NetCol8000-A Maintenance and Troubleshooting

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Foreword

- This document describes system O&M, part replacement and handling of the NetCol8000-A air cooled in-row precision air conditioner (NetCol8000-A in short) to facilitate the use and maintenance of NetCol8000-A.

Objectives

- On completion of this course, you will be able to:
  - Know routine maintenance of NetCol8000-A air cooled in-row precision air conditioner;
  - Know troubleshooting process of NetCol8000-A air cooled in-row precision air conditioner ;
  - Know part replacement process of NetCol8000-A air coole d in-row precision air conditioner.

Contents

Routine Maintenance (1)

- Definition
  - Routine maintenance refers to preventive and periodic check and maintenance carried out to promptly identify and handle alarms and potential faults during the normal operation of the equipment.
- Precautions
  - Routine maintenance is critical to the normal operation of equipment. Perform routine maintenance regularly. Read the precautions and product documentation before performing routine maintenance.
  - Follow local laws and safety instructions to minimize the risk of personal injury and damage to equipment.
  - The "NOTICE", "CAUTION", "WARNING", and "DANGER" statements in this document do not represent all safety instructions. They are only supplements to the safety instructions.
  - Personnel who will install, operate, and maintain Huawei equipment must receive thorough training, understand all necessary safety precautions, and be able to correctly perform all operations.

Routine Maintenance (2)

- Pay attention to the safety symbols on the equipment and all safety instructions in this document. The safety precautions given in this document do not cover all safety precautions. Huawei will not be liable for any consequence caused by violation of the safety operation regulations and design, production, and usage standards.
- Most maintenance tasks can be performed only after the power supply is disconnected from the equipment. Do not connect the power supply during maintenance. If you need to perform maintenance tasks such as measuring the current, voltage, and temperature when the equipment is in operation, connect the power supply only after you have finished all equipment connections. Disconnect the power supply when you have finished the maintenance.
- Protective measures must be taken during electrical maintenance, such as wearing insulation gloves and boots.
- Exercise caution during professional maintenance. For details, consult Huawei technical support.

Indoor Unit – Filter Monthly Maintenance

No.	Inspection Method	Operations	Troubleshooting
1	Visual inspection	Verify that the air filters are clean and not blocked.	If an air filter is dirty and blocked, clean it using a vacuum cleaner, shake dust off it, or replace it
2	Visual inspection	Check whether the air filter is damaged or deformed.	Replace the air filters
3	Operation inspection	Check whether the differential pressure sensor of the air filter works properly. 1. Switch on the external power supply circuit breaker. After the unit operates normally, choose **Settings** > **Alarm settings** > **Main Board** to **Enable** the alarm function of the differential pressure switch. 2. Block 100% of the air return vent with plastic material or baffle plate. If the air filter blocking alarm is generated, the differential pressure sensor is working properly. If the air filter blocking alarm is not generated, check whether the differential pressure tube is correctly connected 。	Check whether the pressure tube of the air filter clogging switch is fixed properly. (The pressure tube is fixed under the air filter, and it is on the right side of the unit.) If the fault is not rectified, contact Huawei technical support to replace the air filter clogging switch.

Indoor Unit - Indoor Fans Monthly Maintenance

No.	Inspection Method	Operations	Troubleshooting
1	Visual inspection	Check that the protective net cover is not deformed.	Maintain the protective net cover.
2	Visual inspection	Check that no foreign matter exists in the fans.	Clean the foreign matters.
3	Visual inspection	Check that the blades are intact.	Maintain the blades. If the fault is not rectified, replace the fan.
4	Operation inspection	Check that no abnormal voice is generated during operation.	Clean the foreign matters, and make sure that the fan is fixed properly.
5	Visual inspection	Check that the screws are secured and not deformed.	Tighten the screws. Replace the screws if necessary.
6	Visual inspection	Check that the wiring terminals are secured.	Tighten the terminals.

Indoor Unit – Compressor Monthly Maintenance

No.	Inspection Method	Operations	Troubleshooting
1	Visual inspection	Check the four compressor fixing screws are firm.	Tighten the screws.
2	Visual inspection	Check that the angle valves on the compressors have no oil stain.	Clean no oil stain.
3	Visual inspection	Check that the oil sight glass has no many air bubbles and make sure watch the oil level.	If many air bubbles continue to occur for a long time, the superheat degree is too low.

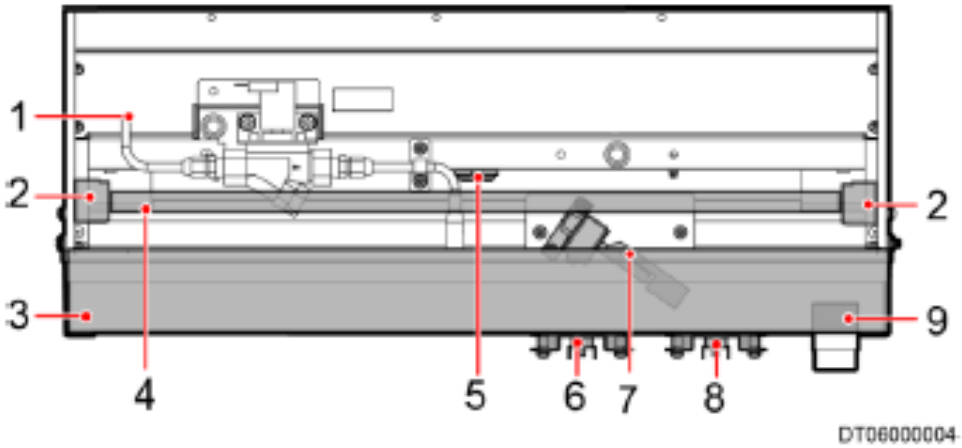
Indoor Unit – Infrared Humidifier Maintenance (1)

No.	Inspection Method	Operations	Troubleshooting
1	Operation inspection	On the main screen, choose **Maint** > **Diagnostic Mode** > **Enter**. Start the humidifier. Check the three phase currents of the humidifier contact (QC3 for a 50 kW unit and QC9 for a 100 kW unit) in turn using a clamp meter. Verify that the phase currents exist and differ by less than 20%. The normal current range for a 50 kW infrared humidifier is 7.5–9 A, and that for a 100 kW infrared dehumidifier is 12–13.5 A.	Replace the humidifier
2	Operation inspection	Check that water can be smoothly injected.	If water can only be injected to less than 1/3 of the humidifier, remove the water inlet valve to check whether there are blockages.
3	Visual inspection	Check that the water pan drains water properly.	Close the main humidifier water inlet. Clean the foreign matters in the water pan.

Indoor Unit – Infrared Humidifier Maintenance (2)

No.	Inspection Method	Operations	Troubleshooting
1	Operation inspection	Check the scale status of the infrared humidifier water pan. Clean the water pan and Y-shaped strainer if there are any scales. The cleaning procedures are as follows: 1. Close the inlet valve. 2. Remove the self-overflow vent to drain water out, and disconnect the drainpipe. 3. Take away the wires to the temperature switches for dry heating protection. 4. Refer to 6.4.4 Replacing the Infrared Humidifier Lamps to remove and clean the water pan. 5. Fix the filter port using a wrench (as shown by 1 in Figure 6-3) remove the filter using the wrench (as shown by 2 in Figure 6-3) and clean the Y-shaped strainer using a brush. 6. Clean up dirt in the water pan with a hard brush and detergent, and wash the water pan with water. 7. Install the water pan in reverse order.	N/A

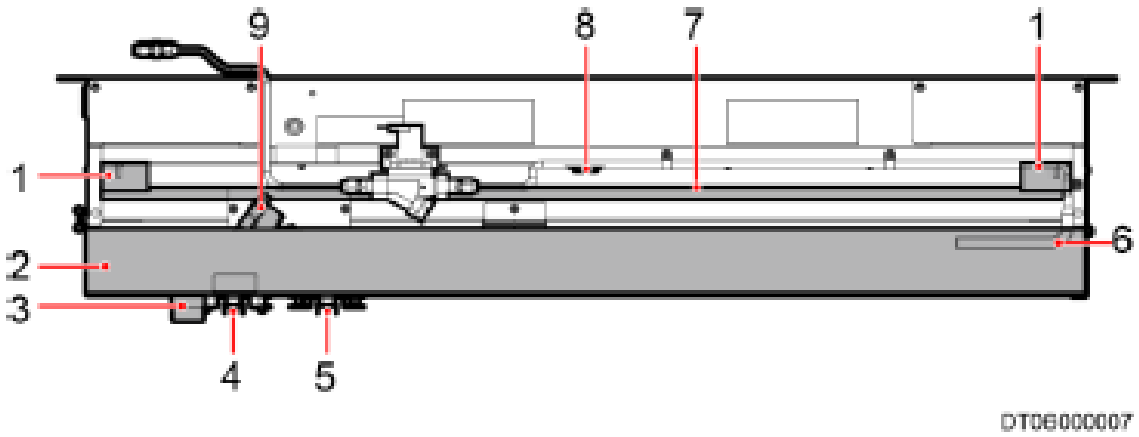
Indoor Unit – Infrared Humidifier Maintenance (3)



