Service Manual

Pharmacy Refrigerator（2~8℃）

Model：HYC-68/68A/118/118A

Picture:



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1. Definition of the Model

H (Haier) **Y** (Pharmacy) **C** (Refrigerator) **-68** (Capacity is 68L) **A** (glass door)

H (Haier) **Y** (Pharmacy) **C** (Refrigerator) **-68** (Capacity is 68Lfoaming foor)

H (Haier) **Y** (Pharmacy) **C** (Refrigerator) **-118** (Capacity is 118L) **A** (glass door)

H (Haier) **Y** (Pharmacy) **C** (Refrigerator) **-118** (Capacity is 118Lfoaming foor)

2. Appearance and Parts



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3. Product Technical Parameters

Model	HYC-68	HYC-68A
Type	upright、foaming door、air-cooling	upright、glass door、air-cooling
Climate class	N（16℃~32℃）	N（16℃~32℃）
Temp. range	2~8℃	2~8℃
Capacity （L）	68L	68L
Exterior Dimensions (W×D×H)	495*580*660	495*580*660
Exterior/Interior Material	SPCC/PS	SPCC/PS
Power Supply	220V/50Hz	220V/50Hz
	115V/60Hz	115V/60Hz
Rated Power/Current	84W/0.65A	84W/0.65A
	68W/1.1A	68W/1.1A
Controller	Microprocessor	Microprocessor
Qty of sensor	1	1
Alarm type	Buzzer，light，remote	Buzzer，light，remote
Alarm content	High temp.，sensor error，power failed，low battery，door Ajar	High temp.，sensor error，power failed，low battery，door Ajar
Foot and wheel	2 feet	2 feet
Test hole	0	0
Shelf	2 shelves+1basket	2shelves +1basket
Lamp	LED	LED
Door and lock	Y	Y
Defrosting	Auto defrosting+ Forced defrosting （no heater）	Auto defrosting+ Forced defrosting （no heater）
Safety mode	Sensor failed SM	Sensor failed SM

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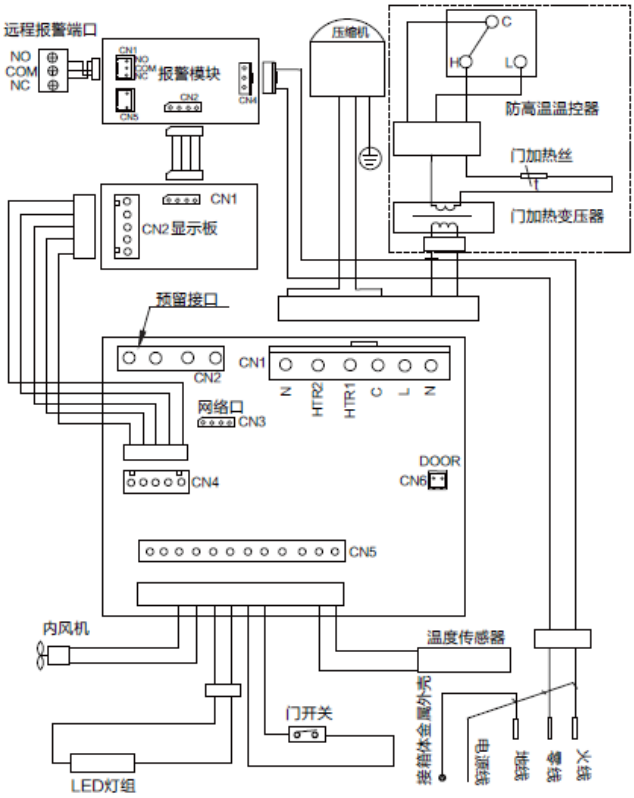
Model	HYC-118	HYC-118A
Type	upright、foaming door、air-cooling	upright、glass door、air-cooling
Climate class	N（16℃~32℃）	N（16℃~32℃）
Temp. range	2~8℃	2~8℃
Capacity （L）	118L	118L
Exterior Dimensions (W×D×H)	597*635*835	495*580*660
Exterior/Interior Material	SPCC/PS	SPCC/PS
Power Supply	220V/50Hz	220V/50Hz
	115V/60Hz	115V/60Hz
Rated Power/Current	135W/1.03A	165W/1.16A
	75W/1.11A	140W/1.46A
Controller	Microprocessor	Microprocessor
Qty of sensor	1	1
Alarm type	Buzzer，light，remote	Buzzer，light，remote
Alarm content	High temp.，sensor error，power failed，low battery，door Ajar	High temp.，sensor error，power failed，low battery，door Ajar
Foot and wheel	2feet +2 caster	2feet +2 caster
Test hole	1	1
Shelf	3 shelves+1 basket	3 shelves+1 basket
Lamp	LED	LED
Door and lock	Y	Y
Defrosting	Auto defrosting+ Forced defrosting （no heater）	Auto defrosting+ Forced defrosting （no heater）
Safety mode	Sensor failed SM	Sensor failed SM

