

CD Series

Cabinet Dryer

Date: Apr, 2016

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.



Forbidden to process flammable or toxic material!

CD series of cabinet dryer are mostly used for simultaneous drying of different kinds of polymers in small quantities or for drying materials for trial moulding. They can also be applied in electronic engineering, electroplating, pharmacy, paint baking, printing industries, etc. for preheating or drying related products.



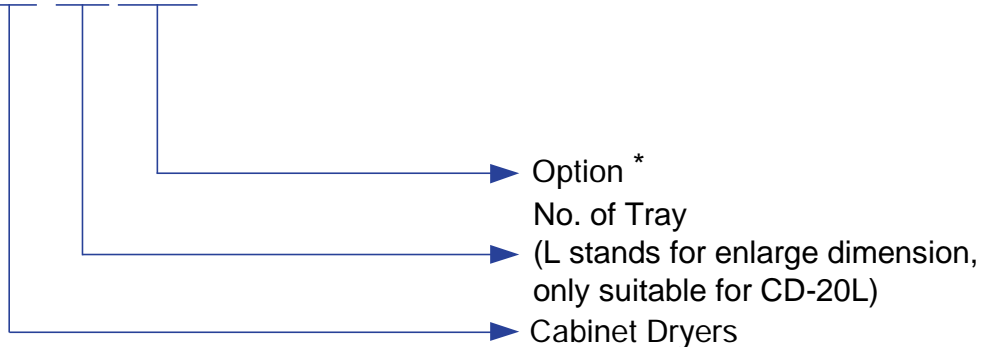
Model: CD-9



Model: CD-20-HT

1.1 Coding Principle

CD- x x - x x



Note: *

CE=CE Conformity

1.2 Feature

1) Standard configuration

- Accurate P.I.D. temperature control to achieve an even drying effect.
- Air-proofed insulative door can maintain temperature constantly inside to reduce energy consumption.
- Stainless steel tray and liner bring no contamination to materials.
- Unique design of adjustable air inlet and exhaust.
- 24 hours timer, easy to operate.
- Overheat protector can prevent excessive drying.
- Motor overload relay.
- Visible alarm to indicate troubles immediately
- Power would be automatically cut off when drying temperature exceeds set deviation value to protect thermal fuse.

2) Accessory option

- Air exhausting device should be opted for when handling with the volatile material.
- Flanges of air inlet and outlet are optional.
- The whole unit and tray can be customized based on demands.

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.

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1.3 Technical Specifications

1.3.1 Specifications

Table 1-1: Specifications

Model	Ver.	Pipe Heater (kW)	Blower Power (kW, 50/60 Hz)	Temperature Range (°C)	Number Of Trays	Total Tray Capacity (kg)	Outer Dimensions H×W×D (mm)	Inner Dimensions H1×W1×D1 (mm)	Weight (kg)
CD-5(60Hz)	A	4	0.55	200	5	50	1200×800×610	660×600×550	150
CD-5-HT(60Hz)	A			250			1380×860×731		200
CD-9(60Hz)	A	4.5	0.55	200	9	90	1440×800×610	900×600×550	180
CD-9-HT (50Hz/60Hz)	A			250			1640×920×731		252
CD-20	B	9	1.5	200	20	200	1700×1210×860	1000×990×800	415
CD-20-HT	B			250			1887×1310×1032		587
CD-20L	B	18	1.5	200	20	350	1865×1800×1060	1200×1600×1000	550
CD-20L-HT	B			250			2052×1900×1232		778

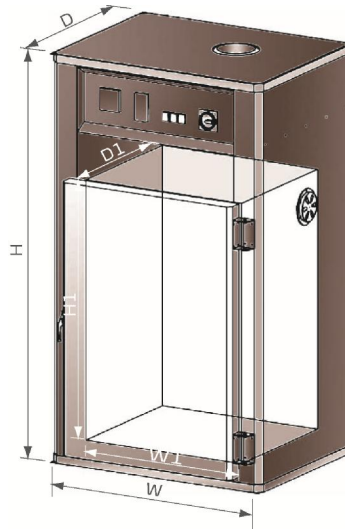
Note: 1) Power supply: 3Φ, 230 / 400 / 460 / 575VAC, 50 / 60Hz.

2) "HT" stands for heat insulation model, the surface temperature of which will not be more than 80°C when setup temperature is 250°C.

3) When drying temperature is below 150 °C, "HT" models can keep internal temperature accuracy of ±5 °C, when it is above 150 °C, internal temperature accuracy is ±12 °C.

We reserve the right to change specifications without prior notice.

1.3.2 Outline Drawing



Picture 1-1: Outline Drawing

1.4 Safety Regulations

1.4.1 Safety Signs and Labels

Please abide by the safety guide when you operate the machine so as to prevent damage of the machine and personal injuries.



All electrical components should be installed by qualified electricians.
Turn off main switch and control switch during repair and maintenance.



Warning! High voltage!
This mark is attached on the cover of the control box.



Warning! Be careful!
Be more careful when this mark appears.



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

1.4.2 Transportation and Storage of the Machine

Transportation and storage of the machine

- 1) CD series are packed in crates or plywood cases with wooden pallet at the bottom, suitable for quick positioning by fork lift.
- 2) After unpacked, castors equipped on the machine can be used for ease of movement.
- 3) Do not rotate the machine and avoid collision with other objects during transportation to prevent improper functioning.
- 4) The structure of the machine is well-balanced, although it should also be handled with care when lifting the machine for fear of falling down.
- 5) The machine and its attached parts can be kept at a temperature from -25°C to $+55^{\circ}\text{C}$ for long distance transportation and for a short distance, it can be transported with temperature under $+70^{\circ}\text{C}$.

Storage

- 1) CD series should be stored indoors with temperature kept from 5°C to 40°C and humidity below 80%.
- 2) Disconnect all power supply and turn off main switch and control switch.
- 3) Keep the whole machine, especially the electrical components away from water to avoid potential troubles caused by the water.
- 4) Plastic film should be used to protect the machine from dust and rains.

Working environment

- 1) Indoors in a dry environment with max. temperature +45°C and humidity no more than 80%.

Do not use the machine:

- 1) If it is with a damaged cord.
- 2) On a wet floor or when it is exposed to rain to avoid electrical shock.
- 3) If it has been dropped or damaged until it is checked or fixed by a qualified serviceman.
- 4) This equipment works normally in the environment with altitude within 3000m.
- 5) At least a clearance of 1m surrounding the equipment is required during operation. Keep this equipment away from flammable sources at least two meters.
- 6) Avoid vibration, magnetic disturbance at the operation area.

Rejected parts disposal

When the equipment has run out its life time and can not be used any more, unplug the power supply and dispose of it properly according to local code.

Fire hazard



In case of fire, CO₂ dry powder fire extinguisher should be applied.