NetCol8000-A050 Infrared Humidifier Structure

(1) Water inlet	(2) Ceramic lamp holder	(3) Water pan
(4) Infrared humidifier lamp	(5) Topside overheat temperature switch	(6) Manual reset temperature switch for dry heating protection
(7) High water level detection switch	(8) Automatic reset temperature switch for dry heating protection	(9) Self-drainpipe

Indoor Unit - Infrared Humidifier Maintenance (4)



NetCol8000-A100 Infrared Humidifier Structure

(1) Ceramic lamp holder	(2) Water pan	(3) Self-drainpipe
(4) Manual reset temperature switch for dry heating protection	(5) Automatic reset temperature switch for dry heating protection	(6) Water inlet
(7) Infrared humidifier lamp	(8) Topside overheat temperature switch	(9) High water level detection switch

Indoor Unit – Electrical Heater Monthly Maintenance

No.	Inspection Method	Operations	Troubleshooting
1	Operation inspection	On the main screen, choose **Maint** > **Diagnostic Mode** > **Enter**. Start the electric heater. Measure the three phases of the electric heater circuit breaker by using a clamp meter. Confirm that three-phase currents are present, and current deviation does not exceed 20%.	Replace the electric heater
2	Visual inspection	Check that no foreign matter exists on the electric heater surface.	Clean the foreign matters.
3	Visual inspection	Check for corrosion on the heater surface. You can remove the rust using a metal brush.	Replace the heater
4	Operation inspection	Manually check whether the manual reset temperature switch for dry heating protection (as shown in Figure 6-1 or Figure 6-2) of the electric heater are operational.	Contact Huawei technical support.

Indoor Unit – Electric Control System

Semiannual Maintenance (1)

No.	Inspection Method	Operations	Troubleshooting
1	Visual inspection	Check and secure all circuit cables, and ensure that all wiring terminals are securely tightened.	Secure the cables and terminals.
2	Visual inspection	Ensure that each plug has proper contact.	Connect the plug again. If the fault is not rectified, replace the plug.
3	Visual inspection	Check that each input and output connector between the main control board and the display panel has proper contact, as well as the connection between the main control board and the temperature and humidity sensor.	Connect the cables again.
4	Visual inspection	Check that the main control board is properly connected to each contactor, electric heater temperature switch, dry heating protection temperature switch of the infrared humidifier water pan, filter clogging switch, and fan airflow loss switch.	Connect the cables again.

Indoor Unit – Electric Control System

Semiannual Maintenance (2)

No.	Inspection Method	Operations	Troubleshooting
5	Visual inspection	Use a brush or compressed dry air to clean various electric components, control components, the main control board, and the surge protection and voltage test board.	N/A
6	Visual inspection	Check that the main control board, display panel, temperature and humidity sensor, surge protection and voltage test board, and power cables are free from aging on the surface.	Replace the components or cables.
7	Visual inspection	Check that the transformer is intact and the output voltage is within the normal range (24 V AC ± 10%).	Check whether the power input cable is properly. If no, reconnect it. If yes, replace the transformer.
8	Visual inspection	Check that all circuit breakers are working properly.	Replace the circuit breakers.

Indoor Unit – Electric Control System

Semiannual Maintenance (2)

No.	Inspection Method	Operations	Troubleshooting
9	Visual inspection	Check that the water sensor (optional component) is securely installed.	N/A
10	Visual inspection	Check that the Water sensor a (optional) is securely installed and its probe is appropriately located, Figure 6-4 shows the recommended positions for installing Water sensors.	Replace the components or cables.
a: A Water sensor monitors resistance changes at terminals to check whether the floor is watery. The resistance at the terminals becomes small if the terminals detect water or any other conductive liquid. Keep the sensors far away from drain traps or floor drains and 2 m to 2.5 m away from the NetCol8000-A. Do not install the sensors directly under the NetCol8000-A			

Monthly Maintenance - Outdoor Unit

Item	Inspection Method	Check Item	Troubleshooting
Refrigerant Pipes	Visual inspection	The refrigerant pipes are secured.	Secure the pipe support.
	Visual inspection, Tool inspection	All refrigerant pipes are clean without leaking and eroding.	Evacuating the refrigerant, and repair the leak on the pipe.
	Visual inspection	The thermal insulator on the refrigerant pipe is not damaged.	Rewrap the thermal insulator.
Condenser	Visual inspection	The fins are not pushed down.	Restore the fins by using a wire brush.
	Operation inspection	The air intake section of the condenser and the air exhaust section of the fan are unblocked.	Clean up obstacles on the inlet and outlet.
	Visual inspection	The fins are not blocked.	Clean the fins.
Rear Panel of the electric control box	Visual inspection	holes on the rear panel of the electric control box are not dirty or blocked.	holes using a brush.

Semi-annual Maintenance - Outdoor Unit (1)

Item	Inspection Method	Check Item	Troubleshooting
Rack	Visual inspection	Ensure that the rack is secured to the ground.	Fasten the screws.
Fans	Visual inspection	The fan connection box is intact and secured.	Secure the fan connection box.
	Visual inspection	The net cover and flow deflecting ring are independent of each other and not deformed or damaged.	Maintain or replace the net cover.
	Operation inspection	The fan runs smoothly without abnormal voice or vibration, and the blades rotate in the direction as the symbols show.	Replace the fan.

Semi-annual Maintenance - Outdoor Unit (2)

Item	Inspection Method	Check Item	Troubleshooting
Electric control system	Visual inspection	Cables are connected properly.	Secure the terminals.
	Visual inspection	The cable holes of the electrical control box are properly sealed.	Check whether the waterproof connector is aging, if yes, replace a new one.
	Visual inspection	Cables are not damaged or aged.	Replace the cables.
	Visual inspection	The electrical control box is free from water.	Clean up the water in the box and check the reason for leaking.
Low-temperature component	Operation inspection	Bolts are properly tightened.	Tighten bolts.
	Visual inspection	Cables are securely connected.	Check the cable connection. If the cable is loose, secure it.
Sunshade	Visual inspection	Verify that screws on the sunshade are tightened.	Screw

Contents

Troubleshooting (1)

Symptom	Possible Cause	Solution
The NetCol8000-A generates abnormal voice.	Compressor, fans, or pipes are loose.	Check the fixing structure and ensure that all components are securely installed.
A compressor does not work.	The high-pressure switch reacts.	Check the high-pressure switch status.
	The low-pressure switch reacts.	Check the low-pressure switch status.
	The exhaust temperature switch reacts.	Check the exhaust temperature switch status.
	Circuit breakers, fuses, or cables are disconnected.	Check the main circuit breaker, compressor circuit breakers, fuses, and cables.
	An indoor fan does not work at a high speed.	Check whether the indoor fan works at a high speed.
	A compressor motor is damaged.	Replace the motor.
	A compressor does not need to start.	Check for any startup requirement on the LCD.
The compressor exhaust temperature is too high.	The outdoor unit is installed in an inappropriate position. (The outdoor unit should not be exposed to direct sunlight and must be installed at a specified spacing according to the installation guide.)	Install the outdoor unit in a correct position, without exposure to direct sunlight and with an appropriate spacing.
	Check whether the air exhaust pressure is too high.	If the air exhaust pressure is too high, re-inject refrigerant to expel free air from the cooling loop.
	Heat dissipation is poor because the condenser is dirty or blocked.	Clean the condenser fins.

Troubleshooting (2)

Symptom	Possible Cause	Solution
The compressor exhaust temperature is too high.	The outdoor fan fails.	Check whether the outdoor fan works properly.
	Check whether the refrigerant amount is properly (the low pressure is too low).	Verify that the amount of refrigerant is proper.
The compressor exhaust temperature is too low.	Refrigerant is leaking.	Check the pipeline for any leakage.
The compressor suction temperature is too low or liquid returns.	The refrigerant filled is insufficient.	Add the refrigerant.
	The indoor temperature is too low.	Change the temperature setting.
	Filters are clogged with dirt.	Replace the filters.
	The static over temperature threshold is not properly set for the thermostatic expansion valve.	Optimize settings for the thermostatic expansion valve.
	The sensing bulb of the thermostatic expansion valve has fallen off.	Check the sensing bulb of the thermostatic expansion valve.
	The external residual pressure is too high, and air flow decreases.	Check whether the air channels are blocked.
	The air exhaust pressure is too low.	Check whether the controller and driver of the outdoor fan work properly.