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4. Electrical parts and circuit diagram

No.	Part code	Name	QTY	Specification	Applicable models
1	0071800028	Display board	1		HYC-68/68A
2	0071800027	Control board	1		HYC-68/68A
3	0271800067	Power failed module	1		HYC-68/68A
4	0074091200	LED	2	DC12V	HYC-68/68A
5	0074091127	Fan	1	DC12V	HYC-68/68A

No.	Part code	Name	QTY	Specification	Applicable models
1	0071800028	Display board	1		
2	0071800027	Control board	1		
3	0271800067	Power failed module	1		
4	0074091200	LED	2	DC12V	
5	0074091127	Fan	1	DC12V	
6	0274000087	Thermostat	1	AC 250V, 25(25)A	HYC-118A
7	0070401365	Transformer for door heater	1	AC 220-240V, 50Hz, class E	HYC-118A（220V/50Hz）
8	0070401365B	Transformer for door heater	1	115V/50/60Hz、class B	HYC-118A（115V/60Hz）

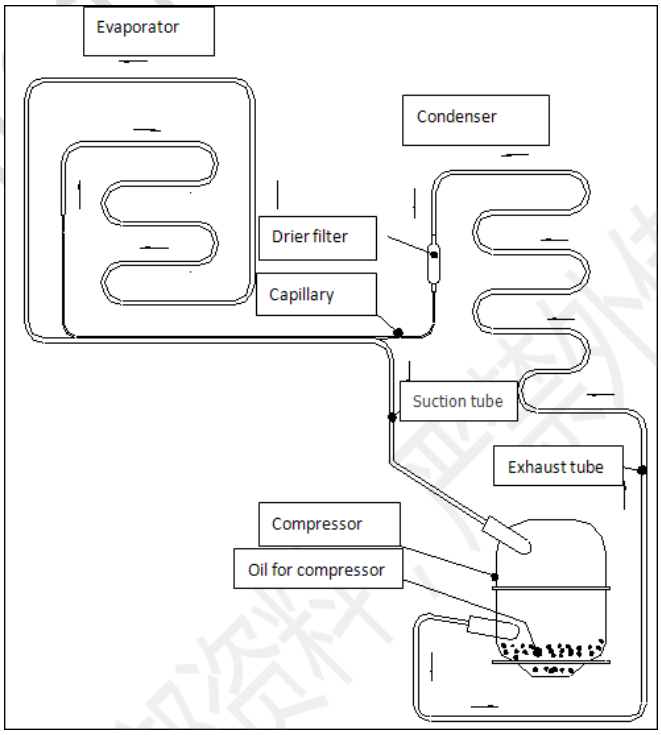


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5. Spare parts of cooling system

No.	Part Code	Name	QTY	Specification	Remark
1	0060704226	Compressor	1	HSDB	HYC-68
2	0074090641	Compressor	1	ZNX	HYC-68A
3	0060703911	Compressor	1	115V/60Hz	HYC-68(115V/60Hz) HYC-68A(115V/60Hz)
4	007-0060702435	evaporator	1		
5	0070701888	Condenser	1		
6	0060702807	Drier filter	1		
7	0073010002A	R134a	-	Qty：R134a 50g	HYC-68
8	0070301474	R600a	-	Qty：R600a 22g	HYC-68A
9	0073010002A	R134a	-	Qty：R134a 60g	HYC-68A(115V/60Hz)
10	0073010002A	R134a	-	Qty：R134a 60g	HYC-68(115V/60Hz)

