

# **SHD-U Series**

## **Hopper Dryer**

Date: Dec. 2013

Version: Ver.B (English)





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## 1. General Description



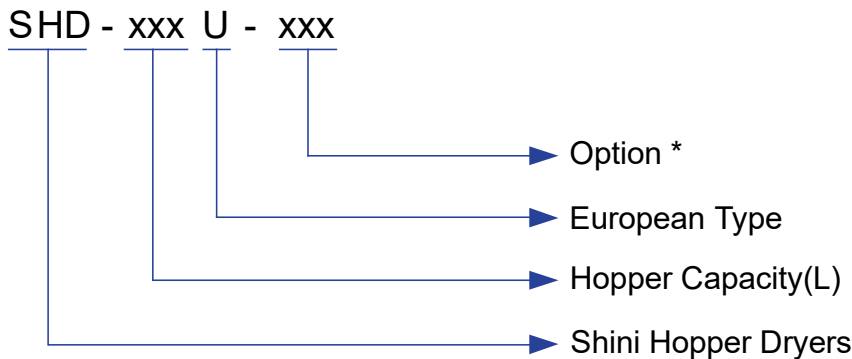
Read this manual carefully before operation to prevent damage of the machine or personal injuries.

SHD-U series hopper dryer adopt hot air down-blowing design and use stainless steel made material hoppers to avoid contamination. With this design, they are also ideally suitable for use with honeycomb dehumidifiers to dry engineering plastics. There are 25 models available, ranging from 20 to 8,000 liters.



Model: SHD-300U

## 1.1 Coding Principle



Note: \*

P=For Polished Hopper Inside

HD=Heatless Dehumidifying

CE=CE Conformity

## 1.2 Feature

### 1) Standard configuration

- Microprocessor is used for accurate temperature control.
- Digital P.I.D. temperature control with LED display.
- Overheat protection to ensure reliable operation.
- 7-day automatic start/stop timer to improve energy saving.
- Unique design of downblow air pipe can spread hot air evenly, keeping plastics dry and temperature stable to raise drying efficiency.
- Models SHD-80U and above have material clearance door to make the clean more convenient and effective.
- SHD-450U and models below are equipped with stainless steel lining aluminium base. SHD-600U~1200U are equipped with aluminium magnetic base. SHD-1500U and model above are equipped with manual butterfly valve.
- For SHD-900U models and above, floor stand is standard equipment.

### 2) Accessory option

- Cyclone dust separator, exhaust air filter, magnetic base and blower inlet filter are optional.
- Hot air recycler, suction box, hopper magnetic, Euro-type floor stand and

storage hopper are optional.

- Safety protective ladder is optional for SHD-1500U and models above.

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 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.

Headquarter and Taipei factory :

Tel: (886) 2 2680 9119

Shini Plastics Technologies (Dongguan), Inc :

Tel: (86) 769 8111 6600

Shini Plastics Technologies India Pvt.Ltd. :

Tel: (91) 250 3021 166

## 1.3 Technical Specifications

### 1.3.1 Specifications

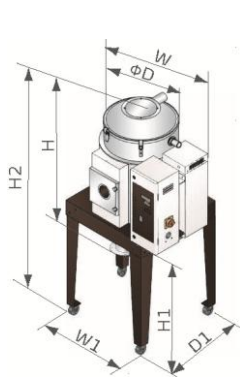
Table 1-1: Specifications

Model	Loading Capacity (L)	Heater Power (kW)	Blower (kW,50 / 60Hz)	Dimensions (mm) H×W×D	Floor Stand (mm) H1×W1×D1	Whole Height H2 (mm)	Air Inlet Pipe Dia. (inch)	Air Outlet Pipe Dia. (inch)	Weight (kg)
SHD-20U	20	2.2	0.05 / 0.058	730×575×325	790×450×550	1260	2"	1.5"	40
SHD-40U	40	3	0.12 / 0.14	760×790×394	790×580×450	1300	2"	1.5"	70
SHD-80U	80	3.9	0.12 / 0.14	940×885×472	840×730×560	1480	2.5"	2"	85
SHD-120U	120	3.9	0.12 / 0.14	1210×885×472	840×730×560	1740	2.5"	2"	100
SHD-160U	160	6	0.18 / 0.20	1225×822×575	920×652×795	1825	3"	2.5"	90
SHD-230U	230	6	0.18 / 0.20	1505×822×575	920×652×795	2105	3"	2.5"	100
SHD-300U	300	12	0.25 / 0.30	1450×945×695	970×790×930	2085	3"	2.5"	130
SHD-450U	450	12	0.25 / 0.30	1850×945×695	970×790×930	2435	3"	2.5"	160
SHD-600U	600	18	0.55 / 0.63	1850×945×915	1130×1000×1200	2470	4"	3"	200
SHD-750U	750	18	0.55 / 0.63	2100×1170×915	1130×1000×1200	2780	4"	3"	220
SHD-900U	900	18	0.55 / 0.63	2173×1410×1050	2760×1130×1130	2765	4"	4"	410
SHD-1200U	1200	24	1.1 / 1.1	2598×1410×1050	3190×1145×1145	3190	4"	4"	560
SHD-1500U	1500	32	3 / 3	3170×1640×1250	3470×1340×1340	3470	5"	5"	685
SHD-2000U	2000	32	3 / 3	3590×1542×1250	3870×1340×1340	3870	5"	5"	770
SHD-2500U	2500	58	5.5 / 5.5	3735×1798×1400	4000×1482×1482	4000	6"	6"	800
SHD-3000U	3000	58	5.5 / 5.5	4135×1798×1400	4400×1482×1482	4400	6"	6"	900
SHD-3500U	3500	64	7.5 / 7.5	4535×1798×1400	4800×1482×1482	4800	6"	6"	1010
SHD-4000U	4000	64	7.5 / 7.5	4370×2010×1600	4550×1680×1680	4635	8"	8"	1160
SHD-5000U	5000	80	11 / 11	4860×2010×1600	5150×1680×1680	5235	8"	8"	1390
SHD-6000U	6000	96	15 / 15	4600×2250×1800	4870×1930×1930	4923	8"	8"	1530
SHD-7000U	7000	112	18.5 / 18.5	5830×2250×1800	5370×1930×1930	6330	8"	8"	1735
SHD-8000U	8000	128	22	6030×2250×1800	5620×1930×1930	6425	10"	10"	1820

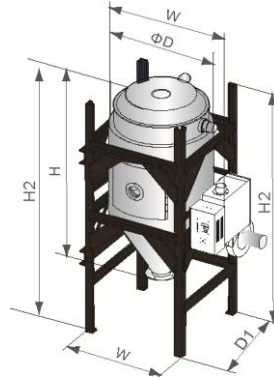
Power supply: 3Φ, 230 / 400 / 460 / 575V, 50 / 60Hz.

We reserve the right to change specifications without prior notice.

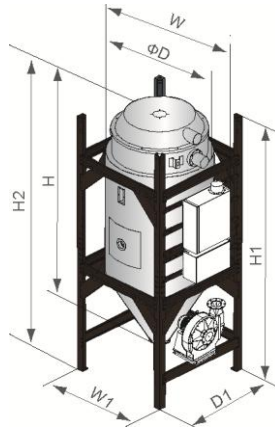
### 1.3.2 Outline Drawing



SHD-20U~750U



SHD-900U~1200U (With Optional Floor Stand)



SHD-1500U~8000U (With Optional Floor Stand)

Picture 1-1: Outline Drawing

## 1.4 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.

### 1.4.1 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.



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



### Attention!

To prevent over-temperature alarm from causing machine shutdown, don't randomly adjust EGO setting temp.



### Attention!

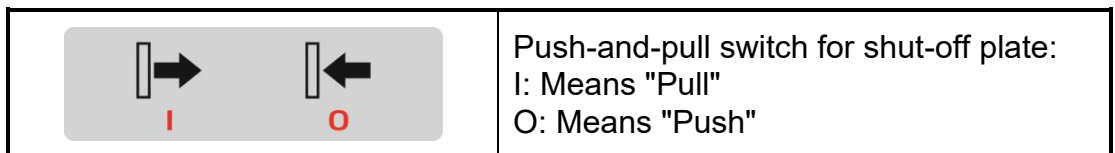
For test of SHD-2500U and above models, connect all hot air pipes to avoid damage of the blower.



Attention!

For test of SHD-2500U and above models, half-open the air-in valve of the blower to avoid damage of it.

#### 1.4.2 Signs and Labels



#### 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:

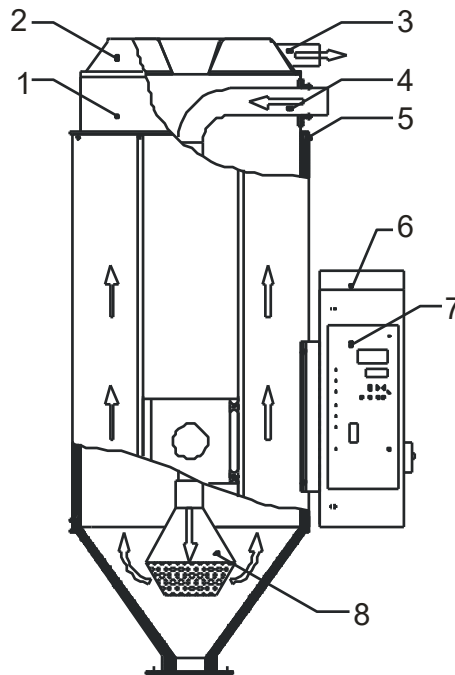
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible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

In the drying process, hot air with constant temperature is blown by a blower into a two-layer insulated hopper to dry the materials. Moisture will be separated out and taken away by hot air, thus to gain a satisfied drying effect.

#### 2.1.1 Working Principle Illustration



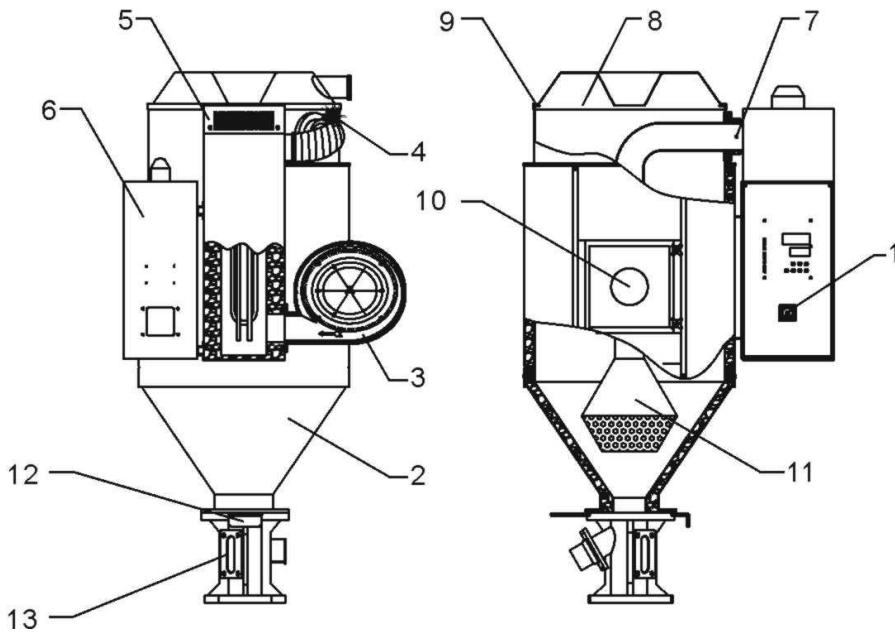
Names of Parts:

1. Hopper lid      2. Storage drum      3. Air outlet      4. Air inlet      5. Insulated layer  
6. Heating box      7. Control cabinet      8. Down-blowing pipe

Picture 2-1: Working Principle Illustration

## 2.2 Drawing and Parts List

### 2.2.1 Structural Drawing (SHD-20U~750U)

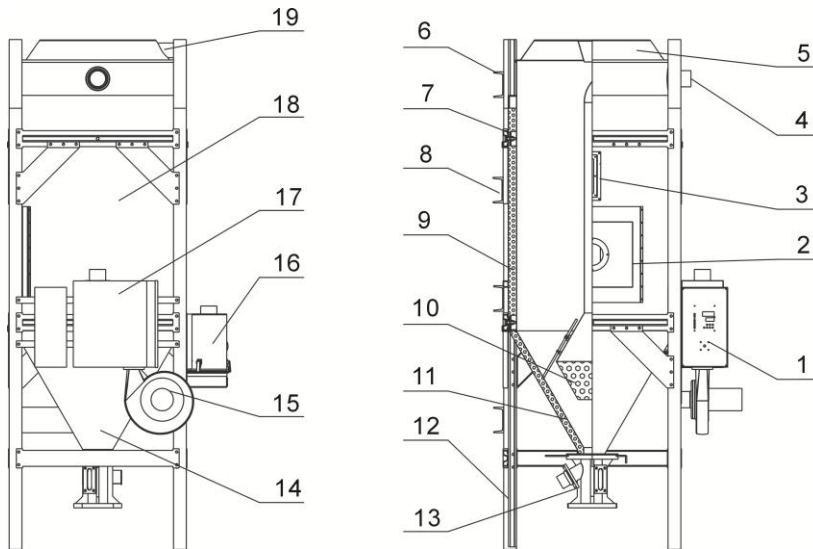


Names of Parts:

- |                         |                        |                       |                          |
|-------------------------|------------------------|-----------------------|--------------------------|
| 1. Main switch          | 2. Insulated layer     | 3. Blower             | 4. Material storage tank |
| 5. Electric heating box | 6. Control box         | 7. Overheat protector | 8. Lid                   |
| 9. Top cover fastener   | 10. Sight-glass window | 11. Down-blowing pipe |                          |
| 12. Shut-off plate      | 13. Standard base      |                       |                          |

Picture 2-2: Structural Drawing (SHD-20U~750U)

## 2.2.2 Structural Drawing (SHD-900U~1200U)

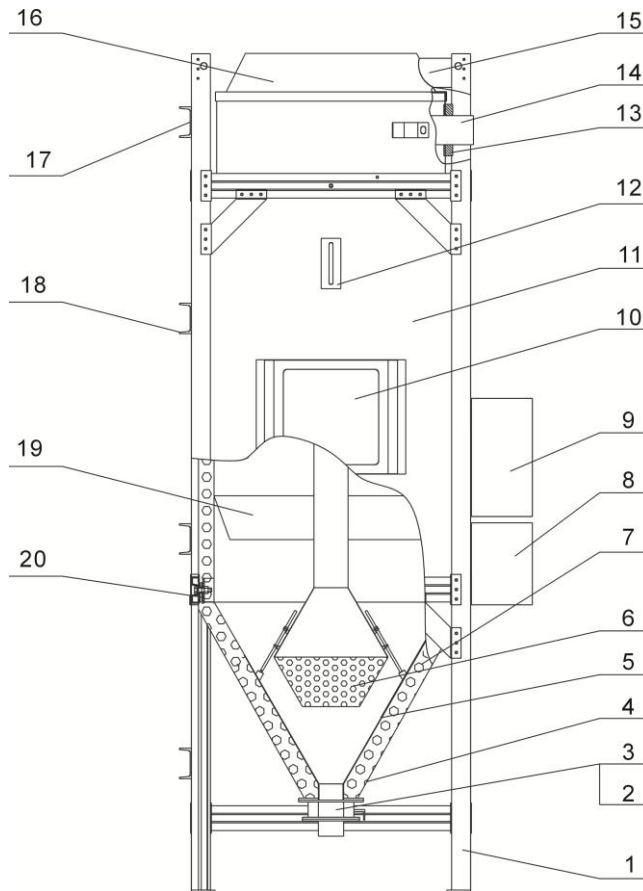


### Names of Parts :

- |   |                               |                            |
|---|-------------------------------|----------------------------|
| 1. Control box                              | 2. Clearance door             | 3. Sight-glass window      |
| 4. Down-blowing air outlet flange           | 5. Lid                        | 6. Packaging sustain block |
| 7. Reinforcement welded block of foot stand | 8. Forklift beam              | 9. Heat-insulated cotton   |
| 10. Down-blowing air bell mouth             | 11. Internal hopper           | 12. Floor stand            |
| 13. Magnetic base                           | 14. Encircling aluminum plate | 15. Blower                 |
| 16. Hot air recycler                        | 17. Heating case              | 18. Material storage tank  |
| 19. Air outlet                              |                               |                            |

Picture 2-3: Structural Drawing (SHD-900U~1200U)

### 2.2.3 Structural Drawing (SHD-1500U~8000U)

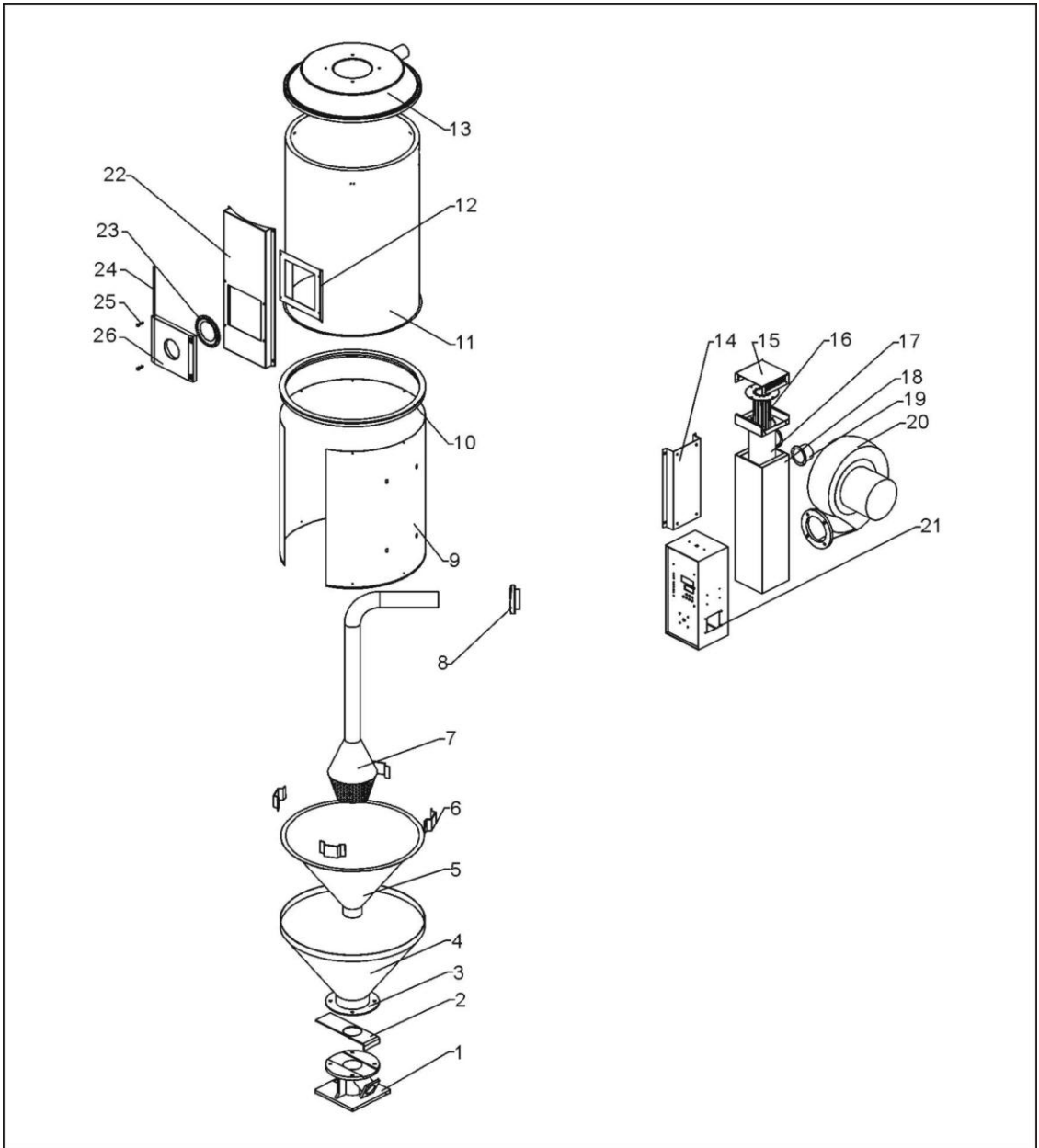


**Names of Parts :**

- |  |                                |  |
|--|--------------------------------|--|
| 1. Floor stand                                     | 2. Manual butterfly valve      | 3. Dropping material receive plate           |
| 4. Pattern aluminum plate                          | 5. Inner welding material tank | 6. Down-blowing air bell mouth               |
| 7. Heat-insulated cotton                           | 8. Electrical control box      | 9. Heating case                              |
| 10. Sight-glass window                             | 11. Material storage tank      | 12. Sight-glass window                       |
| 13. Aluminum fixing block of down-blowing air pipe | 14. Down-blowing air pipe      |  |
| 15. Air outlet                                     | 16. Lid                        | 17. Packaging sustain block                  |
| 18. Forklift beam                                  | 19. Material guide plate       | 20. Reinforcement welded block of foot stand |

Picture 2-4: Structural Drawing (SHD-1500U~8000U)

## 2.2.4 Assembly Drawing (SHD-20U~750U)



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

Picture 2-5: Assembly Drawing (SHD-20U~750U)

## 2.2.5 Parts List (SHD-20U~750U)

Table 2-1: Parts List (SHD-20U~80U)

No.	Name	Part No.		
		SHD-20U	SHD-40U	SHD-80U
1	Standard base	BY10020000550	BY10040000050	BY10040000050
2	Shut-off valve	YW07001200000	YW09255000000	YW09255000000
3	Hopper flange	-	-	-
4	Outer hopper	-	-	-
5	Inner hopper	-	-	-
6	Hopper bottom ring	-	-	-
7	Down-blowing pipe	-	-	-
8	Fixed block for down-blowing pipe	BW21020400210	BW21020400010	BW21081200010
9	Heat preservation cover	-	-	-
10	Hopper upper ring	BW21081210010	YA30004000000	BA30801200110
11	Hopper	-	-	-
12	Sight glass frame	-	-	-
13	Hopper top cover	BL02002000020	BL02004000020	BL02801200020
14	Heating box retainer	-	-	-
15	Heating box cap	-	-	-
16	Pipe heater*	BH70202200050	BH70400300350	BH70803900250
17	Hot air pipe	-	-	-
18	Outer cover of heating box	-	-	-
19	Flange	-	-	-
20	Blower*	BM40001500200	BM40025300450	BM40003000250
21	Control box	BH31002000250	BH31004000150	BH31008000350
22	Outer sight glass frame	-	-	-
23	Flange	-	-	-
24	Pin	-	-	-
25	Fastening screw	-	-	-
26	Sight-glass window	-	-	-

\* 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 (SHD-120U~230U)

No.	Name	Part No.		
		SHD-120U	SHD-160U	SHD-230U
1	Standard base	BY10040000050	BY10300000050	BY10300000050
2	Shut-off valve	YW09255000000	YW09102000000	YW09102000000
3	Hopper flange	-	-	-
4	Outer hopper	-	-	-
5	Inner hopper	-	-	-
6	Hopper bottom ring	-	-	-
7	Down-blowing pipe	-	-	-
8	Fixed block for down-blowing pipe	BW21081200010	BW21164500010	BW21164500010
9	Heat preservation cover	-	-	-
10	Hopper upper ring	BA30801200110	BA30162300110	BA30162300110
11	Hopper	-	-	-
12	Sight glass frame	-	-	-
13	Hopper top cover	BL02801200020	BL02016000020	BL02016000020
14	Filtering bag	BP82602000044	BP82734000044	BP82734000044
15	Heating box retainer	-	-	-
16	Heating box cap	-	-	-
17	Pipe heater*	BH70123900150	BH70160600250	BH70230600250
18	Hot air pipe	-	-	-
19	Outer cover of heating box	-	-	-
20	Flange	-	-	-
21	Blower*	BM40003000250	BM40000450050	BM40000450050
22	Control box	BH31012000050	BH31016000350	BH31023000150
23	Outer sight glass frame	-	-	-
24	Flange	-	-	-
25	Pin	-	-	-
26	Fastening screw	-	-	-
27	Sight-glass window	-	-	-

\* 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.