Troubleshooting (3)

Symptom	Possible Cause	Solution
Compressor generate excessive noises.	Liquid returns in a compressor.	Check whether the oil temperature and exhaust temperature are within a normal range.
	The lubricant is insufficient.	Add the lubricant.
	The transport sheet metal is not removed from a compressor.	Remove the sheet metal.
The compressor suction temperature is too high.	Suction temperature is higher than 25°C.	Adjust the thermostatic expansion valve or add refrigerant.
An indoor fan fails to start.	Either the main circuit breaker or the indoor fan circuit breaker is not switched on.	Check the circuit breaker status.
	An indoor fan contactor has an abnormal pickup.	Check whether the main control board sends signals to the indoor fan contactor and whether the contactor is damaged.
	An indoor fan is protected by a thermal overload relay.	Check the thermal overload relay status and the fan current.
	An indoor fan is protected by an internal high-temperature guard.	Check the high-temperature protection switch status.
	An indoor fan is damaged.	Measure the output voltage of the indoor fan contactor. If the voltage is in the range of main input voltage with the 10% deviation, the fan is damaged. Replace the faulty indoor fan.

Troubleshooting (4)

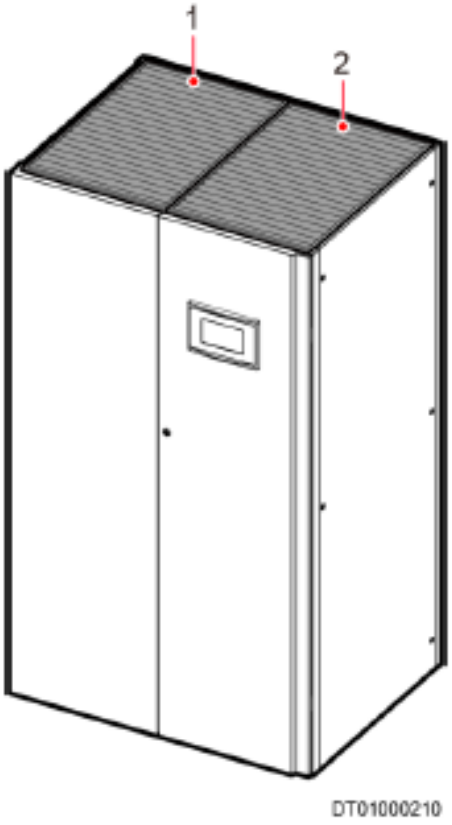
Symptom	Possible Cause	Solution
The humidification function fails.	The high water level detection switch is being protected.	Check whether the high water level detection switch is faulty. Replace the faulty switch.
	The infrared humidifier lamp is burnt out.	Measure the current of humidifier. If no current exists, the lamp of humidifier is damaged. Replace the lamp.
	Circuit breakers, fuses, or cables are disconnected.	Disconnect the power supply and check whether the electric heater is damaged by checking the electric heater resistance properties with an ohmmeter.
	The water pan in the infrared humidifier is not filled with water.	Check whether the water pressure is proper.
		Check the status of the water injection solenoid valve.
		Check whether the water injection pipe is blocked.
		Check whether the water inlet pipe valve is opened.
	There is no humidification requirement.	Check for any requirement on the LCD.

Troubleshooting (5)

Symptom	Possible Cause	Solution
The heating function is unavailable.	The electric heater temperature switch is being protected.	View the alarm, check the manual reset temperature switch for the electric heater, and manually switch it on if it was switched off. Check the temperature switch and replace it if it is faulty.
	The airflow loss switch is faulty, or the electrical heater circuit breaker is off.	Check the electric heater circuit breaker status.
		Check whether the airflow loss switch is properly connected.
	An electric heater is burnt out.	Disconnect the power supply and check whether the electric heater is damaged by checking the electric heater resistance properties with an ohmmeter.

Contents

Replacing Filters



Step 1 Disconnect the power supply;

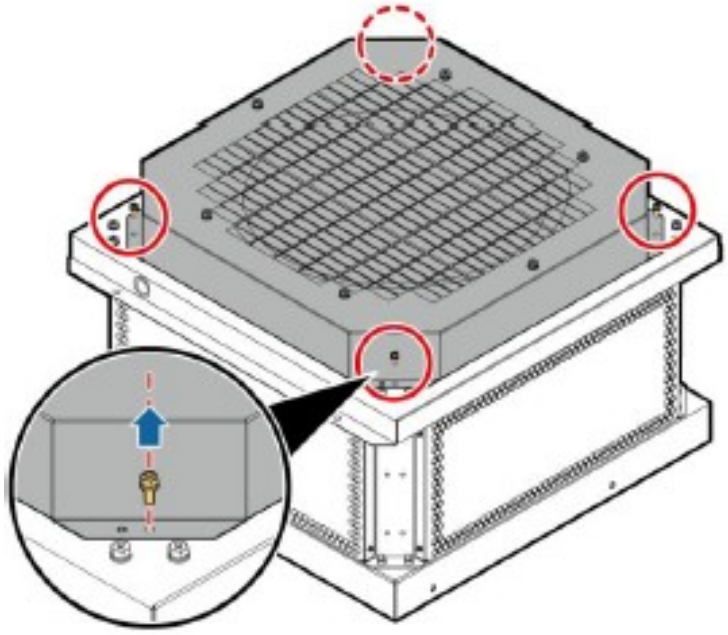
Step 2 Open the front door of the cabinet and pull out filter 1;

Step 3 Move filter 2 leftwards and pull it out;

Step 4 Install new filters in an inverse order;

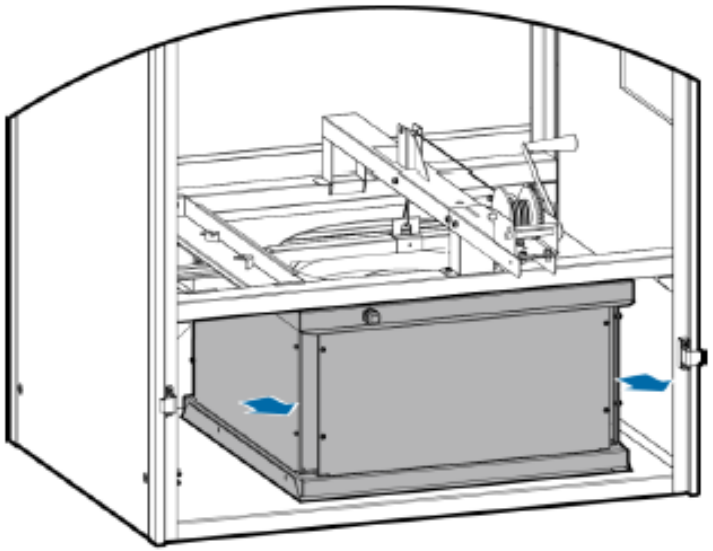
Step 5 Tap **Maint** > **Performance Maint** to clear the filters total runtime.

