Biomedical After-sales Service Manual

Product type: Pharmacy Refrigerator-Freezer

Product model: HYC-68/68A/118/118A

Product illustration:

Prepared by:

Reviewed by:

Approved by:

Date:

No.: YL-P3-06-HYCD-118/118A

Version: 00

Revision record

Revision number	Revision date	Reviser	Major revision content

Contents

I. Product model illustration

H (Haier) **Y** (Medical) **C** (Refrigerator) **-68** (with capacity of about 68 L) **A** (glass door)

H (Haier) **Y** (Medical) **C** (Refrigerator) **-68** (with capacity of about 68 L, foam door)

H (Haier) **Y** (Medical) **C** (Refrigerator) **-118** (with capacity of about 118 L) **A** (glass door)

H (Haier) **Y** (Medical) **C** (Refrigerator) **-118** (with capacity of about 118 L, foam door)

II. Product appearance and illustration of each component

HYC-68A

III. Product function, machine parameter list

Product Model	HYC-68	HYC-68A	HYC-118	HYC-118A
Product type	Vertical cabinet, foam door, air cooling	Vertical cabinet, glass door, air-cooled	Vertical cabinet, foam door, air cooling	Vertical cabinet, glass door, air-cooled
Application environment	N type (16°C~32°C)	N type (16°C~32°C)	N type (16°C~32°C)	N type (16°C~32°C)
Temperature inside the cabinet	2~8℃	2~8℃	2~8℃	2~8℃
Volume (refrigeration)	68 L	118 L	118 L	118 L
Internal dimensions(W×D×H)	415*385*505	415*385*505	515×415×630	515×415×630
External dimensions(W×D×H)	495*580*660	495*580*660	597×638×810	597×638×810
Dimension (W×D×H)	540*640*710	540*640*710		
Net weight/Gross weight(Kg)	38/40	38/40	145/160	145/160

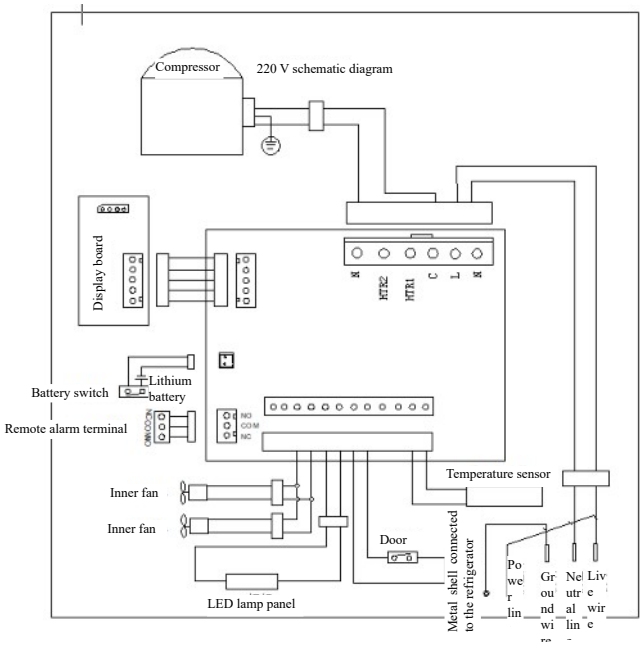
Casing/Liner material	Coldplate dusting/ps	Coldplate dusting/ps	Coldplate dusting/stainless steel	Coldplate dusting/stainless steel
Rated power supply	220 V/50 Hz	220 V/50 Hz	220 V/50 Hz	220 V/50 Hz
Rated power/current	84 W/0.65 A	84 W/0.65 A	180 W/1.33 A	230 W/1.5 A
Temperature control mode	Computer board temperature control	Computer board temperature control	Computer board temperature control	Computer board temperature control
Number of sensors	1	1	1	1
Alarm type	High and low temperature + sensor fault + power failure + door opening	High and low temperature + sensor fault + power failure + door opening	High and low temperature + sensor fault + power failure + door opening	High and low temperature + sensor fault + power failure + door opening
Foot and caster	2 feet + 2 casters	2 feet + 2 casters	2 feet + 2 casters	2 feet + 2 casters
Test hole	1	1	1	1
Shelf and storage basket	2 dip molding shelves + 1 storage basket	2 dip molding shelves + 1 storage basket	3 dip molding shelves + 1 storage basket	3 dip molding shelves + 1 storage basket
Illumination light	LED (12 V) 8 W	LED (12 V) 8 W	LED (12 V) 8 W	LED (12 V) 8 W
Door body	Foam door	Glass door	Foam door	Electric heating glass door

Details and wiring diagram of electrical spare parts

68A/68

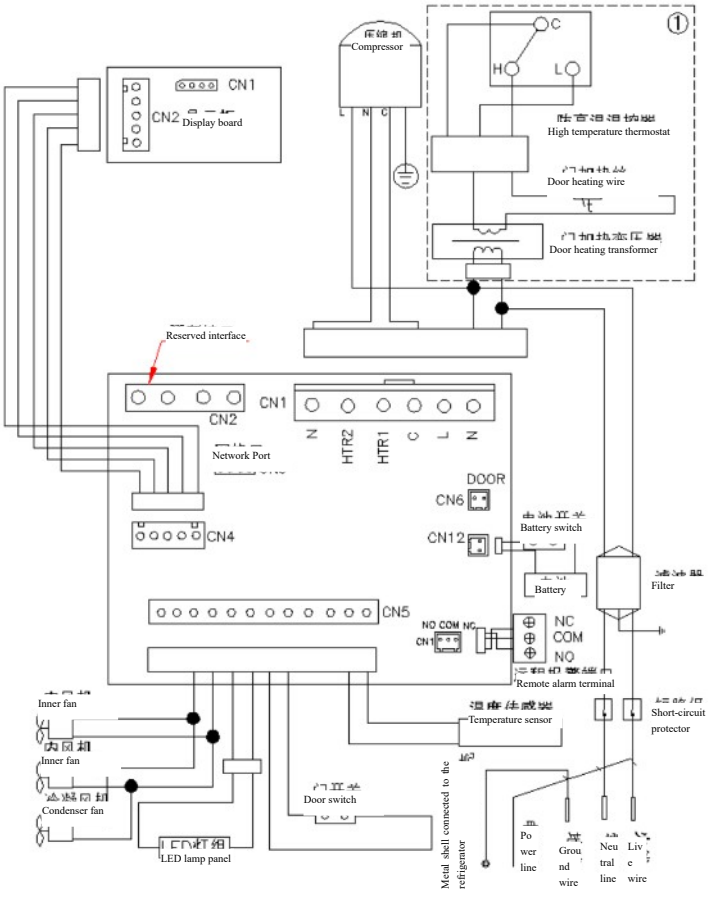
Serial number	Dedicated No.	Description	QTY	Main technical parameters	Remarks:
1	0271800091	Display board	1		
2	0271800090	Control board	1		
3	0271800127A	Battery	1	12 V/7 Ah	
4	0074091200	LED light	1	12 V	
8	0074091127	Evaporator fan	2	ADDA fan	

Attachment:



118/118A

Serial number	Dedicated No.	Description	QTY	Main technical parameters	Remarks:
1	0271800091	Display board	1		
2	0271800090	Control board	1		
3	0274000613	Battery	1	12 V/7 Ah	
4	0074091200	LED light	1	12 V	
5	0070401365	Door heating transformer	1	AC/33 V	Only on HYC-118A
6	0270801367	Electric heating door	1		Only on HYC-118A
7	0274000087	Mechanical temperature controller	1		Only on HYC-118A
8	0074091127	Evaporator fan	2	ADDA fan	
9	0074091127	Condenser fan	1	ADDA fan	
10	0074600001	Filter	1	10 A,120/250 Vac, 50-60 Hz	
11	0274300008B	Over-temperature protector	2	12 A	



Note: ① in the dotted frame is only for products of dry HYC-118A series.

