

MCF / MCH ICE MACHINES Service, Installation and Care Manual



Ice Machine Models	Ice Storage Bin Models			
 E-MCF350 E-MCH350 E-MCF350 E-MCF430 E-MCH500 	 E-MCFB350 E-MCHB350 E-MCHB350 E-MCFB500 E-MCFB430 E-MCHB500 			

Please read this manual completely before attempting to install or operate this equipment. Notify carrier of damage! Inspect all components immediately.

Service & Installation Manual Contents

CONTENTS

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Safety Warnings	3
Features, Size & Appearance	4
Unpacking, Installation & Water Supply	5
Drainage, Power, Cleaning & Check	6
Operation	7
Ice Making Workflow	8
Routine Cleaning & Disinfection	9-10
Cleaning Process	11
Ceaning & Disinfection	12
Disinfection Process	
Disinfection Process	14
Removal From Service / Winterization	15
Warnings	16
Circuit Diagram	17
Structural Explosive View	18
Refrigeration System Diagram	19
Water Circulation System	20
Electrical Control System	21



Service & Installation Manual Safety Warnings

When operates and maintains an ice maker ,be sure to pay attention to the safety tips in the nanual. Ignoring these tips may result in personal injury and ice maker damage.

In this manual, you will see the following forms of security tips :

! Warning

Possible personal injury would be happened when not following up regulations of installation, operation or using altered equipment.

▲ Notice

The correct installation, usage and maintenance of the ice maker is very important to the output of the ice maker and reduce the failure rate. Please read and understand this manual. which contains valuable information on installation. usage and maintenance. If you encounter problems not covered in this manual, you may contact our company or our service provider at any time.

★Important

The mentioned information about adjustment, maintenance and sanitation is not subject of the range of warranty clause.

Please preserve this manual well

The manual is an integral part of the product, please keep it properly. Be sure to read carefully the warnings, notices and important matters described in this manual, because these warnings, notices and important matters provide the installer/user with important information needed for proper installation, continuous and safe use and maintenance of the product. Please keep this manual for reference when necessary.



Service & Installation Manual Features, Size & Apprearance

1. Features

- MC Series ice maker has a number of patented control systems, simple operation and precise control, suitable for different water quality conditions;
- The key components are from international renowned brands, which ensures reliability in harsh environments;
- Parts which contacted with water using foodgrade plastic and stainless steel for outer shell, which ensures food safety and excellent rust resistance.

2. Size And Appearance





	A	В	С	D	E	F	G
E-MCF350 E-MCH350	57	56.5	92	15	163.5	61	90
E-MCF430 E-MCH430	57	56.5	92	15	163.5	61	90
E-MCF500 E-MCH500	57	68.5	92	15	175.5	61	90

Appearance



- 1 Top cover
- 2 Display screen
- ③ Front Panel
- ④ Right Plate
- 5 Ice Bin Door
- 6 Height Adjustable Feet



- 7 Power Line
- 8 Water Input Valve
- (9) Condenser
- 1 Back Panel
- (1) Water Drain Tube
- (12) Left Panel
- (13) Ice Bin Water Drain Tube Connector



Service & Installation Manual Unpacking, Installation & Water Supply

3. Unpacking

- Before unpacking, check the anti-tilt sign is in good condition, the outer packing of the machine is in good condition, and the machine model is consistent with what you have purchased.
- Open the package to check whether the appearance of the machine is in good condition, take out the accessories and random files, and check whether it matches the packing list.
- Remove the protective film on the shell (recommended)
- If there is any discrepancy or damage, please contact our company/distributor directly

4. Installation Location

! Warning

The installation of the ice machine should comply with safety standards, and the ice machine should not be installed in the aisles of public buildings.

- The ice maker is not suitable for outdoor usage, the installation location should not be closed to heat source or be exposed under direct sunlight.
- The normal working ambient temperature should be ranged between 10°C ~ 38°C, the water temperature should be between 5°C ~ 32°C. If the ice-making machine operates beyond the above normal temperature range for a long time, its ice-making capacity may be affected.
- Ice makers should be installed on solid, flat ground.
- Ice makers should be placed near drinkable water supply. It is recommended that distance between ice makers be less than one meter.
- Do not block the ventilation window of the ice maker. There should be enough air convection space around the ice maker.
- The ice maker can not work at sub-zero temperatures, to prevent supply line failures,

empty the ice maker when the temperature is below zero(see "preparation for long-term storage of ice maker")

5. Leveling Adjustment

- Screwing home four adjustable parts of the legs first, and then screwing the legs into ice bucket bottom plate;
- Moving ice maker to installation place. Adjusting legs to ensure the ice maker is leveling.