Replacing Indoor Fan (1)



Step 1 Disconnect the power supply;
Step 2 Cut offthe cable ties on the corrugated pipe of the fan power cable using the diagonal pliers;
Step 3 Remove the fan mounting beam from the fan mounting base;
Step 4 Use a Phillips screwdriver to remove the four screws securing the fan net cover to the fan, and remove the fan net cover and deflector, as shown in Figure;
Step 5 Secure the fan tooling beam to the two holes reserved at the mounting plate on the indoor fan;

Replacing Indoor Fan (2)



Step 6 Place the mounting support on the front and rear beams and secure the support to the front beam with bolts. Connect the hook on the capstan to the fan tooling beam through the support;

Step 7 Removal of the fan and the floor of the connecting screw around four. Slowly rotate the handle of the capstan to hoist the indoor fan above the bottom plate;

Step 8 Drag the indoor fan outwards and pay out more steel wire until the fan tooling beam approaches to the compressor beam;

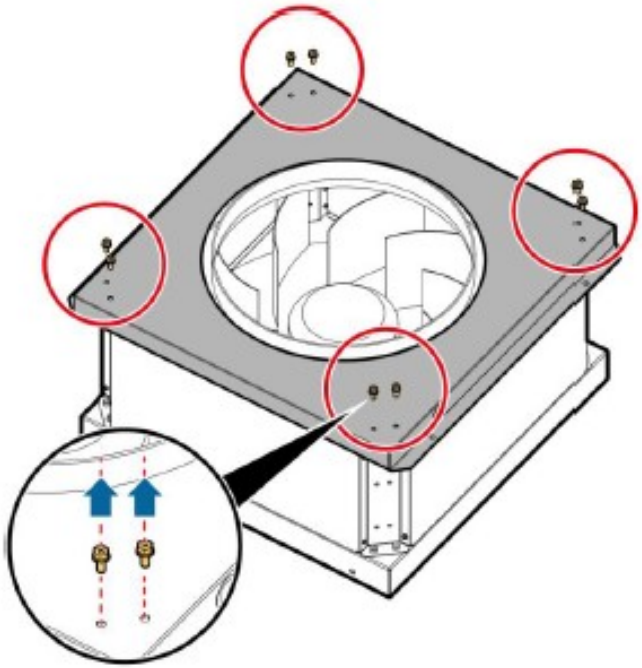
Step 9 Lift the indoor fan and remove the fan tooling beam;

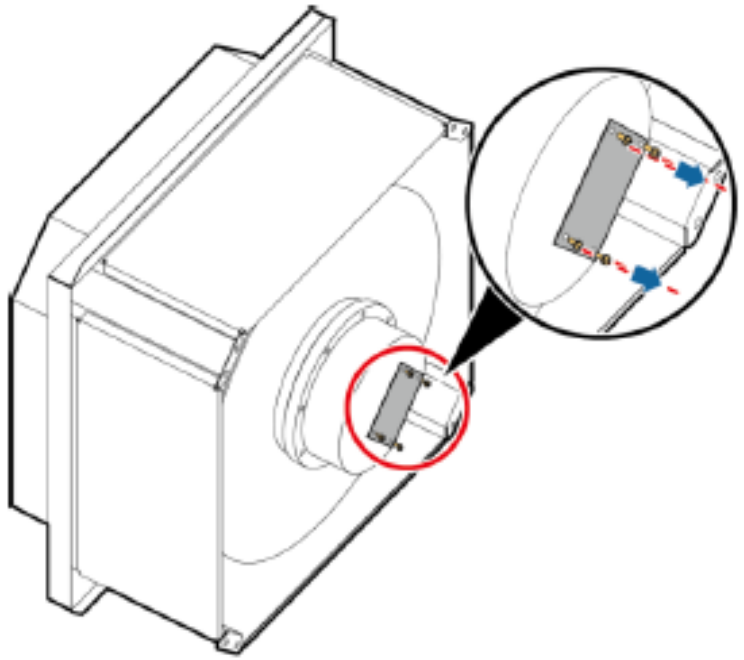
Step 10 Drag the indoor fan out of the unit, as shown in Figure;

Replacing Indoor Fan (3)

Step 11 Remove the eight screws on the fan cover using a Phillips screwdriver and remove the cover, as shown in Figure;

Step 12 Remove the four screws on the motor control box at the bottom of the fan using a 5x200 mm flat-head screwdriver, as shown in Figure;

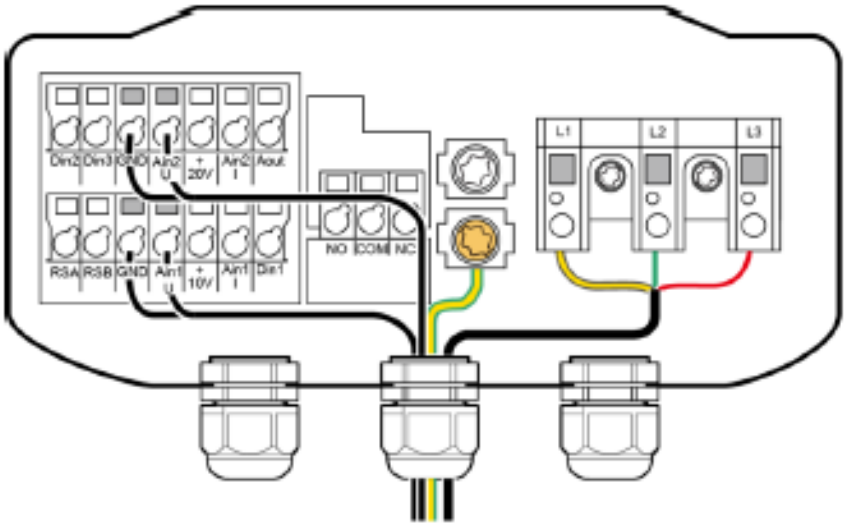


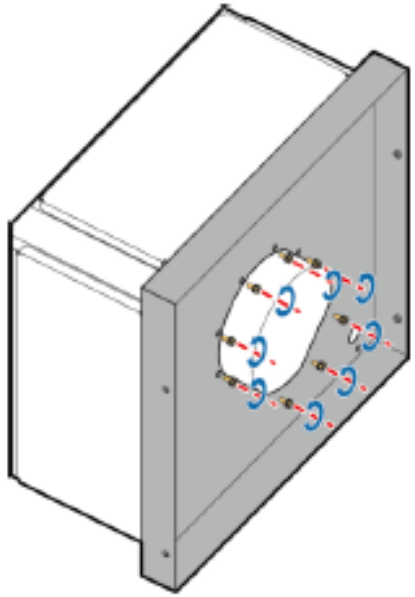


Replacing Indoor Fan (4)

Step 13 Open the electric control box, press down the areas marked gray in Figure using a small-sized flat-head screwdriver, pull out all signal cables and power cables, and remove the screw (PE cable) in the area marked yellow in using a 5 x 200 mm flat-head screwdriver;

Step 14 Remove the eight screws securing the fan to the bottom plate using an adjustable wrench, pull up the fan cover, a as shown i





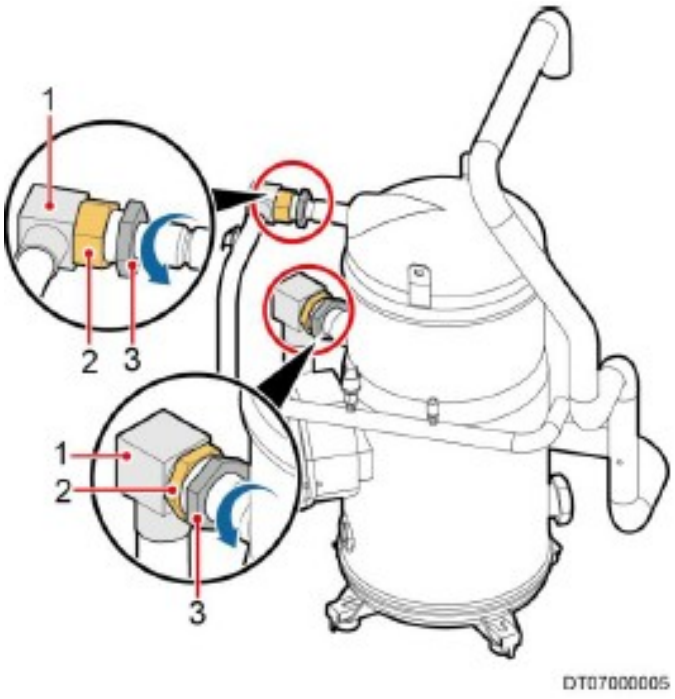
Replacing Indoor Fan (5)

Step 15 Install a new indoor fan in an inverse order;

Step 16 Power on the unit and tap **Maint** > **Diagnostic Mode** > **Enter**. Set the indoor unit to lower speed, make sure they work properly, and then exit the **Diagnostic Mode**;

Step 17 Tap **Maint** > **Performance Maint** to clear the indoor fan total runtime.

