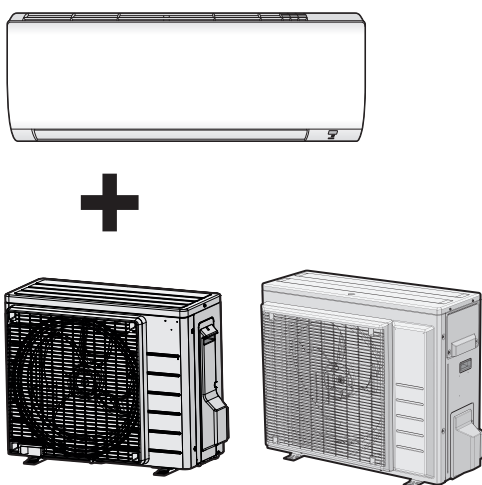


Service manual

Split Comfora R32



FTXP20~71L2V1B
ATXP20~35L2V1B

RXP20~71L2V1B
ARXP20~35L2V1B

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1 Troubleshooting

1 Troubleshooting

1.1 To display the error code on the user interface

- 1 Hold **CANCEL** for about 5 seconds.

Result: **00** blinks in the temperature display section.

- 2 Press **CANCEL** repeatedly until a continuous beep is heard.

Result: The code is now displayed on the display.

i INFORMATION

- A short beep and 2 consecutive beeps indicate non-corresponding codes.
- To cancel the code display, hold the **CANCEL** cancel button for 5 seconds. The code will also disappear from the display if the button is NOT pressed within 1 minute.

1.2 To reset the error code via remote controller

Prerequisite: Problem is solved.

- 1 Press the ON/OFF button of the remote controller to reset the error.

1.3 To reset the error code via outdoor unit

Prerequisite: Problem is solved.

- 1 Perform a power reset to reset the error code.

1.4 To perform a test run

Prerequisite: Power supply MUST be in the specified range.

Prerequisite: Test run may be performed in cooling or heating mode.

Prerequisite: Test run should be performed in accordance with the operation manual of the indoor unit to make sure that all functions and parts are working properly.

- 1 In cooling mode, select the lowest programmable temperature. In heating mode, select the highest programmable temperature. Test run can be disabled if necessary.
- 2 When the test run is finished, set the temperature to a normal level. In cooling mode: 26~28°C, in heating mode: 20~24°C.
- 3 The system stops operating 3 minutes after the unit is turned OFF.

i INFORMATION

- Even if the unit is turned OFF, it consumes electricity.
- When the power turns back on after a power break, the previously selected mode will be resumed.

1.4.1 To perform a test run in winter season

When operating the air conditioner in **Cooling** mode in winter, set it to test run operation using the following method.

i INFORMATION

Some of the functions CANNOT be used in the test run operation mode.

If a power failure occurs during operation, the system automatically restarts immediately after power is restored.

1.5 Error based troubleshooting

1.5.1 A1-00 – PCB abnormality

Trigger	Effect	Reset
The system CANNOT set the internal settings.	Unit will stop operating.	Power reset via outdoor unit.

To solve the error code

i INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Check for improper combination of the indoor unit and the outdoor unit. See the combination table in the Databook for more information.
- 2 Perform a check of the power supply, connections, wiring,... between the outdoor unit and the indoor unit. See ["3.1 Power supply" on page 44](#).

Possible cause: Faulty wiring between the outdoor unit and the indoor unit.

- 3 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

- 4 Perform a check of the indoor unit PCB. See ["2.6 Indoor unit PCB" on page 29](#).

Possible cause: Faulty indoor unit PCB.

i INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.2 A5-00 – Freeze-up protection / heating peak cut control

Trigger	Effect	Reset
During cooling operation, indoor heat exchanger temperature is below 0°C (freeze-up protection control).	Unit will stop operating.	Automatic reset when temperature is within range.
During heating operation, indoor heat exchanger temperature is above 65°C (heating peak-cut control).		

To solve the error code

i INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Check for objects near the indoor unit that may block the airflow. See ["3.3 External factors" on page 47](#).

Possible cause: Airflow of the indoor unit is blocked.

- 2 Clean the air filter. See ["4 Maintenance" on page 48](#).

Possible cause: Faulty or dirty air filter.

- Clean the indoor unit heat exchanger. See ["4 Maintenance" on page 48](#).

Possible cause: Dirty indoor unit heat exchanger.

- Perform a check of the indoor unit heat exchanger thermistor. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty indoor unit heat exchanger thermistor.

- Perform a check of the indoor unit PCB. See ["2.6 Indoor unit PCB" on page 29](#).

Possible cause: Faulty indoor unit PCB.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.3 A6-00 – Indoor unit fan motor abnormality

Trigger	Effect	Reset
The rotation speed of the fan motor is NOT detected while the output voltage to the fan is at its maximum.	Unit will stop operating.	Power reset via the outdoor unit.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- Perform a check of the indoor unit PCB. See ["2.6 Indoor unit PCB" on page 29](#).

Possible cause: Faulty indoor unit PCB.

- Perform a check of the indoor unit fan motor. See ["2.5 Indoor unit fan motor" on page 27](#).

Possible cause: Faulty indoor unit fan motor.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.4 C4-00 – Indoor heat exchanger thermistor abnormality

Trigger	Effect	Reset
Refrigerant liquid thermistor detects an open or short circuit during compressor operation.	Unit will stop operating.	Power reset via outdoor unit.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

INFORMATION

In case of preferential kWh rate, the indoor unit also needs a power reset.

- Perform a check of the refrigerant liquid thermistor. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty refrigerant liquid thermistor.

- Perform a check of the indoor unit PCB. See ["2.6 Indoor unit PCB" on page 29](#).

Possible cause: Faulty indoor unit PCB.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.5 C9-00 – Room thermistor abnormality

Trigger	Effect	Reset
Resistance value is out of range. Temperature measured <−43.6°C or >90°C.	Unit will stop operating.	Automatic reset when resistance is within range.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- Perform a check of the room thermistor. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty room thermistor.

- Perform a check of the indoor unit PCB. See ["2.6 Indoor unit PCB" on page 29](#).

Possible cause: Faulty indoor unit PCB.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.6 E1-00 – PCB defect

Trigger	Effect	Reset
Main PCB detects that EEPROM is abnormal.	Unit will stop operating.	Manual reset via user interface. Power reset via outdoor unit.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

INFORMATION

In case of preferential kWh rate, the indoor unit also needs a power reset.

- Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

- Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).

Possible cause: Faulty outdoor unit fan motor.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1 Troubleshooting

1.5.7 E3-00 – High pressure switch abnormality

Trigger	Effect	Reset
High pressure switch opens due to measured pressure >41.7 bar.	Unit will stop operating.	Manual reset via user interface.
High pressure control (measured pressure >38 bar) occurs 16 times within 300 minutes.		

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- Perform a check of the high pressure switch. See ["2.4 High pressure switch" on page 26](#).
Possible cause: Faulty high pressure switch.
- Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).
Possible cause: Faulty main PCB.
- Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).
Possible cause:
 - Stop valve is closed,
 - Clogged refrigerant circuit,
 - Refrigerant circuit NOT charged correctly,
 - Humidity in the refrigerant circuit,
 - Non-condensables in the refrigerant circuit,
 - Leaking refrigerant circuit.
- Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).
Possible cause: Faulty outdoor unit fan motor.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.8 E5-00 – Overheat of inverter compressor motor

Trigger	Effect	Reset
Compressor overload is detected.	Unit will NOT stop operating.	Automatic reset if the unit runs without warning for 60 seconds.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- Perform a check of the discharge pipe thermistor. See ["2.13 Thermistors" on page 41](#).
Possible cause: Faulty discharge pipe thermistor.
- Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).
Possible cause: Faulty outdoor unit fan motor.
- Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).
Possible cause: Faulty compressor.

- Perform a check of the expansion valve. See ["2.3 Expansion valve" on page 23](#).
Possible cause: Faulty expansion valve.

- Perform a check of the 4-way valve. See ["2.1 4-way valve" on page 18](#).
Possible cause: Faulty 4-way valve.

- Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).
Possible cause: Faulty main PCB.

- Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).
Possible cause: Faulty power module = inverter PCB.

- Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).
Possible cause:
 - Stop valve is closed,
 - Clogged refrigerant circuit,
 - Refrigerant circuit NOT charged correctly,
 - Humidity in the refrigerant circuit,
 - Non-condensables in the refrigerant circuit,
 - Leaking refrigerant circuit.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.9 E6-00 – Compressor startup defect

Trigger	Effect	Reset
The motor rotor does NOT rotate when the compressor is energized.	Unit will NOT stop operating.	Automatic reset after a continuous run for 10 minutes.
	Unit will stop operating	Manual reset via user interface.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- Perform a check of the discharge pipe thermistor. See ["2.13 Thermistors" on page 41](#).
Possible cause: Faulty discharge pipe thermistor.

- Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).
Possible cause:
 - Stop valve is closed,
 - Clogged refrigerant circuit,
 - Refrigerant circuit NOT charged correctly,
 - Humidity in the refrigerant circuit,
 - Non-condensables in the refrigerant circuit,
 - Leaking refrigerant circuit.

- Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).
Possible cause: Faulty compressor.

- Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).
Possible cause: Faulty main PCB.

- Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).
Possible cause: Faulty power module = inverter PCB.

- 6 Perform a check of the 4-way valve. See ["2.1 4-way valve" on page 18](#).
Possible cause: Faulty 4-way valve.
- 7 Perform a check of the expansion valve. See ["2.3 Expansion valve" on page 23](#).
Possible cause: Faulty expansion valve.

i INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.10 E7-00 – Fan lock abnormality

Trigger	Effect	Reset
Fan does NOT start 15~30 seconds after ON signal. It can occur that the error code is triggered when the fan motor is running caused by a faulty rotating sensor signal.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

i INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).
Possible cause: Faulty outdoor unit fan motor.
- 2 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).
Possible cause: Faulty power module = inverter PCB.

i INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.11 E8-00 – Input overvoltage abnormality

Trigger	Effect	Reset
Compressor running current exceeds standard value for 2.5 seconds.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

i INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Check the outdoor temperature. See ["3.3 External factors" on page 47](#).
Possible cause: Outdoor temperature is out of operation range.
- 2 Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).
Possible cause: Faulty compressor.
- 3 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).
Possible cause: Faulty power module = inverter PCB.

- 4 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).
Possible cause:
- Faulty or disturbance of the power supply (imbalance >10%),
 - Power drop,
 - Short circuit.

i INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.12 EA-00 – Cooling/Heating switch abnormality

Trigger	Effect	Reset
Room thermistor is NOT functioning within operation range.	Unit will NOT stop operating.	Automatic reset after a continuous operation of 10 minutes.
	If the error occurs too soon: unit will stop operating.	Manual reset via user interface.

To solve the error code

i INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the 4-way valve. See ["2.1 4-way valve" on page 18](#).
Possible cause: Faulty 4-way valve.
 - 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).
Possible cause: Faulty main PCB.
 - 3 Perform a check of the room thermistor. See ["2.13 Thermistors" on page 41](#).
Possible cause: Faulty room thermistor.
 - 4 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).
Possible cause:
- Stop valve is closed,
 - Clogged refrigerant circuit,
 - Refrigerant circuit NOT charged correctly,
 - Humidity in the refrigerant circuit,
 - Non-condensables in the refrigerant circuit,
 - Leaking refrigerant circuit.

i INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.13 F3-00 – Discharge pipe temperature stop abnormality

Trigger	Effect	Reset
Discharge pipe thermistor detects a too high temperature.	Unit will NOT stop operating.	Automatic reset when temperature drops normal level.
	If the error re-occurs too soon: unit will stop operating.	Manual reset via user interface.