▲ Notice

When adjusting the level of the ice machine, do not use the method of putting hard objects under the feet to adjust the level. It is necessary to ensure that the four feet of the ice maker are in stable contact with the ground to prevent the machine from vibration.

6. Water supply/ Drainage

6.1 Water supply

! Warning

Ice makers must be connected to potable water pipe

- With local potable water quality, determining if a water treatment system is needed to prevent sediment formation, filtering out impurities and removing bleach smell.
- Please install water supply pipe according to below instruction :
 - Don't connect ice maker to hot water pipe ;
 - Water supply pressure range is 1bar ~
 5bar. Using water pressure regulator for water supply pressure over rang;
 - Individual water faucet must be installed for ice maker.



Service & Installation Manual Drainage, Power, Cleaning & Check

6.2 Drainage

- When installing drain hose, follow these guidelines to be sure all purged water flowing into gully drain :
- The main gully drain capacity shall be enough for all drain water:
 - Drain hose should be wrapped with insulation material to prevent condensation;
 - The drain hose of the water-cool condenser and the drain hose of ice bin should be placed separately;
 - About 2.5 centimeters drop needed for each one meter additional drain hose and must not be bent



7. Power supply

- The voltage, frequency and capacity of the power supply shall be consistent with the nameplate of the machine.
- ±10% fluctuation of rated power voltage is allowed.
- Separate circuit breakers must be installed for the ice maker.

! Warning

The power supply must be grounded reliably, and the wiring used must comply with the laws and regulations of the country and region where the ice machine is used.

8. Clean after Installation

After the ice maker is installed, clean the shell, liner and ice scoop with a clean wet cloth or sponge;

9. Check after installation

! Warning

Banana water, oxalic acid, hydrochloric acid and other corrosive detergents are strictly prohibited.

After the ice maker is installed, check against the following information before operation.

- Is ice maker placed levelly ?
- Have you removed all the transportation seals ?
- Are all the water and electricity connected well ?
- Is the supply voltage consistent with the rated voltage on the nameplate?
- Is the ice maker properly grounded?
- Are there adequate air Spaces around the ice maker?
- Is the ambient temperature of the ice maker between 10°C and 38°C?
- Does the water inlet temperature remain between 5°C and 32°C?
- Are the ice bucket and refrigerator cleaned ?

Service & Installation Manual Operation

10. Operation

10.1 Turn on/off

Turn on : Connect the water supply and drainage, plug in the power plug, and the touch screen starts to light up; ;



Picture 1 touch screen

Turn off: During ice making, press the" key once, the ice maker will stop ice making (standby state), the screen will display "OFF", and then unplug the power cord.

10.2 Ice Making

a. After the power is turned on, the ice maker automatically enters the ice making preparation work. The preparation process includes water pump start, hot valve open, compressor start, fan start, etc. under normal circumstances, the ice maker starts to activate automatically after the preparation is completed. For ice making, there is no need to do any more operations until the ice maker stops making ice when the ice is full; the ice maker starts to make ice again when the ice cubes are removed;

b. In the standby mode, press the key once to start ice making.

▲ Notice

The ice maker has been tested and debugged in the factory before shipment. The new machine can make ice without any debugging. In the ice making state, click "[Reservation/Add]" or "[Light/Subtract]" to see the "Temperature Display" number on the screen start to flash, press "[Reservation/Add]" once to add 1 minute, Press twice to increase by 2 minutes, and so on, in increments of 1 minute, click "[Light/Subtract]" once to decrease by 1 minute, and then decrease in sequence; after the adjustment is completed, stop the operation and the "temperature display" number no longer flashes Then the ice thickness setting is completed (note: before and after the ice thickness adjustment, the ice maker is always making ice).