Replacing Compressor (1)



Step 1 Disconnect the power supply;

Step 2 Reclaim the refrigerant;

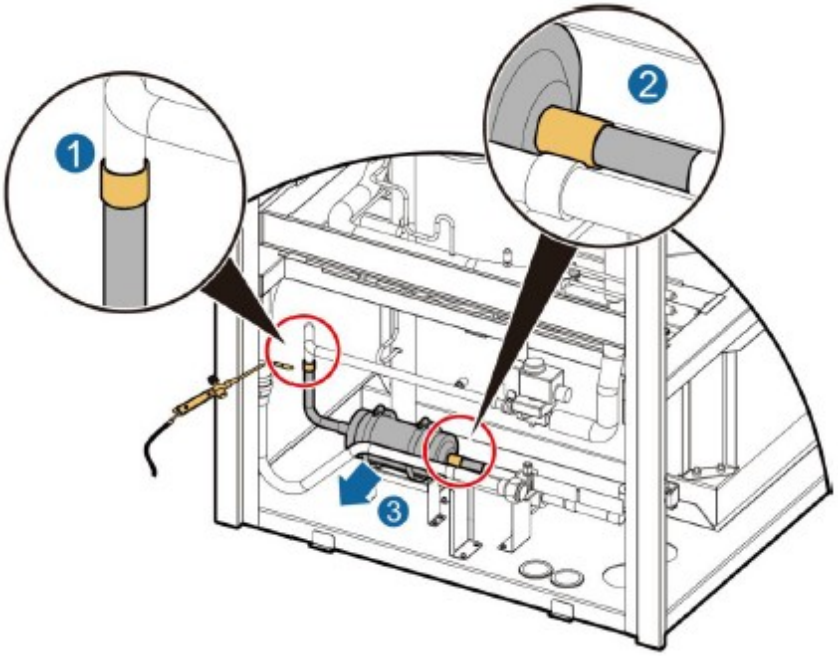
Step 3 Disconnect the cables from the compressor;

Step 4 Fix the angle valve nuts shown by 1 and 3 in Figure using two adjustable wrenches, and turn the angle valve nut shown by 2 in Figure counterclockwise using a torque wrench. Remove the suction and discharge angle valves and seal the air intake and exhaust vents to ensure that the system is clean and moisture does not enter the pipes;

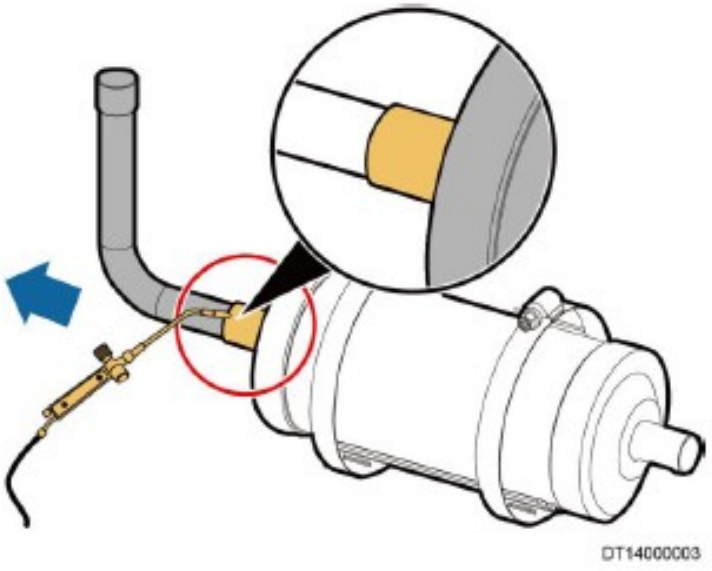
Step 5 Loosen the bolts and take out the compressor;

Replacing Compressor (2)

Step 6 Blow away dirt with nitrogen, check the dry filter, and replace it if necessary to protect pipes from foreign matter;



Taking out a dry filter



Removing a dry filter pipe with a welding gun

Replacing Compressor (3)

Step 7 Install a new compressor, vacuumize the system, and partially inject refrigerant;

Step 8 Connect cables to the new compressor, start it, and continue to charge in the refrigerant based on the system parameters to the optimal level;

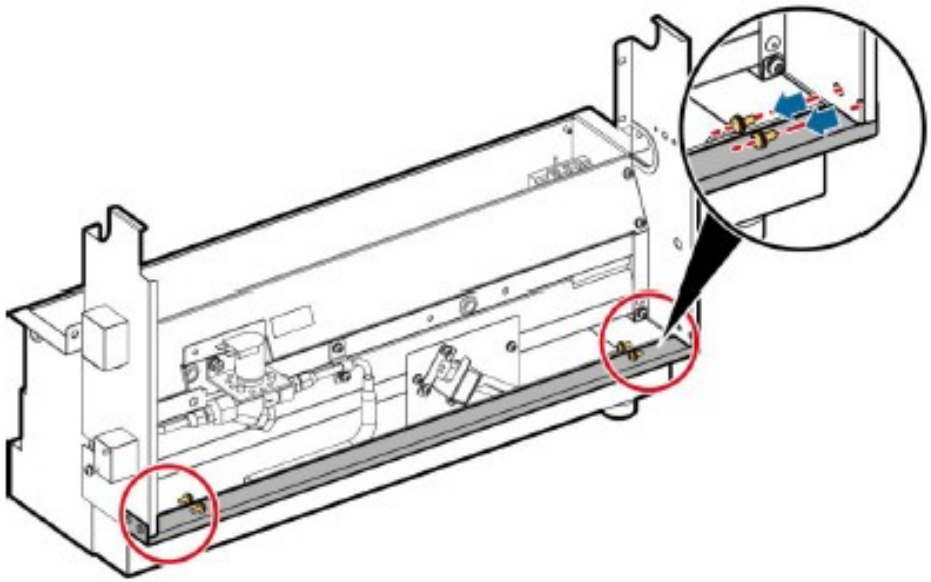
Step 9 Tap **Maint** > **Performance Maint** to clear the compressor total runtime.

Replacing Infrared Humidifier Lamps of the NetCol8000-A050 (1)

Step 1 Disconnect the power supply, close the water inlet for the infrared humidifier;

Step 2 Pull out the self-overflow vent to drain water out of the water pan, and remove the drainpipe;

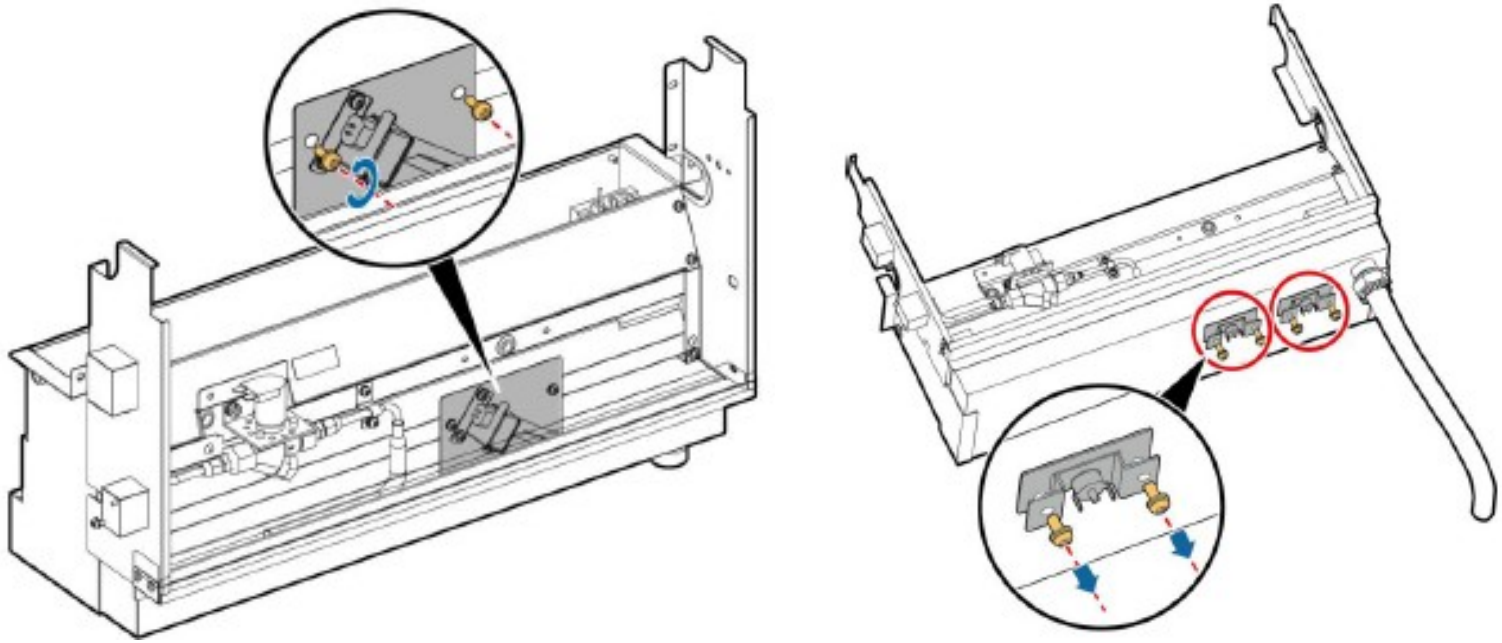
Step 3 Remove the four screws that secure the beam above the water pan, as shown in Figure