IV. Refrigeration system parameters and spare parts details

68/68A

Serial number	Dedicated No.	Description	QTY	Main technical parameters	Remarks:

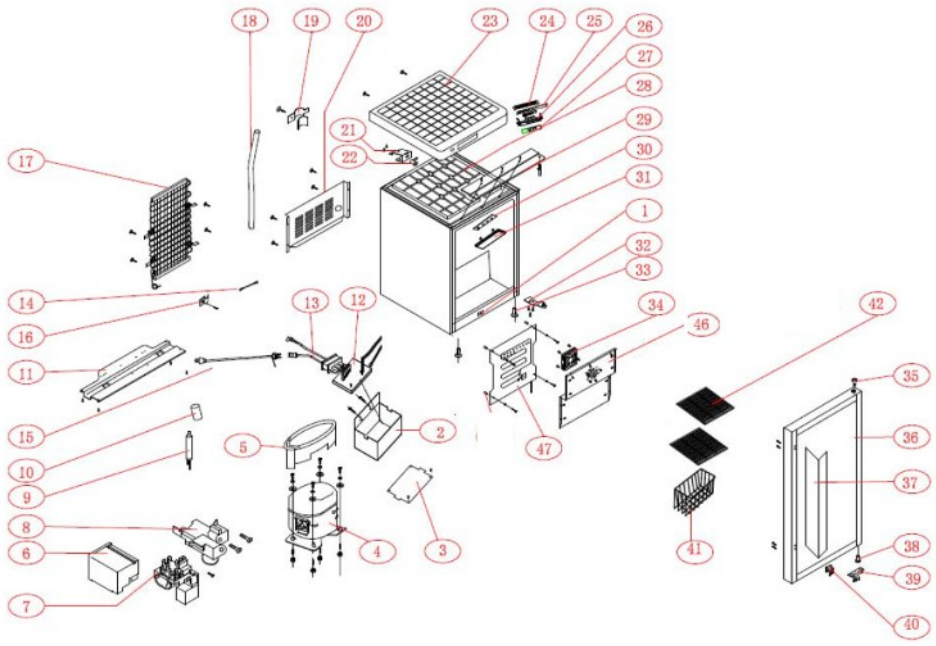
1	0074090641	Compressor	1	220V	
	0060705994B	Compressor	1	115V	
2	0270700549	condenser	2	Wire and tube condenser	
3	007-0060702435	Evaporator	1	Roll-bond evaporator	
4	0270700497	Dry filter	1		
5	0070301474	R600a refrigerant	-		

118/118A

Serial number	Dedicated No.	Description	QTY	Main technical parameters	Remarks:
1	0060705994A	Compressor	1	220V	
	0060705994B	Compressor	1	115V	
2	00605020261	condenser	2	Wire and tube condenser	
3	0270700718	Evaporator	1	Finned evaporator	
4	0070700780	Dry filter	1		
5	0070301474	R600a refrigerant	-	Filling capacity: R600a 40 g	
6	0270700662	Return duct assembly	1		

Component details and exploded views

HYC-68



Serial number	Dedicated No.	Description	QTY	Remarks:
1	0074091138	Door switch	1	
2	0070203552	Control board box	1	
3	0070203553	Control board box cover	1	
4	0074090641	Compressor	1	230V
	0060705994B	Compressor	1	115V
5	/	ROHS - water disposal pan	1	Supplied with compressor
	0270201305A	Water disposal pan	1	115V