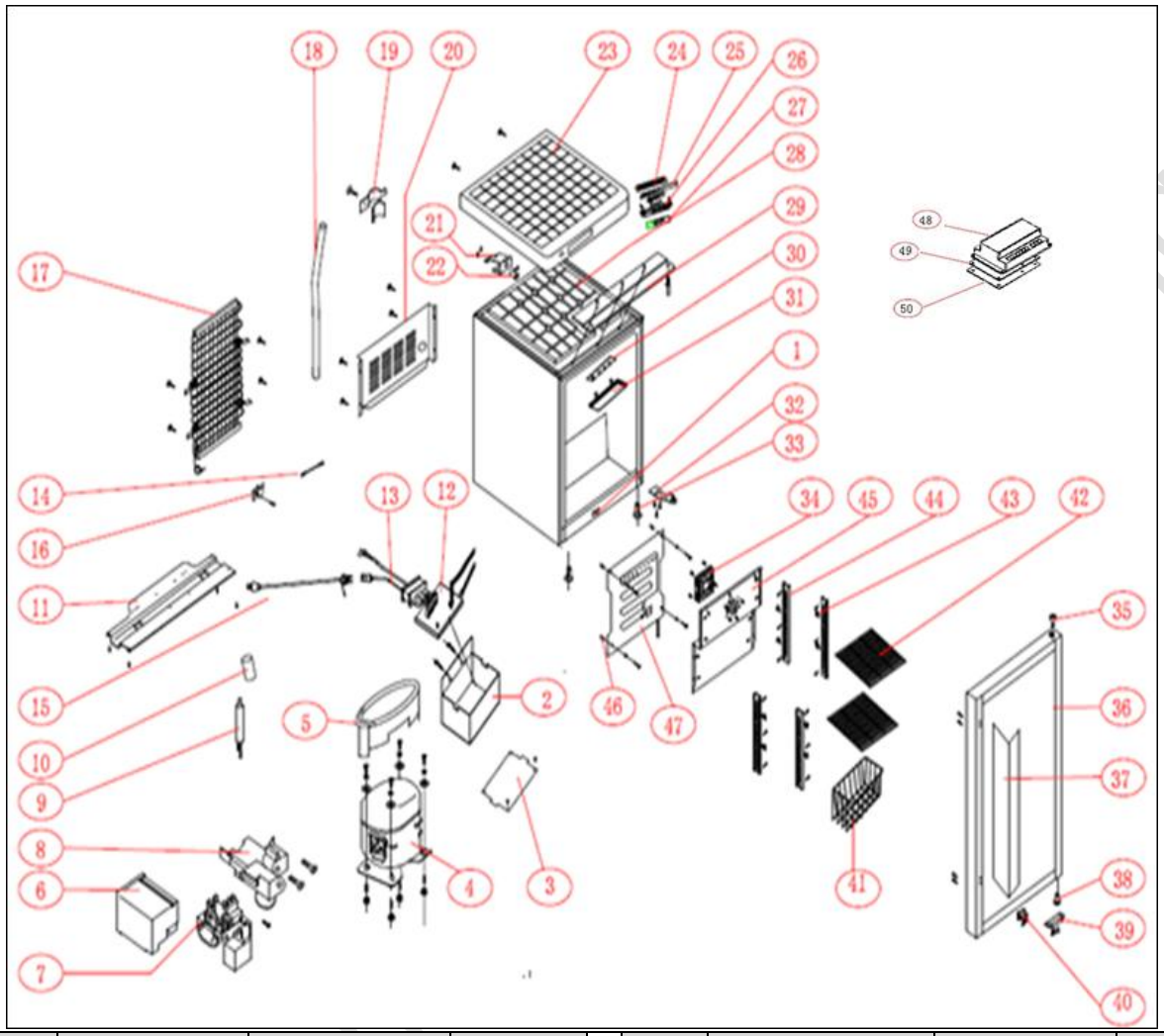
No.	Part Code	Name	QTY	Specification	Remark
1	0060703911	Compressor	1	115V/60Hz	HYC-118A(115V/60Hz)
2	0070701464	Compressor	1	TL5G 220V/60Hz	
3	0070700532	evaporator	1		
4	00605020261	Condenser	1		
5	0060702807	Drier filter	1		
6	0073010002A	R134a	-	Qty：R134a 85g	HYC-118A
				Qty：R134a 90g	HYC-118
				Qty：R134a 73g	HYC-118A（115V/60Hz）
				Qty：R134a 80g	HYC-118A（115V/60Hz）



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6. Spare part list and exploded view