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:

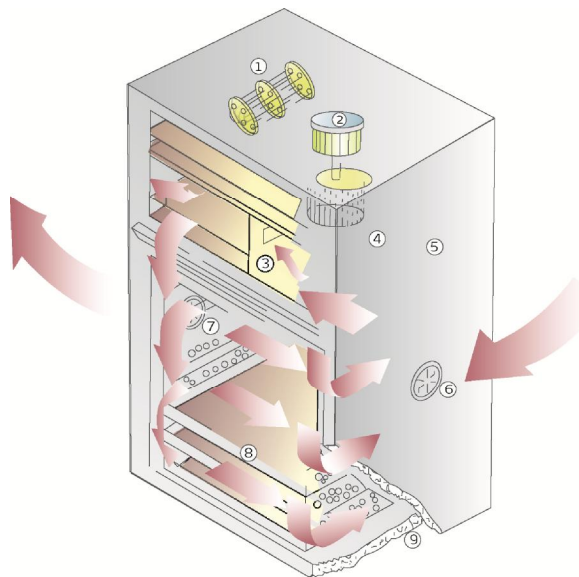
1. Any careless or man-made installations, operation and maintenances upon machines without referring to the Manual prior to machine using.
2. Any incidents beyond human reasonable controls, which include man-made vicious or deliberate damages or abnormal power, and machine faults caused by irresistible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

For cabinet dryer, materials to be dried are placed on the stainless steel made moveable material trays. During operation, process air will flow to heating wire and be heated up to required temperature, then flow through a manifold with evenly scattered holes. Moisture air is sent out through air exhaust port. It is designed to achieve an even drying effect.

2.2 Working Principle Illustration



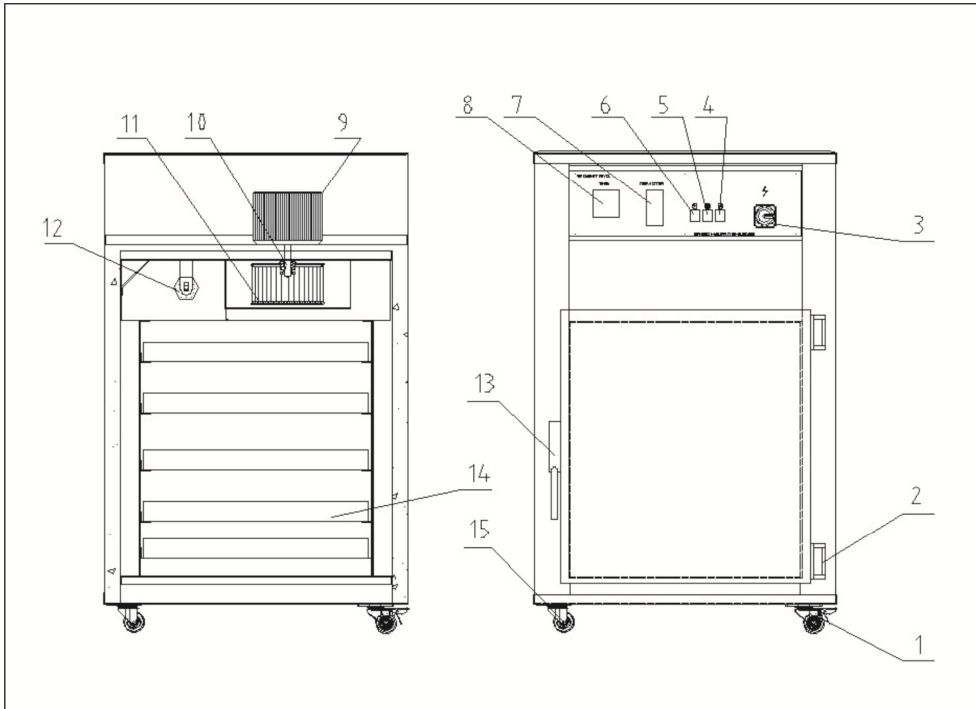
Names of Parts:

- | | | |
|------------------------|-------------------------|-------------------------|
| 1. Heating Coil | 2. Air Inlet Blower | 3. Air Chamber |
| 4. Multi-vane Impeller | 5. Paint-baked Cover | 6. Air Inlet |
| 7. Air Exhaust | 8. Stainless Steel Tray | 9. Heat-resistant Layer |

Picture 2-1: Working Principle Illustration

2.3 Drawing and Parts List

2.3.1 Assembly Drawing (CD-5/9(HT))



Remarks: Please refer to material list 2.3.2 for specific explanation of the Arabic numbers in parts drawing.

Picture 2-2: Assembly Drawing (CD-5/9(HT))

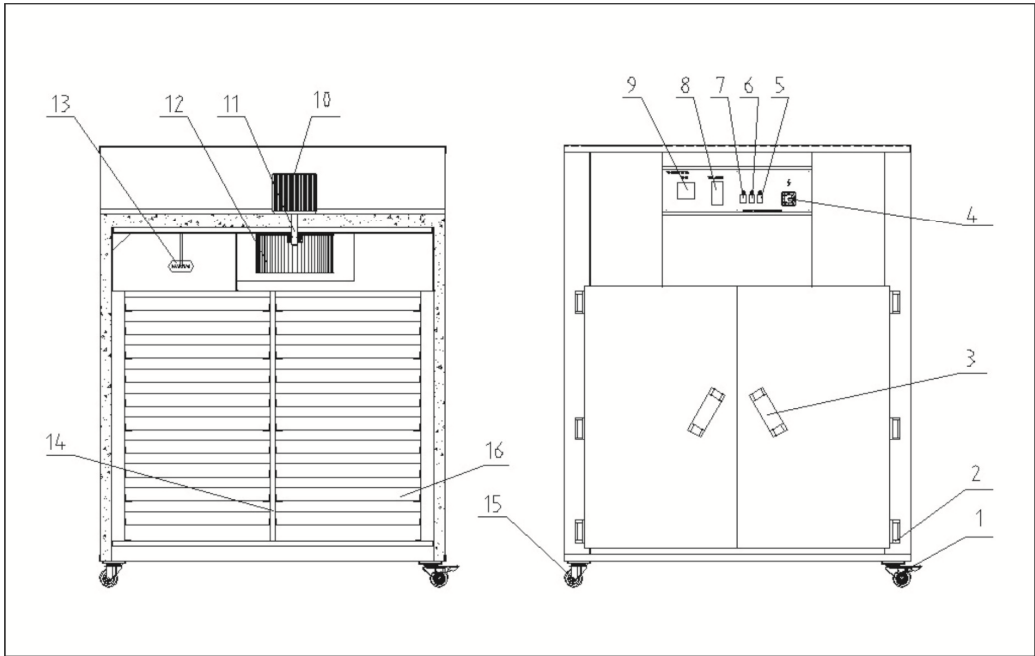
2.3.2 Parts List (CD-5/9(HT))

Table 2-1: Parts List (CD-5/9(HT))

No.	Name	Part No.		
		CD-5-(HT)(60Hz)	CD-9(60Hz)	CD-9-HT(50Hz/60Hz)
1	3" mobile castor	YW03000300000	YW03000300000	YW03000300000
2	Oven door back hinge	BW09000200100	BW09000200100	BW09000200100
3	The switch	YE10200300000	YE10200300000	YE10200300000
4	Motor switch	YE10210400000	YE10210400000	YE10210400000
5	Electric switch	YE10210400000	YE10210400000	YE10210400000
6	Timer switch	YE10220600000	YE10220600000	YE10220600000
7	Temperature controller	YE85020000000	YE85020000000	YE85020000000
8	Timer	YE86002400000	YE86002400000	YE86002400000
9	Motor	YM10271200000	YM10271200000	YM10271200000
10	Motor longer shaft	BH11053800010	BH11053800010	BH11053800010
11	Motor blade	YW09000701100	YW09000701100	50Hz:YW09945140000
				60Hz:YW09000701100
12	Heating wire*	BH70050400050	BH70094500050	BH70094500050
13	Door lock	YW00000000000	YW00000000000	YW00000000000
14	Pallet	-	-	-
15	3" Fixed castor	YW03000300300	YW03000300300	YW03000300300

* 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.