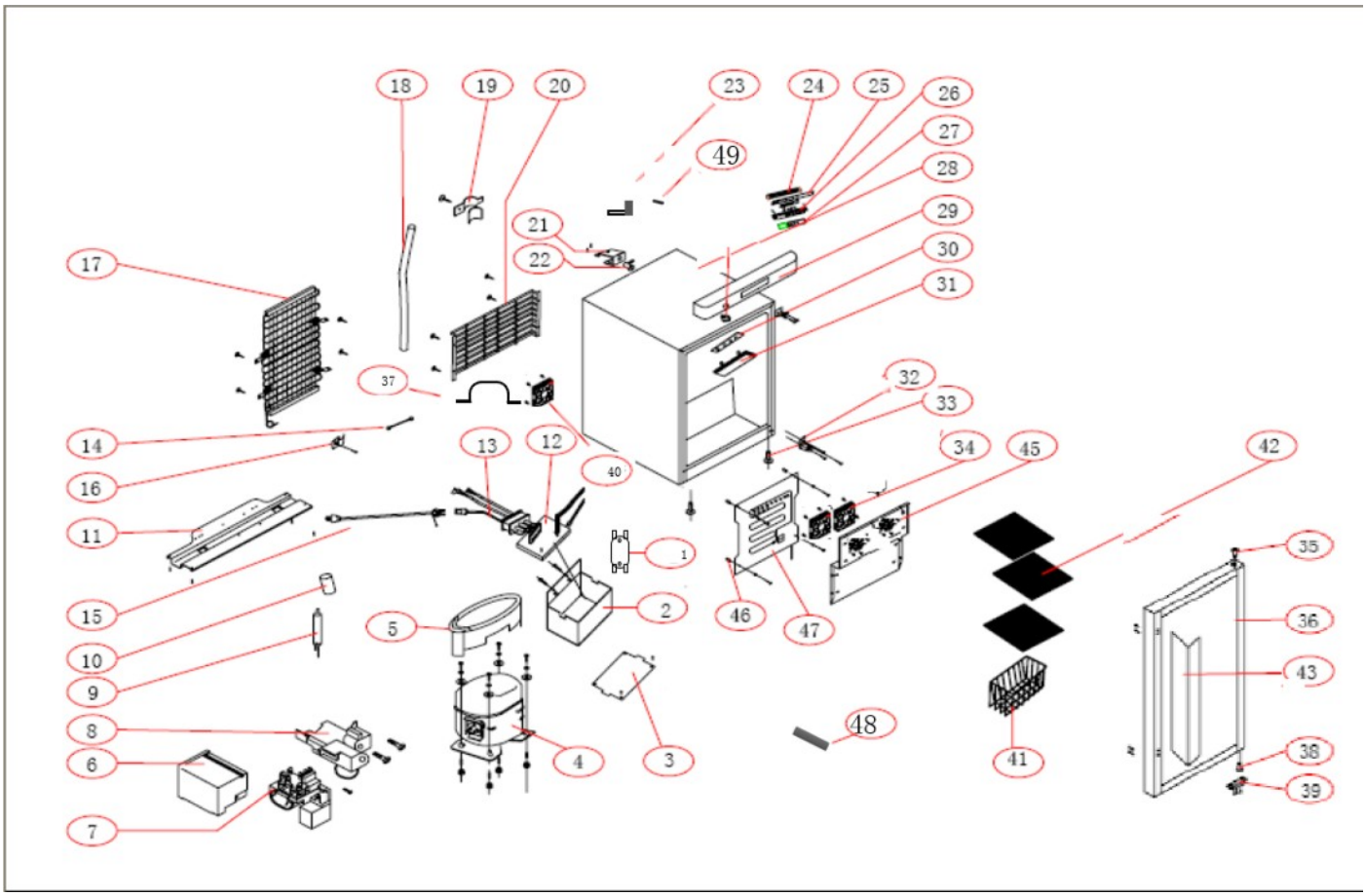
6	/	Compressor box cover	1	Supplied with compressor
7	/	Compressor startup assembly	1	Supplied with compressor
8		Compressor thermal protection assembly	1	Supplied with compressor
9	0060703262	Dry filter	1	
	0070700780	Dry filter	1	115V
10	0079020006	Heat-shrinkable pipe	1	
11	0070106129	Compressor bottom plate	1	
12	0271800090	Computer control board	1	
13	0070402225	Electrical connection combination wire	1	
	0270400252A	Electrical connection combination wire	1	115V
14	0070401839	Grounding wire	1	
15	0070400297	Power cord	1	Europe style
	0270400060A	Power cord	1	USA style
16	0070400259	Crimping clamp	1	
17	0270700549	Back condenser	1	
18	0079020006	Sponge protection pipe	1	
19	0070101572	Power cord clamp	1	
20	0270103517	Machine compartment shield	1	
21	0070106116A	Lock reinforced iron	1	
22	0070103412	Door lock	1	
23	0070204385	Top cover	1	
24	0070203699	Computer board fixing seat	1	
25	0271800091	Computer display board	1	
26	0070812322	Display board cover plate	1	
27	0070507038A	Display board sticker (English)	1	0070507038 (Chinese)
28	0070506594	Foam inside the top shield	1	
29	0070106119A	Top plate	1	
30	0074091200	LED	1	
31	0070203698	Lampshade	1	
32	0070106113	Lower hinge assembly	1	
33	0070101405	Feet	1	
34	0074091127	Inner fan	2	
35	0070203691	Upper shaft sleeve	1	
36	0270802266	Foam door assembly	1	
37	0070106690A	Door handle assembly	1	
38	0070203691	Lower shaft sleeve	1	
39	0070106115B	Door stop	1	
40	0070106113	Lower hinge	1	
41	0070104754	Lower basket HXC-106	1	
42	0070106771	Internal frame	2	
46	0070106683D	Fan baffle plate	1	
47	007-0060702435	Evaporator assembly	2	
	0270700661	Evaporator	1	115V
	0270700662	Return pipe	1	115V
	0074600001	Wave filter	1	115V

HYC-68A

Serial number	Dedicated No.	Description	QTY	Remarks:
1	0074091138	Door switch	1	
2	0070203552	Control board box	1	
3	0070203553	Control board box cover	1	
4	0074090641	Compressor	1	
	0060705994B	Compressor	1	115V
5	/	ROHS - water disposal pan	1	Supplied with compressor
	0270201305A	Water disposal pan	1	115V
6	/	Compressor box cover	1	Supplied with compressor
7	/	Compressor startup assembly	1	Supplied with compressor
8		Compressor thermal protection assembly	1	Supplied with compressor
9	0060703262	Dry filter	1	
	0070700780	Dry filter	1	115V
10	0079020006	Heat-shrinkable pipe	1	
11	0070106129	Compressor bottom plate	1	
12	0271800090	Computer control board	1	
13	0070402225	Electrical connection combination wire	1	
14	0070401839	Grounding wire	1	
15	0070400297	Power cord	1	Europe style
	0270400060A	Power cord	1	USA style
16	0070400259	Crimping clamp	1	
17	0270700549	Back condenser	1	
18	0079020006	Sponge protection pipe	1	
19	0070101572	Power cord clamp	1	
20	0270103517	Machine compartment shield	1	
21	0070106116A	Lock reinforced iron	1	
22	0070103412	Door lock	1	
23	0070204385	Top cover	1	
24	0070203699	Computer board fixing seat	1	
25	0271800091	Computer display board	1	
26	0070812322	Display board cover plate	1	
27	0070507038A	Display board sticker (English)	1	0070507038 (Chinese)
28	0070506594	Foam inside the top shield	1	
29	0070106119A	Top plate	1	
30	0074091200	LED	1	
31	0070203698	Lampshade	1	
32	0070106113	Lower hinge assembly	1	
33	0070101405	Feet	1	
34	0074091127	Inner fan	2	
35	0070203691	Upper shaft sleeve	1	
36	0070813323	Glass door	1	
37	0070203999	Door gasket	1	
38	0070203691	Lower shaft sleeve	1	
39	0070106115B	Door stop	1	

40	0070106113	Lower hinge	1	
41	0070104754	Lower basket HXC-106	1	
42	0070106771	Internal frame	2	
46	0070106683D	Fan baffle plate	1	
47	007-0060702435	Evaporator assembly	2	
	0270700661	Evaporator	1	115V
	0270700662	Return pipe	1	115V
	0074600001	Wave filter	1	115V

