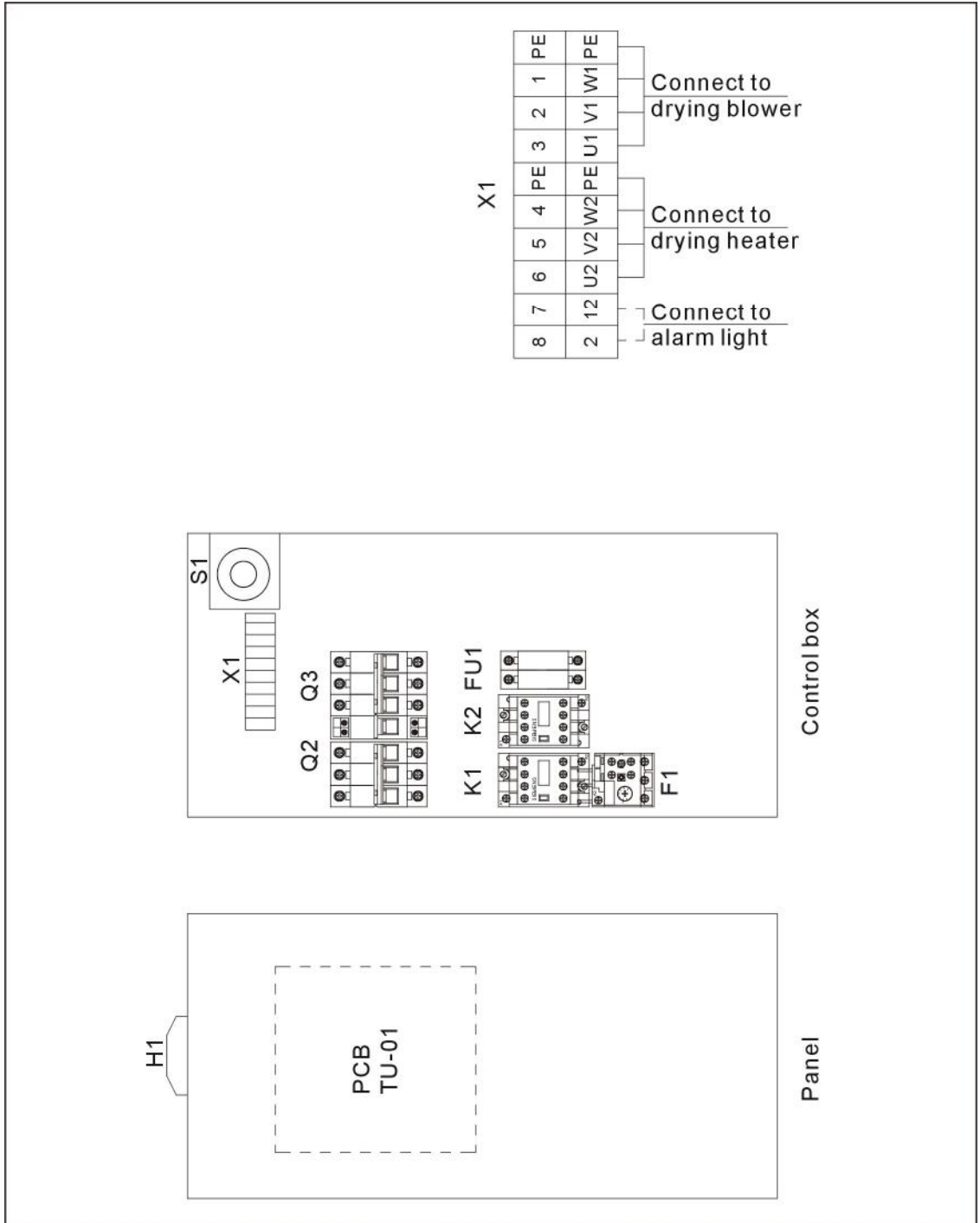
Picture 2-4: Main Circuit (HA-30~400 230V)

### 2.3.3 Control Circuit (HA-30~400 230V)



Picture 2-5: Control Circuit (HA-30~400 230V)

### 2.3.4 Components Layout (HA-30~400 230V)



Picture 2-6: Components Layout (HA-30~400 230V)

### 2.3.5 Electrical Components List (HA-30~400 230V)

Table 2-4: Electrical Components List (HA-30 230V)