2.3.3 Assembly Drawing (CD-20/20L(HT))



Remarks: Please refer to material list 2.3.4 for specific explanation of the Arabic numbers in parts drawing.

Picture 2-3: Assembly Drawing (CD-20/20L(HT))

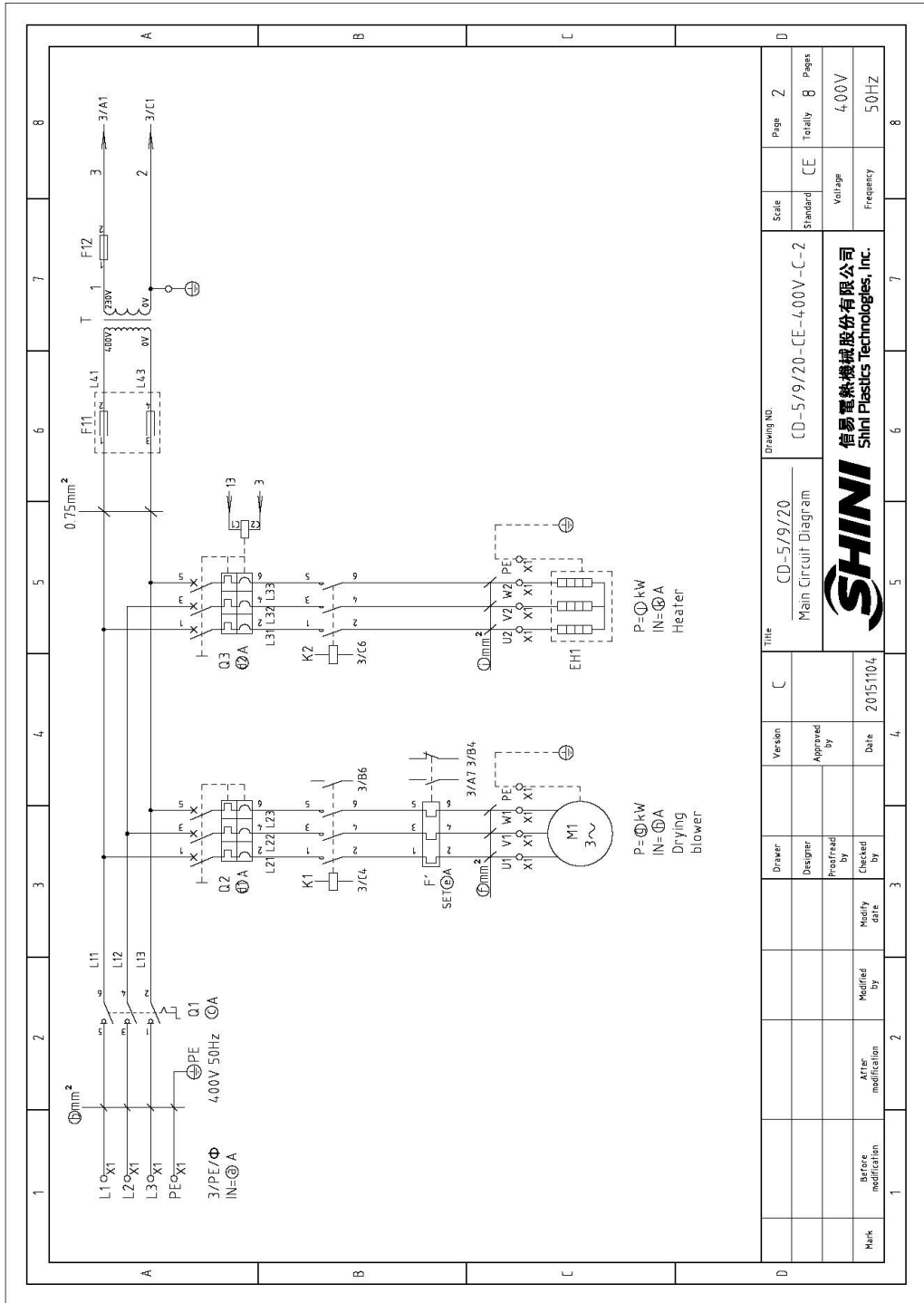
2.3.4 Parts List (CD-20/20L(HT))

Table 2-2: Parts List (CD-20/20L(HT))

No.	Name	Part No.	
		CD-20-(HT)	CD-20L-(HT)
1	3" mobile castor	YW03000300000	YW03000300000
2	Oven door back hinge	BW09000200100	BW09000200100
3	Door handle	YW09000300200	YW09000300200
4	The switch	YE10210300000	YE10210300000
5	Motor switch	YE10210400000	YE10210400000
6	Electric switch	YE10210400000	YE10210400000
7	Timer switch	YE10210600000	YE10210600000
8	Temperature controller	YE85020000000	YE85020000000
9	Timer	YE86002400000	YE86002400000
10	Motor	YM10290400000	YM10290400000
11	Motor longer shaft	BH11203600010	BH11203600010
12	Motor blade	YW09001200400	YW09001200400
13	Heating wire*	BH70200900050	BH70201800050
14	Support among	-	-
15	3" Fixed castor	YW03000300300	YW03000300300
16	Pallet	-	-