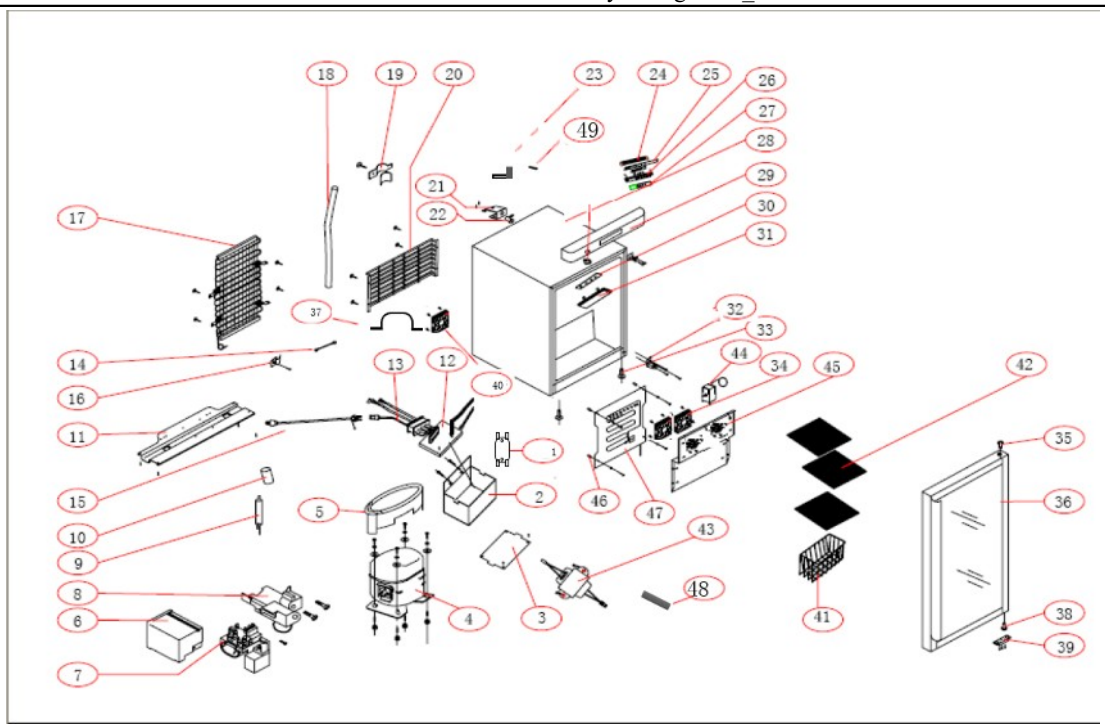
118



Serial number	Dedicated No.	Description	QTY	Remarks:
1	0074600001	Filter	1	
2	0070203552	Controller box	1	
3	0070203553	Controller box cover	1	
4	0060705994A	Compressor/ FMXA9C	1	
	0060705994B	Compressor	1	115V
5	0270201305A	Water disposal pan	1	
6	/	Compressor startup assembly	1	
7	/	Compressor box cover	1	
8	/	Compressor thermal protection assembly	1	
9	0070700780	Dry filter	1	
10	0079020006	Heat-shrinkable pipe	1	
11	0270104351	Compressor bottom plate	1	

12	0271800090	Computer control board	1	
13	0270400533B	Combination wire	1	
14	0070400035	Grounding wire	1	
15	0270400252B	Power cord	1	Europe style
	0270400060A	Power cord	1	USA style
16	0077010036	Cross recessed pan head self-tapping screw	1	
17	0605020261	Back condenser	1	
18	0070816724	Sponge protection pipe	1	
19	0070101572	Retaining clip	1	
20	0270104350	Machine compartment guard shield	1	
21	0270101600A	Lock fixing plate	1	
22	0077010036	Cross recessed pan head self-tapping screw	1	
23	0270103283	Bracket	1	
24	0070203699	Control board frame	1	
25	0271800091	Computer display board	1	
26	0070812322	Display board cover plate and support assembly	1	
27	0070507038	Display board sticker	1	
28	0270807932	Refrigerator assembly	1	
29	0270200668	Face shield	1	
30	0074091200	Light	1	
31	0070203698	Lampshade	1	
32	0074090530	Switch	1	
33	0270806770	Hinge assembly	1	
34	0074091127	Fan	2	
35	0070203397	Upper shaft sleeve	1	
36	0270801367	Glass door assembly	1	
37	0270103652	Fan bracket	1	
38	0070203397	Bushing	1	
39	0070106115B	Door stop	1	
40	0074091127	Fan	1	
41	0270101598	Food basket	1	
42	0270101597	Shelf	3	
43	0070106690A	Handle	1	
45	0270104606	Fan baffle plate	1	
46	0077010045	Cross recessed pan head screw	16	
47	0270700718	Evaporator	1	
48	0274000613	Lithium battery	1	
49	0274300008B	Over-temperature protector	2	

118 A

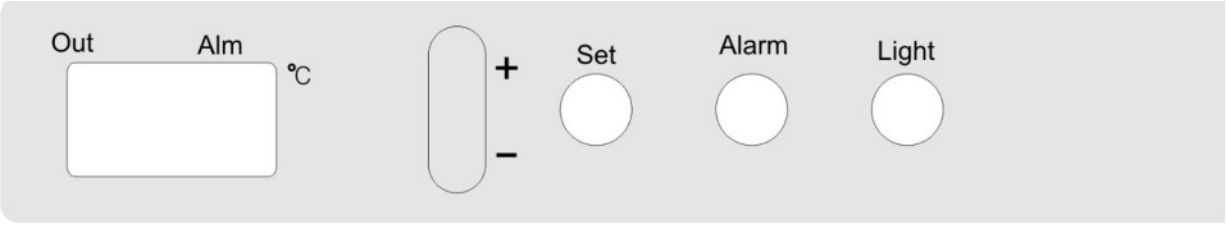


Serial number	Dedicated No.	Description	QTY	Remarks:
1	0074600001	Filter	1	
2	0070203552	Controller box	1	
3	0070203553	Controller box cover	1	
4	0060705994A	Compressor/ FMXA9C	1	
	0060705994B	Comressor	1	115V
5	0270201305A	Water disposal pan	1	
6	/	Compressor startup assembly	1	
7	/	Compressor box cover	1	
8	/	Compressor thermal protection assembly	1	
9	0070700780	Dry filter	1	
10	0079020006	Heat-shrinkable pipe	1	
11	0270104351	Compressor bottom plate	1	
12	0271800090	Computer control board	1	
13	0270400533B	Combination wire	1	
14	0070400035	Grounding wire	1	
15	0270400252B	Power cord	1	Europe style
	0270400060A	Power cord	1	USA style
16	0077010036	Cross recessed pan head self-tapping screw	1	
17	0605020261	Back condenser	1	
18	0070816724	Sponge protection pipe	1	
19	0070101572	Retaining clip	1	
20	0270104350	Machine compartment guard shield	1	
21	0270101600A	Lock fixing plate	1	
22	0077010036	Cross recessed pan head self-tapping screw	1	
23	0270103283	Bracket	1	
24	0070203699	Control board frame	1	

25	0271800091	Computer display board	1	
26	0070812322	Display board cover plate and support assembly	1	
27	0070507038A	Display board sticker (English)	1	0070507038 (Chinese)
28	0270807932	Refrigerator assembly	1	
29	0270200668	Face shield	1	
30	0074091200	Light	1	
31	0070203698	Lampshade	1	
32	0074090530	Switch	1	
33	0270806770	Hinge assembly	1	
34	0074091127	Fan	2	
35	0070203397	Upper shaft sleeve	1	
36	0270801367	Glass door assembly	1	
37	0270103652	Fan bracket	1	
38	0070203397	Bushing	1	
39	0070106115B	Door stop	1	
40	0074091127	Fan	1	
41	0270101598	Food basket	1	
42	0270101597	Shelf	3	
43	0070401365	Transformer	1	
	0070401365B	Transformer	1	115V
44	0274000087	Thermostat	1	
45	0270104606	Fan baffle plate	1	
46	0077010045	Cross recessed pan head screw	16	
47	0270700718	Evaporator	1	
48	0274000613	Lithium battery	1	
49	0274300008B	Over-temperature protector	2	

V Operation instructions

1. General layout



2. Definition of buttons

2.1 "Set" button: Press and hold for 5s to enter user parameter setting mode. Users are allowed to set parameters in this mode as needed.