1 Troubleshooting

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 2 Perform a check of the 4-way valve. See ["2.1 4-way valve" on page 18](#).

Possible cause: Faulty 4-way valve.

- 3 Perform a check of the expansion valve. See ["2.3 Expansion valve" on page 23](#).

Possible cause: Faulty expansion valve.

- 4 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 5 Perform a check of all refrigerant thermistors. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty refrigerant thermistor(s).

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.14 F6-00 – Stop due to cooling high pressure

Trigger	Effect	Reset
Outdoor heat exchanger thermistor measures temperature >60°C~65°C	Unit will NOT stop operating.	Automatic reset when temperature drops below 50°C.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Clean the outdoor heat exchanger. See ["4 Maintenance" on page 48](#).

Possible cause: Dirty outdoor heat exchanger.

- 2 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 3 Perform a check of the heat exchanger thermistor. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty heat exchanger thermistor.

- 4 Perform a check of the expansion valve. See ["2.3 Expansion valve" on page 23](#).

Possible cause: Faulty expansion valve.

- 5 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 6 Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).

Possible cause: Faulty outdoor unit fan motor.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.15 F8-00 – System shutdown due to compressor internal temperature abnormality

Trigger	Effect	Reset
Temperature discharge pipe thermistor exceeds the determined limit.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 2 Perform a check of the discharge pipe thermistor. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty discharge pipe thermistor.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.16 H0-00 – Current sensor abnormality

Trigger	Effect	Reset
Compressor voltage (DC) is out of range before start-up.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 2 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 3 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.17 H3-00 – High pressure switch defect

Trigger	Effect	Reset
High pressure switch is activated when compressor is off.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the high pressure switch. See ["2.4 High pressure switch" on page 26](#).

Possible cause: Faulty high pressure switch.

- 2 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 3 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 4 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 5 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.18 H6-00 – Location detection sensor abnormality

Trigger	Effect	Reset
Compressor fails to start within 15 seconds after the compressor run command signal is sent.	Unit will NOT stop operating.	Automatic reset after a continuous operation of 10 minutes.
	If the error re-occurs within 8 minutes: unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).

Possible cause: Faulty compressor.

- 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 3 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 4 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 5 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.19 H8-00 – Compressor input abnormality

Trigger	Effect	Reset
DC voltage or current sensor abnormality based on the compressor running frequency and the input current.	Unit will NOT stop operating.	Automatic reset when compressor runs normally for 60 minutes.
	If the error re-occurs too soon: unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 2 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 3 Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).

Possible cause: Faulty compressor.

- 4 Perform a check of the reactor. See ["2.11 Reactor" on page 40](#).

1 Troubleshooting

Possible cause: Faulty reactor.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.20 H9-00 – Outdoor air thermistor abnormality

Trigger	Effect	Reset
Outdoor air thermistor input is out of range.	Unit will stop operating.	Manual reset via user interface.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the outdoor air thermistor. See ["2.13 Thermistors" on page 41.](#)

Possible cause: Faulty outdoor air thermistor.

- 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32.](#)

Possible cause: Faulty main PCB.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.21 J3-00 – Discharge pipe thermistor dislocation abnormality

Trigger	Effect	Reset
Discharge pipe thermistor input is out of range.	Unit will stop operating.	Manual reset via user interface.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the discharge pipe thermistor. See ["2.13 Thermistors" on page 41.](#)

Possible cause: Faulty discharge pipe thermistor.

- 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32.](#)

Possible cause: Faulty main PCB.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.22 J6-00 – Outdoor heat exchanger thermistor abnormality

Trigger	Effect	Reset
Outdoor heat exchanger thermistor input is out of range.	Unit will stop operating.	Manual reset via user interface.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the heat exchanger thermistor. See ["2.13 Thermistors" on page 41.](#)

Possible cause: Faulty heat exchanger thermistor.

- 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32.](#)

Possible cause: Faulty main PCB.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.23 L3-00 – Electrical component temperature abnormality

Trigger	Effect	Reset
Switch box temperature is too high.	Unit will stop operating.	Manual reset via remote controller.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31.](#)

Possible cause: Faulty power module = inverter PCB.

- 2 Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34.](#)

Possible cause: Faulty outdoor unit fan motor.

- 3 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44.](#)

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

- 4 Clean the outdoor heat exchanger. See ["4 Maintenance" on page 48.](#)

Possible cause: Dirty outdoor heat exchanger.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.24 L4-00 – Fin temperature increase abnormality

Trigger	Effect	Reset
Radiating fin thermistor measures a too high temperature.	Unit will stop operating.	Manual reset via user interface.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the outdoor unit fan motor. See ["2.9 Outdoor unit fan motor" on page 34](#).

Possible cause: Faulty outdoor unit fan motor.

- 2 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

- 3 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 4 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

- 5 Check that the silicon grease is applied properly on the radiation fin of the outdoor unit PCB. Adjust if needed.

Possible cause: Silicon grease NOT applied properly on the radiation fin.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.25 L5-00 – Output over current abnormality

Trigger	Effect	Reset
An output overcurrent is detected by checking the current that flows in the inverter DC section.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 2 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 3 Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).

Possible cause: Faulty compressor.

- 4 Check if the power supply is conform with the regulations. See ["3.1 Power supply" on page 44](#).

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.26 P4-00 – Fin thermistor abnormality

Trigger	Effect	Reset
Radiating fin thermistor input is out of range.	Unit will stop operating.	Manual reset via user interface.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of the inverter PCB. See ["2.7 Inverter PCB" on page 31](#).

Possible cause: Faulty power module = inverter PCB.

- 2 Perform a check of the main PCB. See ["2.8 Main PCB" on page 32](#).

Possible cause: Faulty main PCB.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.27 U0-00 – Shortage of refrigerant

Trigger	Effect	Reset
Refrigerant shortage detected.	Unit will stop operating.	Automatic reset. Power reset via outdoor unit.

To solve the error code

INFORMATION

It is recommended to perform the checks in the listed order.

- 1 Perform a check of all refrigerant thermistors. See ["2.13 Thermistors" on page 41](#).

Possible cause: Faulty refrigerant thermistor(s).

- 2 Perform a check of the refrigerant circuit. See ["3.2 Refrigerant circuit" on page 45](#).

Possible cause:

- Stop valve is closed,
- Clogged refrigerant circuit,
- Refrigerant circuit NOT charged correctly,
- Humidity in the refrigerant circuit,
- Non-condensables in the refrigerant circuit,
- Leaking refrigerant circuit.

- 3 Perform a check of the compressor. See ["2.2 Compressor" on page 20](#).

Possible cause: Faulty compressor.

- 4 Perform a check of the expansion valve. See ["2.3 Expansion valve" on page 23](#).

Possible cause: Faulty expansion valve.

INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1 Troubleshooting

1.5.28 U2-00 – Main circuit voltage abnormality

Trigger	Effect	Reset
Power supply abnormality or instant power failure is detected.	Unit will stop operating.	Power reset via outdoor unit.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.



INFORMATION

In case of preferential kWh rate, the indoor unit also needs a power reset.

- 1 Check if the power supply is conform with the regulations. See "[3.1 Power supply](#)" on page 44.
Possible cause:
 - Faulty or disturbance of the power supply (imbalance >10%),
 - Power drop,
 - Short circuit.
- 2 Perform a check of the compressor. See "[2.2 Compressor](#)" on page 20.
Possible cause: Faulty compressor.
- 3 Perform a check of the outdoor unit fan motor. See "[2.9 Outdoor unit fan motor](#)" on page 34.
Possible cause: Faulty outdoor unit fan motor.
- 4 Perform a check of the main PCB. See "[2.8 Main PCB](#)" on page 32.
Possible cause: Faulty main PCB.
- 5 Perform a check of the indoor unit PCB. See "[2.6 Indoor unit PCB](#)" on page 29.
Possible cause: Faulty indoor unit PCB.
- 6 Wait until the compressor restarts.
Possible cause:
 - Momentary drop of voltage,
 - Momentary power failure.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.29 U4-00 – Indoor/outdoor transmission abnormality

Trigger	Effect	Reset
Communication failure between outdoor and indoor unit.	Unit will stop operating.	Power reset via outdoor unit.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.



INFORMATION

In case of preferential kWh rate, the indoor unit also needs a power reset.

- 1 Check if the power supply is conform with the regulations. See "[3.1 Power supply](#)" on page 44.

Possible cause:

- Faulty or disturbance of the power supply (imbalance >10%),
- Power drop,
- Short circuit.

- 2 Perform a check of the power supply, connections, wiring,... between the outdoor unit and the indoor unit. See "[3.1 Power supply](#)" on page 44.

Possible cause: Faulty wiring between the outdoor unit and the indoor unit.

- 3 Perform a check of the main PCB. See "[2.8 Main PCB](#)" on page 32.

Possible cause: Faulty main PCB.

- 4 Perform a check of the outdoor unit fan motor. See "[2.9 Outdoor unit fan motor](#)" on page 34.

Possible cause: Faulty outdoor unit fan motor.

- 5 Perform a check of the indoor unit PCB. See "[2.6 Indoor unit PCB](#)" on page 29.

Possible cause: Faulty indoor unit PCB.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1.5.30 UA-00 – Indoor/outdoor combination abnormality

Trigger	Effect	Reset
Signal transmission between outdoor and indoor unit abnormality. Improper combination of outdoor and indoor unit.	Unit will stop operating.	Power reset via outdoor unit.

To solve the error code



INFORMATION

It is recommended to perform the checks in the listed order.



INFORMATION

In case of preferential kWh rate, the indoor unit also needs a power reset.

- 1 Check for improper combination of the indoor unit and the outdoor unit. See the combination table in the Databook for more information.

- 2 Perform a check of the power supply, connections, wiring,... between the outdoor unit and the indoor unit. See "[3.1 Power supply](#)" on page 44.

Possible cause: Faulty wiring between the outdoor unit and the indoor unit.

- 3 Perform a check of the main PCB. See "[2.8 Main PCB](#)" on page 32.

Possible cause: Faulty main PCB.

- 4 Perform a check of the indoor unit PCB. See "[2.6 Indoor unit PCB](#)" on page 29.

Possible cause: Faulty indoor unit PCB.



INFORMATION

If all procedures listed above have been performed and the problem is still present, contact the helpdesk.

1 Troubleshooting

1.6 Symptom based troubleshooting

1.6.1 Operation does not start

Check	Detail
When the operation lamp is off, there is a power failure. Check the power supply.	<ul style="list-style-type: none"> Is the power supply breaker ON? Do other electrical appliances work? Is the rated voltage ($\pm 10\%$) supplied? Check the insulation of the electric system.
Check the type of the indoor unit.	Is the indoor unit type compatible with the outdoor unit?
Check the transmission between indoor and outdoor.	Connection wires.
Check the outdoor temperature.	<ul style="list-style-type: none"> Heating operation cannot be used when the outdoor temperature is 18°C WB or higher. Cooling operation cannot be used when the outdoor temperature is below -10°C DB.
When the operation lamp blinks, there may be an error code, activating the protection device. Diagnose with remote controller indication.	See "1.5 Error based troubleshooting" on page 4.
Check the remote controller addresses.	Are the address settings for the remote controller and indoor unit correct?
Check the operation circuit.	<ul style="list-style-type: none"> Is the thermal fuse blown. Are wire size and wire connections OK?.
Check fan motor.	<ul style="list-style-type: none"> Is the magnetic switch defective? Is the overcurrent relay defective?
Check compressor.	<ul style="list-style-type: none"> Is the contact defective? Is the protection thermostat defective? Is the compressor itself defective?
Check remote controller.	<ul style="list-style-type: none"> Are the batteries LOW? Are there incorrect settings?