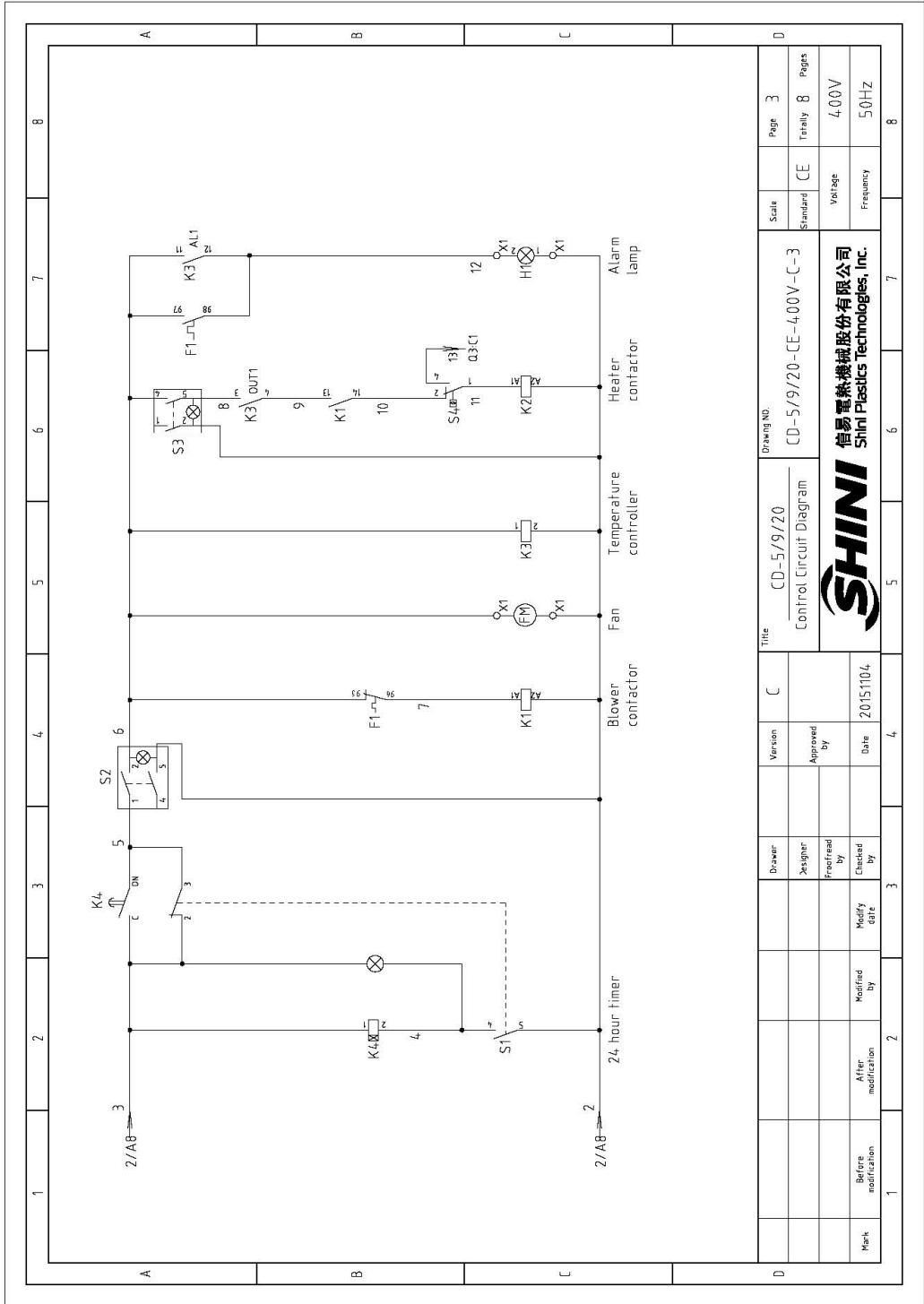
* means possible broken parts. ** means easy broken part. and spare backup is suggested. Please confirm the version of manual before placing the purchase order to guarantee that the item number of the spare part is in accordance with the real object.

2.4.2 Main Circuit (400V)



Picture 2-4: Main Circuit (400V)

2.4.3 Control Circuit (400V)



Picture 2-5: Control Circuit (400V)

Table 2-4: Electrical Components List (CD-9) (400V)

1		2		3		4		5		6		7		8	
No.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark							
1	Q1	Main switch	SIEMENS	3LD20	16A	1	YE10200300000								
2	Q2	Circuit breakers	TECO	BM-63C 3P	6A	1	YE4030603000								
3	Q3	Circuit breakers	TECO	BM-63C 3P	10A	1	YE40301003000	A							
4		Excitation release	CHNT	MX	230V 50/60Hz	1	YE4023560000								
5	K1	Contacts	SIEMENS	3RT6017-1ANZ1	230V 50/60Hz	1	YE00601721000								
6	K2	Contacts	SIEMENS	3RT6017-1ANZ1	230V 50/60Hz	1	YE00601721000								
7	K3	Temperature controller	OMRON	E5EC	100-230V 50/60Hz	1	YE85005000000								
8	K4	24 Hour timer	PANASONIC	A-TB-72-D	230V 50/60Hz	1	YE86002400000								
9	F1	Overload relay	SIEMENS	3RU6116-1AB0	1.1-1.6A	1	YE011601100000								
10	F11	Fuse base	CHNT	RT18-32	2P	1	YE41032200000	B							
11	F12	Fuse core	CHNT	10x38 500V	2A	1	YE46002000100								
12	F12	Fuse	YINDA	FS-10	2A	1	YE41001000000								
13	T	Transformer	BAIYUN	IN=400V OUT=230V	350mA	1	YE70402300200								
14	S1	Alternative switch	REAB	R220/C5LBW	6P (WH)	1	YE10220600000								
15	S2 S3	Alternative switch	REAB	R220/C5LBW	4P (WH)	2	YE10210400000								
16	S4	Overheat protector	TONGBAO	ZA300	250V 300°C	1	-----	(1)							
17	S5	Thermocouple	SHINI	-----	K	1	-----	(1)							
18	H1	Alarm lamp	SHINI	LED-3051	230V 50/60Hz	1	YEB3305100200	(1)							
19	FM	Fan	SUNDON	DP200A	230V 50/60Hz	1	YMF0121200400	(1)							
20	X1	Terminal board	PHOENIX	2.5mm ²	32A	13	YE61250040000								
21				2.5mm ² PE		3	YE61253500000								
22	M1	Blower	----	----	400V 50Hz 0.37kW	1	-----	(1)							
23	EH1	Heater	SHINI	----	400V 50Hz 4.5kW	1	-----	(1)							
Note: (1) Means not part of control box.															
D				Drawer	Version	C	Title		CD-9		Drawing No.		Scale	Page	6
				Designer	Approved by		Electrical Components list		CD-5/9/20-CE-400V-C-6		Standard		CE	Totally	8
				Proofread by	Date	20151104	SHINI		信易電線機械股份有限公司		Voltage		400V		
Mark		Before modification	Modified by	Modify date			SHINI		Shini Plastics Technologies, Inc.		Frequency		50Hz		

Table 2-5: Electrical Components List (CD-20T) (400V)

1		2		3		4		5		6		7		8	
NO.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark							
1	Q1	Main switch	SIEMENS	3LD20	32A	1	YE10220300000								
2	Q2	Circuit breakers	TECO	BM-63C 3P	10A	1	YE40301003000								
3	Q3	Circuit breakers	TECO	BM-63C 3P	20A	1	YE40302003000								
4		Excitation release	CHNT	MX	230V 50/60Hz	1	YE40023560000								
5	K1	Contacts	SIEMENS	3RT6017-1AN21	230V 50/60Hz	1	YE00601721000								
6	K2	Contacts	SIEMENS	3RT6026-1AN20	230V 50/60Hz	1	YE00602622000								
7	K3	Temperature controller	OMRON	E5EC	100~230V 50/60Hz	1	YE85005000000								
8	K4	24 Hour timer	PANASONIC	A-TB-7Z-D	230V 50/60Hz	1	YE86002400000								
9	F1	Overload relay	SIEMENS	3RU6116-1FB0	3.5-5A	1	YE01160350000								
10	F11	Fuse base	CHNT	RT18-32	2P	1	YE41032200000								
11		Fuse core	CHNT	10x38 500V	2A	1	YE46002000100								
12	F12	Fuse	YINDA	FS-10	2A	1	YE41001000000								
13	T	Transformer	BAIYUN	IN=400V OUT=230V	350mA	1	YE70402300200								
14	S1	Alternative switch	REAB	R220/C5LBW	6P (WH)	1	YE10220600000								
15	S2 S3	Alternative switch	REAB	R220/C5LBW	4P (WH)	2	YE10210400000								
16	S4	Overheat protector	TONGBAO	ZA300	250V 300°C	1	-----	(1)							
17	S5	Thermocouple	SHINI	-----	K	1	-----	(1)							
18	H1	Alarm lamp	SHINI	LED-3051	230V 50/60Hz	1	YE83305100200								
19	FM	Fan	SUNON	DP200A	230V 50/60Hz	1	YM60121200400								
20	X1	Terminal board	PHOENIX	4mm ²	41A	3	YE61040000000								
21				4mm ² PE		1	YE61043500000								
22		Terminal board	PHOENIX	2.5mm ²	32A	10	YE61250040000								
23				2.5mm ² PE		2	YE61253500000								
24	M1	Blower	----	----	400V 50Hz 1.5kW	1	-----	(1)							
25	EH1	Heater	SHINI	----	400V 50Hz 9kW	1	-----	(1)							