2.2 "Increase" (+) button: During user or factory/after-sales parameter setting, pressing this button can increase the value to be adjusted or enter the next parameter.

2.3 "Decrease" (-) button: During user or factory/after-sales parameter setting, pressing this button can reduce the value to be adjusted or enter the previous parameter.

2.4 "Light" button: When the lighting control parameter LC=1, press the "Light" button and the lighting lamp will be on; press the "Light" button again and the light will be off.

2.5 "Alarm" button: When the buzzer alarms, press to cancel the buzzer; when there is no buzzer, press it to test the alarm function. The buzzer sounds 3 times continuously at 1 Hz, the alarm indicator flashes synchronously for 3 times. In the case of faults, each fault code is displayed in turn for 1s, and off for 1s. If it is not in remote hardware alarm state, the remote alarm relay will pull in after 3s of disconnection, and then the action is determined according to whether an alarm is needed, which indicates normal alarm, otherwise, the alarm fails; in case of power failure alarm (E02), press once, it will automatically shut down.

2.6 "Set" + "Buzzer cancel" buttons: Simultaneously press the combination buttons for 10 seconds, the window will display "CL", and all parameters on the computer board will be restored to factory default value. It is used for factory/after-sales settings only.

2.7 "Set" + "Decrease" buttons: Simultaneously press the combination buttons for 5 seconds, enter the password, and enter factory/after-sales setting mode. The parameters in this mode are only used for factory inspection and after-sales maintenance, and are not allowed to be set by users.

2.8 "Alarm" + "Increase" buttons: Simultaneously press the combination buttons, and the window will display the highest actual value in the past 24 hours without flashing. Release any key and return to the temperature display in the cabinet.

2.9 "Alarm" + "Decrease" buttons: Simultaneously press the combination buttons, and the window will display the lowest actual value in the past 24 hours without flashing. Release any key and return to the temperature display in the cabinet.

3. Parameter setting

Simultaneously press "Set" + "Decrease" buttons for 5 seconds, and the window will display "PS" (password verification is required, and the initial password is "06"). Only if the password is correct can you enter the factory/after-sales mode for setting). Then press the "Set" button and "00" appears, press "Increase" or "Decrease" button to adjust the value to "06", then press "Set" button again and "PCH" appears to enter the internal parameter setting state. If the password is entered incorrectly (originally 06), "PS" will still be displayed when the "Set" button is pressed, requiring you to re-enter the password.

The parameter list for factory/after-sales is shown in Table 4-2 below. The setting process of each parameter is roughly the same. For example, the setting process of "r0" is as follows:

When the parameter code "r0" to be set appears in the display window (if not, press the "Increase" or "Decrease" button to adjust), press the "Set" button to enter parameter setting, and press the "Increase" or "Decrease" button to adjust the parameter value, then press the "Set" button to confirm and save. After completion of parameter setting, press the

“Buzzer cancel” button to exit the parameter setting interface and back to the normal display mode.

parameter	Description	Minimum value	Maximum value	Step size/unit	Default value
PCH	Parameter mode (corresponding to different models)	001	010	1/None	001
r0	Control temperature difference	0.4	5.0	0.1/°C	1
CA3	Calibration value of control sensor	-5.0	5.0	0.1/°C	-1
CD	Press startup delay for initial power on	0	15	1/min	0
t2	Minimum shutdown duration of compressor	1	12	1/min	3
t3	Defrosting interval	1	16	1/Hour	8
t4	Compressor running time in case of control sensor fault	5	15	1/min	5
t5	Compressor stopping time in case of control sensor fault	5	15	1/min	5
LC	Lamp control mode	0 (foamed door)	1 (glass door)	1/None	1
do	Door switch type	0 (reverse)	1 (forward)	1/None	0
PS	Password	0	50	1/None	06

Note: During the setting process of above parameters in Table 4-1 and 4-2, the "Set" button must be pressed to save. The system will automatically exit setting and enter the normal display mode in case of no operation for 20s.

1. Compressor control

The start and stop of compressor are controlled by the control sensor under normal working condition. The specific start/stop rules are as follows:

Compressor starting temperature: set value (Ts) + r0

Compressor stopping temperature: set value (Ts) - r0

The shortest down time of compressor is set by the parameter t2. The compressor will be forced to stop for 5 min after continuous running of 4 hours, with inner fan running normally.

If there is a delay set during the first power on, the compressor will not work in the delay time, until the end of delay, and its action is determined according to the control sensor temperature.

When the control sensor fails (short circuit/open circuit), the compressor will run according to t4 min running and t5 min stopping.

The compressor will stop when it enters forced defrosting state.

2. Illumination light control:

Set the parameter LC as 00 for foam door machine and do not activate the "Light" button, then the light is only controlled by the door switch, on upon door opening and off upon door closing.

Set the parameter LC as 01, and activate the "Light" button:

The on/off status of the light will change upon each press of the "Light" button;

If the light is off before door opening, the light will be on upon door opening and off upon door closing light is off.

If the light is on before door opening, the light will stay on no matter door opening or closing light is off.

3. Inner fan control

When the door is opened, the inner fan stops running. When the door is closed, the inner fan runs normally.

4. Forced defrosting:

When the set temperature is lower than or equal to 8°C, the machine will be forced to stop for defrosting after the

compressor has been started up for t3 hours. The inner fan runs normally and the compress stops during defrosting. Restart when either of the following two conditions are met:

Control sensor temperature ≥ Ts + 4°C

Defrost time ≥ 15 min;

During forced frosting, "dF" is displayed alternately with the refrigerator temperature. The display window displays "dF" every 10 seconds for 10 seconds.

Defrosting is not required when the set temperature in the box is higher than 8°C.

8. Memory function: It is provided with the power off memory function. All the user, factory/after-sales parameters before power off can be restored after power back on.

VI. Alarm function and instruction

1. Power off alarm function

During the use of the product, the product will emit a continuous buzzer sound at a frequency of 1 Hz upon power off, and the alarm indicator of the computer version will flash. If the remote alarm terminal reserved by the product is connected to the alarm device, a remote alarm will be given with a minimum duration of alarm of 8 hours. The power off alarm and remote alarm function can be canceled by pressing the "alarm" button.

2. Remote alarm terminal

（1） The remote alarm terminal is installed on the back of the refrigerator, and is used for outputting alarm signals. The load capacity of the terminal is DC 30 V, 2 A.

（2） Contact output:

The remote alarm terminal has normally open, normally closed and common terminals.

Users can choose normally open or normally closed terminals according to the demand.