10.4 Forced Deicing

The " button in the ice making state to force ice removal;

10.5 Manual Cleaning

In the standby state, click the " button to enter the manual cleaning state, the cleaning icon flashes, the water inlet valve opens, and the screen displays the timing. After about 15 minutes, the cleaning stops and the drain starts. After 30 seconds, the drain is completed and enters In the automatic rinsing phase, first clean for 3 minutes and then drain for 30 seconds. After the rinsing process is recirculated 5 times, the entire cleaning process ends, the screen displays "OFF" and enters the standby state;

Remarks: Depending on the dirt, if you need quick cleaning, you don't need to wait for 15 minutes and click

" again to start draining directly. After 30s, draining is completed and the rinsing stage is entered. Key to stop rinsing and enter the standby state;

10.6 Reserve Ice Making

In the standby state (the display shows "OFF"), click "

" for the first time to enter the time setting, click "

" again to add 10 minutes, and click twice to add 20 minutes. By analogy, it is incremented by 10 minutes. Click

" once to decrease by 10 minutes, and then decrease in sequence; after setting, click the " " button, the screen displays the countdown of the set time, the countdown is 10 When the ice maker starts to make ice.

10.7 Setting Function

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Service & Installation Manual Ice Making Workflow

In the standby state (the screen displays OFF), press and

subtraction operation, in the setting state, click "

"Setting function" is recommended to operate under the guidance of professionals, and it is not recommended to adjust privately (see maintenance page 14 for details);

11. Ice Making Workflow

11.1 Power on: After power on, the display is all on, and then it enters the power-on balance state. The hot valve opens, and the water valve and fan are controlled. After 30 seconds, the Compressor opens, and after another 5 seconds, the hot valve closes and ice production starts.

11.2 During the ice making process: The compressor continues to open, the hot valve and the drain valve are closed, the fan is controlled, the water pump opens after 30 seconds, the water valve is controlled within the first 5 minutes, and is forced to close after 5 minutes. When the time exceeds 23 minutes or the detected water temperature is lower than 3°C, the set ice-making time will be delayed. The delay time expires and the ice-making ends. If draining is required, open the drain valve 30 seconds before the end of ice making

11.3 After the ice making is over: it enters the deicing state. The compressor continues to open, the hot valve opens, the water valve is controlled, and the water pump, fan and drain valve are closed. The maximum deicing time is limited to 6 minutes. If the ice does not come off in 5 minutes, turn on the water pump for 1 minute. If the ice is still not removed, switch to ice making. Three times in a row for more than 6 minutes, turn to de-icing overtime shutdown.

11.4 After the ice is taken off. If the ice in the storage refrigerator is not full, it will enter the ice making state and start a new cycle. If the refrigerator is full of ice, it will enter the full ice-full shutdown state. The water pump, compressor, hot valve, water supply valve, fan and drain

valve are all closed. If the ice is taken away, the ice full indicator light will flash within 180 seconds when the ice is full, and after the ice is full 180 seconds, it will switch to power on and start a new cycle. If the ice is not taken away, it will always be full of ice.

12. Run check

- Make sure the water inlet tap is turned on
- Confirm that the water inlet valve has been opened

▲ Notice

The ice machine has been tested and debugged at the factory before shipment. Generally speaking, the newly installed machine does not need any debugging. In order to ensure the normal operation of the ice machine, an operation inspection is required under the following conditions ;

- Initial start
- Restart after long downtime
- After cleaning and disinfection
- The ice machine is powered on.
- Check all water pipes and pipe joints to ensure that there are no leaks.

13. Routine cleaning

▲ Notice

- It is strictly forbidden to flush the ice maker with a water jet. Do not use any alcohol-containing liquid to clean or disinfect the ice machine, otherwise it may cause cracks in the plastic parts;
- Remove the top plate and back plate, but should be disassembled by maintenance personnel with appropriate knowledge;
- Do not put plastic parts in water or dishwasher with a temperature of over 40C° to avoid damage to the parts.

Clean environment: clean the surroundings of the ice machine frequently to keep the environment clean and make the equipment operate efficiently. **Shell cleaning:** Use a sponge dipped in neutral

cleaning fluid to clean the ice machine and dry it with

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Service & Installation Manual Routine Cleaning

a clean soft cloth. Stainless steel cleaner can be used when necessary.