Note: (1) Means not part of control box.											
D		Title		Version		C		Drawing No.		D	
		CD-20		Electrical Components List		CD-5/9/20-CE-400V-C-7		Scale		Page	
		SHINI		Shini 信易電熱機械股份有限公司		Shini Plastics Technologies, Inc.		Standard		Totality	
		20151104		Date		20151104		Voltage		Pages	
Mark		Before modification		Modified by		Modify date		Frequency		8	
								400V		50Hz	

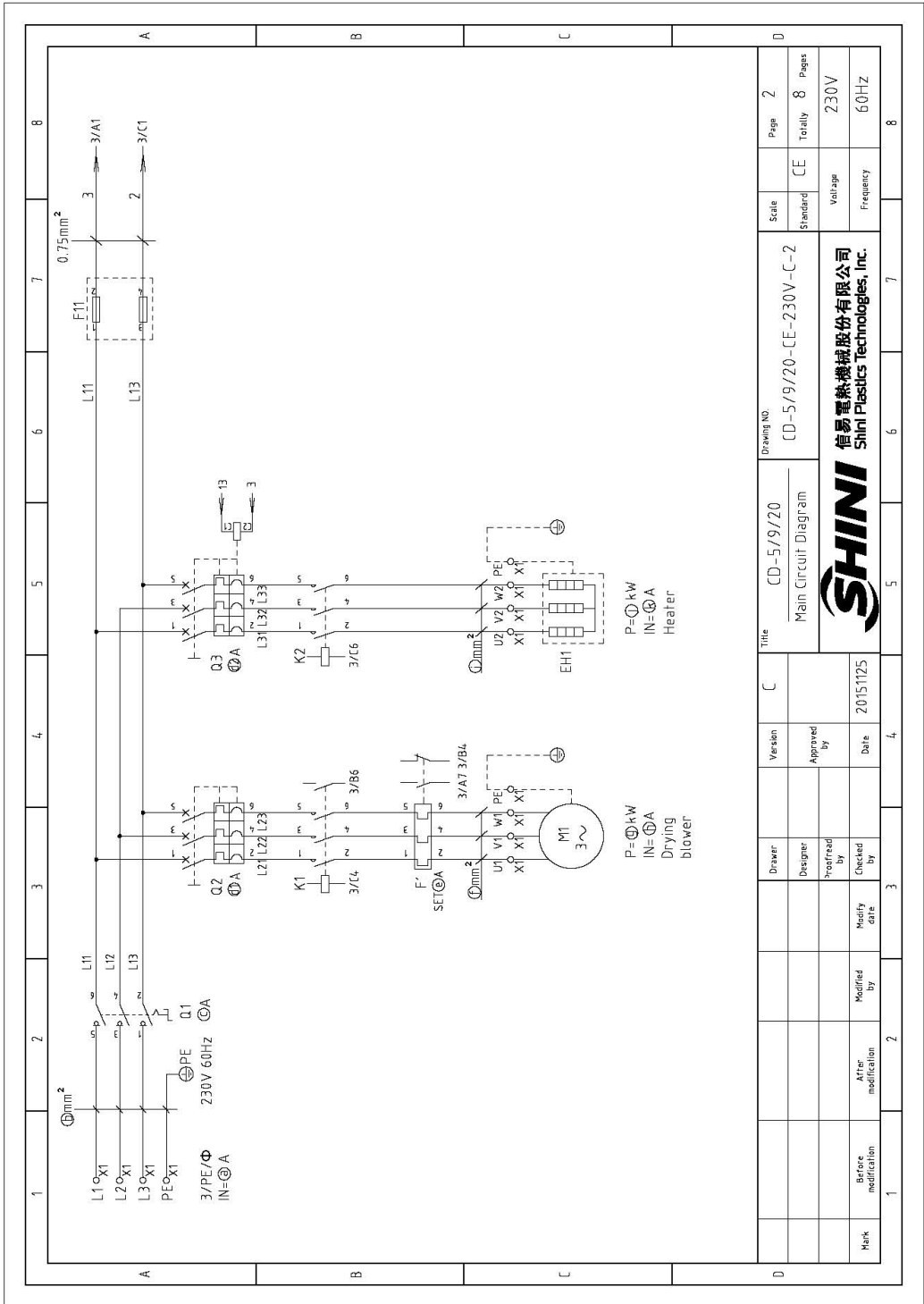
Table 2-6: Electrical Components List (CD-20L) (400V)

1	2	3	4	5	6	7	8		
NO.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark	
1	Q1	Main switch	SIEMENS	3LD20	3ZA	1	YE10220300000		
2	Q2	Circuit breakers	TECO	BM-63C 3P	10A	1	YE40304003000		
3	Q3	Circuit breakers	TECO	BM-63C 3P	40A	1	YE40304003000	A	
4		Excitation release	CHNT	MX	230V 50/60Hz	1	YE40023500000		
5	K1	Contactors	SIEMENS	3RT6017-1AN21	230V 50/60Hz	1	YE00601721000		
6	K2	Contactors	SIEMENS	3RT6028-1AN20	230V 50/60Hz	1	YE00602822000		
7	K3	Temperature controller	OMRON	E5EC	100~230V 50/60Hz	1	YE85005000000		
8	K4	24 Hour timer	PANASONIC	A-TB-72-D	230V 50/60Hz	1	YE86002400000		
9	F1	Overload relay	SIEMENS	3RU6116-1FB0	3.5-5A	1	YE01160350000		
10	F11	Fuse base	CHNT	RT18-32	2P	1	YE41032200000		
11	F12	Fuse core	CHNT	10x38 500V	2A	1	YE46002000100	B	
12	F12	Fuse	YINDA	FS-10	2A	1	YE41001000000		
13	T	Transformer	BAIYUN	IN=400V OUT=230V	350mA	1	YE70402300200		
14	S1	Alternative switch	REAB	R220/C5/BW	6P (WH)	1	YE10220600000		
15	S2 S3	Alternative switch	REAB	R220/C5/BW	4P (WH)	2	YE10210400000		
16	S4	Overheat protector	TONGBAO	ZA300	250V 300°C	1	-----	(1)	
17	S5	Thermocouple	SHINI	-----	K	1	-----	(1)	
18	H1	Alarm lamp	SHINI	LED-3051	230V 50/60Hz	1	YE83305100200	(1)	
19	FM	Fan	SUNON	DP200A	230V 50/60Hz	1	YM60121200400	(1)	
20	X1	Terminal board	PHOENIX	6mm ²	57A	6	YE61040000000		
21				6mm ² PE		2	YE61043500000		
22		Terminal board	PHOENIX	2.5mm ²	32A	7	YE61250040000		
23				2.5mm ² PE		1	YE61253500000		
24	M1	Blower	----	----	400V 50Hz 1.5kW	1	-----	(1)	
25	EH1	Heater	SHINI	----	400V 50Hz 18kW	1	-----	(1)	
Note: (1) Means not part of control box.									
D		Title		CD-20L		Drawing No.		CD-5/9/20-CE-400V-C-8	
		Version		C		Scale		Page 8	
		Approved by				Standard		Totally 8 Pages	
		Checked by		Date		Voltage		400V	
Mark		Before modification		20151104		Frequency		50Hz	
		SHINI		SHINI		SHINI		SHINI	
		Shini Plastics Technologies, Inc.		Shini Plastics Technologies, Inc.		Shini Plastics Technologies, Inc.		Shini Plastics Technologies, Inc.	