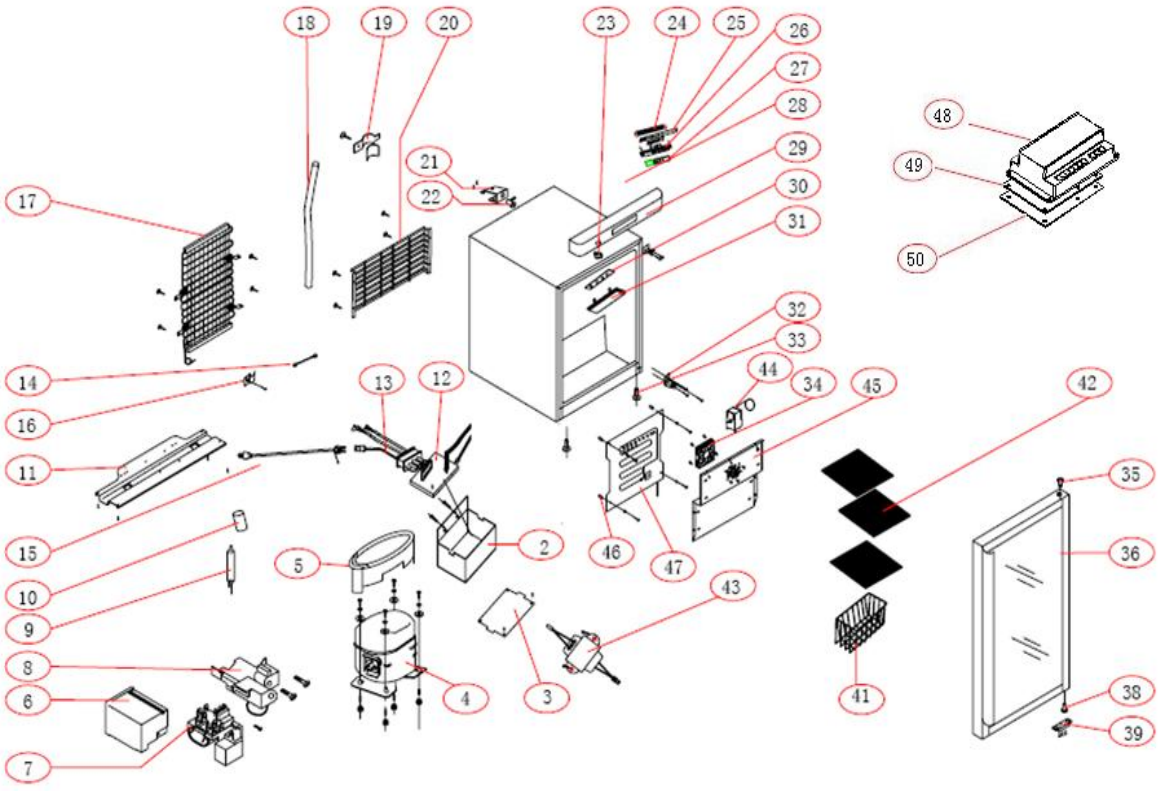
HYC-68A Exploded view



No	Code	Name	QTY		No	Code	Name	QTY
1	0074091138	Switch	1		30	0074091200	LED	1
2	0070203552	Control board box	1		31	0070203698	Light cover	1
3	0070203553	Cap of box	1		32	0070106113	Upper hinge	1
4	0074090641	Compressor	1		33	0070101405	foot	2
4	0060704226	Compressor	1		34	0074091127	Fan	1
5	0072070042	Water collecting box	1		35	/	/	/
6	/	/	/		36	0270802266	Foaming door	1
7	/	/	/		36	0070813323	Glass door	1
8	/	/	/		37	0070106690	Handle	1
9	0060702807	Drier filter	1		38	0070203691	Lower hinge	1
10	/	/	/		39	070106115	Door stopper	1
11	0070106129	Compressor fix board	1		40	0070104754	basket	1

12	0071800027	Control board	1		41	/	/	/
13	0070402090	sensor	1		42	0070106771	shelf	2
14	/	/	/		43	/	/	/
15	/	/	/		44	/	/	/
16	/	/	/		45	0070106683	Fan fix board	1
17	0070701888	Condenser	1		46	/	/	/
18	/	/	/		47	007-0060702435	Evaporator	1
19	/	/	/		48	0271800067	Power failed module	1
20	0270101416	Cover of cabin	1		49			
21	/	/	/		50			
22	0070103412	lock	1		51			
23	0070204385	Top cover	1		52			
24	/	/	/		53			
25	0071800028	Display board	1		54			
26	/	/	/		55			
27	0070507038	Display film	1		56			
28	/	/	/		57			
29	0070106119	Top board	1		58			

HYC-118/118AExploded View



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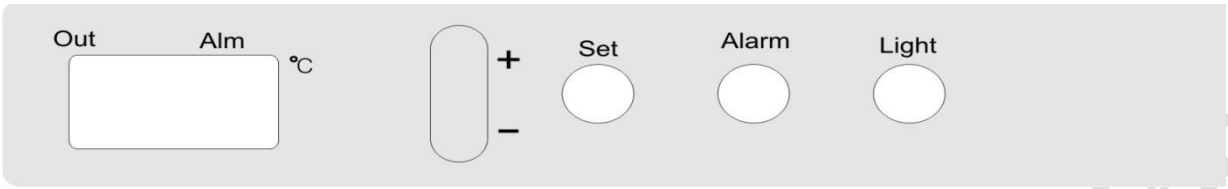
No	Code	Name	QTY		No	Code	Name	QTY	Remark
2	0070203552	Control board box	1		32	0270101592A	Lower hinge	1	
3	0070203553	Cap of box	1		33	0070101405	Foot	2	
4	0070701464	Compressor	1		34	0074091127	Fan	1	
5	0072070042	Water collecting box	1		35	0070203691	Lower shaft sleeve	1	
6	/	/	/		36	0270801743	Glass door	1	HYC-118A
7	/	/	/		37	0270801742	Foaming door	1	HYC-118
8	/	/	/		38	0070203397	Upper shaft sleeve	1	
9	0060702807	Drier filter	1		39	0070106115	Door stopper	1	
10	/	/	/		40	/	/	/	
11	0070106129	Compressor fix board with caster	1		41	0070104754	Basket	1	
12	0071800027	Control board	1		42	0070106771	Shelf	3	
13	0070402225C	cable	1		43	0070401365	transformer	1	HYC-118A
14	0070402090	sensor	/		44	0274000087	Thermostat	1	HYC-118A
15	/	/	/		45	0270101596	Fan fix board	1	
16	/	/	/		46	0070700532	Evaporator	1	
17	00605020261	Condenser	/		47	0070700532	Evaporator	1	
18	/	/	/		48	0271800067	Power failed module	1	
19	/	/	/						
20	0270101701	Back grill of cabin	1						
21	/	/	/						
22	/	/	/						
23	0074090530	Door switch	1						
24	0070203699	Display support	1						
25	0071800028	Display board	1						
26	0070812322	Display cover	1						
27	0070507038A	Display film	1						
28	0270803339	Main body	1						
29	0270200668	Front cover	1						
30	0074091200	LED light	1						
31	0070203700A	LED light cover	1						