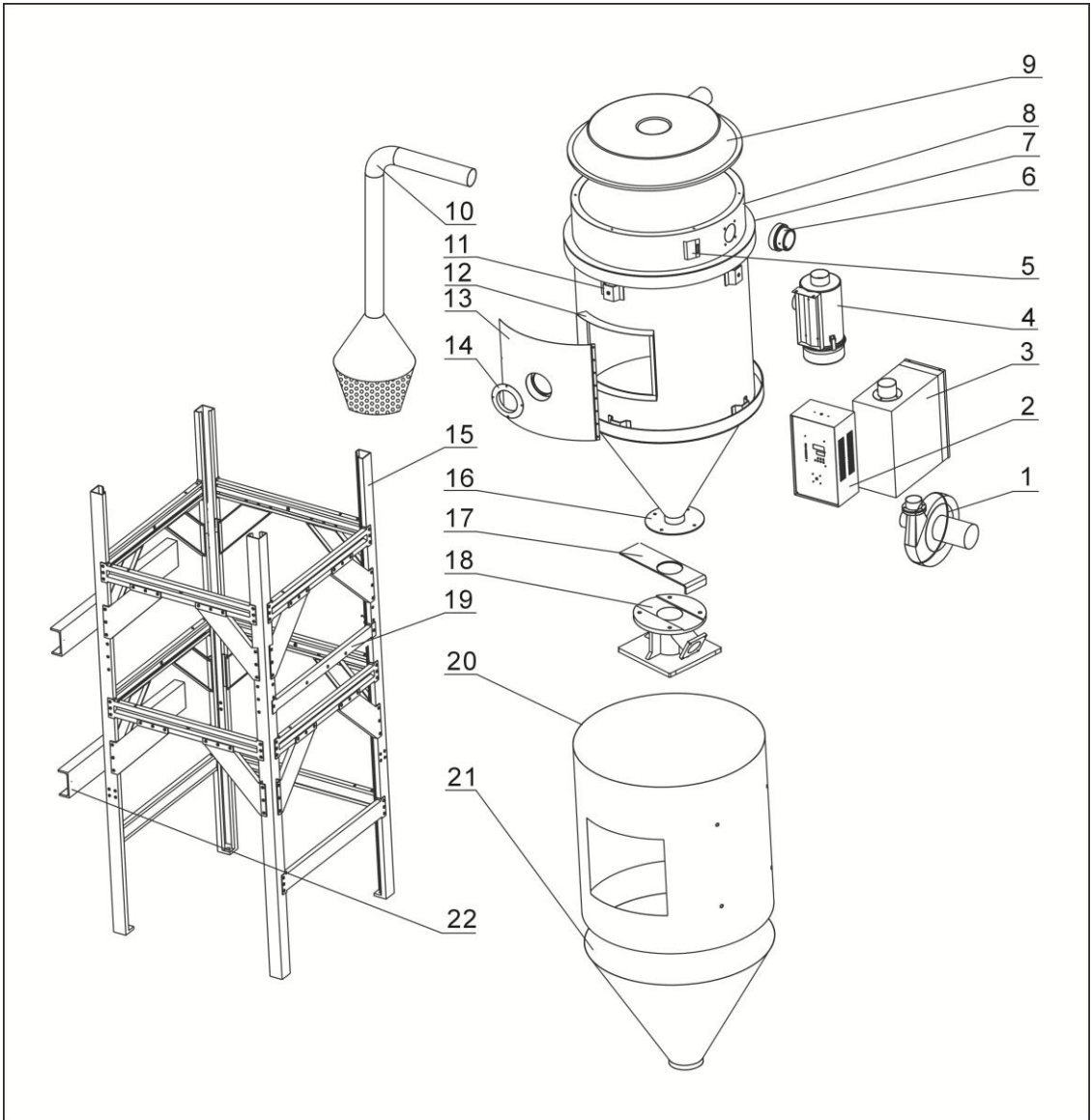
Table 2-3: Parts List (SHD-300U~750U)

No.	Name	Part No.			
		SHD-300U	SHD-450U	SHD-600U	SHD-750U
1	Standard base	BY10300000050	BY10300000050	BY10400000050	BY10400000050
2	Shut-off valve	YW09102000000	YW09102000000	YW09406000040	YW09406000040
3	Hopper flange	-	-	-	-
4	Outer hopper	-	-	-	-
5	Inner hopper	-	-	-	-
6	Hopper bottom ring	-	-	-	-
7	Down-blowing pipe	-	-	-	-
8	Fixed block for down-blowing pipe	BW21164500010	BW21164500010	BW21601200010	BW21601200010
9	Heat preservation cover	-	-	-	-
10	Hopper upper ring	BA30304500110	BA30304500110	YA30607500110	YA30607500110
11	Hopper	-	-	-	-
12	Sight glass frame	-	-	-	-
13	Hopper top cover	BL02030000020	BL02030000020	BL02060000020	BL02075000020
14	Filtering bag	BP82734000044	BP82734000044	BP82864000044	BP82864000044
15	Heating box retainer	-	-	-	-
16	Heating box cap	-	-	-	-
17	Pipe heater*	BH70301200150	BH70451200250	BH70601800250	BH70751800250
18	Hot air pipe	-	-	-	-
19	Outer cover of heating box	-	-	-	-
20	Flange	-	-	-	-
21	Blower*	BM40005000150	BM40005000150	BM30055000060	BM30055000060
22	Control box	BH31304500050	BH31045000250	BH31060001750	BH31075000050
23	Outer sight glass frame	-	-	-	-
24	Flange	-	-	-	-
25	Pin	-	-	-	-
26	Fastening screw	-	-	-	-
27	Sight-glass window	-	-	-	-

\* 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.

## 2.2.6 Assembly Drawing (SHD-900U~1200U)



Remarks: Please refer to material list 2.2.6 for specific explanation of the Arabic numbers in parts drawing.

Picture 2-6: Assembly Drawing (SHD-900U~1200U)

## 2.2.7 Parts List (SHD-900U~120U)

Table 2-4: Parts List (SHD-900U~1200U)

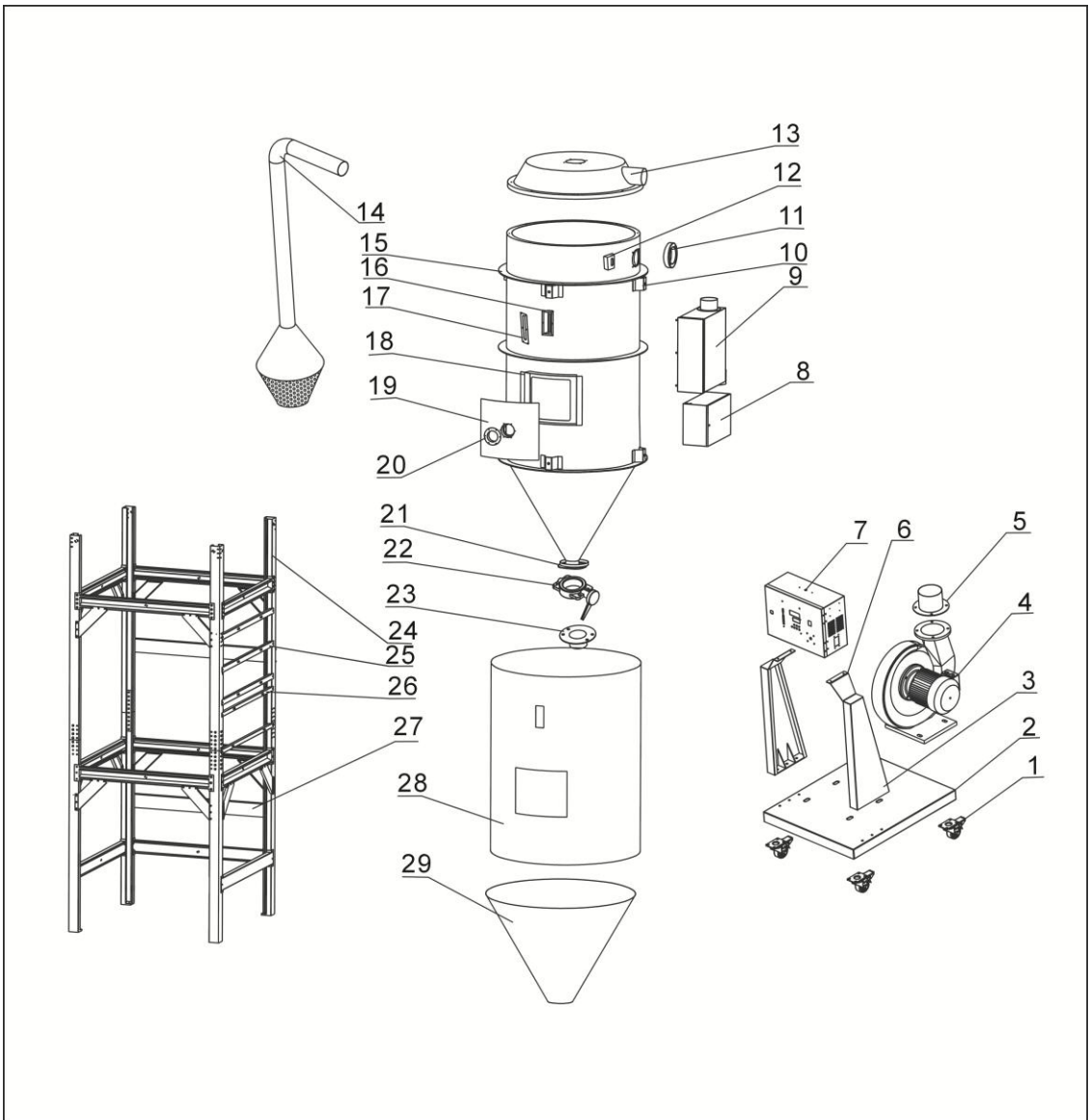
No.	Name	Part No.	
		SHD-900U	SHD-1200U
1	Blower*	BM30055000060	BM30113230050
2	Control box	-	-
3	Heating case	-	-
4	Hot air recycler	BY10090000350	BY10120200050
5	Welded block of material tank	-	-
6	Air inlet flange	BW21601200010	BW21601200010
7	Material tank	-	-
8	Strengthening ring of material tank	-	-
9	Lid	BL02090007520	BL02120001820
10	Down-blowing air pipe	-	-
11	Fixing welded block of foot stand	-	-
12	Clearance frame	-	-
13	Clearance door	-	-
14	Cleaning door baffle	-	-
15	Assembly picture of foot stand	-	-
16	Hopper flange	-	-
17	Shut-off plate	YW09406000040	YW09406000040
18	Magnetic base	YP10503300000	YP10503300000
19	Box fixing beam	-	-
20	Encircling barrel	-	-
21	Hopper encircling nameplate	-	-
22	Forklift beam	-	-

\* 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.

## 2.2.8 Assembly Drawing (SHD-1500U~8000U)



Remarks: Please refer to material list 2.2.8 for specific explanation of the Arabic numbers in parts drawing.

Picture 2-7: Assembly Drawing (SHD-1500U~8000U)

## 2.2.9 Parts List (SHD-1500U~8000U)

Table 2-5: Parts List (SHD-1500U~2500U)

No.	Name	Part No.		
		SHD-1500U	SHD-2000U	SHD-2500U
1	Castor	YW03000301100 YW03000300000	YW03000301100 YW03000300000	YW03000301100 YW03000300000
2	Frame base	-	-	-
3	Standing post	-	-	-
4	Blower*	YM30304000000	YM30304000000	BM30224000050
5	Blower flange	-	-	-
6	Welded block	-	-	-
7	Main electrical control box	-	-	-
8	Electrical control box	BH31150000250	BH31150000250	BH31250000150
9	Heating case	-	-	-
10	Fixing plate of foot stand	-	-	-
11	Air inlet flange	-	-	-
12	Hoisting ring	-	-	-
13	Lid	-	-	-
14	Down-blowing air pipe	-	-	-
15	Strengthening ring of material tank	-	-	-
16	Sight-glass inner frame	-	-	-
17	Six-point sight-glass window	-	-	-
18	Clearance frame	-	-	-
19	Cleaning door	-	-	-
20	Cleaning door baffle	-	-	-
21	Hopper flange	-	-	-
22	Manual butterfly valve	-	-	-
23	Dropping material receive plate	-	-	-
24	Assembly picture of foot stand	-	-	-
25	Fixing beam of heating case	-	-	-
26	Fixing beam of control box	-	-	-
27	Forklift beam			
28	Tank encircling aluminum plate			
29	Hopper encircling aluminum plate			

\* 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: Parts List (SHD-3000U~4000U)

No.	Name	Part No.		
		SHD-3000U	SHD-3500U	SHD-4000U
1	Castor	YW03000301100 YW03000300000	YW03000301100 YW03000300000	YW03000301100 YW03000300000
2	Frame base	-	-	-
3	Standing post	-	-	-
4	Blower*	BM30224000050	BM30754500050	BM30754500050
5	Blower flange	-	-	-
6	Welded block	-	-	-
7	Main electrical control box	-	-	-
8	Electrical control box	BH31250000150	BH31350000050	BH31350000050
9	Heating case	-	-	-
10	Fixing plate of foot stand	-	-	-
11	Air inlet flange	-	-	-
12	Hoisting ring	-	-	-
13	Lid	-	-	-
14	Down-blowing air pipe	-	-	-
15	Strengthening ring of material tank	-	-	-
16	Sight-glass inner frame	-	-	-
17	Six-point sight-glass window	-	-	-
18	Clearance frame	-	-	-
19	Cleaning door	-	-	-
20	Cleaning door baffle	-	-	-
21	Hopper flange	-	-	-
22	Manual butterfly valve	-	-	-
23	Dropping material receive plate	-	-	-
24	Assembly picture of foot stand	-	-	-
25	Fixing beam of heating case	-	-	-
26	Fixing beam of control box	-	-	-
27	Forklift beam	-	-	-
28	Tank encircling aluminum plate			
29	Hopper encircling aluminum plate			

\* 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: Parts List (SHD-5000U~8000U)

No.	Name	Part No.			
		SHD-5000U	SHD-6000U	SHD-7000U	SHD-8000U
1	Castor	YW03000301100 YW03000300000	YW03000301100 YW03000300000	-	-
2	Frame base	-	-	-	-
3	Standing post	-	-	-	-
4	Blower*	YM30001100000	YM30001500000	YM30001500000 0	YM30223400000
5	Blower flange	-	-	-	-
6	Welded block	-	-	-	-
7	Main electrical control box	-	-	-	-
8	Electrical control box	BH31455000050	BH31600000250	-	-
9	Heating case	-	-	-	-
10	Fixing plate of foot stand	-	-	-	-
11	Air inlet flange	-	-	-	-
12	Hoisting ring	-	-	-	-
13	Lid	-	-	-	-
14	Down-blowing air pipe	-	-	-	-
15	Strengthening ring of material tank	-	-	-	-
16	Sight-glass inner frame	-	-	-	-
17	Six-point sight-glass window	-	-	-	-
18	Clearance frame	-	-	-	-
19	Cleaning door	-	-	-	-
20	Cleaning door baffle	-	-	-	-
21	Hopper flange	-	-	-	-
22	Manual butterfly valve	-	-	-	-
23	Dropping material receive plate	-	-	-	-
24	Assembly picture of foot stand	-	-	-	-
25	Fixing beam of heating case	-	-	-	-
26	Fixing beam of control box	-	-	-	-
27	Forklift beam	-	-	-	-
28	Tank encircling aluminum plate	-	-	-	-
29	Hopper encircling aluminum plate	-	-	-	-

\* 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 (SHD-20U~1200U)

Table 2-8: Electrical Diagram (SHD-20U~1200U)

No. Model	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)
SHD-20U	3.7	2.5	16	10	0.45	1.5	0.12	0.4	2.5	2.2	3.3
SHD-40U	4.9	2.5	16	10	0.45	1.5	0.12	0.4	2.5	3	4.5
SHD-80U	6.3	2.5	16	10	0.45	1.5	0.12	0.4	2.5	3.9	5.9
SHD-120U	6.3	2.5	16	10	0.45	1.5	0.12	0.4	2.5	3.9	5.9
SHD-160U	9.7	2.5	16	16	0.55	1.5	0.18	0.5	2.5	6	9.1
SHD-230U	9.7	2.5	16	16	0.55	1.5	0.18	0.5	2.5	6	9.1
SHD-300U	18.8	4	25	20	0.65	1.5	0.25	0.58	4	12	18
SHD-450U	18.8	4	25	20	0.65	1.5	0.25	0.58	4	12	18
SHD-600U	28.3	6	32	32	1.6	1.5	0.55	1.45	6	18	27
SHD-750U	28.3	6	32	32	1.6	1.5	0.55	1.45	6	18	27
SHD-900U	28.3	6	32	32	1.6	1.5	0.55	1.45	2.5	9×2	13.5
SHD-1200U	28.3	6	32	32	1.6	1.5	0.55	1.45	2.5	9×2	13.5

(a) Total current

(c) Main power switch

(d2) Circuit breaker of drying blower

(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 heater

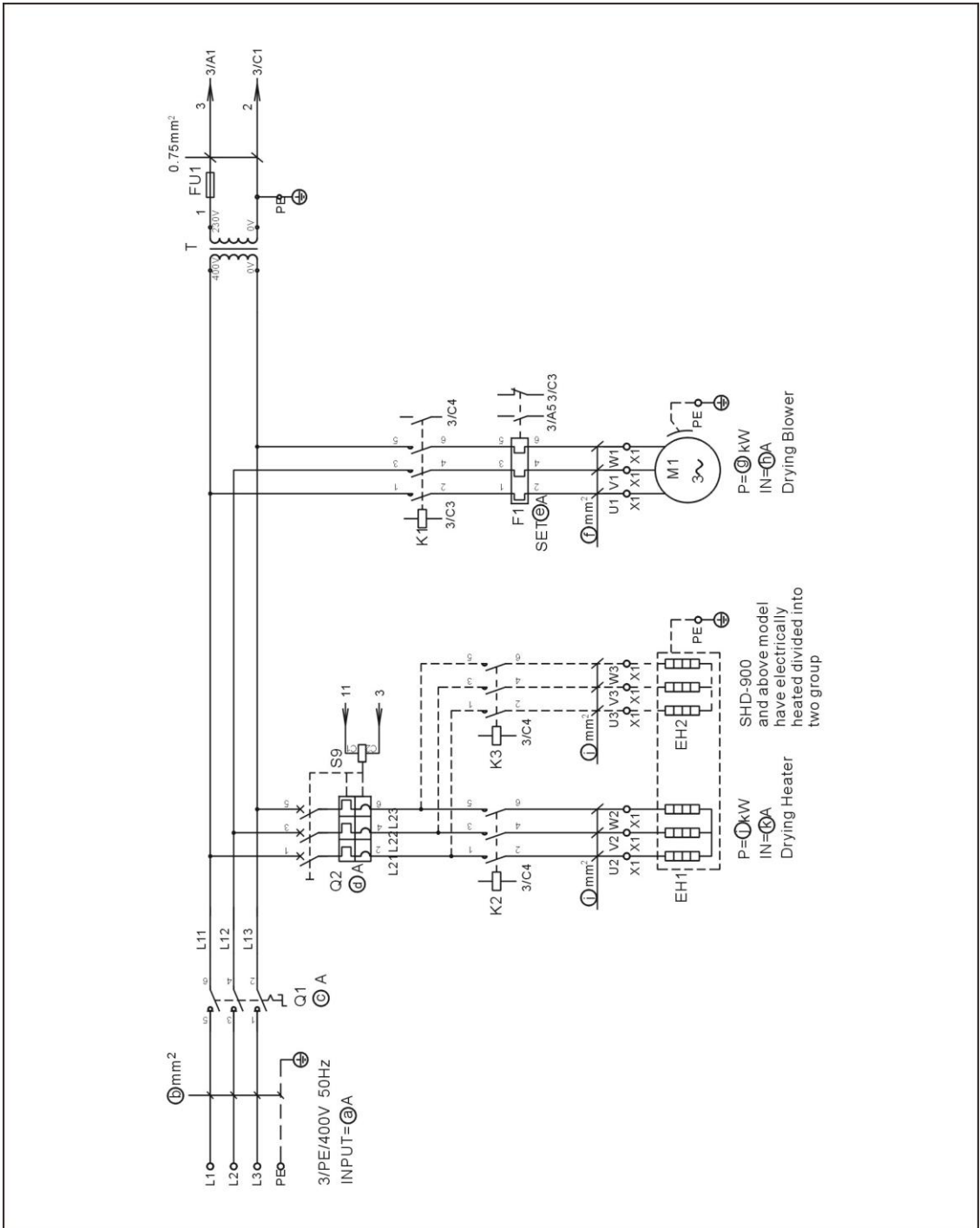
(e) Thermo relay setting of drying blower

(g) Power of drying blower

(i) Power cable dia. of heater

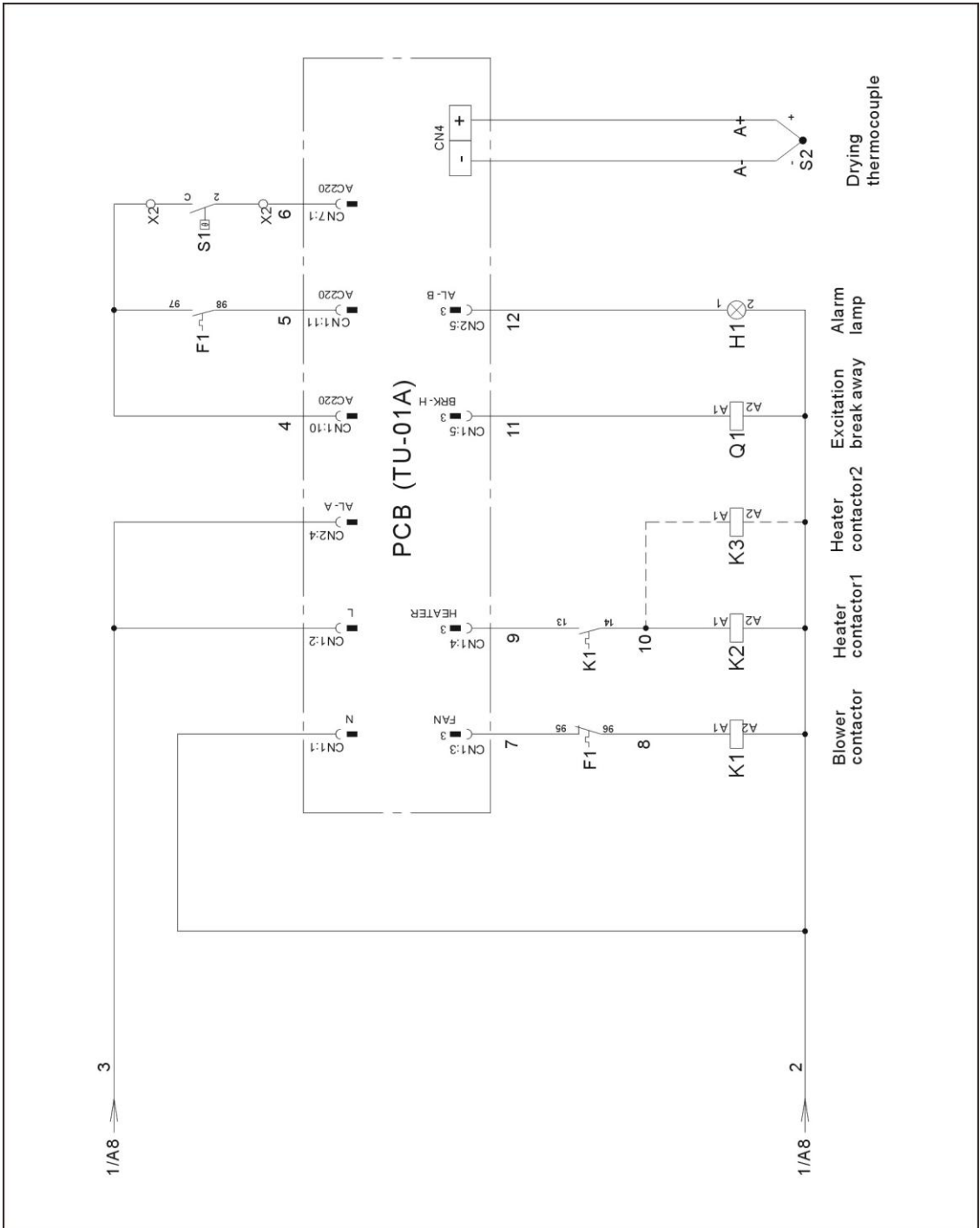
(k) Current of drying heater

### 2.3.2 Main Circuit (SHD-20U~1200U)



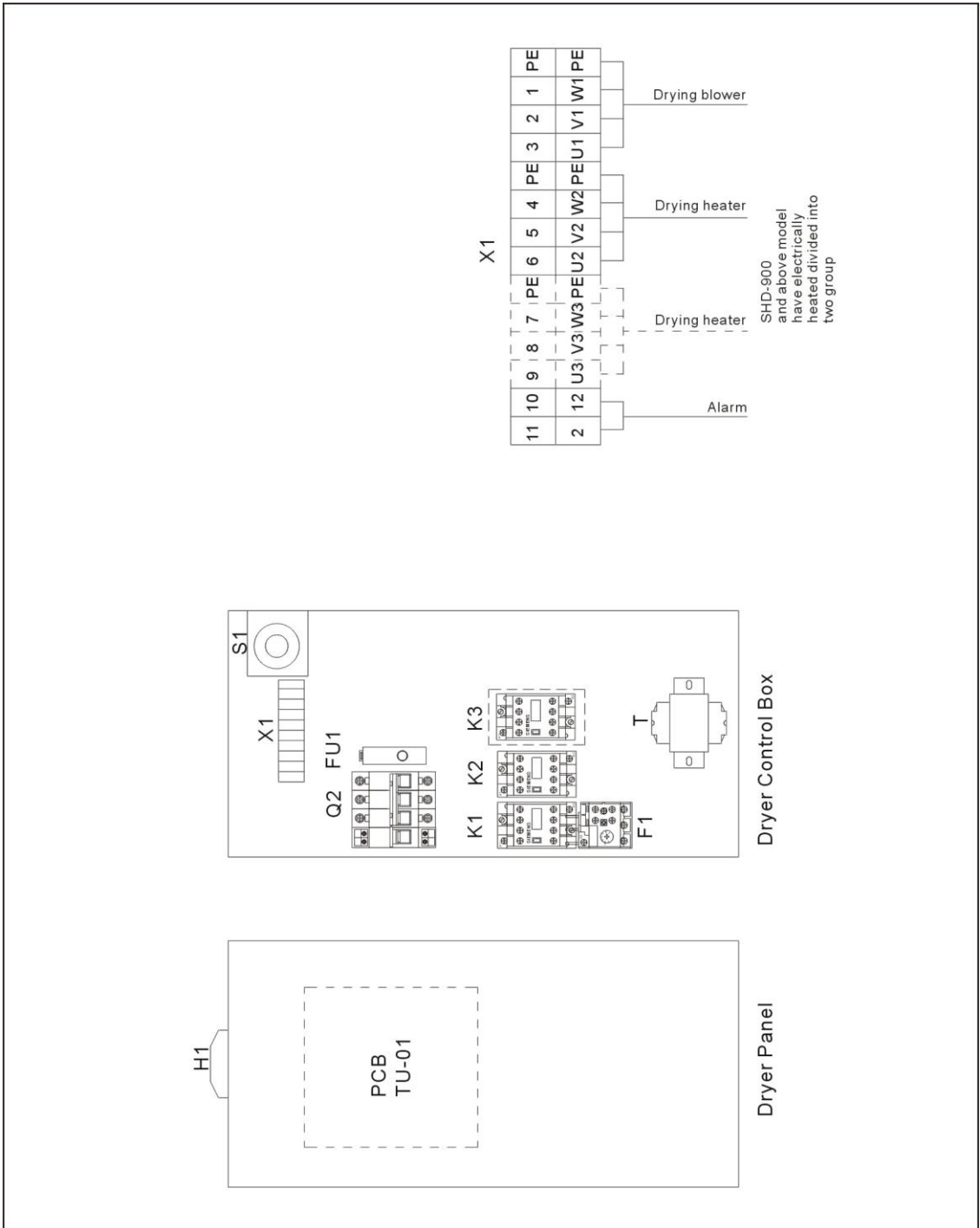
Picture 2-8: Main Circuit (SHD-20U~1200U)

### 2.3.3 Control Circuit (SHD-20U~1200U)



Picture 2-9: Control Circuit (SHD-20U~1200U)

### 2.3.4 Components Layout (SHD-20U~1200U)



Picture 2-10: Components Layout (SHD-20U~1200U)

### 2.3.5 Electrical Components List (SHD-20U~1200U)

Table 2-9: Electrical Components List (SHD-20U)

NO.	Symbol	Name	SHD-20U	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10200300000
2	Q2	Circuit breaker*	10A 3P 400V 50/60Hz	YE40631000000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contacto <sup>r</sup> *	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contacto <sup>r</sup> *	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	0.4~0.63A	YE01046300000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	M1	Blower*	400V 50Hz 0.12kW	-
16	EH1	Heater**	400V 50Hz 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 2-10: Electrical Components List (SHD-40U)

NO.	Symbol	Name	SHD-40U	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10200300000
2	Q2	Circuit breaker*	10A 3P 400V 50/60Hz	YE40631000000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contactora*	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contactora*	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	0.4~0.63A	YE01046300000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	M1	Blower*	400V 50Hz 0.12kW	-
16	EH1	Heater**	400V 50Hz 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 2-11: Electrical Components List (SHD-80U/120U)

NO.	Symbol	Name	SHD-80U/120U	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10200300000
2	Q2	Circuit breaker*	10A 3P 400V 50/60Hz	YE40631000000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contacto <sup>r</sup> *	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contacto <sup>r</sup> *	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	0.4~0.63A	YE01046300000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	M1	Blower*	400V 50Hz 0.12kW	-
16	EH1	Heater**	400V 50Hz 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 2-12: Electrical Components List (SHD-160U/230U)

NO.	Symbol	Name	SHD-160U/230U	
			Specifications	Part No.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10200300000
2	Q2	Circuit breaker*	16A 3P 400V 50/60Hz	YE40601600000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contacto <sup>r</sup> *	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contacto <sup>r</sup> *	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	0.4~0.63A	YE01046300000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	M1	Blower*	400V 50Hz 0.18kW	-
16	EH1	Heater**	400V 50Hz 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 2-13: Electrical Components List (SHD-300U/450U)

NO.	Symbol	Name	SHD-300U/450U	
			Specifications	Part No.
1	Q1	Main switch	25A 3P 690V 50/60Hz	YE10210300000
2	Q2	Circuit breaker*	25A 3P 400V 50/60Hz	YE40632500000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contacto <sup>r</sup> *	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contacto <sup>r</sup> *	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	0.63~1A	YE01063100000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	X1	Terminal board	4mm <sup>2</sup>	YE61040000000
16	-	Terminal board	4mm <sup>2</sup> PE	YE61043500000
17	M1	Blower*	400V 50Hz 0.25kW	-
18	EH1	Heater**	400V 50Hz 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 2-14: Electrical Components List (SHD-600U/750U)

NO.	Symbol	Name	SHD-600U/750U	
			Specifications	Part No.
1	Q1	Main switch	32A 3P 690V 50/60Hz	YE10220300000
2	Q2	Circuit breaker*	32A 3P 400V 50/60Hz	YE40633200000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contacto*r*	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contacto*r*	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	1.25~2A	YE01125200000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	X1	Terminal board	6mm <sup>2</sup>	YE61060000000
16	-	Terminal board	6mm <sup>2</sup> PE	YE61063500000
17	M1	Blower*	400V 50Hz 0.55kW	-
18	EH1	Heater**	400V 50Hz 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.