NO.	Symbol	Name	HA-30	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	10A 3P	YE40600300000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
7	F1	Overload relay*	0.28-0.4A 690V 50/60Hz	YE01161280000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Overheat protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	4mm <sup>2</sup>	YE61040000000
15	-	-	4mm <sup>2</sup> PE	YE61043500000
16	-	-	2.5mm <sup>2</sup>	YE61250040000
17	M1	Blower*	0.05kW	-
18	EH1	Heater**	2.2kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-5: Electrical Components List (HA-40 230V)

NO.	Symbol	Name	HA-40	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	15A 3P	YE40601500000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contactor*	220V 50/60Hz	YE00601521000
6	K2	Contactor*	220V 50/60Hz	YE00601821000
7	F1	Overload relay*	0.4-0.63A 690V 50/60Hz	YE01161450000
8	FU1	Fuse**	2P	YE41032200000
9		Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Over protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	4mm <sup>2</sup>	YE61040000000
15	-	-	4mm <sup>2</sup> PE	YE61043500000
16	-	-	2.5mm <sup>2</sup>	YE61250040000
17	M1	Blower*	0.12kW	-
18	EH1	Heater**	3.0kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-6: Electrical Components List (HA-60 230V)

NO.	Symbol	Name	HA-60	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	15A 3P	YE40601500000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contactor*	220V 50/60Hz	YE00601521000
6	K2	Contactor*	220V 50/60Hz	YE00602522000
7	F1	Overload relay*	0.4-0.63A 690V 50/60Hz	YE01161450000
8	FU1	Fuse**	2P	YE41032200000
9		Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Over protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	4mm <sup>2</sup>	YE61040000000
15	-	-	4mm <sup>2</sup> PE	YE61043500000
16	-	-	2.5mm <sup>2</sup>	YE61250040000
17	M1	Blower*	0.12kW	-
18	EH1	Heater**	3.9kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-7: Electrical Components List (HA-100 230V)

NO.	Symbol	Name	HA-100	
			Specifications	Part No.
1	Q1	Main switch	25A 3P 690V 50/60Hz	YE10125250000
2	Q3	Circuit breaker*	20A 3P	YE40602000000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00602622000
7	F1	Overload relay*	0.55-0.8A 690V 50/60Hz	YE01161550000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Over protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	4mm <sup>2</sup>	YE61040000000
15	-	-	4mm <sup>2</sup> PE	YE61043500000
16	-	-	2.5mm <sup>2</sup>	YE61250040000
17	M1	Blower*	0.12kW	-
18	EH1	Heater**	6kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.



Table 2-8: Electrical Components List (HA-200 230V)

NO.	Symbol	Name	HA-200	
			Specifications	Part No.
1	Q1	Main switch	32A 3P 690V 50/60Hz	YE10132320000
2	Q3	Circuit breaker*	40A 3P	YE40604000000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contactor*	220V 50/60Hz	YE00601521000
6	K2	Contactor*	220V 50/60Hz	YE00602822000
7	F1	Overload relay*	0.7-1A 690V 50/60Hz	YE01160700000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Over protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	2.5mm <sup>2</sup>	YE61250040000
15	-	-	2.5mm <sup>2</sup> PE	YE61253500000
16	X1	Terminal	10mm <sup>2</sup>	YE61100000000
17	-	-	10mm <sup>2</sup> PE	YE61103500000
18	M1	Blower*	0.18kW	-
19	EH1	Heater**	12kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-9: Electrical Components List (HA-400 230V)

NO.	Symbol	Name	HA-400	
			Specifications	Part No.
1	Q1	Main switch	63A 3P 690V 50/60Hz	YE10636300000
2	Q3	Circuit breaker*	60A 3P	YE40606000000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00504400000
7	F1	Overload relay*	1.8-2.5A 690V 50/60Hz	YE01160180000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	2A	YE46002000100
10	PCB-01	PCB*	230V 50/60Hz	YE80001100000
11	S1	Over protector*	115-320 °C	BH90115000150
12	S2	Thermocouple	-	-
13	H1	Alarm lamp	230V 50/60Hz	YE83305100200
14	X1	Terminal	2.5mm <sup>2</sup>	YE61250040000
15	-	-	2.5mm <sup>2</sup> PE	YE61253500000
16	X1	Terminal	16mm <sup>2</sup>	YE61160000000
17	-	-	16mm <sup>2</sup> PE	YE61163500000
18	M1	Blower*	0.55kW	-
19	EH1	Heater**	18kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