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7. Operation instruction

1. Appearance:

(Display panel and display board are shown in following figure.)



2. Key

2.1 Temperature up/down key: To press up/down key for temperature setting.

2.2 Setting key: To set functions and enquire the maximum and minimum refrigerator temperature.

2.3 Lighting switch key: To press lighting key so that lighting lamp is on. To press it again so that it is off.

2.4 Alarm key: To set alarm limit, inquiry of upper and lower alarm limits and trouble cancellation functions;

a. Display:

a.1 Refrigerator shall display actual temperature during initial power supply and after temperature reduces to the minimum value and before increasing to setting temperature which corresponds to such temperature gear.

a.2 Current actual temperature is ±2℃ of setting temperature for gradual variation to setting temperature. Display temperature will change to actual temperature gradually without temperature variation jumping under normal conditions if current temperature exceeds setting temperature by 2℃. Variation is ±1℃ /min during all temperature variations;

a.3 Please conform with Clause 3 during setting alternation;

a.4 Displayable scope of display board refrigerator is 50℃ to -45℃. Adjustable scope is 20℃ to -40℃.

a.5 Please conform to Clause 4 for over-temperature alarm and sensor trouble alarm.

b. Color definition of indicator lamp:

(As shown in display effect diagram), display is a 3-bit digital display with 2 indicator lamps above it. It is alarm indicator lamp(ALARM) and it is on during alarm. The other is output indicator lamp and it is on during press bootstrap.

The lamp flickers when temperature reaches bootstrap point but press has not been started up due to delay. Please check if alarm or output indicator lamp is on or not according to actual conditions during power supply of display board.

c. Initial status:

Operation status for initial power supply is initial status.

Operating temperature of refrigerator: Default setting temperature is 4℃ and lamp in it is closed. Display control board will

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display default setting temperature and flickers by frequency of 1Hz. It will display actual temperature of refrigerator automatically after 5 seconds. Press will not be started up if refrigerator temperature is between bootstrap point and shutdown point during initial power supply. It can not be started up until temperature reaches bootstrap point.

There is no alarm if refrigerator temperature is within scope of alarm limit. There is instant temperature alarm and buzzer will ring if refrigerator temperature is out of control limit scope. Alarm lamp will flicker and alarm sound can be cancelled by pressing alarm key. However, alarm indicator lamp will keep flickering and it is off only when refrigerator temperature is within scope of alarm limit.

d. Temperature control

d.1 Temperature control

Bootstrap temperature = Setting temperature + Control temperature difference, rd

Shutdown temperature = Setting temperature – Control temperature difference, rd

"Output" lamp is on during press bootstrap and it is off during shutdown.

d.2 Press shall stop operation for 5 minutes forcefully if refrigerator temperature fails to reach setting temperature if press operates for 4 hours continuously. Press can not be started up until 5 minutes after shutdown.

d.3 Hot Gas Defrosting

To stop forced defrosting if accumulated compressor bootstrap period reaches **d2** hours if setting temperature exceeds 0℃. Fan in refrigerator normally operates during defrosting and press will stop operation. Please start up it again after meeting one of 2 conditions shown as follows:

Testing temperature of refrigerator Setting temperature+4℃

Defrosting period≥15 minutes;

Press will start up instantly after defrosting ends.

There is no defrosting demand if setting temperature is less than 0℃.