Table 2-15: Electrical Components List (SHD-900U/1200U)

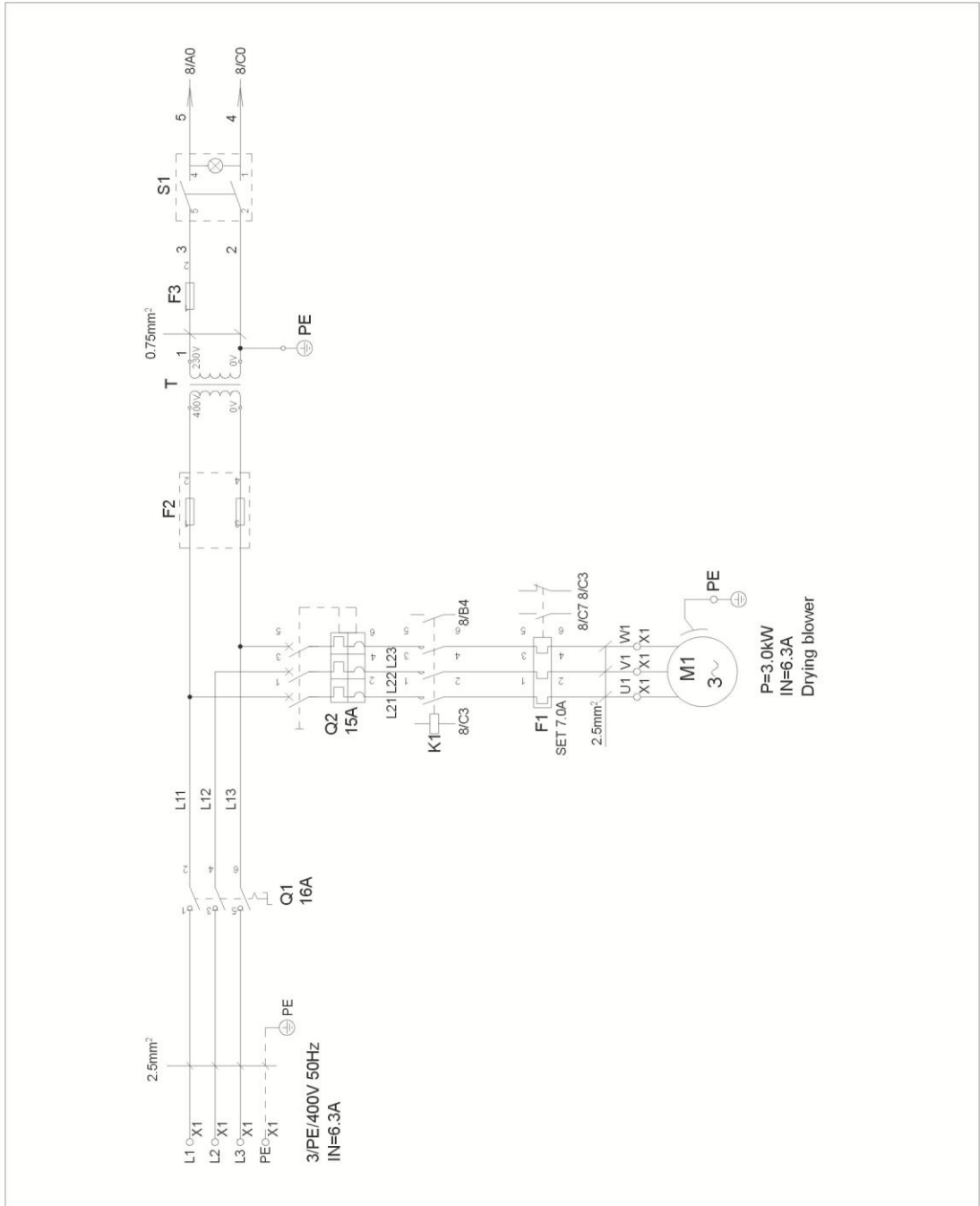
NO.	Symbol	Name	SHD-900U/1200U	
			Specifications	Part No.
1	Q1	Main switch	32A 3P 690V 50/60Hz	YE10220300000
2	Q2	Circuit breaker*	32A 3P 400V 50/60Hz	YE40633200000
3	-	Excitation break away	230VAC	YE40000900000
4	K1	Contactora*	9A 3P 1NO 230V 50/60Hz	YE00301000000
5	K2	Contactora*	9A 3P 230V 50/60Hz	YE00300000000
6	F1	Overload relay*	1.25~2A	YE01125200000
7	FU1	Fuse**	2A 250VAC	YE41001000000
8	T	Transformer*	IN=400V OUT=230V 350mA	YE70402300200
9	PCB-01	PCB*	230V 50/60Hz	YE80001100000
10	S1	Over protector*	250V 16A	YE21503000100
11	S2	Thermocouple	-	-
12	H1	Alarm lamp	230V 50/60Hz	YE83305100200
13	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
14	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
15	X1	Terminal board	2.5mm <sup>2</sup>	YE61250040000
16	-	Terminal board	2.5mm <sup>2</sup> PE	YE61253500000
17	M1	Blower*	400V 50Hz 0.55kW	-
18	EH1	Heater**	400V 50Hz 9kW	BH70090000850/ BH70120000850

\* means possible broken parts.

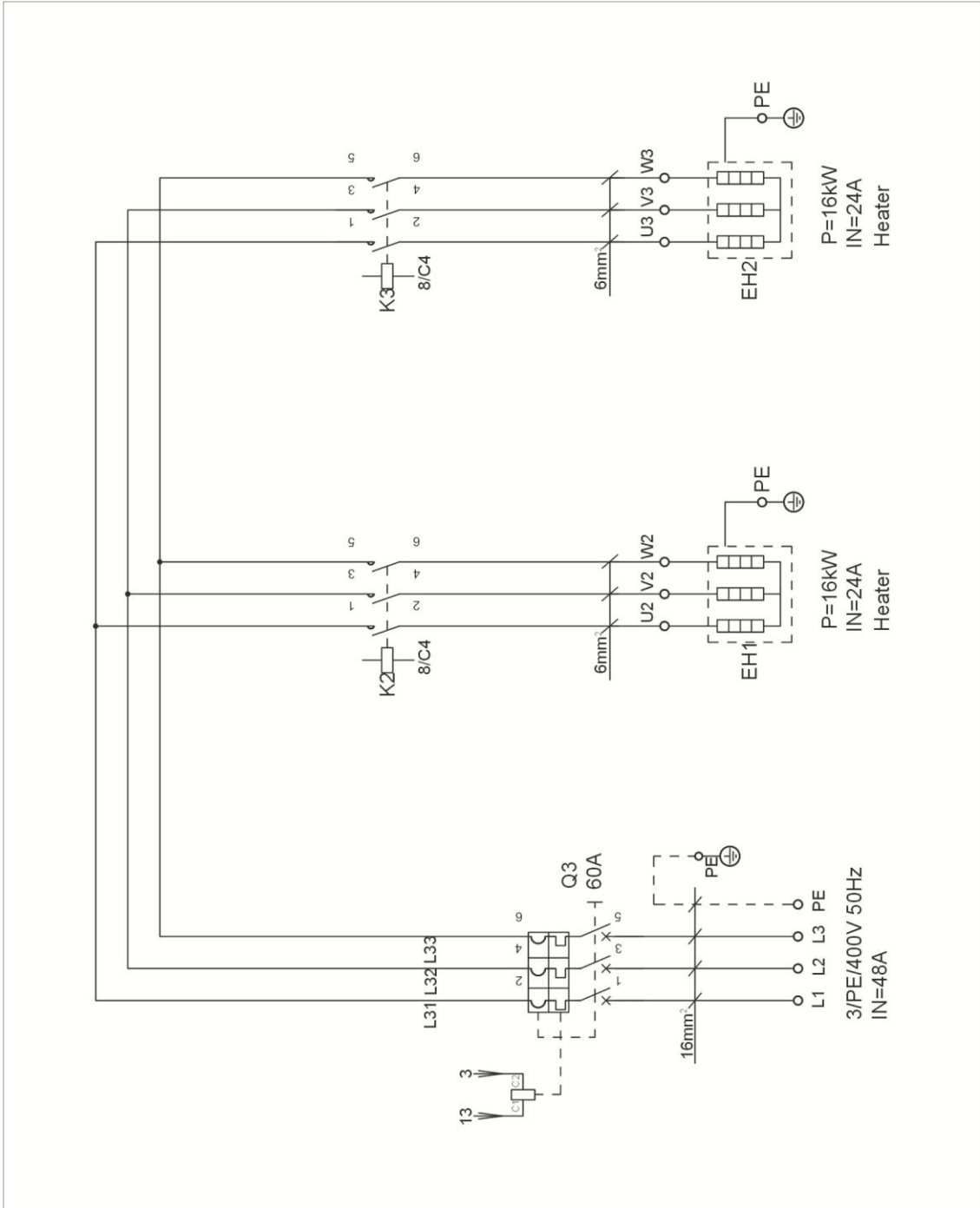
\*\* means easy broken part. and spare backup is suggested.

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 Main Circuit (SHD-1500U~2000U)

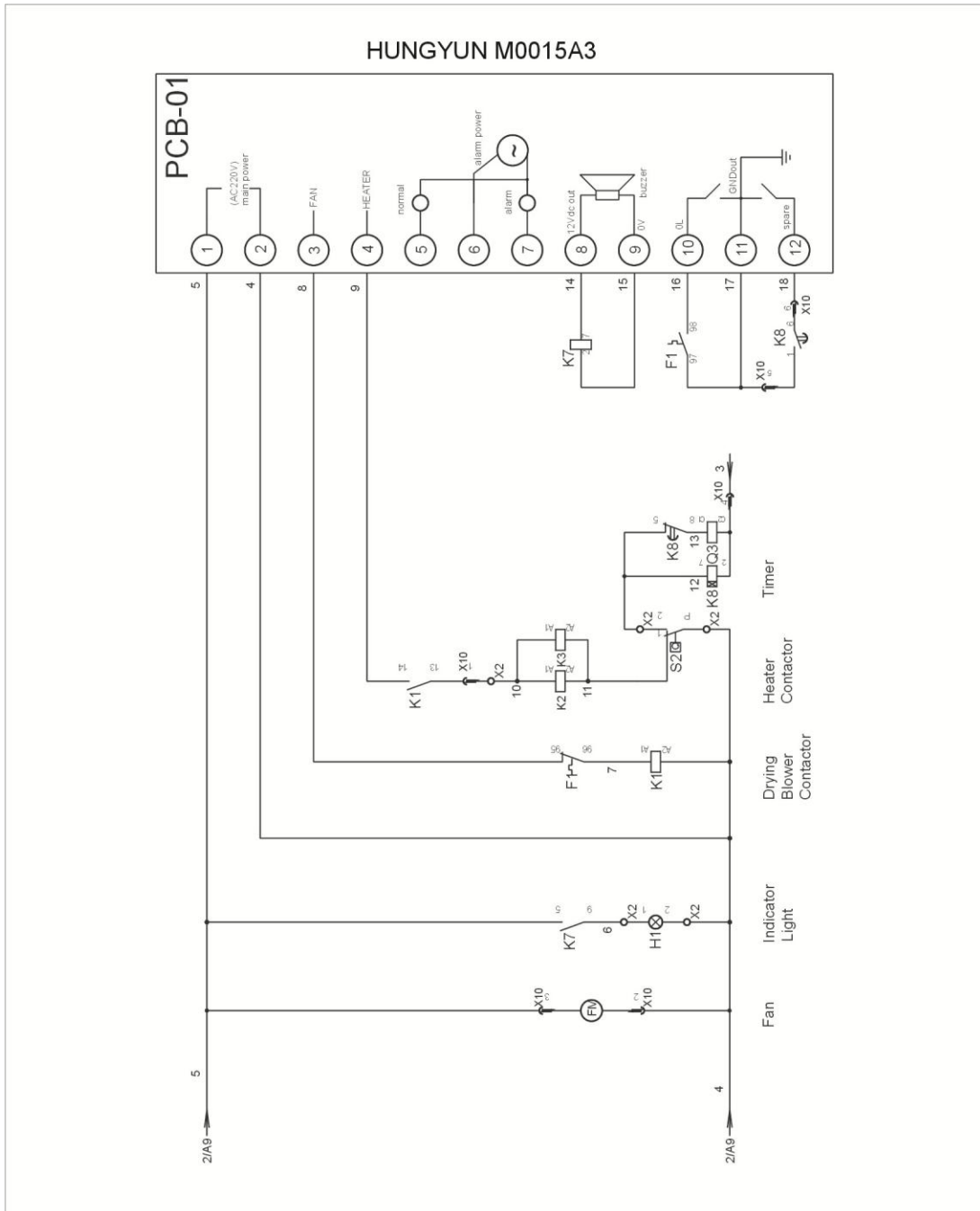


Picture 2-11: Main Circuit 1 (SHD-1500U~2000U)



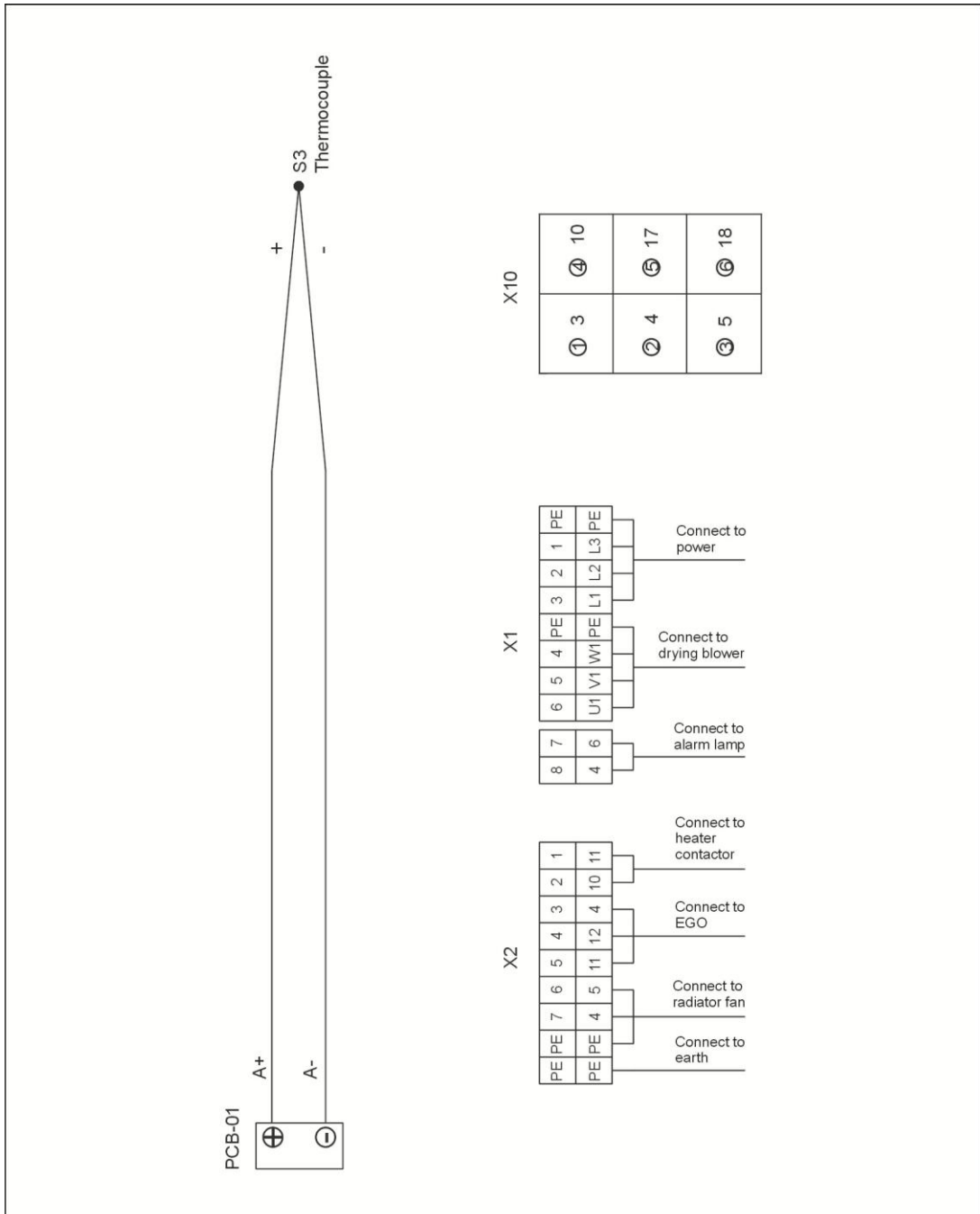
Picture 2-12: Main Circuit 2 (SHD-1500U~2000U)

### 2.3.7 Control Circuit (SHD-1500U~2000U)



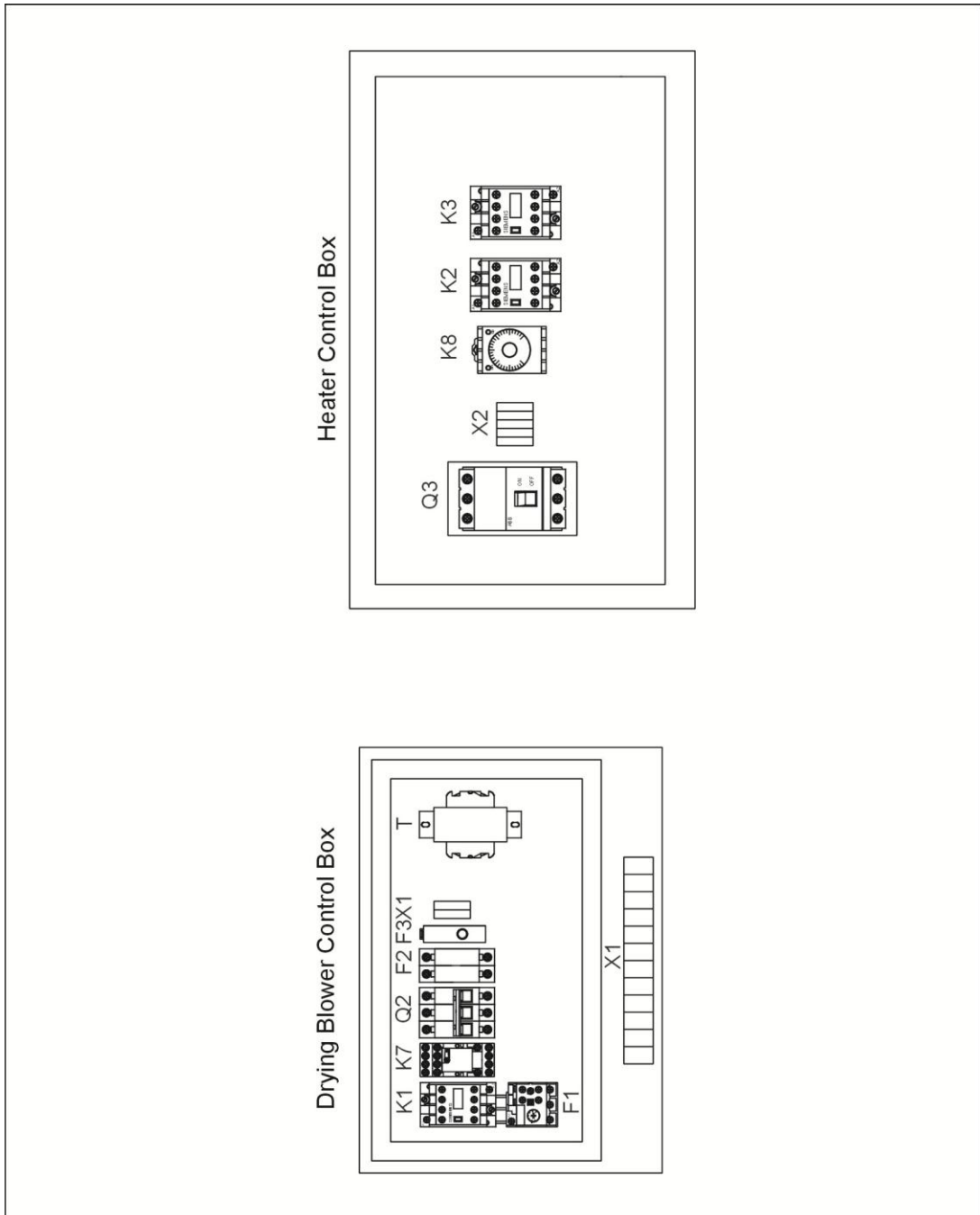
Picture 2-13: Control Circuit (SHD-1500U~2000U)

### 2.3.8 Thermocouple and Terminal Layout (SHD-1500U~2000U)



Picture 2-14: Thermocouple and Terminal Layout (SHD-1500U~2000U)

### 2.3.9 Components Layout (SHD-1500U~2000U)



Picture 2-15: Components Layout (SHD-1500U~2000U)

## 2.3.10 Electrical Components List (SHD-1500U~2000U)

Table 2-16: Electrical Components List (SHD-1500U~2000U)

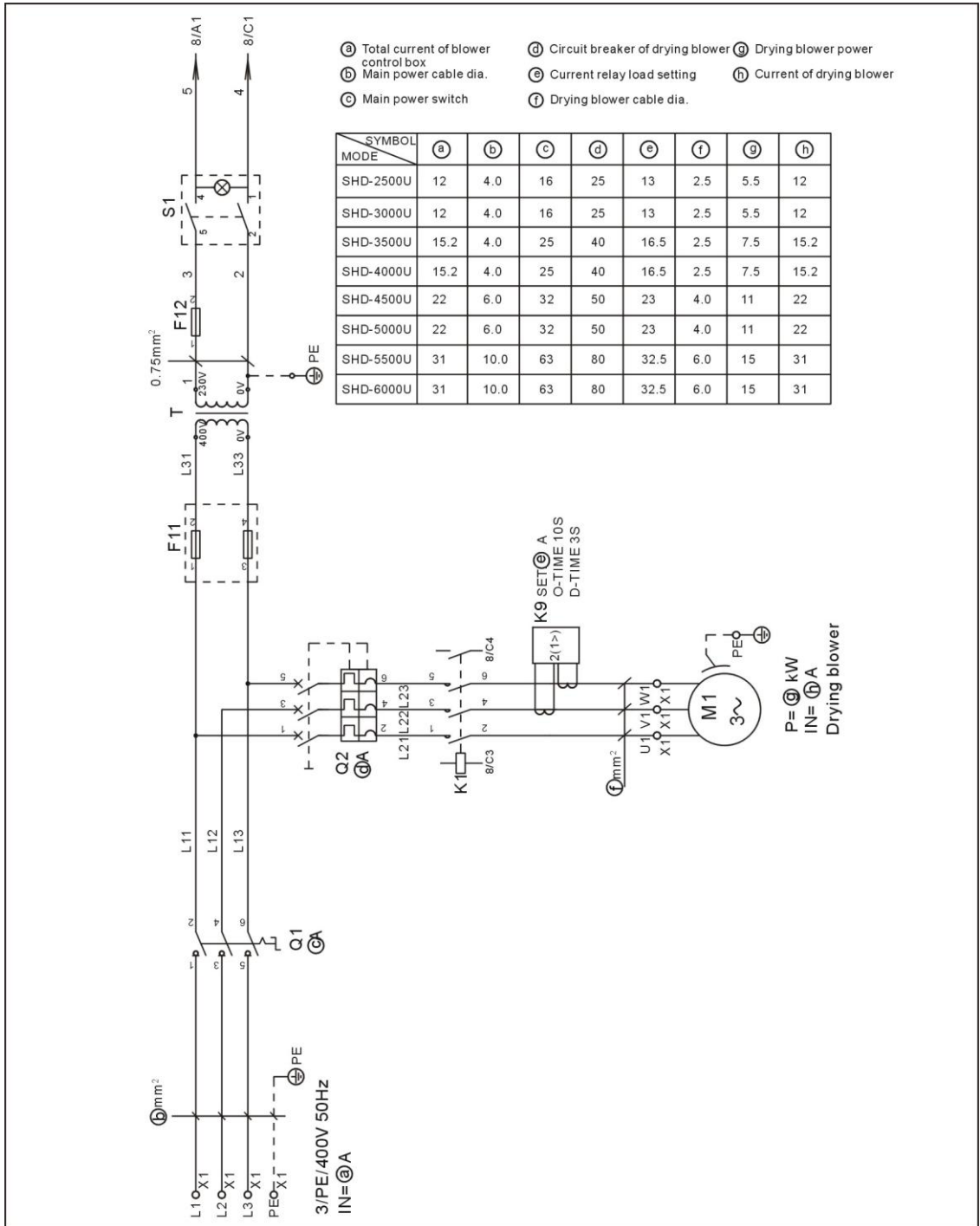
NO.	Symbol	Name	SHD-1500U~2000U	
			Specification	Part NO.
1	Q1	Main switch	16A 3P 690V 50/60Hz	YE10200300000
2	Q2	Circuit breaker*	15A 3P 400V 50/60Hz	YE40601500000
3	Q3	Gate circuit breaker	60A 3P 690V 50/60Hz	YE40636300000
4	-	Excitation break away	SOR-C 230V	YE40133100000
5	K1	Contactors*	9A 3P INO 230V 50/60Hz	YE00301000000
6	K2 K3	Contactors*	38A 3P 230V 50/60Hz	YE00350000000
7	K7	Middle relay*	5A 2P 12VDC	YE03271200000
8	K8	Timer	TH3M-NAB 230VAC 3S~60M	YE86300300000
9	T	Transformer*	500mA IN=400V OUT=230V	YE70402300800
10	F1	Overload relay*	5~8A 690V 50/60Hz	YE01050800000
11	F2	Fuse box**	RT18-32 2P	YE41032200000
12	-	Fuse box	10×38 500V 1A	YE46001000100
13	F3	Fuse**	6×30 2A 250V	YE41001000000
14	S1	Control switch	4P BK	YE10000400000
15	S2	Overheat protector*	250V 5A	YE85540000000
16	S3	Thermocouple	-	BE90300000050
17	PCB-01	Microcomputer board*	STC43/44 230VAC	YE80001500000
18	H1	Alarm lamp	230V 50/60Hz	YE83305100200
19	X1 X2	Terminal board	32A	YE61250000000
20	-	-	-	YE61253500000
21	X2	Terminal board	-	YE61163500000
22	X10	Heavy duty connector	6P	YE68061600000 YE68061600100
23	FM	Fan*	220~240V 50/60Hz	YM60121200400
24	M1	Blower*	400V 50Hz 3kW	YM30304000000
25	EH1 EH2	Heater**	400VAC 50Hz 32kW	BH70150000850

\* means possible broken parts.