2.4.6 Parameter(230V)

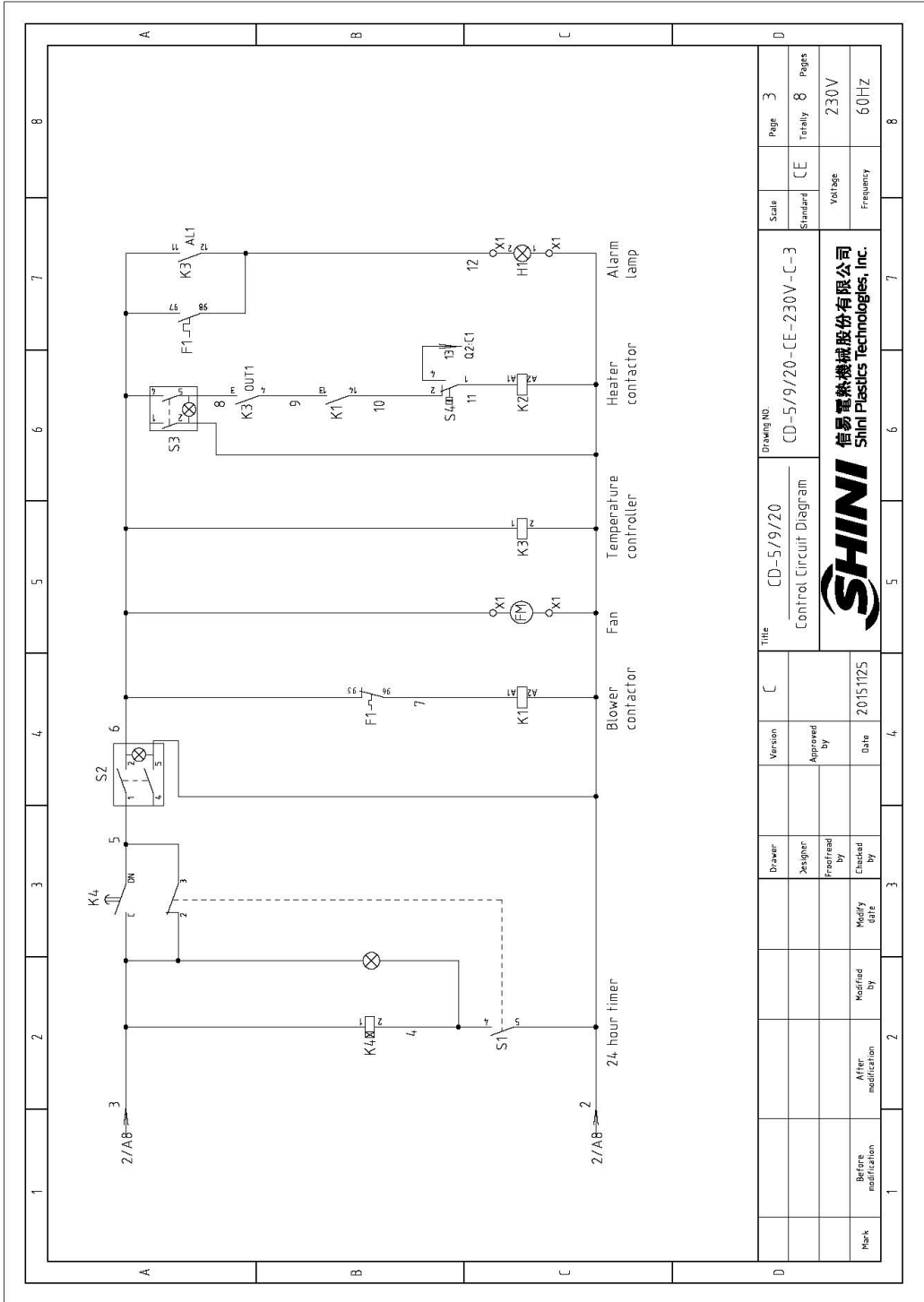
1		2		3		4		5		6		7		8	
A		B		C		D		A		B		C		D	
		<p>Ⓐ Input current</p> <p>Ⓑ Main traverse line</p> <p>Ⓒ Main power switch</p>		<p>Ⓓ Blower breaker</p> <p>Ⓔ Heater breaker</p> <p>Ⓕ Loader current</p>		<p>Ⓕ Blower wire</p> <p>Ⓖ Blower power</p> <p>Ⓗ Blower current</p>		<p>Ⓖ Heater wire</p> <p>Ⓘ Heater power</p> <p>Ⓚ Heater current</p>							
NO.	MODE	SYMBOL	Ver.	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓘ	Ⓚ	Ⓛ	Ⓜ
1	CD-5		Ver.A	12.6	2.5	16	6	16	1.8	1.5	0.37	1.6	2.5	4.0	11
2	CD-9		Ver.A	14.1	2.5	16	6	16	1.8	1.5	0.37	1.6	2.5	4.5	12.5
3	CD-20		Ver.B	30.1	6.0	32	16	32	6.7	1.5	1.5	6.1	6.0	9.0	24
4	CD-20L		Ver.B	54.1	16.0	63	16	63	6.7	1.5	1.5	6.1	16.0	18.0	48
Mark		Before modification	After modification	Modified by	Modify date	Checked by	Designer	Version	Title		Drawing No.		Scale	Page	Pages
								C	CD-5/9/20 Parameter List of Circuit Diagram		CD-5/9/20-CE-230V-C-1		Standard	Totally	8
							Approved by		<p>信易電熱機械股份有限公司 Shini Plastics Technologies, Inc.</p>		Voltage		230V		
							Date	2015/1/25			Frequency		60Hz		
1		2		3		4		5		6		7		8	

2.4.7 Main Circuit (230V)



Picture 2-7: Main Circuit (230V)

2.4.8 Control Circuit (230V)



Picture 2-8: Control Circuit (230V)

Table 2-9: Electrical Components List (CD-20) (230V)