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1. Operating method

No.	Function	Operating steps
1	**Setting temperature**	Step1: press SET key then loosen it quickly so that display window can display original design value with flickering； Step2: press “+” or “-” to adjust setting value if it flickers, Setting value can vary by 1℃ by pressing it every time; Step3: It will exit automatically and display refrigerator temperature again (without flickering) if there is no operation within 10 seconds.
2	**Setting Internal Parameters**	Step1: press “SET” key for more than 10 seconds to display original design value (rd) with flickering, Step2: press “+” or “-” to search the parameter which we need, Step3:After finding the parameter we need, press “set”, the LED will show the value of the parameter; Step4: press “+” or “-” to adjust setting value; Step5: press “alarm” key to return to previous layer by pressing the key once until return to refrigerator temperature display
3	**Highest and lowest temperature value in history**	Step1: Press ”set” and ”+”at the same time, the display will show the highest temp. value in history, loosen the button, will back to normal display ; Step2: Press ”set” and ”-”at the same time, the display will show the lowest temp. value in history, loosen the button, will back to normal display. Notice: when we press ‘set’ the history will be reset.
4	**Checking the alarm value of the temperature**	Step1: Press ”alarm” and ”+”at the same time, the display will show the upper limit alarm value in history, loosen the button, will back to normal display ; Step2: Press ”alarm” and ”-”at the same time, the display will show the lower limit alarm value in history, loosen the button, will back to normal display. Notice: when we press ‘set’ the history will be reset.
5	**Setting the alarm value of the temperature**	Step1:Press ‘alarm’ button for at least 10s,the LED will show ”HA”; Step2:Press”+”or”-“ to change the parameter; Step3: After finding the parameter we need, press “set”, the LED will show the value of the parameter; Step4: press “+” or “-” to adjust setting value Step5: press “alarm” key to return to previous layer by pressing the key once until return to refrigerator temperature display

1. Internal parameter and value

No	Parameter	Instruction	Range	Default value	Remark
1	HA	High temp.	Upper limit value=set value+6	9	
2	LA	Low temp.	Lower limit=set value-6	2	
3	rd	Compressor control	1~6	2	
4	Co	Real-timely display	0-300	60	
5	r1	Max temp. value	LE-50	20	
6	r2	Min temp.	0-HE	2	
7	AD	Alarm delay	0-20	15	
8	CA	Calibration of temp.	-5-+5	0	

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9	LP	LED control	00-01	00	HYC-68
				01	HYC-68A

No.	Internal parameter	Parameter instructions	Scope	Default value	Instructions
1	HA	High temp. alarm	Upper limit value=set value+6	**9**	℃
2	LA	Low temp. alarm	Lower limit=set value-6	**2**	℃
3	**rd**	Adjustment gain is 1 for setting temperature difference	**1~6**	**2**	℃
4	**r1**	Adjustment gain is 1 for the maximum setting temperature	**LE~50**	**20**	℃
5	**r2**	Adjustment gain is 1 for the minimum setting temperature	**0~HE**	**2**	℃
6	**C0**	real-time display	**0~300**	**60**	
7	**AD**	Delay period of temperature alarm	**0~20**	**15**	**min**
8	**CA**	Correction of display temperature	**-5~+5**	**0**	℃
9	**Lp**	Control the LED light	**00 or 01**	**00**	HYC-118/68
				01	HYC-118A/68A

2. Special functions

A Defrosting function

Forced defrosting：

Start conditions：set value >0℃ and the compressor running time should be more than 8hours；

Defrosting status：Compressor stopped working.

Stop conditions: Meet each condition will exit the defrosting function.

(a) The cabinet temp.≥set value+4℃

(b) The defrosting time should be more than 15mins.

Notice：set value <0℃,never enter the defrosting status.

B Safety mode for sensor error

When temp. sensor has error，compressor will work 10min and stop 10min,circularly.

C Fan motor delay

Door opening，fan motor will stop working；door closed，delay 1min,fan motor begins to work.

8. Alarm Function

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Alarm	Code	Name	Alarm type	Relieve method
Sensor error	E1/EE	Temp. sensor failed	Buzz +Light +code	Check and replace sensor
Door open	N/A	Opening the door more than 1min	Buzz +light	Close door or check the door switch
High &low temp.	N/A	Beyond the range of the temp.	Buzz +light	Check the sensor and the parameter HA or LA
Power failed	N/A	Power failed or display board no response	Buzz and light on alarm module	Check power cord and power or the display board
battery	N/A	Low battery	Buzz and light on alarm module	Check the power failed module.
Remote alarm	N/A	Above all alarm	-	-

9. Notice

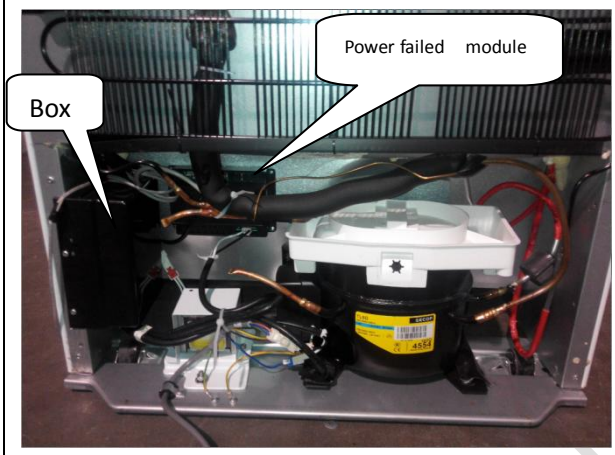
1. This model freezer is air-cooling, When filling the goods in the cabinet, Do not block the air duct.
2. This model freezer has two feet. After installation, please adjust the feet to fix the freezer .