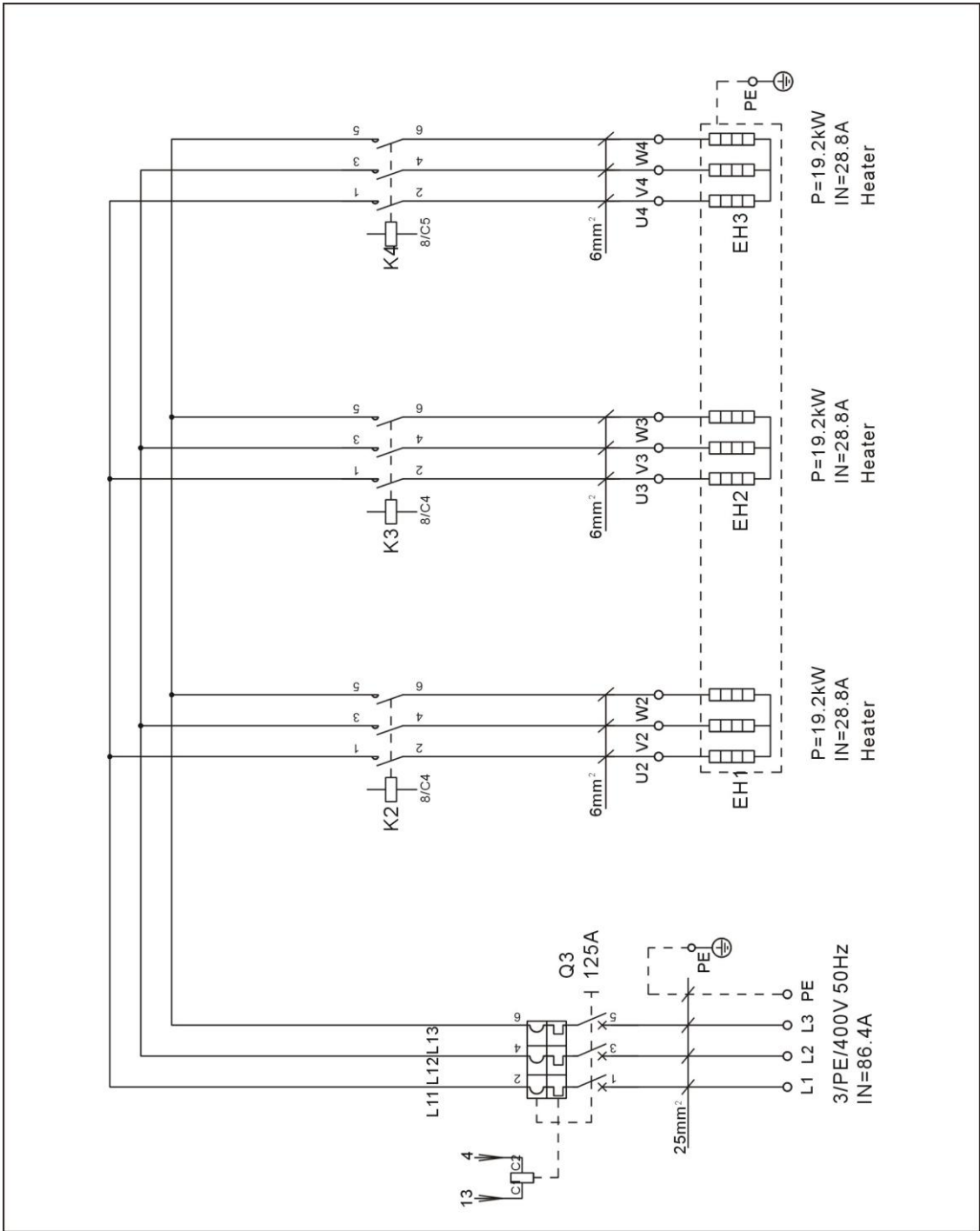
\*\* means easy broken part. and spare backup is suggested.

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.

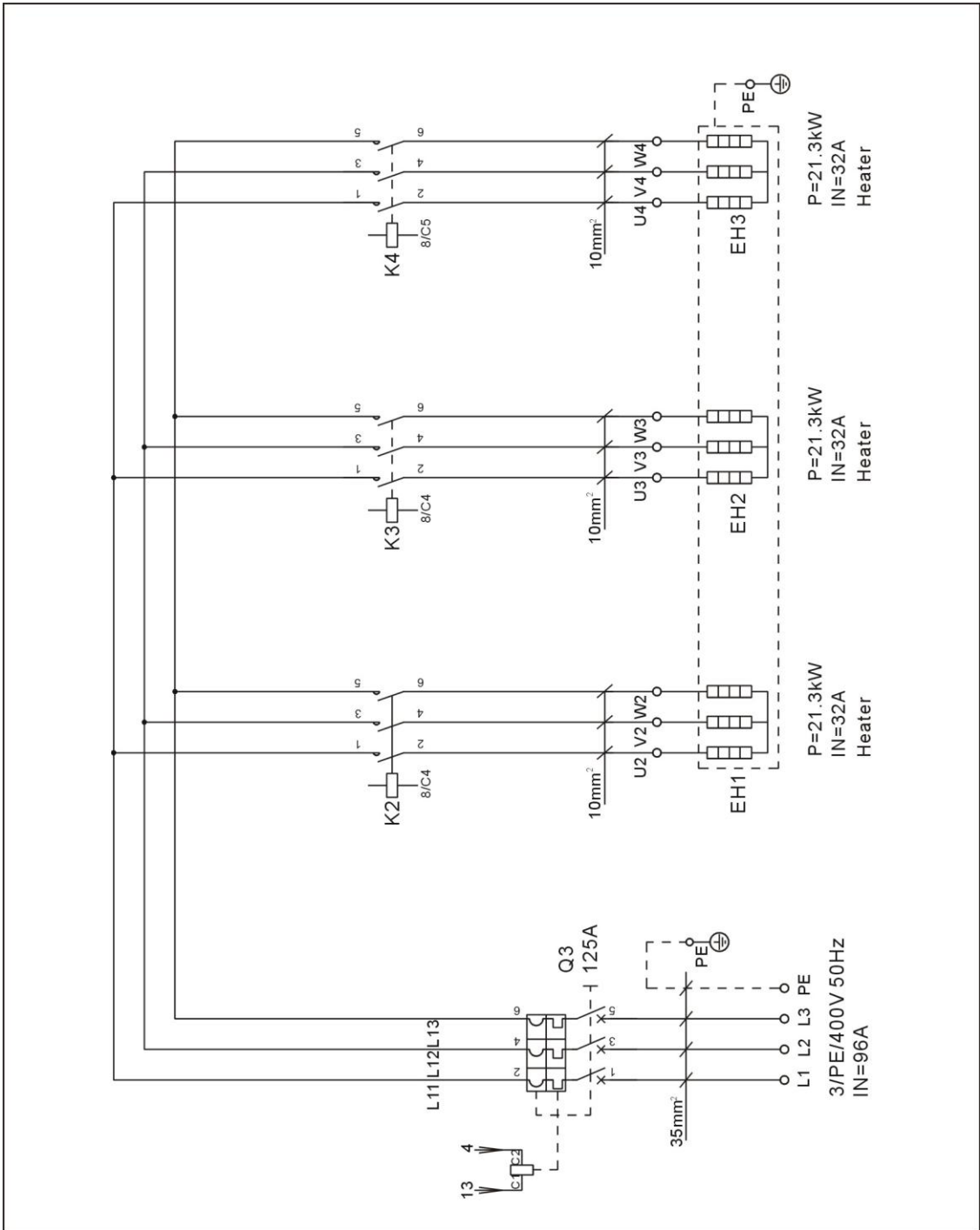
### 2.3.11 Main Circuit (SHD-2500U~6000U 400V)



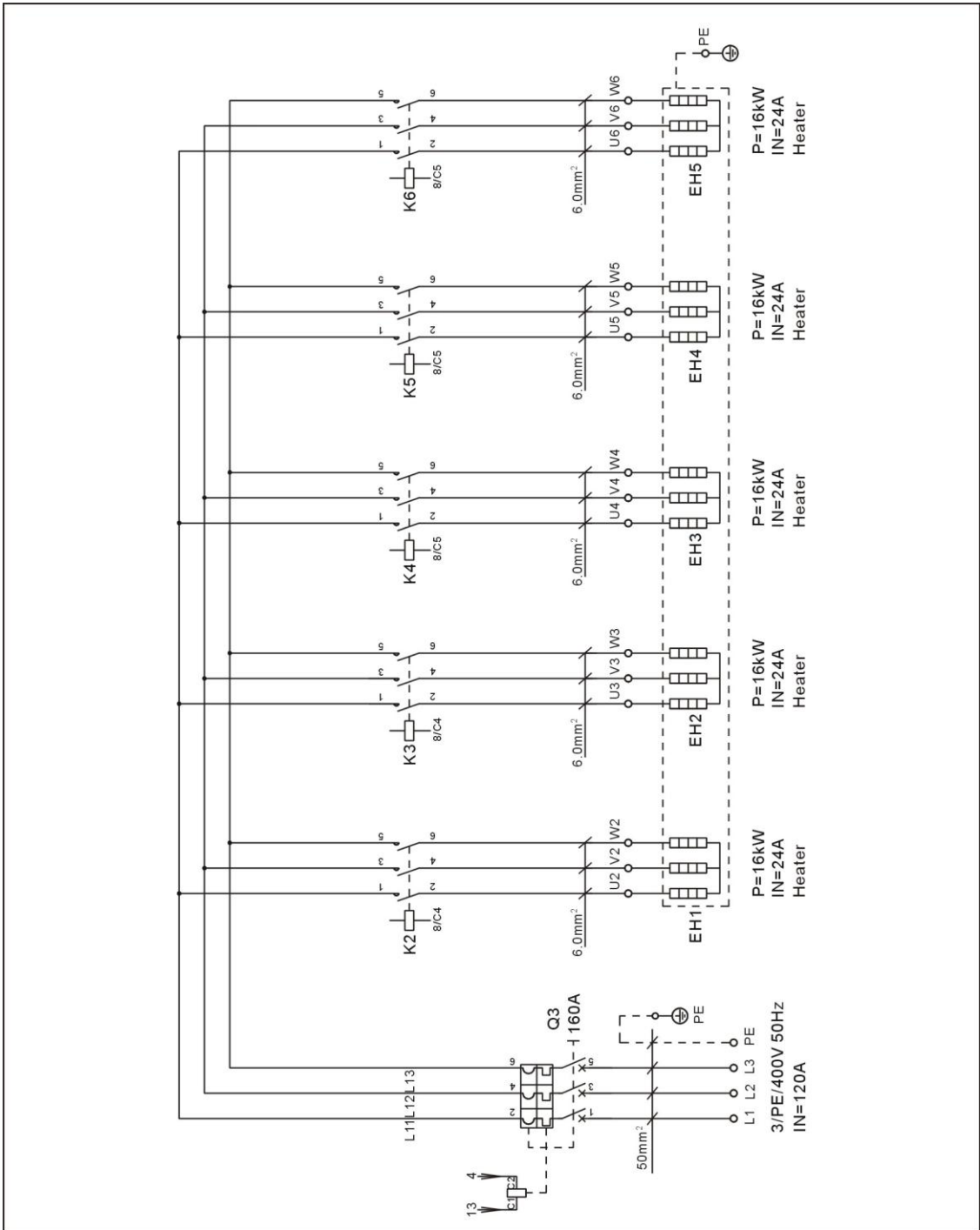
Picture 2-16: Main Circuit 1 (SHD-2500U~6000U 400V)



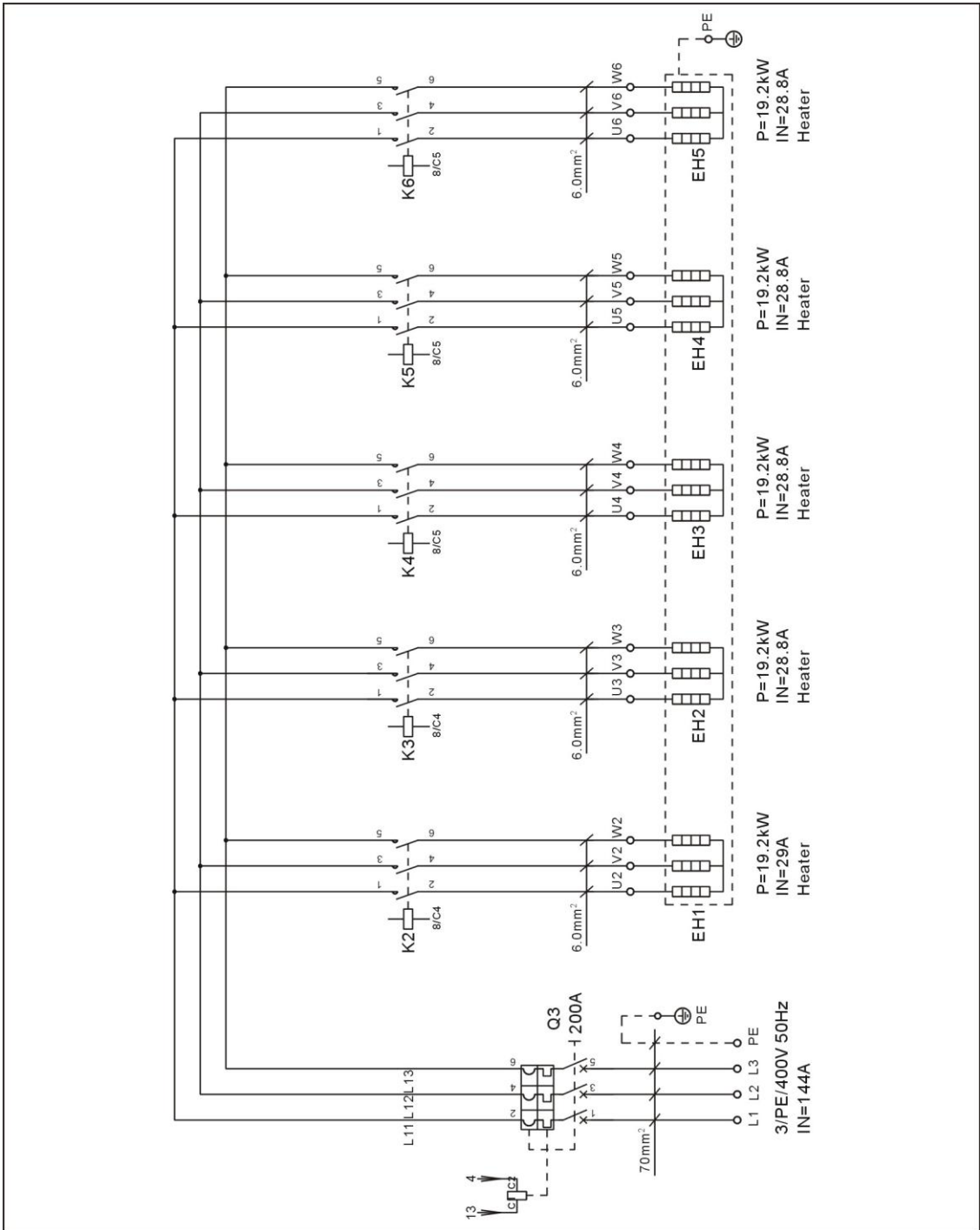
Picture 2-17: Main Circuit 2 (SHD-2500U~3000U 400V)



Picture 2-18: Main Circuit 2 (SHD-3500U~4000U 400V)

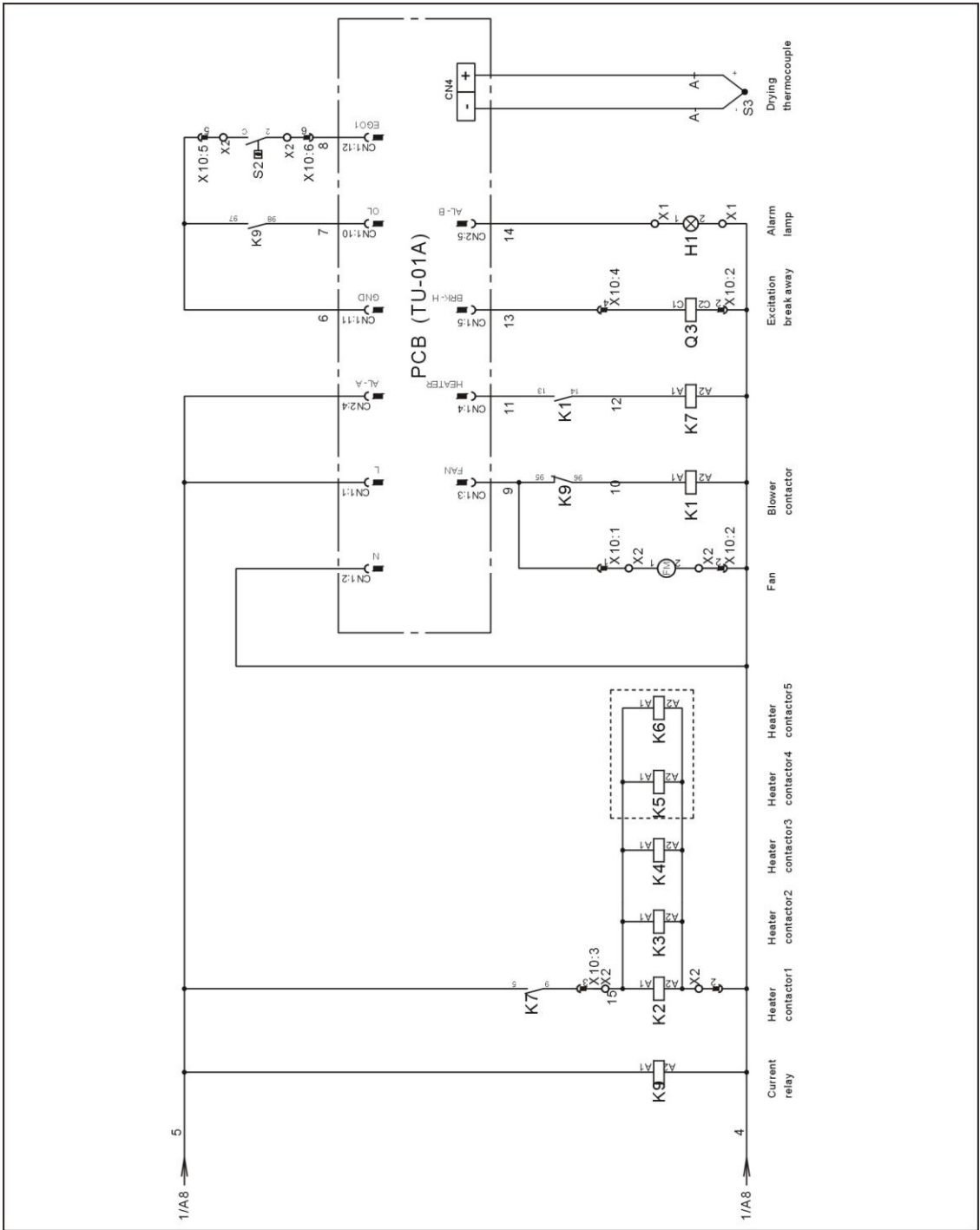


Picture 2-19: Main Circuit 2 (SHD-5000U 400V)



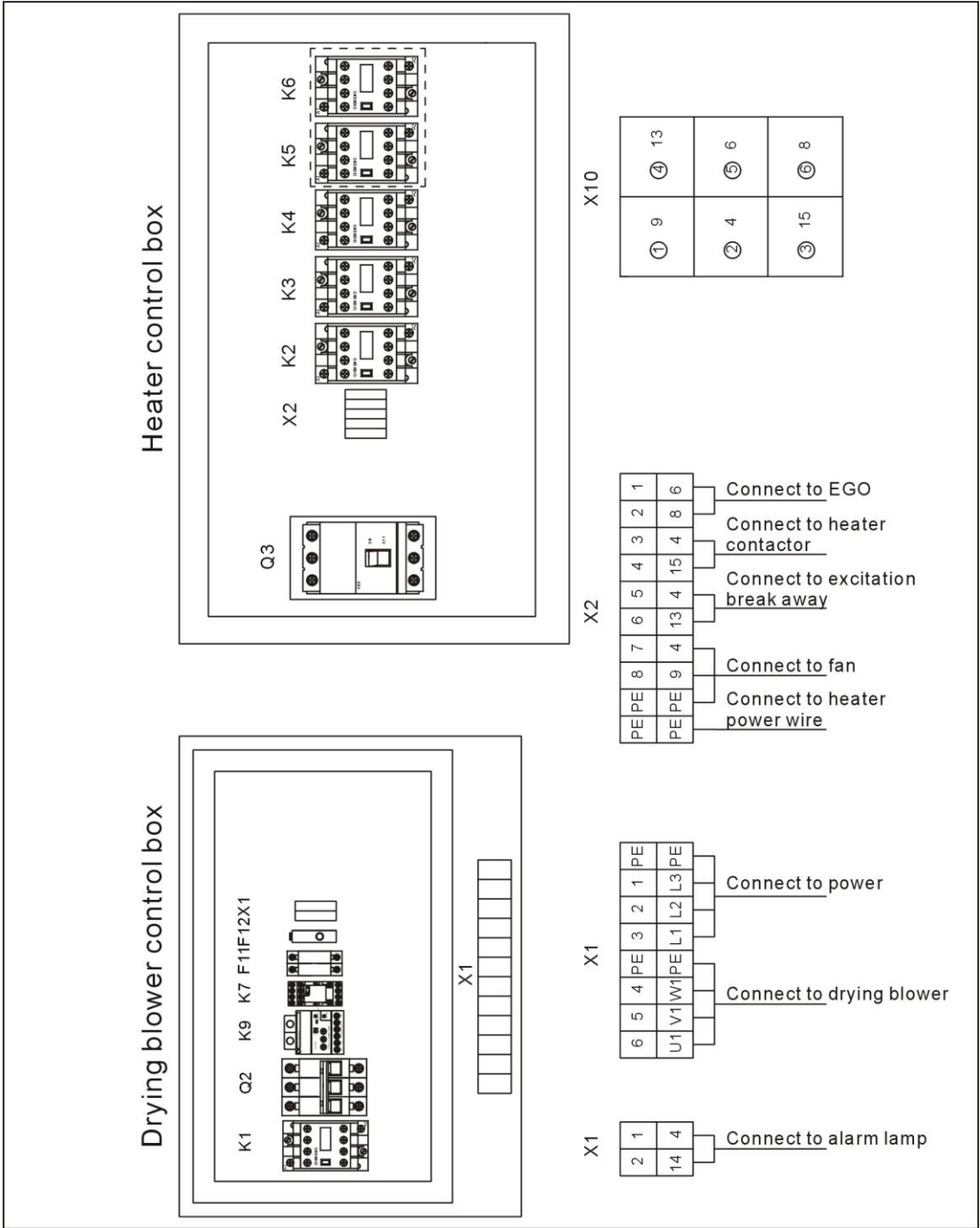
Picture 2-20: Main Circuit 2 (SHD-6000U 400V)

### 2.3.12 Control Circuit (SHD-2500U~6000U 400V)



Picture 2-21: Control Circuit (SHD-2500U~6000U 400V)

### 2.3.13 Components Layout (SHD-2500U~6000U 400V)



Picture 2-22: Components Layout (SHD-2500U~6000U 400V)

## 2.3.14 Electrical Components List (SHD-2500U~6000U 400V)

Table 2-17: Electrical Components List (SHD-2500U~3000U 400V)