3. Fault display and handling:

(1) High temperature alarm E00

Judgment conditions: Judge after initial power on:

The displayed temperature is higher than or equal to the high temperature alarm setting temperature for over t1 min.

Handling actions: Alarm light flashing, buzzer alarm and remote alarm output;

Recovery conditions: The displayed temperature is lower than the set temperature of high temperature alarm for 1 min;

(2) Low temperature alarm E01

Judgment conditions: Judge after initial power on:

The displayed temperature is lower than or equal to the low temperature alarm setting temperature for over t1 min.

Handling actions: Alarm light flashing, buzzer alarm and remote alarm output;

Recovery conditions: The displayed temperature is higher than the set temperature of high temperature alarm for 1 min;

(3) Power off alarm E02

Judgment conditions: Detected switching power supply voltage (DC12 V) is lower than 10 V;

Handling action: Alarm light and power indicator flash, buzzer alarm, remote alarm output, display board shows

corresponding sensor temperature and E02 alternately with E02 for 2 seconds and temperature for 6 seconds;

Recovery conditions: Detected switching power supply voltage (DC12 V) is higher than 10.5 V;

(4) Communication failure E03

Judgment conditions: The display board and the power board fail to send and receive data for 5 consecutive times;

Treatment measures: display fault code, alarm lamp flashes, force off load of compressor, fan, floodlight, buzzer alarm, remote alarm output;

Recovery conditions: the display board and power board can send and receive data normally;

(5) Control sensor fault alarm E04

Judgment conditions: When the main sensor fails;

Handling action: Alarm light flashing, buzzer alarm and remote alarm output; the display board shows corresponding sensor temperature and E04 alternately with E04 for 2 seconds and temperature for 6 seconds; (for display board 1, the control and display use the same sensor and only the fault code is displayed in case of fault)

Recovery conditions: when the main sensor is normal;

(6) Battery fault E05

Judgment conditions: The detected battery voltage is lower than 2.0 V after 5 minutes of power on;

Handling actions: Alarm light flashing, buzzer alarm and the fault code is displayed only on query;

Recovery conditions: Detected battery voltage is higher than 3.0 V;

(7) Door opening alarm E06

Detected door opening signal for DAt min (parameter adjustable);

Alarm light flashing, buzzer alarm and remote alarm output;

Recovery after detection of door closing signal;

Note:

1) When the buzzer alarms, press the "Alarm" button to stop the buzzer alarm (it will shut down automatically in case of power off). If the alarm is not relieved after Fd min (30 min by default, with parameters adjustable), the buzzer will continue to alarm;

2) The alarm light will be off and the buzzer will stop after all alarms are relieved;

3) After the buzzer stops alarming, press the "Alarm" button to check each fault code (in case of alarm);

4) Display priority of each fault code (no need to press the "Alarm" button): Communication failure E03 > power off alarm E02 > control sensor fault alarm E04.

VII. Special precautions for installation and debugging

■Installation environment

- Ambient temperature: 16°C to 32°C, and the optimal temperature range is 18°C to 25°C. Use air conditioning system when necessary.

- Ambient humidity: HYC-68A requires humidity below 70%Rh, HYC-68 requires humidity below 75%Rh, and HYC-118/1 18 A requires humidity below 85%Rh.
- Avoid excessive dust.
- Avoid mechanical swing or vibration.
- The altitude for refrigerator working position: lower than 2,000 m.
- Input voltage: 220 V ±10% or less.

Attention

- Since the refrigerator is sensitive to ambient temperature, if it cannot operate normally in an environment other than the above, please use it after improving the environment.
- It is prohibited to install the refrigerator in the open air. If the refrigerator gets wet in the rain, it may cause electric leakage or electric shock.

■Installation site

In order to ensure the refrigerator's normal operation and achieve the best performance, the refrigerator installation site should meet the following requirements:

- It cannot be installed in narrow and enclosed space, and the door of the installation room shall not be smaller than this product. It should be at least ensured that the refrigerator can be moved in and out normally, so as to avoid maintenance difficulties in case of fault; otherwise the goods stored in the refrigerator may be spoiled due to delayed repair of the refrigerator.
- The floor of the installation site must be solid and flat.
- The installation site should also be well ventilated and free from direct sunlight.
- Do not share the same socket with plugs of other devices. The plug shall be securely connected to the socket.
- Do not twist or stress the power cord.
- If the power cord needs to be lengthened, the cross section area of the lengthened cord's conductor should be at least 2 mm^2 and the length of the extension cord should not be longer than 3 m.
- Please check the working voltage before use. For areas with unstable voltage, a regulator that is suitable for motor load may be adopted for voltage regulating, thus ensuring that the normal input voltage maintains at 220 V±10% and the regulator power is greater than 400 W.
- The refrigerator shall be reliably grounded.
- If the power socket is equipped with a grounding wire, check whether the grounding condition is good before use.
- If the outlet is not equipped with any grounding wire, be sure to install the grounding wire by a professional technician.
- Keep it away from radiation area and avoid using radiation sensitive equipment near it.

warning

- Do not ground the refrigerator through gas pipe, water pipe, telephone line or lightning rod, otherwise it may cause electric shock.
- After installation, the power plug must be accessible to facilitate unplugging the power cord in time in case of emergency. Do not cover the vents of the refrigerator with any objects.

X. Key component replacement guide

1. Precautions for installation and disassembly

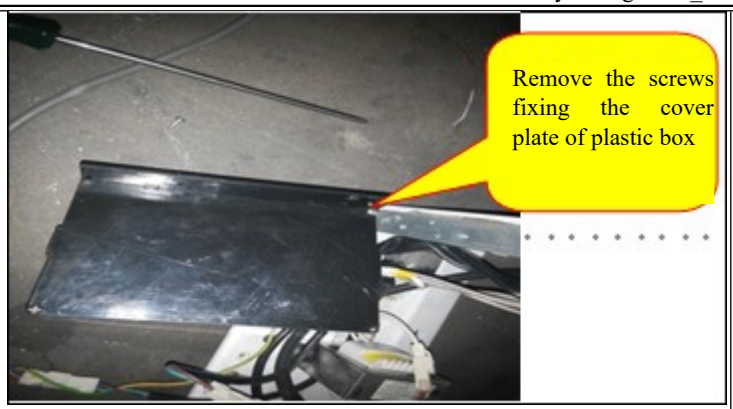
Power must be cut off during disassembly and installation

During disassembly, reverse installation shall be carried out in the reverse order of disassembly to ensure that each part is in place.