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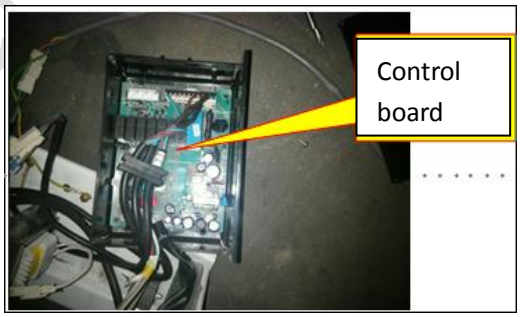
10.Replacement of Main spare parts

A Replace the PCBs

Power failed module

Steps	Picture	Operation	Remark
1 Remove the electrical box		Remove the screws of the box	HYC-118A , HYC-118has no transformer
2 Remove the power failed module		Remove the cable on the module	

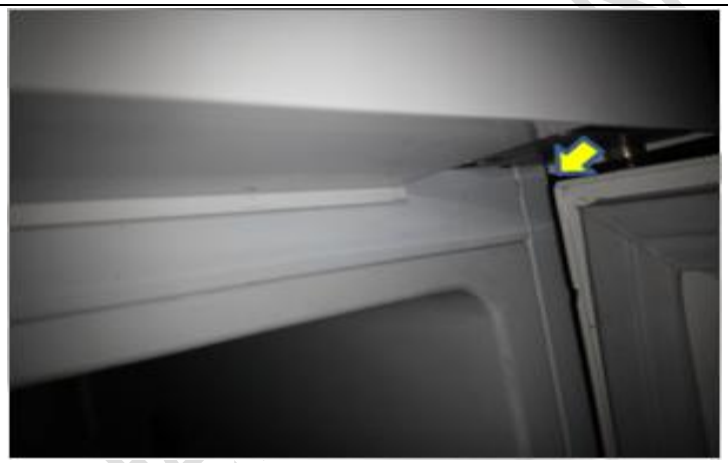
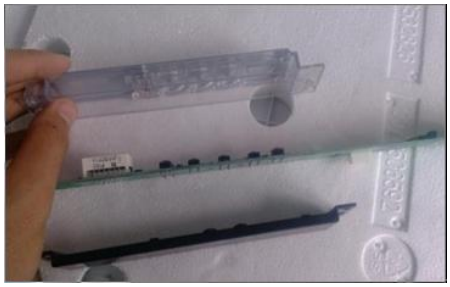
Control board

Steps	Picture	Operation	Remark
1、Remove the box		Remove the screws of the box	
2Remove the control board		Remove the screws of the control board	

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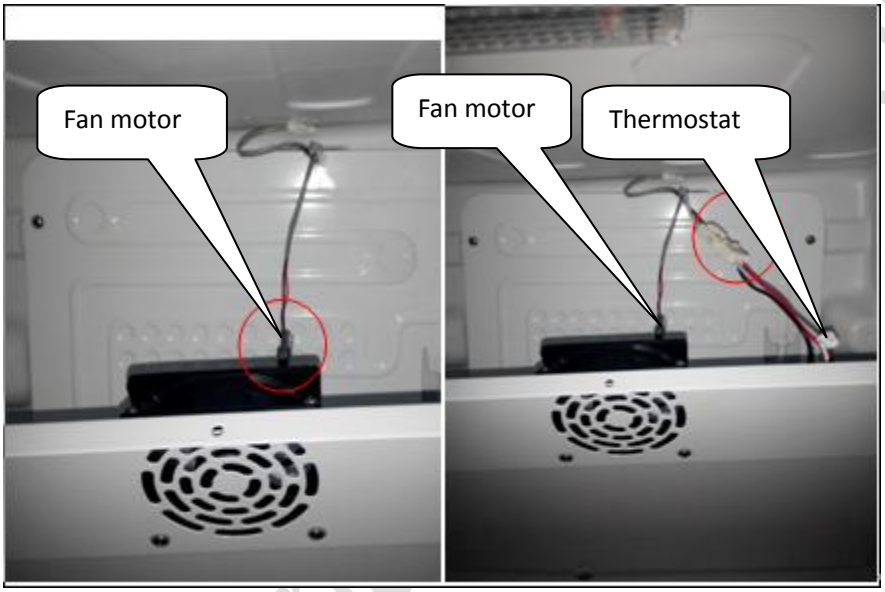
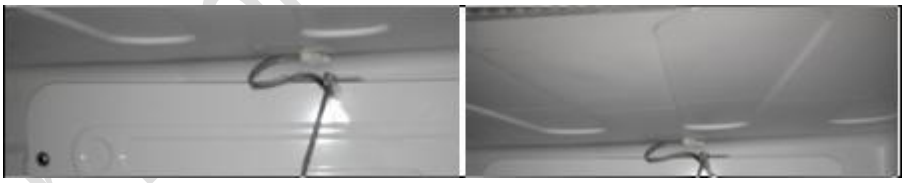
	  	Remove the cable on the control board.	