NO.	Symbol	Name	SHD-2500U~3000U	
			Specification	Part NO.
1	Q1	Main switch	16A	YE10021160000
2	Q2	Circuit breaker*	25A 400V	YE40602500000
3	Q3	Gate circuit breaker	125A	YE41161200000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	17A 230V 50/60Hz	YE00602522000
6	K2 K3 K4	Contactors*	38A 230V 50/60Hz	YE00602822000
7	K7	Middle relay*	220VAC	YE03270700000
8	T	Transformer*	IN=400V OUT=230V 800mA	YE70402300900
9	K9	Current relay	3~30A 230VAC	YE04473000100
10	F11	Fuse box**	2P	YE41032200000
11	-	Fuse box	1A	YE46001000100
12	F12	Fuse**	2A	YE41001000000
13	S1	Control switch	4P (WH)	YE10210400000
14	S2	Overheat protector*	250V 5A	-
15	S3	Thermocouple	-	-
16	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
17	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
18	X1	Terminal board	41A	YE61040000000
19	-	-	-	YE61043500000
20	-	-	32A	YE61250040000
21	-	-	-	YE61253500000
22	X2	Terminal board	-	YE61353500000
23	-	-	32A	YE61250040000
24	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
25	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
26	M1	Blower*	400VAC 50Hz 5.5kW	-
27	EH1 EH2 EH3	Heater**	400VAC 19.2kW	BH70250000850

\* 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 2-18: Electrical Components List (SHD-3500U~4000U 400V)

NO.	Symbol	Name	SHD-3500U~4000U	
			Specification	Part NO.
1	Q1	Main switch	25A	YE10125250000
2	Q2	Circuit breaker*	40A 400V	YE40604000000
3	Q3	Gate circuit breaker	125A	YE41161200000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	25A 230V 50/60Hz	YE00602622000
6	K2 K3 K4	Contactors*	40A 230V 50/60Hz	YE00503500000
7	K7	Middle relay*	220VAC	YE03270700000
8	T	Transformer*	IN=400V OUT=230V 800mA	YE70402300900
9	K9	Current relay	3~30A 230VAC	YE04473000100
10	F11	Fuse box**	2P	YE41032200000
11	-	Fuse box	1A	YE46001000100
12	F12	Fuse**	2A	YE41001000000
13	S1	Control switch	4P (WH)	YE10210400000
14	S2	Overheat protector*	250V 5A	-
15	S3	Thermocouple	-	-
16	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
17	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
18	X1	Terminal board	41A	YE61040000000
19	-	-	-	YE61043500000
20	-	-	32A	YE61250040000
21	-	-	-	YE61253500000
22	X2	Terminal board	-	YE61353500000
23	-	-	32A	YE61250040000
24	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
25	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
26	M1	Blower*	400VAC 50Hz 7.5kW	-
27	EH1 EH2 EH3	Heater**	400VAC 21.3kW	BH70350000850

\* 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 2-19: Electrical Components List (SHD-5000U 400V)

NO.	Symbol	Name	SHD-5000U	
			Specification	Part NO.
1	Q1	Main switch	32A	YE10323200000
2	Q2	Circuit breaker*	50A 400V	YE40605000000
3	Q3	Gate circuit breaker	160A	YE41161600000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	32A 230V 50/60Hz	YE00602722000
6	K2~K6	Contactors*	38A 230V 50/60Hz	YE00602822000
7	K7	Middle relay*	220VAC	YE03270700000
8	T	Transformer*	IN=400V OUT=230V 800mA	YE70402300900
9	K9	Current relay	3~30A 230VAC	YE04473000100
10	F11	Fuse box**	2P	YE41032200000
11	-	Fuse box	1A	YE46001000100
12	F12	Fuse**	2A	YE41001000000
13	S1	Control switch	4P (WH)	YE10210400000
14	S2	Overheat protector*	250V 5A	-
15	S3	Thermocouple	-	-
16	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
17	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
18	X1	Terminal board	57A	YE61060000000
19	-	-	-	YE61063500000
20	-	-	32A	YE61250040000
21	-	-	-	YE61253500000
22	X2	Terminal board	-	YE61353500000
23	-	-	32A	YE61250040000
24	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
25	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
26	M1	Blower*	400VAC 50Hz 11kW	-
27	EH1~EH5	Heater**	400VAC 16kW	BH70500000850

\* 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 2-20: Electrical Components List (SHD-6000U 400V)

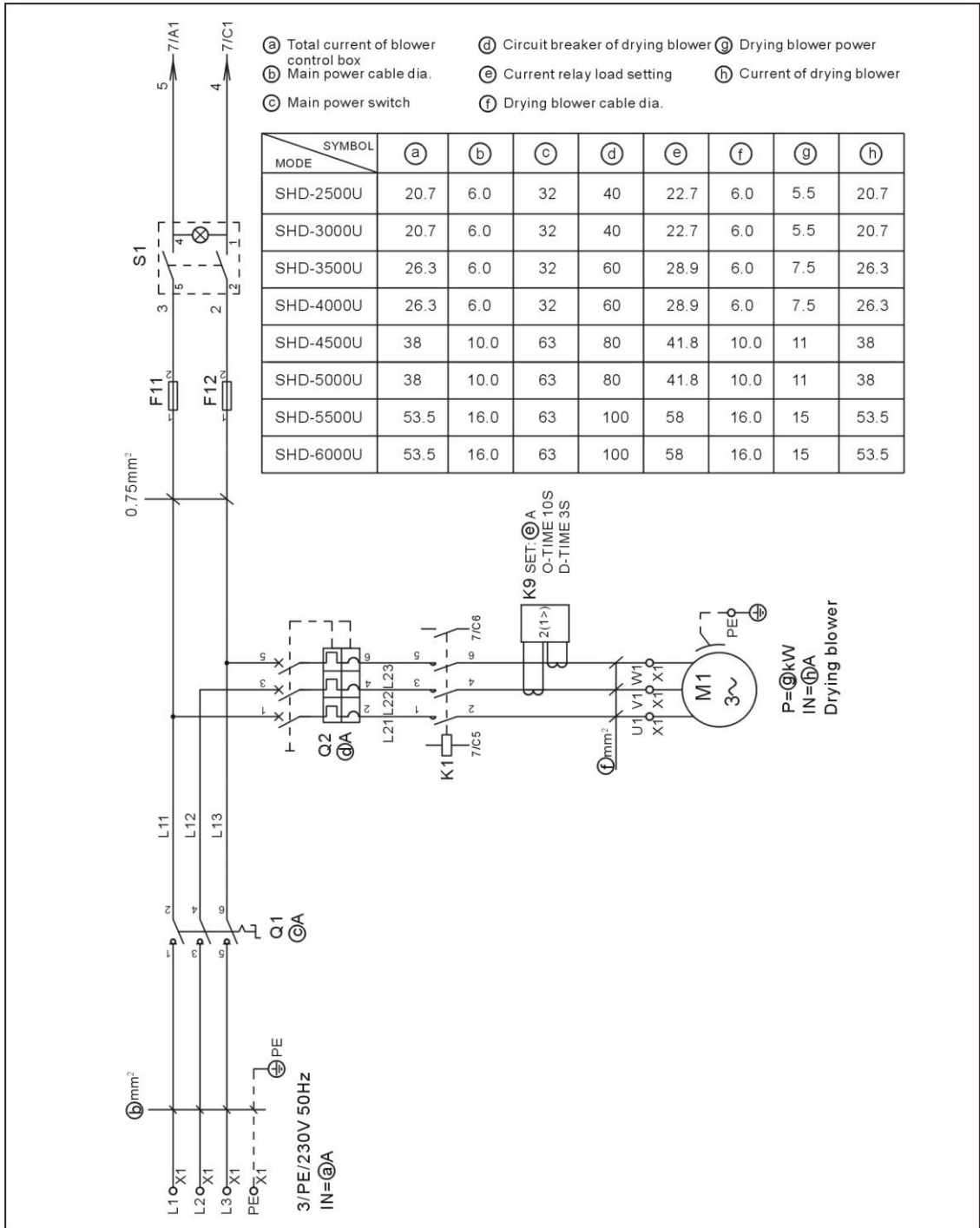
NO.	Symbol	Name	SHD-6000U	
			Specification	Part NO.
1	Q1	Main switch	63A	YE10636300000
2	Q2	Circuit breaker*	80A 400V	YE40800300000
3	Q3	Gate circuit breaker	200A	YE41252000000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	38A 230V 50/60Hz	YE00602822000
6	K2~K6	Contactors*	40A 230V 50/60Hz	YE00503500000
7	K7	Middle relay*	220VAC	YE03270700000
8	T	Transformer*	IN=400V OUT=230V 800mA	YE70402300900
9	K9	Current relay	5~60A 230VAC	YE04476000100
10	F11	Fuse box**	2P	YE41032200000
11	-	Fuse box	1A	YE46001000100
12	F12	Fuse**	2A	YE41001000000
13	S1	Control switch	4P (WH)	YE10210400000
14	S2	Overheat protector*	250V 5A	-
15	S3	Thermocouple	-	-
16	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
17	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
18	X1	Terminal board	76A	YE61100000000
19	-	-	-	YE61103500000
20	-	-	32A	YE61250040000
21	-	-	-	YE61253500000
22	X2	Terminal board	-	YE61353500000
23	-	-	32A	YE61250040000
24	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
25	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
26	M1	Blower*	400VAC 50Hz 11kW	-
27	EH1~EH5	Heater**	400VAC 19.2kW	BH70600000850

\* means possible broken parts.

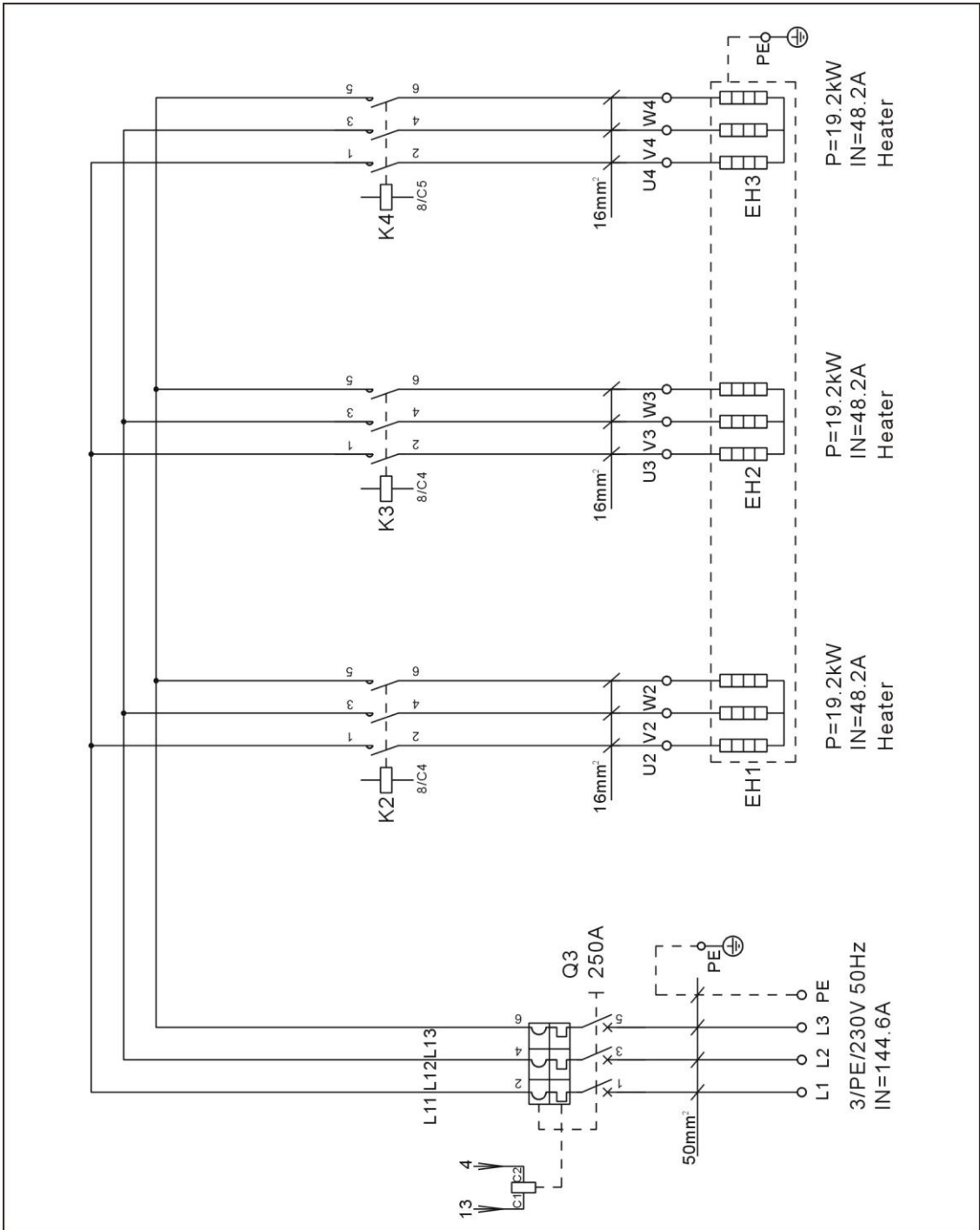
\*\* means easy broken part. and spare backup is suggested.

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.

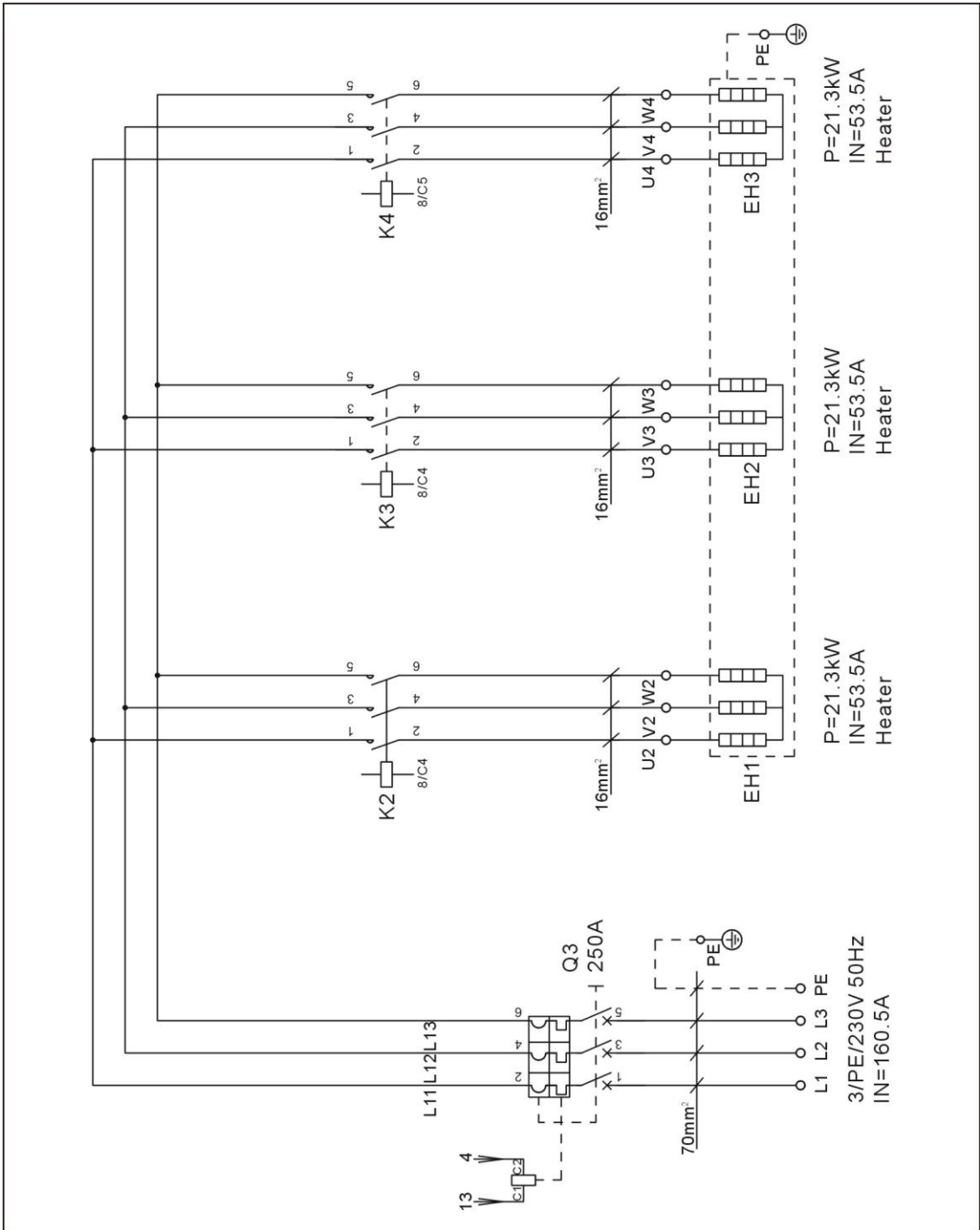
### 2.3.15 Main Circuit (SHD-2500U~6000U 230V)



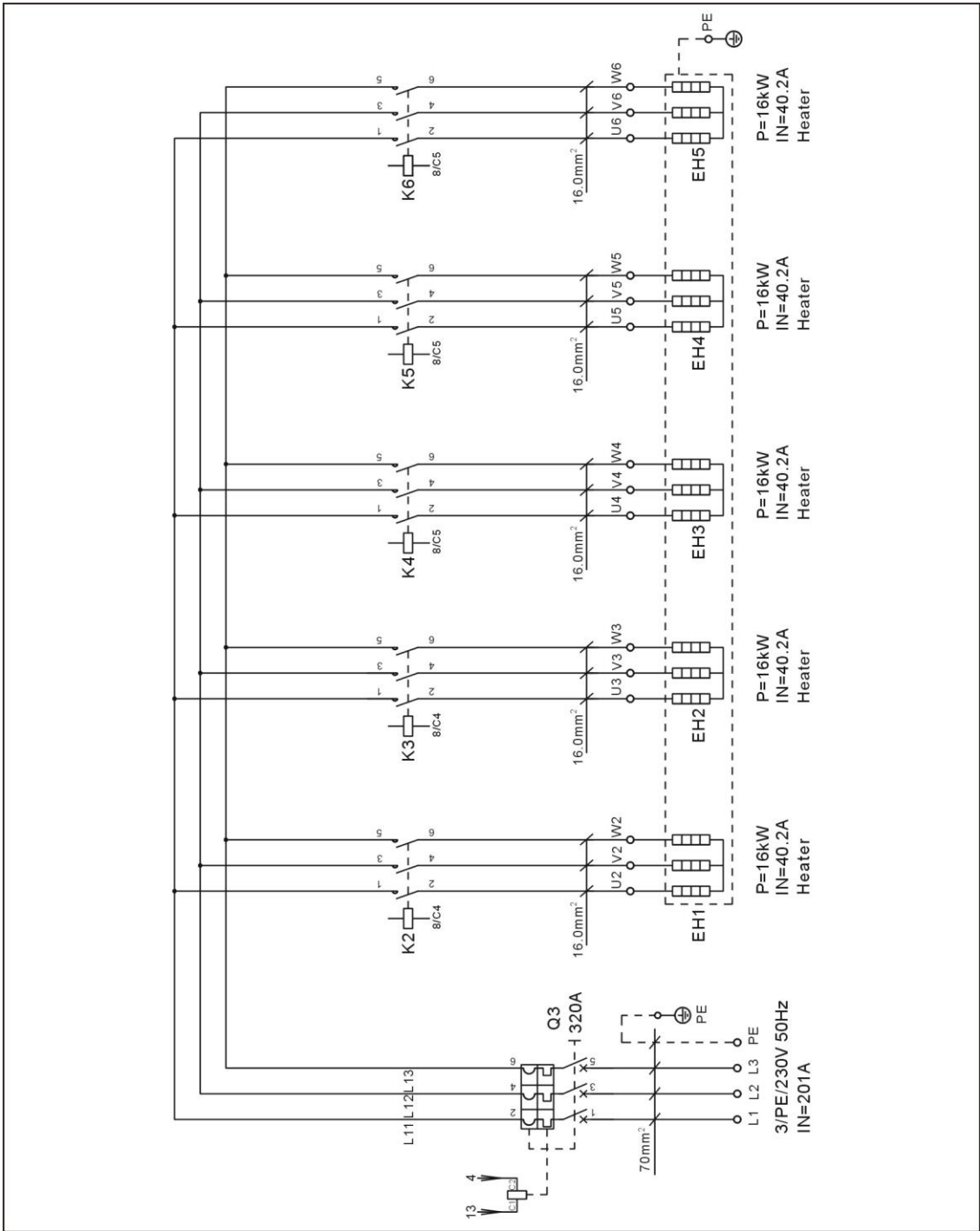
Picture 2-23: Main Circuit 1 (SHD-2500U~6000U 230V)



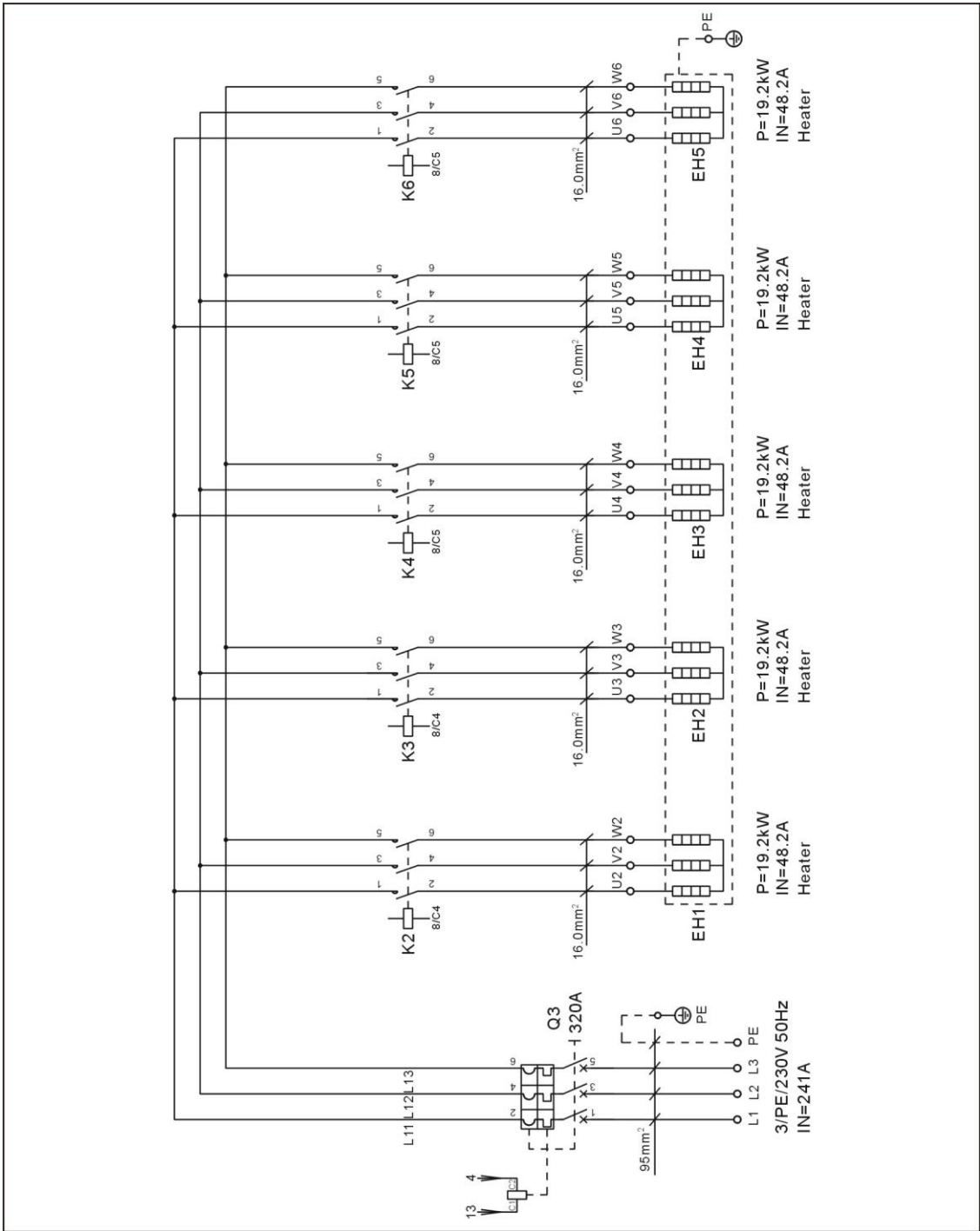
Picture 2-24: Main Circuit 2 (SHD-2500U~3000U 230V)



Picture 2-25: Main Circuit 2 (SHD-3500U~4000U 230V)