1.6.2 Operation sometimes stops

Check	Detail
When the operation lamp is off, there is a power failure. Check the power supply.	A power failure of 2 to 10 cycles stops air conditioner operation.
Check the outdoor temperature.	<ul style="list-style-type: none"> Heating operation cannot be used when the outdoor temperature is 18°C WB or higher. Cooling operation cannot be used when the outdoor temperature is below -10°C DB.

Check	Detail
When the operation lamp blinks, there may be an error code, activating the protection device. Diagnose with remote controller indication.	See "1.5 Error based troubleshooting" on page 4.

1.6.3 Operation starts but the unit does not cool/heat

Check	Detail
Check the electrical power supply.	Is the rated voltage ($\pm 10\%$) supplied?
Check for piping and wiring errors in the connection between the indoor unit and outdoor unit.	<ul style="list-style-type: none"> Refrigerant piping is too long; is the length within specified range? Field piping is defective; is there a refrigerant leakage? Is there capacity loss over the condensor, saturation pressure or sound because of air mixed in to the circuit? Incorrect size of connection wiring.
When the operation lamp blinks, there may be a thermistor detection error code, activating the protection device.	<ul style="list-style-type: none"> Check the resistance of all thermistors. Check the connection of all thermistors. Is there a malfunction in the room temperature thermistor or outdoor temperature thermistor?
Check for faulty operation of the electronic expansion valve.	Set the unit to cooling operation, and check the temperature of the liquid pipe to see if the electronic expansion valve works.
Diagnose by service port pressure and operating current.	Check for refrigerant shortage.
Check if the set temperature is appropriate.	thermostat "off" can be activated, set the appropriate temperature.
Check the type of the indoor and outdoor units.	Is the indoor unit type compatible with the outdoor unit?
Check the air filter.	Is the air filter clean?
Check the installation conditions (specified in the installation manual).	<ul style="list-style-type: none"> Does the installed model has sufficient capacity? Is there a short circuit air flow caused by insufficient installation space?
Check the outdoor temperature.	<ul style="list-style-type: none"> Heating operation cannot be used when the outdoor temperature is 18°C WB or higher. Cooling operation cannot be used when the outdoor temperature is below -10°C DB.

1.6.4 Operating noise and vibrations

Check	Detail
Check the installation conditions (specified in the installation manual).	<ul style="list-style-type: none"> Use general vibration prevention where needed. If the mounting wall is too thin, you must use cushion material or rubber, or change the installation place. Refrigerant piping is too short; is the length within specified range? Due to bad installation or general conditions there may be deformation of the unit. Are all the screws installed and tightened properly? Is all piping secured, fixed and supported by inserting a cushion material where needed? Install piping weights or correct by hand if any piping is in contact with other parts. Is the fan in contact with other parts? If so separate the fan from the other parts.
Check refrigerant charge.	<ul style="list-style-type: none"> Is the unit filled with the specified refrigerant volume? Is there a flushing noise, due to refrigerant shortage? Is there air in the system?
Check the expansion valve.	If a passing sound is heard from the pressure reducing valve, apply sound insulation sheets of putty to reduce the valve noise.

1.6.5 Abnormal high pressure

In cooling mode

Check item	Detail
Does the outdoor unit fan run normally?	Visual inspection
Is the outdoor unit heat exchanger clogged?	Visual inspection
Is there clogging before or after the expansion valve (capillary)?	<ul style="list-style-type: none"> Check if there is a temperature difference before and after expansion valve (capillary). Check if the main valve unit of expansion valve operates (by noise, vibration).
Is the High Pressure Switch normal?	Check continuity by using a tester.
Is the outdoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is the piping length ≤ 5 m?	Visual inspection
Does air enter the refrigerant system?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.
Is the refrigerant overcharged?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

In cooling mode

Check item	Detail
Does the indoor unit fan run normally?	Visual inspection
Is the indoor unit heat exchanger clogged?	Visual inspection
Is the indoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is there clogging before or after the expansion valve (capillary)?	<ul style="list-style-type: none"> Check if there is a temperature difference before and after expansion valve (capillary). Check if the main valve unit of expansion valve operates (by noise, vibration).
Is the High Pressure Switch normal?	Check continuity by using a tester.
Is the minimum piping length respected?	Visual inspection
Does air enter the refrigerant system?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.
Is the refrigerant overcharged?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

1.6.6 Abnormal low pressure

Abnormally low pressure level is mostly caused by the evaporator side. The following contents are provided based on field checking of service engineer. Further, the number is listed in the order of degree of influence.

In cooling mode

Check item	Detail
Does the outdoor unit fan run normally?	Visual inspection
Is the indoor unit heat exchanger clogged?	Visual inspection
Is there clogging before or after the expansion valve (capillary)?	<ul style="list-style-type: none"> Check if there is a temperature difference before and after expansion valve (capillary). Check if the main valve unit of expansion valve operates (by noise, vibration).
Is the check valve clogged?	Check if there is a temperature difference before and after check valve. If YES, the check valve is caught.
Is the indoor unit installed under such conditions that short circuit easily occurs?	Visual inspection
Is the refrigerant gas short?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

In cooling mode

Check item	Detail
Does the outdoor unit fan run normally?	Visual inspection
Is the outdoor unit heat exchanger clogged?	Visual inspection
Is the outdoor unit installed under such conditions that short circuit easily occurs?	Visual inspection

1 Troubleshooting

Check item	Detail
Is there clogging before or after the expansion valve (capillary)?	<ul style="list-style-type: none"> Check if there is a temperature difference before and after expansion valve (capillary). Check if the main valve unit of expansion valve operates (by noise, vibration).
Is the check valve clogged?	after check valve. If YES, the check valve is caught.
Is the refrigerant gas short?	Conduct refrigerant collection and vacuum drying, and then add proper amount refrigerant.

1.6.7 Indoor fan starts operating but the compressor does not operate

Check	Detail
Check the power supply.	<ul style="list-style-type: none"> Is the rated voltage ($\pm 10\%$) supplied? Check the insulation of the electric system.
Check the thermistor.	<ul style="list-style-type: none"> Connection witch PCB. Output.
Check PCB's.	<ul style="list-style-type: none"> if green led on the control PCB is not blinking, then the microprocessor is not working. if the green led on the main PCB is not blinking, then the microprocessor is not working. if first green LED on the service monitor PCB is not blinking, then the microprocessor is not working.
Check the magnetic switch.	
Check the power transistor.	
Check the compressor.	<ul style="list-style-type: none"> Defective contact. Defective compressor. Defective protection thermostat.
Check the outdoor temperature.	<ul style="list-style-type: none"> Heating operation cannot be used when the outdoor temperature is 18°C WB or higher. Cooling operation cannot be used when the outdoor temperature is below -10°C DB.

1.6.8 Operation starts and the unit stops immediately

Check	Detail
Check the power supply.	<ul style="list-style-type: none"> Is the capacity of the safety breaker as specified? If the earth leakage breaker is too sensitive, then increase the set value of the earth leakage current of the breaker or replace the breaker. Is the circuit exclusive? Is the rated voltage ($\pm 10\%$) supplied? Is there an incorrect size of connection wiring?
Check the refrigerant charge.	<ul style="list-style-type: none"> Overcharge. Air in the system. Water in the system.
Check the fan motor.	<ul style="list-style-type: none"> Check the magnetic switch. Check the overcurrent relay.
Check the four way valve coil.	<ul style="list-style-type: none"> Is there a short circuit? Is the four way valve coil broken?
Check the outdoor PCB.	<ul style="list-style-type: none"> Is there a short circuit? Is the outdoor PCB broken?
Check the heat exchanger.	Soiled heat exchanger, obstruction.
Check the airflow.	Soiled air filter, obstruction, installation space.

1.6.9 Operation stops, unit cannot start for a while

Check	Detail
Check if standby function is activated.	<ul style="list-style-type: none"> Compressor delay timer is counting. Wait for minimum 3 minutes.
Check the power supply.	<ul style="list-style-type: none"> Low voltage? Is the size of the power cable sufficient?
Check the refrigerant charge.	<ul style="list-style-type: none"> Incorrect charge. Air in the system. Water in the system. Obstruction in the system.
Check compressor.	<ul style="list-style-type: none"> Overcurrent relay. Protection thermostat.

1.6.10 Unit discharges white mist

Check	Detail
Check installation conditions.	<ul style="list-style-type: none"> Humid site. Dirty site. Oil mist.
Check installation conditions.	Dirty heat exchanger.
Air filter.	Dirty air filter.
Fan motor.	Defective fan motor.

1.6.11 Swing flap does not operate

Symptom	Check	Detail
Swing flap does not operate	Check swing flap motor	Some functions can force the swing flap into a fixed position, although swing mode is selected on the remote controller. This is not a unit error, but a control function to prevent draft to the customer.
	Check indoor unit PCB	Connector connection

2 Components

2 Components

2.1 4-way valve

2.1.1 Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the 4-way valve

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Disconnect the 4-way valve connector from the main PCB.
- 2 Turn ON the power of the unit.



INFORMATION

Default position of the 4-way valve is Heating mode.

- 3 Activate Heating operation via the user interface.

Water temperature after plate type heat exchanger of the indoor unit:	Action
Drops	4-way valve is stuck in cooling position. Replace the 4-way valve body, see "2.1.2 Repair procedures" on page 19.
Rises	Skip the next step of this procedure.
Does NOT rise/drop	Perform the next step of this procedure.

- 4 Connect a manifold to one of the service ports of the refrigerant circuit and check the pressure.

Refrigerant pressure measured?	Action
Yes	Perform a position check of the 4-way valve, see "2.1.1 Checking procedures" on page 18.
No	Leaks may be found in the refrigerant circuit. Perform a pressure test of the refrigerant circuit, see "3.2.1 Checking procedures" on page 45.



CAUTION

To prevent damage due to liquid entering the compressor, the steps below MUST ONLY be executed once.



CAUTION

Make sure you have a pressure difference of at least 6 bar between the high and low pressure when performing this test.

- 5 Place a round permanent magnet on the core of the solenoid valve and listen to the 4-way valve.

Does the 4-way valve switch?	Action
Yes	Perform an electrical check of the 4-way valve, see "2.1.1 Checking procedures" on page 18.

Does the 4-way valve switch?	Action
No	Replace the 4-way valve body, see "2.1.2 Repair procedures" on page 19.

To perform an electrical check of the 4-way valve

- 1 First perform a mechanical check of the 4-way valve, see "2.1.1 Checking procedures" on page 18.
- 2 Activate Cooling operation via the user interface.
- 3 Measure the voltage on the 4-way valve connector pins 1-3. The measured voltage MUST be 220~240 V AC during switching and 12 V DC after switching of the 4-way valve.

Is the measured voltage correct?	Action
Yes	Skip the next step of this procedure.
No	Perform the next step of this procedure.

- 4 Disconnect the 4-way valve connector from the main PCB and measure the voltage on the connector pins 1-3 of the connector on the main PCB. The voltage MUST be 220~240 V AC during switching and 12 V DC after switching.

Is the measured voltage on the 4-way valve connector of the main PCB correct?	Action
Yes	Replace the 4-way valve coil, see "2.1.2 Repair procedures" on page 19.
No	Replace the main PCB, see "2.8 Main PCB" on page 32.

- 5 Disconnect the 4-way valve connector from the main PCB and measure the resistance of the 4-way valve coil. The resistance MUST be 1000~2000 Ω.