### 2.3.6 Electrical Diagram (HA-30~400 400V)

Table 2-10: Electrical Diagram (HA-30~400 400V)

No. Model	a	b	c	d1	d2	e	f	g	h	i	j	k
HA-30	3.5	2.5	16	5	10	0.22	1.5	0.05	0.2	2.5	2.2	3.3
HA-40	4.9	2.5	16	5	10	0.45	1.5	0.12	0.4	2.5	3.0	4.5
HA-60	6.3	2.5	16	5	10	0.45	1.5	0.12	0.4	2.5	3.9	5.9
HA-100	9.5	2.5	16	5	15	0.55	1.5	0.18	0.5	2.5	6.0	9.0
HA-200	18.6	4.0	25	5	15	0.65	1.5	0.25	0.6	4.0	12.0	18
HA-400	28.3	6.0	32	5	40	1.4	1.5	0.55	1.3	6.0	18.0	27

a Total current

c Main power switch

d2 Circuit breaker of drying heater

f Power cable dia. of drying blower

h Drying blower power

j Power of drying heater

b Main power cable dia.

d1 Circuit breaker of drying blower

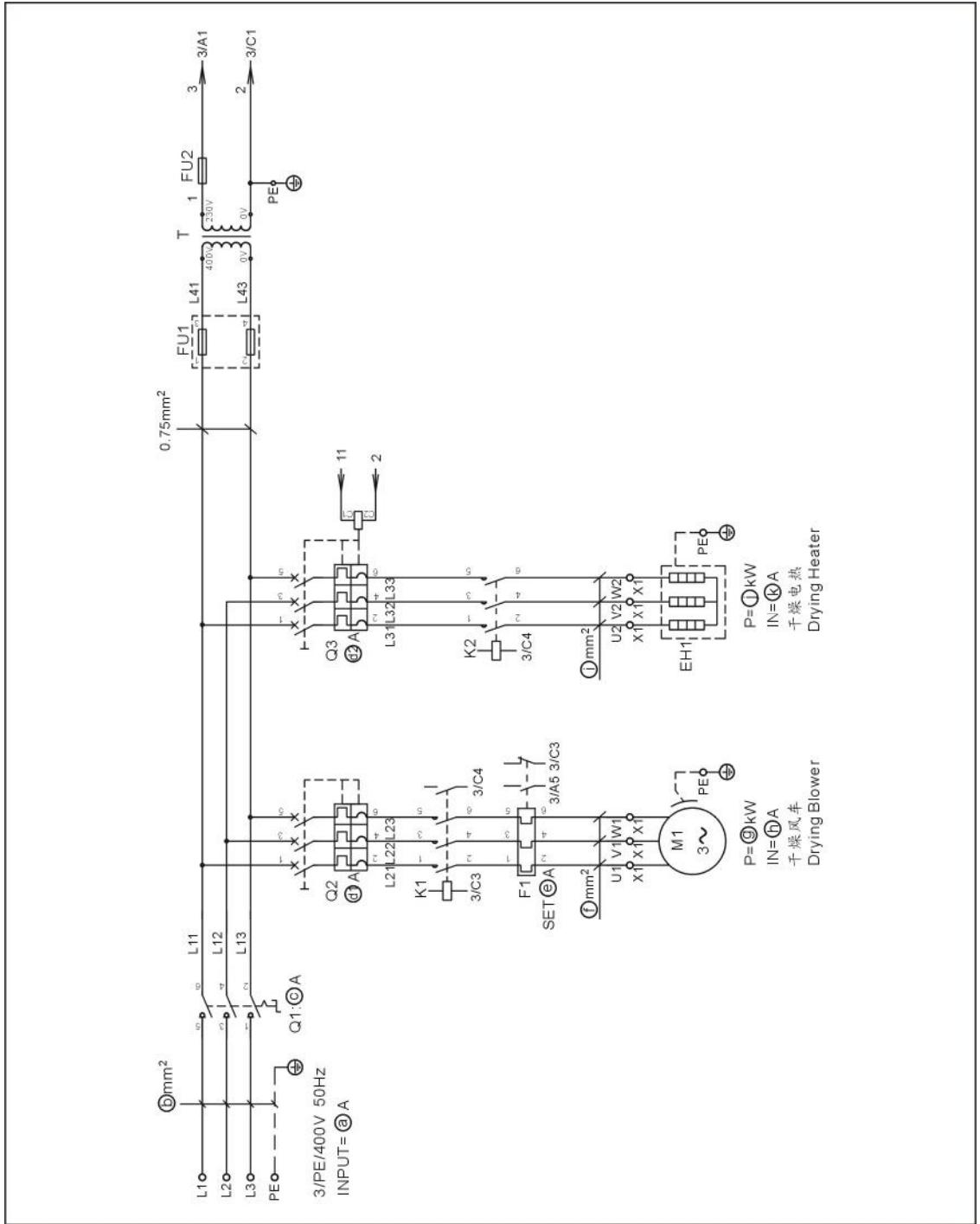
e Setting of drying blower loader

g Power of drying blower

i Power cable dia. of heater

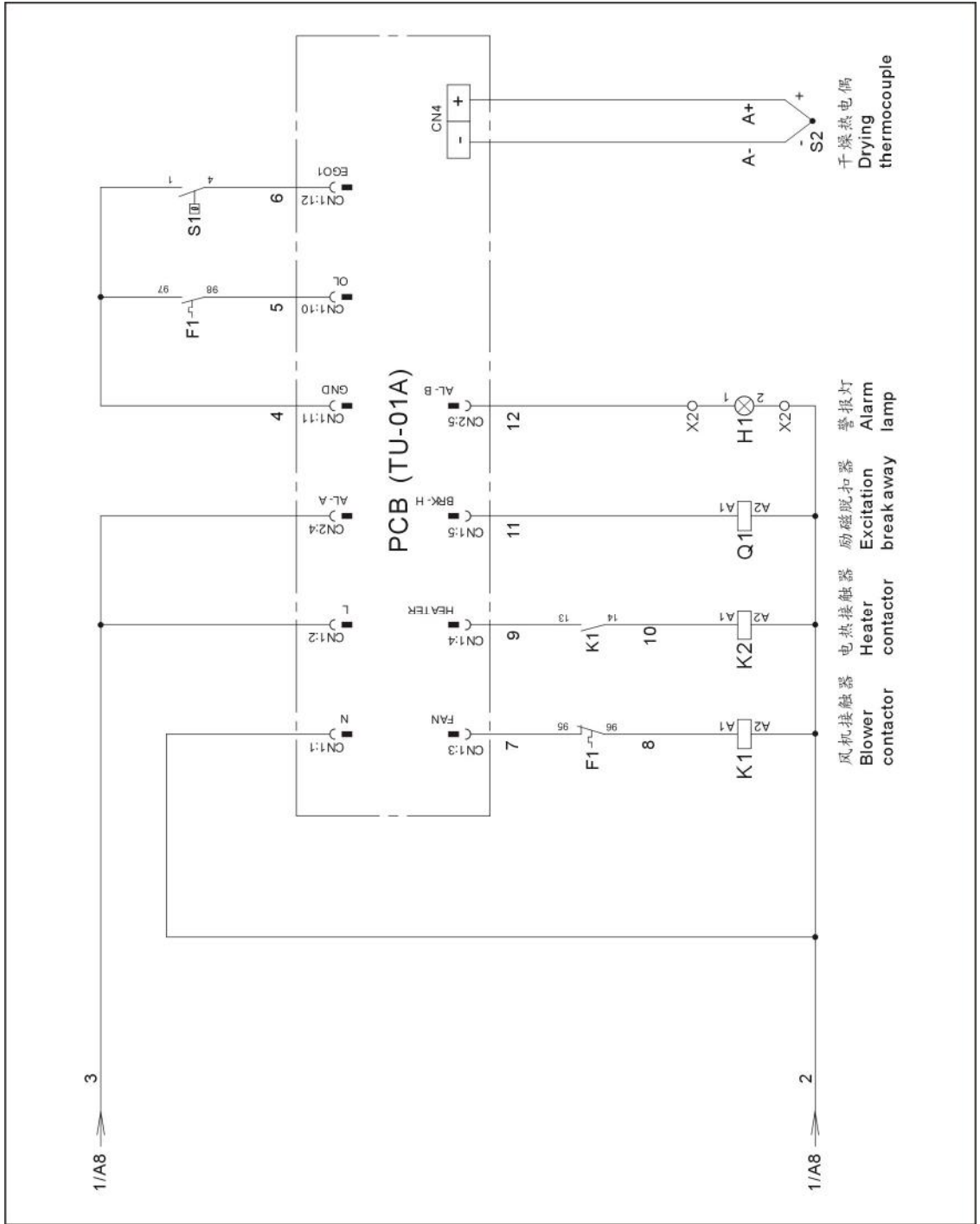
k Current of drying heater

### 2.3.7 Main Circuit (HA-30~400 400V)



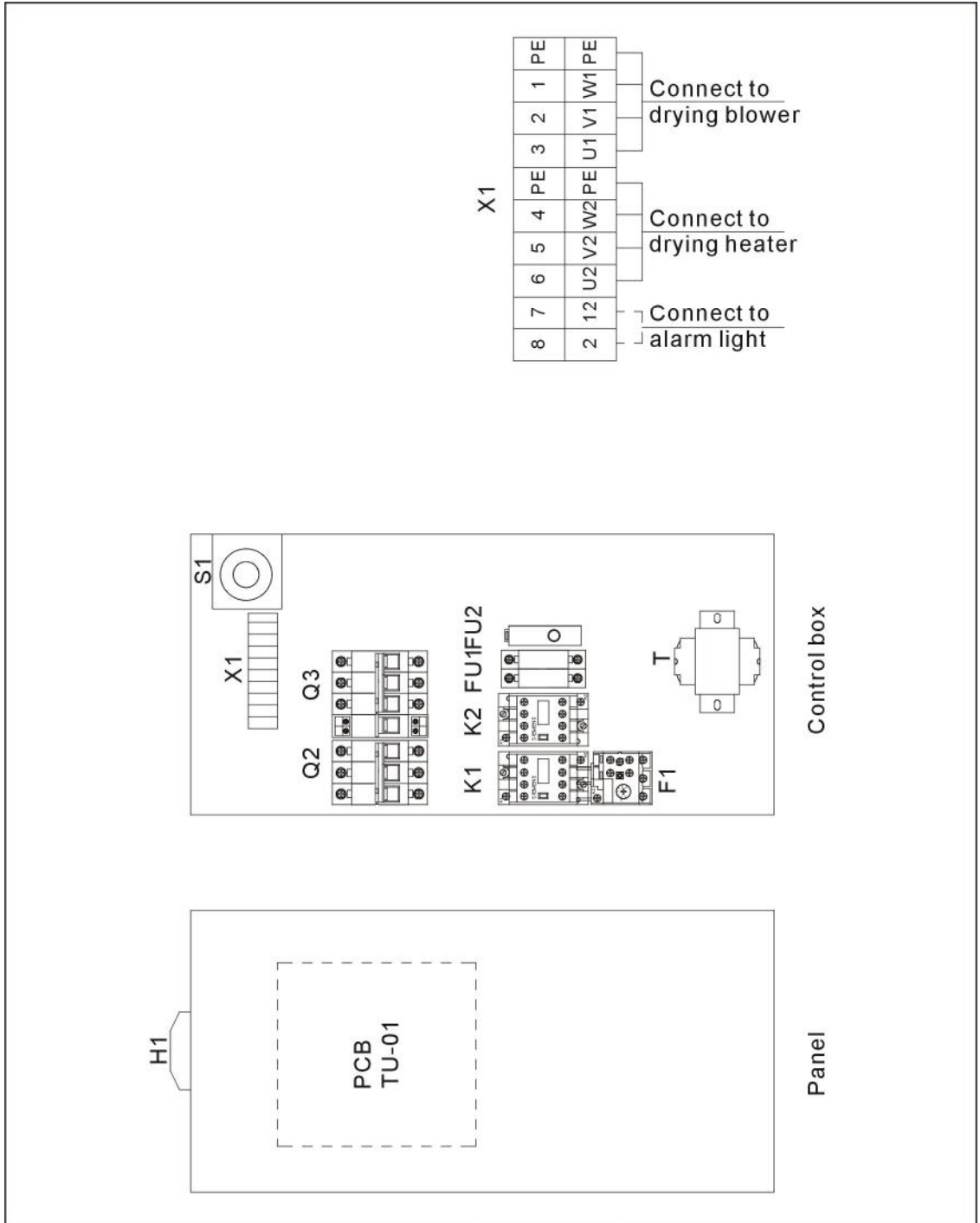
Picture 2-7: Main Circuit (HA-30~400 400V)