Air filter cleaning: The filter can filter out dirt or dust in the air and prevent the condenser from clogging. If the filter is clogged, the performance of the ice maker will decrease. It is recommended to clean the air filter once or twice a month.

13.1Remove the front panel and top cover

• **Remove the front panel** There is a plastic buckle on the left and right sides of the front panel and the top cover. Use a flat-blade screwdriver to press the plastic buckle downwards, and you will hear a slight buckle loosening sound,



After the two plastic buckles are completely released, separate the front panel from the body and place the front panel aside;



Remove the top panel Hold the top cover next to the front panel, lift it up, and then gently push it back to remove the top cover ;

★Important

If cleaning of some parts is necessary, it is not recommended to remove the front panel, please have the corresponding knowledge or under the guidance of professionals.



13.2. Evaporator cleaning

Use a brush or sponge to scrub the surface of the evaporator



Brush the plastic parts around the evaporator with a nylon brush;



13.3 Water Tank Cleaning





Service & Installation Manual Routine Cleaning & Disinfection

Click the button to be in the standby state, the screen displays "OFF", unplug the power plug, use a screwdriver to remove the two screws on the water pump box, and then loosen the 3 screws on the inner wall of the ice-hanging plate, remove the clamp, pull out The connectors at the lower and upper water pipes, water pump and float can be removed and cleaned;





Water Pump Cleaning

Use a soft material such as a brush or sponge

to scrub inside the sink



14. Cleaning and Disinfection

▲ Notice

- Do not mix disinfectant and cleaning solution;
- Do not use sharp objects to clean the surface of the evaporator;
- It is recommended to perform this process once at least within 3 months.

! Warning

- Before cleaning and disinfecting operations, please wear protective equipment such as rubber gloves, masks and protective glasses.
- Removal and installation of cleaned parts must be carried out under power-off conditions.
- Ice cubes during the cleaning and disinfection process must be discarded.

In order to make the operation of the ice machine stable and efficient, the user is responsible for the operation according to the cleaning and disinfection requirements (the cleaning and disinfection operation is not covered by the warranty). If the ice machine needs frequent cleaning and disinfection, please check whether the water source is suitable, whether the operating environment is clean or whether an inappropriate water filter device is used.



Service & Installation Manual Cleaning Process

14.1 Cleaning process

1. Open the front panel of the ice maker and check if the ice maker evaporator is making ice. If ice is being made, the forced de-icing procedure can be executed (see the above operating instructions "10.4 Forced Deicing") to stop the ice maker from making

ice, click the key to be in the standby state, the screen will display "OFF";



2. Use an ice shovel to take out all ice cubes in the refrigerator;

3. Click the " button, the ice maker will enter the cleaning phase, the water inlet valve will open, and the screen will start timing.



When water starts to flow on the evaporator,



Add 2

packs of cleaning agent (KAY DELIMER, 56.7g/ pack) or mixed cleaning liquid into the ice maker water tank,



The water from the sink to the evaporator has been circulated for cleaning. After about 15 minutes, the cleaning stops and starts to Fan.



Drainage is completed after 30s;



Enter the automatic rinsing phase, first clean for 3 minutes and then drain for 30 seconds. After the rinsing process is recirculated 5 times, the entire cleaning process ends and the screen displays "OFF"



Enter the standby state, the whole process takes about 37 minutes

4. Unplug the power plug

5. Remove the water pipe fixing bracket, water pipe, water baffle, take out the water pump, float ball, ice shovel (refer to the parts removal/installation process for the removal method) $_{\circ}$

6. Use 8L warming water $(45 \sim 50 \text{C}^\circ)$ and 4 packages of cleaning agent (KAY DELIMER, 56.7g/package) to mix into a cleaning solution (the amount of cleaning solution needs to be adjusted appropriately).

7. Soak the parts in the cleaning solution for more than 5 minutes (in the case of heavy scale, it is recommended to soak for more than 10 minutes).

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Service & Installation Manual Cleaning & Disinfection



After soaking, put on rubber gloves and carefully clean all parts with a soft nylon brush, sponge or soft cloth

8. While soaking the parts, use a nylon brush or a soft cloth dipped in cleaning fluid to wipe the surfaces of the parts that are in contact with water and ice, such as the inner surface of the ice-hanging board, the inner surface of the front panel, the evaporator ice tray, the ice shield, and the storage. Ice bucket, etc. (the dead corners can be cleaned with disposable chopsticks wrapped in a damp cloth dipped in detergent). Then rinse with clean water (rinse 5 times).