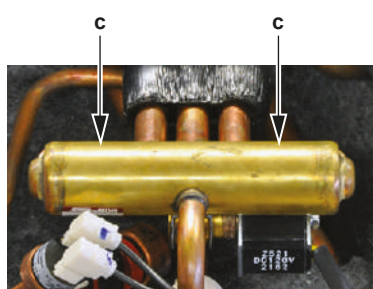
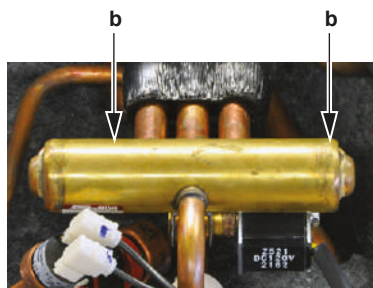
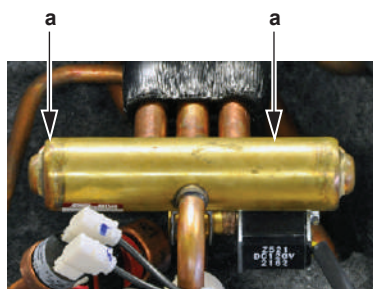
Is the measured resistance correct?	Action
Yes	Perform the next step of this procedure.
No	Replace the 4-way valve coil, see "2.1.2 Repair procedures" on page 19.

- 6 De-activate Cooling and activate Heating operation via the user interface.
- 7 Measure the temperature after the plate type heat exchanger.

Does the measured temperature rise?	Action
Yes	Perform a position check of the 4-way valve, see "2.1.1 Checking procedures" on page 18.
No	Replace the main PCB, see "2.8 Main PCB" on page 32.

To perform a position check of the 4-way valve

- 1 First perform a mechanical check of the 4-way valve, see "2.1.1 Checking procedures" on page 18.
- 2 Slide a magnet over the front and rear side of the 4-way valve body. The magnet MUST be attracted in the positions a or b, but NOT in positions c.



- a Magnet attracted
- b Magnet attracted
- c Magnet NOT attracted

Magnet is attracted in the correct positions of the 4-way valve?	Action
Yes	The 4-way valve is OK. Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the 4-way valve body, see "2.1.2 Repair procedures" on page 19.

2.1.2 Repair procedures

To remove the 4-way valve coil

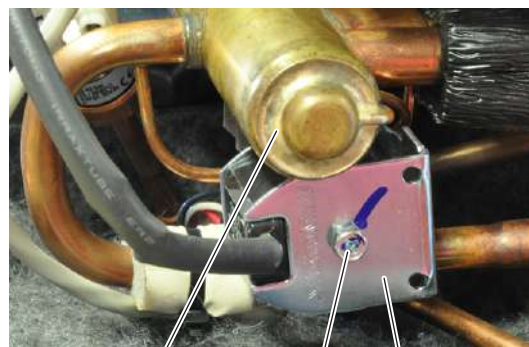
Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

Prerequisite: If needed, remove any parts to create more space for the removal of the 4-way valve coil.

- 1 Remove the screw and remove the 4-way valve coil from the 4-way valve body.



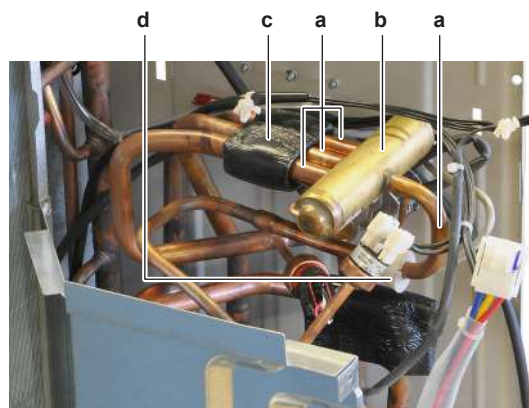
- a Screw
- b 4-way valve coil
- c 4-way valve body

- 2 Cut all tie straps that fix the 4-way valve coil harness.
- 3 Disconnect the 4-way valve coil connector from the main PCB.
- 4 To install the 4-way valve coil, see "2.1.2 Repair procedures" on page 19.

To remove the 4-way valve body

Prerequisite: Recuperate the refrigerant from the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

- 1 Remove the 4-way valve coil from the 4-way valve body, see "2.1.2 Repair procedures" on page 19.
- 2 Cut the 4-way valve pipes using a pipe cutter.



- a 4-way valve pipe
- b 4-way valve
- c Putty
- d Insulation

- 3 Remove the 4-way valve.
- 4 Keep the putty and the insulation for re-use.
- 5 To install the 4-way valve body, see "2.1.2 Repair procedures" on page 19.

To install the 4-way valve body

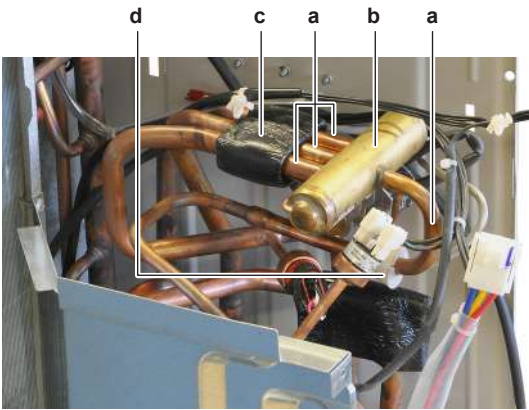
- 1 Install the 4-way valve in the correct location.
- 2 Wrap a wet rag around the 4-way valve and solder the 4-way valve pipes to the 4-way valve.



CAUTION

Overheating the valve will damage or destroy it.

2 Components

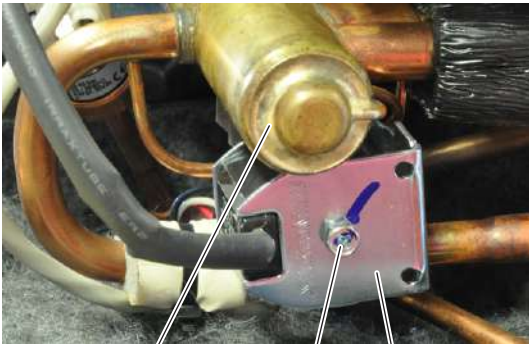


- a 4-way valve pipe
- b 4-way valve
- c Putty
- d Insulation

- 3 Install the putty and the insulation in their original location.
- 4 Install the 4-way valve coil on the 4-way valve body, see "2.1.2 Repair procedures" on page 19.
- 5 Add refrigerant to the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

To install the 4-way valve coil

- 1 Install the 4-way valve coil on the 4-way valve body.



- a Screw
- b 4-way valve coil
- c 4-way valve body

- 2 Install and tighten the screw to fix the 4-way valve coil.
- 3 Route the 4-way valve coil harness towards the main PCB.
- 4 Connect the 4-way valve coil connector to the main PCB.



WARNING

When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

- 5 Fix the 4-way valve coil harness using new tie straps.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.2 Compressor

2.2.1 Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the compressor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Open the compressor insulation.
- 2 Check the compressor dampers and piping for any damage.



a Damper



INFORMATION

The compressor dampers may look different.

Compressor dampers and piping are in a good condition?	Action
Yes	Perform an electrical check of the compressor, see "2.2.1 Checking procedures" on page 20.
No	Replace the compressor, see "2.2.2 Repair procedures" on page 22.

To perform an electrical check of the compressor

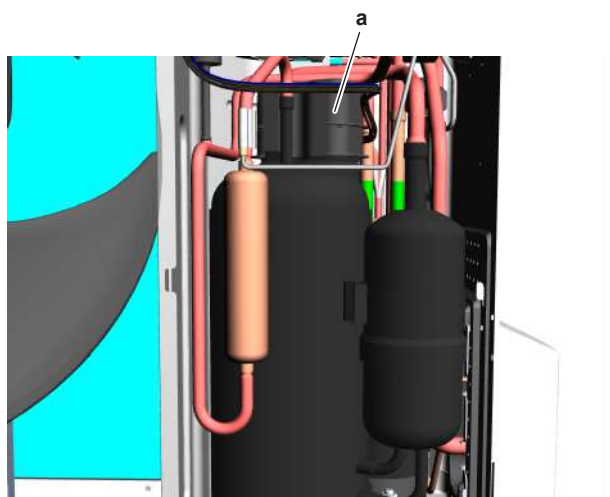
- 1 First perform a mechanical check of the compressor, see "2.2.1 Checking procedures" on page 20.
- 2 Open the compressor insulation.



WARNING

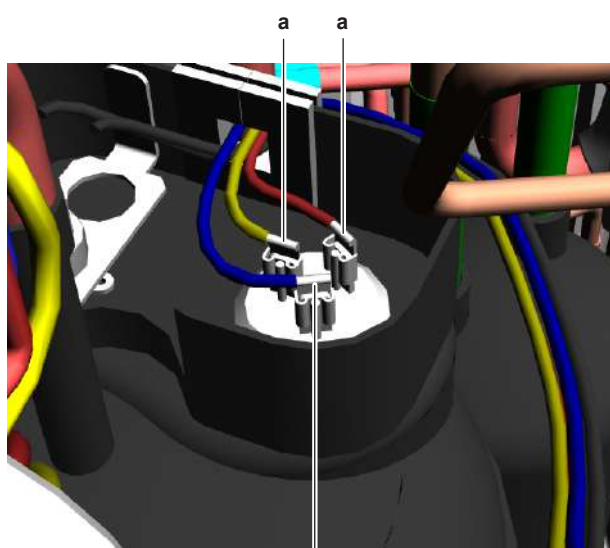
The smoothing capacitor MUST discharge below 10 V DC before disconnecting the Faston connectors from the compressor wiring terminals. Risk of electrocution.

- 3 Remove the cover of the compressor wire terminals.



a Compressor wire terminals cover

- 4 Disconnect the Faston connectors from the compressor wire terminals U, V and W.



a Faston connectors

i INFORMATION

Note the position of the Faston connectors on the compressor wire terminals to allow correct connection during installation.

- 5 Measure the resistance between the compressor motor windings U-V, V-W and U-W. All measurements MUST be the same.
- 6 Re-connect the Faston connectors and run the compressor.
- 7 Measure the current in each phase U-V, V-W and U-W. All measurements MUST be the same.

Compressor motor winding measurements are correct?	Action
Yes	Perform an insulation check of the compressor, see "2.2.1 Checking procedures" on page 20.
No	Replace the compressor, see "2.2.2 Repair procedures" on page 22.

To perform an insulation check of the compressor

Prerequisite: First perform an electrical check of the compressor, see ["2.2.1 Checking procedures" on page 20.](#)

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35.](#)

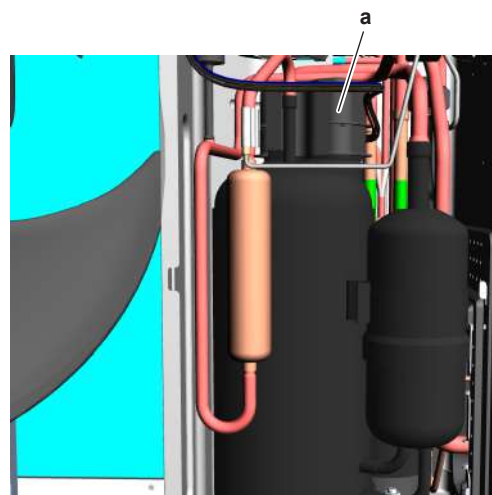
- 1 Open the compressor insulation.



WARNING

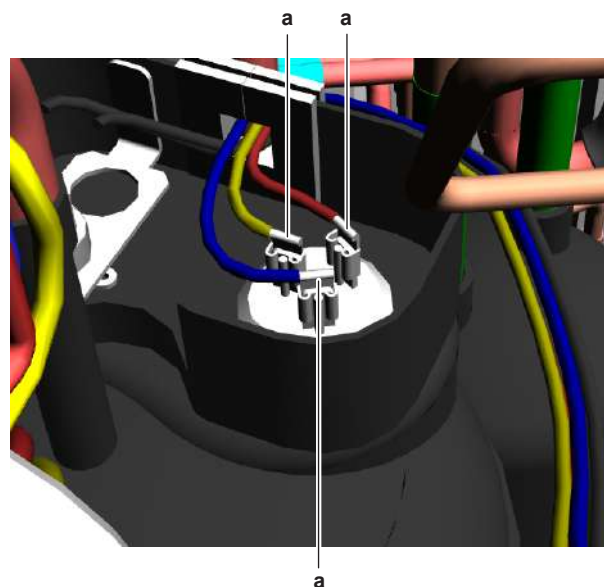
The smoothing capacitor MUST discharge below 10 V DC before disconnecting the Faston connectors from the compressor wiring terminals. Risk of electrocution.