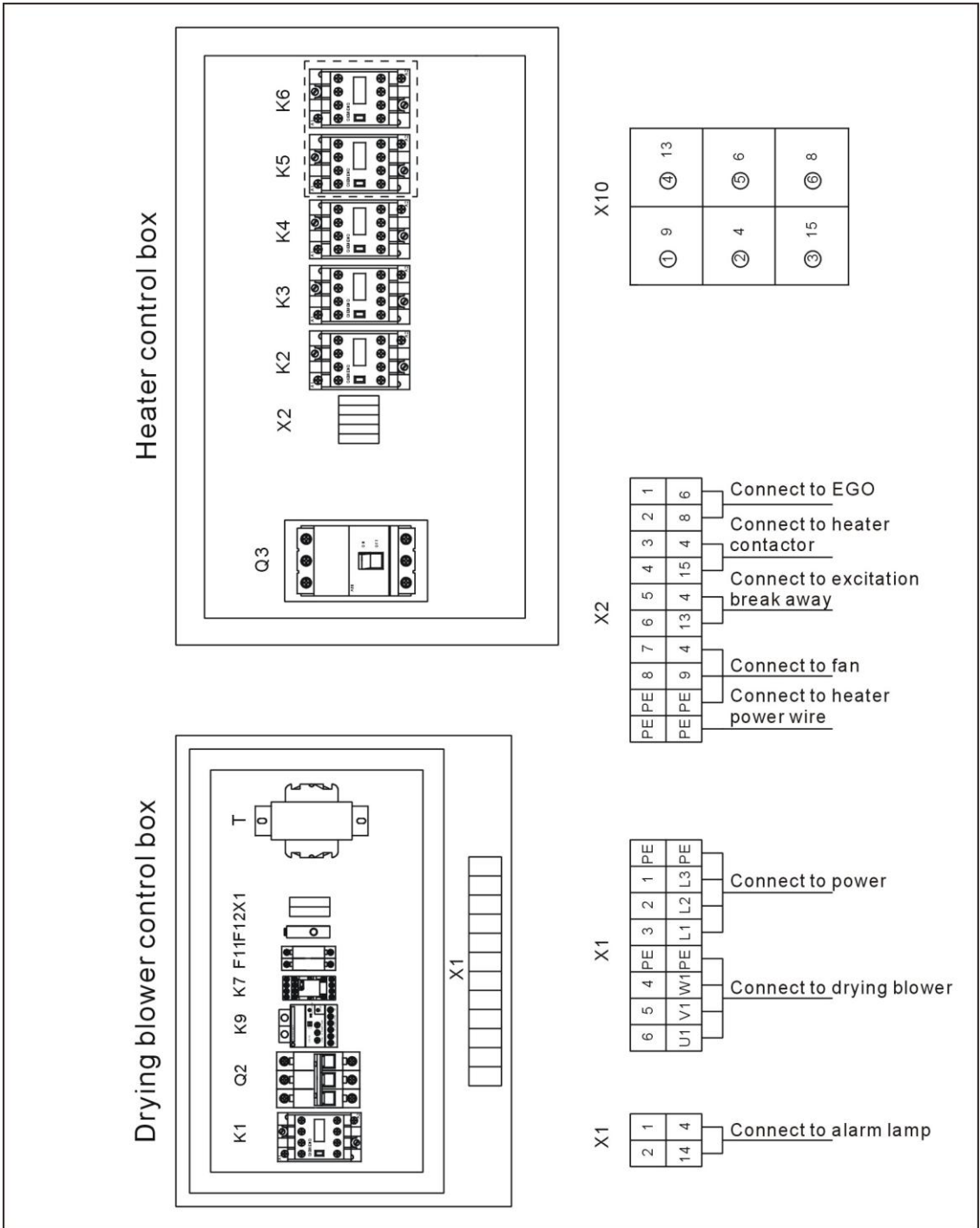
Picture 2-26: Main Circuit 2 (SHD-5000U 230V)



Picture 2-27: Main Circuit 2 (SHD-6000U 230V)



### 2.3.17 Components Layout (SHD-2500U~6000U 230V)



Picture 2-29: Components Layout (SHD-2500U~6000U 230V)

## 2.3.18 Electrical Components List (SHD-2500U~6000U 230V)

Table 2-21: Electrical Components List (SHD-2500U~3000U 230V)

NO.	Symbol	Name	SHD-2500U~3000U	
			Specification	Part NO.
1	Q1	Main switch	32A	YE10323200000
2	Q2	Circuit breaker*	40A 230V	YE40604000000
3	Q3	Gate circuit breaker	250A	YE41252500000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	17A 230V 50/60Hz	YE00602722000
6	K2 K3 K4	Contactors*	65A 230V 50/60Hz	YE00504400000
7	K7	Middle relay*	220VAC	YE03270700000
8	K9	Current relay	3~30A 230VAC	YE04473000100
9	F11 F12	Fuse**	2A	YE41001000000
10	S1	Control switch	4P (WH)	YE10210400000
11	S2	Overheat protector*	250V 5A	-
12	S3	Thermocouple	-	-
13	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
14	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
15	X1	Terminal board	41A	YE61060000000
16	-	-	-	YE61063500000
17	-	-	32A	YE61250040000
18	X2	Terminal board	-	YE61353500000
19	-	-	32A	YE61250040000
20	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
21	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
22	M1	Blower*	230VAC 50Hz 5.5kW	-
23	EH1 EH2 EH3	Heater**	230VAC 19.2kW	BH70250000850

\* 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 2-22: Electrical Components List (SHD-3500U~4000U 230V)

NO.	Symbol	Name	SHD-3500U~4000U	
			Specification	Part NO.
1	Q1	Main switch	32A	YE10323200000
2	Q2	Circuit breaker*	60A 230V	YE40606000000
3	Q3	Gate circuit breaker	250A	YE41252500000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	38A 230V 50/60Hz	YE00602822000
6	K2 K3 K4	Contactors*	65A 230V 50/60Hz	YE00504400000
7	K7	Middle relay*	220VAC	YE03270700000
8	K9	Current relay	3~30A 230VAC	YE04473000100
9	F11 F12	Fuse**	2A	YE41001000000
10	S1	Control switch	4P (WH)	YE10210400000
11	S2	Overheat protector*	250V 5A	-
12	S3	Thermocouple	-	-
13	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
14	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
15	X1	Terminal board	41A	YE61060000000
16	-	-	-	YE61063500000
17	-	-	32A	YE61250040000
18	X2	Terminal board	-	YE61353500000
19	-	-	32A	YE61250040000
20	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
21	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
22	M1	Blower*	230VAC 50Hz 7.5kW	-
23	EH1 EH2 EH3	Heater**	230VAC 21.3kW	BH70350000850

\* 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 2-23: Electrical Components List (SHD-5000U 230V)

NO.	Symbol	Name	SHD-5000U	
			Specification	Part NO.
1	Q1	Main switch	63A	YE10636300000
2	Q2	Circuit breaker*	80A 230V	YE40800300000
3	Q3	Gate circuit breaker	320A	YE41503200000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	50A 230V 50/60Hz	YE00503600000
6	K2~K6	Contactors*	50A 230V 50/60Hz	YE00503600000
7	K7	Middle relay*	220VAC	YE03270700000
8	K9	Current relay	5~60A 230VAC	YE04476000100
9	F11 F12	Fuse**	2A	YE41001000000
10	S1	Control switch	4P (WH)	YE10210400000
11	S2	Overheat protector*	250V 5A	-
12	S3	Thermocouple	-	-
13	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
14	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
15	X1	Terminal board	-	YE61100000000
16	-	-	-	YE61103500000
17	-	-	32A	YE61250040000
18	X2	Terminal board	-	YE61353500000
19	-	-	32A	YE61250040000
20	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
21	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
22	M1	Blower*	230VAC 50Hz 11kW	-
23	EH1 EH2 EH3	Heater**	230VAC 16kW	BH70500000850

\* 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 2-24: Electrical Components List (SHD-6000U 230V)

NO.	Symbol	Name	SHD-6000U	
			Specification	Part NO.
1	Q1	Main switch	63A	YE10636300000
2	Q2	Circuit breaker*	100A 230V	YE40100300000
3	Q3	Gate circuit breaker	320A	YE41503200000
4	-	Excitation break away	-	YE40101600000
5	K1	Contactors*	65A 230V 50/60Hz	YE00504400000
6	K2~K6	Contactors*	65A 230V 50/60Hz	YE00504400000
7	K7	Middle relay*	220VAC	YE03270700000
8	K9	Current relay	5~60A 230VAC	YE04476000100
9	F11 F12	Fuse**	2A	YE41001000000
10	S1	Control switch	4P (WH)	YE10210400000
11	S2	Overheat protector*	250V 5A	-
12	S3	Thermocouple	-	-
13	PCB-01	Microcomputer board*	230V 50/60Hz	YE80001100000
14	H1	Alarm lamp	230VAC 50/60Hz	YE83305100200
15	X1	Terminal board	-	YE61160000000
16	-	-	-	YE61163500000
17	-	-	32A	YE61250040000
18	X2	Terminal board	-	YE61353500000
19	-	-	32A	YE61250040000
20	X10	Heavy duty connector	6P	YE68061640000 YE68061640100
21	FM	Fan*	220~240V 50/60Hz 0.14A	YM60121200400
22	M1	Blower*	230VAC 50Hz 15kW	-
23	EH1 EH2 EH3	Heater**	230VAC 19.2kW	BH70600000850

\* means possible broken parts.

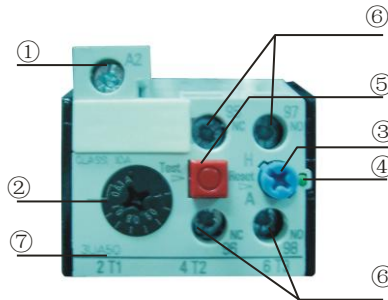
\*\* means easy broken part. and spare backup is suggested.

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.

### 2.3.19 Main Electrical Components Description

#### Overload Relay

At delivery, the overload relay is set for manual reset. (the reset button pointing to H). Manually reset the relay at the tripping of the switch. When motor overload occurs, stop the machine, then check and solve the problem. After that open the door of control box, press down the reset button of overload relay (if you can not press down the reset button, wait for one minute.)



Picture 2-30: Overload Relay

- 1) Terminal for contact coil A2.
- 2) Setting current adjusting scale.
- 3) Reset (blue).

H: manual reset

A: automatic reset

- 4) Switch position indication (green).

Tripping of a manual-resetting is indicated by a pin projecting from the front plate.

- 5) Test button (red).
- 6) Auxiliary contact terminals shown in 95.96.97.98. NC and NO contacts are shown in position 95. 96. and 97.98. respectively.
- 7) Main circuit connection No. must be correspond with terminal Number of contactor.

## Current relay



Picture 2-31: Current Relay

Current relay explain:

- 1) Current load adjustment.
- 2) Delay act time setting (unit: s).
- 3) Delay reset time setting (unit: s).
- 4) Power working indicator light.
- 5) Overload current indicator light. When the relay is overload, current indicator light is turned on, the current relay act, 95、 96 auxiliary contact terminals change to NO from NC, 97、 98 auxiliary contact terminals change to NC from NO.
- 6) Test/stop.
- 7) Reset.

## 2.4 Optional Accessories

### 2.4.1 Floor Stand

Each model can be supplied with suitable floor stand for easy moving.



Suitable for SHD-20U~750U

Picture 2-32: Floor Stand

Table 2-25: Floor Stand List

Floor stand	Suitable machine model	Specifications (mm)		
		Length (mm)	Width (mm)	Height (mm)
FSU-20	SHD-20U	550	450	790
FSU-40	SHD-40U			
FSU-80	SHD-80U	722	552	840
	SHD-120U			
FSU-160	SHD-160U	795	652	920
	SHD-230U			
FSU-300	SHD-300U	930	790	970
	SHD-450U			
FSU-600	SHD-600U	1200	1000	1130
	SHD-750U			

## 2.4.2 Pneumatic Shut-off Valve and Suction Box

Euro-style in appearance design, work with dryer with floor stand and vacuum loader, suitable for material suction and discharging.



Suitable for SHD-20U-120U SHD-160U and above apply to

Picture 2-33: Pneumatic Shut-off Valve and Suction Box

Table 2-26: Pneumatic Shut-off Valve and Suction Box

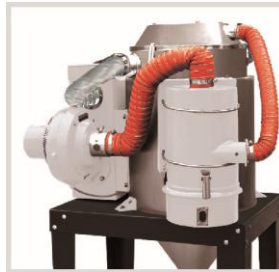
SBU \ Model	SHD-20U~120U	SHD-160U and above
SBU	-20-38S	-160-38S
SBU	-20-50S	-160-50S
SBU	-20-38D	-160-38D
SBU	-20-50D	-160-50D

- Note: 1) Install pneumatic shut off valve (plus "V" at the back of model);  
 2) Change into stainless steel (plus "S" at the back of model);  
 3) Stainless steel polishing (plus "P" at the back of model);  
 4) Single tube suction box (make "S" at the back of model);  
 double tube (make "D" at the back of model).

## 2.4.3 HAR-U "Euro" Hot Air Recycler

### 2.4.3.1 General Description

HAR-U "Euro" hot air recycler has energy saving and dust-collecting function, its design is for working with "Euro" dryer to form a sealed loop. This machine has a simple structure and very easy for installation. High efficiency in hot air recycling use will save energy up to 40% and improve the production efficiency greatly. The built-in filter can maintain the air clean so to ensure production quality. The machine has a backup air adjusting valve and moisture drainage bore to make better recycling use of hot air.



Model: SHD-80U+HAR-80U

Picture 2-34: "Euro" Hot Air Recycler

#### Features:

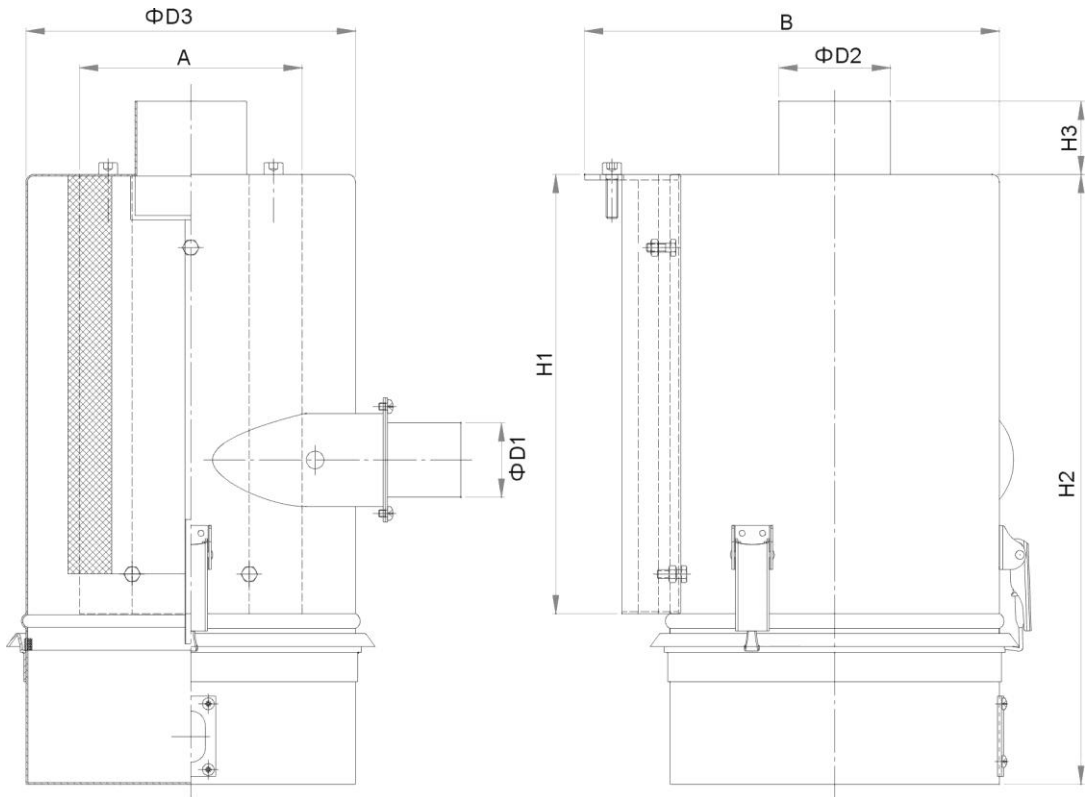
1. Hot air recycling can reduce the temperature of the plant.
2. Keep the air in the plant clean so can ensure production quality.
3. Because the hot air heats up faster, so can greatly cut the energy consumption up to 40%.
4. Economical and less space occupation, can work on the original "Euro" hopper dryer.
5. Adjustable backup air device.
6. Beautiful appearance, optimal structure and especially easy for installation.

## 2.4.3.2 Technical Specification

### 1) Specifications

Table 2-27: Specifications

Model	Filtering Barrel Dia. (mm) (ΦD3)	Air inlet Pipe Dia. (ΦD1)	Air Outlet Pipe Dia. (ΦD2)	Applicable Models	Fixed Plate	Blower Flange (With Air Quantity Adaptor)
HAR-20U	160	1.5"	2"	SHD-20U	SHD-20U	Air Inlet Flange for 0.12kW blower
HAR-40U				SHD-40U	SHD-40U	
HAR-80U	225	2"	3"	SHD-80U~120U	SHD-80U~120U	
HAR-160U	225	2.5"	3"	SHD-160U~230U	SHD-160U~230U	Air Inlet Flange for 0.18kW blower
HAR-300U	225	2.5"	4"	SHD-300U~450U	SHD-300U~450U	Air Inlet Flange for 0.25kW blower
HAR-600U	225	3"		SHD-600U~750U	SHD-600U~750U	Air Inlet Flange for 0.55kW blower
HAR-900U	225	4"		SHD-900U	SHD-900U	
HAR-1200U	225	4"	4"	SHD-1200U	SHD-1200U	Air Inlet Flange for 1.1kW blower
HAR-1500U	280	5"	5"	SHD-1500U~2000U	SHD-1500U~2000U	Air Inlet Flange for 3kW blower
HAR-2500U	340	6"	6"	SHD-2500U~3500U	SHD-2500U~3500U	Air Inlet Flange for 5.5kW blower
HAR-4000U	340	8"	8"	SHD-4000U~5000U	SHD-4000U~5000U	Air Inlet Flange for 7.5kW blower
HAR-5500U	420	8"	8"	SHD-5500U~7000U	SHD-5500U~7000U	Air Inlet Flange for 12kW blower
HAR-8000U	420	10"	10"	SHD-8000U	SHD-8000U	Air Inlet Flange for 22kW blower



Picture 2-35: Technical Specifications

## 2) Technical Specifications

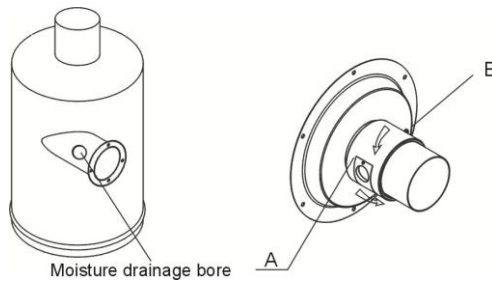
Table 2-28: Out Dimensions

Model	A(mm)	B(mm)	D1(mm)	D2(mm)	D3(mm)	H1(mm)	H2(mm)	H3(mm)
HAR-20U	125	260	38	50.8	160	170	277	50
HAR-40U								
HAR-80U	152	314	51	76.2	225	303	405	50
HAR-120U								
HAR-160	152	314	63.5	76.2	225	303	405	50
HAR-230U								
HAR-300U	152	310	63.5	101.6	225	345	450	50
HAR-450U								
HAR-600U	152	322	76.2	101.6	225	345	450	50
HAR-750U								
HAR-900U	152	322	101.6	101.6	225	345	450	50

### 2.4.3.3 Working Principle

HAR-U "Euro" hot air recycler has filter built in to connect the air vent of the dryer and backup air inlet of the blower. The hot air that discharged from dryer's air vent has moisture and dust powder, within which the humid air is discharged from the bores on filter barrel. After filtering by the filter, the residual hot air will be heated by the electric heater, and will enter the dry drum again to dry the materials, so it can be used repeatedly.

HAR-U hot air recycler has rotary air adjusting aluminum sleeve (A), customer can unscrew the lockup screw (B) according to practical requirement to adjust the coming air in the dryer.



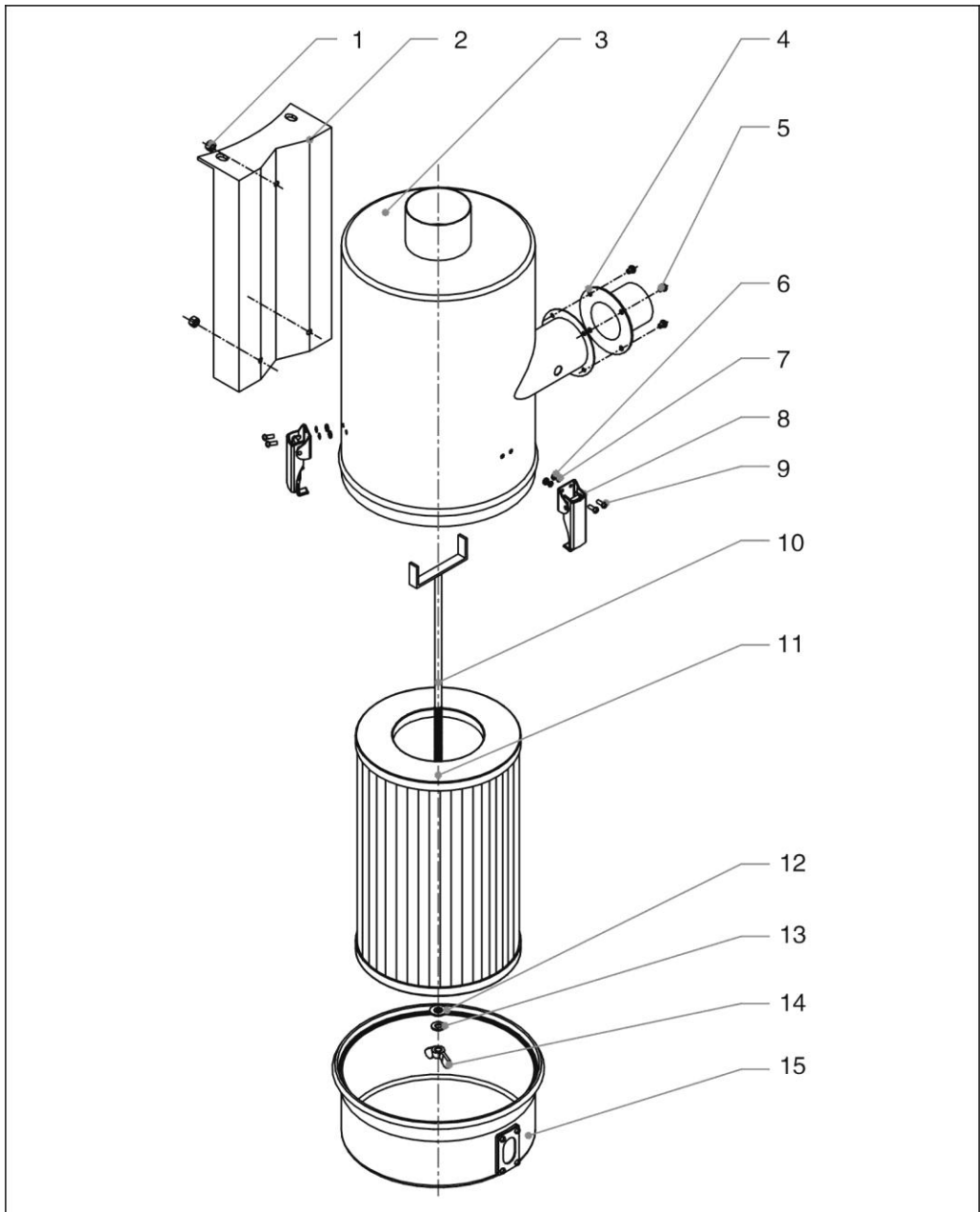
Picture 2-36: Working Principle



#### Caution!

If there happens to be no moisture drainage bore on the air inlet pipe of filter barrel, please drill one or contact our company directly.

### 2.4.3.4 Assembly Drawing



Picture 2-37: Assembly Drawing

Table 2-29: Parts List

No.	Description	Part No.						
		HAR-20U/40U	HAR-80U	HAR-160U	HAR-300U	HAR-600U	HAR-900U	HAR-1200U
1	Nut	-	-	-	-	-	-	-
2	Installation plate	-	-	-	-	-	-	-
3	Filter barrel	-	-	-	-	-	-	-
4	Flange of air inlet	-	-	-	-	-	-	-
5	Screw	-	-	-	-	-	-	-
6	Nut	-	-	-	-	-	-	-
7	Washer	-	-	-	-	-	-	-
8	Spring clip	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400
9	Screw	-	-	-	-	-	-	-
10	Fixing screw	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100
11	Filter*	YR50138000000	YR50181100000	YR50181100000	YR50181100000	YR50181100000	YR50181100000	YR50181100000
12	Lockup ring	YR10016000000	YR10708000100	YR10708000100	YR10708000100	YR10708000100	YR10708000100	YR10708000100
13	Washer	-	-	-	-	-	-	-
14	Butterfly nut	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000
15	Assembly parts of dust collecting barrel	-	-	-	-	-	-	-

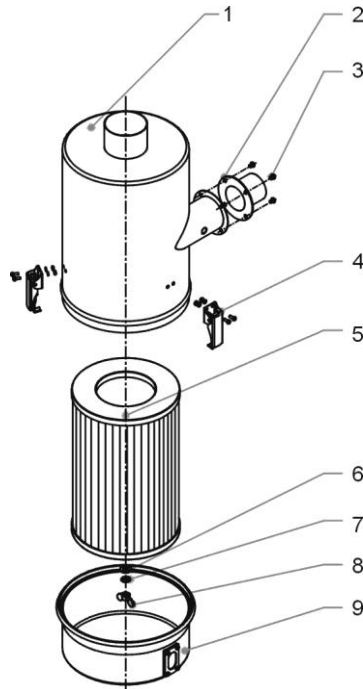
\* means possible broken parts.

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

### 2.4.3.5 Installation Steps

#### 1 Installation of Filter and Dust Collecting Barrel

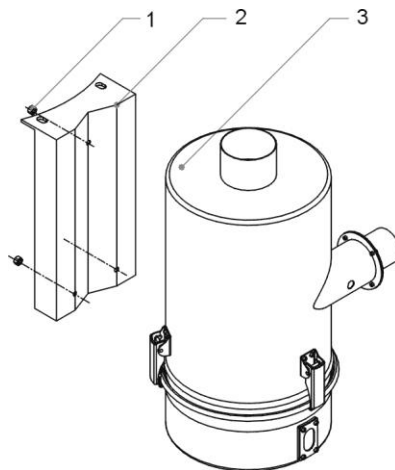
- 1) Mount the three spring clips of the assembly parts (4) on a proper place of filter barrel at first.
- 2) Mount filter (5) inside the filter barrel (1) and lock it with lockup washer (6), flat washer (7) and butterfly nut (8).
- 3) Install dust collecting barrel and lock it up with spring clip.
- 4) Mount the flange (2) for air inlet pipe and lock it with screw (3).



Picture 2-38: Installation of Filter and Dust Collecting Barrel

## 2 Installation of the Assembly Parts for the Cylinder Filter

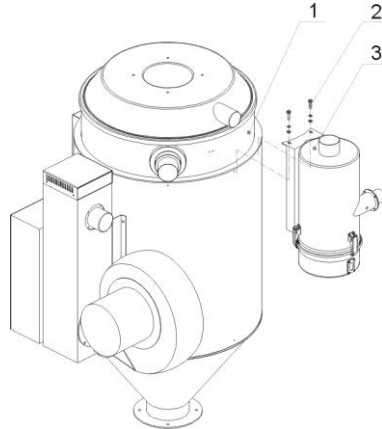
- 1) First install filter barrel components (3) The bolt is installed in the installation board of filtering bucket.
- 2) Tighten up the fixing screw (1).