Scrubbing the ice guard



Scrub the inner wall of the ice board







Brush flow pipe mandrel



Brush the bottom of the pump



Brush the plastic parts around the evaporator



Brush evaporator



Brush the sink



Flush the evaporator

12

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Service & Installation Manual Disinfection Process



Rinse the sprinkler pipe and core rod

9. Take out the soaked parts and rinse them with clean water (rinse 5 times)

14.2 Disinfection process

1. Mix 8L warming water ($45 \sim 50$ C°) and 2 packages of disinfectant (KAY5, 28.4/package) into a disinfectant (the amount of disinfectant is adjusted according to the amount of parts that need to be cleaned).

2. Soak the cleaned parts in the prepared disinfectant.



While soaking the parts, use a watering can to evenly and completely spray the disinfectant on the surface of the parts that are not in contact with ice, such as the inner surface of the ice plate, the inner surface of the front panel, the evaporator ice tray, the ice shield, and the outer surface of the sink lce storage bucket, etc. (the dead corners can be cleaned with disposable chopsticks wrapped in a damp cloth dipped in disinfectant).



After 20 minutes, take out the soaked parts and rinse the sterilized parts with clean water. Install the removed parts back in place ((Refer to 15.3 Parts removal/installation process for installation method) Strictly click and perform this step as required.

3. Use 1 liter of water and 1/2 package of disinfectant (KAY5, 28.4/package) to make a disinfectant.

4. Plug in the power plug, and then click the [Switch] button to make the ice maker in standby state, the screen displays "OFF"; click the "[Cleaning/Settings]" button, the ice maker enters the cleaning phase, the water inlet valve opens, and the screen displays Start timing. When water starts to flow on the evaporator, add the disinfectant solution that has been prepared into the ice machine sink, and at the same time, spray the outer surface of the sink with a spray can containing disinfectant water



Flush the evaporator The water from the sink to the evaporator has been circulated for cleaning. After about 15 minutes, the cleaning stops and starts to Fan.



Drainage is completed after 30s; ;





Service & Installation Manual Disinfection Process

Enter the automatic rinsing phase, first clean for 3 minutes, then drain for 30 seconds, after the tap water rinsing process cycle 2 times, and then rinse with pure water 3 times, the entire cleaning process ends, the screen displays "OFF", about 37 minutes later the entire cleaning process After the end, the screen displays "OFF", enters the standby state, and then unplug the power supply.

Note: Ice making starts after cleaning and disinfection. The first 5 plates of ice are discarded and do not eat.

14.3 Parts removal/installation process

a . When removing the flow pipe, please remove the "flow pipe fixing bracket" and the "clamp" (as shown in the picture)



Remove the fixed bracket of the flow pipe



Unplug the water pipe



Unplug the water pipe

b. Remove the two screws



Unscrew the plastic cover and take out the plastic core rod



Note: When assembling the flow pipe, the hole position of the flow pipe and the direction of the mandrel hole must be opposite, not in the same direction. The correct picture is as follows:



Disassembly and assembly of the water baffle: grasp the rotating part of the same end of the water baffle with both hands, and pull strongly to the other end to release one side of the water baffle from the pin hole

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Service & Installation Manual Removal From Service / Winterization





15.Removal from service / Winterization

Special protection measures are required if the ice maker is out of service for a long period of time or exposed to an environment of 0°C or less. Follow these steps below:

▲ Notice

If water is left in the machine in an environment below 0°C, it may cause serious damage to the machine parts. This fault is not covered by warranty.

- Disconnect the power to the ice maker.
- Disconnect the water supply to the ice maker.
- Empty the sink.
- Remove water inlet hose and drain it from the water inlet.
- Ensure that there is no water residue in the inlet, drain and distribution pipes.

16. Maintenance

! Warning

Danger-There is a risk of fire or explosion. The refrigerant is a flammable refrigerant. Do not use mechanical equipment to disassemble the ice maker, and do not damage the refrigeration pipelines.