Display board

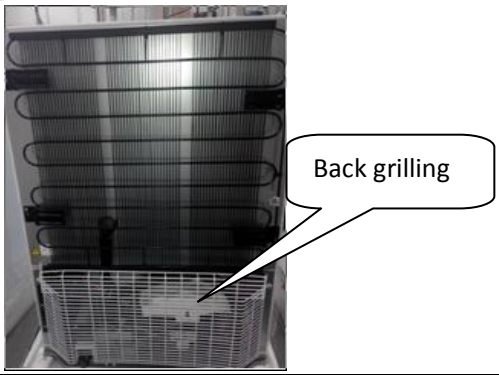
Steps	Picture	Operation	Remark
1、Remove the left support of the front panel		Open the door and find the screws, remove the screws	
2Remove the upper hinge		Remove the screws which fix the upper hinge	
3remove the display board	  	Remove the screws and separate the button and display board	

B Inspect the temperature sensor

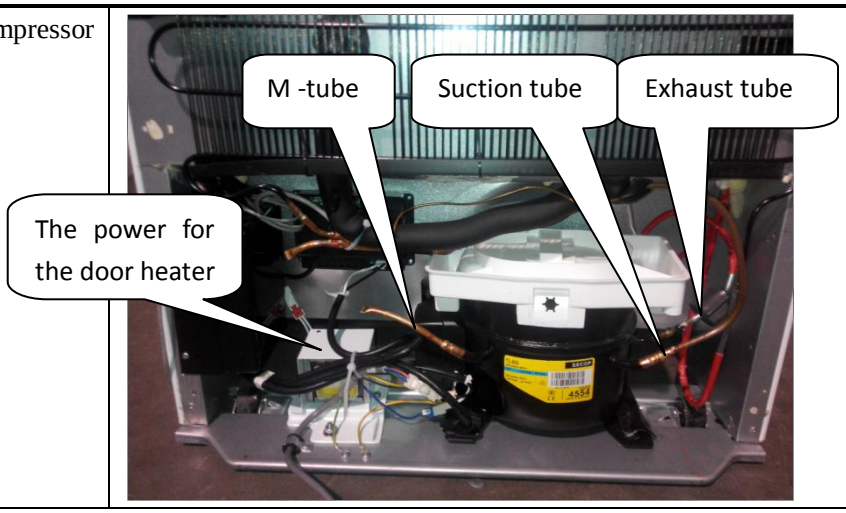
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Steps	Picture	Operation	Remark
1、remove the air duct board		Remove all the goods in the cabinet And remove the fixed screws.	
2remove the fan and the thermostat (if any)		Remove the cable of the fan and remove the fan fixed board.	The right picture is HYC-118 A
3 temp. sensor		Check the sensor probe	

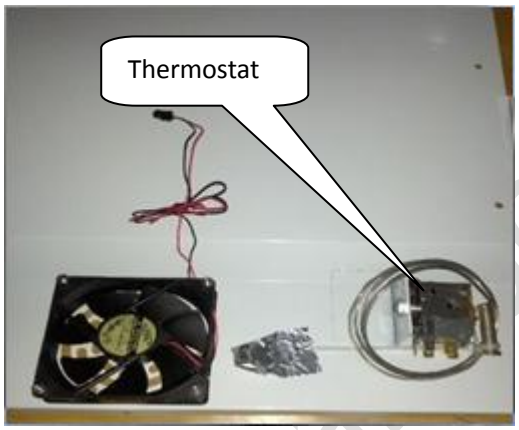
C Compressor replacement

Steps	Picture	Operation	Remark
1、remove the back grilling of the cabin		Remove the screws	

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2、compressor			HYC-118A

D Thermostat （HYC-118A only）

Steps	Picture	Operation	Remark
1、remove the fan fix board and find out the position of thermostat		Remove the screws around the thermostat	
2、the connecting wire of thermostat		Pin-C connected with Red wire; Pin-L connected with black wire; pin-H connected with white wire.	

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Haier Medical & Laboratory Products Co., Ltd.

Room 403D, Brand Building, Haier Industrial Park, No.1 Haier Road

Qingdao China

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