- 2 Remove the cover of the compressor wire terminals.



a Compressor wire terminals cover

- 3 Disconnect the Faston connectors from the compressor wire terminals U, V and W.



a Faston connectors



INFORMATION

Note the position of the Faston connectors on the compressor wire terminals to allow correct connection during installation.

- 4 Set the Megger voltage to 500 V DC or 1000 V DC.
- 5 Connect the Megger ground test lead directly to the compressor ground wire.

2 Components

CAUTION

Do NOT connect the Megger ground test lead to any other ground wire.

6 Measure the insulation resistance between the following terminals. The measured insulation resistance MUST be >3 MΩ.

- U-ground,
- V-ground,
- W-ground.

Compressor insulation measurements are correct?	Action
Yes	Perform a check of the compressor overload protection, see "2.2.1 Checking procedures" on page 20..
No	Replace the compressor, see "2.2.2 Repair procedures" on page 22.

2.2.2 Repair procedures

To remove the compressor

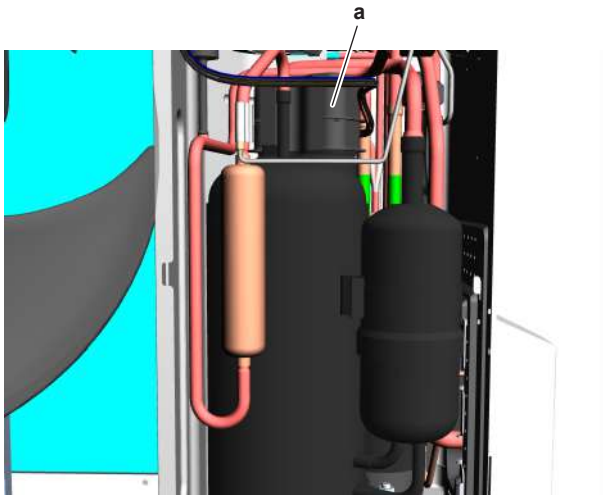
Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

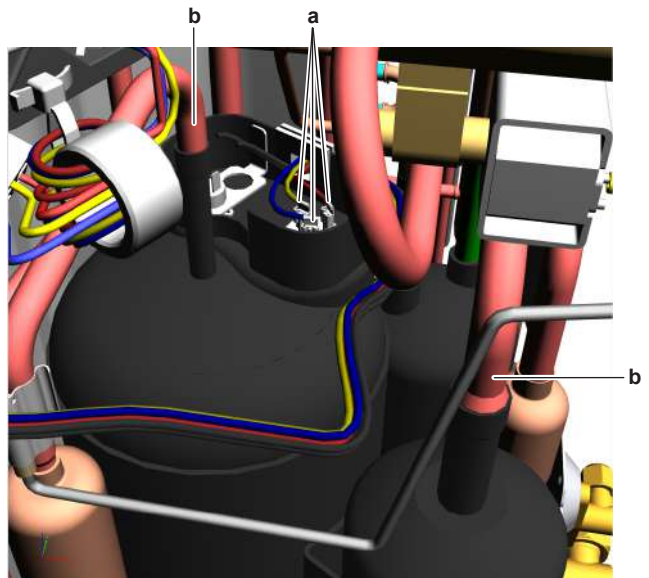
Prerequisite: Recuperate the refrigerant from the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

- 1 If needed, remove any parts to create more space for the removal of the compressor.
- 2 Remove the cover of the compressor wire terminals.



a Compressor wire terminals cover

- 3 Disconnect the Faston connectors from the compressor wire terminals U, V and W.

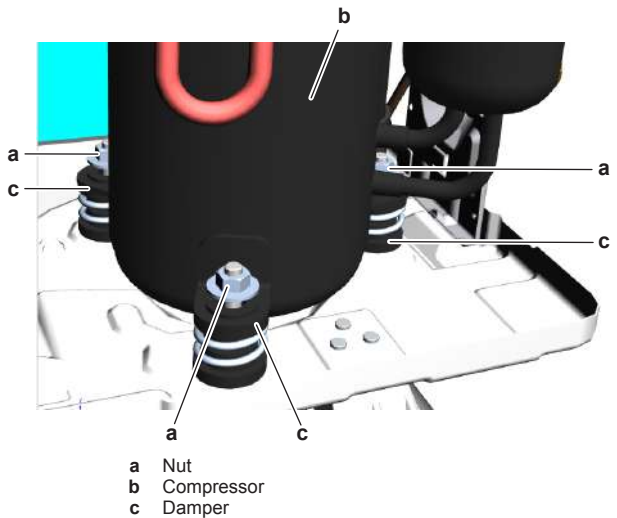


a Faston connectors
c Compressor pipe

INFORMATION

Note the position of the Faston connectors on the compressor wire terminals to allow correct connection during installation.

- 4 Cut the compressor pipes (below the soldered joint) using a pipe cutter.
- 5 Remove the 3 nuts and remove the compressor from the unit.



a Nut
b Compressor
c Damper

- 6 Remove the 3 dampers and springs from the compressor.

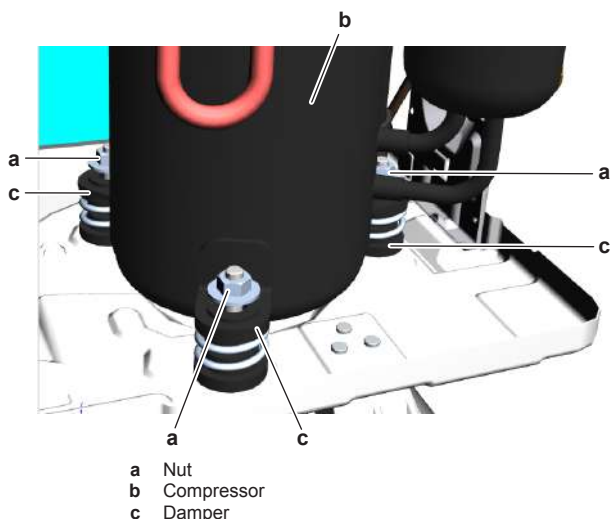
INFORMATION

The compressor dampers may look different.

- 7 Remove the bushings and keep them for re-use.
- 8 Keep the putty for re-use.
- 9 To install the compressor, see "2.2.2 Repair procedures" on page 22.

To install the compressor

- 1 Check the state of the dampers. Replace if worn.
- 2 Install the 3 dampers and springs in the correct location on the outdoor unit.



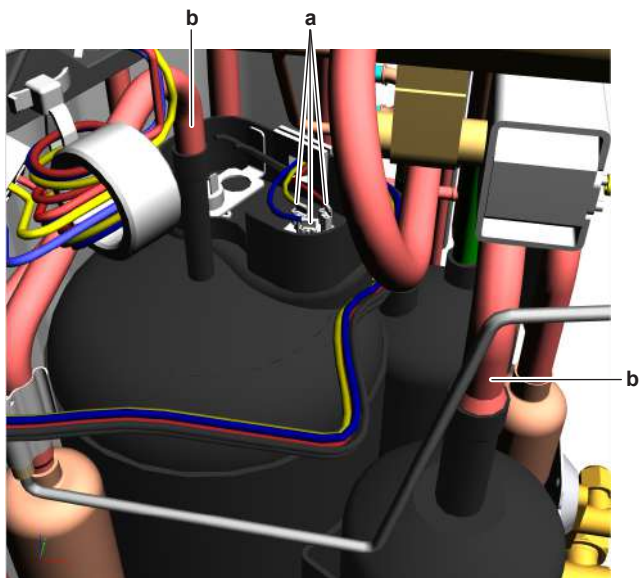
3 Remove the caps from the compression pipe and suction pipe.



CAUTION

The oil in the compressor is hygroscopic. Therefore remove the caps from the compressor pipes as late as possible.

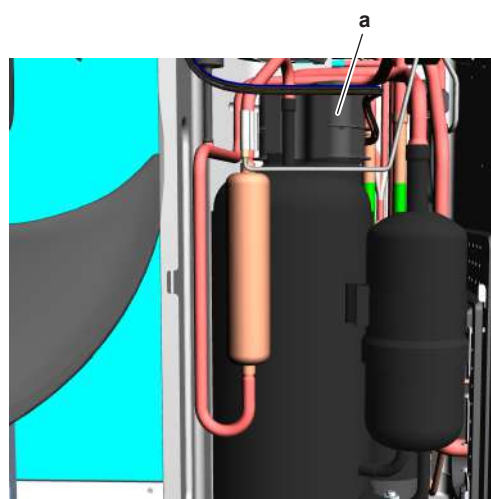
4 Wrap a wet rag around the compressor pipes and solder the compressor pipes to the refrigerant pipes.



CAUTION

Overheating the compressor pipes (and the oil inside the compressor pipes) will damage or destroy the compressor.

- 5 Install the putty in the correct location.
- 6 Connect the Faston connectors to the compressor wire terminals U, V and W
- 7 Install the cover of the compressor wire terminals.



8 Add refrigerant to the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.3 Expansion valve

2.3.1 Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the expansion valve

Prerequisite: Power OFF the unit for 3 minutes. Then turn ON the unit and listen to the expansion valve assembly. If the expansion valve does NOT make a latching sound, continue with the electrical check of the expansion valve, see "2.3.1 Checking procedures" on page 23.

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Remove the expansion valve motor from the expansion valve body, see "2.3.2 Repair procedures" on page 24.
- 2 Slide the magnet (tool part number 9950038) over the expansion valve body and gently rotate the magnet clockwise/ counterclockwise to manually close/open the expansion valve body.

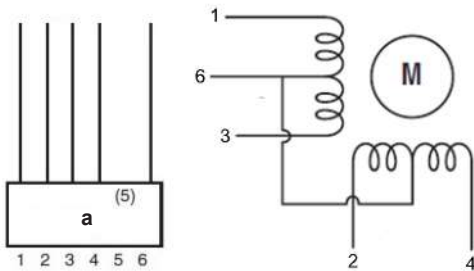
Does the expansion valve body open?	Action
Yes	Perform an electrical check of the expansion valve, see "2.3.1 Checking procedures" on page 23.
No	Replace the expansion valve body, see "2.3.2 Repair procedures" on page 24.

2 Components

To perform an electrical check of the expansion valve

Prerequisite: First perform a mechanical check of the expansion valve, see "2.3.1 Checking procedures" on page 23.

- 1 Make sure that the electrical connector of the expansion valve motor is correctly connected to the main PCB.
- 2 Disconnect the electrical connector of the expansion valve motor from the main PCB and measure the continuity between the following pins (windings) using a multi meter. All measurements MUST be approximately the same.
 - Connector pin 1-6,
 - Connector pin 2-6,
 - Connector pin 3-6,
 - Connector pin 4-6.



a Connector S20

1 or more windings have no continuity?	Action
Yes	Replace the expansion valve motor, "2.3.2 Repair procedures" on page 24.
No	Component is OK. Return to the troubleshooting of the specific error and continue with the next step.

Problem solved?