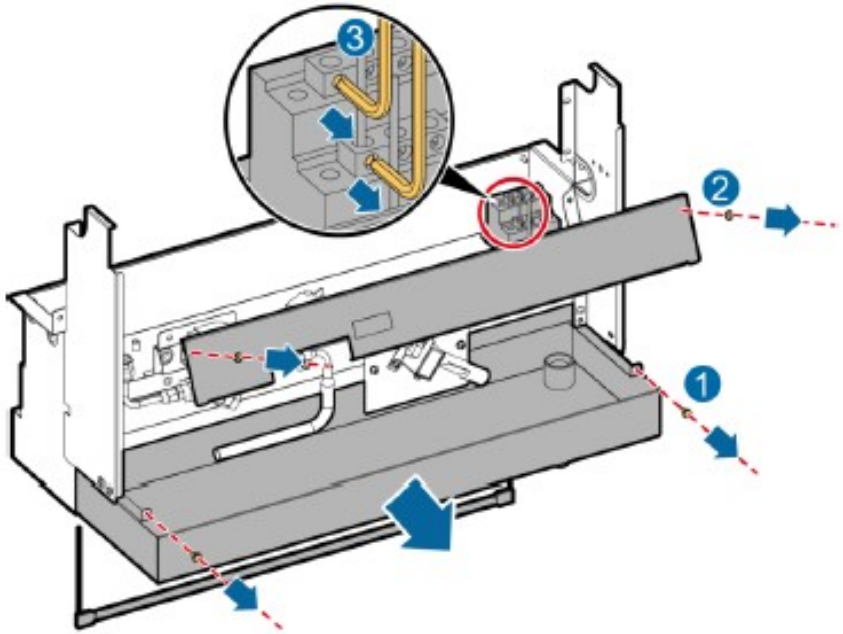
Replacing Infrared Humidifier Lamps of the NetCol8000-A050 (2)

Step 4 Remove the two screws on the float sheet metal using a Phillips screwdriver and take out the float and sheet metal, as shown in Figure;

Step 5 Remove the four wiring terminals connecting the manual and automatic reset switches at the bottom of the water pan using combination pliers, as shown in Figure:



Replacing Infrared Humidifier Lamps of the NetCol8000-A050 (3)



Step 6 Remove the water pan and the lamp tube, as shown in Figure;

Step 7 Take out the lamp tube and install a new one;

Step 8 Reassemble the infrared humidifier in an inverse order of Step 2 to Step 6;

Step 9 Power on the unit and tap **Maint** > **Diagnostic Mode** > **Enter**, open the solenoid valve and the humidifier. Make sure they work properly. Exit the Diagnostic Mode.

Step 10 Tap **Maint** > **Performance Maint** to clear the humidifier total runtime.

Replacing Infrared Humidifier La mps of the NetCol8000-A100 (1)

Step 1 Disconnect the power supply, close the water inlet for the infrared humidifier;

Step 2 Remove the four wiring terminals connecting the manual and automatic reset switches at the bottom of the water pan using combination pliers, as shown in left Figure;

Step 3 Pull out the self-overflow vent and drain the water from the water p

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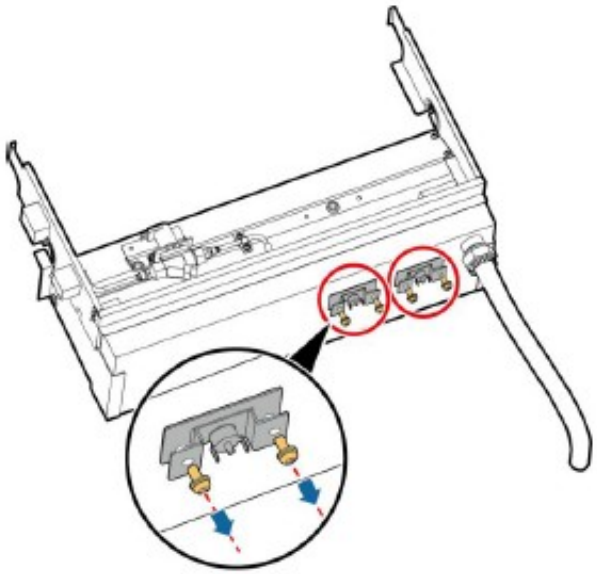
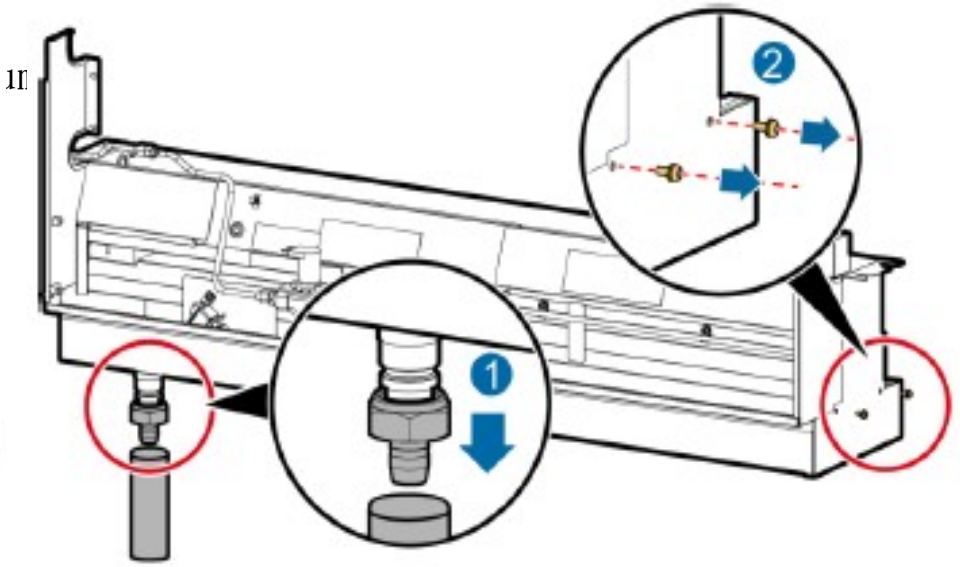
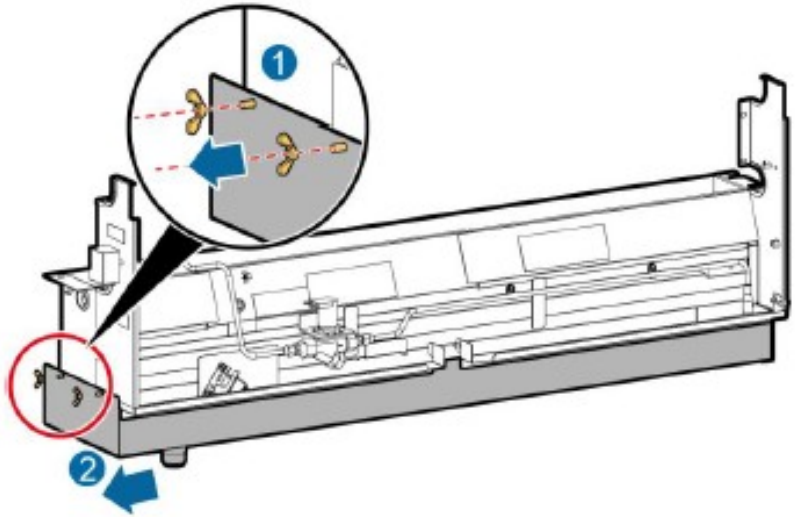


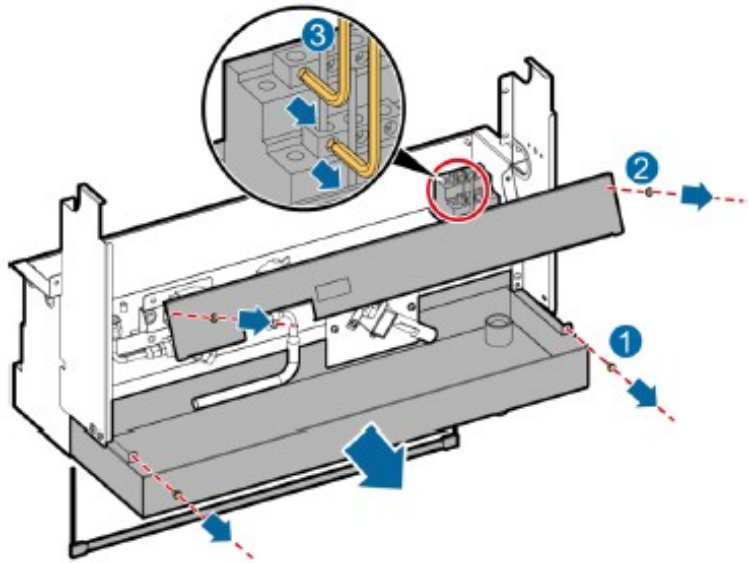


Replacing Infrared Humidifier Lamps of the NetCol8000-A100 (2)

