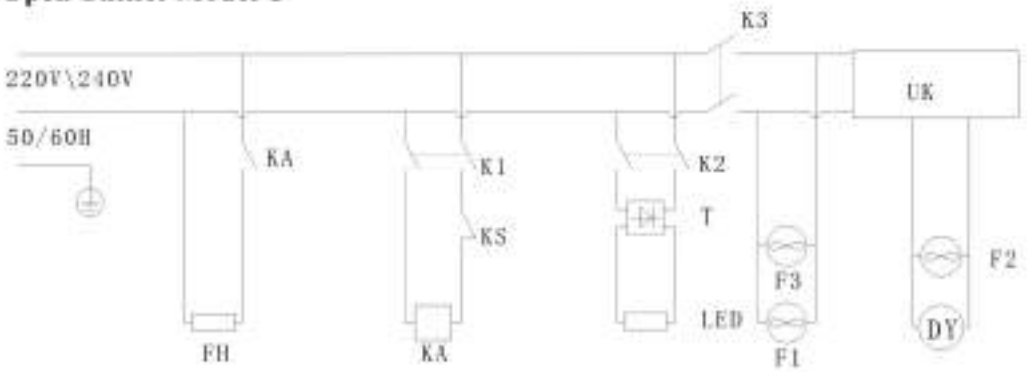
Self-service Series-Open Chiller

User Manual

Open Chiller Model C



Electric components			
DY	Compressor	F1	Evaporator fan
UK	Thermostat	F2	Cooling fan
LED	LED strip	F3	Condenser fan
KS	Levelcontroller	T	DC power(6A)
KA	Relay	FH	Cartridge Heaters
K1/K2/K3	Rocker switch		

Ⅶ. After-Sale Service

On the condition that user follows the user manual, the product will have one-year warranty since the delivery date and our company will be responsible for replacement and repair of the damaged components caused by poor quality during the period (glass damage excluded).

Proper fees will be charged after repairing damaged products caused by following reasons:

1. Not follow user manual.
2. Randomly use unmatched components for replacement.
3. Voltage fluctuation value exceeds permissible scope or other natural factors.

Ⅷ. Accessories Shipped with the Product

1. One product manual
2. One product inspection certificate and warranty card.

Preface

Dear users:

1: Welcome to use our Self-service Series-Open Chiller. This product is designed for using in various places such as supermarkets and hotels. It is mainly used to refrigerate and display goods, with the refrigerating temperature of 2 to 10℃.

2: This product has an optimized air curtain of increasing laminar flow, and a wind circulating system, where the air comes out from the back. The temperature of the cabinet is even. It has precise automatic defrosting control, with stable performance. By using natural air defrosting, the electricity consumption is reduced.

3: This product has humanized design and increases the display function of the commodities. It is nice and decent so that it plays a certain adornment effect in using occasions. And it becomes convenient and efficient for customers in shopping and taking the delivery.

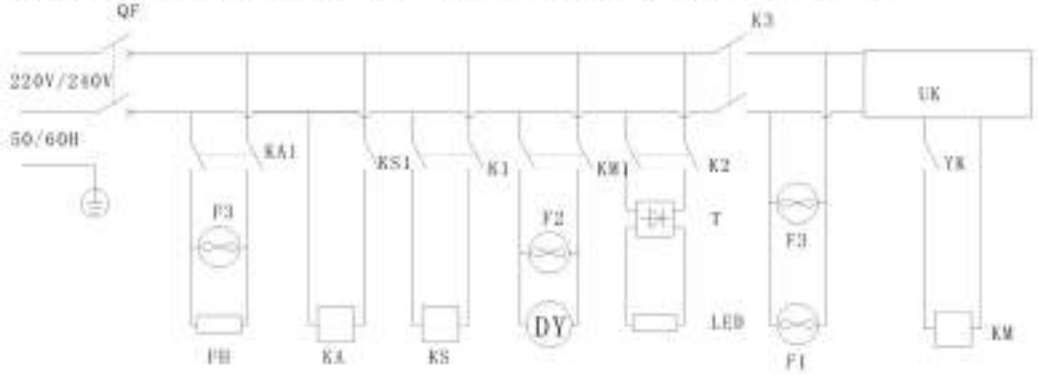
4: The executive components of refrigeration system and the controlling components of electrical equipment are abroad brand-name products, so as to ensure the operation of the product is stable and reliable. The reasonable system design improves the heat exchanging efficiency. Thus the cooling inside the cabinet is faster and the temperature is lower, and it is more energy-efficient. It is equipped with night energy-saving shade, exclusively for use of night and other non-business time. So it can save more energy and reduce more using costs.