After all checking procedures listed above have been performed:

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.3.2 Repair procedures

To remove the expansion valve motor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

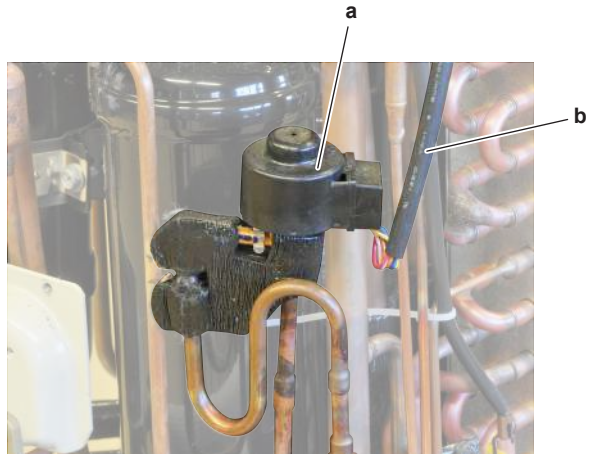
Prerequisite: If needed, remove any parts to create more space for the removal.

- 1 Pull up the expansion valve motor to remove it from the expansion valve body.

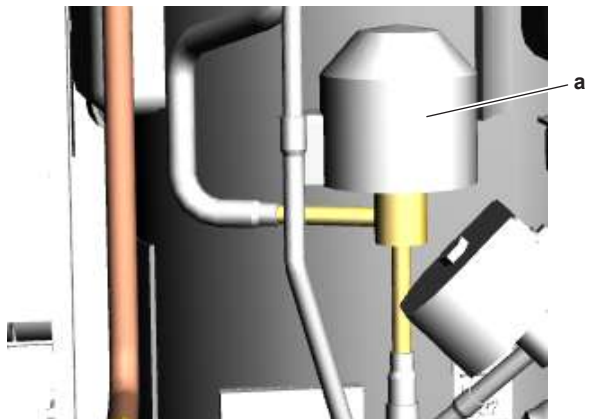


INFORMATION

It may be needed to turn the expansion valve motor 1/8 turn counter clockwise to unlock it.



a Expansion valve motor
b Expansion valve motor harness



a Expansion valve motor



INFORMATION

The expansion valve and motor can have a different configuration / layout.

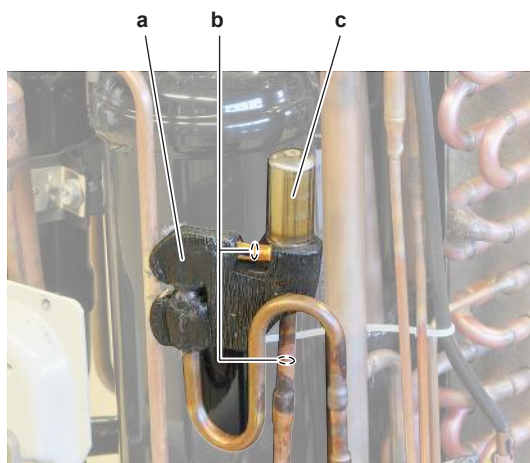
- 2 Cut all tie straps that fix the expansion valve motor harness.
- 3 Disconnect the expansion valve motor connector from the main PCB.
- 4 To install the expansion valve motor, see "2.3.2 Repair procedures" on page 24.

To remove the expansion valve body

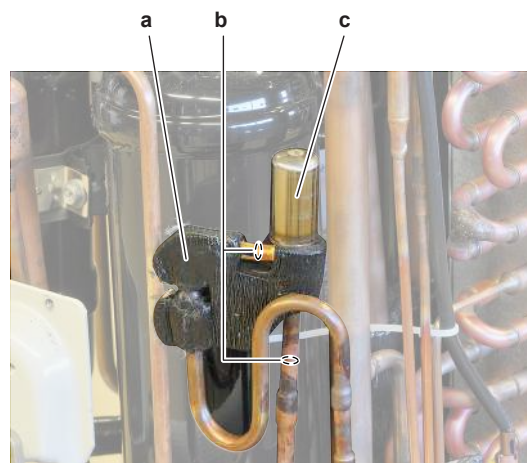
Prerequisite: Recuperate the refrigerant from the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

Prerequisite: If needed, remove any parts to create more space for the removal.

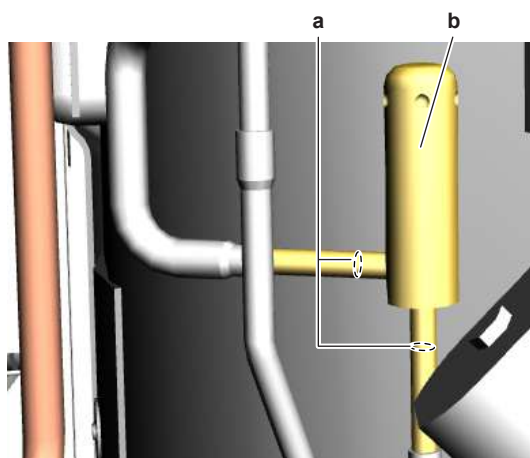
- 1 Remove the expansion valve motor, see "2.3.2 Repair procedures" on page 24.
- 2 Remove the putty. Keep for re-use.



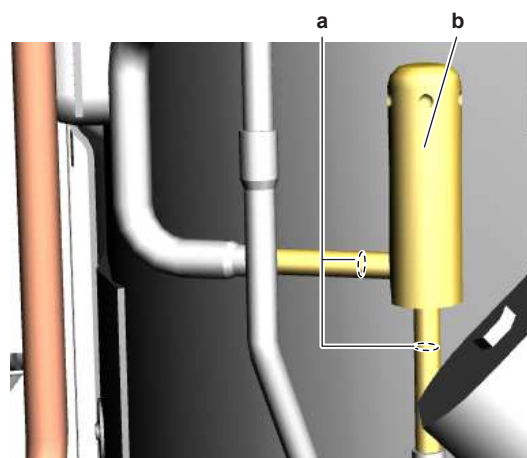
a Putty
b Expansion valve pipe
c Expansion valve body



a Putty
b Expansion valve pipe
c Expansion valve body



a Expansion valve pipe
b Expansion valve body



a Expansion valve pipe
b Expansion valve body

i INFORMATION

The expansion valve and motor can have a different configuration / layout.

- 3 Cut the expansion valve pipes using a pipe cutter.
- 4 Remove the expansion valve body.
- 5 To install the expansion valve body, see ["2.3.2 Repair procedures" on page 24](#).

To install the expansion valve body

- 1 Install the expansion valve body in the correct location.
- 2 Wrap a wet rag around the expansion valve body and solder the refrigerant pipes to the expansion valve body.

! CAUTION

Overheating the valve will damage or destroy it.

i INFORMATION

The expansion valve and motor can have a different configuration / layout.

- 3 Reinstall the putty.
- 4 To install the expansion valve motor, see ["2.3.2 Repair procedures" on page 24](#).
- 5 Add refrigerant to the refrigerant circuit, see ["3.2.2 Repair procedures" on page 46](#).

About the installation of the expansion valve motor

! NOTICE

Select the correct type.

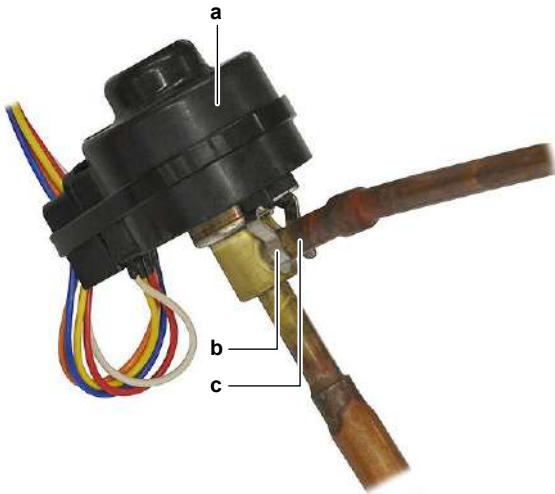
To install the expansion valve motor with clip

- 1 Install the expansion valve motor on the expansion valve body.

i INFORMATION

The expansion valve motor is equipped with a pipe retention clip. Install the pipe retention clip over the pipe to lock the expansion valve motor.

2 Components



- a Expansion valve motor
- b Pipe retention clip
- c Pipe

- 2 Route the expansion valve motor harness towards the main PCB.
- 3 Connect the expansion valve motor connector to the main PCB.



WARNING

When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

- 4 Fix the expansion valve motor harness using new tie straps.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.3.1 Checking procedures" on page 23 of the expansion valve and continue with the next procedure.

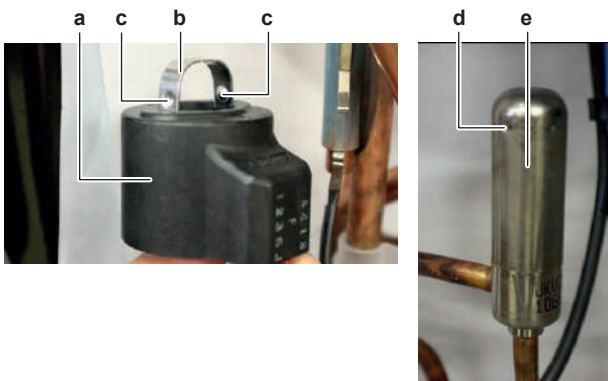
To install the expansion valve motor with bracket

- 1 Install the expansion valve motor on the expansion valve body.



INFORMATION

The expansion valve motor is equipped with a metal bracket. Fit the nipples of the metal bracket into the notches of the expansion valve body.



- a Expansion valve motor
- b Metal bracket
- c Nipple
- d Notch
- e Expansion valve body

- 2 Route the expansion valve motor harness towards the main PCB.
- 3 Connect the expansion valve motor connector to the main PCB.



WARNING

When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

- 4 Fix the expansion valve motor harness using new tie straps.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.3.1 Checking procedures" on page 23 of the expansion valve and continue with the next procedure.

2.4 High pressure switch

2.4.1 Checking procedures

To perform an electrical check of the high pressure switch

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Disconnect the high pressure switch connector from the PCB.
- 2 Recuperate the refrigerant from the refrigerant circuit, see ["3.2.2 Repair procedures" on page 46](#).
- 3 Fill the refrigerant circuit with nitrogen until pressurized at 41.5 bar.
- 4 Measure contacts between the pins 1-2 of the high pressure switch connector. The switch MUST be open.
- 5 Lower the pressure of the nitrogen in the refrigerant circuit to 32 bar.
- 6 Measure again contacts between the pins 1-2 of the high pressure switch connector. The switch MUST be closed.

Both high pressure switch connector measurements are correct?	Then
Yes	High pressure switch is OK. Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the high pressure switch, see "2.4.2 Repair procedures" on page 26 .

2.4.2 Repair procedures

To remove the high pressure switch

Prerequisite: Turn OFF the unit via the user interface.

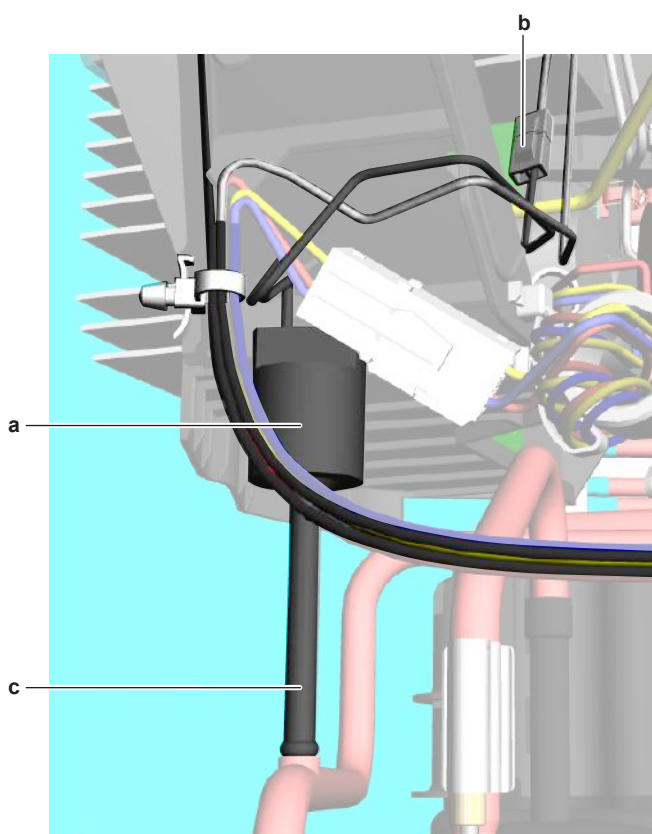
Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

Prerequisite: Recuperate the refrigerant from the refrigerant circuit, see ["3.2.2 Repair procedures" on page 46](#).