2. Disassembly and installation of computer board

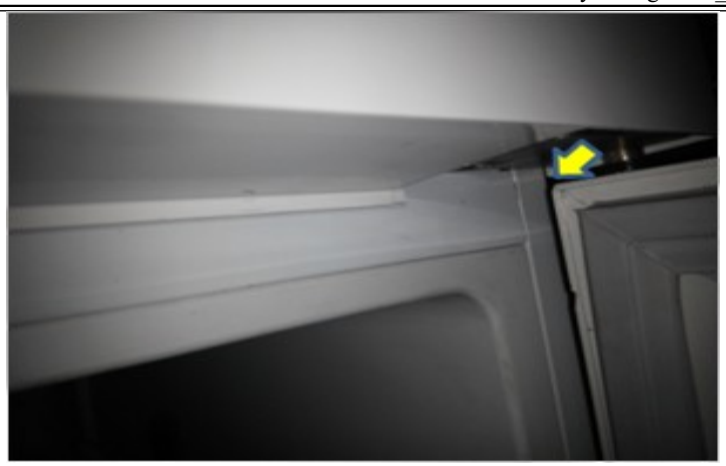
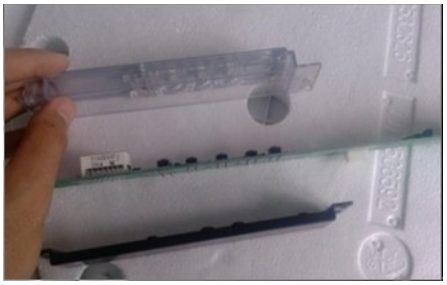
A、 Disassembly of the main control box computer board

Disassembly steps	Picture	Disassembly method	Precautions

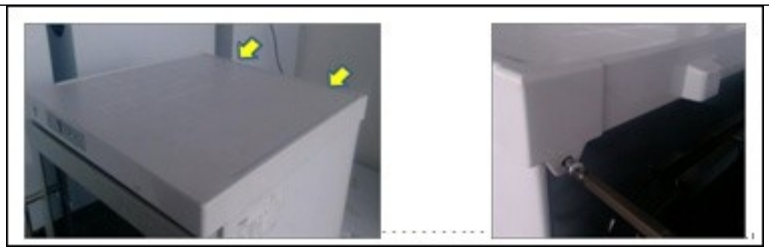
1. Disassembly of main control box cover		Remove the main control board box cover	
2. Disassembly of main control board		Remove the screws holding the computer board in the electric control box	
3. Disassembly of main control board		The main control board can be disassembled by removing the three terminals plugged into the main control board.	

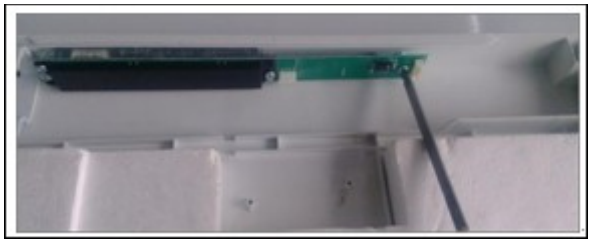
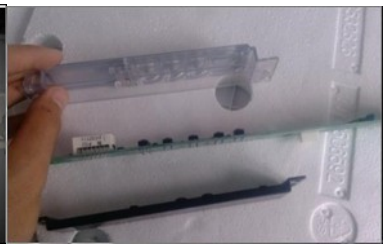
B、Disassembly of display board

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of the left support of the front face shield		Open the door to see the left support, and remove the fixing screws	HYC-118/118A

2. Disassembly of the upper hinge		Open the door and remove the screw holding the upper hinge.	
3. Disassembly of the display board	  	Turn the front face shield over to see the display board. Remove the three screws fixing the display board, separate the display board, and then remove the protective shell of the display board to completely remove the display board.	

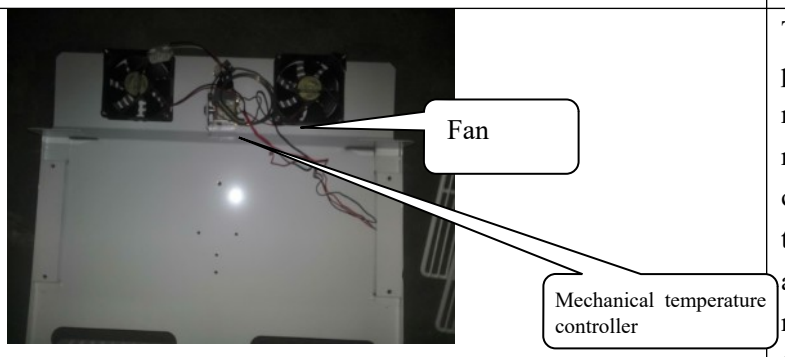
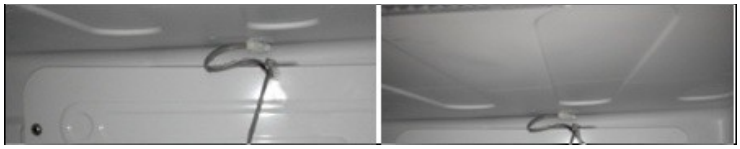
C. Disassembly of display board

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of top shield		Remove the two fixing screws from the top shield from the back of the refrigerator.	HYC-68/68A
2. Disassembly of the display board		Lift the top shield and remove all harness terminals plugged into the display board.	

3. Disassembly of the display board	  	Remove the three screws fixing the display board, separate the display board, and then remove the protective shell of the display board to completely remove the display board.	

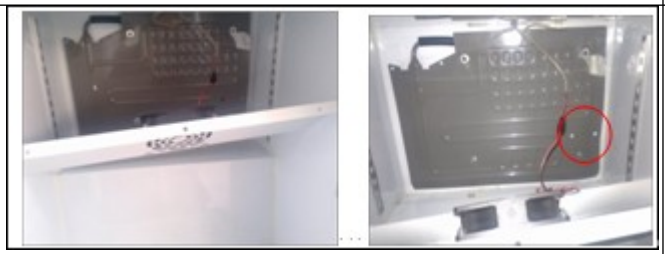
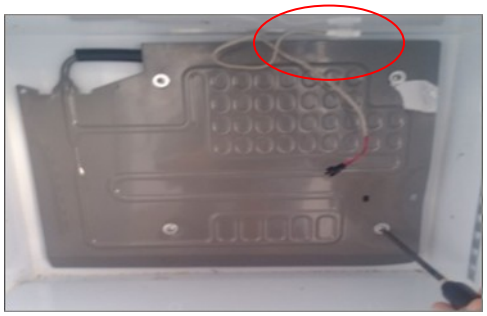
3. Sensor position and inspection

There is one temperature sensor of HYC-118/118A fixed on the top of inner pot.

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of fan baffle plate		Empty the shelves and storage baskets in the refrigerator and remove the screws holding the fan baffle plate.	
2. Disassembly of fan and mechanical thermostat		The fan baffle plate can be removed by removing the connection terminal of the fan and that of mechanical thermostat.	118 has no mechanical thermostat.
3. Position of temperature sensor		See where the sensor is fixed.	The temperature sensor is fixed on the top of the inner pot and its position is determined by the adsorption point position of inner pot.