5: This product adopts a wide climatic zone and designed to resist bad working environment. Large efficient evaporator can reduce accumulated cream, so significantly increases the effective using area. This product adopts cooling air curtain of asymmetric vortices, and the cold air inputs from all directions. So the temperature inside the cabinet is evener. The exterior uses high-quality impact-proof profiles, with the performances of non-deformation, corrosion resistance and seamless connection, and looks luxurious. It is designed panoramically. Toughened glasses are used, with great intensity, high-definition, and good display effect. Using LED lights can bring low energy consumption and add fine displaying and lighting effects. For defrosting process, this product adopts double protection controls of defrosting temperature and time, in order to be safe and save electric energy.

In order to use our product better and prolong the service life of it, please carefully read the operation manual of this product before using.

Electric components			
QF	Small circuit breaker(C32)	F1	Evaporator fan
DY	Compressor	F2	Cooling fan
UK	Thermostat	F3	Condenser fan
LED	LED strip	T	DC power(6A)
KS	Levelcontroller	KM	A.C.contactor
KA	Relay	FH	Cartridge Heaters
K1/K2/K3	Rocker switch		

Elec. Diagram for Open Chiller Model A,B & D (lenght ⩾1800mm)



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KS	Levelcontroller	KM	A.C.contactor
KA	Relay(10A JQX-13F)	FH	Cartridge Heaters
K1/K2/K3	Rocker switch	YK	Pressurecontroller

Ⅴ.Non-faults

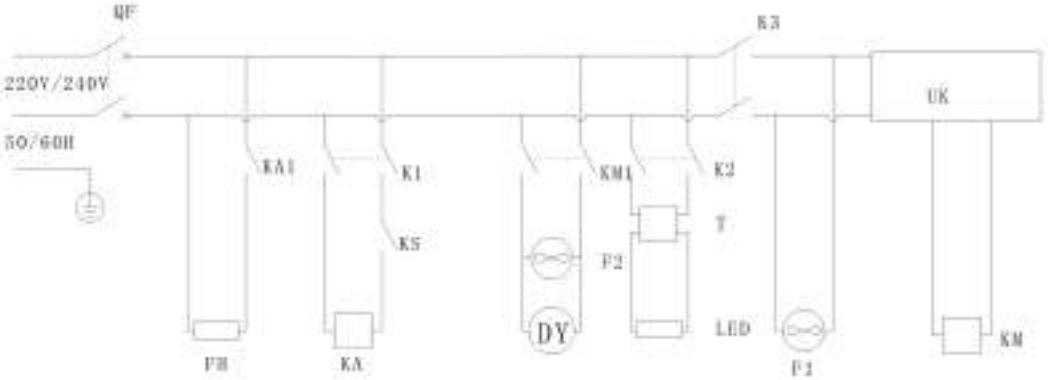
1. When the compressor operates, the surface will be hot. In normal compressor operation, the surface temperature will be high. This is normal phenomenon. Do not touch with hands.

2. There is moisture condensation on the glass surface. With high environment temperature and humidity, it is easy for dewdrop to appear on the external surface of the glass. Please wipe it dry timely using soft dry cloth.

3. The room temperature is lower than the controlling temperature of the temperature controller so that the compressor breaks down. Because the room temperature is lower than the temperature of the temperature controller, so the data collected by the temperature sensor is not enough to start the compressor.