Prerequisite: If needed, remove any parts to create more space for the removal of the high pressure switch.

- 1 Disconnect the connector from the high pressure switch.

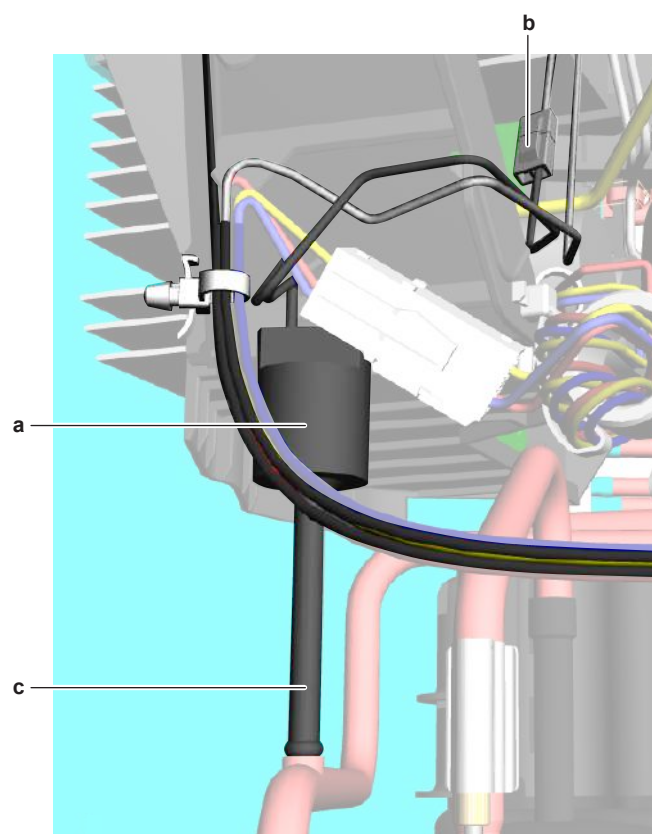


a High pressure switch
b Connector
c High pressure switch pipe

- 2 Cut the high pressure switch pipe using a pipe cutter.
- 3 Remove the high pressure switch from the unit.
- 4 To install the high pressure switch, see ["2.4.2 Repair procedures" on page 26.](#)

To install the high pressure switch

- 1 Install the high pressure switch in the correct location.
- 2 Wrap a wet rag around the high pressure switch and solder the high pressure switch pipe to the high pressure switch.



a High pressure switch
b Connector
c High pressure switch pipe



CAUTION

Overheating the pressure switch will damage or destroy it.

- 3 Connect the connector to the high pressure switch.
- 4 Add refrigerant to the refrigerant circuit, see ["3.2.2 Repair procedures" on page 46.](#)

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.5 Indoor unit fan motor

2.5.1 Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the DC fan motor assembly

- 1 Check the friction of the DC fan motor shaft bearing.

Is the DC fan motor shaft friction normal?	Action
Yes	Perform an electrical check of the DC fan motor assembly, see "2.5.1 Checking procedures" on page 27.
No	Replace the DC fan motor assembly, see "2.5.2 Repair procedures" on page 28.

2 Components

To perform an electrical check of the DC fan motor assembly

- 1 First perform a mechanical check of the DC fan motor assembly, see ["2.5.1 Checking procedures" on page 27](#).
- 2 Measure the resistance between the pins 1-2, 1-3, and 2-3 of the DC fan motor connector. All measurements MUST be 15~20 Ω.

DC fan motor resistance measurements are correct?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the DC fan motor, see "2.5.2 Repair procedures" on page 28 .

2.5.2 Repair procedures

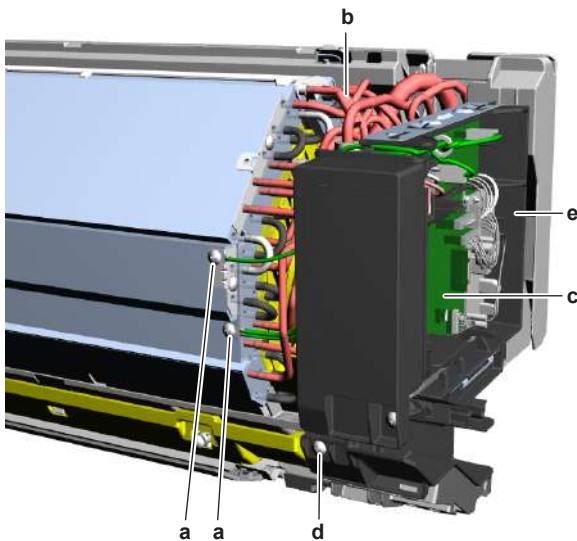
To remove the DC fan motor assembly

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

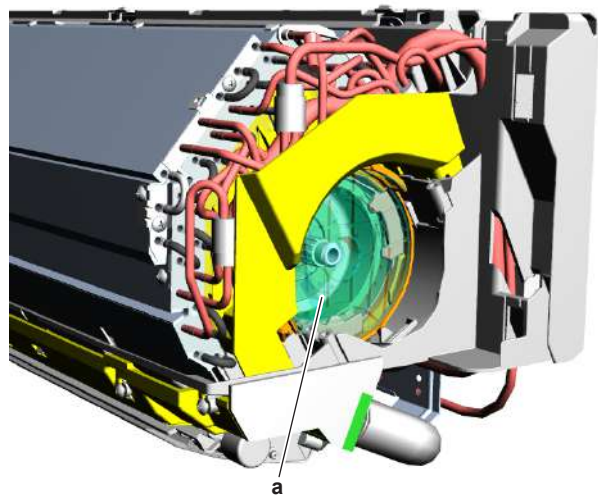
Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Pull the clip and remove the heat exchanger thermistor from its holder.
- 2 Remove the screws to disconnect the grounding wires from the heat exchanger.



- a Grounding wire screw
- b Heat exchanger thermistor
- c Indoor unit PCB
- d Switch box screw
- e Switch box

- 3 Disconnect the connectors of the indoor unit fan motor and the swing flap motor from the indoor unit PCB.
- 4 Remove the screw and remove the switch box from the indoor unit.
- 5 Click the indoor unit fan motor cover out of the indoor unit.

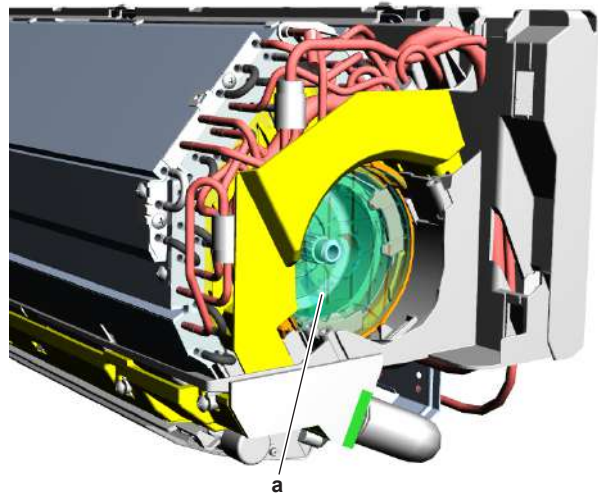


a Indoor unit fan motor cover

- 6 Remove the rubber from the indoor unit.
- 7 Remove the indoor unit fan motor from the indoor unit.
- 8 To install the indoor unit fan motor, see ["2.5.2 Repair procedures" on page 28](#).

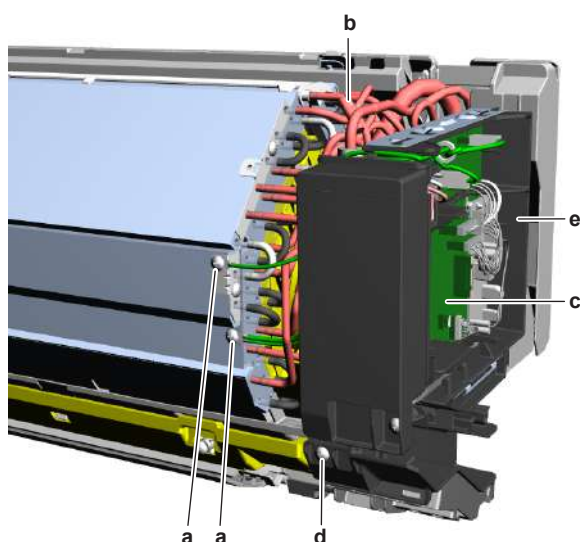
To install the DC fan motor assembly

- 1 Install the indoor unit fan motor in its correct location on the fan.
- 2 Install the rubber in front of the fan motor.
- 3 Click the indoor unit fan motor cover on the indoor unit.



a Indoor unit fan motor cover

- 4 Put the switch box in place.



- a Grounding wire screw
- b Heat exchanger thermistor
- c Indoor unit PCB
- d Switch box screw
- e Switch box

- 5 Route the connectors of the indoor unit fan motor and swing flap motor inside the switch box and connect them to the indoor unit PCB.
- 6 Install and tighten the screw to secure the switch box.
- 7 Install the heat exchanger thermistor in its holder.
- 8 Connect the grounding wires to the heat exchanger using the screws.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.6 Indoor unit PCB

2.6.1 Checking procedures

i INFORMATION

It is recommended to perform the checks in the listed order.

To perform a power check of the indoor unit PCB

- 1 Measure the voltage between the black and white wires on the PCB. The measured voltage MUST be 16 V DC.



a Black wire

b White wire

Is the measured voltage on the indoor unit PCB correct?	Action
Yes	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.
No	Adjust the power of the indoor unit PCB, see "2.6.2 Repair procedures" on page 30 .

To perform an electrical check of the indoor unit PCB

Procedure not available yet.

To check if the correct spare part is installed

- 1 Visit your local spare parts webbank.
- 2 Enter the model name of your unit and check if the installed spare part number corresponds with the spare part number indicated in the webbank.

Is the correct spare part for the indoor unit PCB installed?	Action
Yes	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.
No	Replace the indoor unit PCB, see "2.6.2 Repair procedures" on page 30 .

To check the wiring of the indoor unit PCB

- 1 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 2 Check that no connectors are damaged.
- 3 Check that the wiring corresponds with the wiring diagram, see ["5.2 Wiring diagram" on page 50](#).

Is the wiring on the indoor unit PCB correct?	Action
Yes	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.
No	Adjust the wiring of the indoor unit PCB, see "2.6.2 Repair procedures" on page 30 .

To check the fuse of the indoor unit PCB

- 1 Measure the continuity of the fuse. If no continuity is measured, the fuse is blown.

2 Components



a Fuse

Blown fuse on the indoor unit PCB?	Action
Yes	Replace the blown fuse, see "2.6.2 Repair procedures" on page 30 .
No	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.

Problem solved?

After all checking procedures listed above have been performed:

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.6.2 Repair procedures

To adjust the power of the indoor unit PCB

- 1 Make sure that the power source is in line with the requirements described in the databook.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.