1		2		3		4		5		6		7		8	
NO.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark							
1	Q1	Main switch	SIEMENS	3LD20	3ZA	1	YE10220300000								
2	Q2	Circuit breakers	TECO	BM-63C 3P	16A	1	YE40301603000								
3	Q3	Circuit breakers	TECO	BM-63C 3P	32A	1	YE40303203000								
4		Excitation release	CHINT	MX	230V 50/60Hz	1	YE40023560000								
5	K1	Contacts	SIEMENS	3RT6016-1ANZ1	230V 50/60Hz	1	YE00601621000								
6	K2	Contacts	SIEMENS	3RT6028-1AN20	230V 50/60Hz	1	YE00602822000								
7	K3	Temperature controller	OMRON	E5EC	100-230V 50/60Hz	1	YE85005000000								
8	K4	24-Hour timer	PANASONIC	A-TB-72-D	230V 50/60Hz	1	YE86002400000								
9	F1	Overload relay	SIEMENS	3UA5040-1H	5-8A	1	YE01050800000								
10	F11	Fuse base	CHINT	RT18-32	2P	1	YE41032200000								
11		Fuse core	CHINT	10x38 500V	2A	1	YE46002000100								
12	S1	Alternative switch	REAB	R220/CSLBW	6P (WH)	1	YE10220600000								
13	S2 S3	Alternative switch	REAB	R220/CSLBW	4P (WH)	2	YE10210400000								
14	S4	Overheat protector	EGO	ZA300	250V 300°C	1	-----	(1)							
15	S5	Thermocouple	SHINI	-----	K	1	-----	(1)							
16	H1	Alarm lamp	SHINI	LED-3051	230V 50/60Hz	1	YE83305100200	(1)							
17	FM	Fan	SUNON	DP200A	230V 50/60Hz	1	YM60121200400	(1)							
18	X1	Terminal board	PHOENIX	6mm ²	57A	6	YE61060000000								
19		Terminal board	PHOENIX	6mm ² PE		2	YE61063500000								
20		Terminal board	PHOENIX	2.5mm ²	32A	7	YE61250040000								
21		Terminal board	PHOENIX	2.5mm ² PE		1	YE61253500000								
22	M1	Blower	-----	-----	230V 50/60Hz 1.5kW	1	-----	(1)							
23	EH1	Heater	SHINI	-----	230V 50/60Hz 9kW	1	-----	(1)							
Note: (1) Means not part of control box.															
D				Drawer		Version		Title		Drawing NO.		Scale		Page	
				Designer		Approved by		CD-20		CD-5/9/20-CE-230V-C-7		Standard		Page	
				Proofread by				Electrical Components List				CE		Totally 8	
				Checked by		Date		SHINI		Voltage		Frequency		230V	
Mark		Before modification		After modification		Modified by		20151125		SHINI		Frequency		60Hz	
1		2		3		4		5		6		7		8	

Table 2-10: Electrical Components List (CD-20L)(230V)

1		2		3		4		5		6		7		8	
NO.	Symbol	Name	Manufacturer	Type	Specification	Number	Material number	Remark							
1	Q1	Main switch	SIEMENS	3LD20	63A	1	YE10250400000								
2	Q2	Circuit breakers	TECO	BM-63C 3P	16A	1	YE40301603000								
3	Q3	Circuit breakers	TECO	BM-63C 3P	63A	1	YE40306303000								
4		Excitation release	CHINT	MX	230V 50/60Hz	1	YE40023560000								
5	K1	Contactors	SIEMENS	3RT6017-1AN21	230V 50/60Hz	1	YE00601721000								
6	K2	Contactors	SIEMENS	3RT5045-1AN20	230V 50/60Hz	1	YE00504500000								
7	K3	Temperature controller	OMRON	E5EC	100~230V 50/60Hz	1	YE85005000000								
8	K4	24 Hour timer	PANASONIC	A-TB-T2-D	230V 50/60Hz	1	YE86002400000								
9	F1	Overload relay	SIEMENS	3UA504.0-1H	5-8A	1	YE01050800000								
10	F11	Fuse base	CHINT	RT18-32	2P	1	YE41032200000								
11		Fuse core	CHINT	10x38 500V	2A	1	YE46002000100								
12	S1	Alternative switch	REAB	RZ20/C5LBW	6P (WH)	1	YE10220600000								
13	S2 S3	Alternative switch	REAB	RZ20/C5LBW	4P (WH)	2	YE10210400000								
14	S4	Overheat protector	EGO	ZA300	250V 300°C	1	-----	(1)							
15	S5	Thermocouple	SHINI	-----	K	1	-----	(1)							
16	H1	Alarm lamp	SHINI	LED-3051	230V 50/60Hz	1	YEB3305100200								
17	FM	Fan	SUNON	DP200A	230V 50/60Hz	1	YM601212004.00								
18	X1	Terminal board	PHOENIX	16mm ²	101A	6	YE61160000000								
19				16mm ² PE		2	YE61163500000								
20				2.5mm ²	32A	7	YE61250040000								
21				2.5mm ² PE		1	YE61253500000								
22	M1	Blower	----	----	230V 50/60Hz 1.5kW	1	-----	(1)							
23	EH1	Heater	SHINI	----	230V 50/60Hz 18kW	1	-----	(1)							
Note: (1) Means not part of control box.															
				Title		Drawing NO.		Scale		Page		Page		8	
				CD-20L		CD-5/9/20-CE-230V-C-8		CE		230V		230V			
				Electrical Components List				Voltage		Frequency		230V		60HZ	
				SHINI		信易電熱機械股份有限公司		SHINI		Shini Plastics Technologies, Inc.					
Mark		Before modification		Modified by		Modify date		Date		2015/11/25					

3. Installation and Debugging

Install the CD Cabinet Dryer at a proper place where is easy for service and maintenance.

3.1 Attentions during Installation

- 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, and connection of 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: $\pm 2\%$

3.2 Machine Installation Distance



Picture 3-1: Machine Installation Distance



Note!

Keep the machine 2M from the combustibile distance.

3.3 Check the Rotation Direction of Blower

- 1) Check whether the wind direction of inlet and outlet on the two sides of oven is right.
- 2) If the rotation direction is not right:
 - a) Stop the machine.
 - b) Turn off the main switch.
 - c) Change any two lines of the main power supply 's three lines.
 - d) Stop the machine, and check it again.



Picture 3-2: Blower Inlet / Outlet

4. Application and Operation

Open the distribution box and connect the power source in accordance with wiring diagram. Make sure that the power voltage is in compliance with the required specifications.





Notes!

Before connecting, the main switch and heat switch should be off.

4.1 Test

After all wires are connected, turn the main switch and the heater switch to “ON”, then the pilot lamp light, observe if the rotating direction of blower is consistent with the arrow. If not, exchange any two power cables.

4.2 Setting Temperature



Press the   to adjust the temperature, and it will be confirmed automatically after several seconds. Set the temperature according to material drying thermometer by adjusting the temperature regulator. After heating for a while, the OUT1 indicator will flicker intermittently, which means it reaches the set temperature. The real temperature of temperature controller should be consistent with the set temperature.







Picture 4-1: Temp. Controller

4.2.1 Keys Operature Instruction

Menu Key

- 1) Generally, it will enter the adjusting menu not exceeding 1 sec., after pressing this key. Press   key, if it needs to change the parameter.
- 2) Generally, it will enter initial setting menu after pressing this key for 3 secs.
- 3) Under all modes, it will return general state within 1 sec. after pressing this key.

Mode Key

- 1) Under general mode, it will directly enter menu parameter layer after pressing this mode key. Continue to press this key, and it will switch the parameter in the layer. Press   key could change the parameters.
- 2) Press mode key under each parameter layer, it could switch all parameters in this layer according to orders. Press   key could change the parameters.

Down Key

- 1) Under parameter mode, press this key to select the parameter on this layer.
- 2) Under setting mode, press up key to increase the parameter till its lower limit.

Up Key

- 1) Under parameter mode, press this key to select the parameter on this layer.
- 2) Under setting mode, press this key to decrease the parameter to its upper limit.

4.3 Adjustment of Air Rate

Adjustment of air rate is the most important factor for the drying result, should adjust the air outlet and inlet when drying different material.