### 2.3.8 Control Circuit (HA-30~400 400V)



Picture 2-8: Control Circuit (HA-30~400 400V)

### 2.3.9 Components Layout (HA-30~400 400V)



Picture 2-9: Components Layout (HA-30~400 400V)

### 2.3.10 Electrical Components List (HA-30~400 400V)

Table 2-11: Electrical Components List (HA-30 400V)

NO.	Symbol	Name	HA-30	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	10A 3P	YE40600300000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601621000
7	F1	Overload relay*	0.18-0.25A 690V 50/60Hz	YE01618200000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	4mm <sup>2</sup>	YE61040000000
17	-	-	4mm <sup>2</sup> PE	YE61043500000
18	-	-	2.5mm <sup>2</sup>	YE61250040000
19	M1	Blower*	0.05kW	-
20	EH1	Heater**	2.2kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-12: Electrical Components List (HA-40 400V)

NO.	Symbol	Name	HA-40	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	10A 3P	YE40600300000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601621000
7	F1	Overload relay*	0.35-0.5A 690V 50/60Hz	YE01161350000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	4mm <sup>2</sup>	YE61040000000
17	-	-	4mm <sup>2</sup> PE	YE61043500000
18	-	-	2.5mm <sup>2</sup>	YE61250040000
19	M1	Blower*	0.12kW	-
20	EH1	Heater**	3.0kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.



Table 2-13: Electrical Components List (HA-60 400V)

NO.	Symbol	Name	HA-60	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	10A 3P	YE40600300000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601721000
7	F1	Overload relay*	0.35-0.5A 690V 50/60Hz	YE01161350000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	4mm <sup>2</sup>	YE61040000000
17	-	-	4mm <sup>2</sup> PE	YE61043500000
18	-	-	2.5mm <sup>2</sup>	YE61250040000
19	M1	Blower*	0.12kW	-
20	EH1	Heater**	3.9kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-14: Electrical Components List (HA-100 400V)

NO.	Symbol	Name	HA-100	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10021160000
2	Q3	Circuit breaker*	15A 3P	YE40601500000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601821000
7	F1	Overload relay*	0.4-0.63A 690V 50/60Hz	YE01161450000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	4mm <sup>2</sup>	YE61040000000
17	-	-	4mm <sup>2</sup> PE	YE61043500000
18	-	-	2.5mm <sup>2</sup>	YE61250040000
19	M1	Blower*	0.12kW	-
20	EH1	Heater**	6kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-15: Electrical Components List (HA-200 400V)

NO.	Symbol	Name	HA-200	
			Specifications	Part No.
1	Q1	Main switch	25A 3P 690V 50/60Hz	YE10125250000
2	Q3	Circuit breaker*	25A 3P	YE40602500000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00602722000
7	F1	Overload relay*	0.55-0.8A 690V 50/60Hz	YE01161550000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	2.5mm <sup>2</sup>	YE61250040000
17	-	-	2.5mm <sup>2</sup> PE	YE61253500000
18	X1	Terminal	4mm <sup>2</sup>	YE61040000000
19	-	-	4mm <sup>2</sup> PE	YE61043500000
20	M1	Blower*	0.18kW	-
21	EH1	Heater**	12kW	-

\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

Table 2-16: Electrical Components List (HA-400 400V)

NO.	Symbol	Name	HA-400	
			Specifications	Part No.
1	Q1	Main switch	32A 3P 690V 50/60Hz	YE10323200000
2	Q3	Circuit breaker*	40A 3P	YE40604000000
3	-	Excitation break away	230V 50/60Hz	YE40023560000
4	Q2	Circuit breaker*	5A 3P	YE40603000000
5	K1	Contacto <sup>r</sup> *	220V 50/60Hz	YE00601521000
6	K2	Contacto <sup>r</sup> *	220V 50/60Hz	YE00602822000
7	F1	Overload relay*	1.1-1.6A 690V 50/60Hz	YE01160110000
8	FU1	Fuse**	2P	YE41032200000
9	-	Fuse core	1A	YE46001000100
10	FU2	Fuse**	6×30mm 2A 250V	YE41001000000
11	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
12	PCB-01	PCB*	230V 50/60Hz	YE80001100000
13	S1	Overheat protector*	115-320 °C	BH90115000150
14	S2	Thermocouple	-	-
15	H1	Alarm lamp	230V 50/60Hz	YE83305100200
16	X1	Terminal	2.5mm <sup>2</sup>	YE61250040000
17	-	-	2.5mm <sup>2</sup> PE	YE61253500000
18	X1	Terminal	6mm <sup>2</sup>	YE61060000000
19	-	-	6mm <sup>2</sup> PE	YE61063500000
20	M1	Blower*	0.55kW	-
21	EH1	Heater**	18kW	-