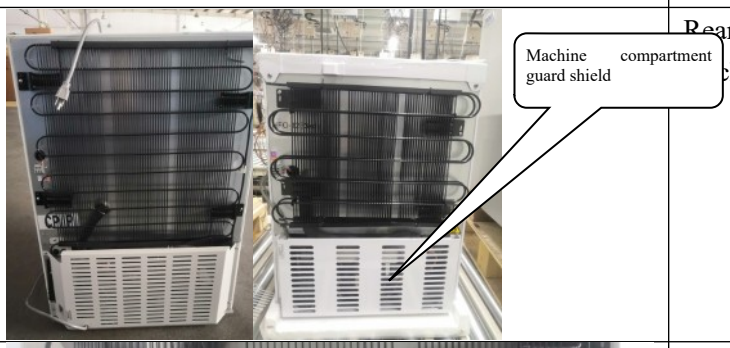
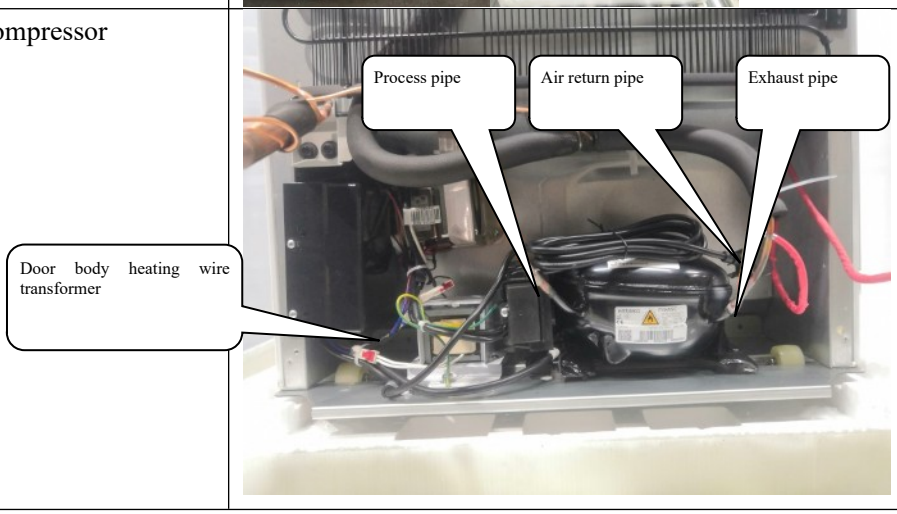
There is one temperature sensor of HYC-68/68A fixed on the top of inner pot.

Disassembly	Picture	Disassembly method	Precaution

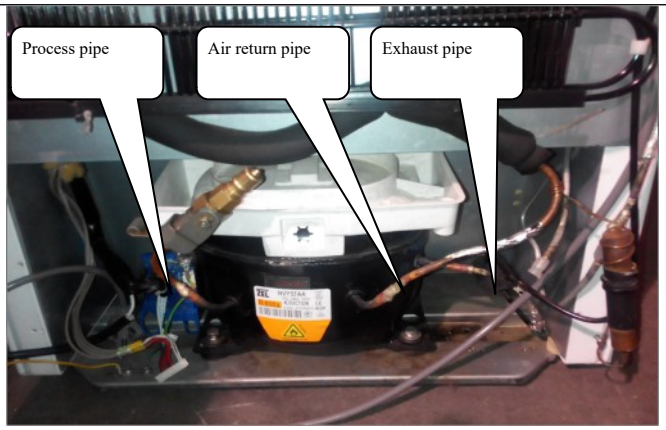
steps			s
1. Disassembly of fan baffle plate		Empty the shelves and storage baskets in the refrigerator and remove the screws holding the fan baffle plate.	
2. Disassembly of fan		The fan baffle plate can be removed by removing its connection terminal.	
3. Position of temperature sensor		See where the sensor is fixed.	

4. Machine compartment compressor

HYC-118/118A

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of the rear guard shield of machine compartment		Rear guard shield of chine compartment	
2. Compressor		The piping diagram of the compressor is shown in the figure	HYC-118A

HYC-68/68A

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of the rear guard shield of machine compartment		The return pipe is covered with insulation cotton pipe	

5. Disassembly of packing case

(1) Transportation conditions

（1） The angle of inclination should not be greater than 45° when handling the refrigerator.

（2） When handling the refrigerator, be careful not to trip over the refrigerator, so as to avoid damage to the refrigerator or personal injury.

（3） Do not pull, lift or handle the appliance with its door handle to prevent refrigerator damage or personal injury.

(2) Installation environment

（1） Ambient temperature: 16°C to 32°C, and the optimal temperature range is 18°C to 25°C. Use air conditioning system when necessary.

（2） Ambient humidity: lower than 85％Rh.

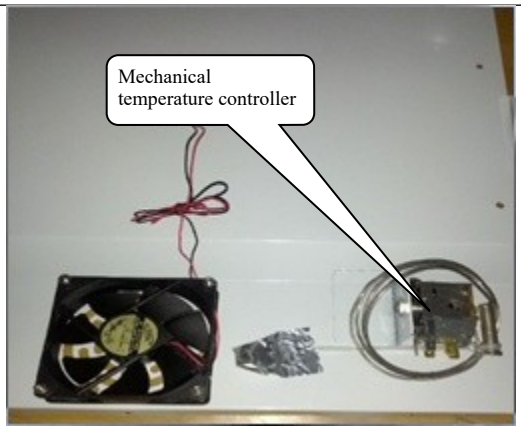
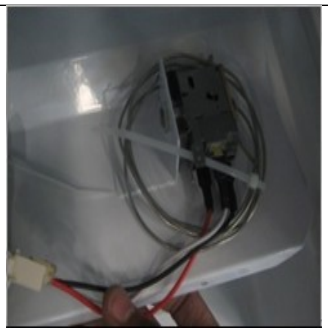
（3） Avoid excessive dust.

（4） Avoid mechanical sway or vibration.

（5） The altitude for refrigerator working position: lower than 2,000 m.

Disassembly steps	Picture	Disassembly method	Precautions
1. Disassembly of packing case		Cut the packing strap of the case from the side and lift the packing case.	

6. Mechanical thermostat (only for HYC-118A)

Disassembly steps	Picture	Disassembly method	Precautions
1. After removing the fan baffle plate, install the fan and mechanical thermostat on the back of the fan baffle		The mechanical thermostat is mounted on the bracket and can be removed by removing the fixing screws.	
2. Plugging mode of thermostat	 	As shown in the figure, connect the red wire of the plug-in terminal to C of the mechanical thermostat, the black wire to L of the thermostat, and the white wire to H of the thermostat.	

7. Usage of remote alarm interface

Position	Picture	Wiring method	Test method
White connection terminal on the back of the product		The wiring sequence of alarm terminals is: brown (NO), green (COM), blue (NC). Users shall connect the wires by themselves according to the alarm requirements; Default wiring method: Connect the external alarm device to the brown and green terminal ports.	Default remote alarm mode: In the alarm state, when the user's external device is connected to brown (NO) and green (COM), the light is on; when it is connected to green (COM) and blue (NC), the light is off.