For example:

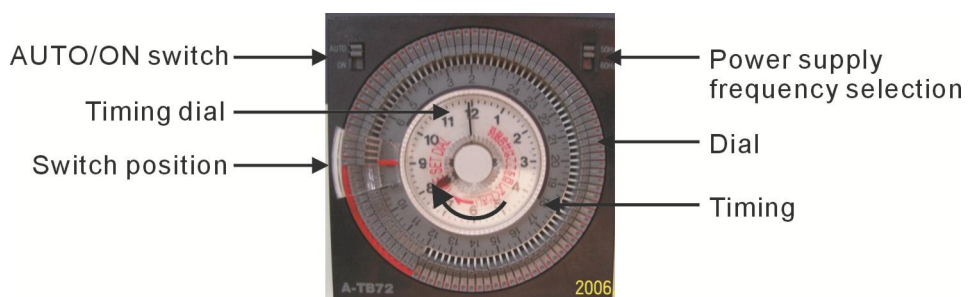
- 1) When heat and brake the electronic, galvanized and baked-finish products, the air-inlet and air-outlet should be closed completely.
- 2) When dry up the plastic materials and other products contained much moisture, the air-inlet and air-outlet should be opened properly.



Picture 4-2: Adjustment of Air Rate

4.4 Start-up Timer Setting

Turn on timer switch after all switch has been on, take down the glassy shield outside of the timer, then push the small black switch to "Auto". Set current time and drying time required, cover the glassy shield. Therefore the cabinet dryer will run automatically till drying time.



Picture 4-3: Start-up Timer Setting

Output setting

Open setting: Reverse the setting section of dial entad, at this time, red mark appears in the dial.(shown in the above picture)

Close setting: Reverse the setting section of dial to the outside, the red mark disappears, then rotate the timing dial to the switch position.

4.5 Setting the Over-thermal Protector

Over-thermal protector will be used when the actual heating temperature exceeds the setting temperature to protect the motor and heater. And its setting temperature should be higher than that of thermometer.



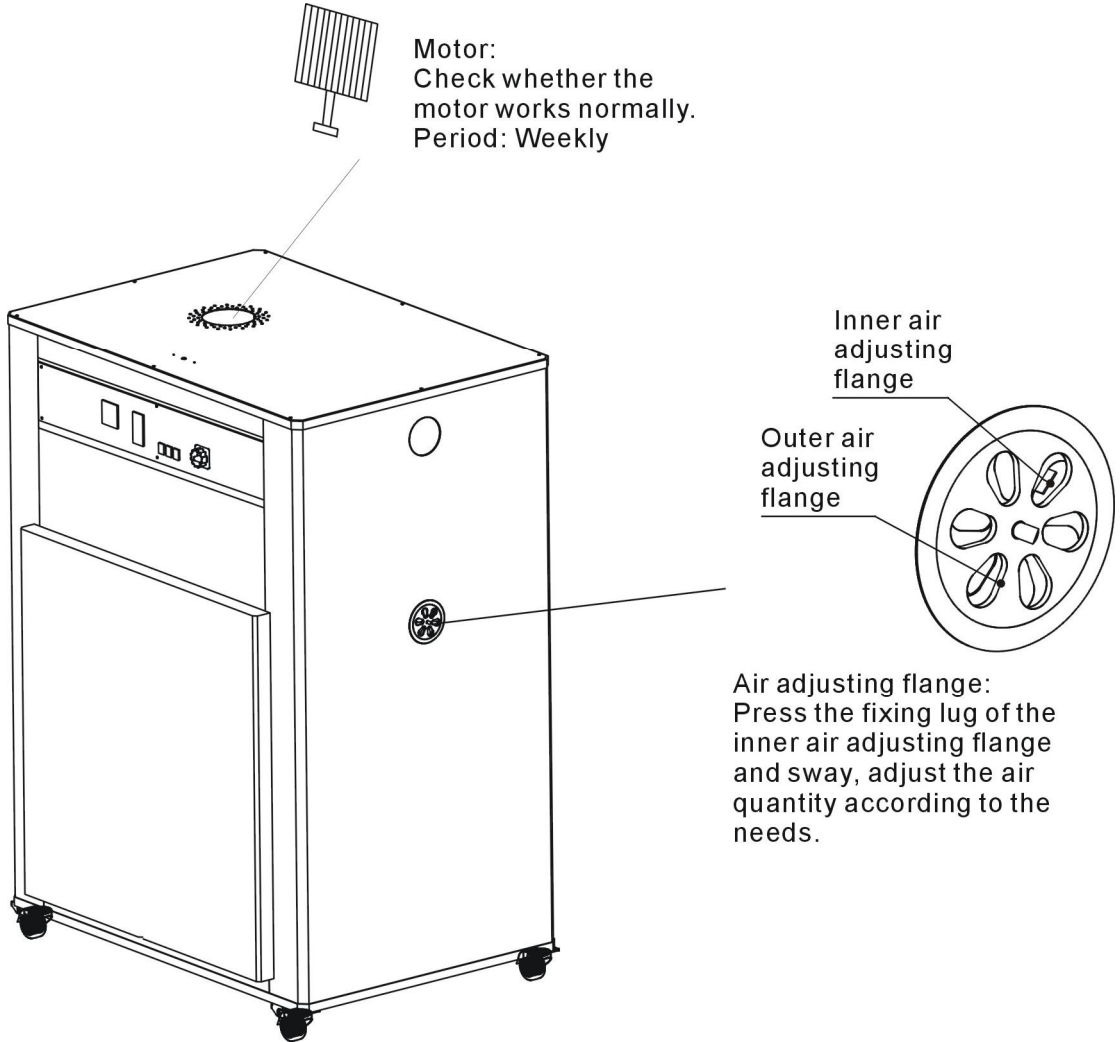
Picture 4-4: Setting the Over-thermal Protector

5. Trouble-shooting

Fault	Possible reasons	Solution
It doesn't start after turning on the main switch.	1. The motor switch isn't open.	1. Turn on the motor switch.
	2. The fuse is broken.	2. Replace a new fuse.
	3. The transformer is burnt out.	3. Replace a new transformer.
The motor doesn't run.	1. The motor switch isn't open.	1. Turn on the motor switch.
	2. The circuit breaker trips.	2. Press "RESET" key.
	3. The magnet contactor breakdowns.	3. Replace a new magnet contactor.
	4. The motor is burned out.	4. Replace a new motor.
The temperature is abnormal.	1. The temperature controller breakdowns.	1. Replace it.
	2. The temperature contactor breakdowns.	2. Replace it.
	3. The magnet contactor breakdowns.	3. Replace it.
	4. The heater breakdowns.	4. Replace it.

6. Maintenance and Repair

Clear off the dust on the motor fan periodically, avoid the damage to the blower.



6.1 Maintenance Schedule

6.1.1 About the Machine

Model _____ SN _____ Manufacture date _____

Voltage _____ Φ _____ V Frequency _____ Hz Power _____ kW

6.1.2 Electrical Installation

Voltage: _____ V _____ Hz

Fuse melt current: 1 Phase _____ A 3 Phase _____ A

Check phase sequence of the power supply.

6.1.3 Daily Checking

Check power supply wires.

Check the start/stop function.

6.1.4 Weekly Checking

Check the switches of the machine.

Check all the electrical wires.

Check the pipe heater.

Check motor overload relay.

6.1.5 Monthly Checking

Check the switches and automatism on-off of the machine.

Check the pipe heater.

Check if there are loose electrions.