Ⅵ. Electrical Schematic Diagram

Elec. Diagram for Open Chiller Model A,B & D (lenght≤1500mm)



Content

Ⅰ. Main Technical Parameters

Model	Climate Type	Electric Shock Protection Grade	Refrigeration Space (L)	Refrigeration temperature	Voltage/ Frequency	Total input power (KW)	Refrigerant	Dimensions (L×W×H cm)	Net weight (kg)
FGOR1000LA	N	I	530	4-10℃	220-240V 50/60Hz	2.1	R404A	100×87.5×200	145
FGOR1200LA			650			2.36		120×87.5×200	165
FGOR1300LA			700			2.36		130×87.5×200	195
FGOR1500LA			820			2.45		150×87.5×200	265
FGOR1800LA			1000			2.8		180×87.5×200	295
FGOR2000LA			1120			2.93		200×87.5×200	315
FGOR2500LA			1400			2.30		250×87.5×200	365
FGOR1000LB	N	I	570	4-10℃	220-240V 50/60Hz	2.1	R404A	100×84×200	170
FGOR1200LB			690			2.36		120×84×200	195
FGOR1300LB			740			2.36		130×84×200	220
FGOR1500LB			860			2.45		150×84×200	290
FGOR1800LB			1040			2.8		180×84×200	320
FGOR2000LB			1160			2.93		200×84×200	345
FGOR2500LB			1450			2.30		250×84×200	390
FGOR500LC	N	I	250	4-10℃	220-240V 50/60Hz	0.85	R404A	50×60×188	114
FGOR700LC			350			0.80		70×60×188	134
FGOR900LC			450			1.90		90×60×188	154
FGOR1000LC			500			2.12		100×60×188	175
FGOR900LD	N	I	550	4-10℃	220-240V 50/60Hz	1.15	R404A	90×89×200	170
FGOR1000LD			570			1.23		100×89×200	223
FGOR1200LD			620			2.20		120×89×200	260

Ⅱ. Cautions

1. Power for freezer use should be independent single-phase three-wire system (a single

phase wire, a zero wire, and an earth wire), electrical cabinet. Without special earth wire, users should set it by themselves in accordance with the relevant provisions of the state.

Warning: **Special attention: water pipes or gas pipes are strictly prohibited as earthing erminals.**

Excessive Noise	The cabinet is not placed stable.	Whether the cabinet castors support hard.	Adjust the castors.
	Fixed screws of compressor unit and others are flexible.	Whether the screws are fixed and reliable.	Tighten the screws.
Compressor not works	The voltage exceeds the allowed fluctuation range.	Check the power voltage.	Use voltage stabilizer and insert proper power. Make sure the equipment operate normally.
	The high-low pressure exceeds the controlling scope of the pressure controller.(C air curtain cabinet is without this element.)	Check the controller pressure valve.	Adjust the pressure
	The output control loop of the temperature controller disconnects.	Check the output control loop to find the disconnection point.	Connect the loop.
	Temperature controller is damaged.		Repair or replace the temperature controller.
	Pressure controller is damaged.(C air curtain cabinet is without this element.)		Repair or replace the pressure controller.
	Compressor is damaged.		Repair or replace the compressor.
Tube not lights	The battery main switch is off or the lamp switch is off.		Switch on.
	The lamp holder plugs are in bad contact.	Check whether they are flexible or tripping off.	Reinsert the plugs after pulling out and fix them.
	The electronic circuit board of the lamp holder is damaged.	Check whether the lamp feet have output voltage. If not, then the electronic circuit board is damaged.	Replace the whole lamp holder.
	The lamp is damaged.	Dismount the tube and measure the resistance of the tube base pin. Check whether it has values. If not, the lamp is damaged.	Replace the tube

15. If you cannot repair the failure by yourself, please ask for professional personnel to work out, or inform our technical personnel to repair the failure.