Picture 2-39: Installation of the Assembly Parts for the Cylinder Filter

### 3 Install "Euro" Hot Air Recycler on Hopper Dryer

- 1) Put hot air recycler (3) on a proper place of hopper dryer (1), and confirm the location of installation bores on the aluminum ring of the hopper dryer (1).
- 2) Drill out respective installation bores.
- 3) Mount on the hot air recycler (3), lock up the fixing screw (2).



Picture 2-40: Install "Euro" Hot Air Recycler on Hopper Dryer

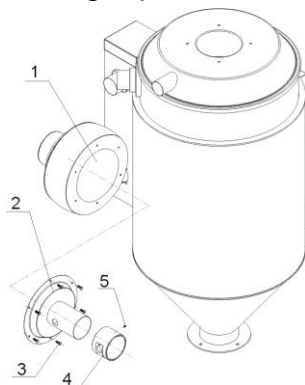
### 4 Installation of the Flange of Blower Inlet

- 1) First insert the aluminum made air volume adjusting ring assembly parts (4) onto the coupling flange (2), to align the air adjusting bore, then screw the insertive screw (5).
- 2) Mount coupling flange at the blower's air inlet (5), tighten up the screw (3).



Warning!

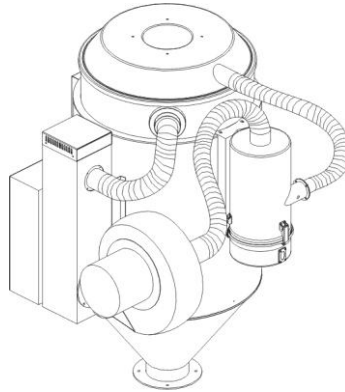
If blower has standard flange, please disassembly it.



Picture 2-41: Installation of the Flange of Blower Inlet

## 5 Connection of Air Pipe

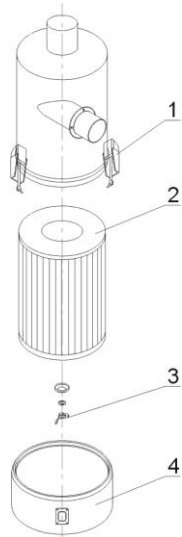
- 1) Mount on air pipe in suitable size according.



Picture 2-42: Connection of Air Pipe

### 2.4.3.6 Clean up the "Euro" Hot Air Recycler

- 1) Loosen the spring clip (1), and take out the dust collecting barrel (4) of the hot air recycler.
- 2) Unscrew the butterfly nut (3), and take out the filter (2) then clean it with a high pressure air jetter.
- 3) Install the filter in opposite steps.



Picture 2-43: Clean up the "Euro" Hot Air Recycler

## 2.4.4 AIF-U "Euro" Blower Inlet Filter

### 2.4.4.1 General Description

AIF-U "Euro" blower inlet filter has filtering and dust-collecting function. Its design is for working with "Euro" dryer and can be installed at the backup air inlet of the blower. This machine features simple structure, easier installation and greatly improves the production efficiency. The built-inside filter can maintain the air clean so to ensure production quality. The machine has also configured with a backup air adjusting valve.



Model: AIF-80U

Picture 2-44: "Euro" Blower Inlet Filter

Features:

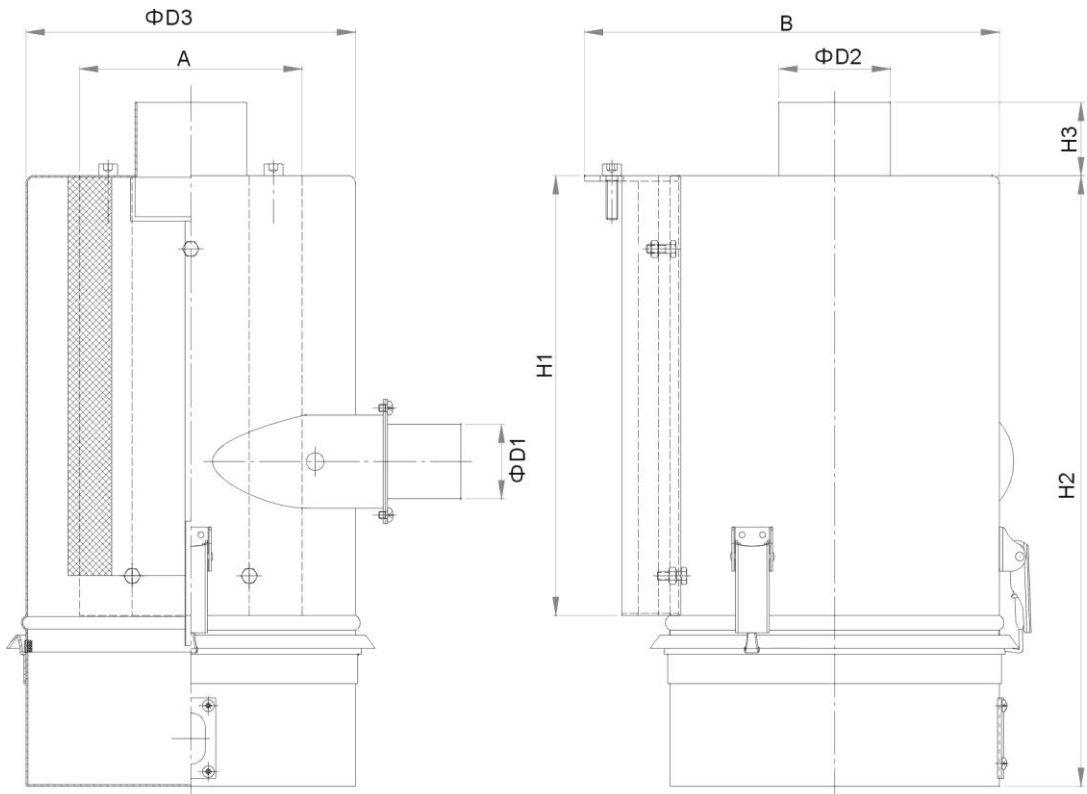
1. Filter the air at the blower inlet to improve the production quality.
2. Economical and less space occupation, can work on the original "Euro" hopper dryer.
3. Beautiful appearance, optimal structure and especially easy for installation.

## 2.4.4.2 Technical Specification

### 1) Specifications

Table 2-30: Specifications

Model	Filtering Barrel Dia. (Mm)	Air inlet Pipe Dia.	Air Outlet Pipe Dia.	Applicable Models	Fixed Plate	Blower Flange (With Air Quantity Adaptor)
AIF-20U	160	1.5"	2"	SHD-20U	SHD-20U	Air Inlet Flange for 0.12kW blower
AIF-40U				SHD-40U	SHD-40U	
AIF-80U	225	2"	3"	SHD-80U~120U	SHD-80U~120U	
AIF-160U	225	2.5"	3"	SHD-160U~230U	SHD-160U~230U	Air Inlet Flange for 0.18kW blower
AIF-300U	225	2.5"	4"	SHD-300U~450U	SHD-300U~450U	Air Inlet Flange for 0.25kW blower
AIF-600U	225	3"		SHD-600U~750U	SHD-600U~750U	Air Inlet Flange for 0.55kW blower
AIF-900U	225	4"		SHD-900U	SHD-900U	
AIF-1200U	225	4"	4"	SHD-1200U	SHD-1200U	Air Inlet Flange for 1.1kW blower



Picture 2-45: Technical Specifications

2) Technical Specifications

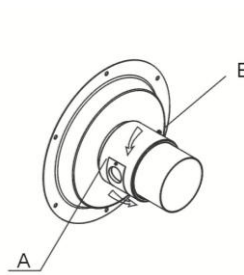
Table 2-31: Out Dimensions

Model	A(mm)	B(mm)	D1(mm)	D2(mm)	D3(mm)	H1(mm)	H2(mm)	H3(mm)
AIF -20U	125	260	38	50.8	160	170	277	50
AIF -40U								
AIF -80U	152	314	51	76.2	225	303	405	50
AIF -120U								
AIF -160	152	314	63.5	76.2	225	303	405	50
AIF -230U								
AIF -300U	152	310	63.5	101.6	225	345	450	50
AIF -450U								
AIF -600U	152	322	76.2	101.6	225	345	450	50
AIF 750U								
AIF -900U	152	322	101.6	101.6	225	345	450	50
AIF -1200U								

2.4.4.3 Working Principle

AIF-U "Euro" blower inlet filter has filter built in to connect the air vent of backup air inlet of the dryer blower and air vent of filter blower to improve production quality.

AIF-U "Euro" blower inlet filter has rotary air adjusting aluminum sleeve (A), customer can unscrew the lockup screw (B) according to practical requirement to adjust the coming air in the dryer.



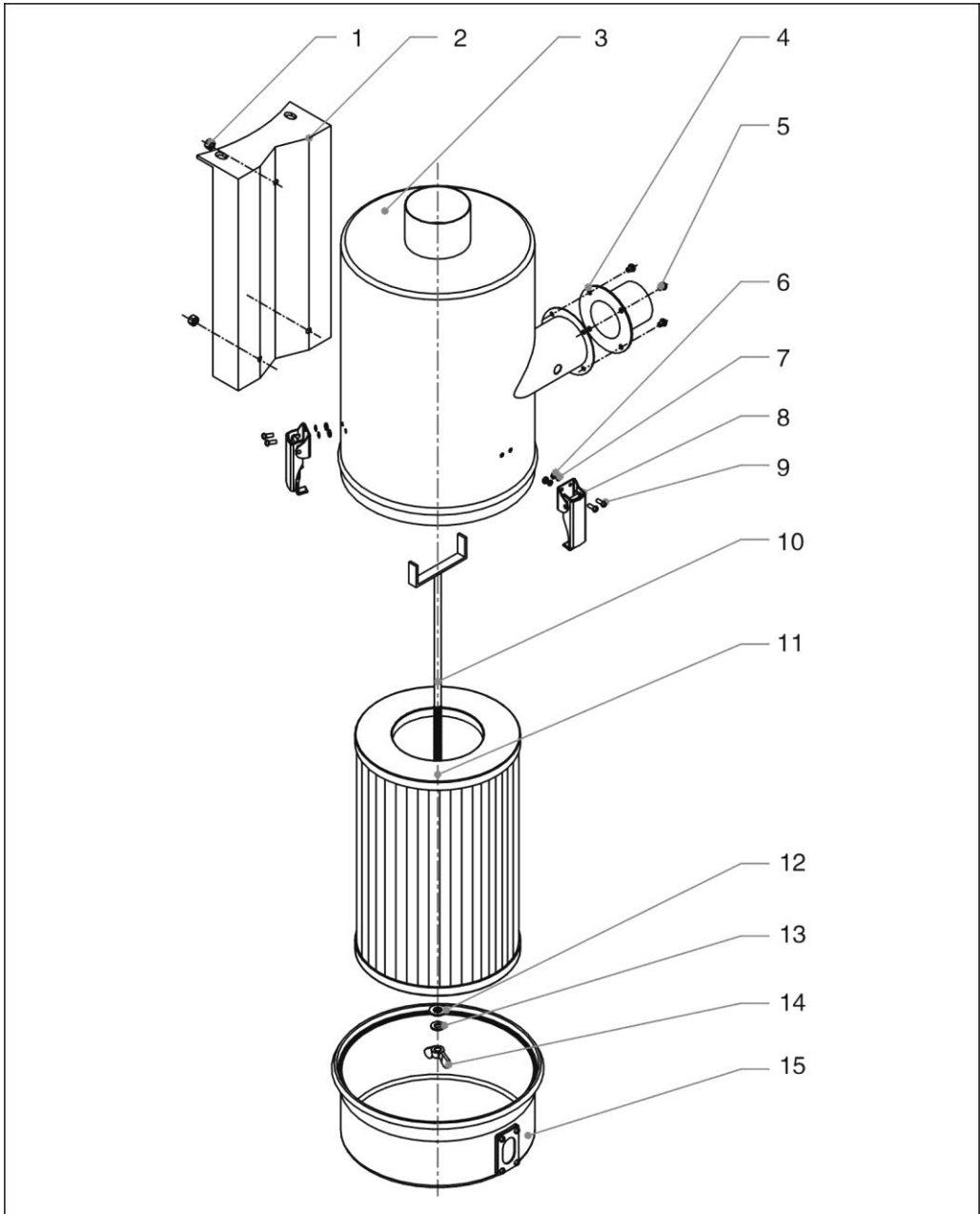
Picture 2-46: Working Principle



Caution!

If there happens to be no moisture drainage bore on the air inlet pipe of filter barrel, please drill one or contact our company directly.

2.4.4.4 Assembly Drawing



Picture 2-47: Assembly Drawing

Table 2-32: Parts List

No.	Description	Part No.					
		AIF-20U/40U	AIF -80U/160U	AIF -300U	AIF -600U	AIF -900U	AIF -1200U
1	Nut	-	-	-	-	-	-
2	Installation plate	-	-	-	-	-	-
3	Filter barrel	-	-	-	-	-	-
4	Flange of air inlet	-	-	-	-	-	-
5	Screw	-	-	-	-	-	-
6	Nut	-	-	-	-	-	-
7	Washer	-	-	-	-	-	-
8	Spring clip	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400
9	Screw	-	-	-	-	-	-
10	Fixing screw	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100
11	Filter*	YR50138000000	YR50181100000	YR50181100000	YR50181100000	YR50181100000	YR50181100000
12	Lockup ring	YR10016000000	YR10708000100	YR10708000100	YR10708000100	YR10708000100	YR10708000100
13	Washer	-	-	-	-	-	-
14	Butterfly nut	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000
15	Assembly parts of dust collecting barrel	-	-	-	-	-	-

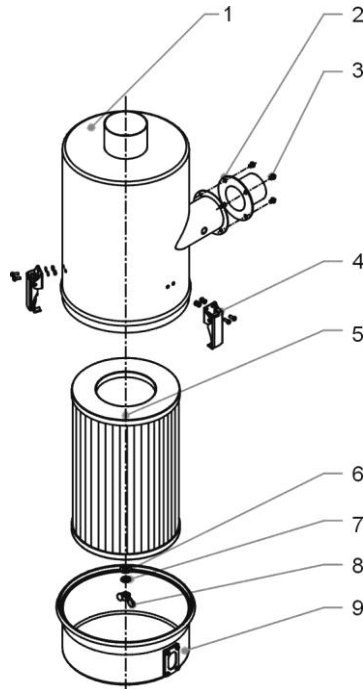
\* means possible broken parts.

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

#### 2.4.4.5 Installation Steps

##### 1 Installation of Filter and Dust Collecting Barrel

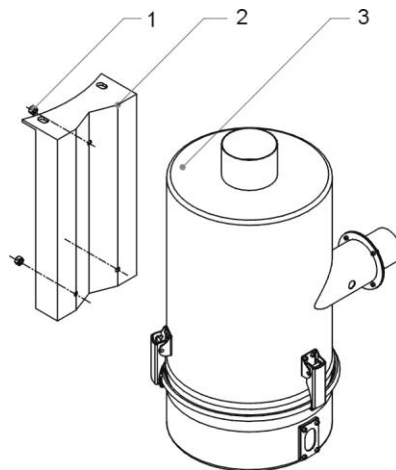
- 1) Mount the three spring clips of the assembly parts (4) on a proper place of filter barrel at first.
- 2) Mount filter (5) inside the filter barrel (1) and lock it with lockup washer (6), flat washer (7) and butterfly nut (8).
- 3) Install dust collecting barrel and lock it up with spring clip.
- 4) Mount the flange (2) for air inlet pipe and lock it with screw (3).



Picture 2-48: Installation of Filter and Dust Collecting Barrel

## 2 Installations of the Assembly Parts for the Cylinder Filter

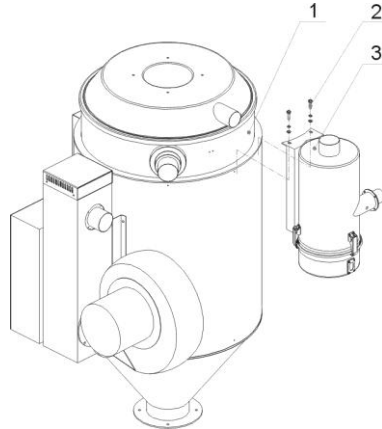
- 1) First install filter barrel components (3) the bolt is installed in the installation board of filtering bucket.
- 2) Tighten up the fixing screw (1).



Picture 2-49: Installation of the Assembly Parts for the Cylinder Filter

### 3 Install "Euro" Hot Air Recycler on Hopper Dryer

- 1) Put hot air recycler (3) on a proper place of hopper dryer (1), and confirm the location of installation bores on the aluminum ring of the hopper dryer (1).
- 2) Drill out respective installation bores.
- 3) Mount on the hot air recycler (3), lock up the fixing screw (2).



Picture 2-50: Install "Euro" Hot Air Recycler on Hopper Dryer

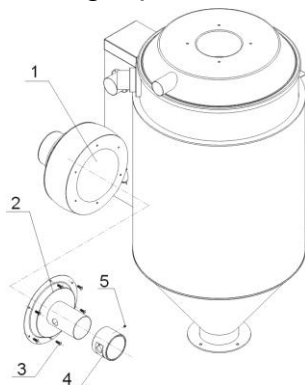
### 4 Installation of the Flange of Blower Inlet

- 1) First insert the aluminum made air volume adjusting ring assembly parts (4) onto the coupling flange (2), to align the air adjusting bore, then screw the insertive screw (5).
- 2) Mount coupling flange at the blower's air inlet (5), tighten up the screw (3).



Warning!

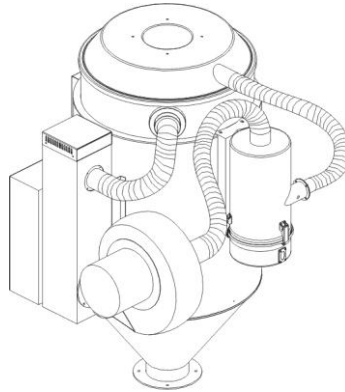
If blower has standard flange, please disassembly it.



Picture 2-51: Installation of the Flange of Blower Inlet

## 5 Connection of Air Pipe

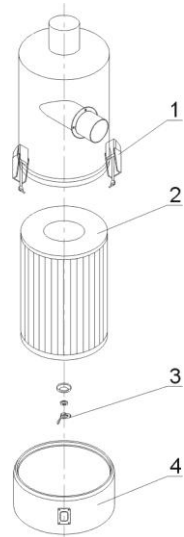
- 1) Mount on air pipe in suitable size according.



Picture 2-52: Connection of Air Pipe

### 2.4.4.6 Clean up the "Euro" Hot Air Recycler

- 1) Loosen the spring clip (1), and take out the dust collecting barrel (4) of the hot air recycler.
- 2) Unscrew the butterfly nut (3), and take out the filter (2) then clean it with a high pressure air jetter.
- 3) Install the filter in opposite steps.



Picture 2-53: Clean up the "Euro" Hot Air Recycler

## 2.4.5 ADC-U "Euro" Air Filter

### 2.4.5.1 General Description

ADC-U "Euro" air filter can 100% avoid the dust discharging. This machine features simple structure and easier for installation. The built-in filter can keep the air within the plant clean and improves the production efficiency.



Model: ADC-80U

Picture 2-54: "Euro" Air Filter

#### Features:

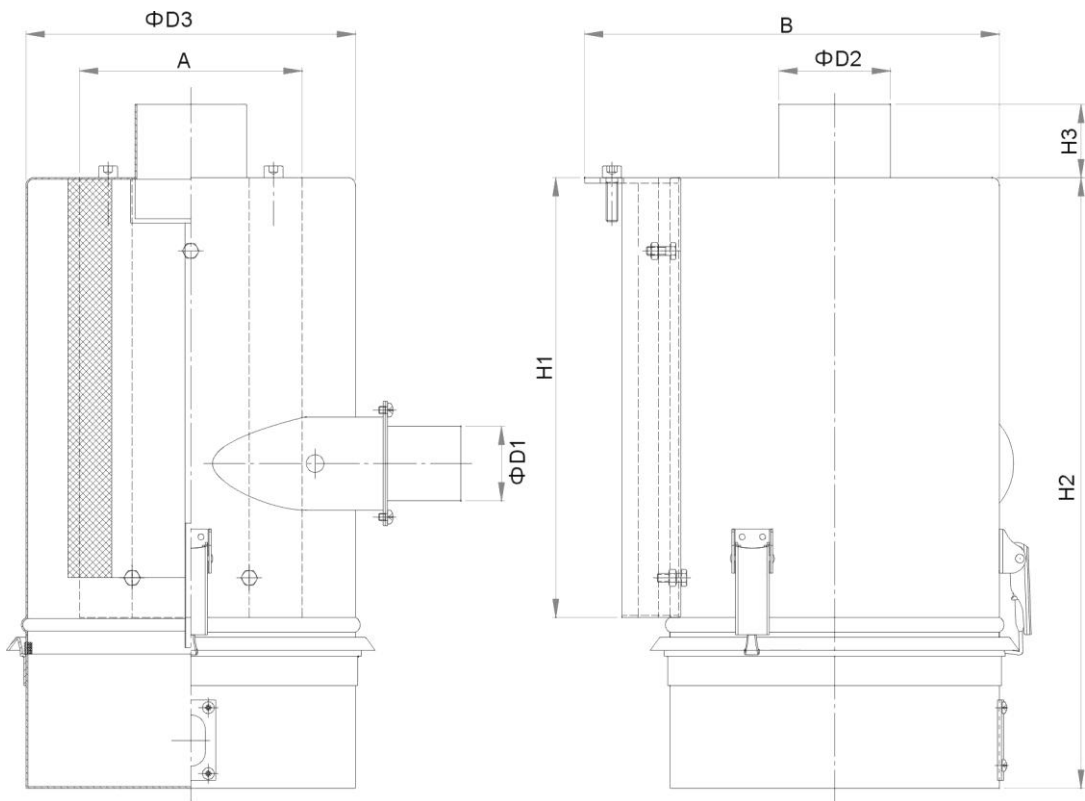
1. Keep the air in the plant clean so can ensure production quality.
2. 100% avoid the dust discharging.
3. Economical and less space occupation, can work on the original "Euro" hopper dryer.
4. Beautiful appearance, optimal structure and especially easy for installation.

## 2.4.5.2 Technical Specification

### 1) Specifications

Table 2-33: Specifications

Model	Filtering Barrel Dia. (Mm)	Air inlet Pipe Dia.	Air Outlet Pipe Dia.	Applicable Models	Fixed Plate
ADC-20U	160	1.5"	2"	SHD-20U	SHD-20U
ADC-40U				SHD-40U	SHD-40U
ADC-80U	225	2"	3"	SHD-80U~120U	SHD-80U~120U
ADC-160U	225	2.5"	3"	SHD-160U~230U	SHD-160U~230U
ADC-300U	225	2.5"	4"	SHD-300U~450U	SHD-300U~450U
ADC-600U	225	3"		SHD-600U~750U	SHD-600U~750U
ADC-900U	225	4"		SHD-900U~1200U	SHD-900U~1200U



Picture 2-55: Technical Specifications

## 2) Technical Specifications

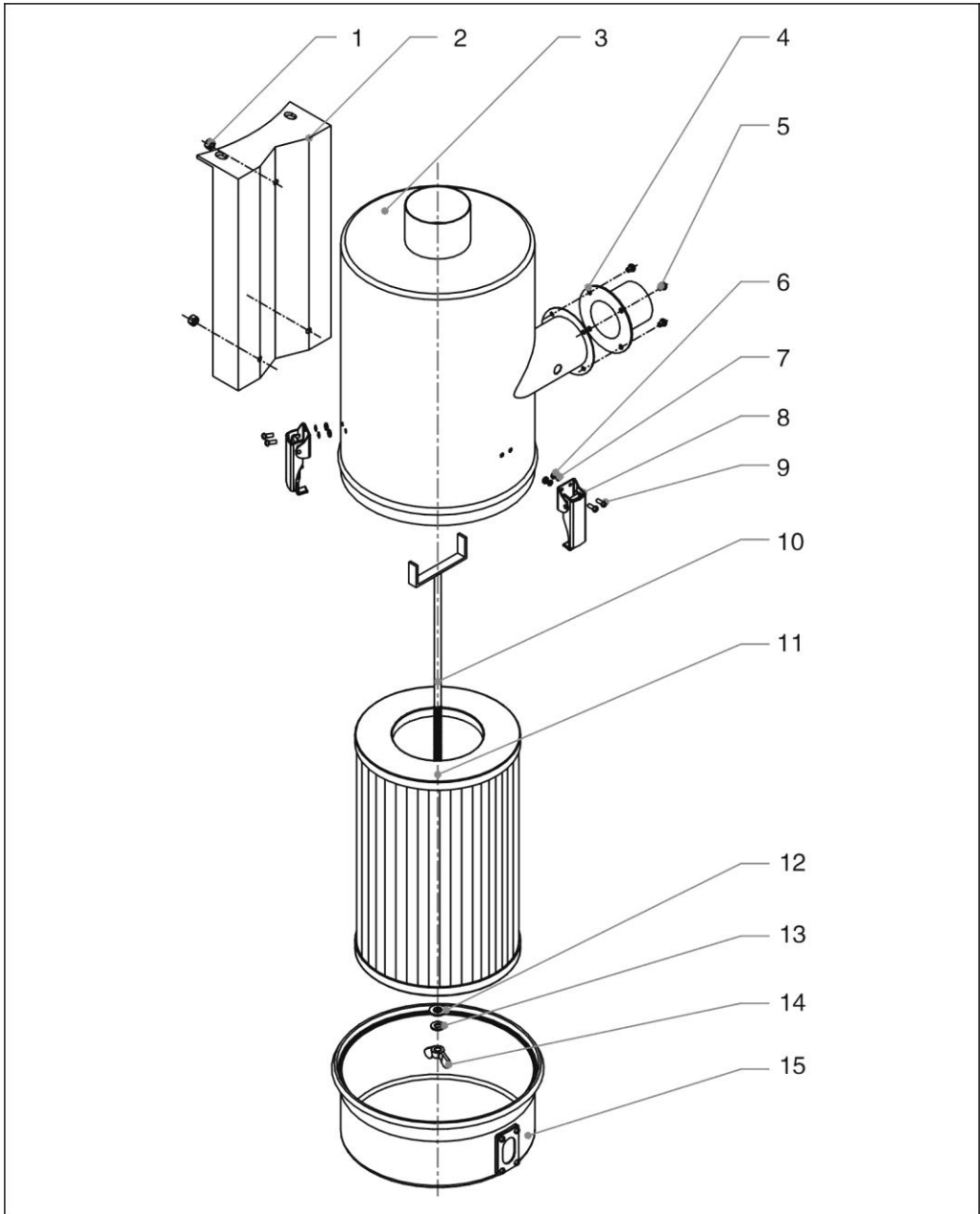
Table 2-34: Out Dimensions

Model	A(mm)	B(mm)	D1(mm)	D2(mm)	D3(mm)	H1(mm)	H2(mm)	H3(mm)
ADC -20U	125	260	38	50.8	160	170	277	50
ADC -40U								
ADC -80U	152	314	51	76.2	225	303	405	50
ADC -120U								
ADC -160	152	314	63.5	76.2	225	303	405	50
ADC -230U								
ADC -300U	152	310	63.5	101.6	225	345	450	50
ADC -450U								
ADC -600U	152	322	76.2	101.6	225	345	450	50
ADC 750U								
ADC -900U	152	322	101.6	101.6	225	345	450	50
ADC -1200U								

### 2.4.5.3 Working Principle

ADC-U "Euro" air filter can 100% avoid the dust discharging. This machine features simple structure and easier for installation. The built-in cylinder filter can keep the air within the plant clean and improves the production efficiency.