! Warning

Danger-There is a risk of fire or explosion. The refrigerant is a flammable refrigerant. Only trained service personnel can carry out repair work. Do not damage the refrigeration piping.



! Warning

Danger-There is a risk of fire or explosion. The refrigerant is a flammable refrigerant. Please read the service manual before using this product. All safety measures must be taken.

! Warning

Warning-there is a risk of fire or explosion. Properly dispose of in accordance with federal or local regulations. The refrigerant is a flammable refrigerant.

! Warning

Warning-There is a risk of fire or explosion if the pipeline is damaged. Follow the instructions carefully. The refrigerant is a flammable refrigerant.

Before applying for repair, please consider the following aspects in order to quickly identify and improve the efficiency of machine recovery.

a). Whether the water supply is normally, including faucets open, inlet valve not blocked, and water pressure is in 1bar~5bar.

b). Whether the power supply is normal, including voltage is in $\pm 10\%$ of rated voltage, power switch is connected, the fuse is not burnt out and whether the plug is fixed well.

c). Whether the ambient temperature is too high or too low (the operating temperature range of the ice maker is 10° C ~ 38° C), whether the water temperature is too high or too low (the water temperature range is 5° C ~ 32° C).

d). Whether the ice bin is full of ice and can work after ice take away.Write down the number of the machine and call the toll-free phone number labeled with the service label or your service provider.



Service & Installation Manual Circuit Diagram

17. Circuit diagram





Service & Installation Manual Structural Explosive View

18. Explosive view

Stuctural Explosive view



Serial	Figure	E-MCF350 E-MCH350	E-MCF430 E-MCH430	E-MCF500 E-MCH500	Serial	Figure	E-MCF350 E-MCH350	E-MCF430 E-MCH430	E-MCF500 E-MCH500
1	Top cover plate	1	1	1	16	Before the beam	1	1	1
2	Rack triangle block	2	2	2	17	stents	1	1	1
3	After the bar	1	1	1	18	Hanging ice plate (small)	1	1	1
4	Condenser top cover plate	1	1	1	19	ABS board	1	1	1
5	Right side vertical support	1	1	1	20	Foam board	1	1	1
6	Windshield plate on condenser	1	1	1	21	Door frame-down	1	1	1
7	Left side vertical bracket	1	1	1	22	Front panel	1	1	1
8	Condenser wind chart	1	1	1	23	Door frame card buckle	2	2	2
9	Left side plate	1	1	1	24	Spring bearer plate	2	2	2
10	Ventilation window	2	2	2	25	Door frame-on	1	1	1
11	Electrical plate	1	1	1	26	Before the beam	1	1	1
12	floor	1	1	1	27	Right-side plate	1	1	1
13	Seal plate	1	1	1	28	electrical lifted the lid	1	1	1
14	Longitudinal beam	4	4	4	29	electrical box	1	1	1
15	Hanging ice plate (large)	1	1	1	30	electrical mounting plate	1	1	1



Explosion diagram of refrigeration system



Serial	Figure	E-MCF350 E-MCH350	E-MCF430 E-MCH430	E-MCF500 E-MCH500
31	Compressor	1	1	1
32	condenser	1	1	1
33	expansion valve	1	1	1
34	Solenoid valve	1	1	1
35	Evaporator	1	1	1

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Water system explosion diagram



Serial	Figure	E-MCF350 E-MCH350	E-MCF430 E-MCH430	E-MCF500 E-MCH500
36	The sink	1	1	1
37	The water pump	1	1	1
38	Intake pipe joint	1	1	1
39	The drain	1	1	1
40	Drain joint	1	1	1
41	Innlet pipe	1	1	1
42	Drain valve	1	1	1
43	Intel valve	1	1	1
44	On the pipe	1	1	1
45	The water pipe	1	1	1



Explosion diagram of electrical control system



Serial	Figure	E-MCF350 E-MCH350	E-MCF430 E-MCH430	E-MCF500 E-MCH500
31	Compressor	1	1	1
37	The water pump	1	1	1
42	Drain valve	1	1	1
43	Intel valve	1	1	1
46	High voltage switch	1	1	1
47	Solenoid valve diagram	1	1	1
48	Fan	1	1	1
49	Water level switch	1	1	1