Step 4 Remove the two butterfly buts on the left, and pull out the water pan horizontally from the left side, as shown by 1 and 2 in left Figure;

Step 5 Remove the screws that secure the sheet metal, as shown by 2 in right Figure;





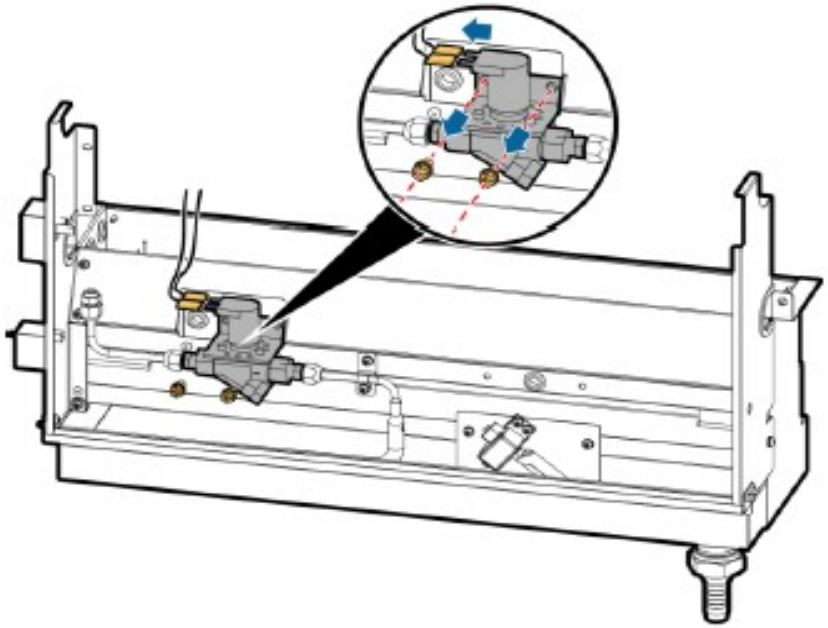
Replacing Infrared Humidifier Lamps of the NetCol8000-A100 (3)

Step 6 Loosen the bolts of the damaged lamp tube from the ceramic terminal block while holding the ends of the lamp tube with hands.
Step 7 Take out the lamp tube and install a new lamp tube.
Step 8 Reassemble the infrared humidifier in an inverse order of Step 2 to Step 6.
Step 9 Power on the unit and tap **Maint** > **Diagnostic Mode** > **Enter**, open the solenoid valve and the humidifier. Make sure they work properly. Exit the Diagnostic Mode.
Step 10 Tap **Maint** > **Performance Maint** to clear the humidifier total runtime.

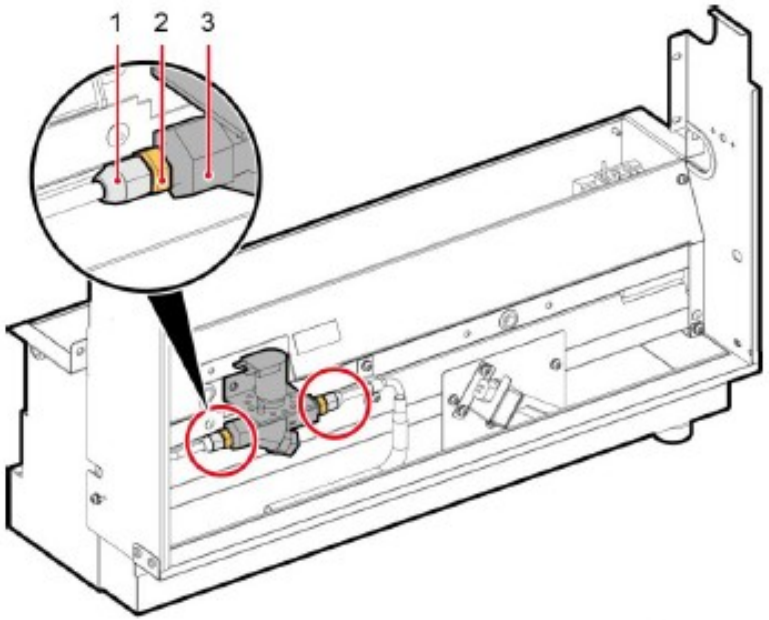
Replacing Water Supply Valve (1)

Step 1 Disconnect the main power supply. Stop the water supply to the infra red humidifier;

Step 2 Pull out the wiring terminals on the solenoid valve control cable us ing combination pliers, and remove the screws that secure the water injecti on solenoid valve to the baffle plate, as shown in Figure;



Replacing Water Supply Valve (2)



（1）Nut of the water inlet pipe

（2）Connection nut

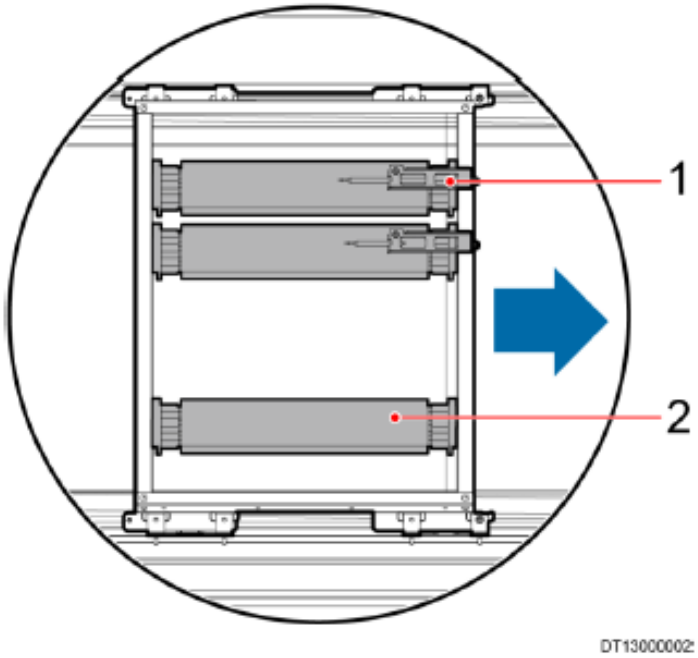
（3）Water supply valve

Step 3 Fix the connective nut shown by 2 in Figure using an adjustable wrench, and loosen the nuts at both ends (as shown by 1 in Figure) using an adjustable wrench. Then remove the water injection solenoid valve;

Step 4 Perform Step 2 to Step 3 in reverse order to reinstall the new water supply valve.

Step 5 Power on the equipment. On the main screen, choose **Maint** > **Diagnostic Mode** >**Enter**, on the main menu, open the water supply valve and humidifier, and check that the humidifier works properly. Then exit from the diagnostic mode.

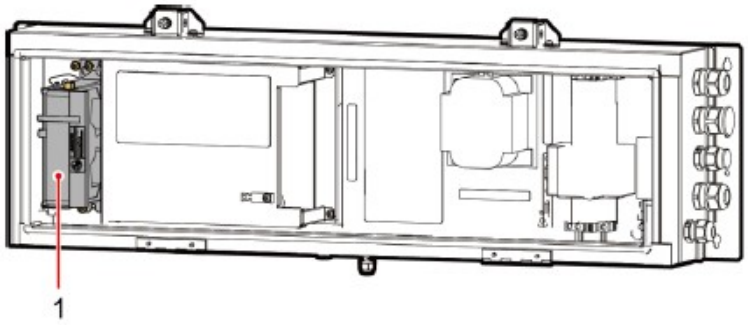
Replacing Electrical Heaters



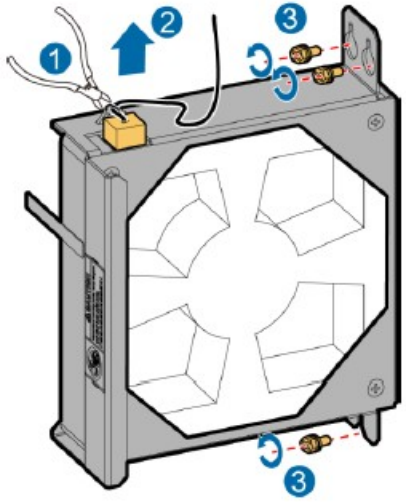
（1）Temperature switch　　（2）Electrical heater

Step 1 Disconnect the power supply;
Step 2 Disconnect the cables from the electrical heater;
Step 3 Loosen the four bolts from the rack, slowly push the electric heater towards one side of the NetCol8000-A, and take out an electrical heater;
Step 4 Install a new electrical heater in an inverse order;
Step 5 Power on the unit and tap **Maint** > **Diagnostic Mode** >**Enter** to open the electric heater. Make sure they work properly. Exit the Diagnostic Mode.
Step 6 Tap **Maint** >**Performance Maint** to clear the electric heater total runtime.