Ⅳ. Common Faults and Troubleshooting

Faults	Fault Causes	Scope of Examination	Troubleshooting
No Power Input	Leakage breaker disconnects(C air curtain cabinet is without this element.)	Whether each electrical element leak and be earthed well.	Replace the leakage components and earth well.
	Plug and receptacle contact badly.	Whether plug and receptacle become flexible.	Repair or replacethe receptacle.
	There are faults in input control line.	Check the control loop.	Repair the fault points of control loop.
Over temperature Inside the Cabinet	The equipment is near heat source.	Check the surrounding heat source of the equipment.	Move the heat source away.
	Evaporator frosting is too thick.	Observe the evaporator window.	Defrost timely and shorten the refrigerating and defrosting period.
	The storing goods are too much inside the cabinet.	Whether the goods obstruct the air outlet and influence the air flowing.	Take some goods out.
	The refrigerant leaks.	Check the welding point and filling opening.	Weld again, fill the refrigerant.
	The surrounding wind speed of the equipment is too large.	Check the surrounding wind source of the equipment.	Move the wind source away or reduce the wind speed.
	Condenser dust is too much and influences the heat discharging.	Check the condenser.	Wash the condenser.
	Condenser fan and evaporator fan are damaged.	Check the fans.	Repair or replace the fans.

2. The placed area of the freezer needs to be smooth and spacious enough. The four casters should be adjusted to keep the cabinet in a horizontal level.

3. The recommended using environment temperature is not more than 27℃, the relative humidity is not more than 60%, and the surrounding air speed is not more than 0.2m/s.(The air conditioner and electric fan surrounding the freezer should not blow to the freezer directly.)

4. The first operation and adjustment of the freezer should be taken by professional personnel of refrigeration installation, in order to ensure its proper installation and operational performance and prolong its service life.

Ⅲ. Precautions for use

1.During carrying, do not turn the freezer over or lie on its side. If it needs to be tilted, the tilt angle must not be more than 30°.

2.The freezer shall be placed in the environment with good air liquidity. It shall be shady, cool and dry, without corrosive gas surrounding. Do not place it near heat source. And avoid direct solar irradiation.

3.After installation and adjustment, the freezer will start fully-automatic working. But professional personnel are needed to carry on daily work observation and regular maintenance.

4.When used for the first time, take the internal health cleaning of the cabinet firstly. The freezer should be operating for a period of time to confirm the refrigeration system in normal condition. After the freezer reaching a set temperature, food can be put into successively.

5.When put into the freezer, the foods should be placed in order, to avoid that the foods plug the air inlet and outlet and then influence the cold air circulating inside the cabinet.

6.During night and non-business time, please pull down the energy-saving shade in order to reduce more consumption of cold energy. When pulling down the night energy-saving shade, please pull and put gently. Rough handling is not allowed so as to prolong the service life of the night energy-saving shade.

7.Not less than two checks should be taken every day to check whether the freezer temperature is normal. Then discover the problems timely and give notice to the professional trained personnel for checking.

8.Clean and disinfect inside the cabinet regularly to kill the bacteria, so as not to influence the food hygiene.

Warning: 

Before washing and disinfecting, please turn off the power, wrap the electrical elements with plastic films, and not wash the internal cabinet directly with water.

9.The operation and clean-up of the refrigeration compressor unit should be observed ordinarily. When the condenser dust deposition is too much, the ventilating and refrigerating effects will be influenced, so it should be cleaned timely.

Warning: 

Users are recommended to wash the condenser once every one to three months.

9.1 Methods of condenser washing: (1) Turn off the power and wrap the electrical elements with plastic film; (2) Use the compressed air to blow or tap water to wash the condenser dust.

Warning: 

when washed with tap water, switch on the power after the system being dried.

10. Do not use combustible gas near the freezer. Do not place alcohol, thinner, butane, binder and other flammable and volatile chemicals in the cabinet.

11. During using, if the freezer is found unusual odor, smog, and temperature rising, etc., please turn off the power immediately, and notice the professional personnel for checking.

12.For long-term discontinuation, take internal and external cleaning well for the product. Then dry and place it in dry, cool ventilated place, and frequently check to beware the rats. When reactivate the equipment, strictly check the electrical lines to see that whether be bit and damaged by the rats. After the electrician take strict inspection and make sure, the equipment can be restarted to use.

13.Non-professionals are not allowed to open and replace the constructional elements on the freezer, electrical elements and the refrigerating unit.

14.When the product faults occur, dismounting without authorization is not allowed. It must be examined and repaired by professional personnel.