### 2.4.5.4 Assembly Drawing



Picture 2-56: Assembly Drawing

Table 2-35: Parts List

No.	Description	Part No.				
		HAR-20U/40U	HAR-80U/160U	HAR-300U	HAR-600U	HAR-900U
1	Nut	-	-	-	-	-
2	Installation plate	-	-	-	-	-
3	Filter barrel	-	-	-	-	-
4	Flange of air inlet	-	-	-	-	-
5	Screw	-	-	-	-	-
6	Nut	-	-	-	-	-
7	Washer	-	-	-	-	-
8	Spring clip	YW02003000400	YW02003000400	YW02003000400	YW02003000400	YW02003000400
9	Screw	-	-	-	-	-
10	Fixing screw	YW69061000100	YW69061000100	YW69061000100	YW69061000100	YW69061000100
11	Filter*	YR50138000000	YR50181100000	YR50181100000	YR50181100000	YR50181100000
12	Lockup ring	YR10016000000	YR10708000100	YR10708000100	YR10708000100	YR10708000100
13	Washer	-	-	-	-	-
14	Butterfly nut	YW69051600000	YW69051600000	YW69051600000	YW69051600000	YW69051600000
15	Assembly parts of dust collecting barrel	-	-	-	-	-

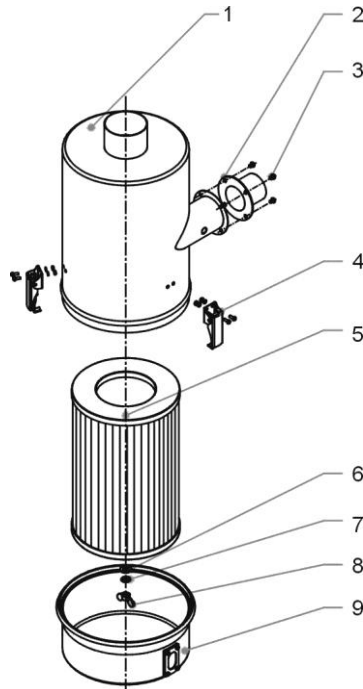
\* means possible broken parts.

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

#### 2.4.5.5 Installation Steps

##### 1 Installation of Filter and Dust Collecting Barrel

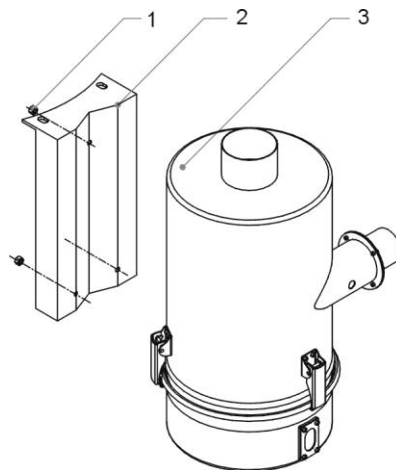
- 1) Mount the three spring clips of the assembly parts (4) on a proper place of filter barrel at first.
- 2) Mount filter (5) inside the filter barrel (1) and lock it with lockup washer (6), flat washer (7) and butterfly nut (8).
- 3) Install dust collecting barrel and lock it up with spring clip.
- 4) Mount the flange (2) for air inlet pipe and lock it with screw (3).



Picture 2-57: Installation of Filter and Dust Collecting Barrel

## 2 Installations of the Assembly Parts for the Cylinder Filter

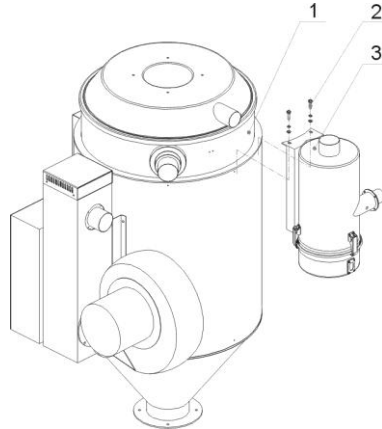
- 1) First install filter barrel components (3) the bolt is installed in the installation board of filtering bucket.
- 2) Tighten up the fixing screw (1).



Picture 2-58: Installation of the Assembly Parts for the Cylinder Filter

### 3 Install "Euro" Hot Air Recycler on Hopper Dryer

- 1) Put hot air recycler (3) on a proper place of hopper dryer (1), and confirm the location of installation bores on the aluminum ring of the hopper dryer (1).
- 2) Drill out respective installation bores.
- 3) Mount on the hot air recycler (3), lock up the fixing screw (2).



Picture 2-59: Install "Euro" Hot Air Recycler on Hopper Dryer

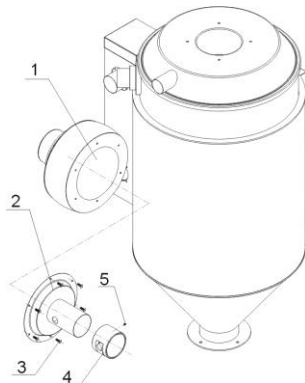
### 4 Installation of the Flange of Blower Inlet

- 1) First insert the aluminum made air volume adjusting ring assembly parts (4) onto the coupling flange (2), to align the air adjusting bore , then screw the insertive screw (5).
- 2) Mount coupling flange at the blower's air inlet (5), tighten up the screw (3).



Warning!

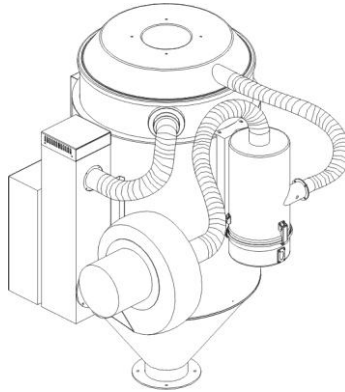
If blower has standard flange, please disassembly it.



Picture 2-60: Installation of the Flange of Blower Inlet

## 5 Connection of Air Pipe

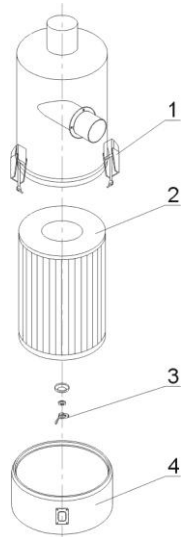
- 1) Mount on air pipe in suitable size according.



Picture 2-61: Connection of Air Pipe

### 2.4.5.6 Clean up the "Euro" Hot Air Recycler

- 1) Loosen the spring clip (1), and take out the dust collecting barrel (4) of the hot air recycler.
- 2) Unscrew the butterfly nut (3), and take out the filter (2) then clean it with a high pressure air jetter.
- 3) Install the filter in opposite steps.



Picture 2-62: Clean up the "Euro" Hot Air Recycler

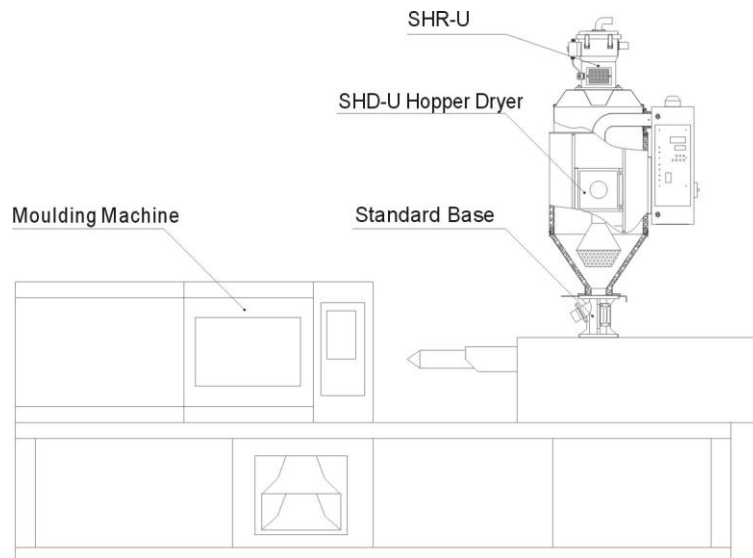
## 3. Installation Testing

### 3.1 Attention

- 1) Make sure voltage and frequency of the power source comply with those indicated on the manufacture's plate, which is attached to the machine.
- 2) Power cable and earth connections should conform with local regulations.
- 3) Use independent power cable and ON / OFF switch. The cable's size should not smaller than those applied in the control box.
- 4) The power cable connection terminals should be tightened securely.
- 5) The machine requires a 3-phase 4-wire power source, connect the power lead (L1, L2, L3) to the live wires, and the earth (PE) to the ground.
- 6) Power supply requirements:  
Main power voltage:  $\pm 5\%$   
Main power frequency:  $\pm 2\%$
- 7) Make sure the piping system of the machine is well connected before you turn on the blower.

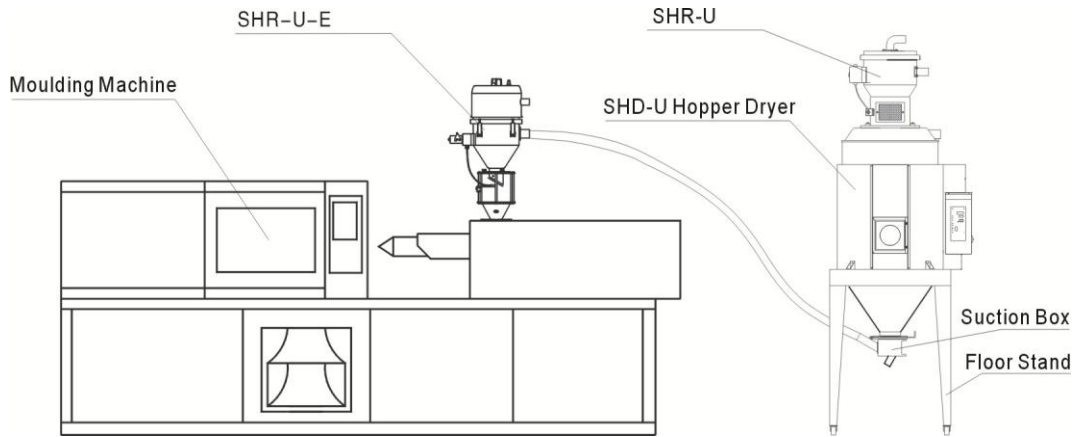
### 3.2 Installation Reference

#### 3.2.1 Install Directly on a Moulding Machine



Picture 3-1: Install Directly on a Moulding Machine

### 3.2.2 To be used with Hopper Loaders



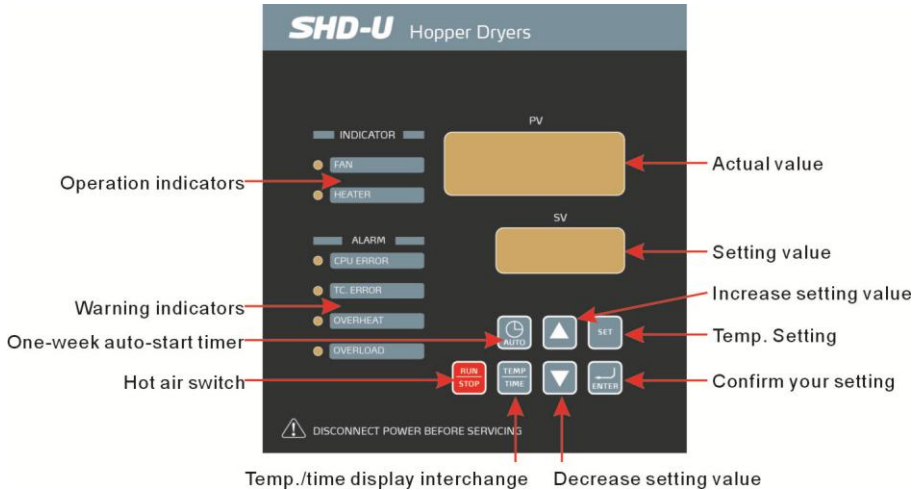
Picture 3-2: To be used with Hopper Loaders

### 3.3 Power Supply

Make sure that the power supply conforms with required specifications before installation. SHD-U Hopper Dryer are generally set to be used with 3Φ400V 50Hz power supply or other specifications if required.

## 4. Application and Operation

### 4.1 Description of Control Panel



### 4.2 Panel Operation

- 1) Open the main switch.
- 2) Press "RUN/STOP" key to start loading.

### 4.3 Temperature Setup

- 1) The setup number will flicker after pressing "SET" key, add or decrease temperature by pressing  $\blacktriangle$   $\blacktriangledown$  key.
- 2) Press "ENTER" key to confirm the input value.

### 4.4 Intermittent Running Setup

Drying periods(0-ON)  $\rightleftarrows$  Stop periods (0-OFF)

- 1) Press "SET" key to change temp. setup value into time setup value, press "TEMP/TIMER" key to enter into setup mode, at this time "SV/setup value" flickers, "PV/setup value" displays "0-ON".



Picture 4-1: Intermittent Running Setup 1

- 2) PV displays "0-ON" to stand for drying periods. "0-OFF" stands for machine stop time. Press ▲▼ key to add or decrease time value of "SV/setup value". Each press of ▲▼ can add or decrease 15 mins set time.
- 3) Press "ENTER" to confirm the input time value and enter into "0-OFF" time setup items, then repeat step 2 .



Picture 4-2: Intermittent Running Setup 2

Note: If set 0-ON as 04:00, 0-OFF as 05:00, which means drying periods is 4 hours stop time is 5 hours, then working for 4 hours and being stopped for 5 hours and repeat this so long.

- 4) Cancel intermittent running by entering 00.00 at "0-ON" or "0-OFF" press "ENTER" to confirm input value after time setup and enter into time setup items from "1-ON" "week-ON".



Picture 4-3: Intermittent Running Setup 3

## 4.5 Weekly Time Start Setup

- 1) Press key to add or decrease the time value in "SV/setup value "from "1-ON". Press "ENTER" to confirm the input value and comes into the time setup items of "1-OFF" "MON-OFF".



Picture 4-4: Weekly Time Start Setup 1

- 2) Press key to add or decrease the time value in "SV/setup value" from "1-OFF". Press "ENTER" to confirm the input value and comes into the time setup items of "2-ON" "TUE-ON".



Picture 4-5: Weekly Time Start Setup 2

- 3) Do the same setup again and again to setup the ON/OFF time from Monday to Sunday.



Picture 4-6: Weekly Time Start Setup 3

- 4) Press "SET" key to back to normal status, after finish all the setup.
- 5) Setup all the "ON" to 00: 00 if it is not for time start/stop.

#### 4.6 Present Time Modification



- 1) Repeat the above steps until PV displays "TIME" to stand for present time.
- 2) Press ▲▼ key to add or decrease time.
- 3) Press "ENTER" key and PV displays "DAY" to stand for week days.
- 4) Press ▲▼ key to add or decrease days.
- 5) Press "SET" key to back to normal status after finish all the setup.

#### 4.7 Weekly Time Start

- 1) Activate the weekly time start after finish the time setup and the present time setup.
- 2) Press "AUTO" key at working or stop status to preset the time start/stop, the "PV" will display the time and temp. alternatively.
- 3) Press "AUTO" again if want to cancel that weekly time setup.

#### 4.8 LOCK Setup Way

- 1) Press "SET" key down and release it till "PV" displays F-20.
- 2) Press ▲▼ key to make "SV" to 0021, then press "ENTER" key, the "PV" will display F-04.

- 3) F-04 are for LOCK function selection, press   key to select LOCK or OFF.
- 4) Press ENTER or "SET" key after setup.
- 5) If select LOCK, the "SV" will display "LOCK" when pressing "SET" key, which means the parameters have been setup and not accessible to any change.

## 4.9 Wrong Codes Remark

Table 4-1: Wrong Codes Remark

<b>Wrong codes</b>	<b>Remark</b>
E-01	Temp. Sensor line breaks
E-02	Phase reversal
E-03	Over load
E-04	EGO cuts off the heater power when it is overheating
E-05	Overheat
E-08	PCB problems

## 5. Trouble-shooting

Symptom	Possible causes	Actions taken
The rotating direction of blower fan is not as indicated.	Blower phase-reversal	Exchange two of the electrical wires
Blower can not be started.	1. Motor failures 2. Failures of solenoid switch	1. Repair or replace 2. Repair or replace
The blower and heater can not work.	1. Tripping of overload relay 2. Problems of transformer 3. Fuse melted 4. Troubles of power supply	1. Repair or replace 2. Repair or replace 3. Repair or replace 4. Reconnect the power supply
The blower can work, but heater can not.	1. Poor connection of pipe heater 2. Problems of solenoid switch 3. Pipe heater problems 4. Temp. controller problems 5. Thermocouple problems	1. Repair or replace 2. Repair or replace 3. Repair or replace 4. Repair or replace 5. Replace thermocouple
The blower is working, but air temp. can not rise up.	1. Poor connection of pipe heater 2. Short circuit of overheat protector or tripping off 3. Phase shortage of solenoid switch 4. Temp. controller damaged.	1. Repair or replace 2. Repair or reset 3. Repair or replace 4. Replace temp. controller
The blower can work, but the temp. is too high.	1. Hot air pipe jammed 2. Errors or problems of the temp. controller	1. Cleaning 2. Replace temp. controller or adjust the knob

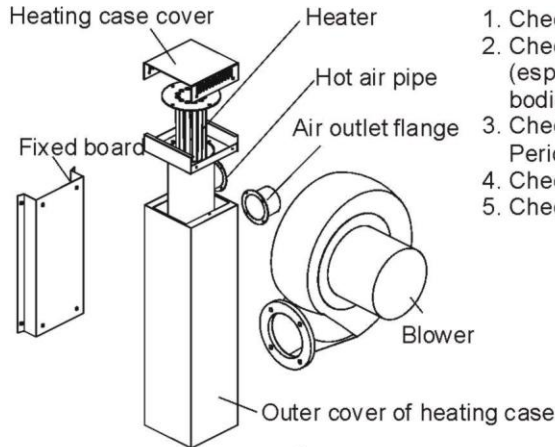


**Note!**

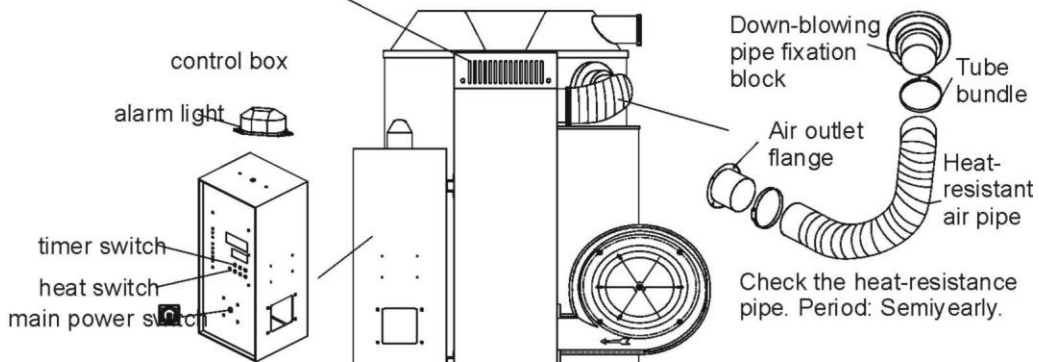
Main switch must be turned "OFF" when checking or replacing the components of the machine.

## 6. Maintenance and Repair

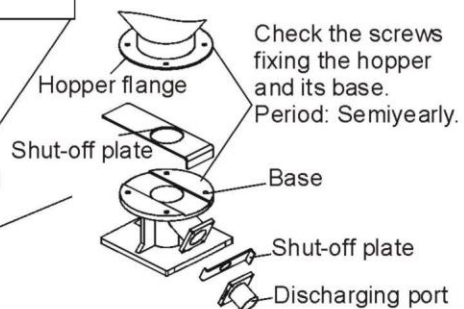
SHD-20U~1200U



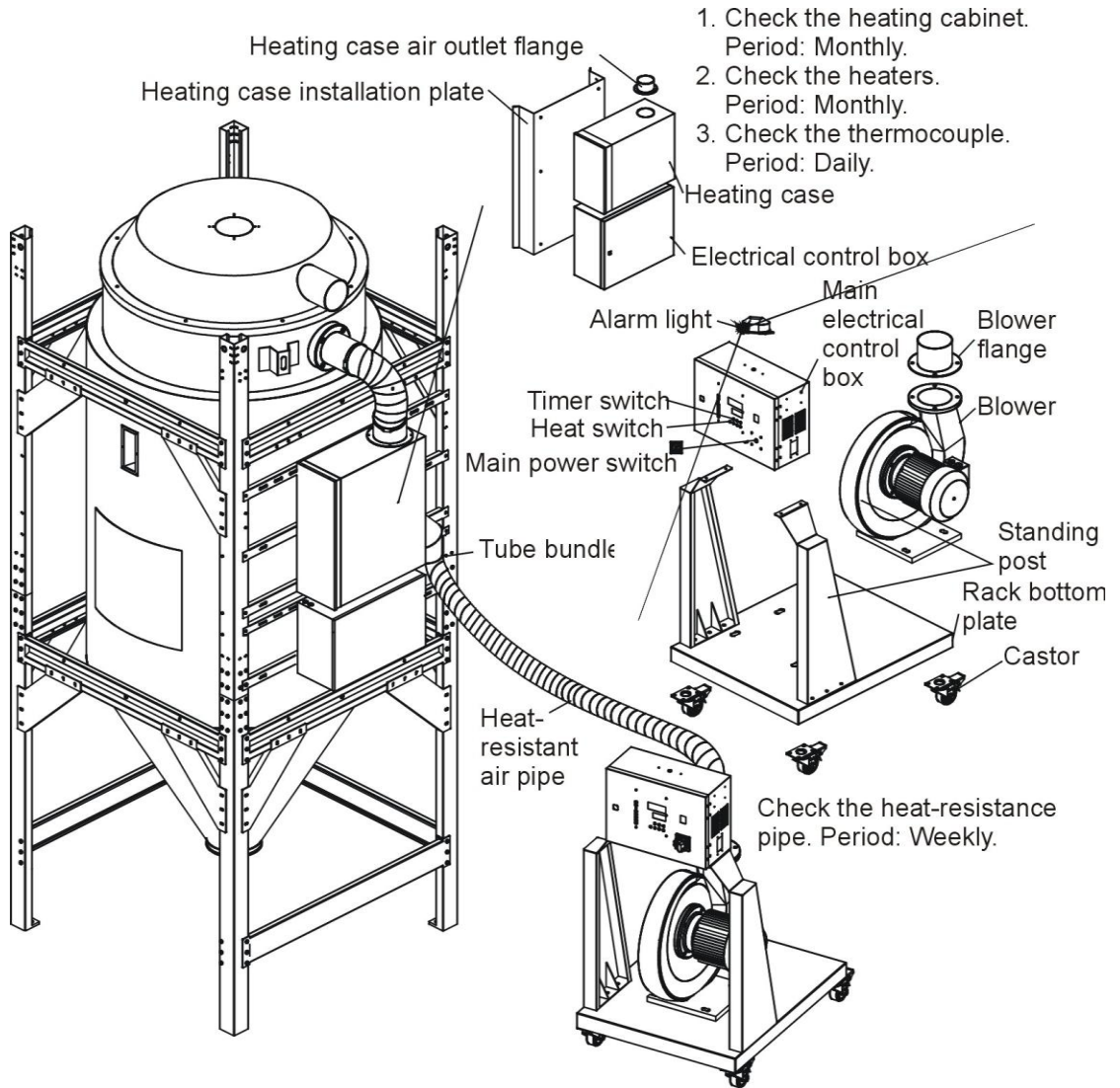
1. Check all the screws and nuts. Period: Weekly.
2. Check the inside and outside of the blower (especially the air inlet), remove the foreign bodies on the blower blade. Period: Weekly.
3. Check the service condition of the blower. Period: Daily.
4. Check the heating cabinet. Period: Monthly.
5. Check the heaters. Period: Monthly.



1. Check whether the warning light is normal. Period: Daily.
2. Check the main power switch and the timer. Period: Daily.
3. Check the hot air switch. Period: Daily.
4. Check all the cables and connectors. Period: Weekly.
5. Check the solenoid switch. Period: Daily.
6. Check the thermocouple. Period: Daily.



# SHD-1500U~8000U



1. Check the warning light. Period: Daily.
2. Check the main power switch and timer. Period: Daily.
3. Check the hot air switch. Period: Daily.
4. Check the all the cables and connectors. Period: weekly.
5. Check the solenoid switch. Period: Daily.
6. Check the working condition of the blower. Period: Daily.
7. Check the inside and outside of the blower (especially the air inlet), remove the foreign bodies on the blower blade. Period: Weekly.

## 6.1 Blower

- 1) Clean inner and outer parts (especially at blower inlet) of the blower periodically.
- 2) Remove the dusts on leaves of the fan.

## 6.2 Maintenance Schedule

### 6.2.1 General Machine Information

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

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

### 6.2.2 Installation & Inspection

- Check if the pipe joint is tightly locked by clips or not.
- Check that the material clearance door is firmly closed.
- 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.

### 6.2.3 Daily Checking

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

### 6.2.4 Weekly Checking

- Check all the electrical cables of the machine.
- Check if there are loose electrical connections.

### 6.2.5 Monthly Checking

- Check that the pipe heater is working properly.
- Check the performance of blower.
- Check the functions of electrical components.

### 6.2.6 Half-yearly Checking

- Check if there are damages of heat-resistant hose or not.
- Check the process heater.
- Check the blower.