Replacing Heat Dissipation Fan



(1) Dissipation fan



Step 1 Open the front panel of the electric control box;

Step 2 Remove the fan from the electric control box;

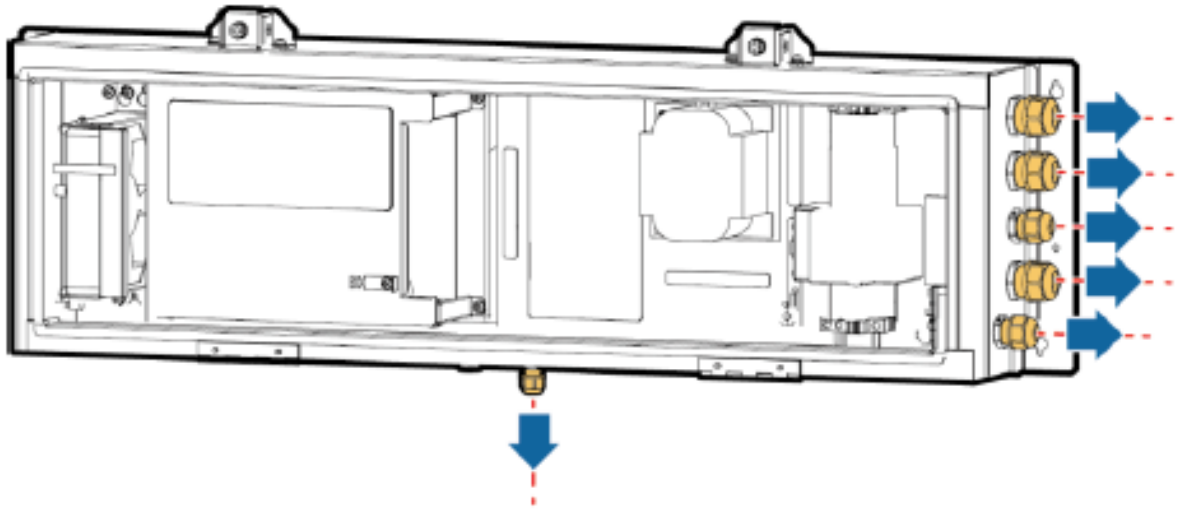
Step 3 Remove the three M4 screws connecting the heat dissipation fan with the structure, remove the sheet metal, and take out the fan;

Step 4 Install the new fan in the inverted sequence of Step 3–Step 1. During the installation, tighten M4 and M6 screws to torques of 1.2 N.m and 3 N.m respectively using a socket wrench.

Replacing Fan Driver (1)

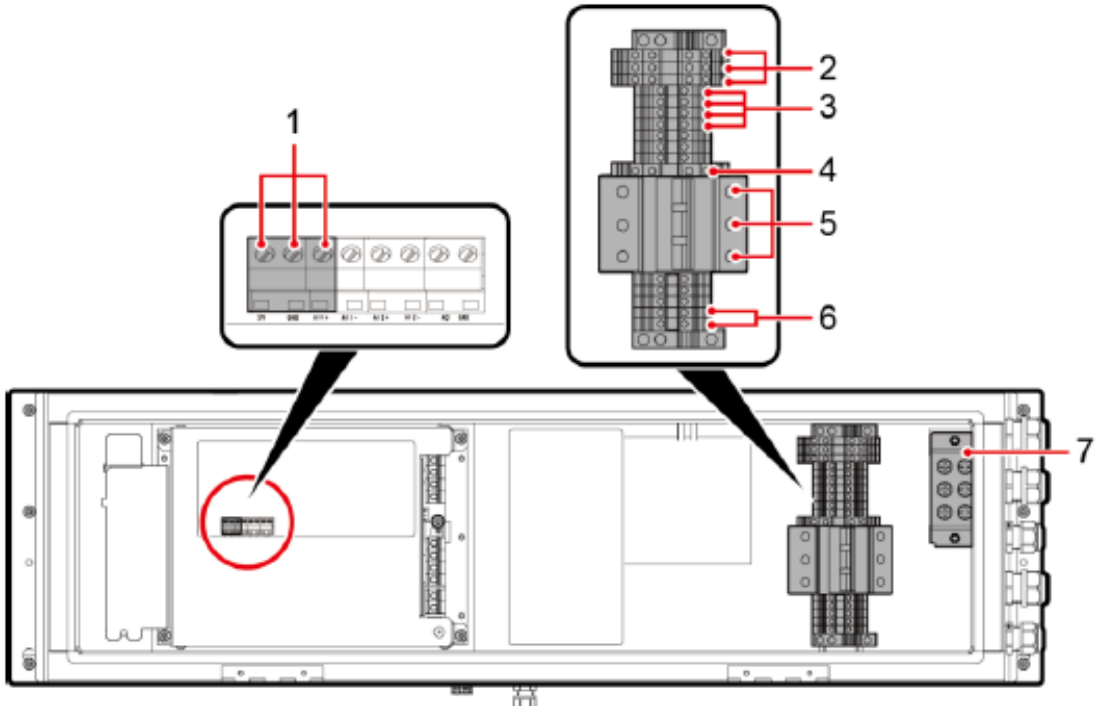
Step 1 Open the front panel of the electric control box;

Step 2 Loosen the PG waterproof terminals of the electric control box count erclockwise using an adjustable wrench, as shown in left Figure;



Replacing Fan Driver (2)

Step 3 Disconnect external cables from ports shown in below Figure;



(1) Pressure sensor terminals
(2) Three-phase output port
(3) Outdoor fan over temperature protection port
(4) N wire terminal bar
(5) Main circuit breaker
(6) Port 1A/2A and Port 1B/2B
(7) Grounding cooper bar

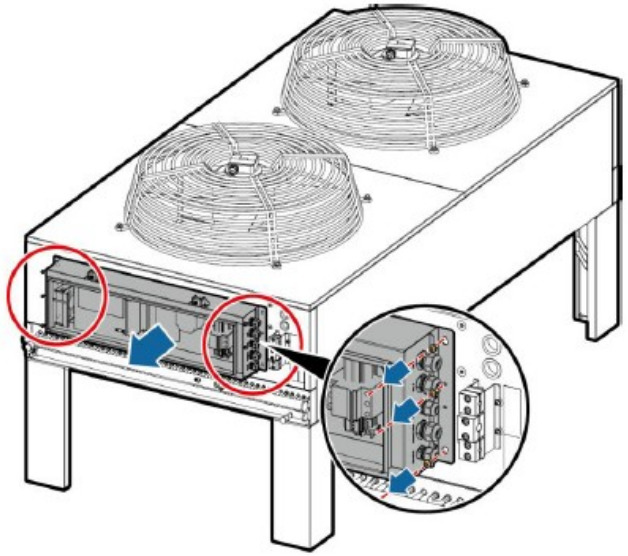
Replacing Fan Driver (3)

Step 4 Take all cables disconnected from PG waterproof terminals out of the electric control box;

Step 5 Unfasten the six M4 screws in the mounting ears at both sides of the electric control box, as shown in below Figure. Remove the fan driver;

Step 6 Install the new fan driver in the sequence of Step 5 to Step 1;

Step 7 Set the fan type



Quiz

1. Which of the following is the cause of humidification function failure?

   A. The infrared humidifier lamp is burnt out.

   B. There is no humidification requirement.

   C. The high water level detection switch is being protected.

   D. The water pan in the infrared humidifier is not filled with water.

Summary

- Routine Maintenance
- Troubleshooting
- Parts Replacement

Recommendations

- Huawei E-Learning website:
  - http://support.huawei.com/learning/en/newindex.html
- Huawei support case library:
  - http://support.huawei.com/enterprise/servicecenter?lang=en

Thank You

www.huawei.com