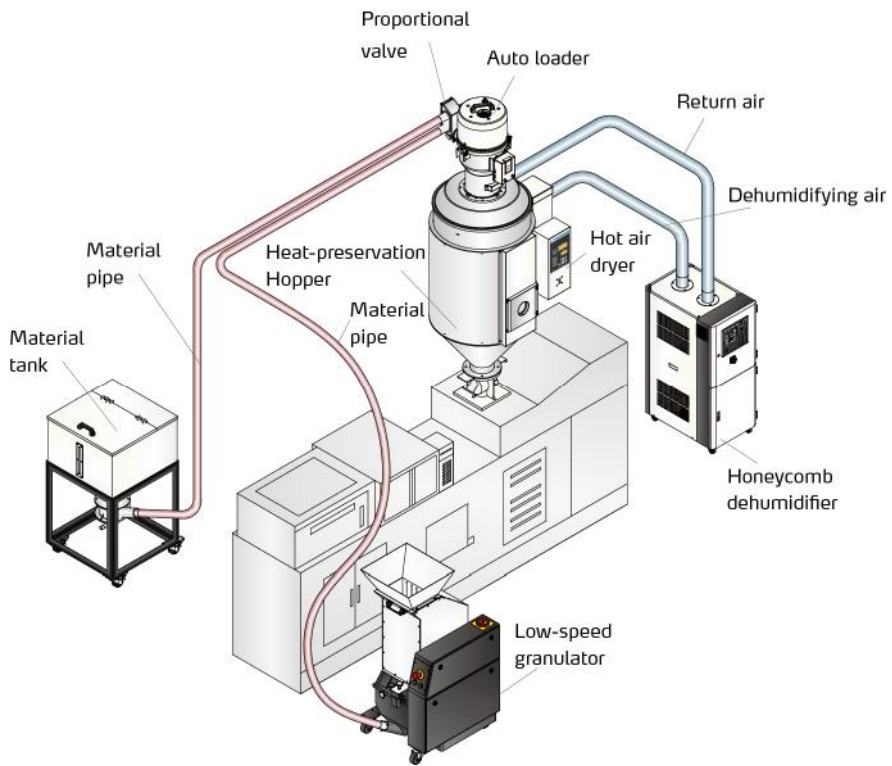
\* means possible broken parts.

\*\* means easy broken part. and spare backup is suggested.

Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

## 2.4 Installation Diagram

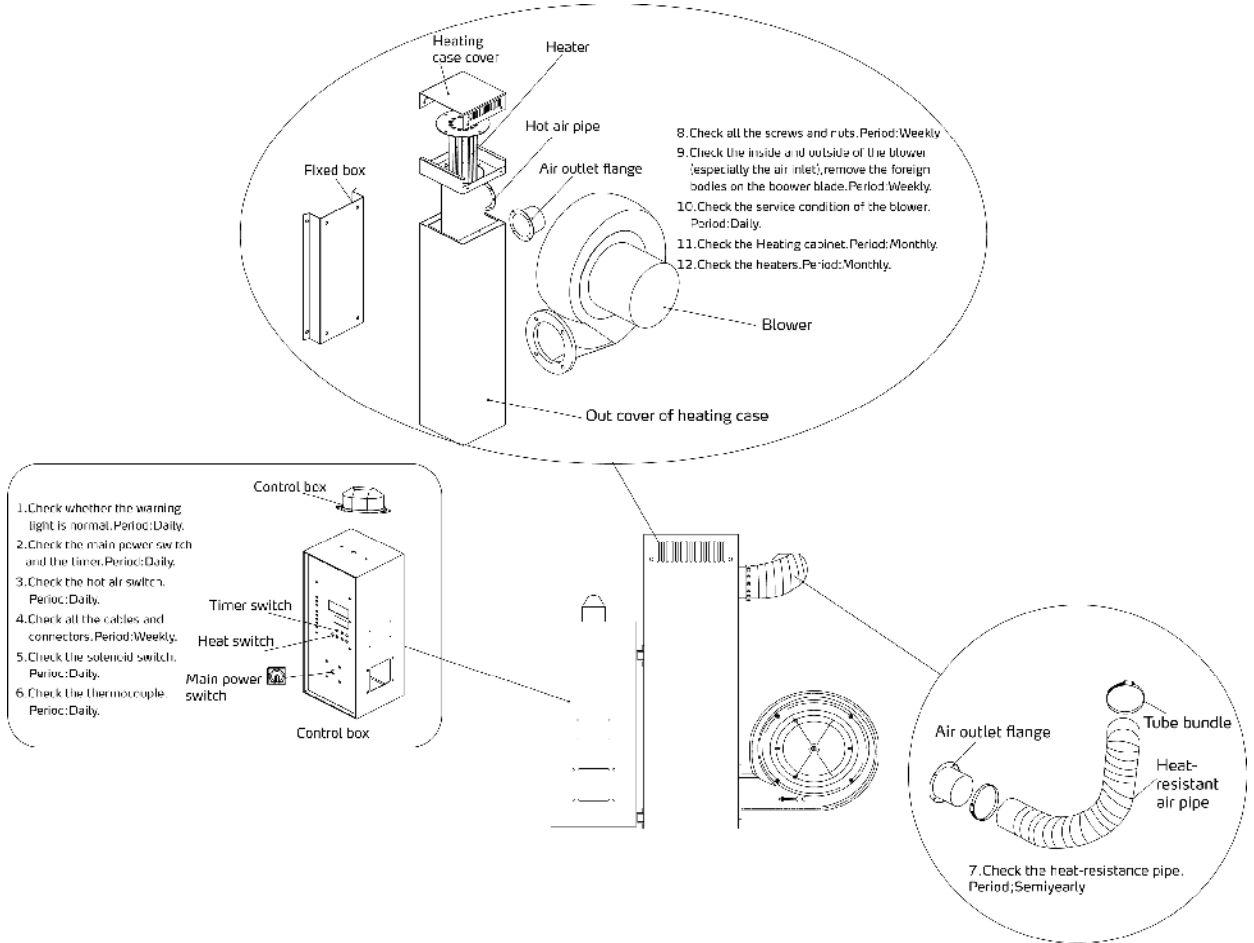
### 2.4.1 Installed on the injection molding machine with heat preservation hopper.



Picture 2-10: Installation on the Injection Molding Machine

### 3. Maintenance and Repair

HA-30~400



### 3.1 Blower

- 1) Clean the inner and outer parts (especially the air pipes at air inlet) of the blower regularly to remove dust on surface.
- 2) Remove foreign material on leaves of the blower to prevent it from damage.

### 3.2 Maintenance Schedule

#### 3.2.1 General Machine Information

Model \_\_\_\_\_ SN \_\_\_\_\_ Manufacture date \_\_\_\_\_

Voltage \_\_\_\_\_  $\Phi$  \_\_\_\_\_ V Frequency \_\_\_\_\_ Hz Power \_\_\_\_\_ kW

#### 3.2.2 Installation & Inspection

- Check if the connecting pipe is tightly locked or not.
- Check that the piping system is correctly connected.

##### Electrical Installation

- Voltage: \_\_\_\_\_ V \_\_\_\_\_ Hz
- Fuse melt current: 1 Phase \_\_\_\_\_ A 3 Phase \_\_\_\_\_ A
- Check phase sequence of the power supply.
- Check the rotating direction of the blower.

#### 3.2.3 Daily Checking

- Check the switches of the machine.
- Check the auto-start function of the machine.

#### 3.2.4 Weekly Checking

- Check all the electrical cables of the machine.
- Check if there are loose electrical connections.
- Check whether overheat protection is normal.

#### 3.2.5 Monthly Checking

- Check if the pipe heater is working properly.
- Check the performance of blower.
- Check the performances of electrical components.

### 3.2.6 Half-yearly Checking

- Check if there are damages with heat-resistant pipe or not.
- Check the drying heater.
- Check the blower.