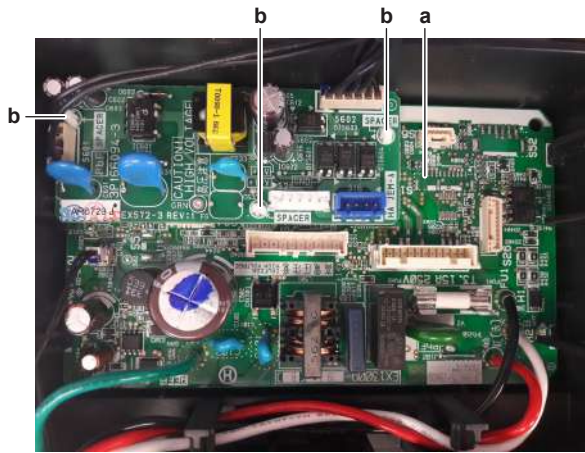
To remove the indoor unit PCB

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Disconnect all connectors from the indoor unit PCB.
- 2 Carefully pull the indoor unit PCB from the PCB supports.

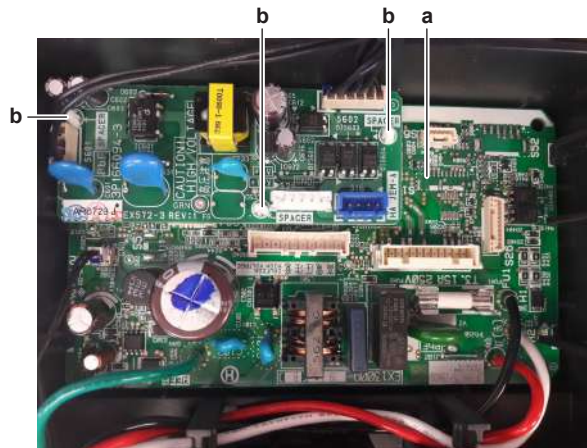


- a Indoor unit PCB
- b PCB support
- a Indoor unit (power) PCB
- b PCB support
- c Indoor unit (control) PCB

- 3 Remove the indoor unit PCB from the indoor unit.
- 4 To install the indoor unit PCB, see ["2.6.2 Repair procedures" on page 30](#).

To install the indoor unit PCB

- 1 Install the indoor unit PCB in the correct location on the PCB supports.



- a Indoor unit PCB
- b PCB support
- a Indoor unit (power) PCB
- b PCB support
- c Indoor unit (control) PCB

- 2 Connect all connectors to the indoor unit PCB.

i INFORMATION

Use the wiring diagram and connection diagram for correct installation of the connectors, see ["5.2 Wiring diagram" on page 50](#).

! WARNING

When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.

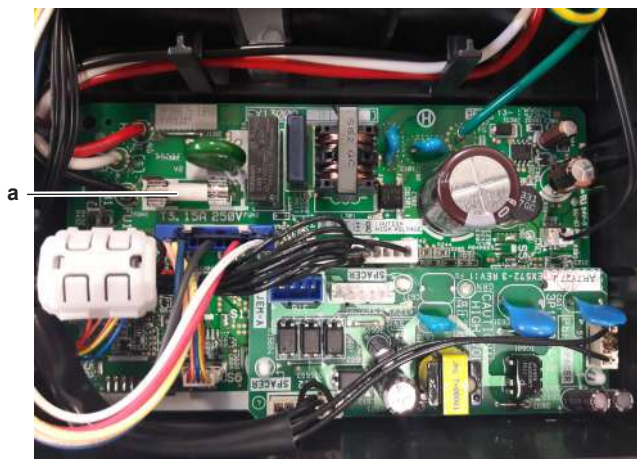
To adjust the wiring of the indoor unit PCB

- 1 Adjust the wiring according to the wiring diagram and connection diagram, see ["5.2 Wiring diagram" on page 50](#).
- 2 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 3 Check that no connectors are damaged.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.

To remove a fuse of the indoor unit PCB

- 1 Remove the fuse from the PCB.



a Fuse

- 2 To install a fuse on the indoor unit PCB, see ["2.6.2 Repair procedures" on page 30](#).

To install a fuse on the indoor unit PCB

- 1 Install the fuse on the correct location on the PCB.



CAUTION

Make sure the fuse is plugged-in correctly (contact with the fuse holder).



a Fuse

Is the problem solved?	Action
Yes	No further actions required.

Is the problem solved?	Action
No	Return to "2.6.1 Checking procedures" on page 29 of the indoor unit PCB and continue with the next procedure.

2.7 Inverter PCB

2.7.1 Checking procedures

As the inverter PCB is integrated in the main PCB of the unit, see ["2.8 Main PCB" on page 32](#) for the other check procedures.

To perform an electrical check of the inverter PCB

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Open the compressor insulation.
- 2 Remove the cover of the compressor wire terminals.
- 3 Measure the voltage between the pins 7-4 of the connector S70. Wait until the voltage drops below 10 V DC.



WARNING

The smoothing capacitor MUST discharge below 10 V DC before disconnecting the Faston connectors from the compressor wiring terminals. Risk of electrocution.

- 4 Disconnect the Faston connectors from the compressor wire terminals U, V and W.



INFORMATION

Note the position of the Faston connectors on the compressor wire terminals to allow correct connection during installation.

- 5 Connect the Faston connectors to the Inverter Analyzer (SPP number 1368521).



- 6 Turn ON the power of the unit.
- 7 Locate the switch SW1 on the Inverter Analyzer and press for 5 seconds to activate the inverter test.

2 Components



a SW1

- 8 All LED's on the Inverter Analyzer must lit.
- 9 Turn off the respective circuit breaker.
- 10 Wait a few minutes and confirm that the LED's of the Inverter Analyzer are off.
- 11 Disconnect the Inverter Analyzer from the Faston connectors.
- 12 Connect the Faston connectors to the wire terminals U, V and W of the compressor.

i INFORMATION

Use the notes made during disconnection to connect the Faston connectors to the correct wire terminals of the compressor.

All LED's of the inverter analyzer are lit during inverter test?	Action
Yes	Return to "2.7.1 Checking procedures" on page 31 of the inverter PCB and continue with the next procedure.
No	Replace the inverter PCB, see "2.7.2 Repair procedures" on page 32 .

2.7.2 Repair procedures

As the inverter PCB is integrated in the main PCB of the unit, see ["2.8 Main PCB" on page 32](#) for the repair procedures.

2.8 Main PCB

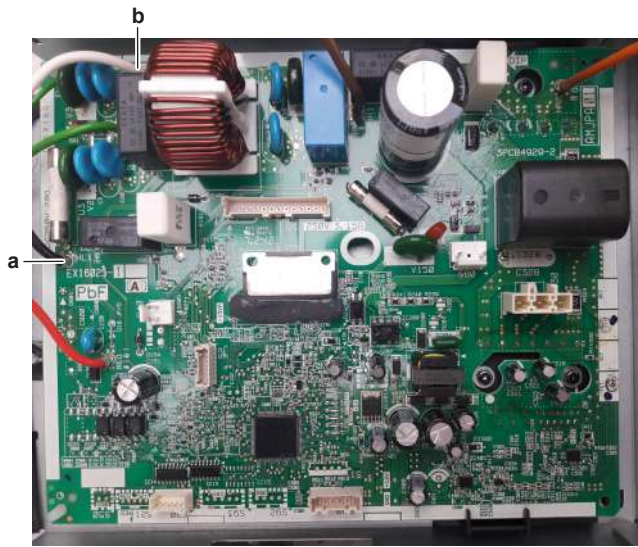
2.8.1 Checking procedures

i INFORMATION

It is recommended to perform the checks in the listed order.

To perform a power check of the main PCB

- 1 Measure the voltage between the black and white wires shown below.



a Black wire
b White wire

Is the measured voltage on the PCB correct?	Action
Yes	Return to "2.8.1 Checking procedures" on page 32 of the PCB and continue with the next procedure.
No	Adjust the power of the main PCB, see "2.8.2 Repair procedures" on page 33 .

To check the HAP LED of the main PCB

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Turn ON the power of the unit.
- 2 Locate the HAP LED on the main PCB.



a HAP LED

Does the HAP LED blink in regular intervals (1 second ON/1 second OFF)?	Action
Yes	Return to "2.8.1 Checking procedures" on page 32 of the main PCB and continue with the next procedure.

Does the HAP LED blink in regular intervals (1 second ON/1 second OFF)?	Action
No	Remove the main PCB, see "2.8.2 Repair procedures" on page 33.

To check if the correct spare part is installed

- 1 Visit your local spare parts webbank.
- 2 Enter the model name of your unit and check if the installed spare part number corresponds with the spare part number indicated in the webbank.



NOTICE

Also check that the correct spare part is installed for the capacity adapter.

Is the correct spare part for the PCB installed?	Action
Yes	Return to "2.8.1 Checking procedures" on page 32 of the main PCB and continue with the next procedure.
No	Replace the main PCB, see "2.8.2 Repair procedures" on page 33.

To check the wiring of the main PCB

- 1 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 2 Check that no connectors are damaged.
- 3 Check that the wiring corresponds with the wiring diagram, see ["5.2 Wiring diagram" on page 50.](#)

Is the wiring on the main PCB correct?	Action
Yes	Return to "2.8.1 Checking procedures" on page 32 of the main PCB and continue with the next procedure.
No	Adjust the wiring of the main PCB, see "2.8.2 Repair procedures" on page 33.

To check the fuse of the main PCB

- 1 Measure the continuity of the fuse. If no continuity is measured, the fuse is blown.



a Fuse

Blown fuse on the main PCB?	Action
Yes	Replace the blown fuse, see "2.8.2 Repair procedures" on page 33.
No	Return to "2.8.1 Checking procedures" on page 32 of the main PCB and continue with the next procedure.

Problem solved?

After all checking procedures listed above have been performed:

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.8.2 Repair procedures

To adjust the power of the main PCB

- 1 Make sure that the power source is in line with the requirements described in the databook.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.8.1 Checking procedures" on page 32 of the PCB and continue with the next procedure.

To remove the main PCB

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35.](#)

- 1 Disconnect all connectors from the main PCB.
- 2 Remove the screws from the main PCB.
- 3 Remove the main PCB from the unit.
- 4 To install the main PCB, see ["2.8.2 Repair procedures" on page 33.](#)

To install the main PCB

- 1 Apply heat sink compound to the heat sink.
- 2 Install and tighten the screws.
- 3 Connect all connectors to the main PCB.



INFORMATION

Use the wiring diagram and connection diagram for correct installation of the connectors, see ["5.2 Wiring diagram" on page 50.](#)

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.8.1 Checking procedures" on page 32 of the PCB and continue with the next procedure.

To adjust the wiring of the main PCB

- 1 Adjust the wiring according to the wiring diagram and connection diagram, see ["5.2 Wiring diagram" on page 50.](#)

2 Components

- 2 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 3 Check that no connectors are damaged.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.8.1 Checking procedures" on page 32 of the PCB and continue with the next procedure.

To remove a fuse of the main PCB

- 1 Remove the fuse from the PCB.



a Fuse

- 2 To install a fuse on the main PCB, see ["2.8.2 Repair procedures" on page 33](#).

To install a fuse on the main PCB

- 1 Install the fuse on the correct location on the PCB.



CAUTION

Make sure the fuse is plugged-in correctly (contact with the fuse holder).



a Fuse

Is the problem solved?	Action
Yes	No further actions required.

Is the problem solved?	Action
No	Return to "2.8.1 Checking procedures" on page 32 of the PCB and continue with the next procedure.

2.9 Outdoor unit fan motor

2.9.1 Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the propeller fan blade assembly

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Check the state of the propeller fan blade assembly for damage, deformations and cracks.

Is the propeller fan blade assembly damaged?	Action
Yes	Replace the propeller fan blade assembly, see "2.9.2 Repair procedures" on page 35 .
No	Perform a mechanical check of the DC fan motor assembly, see "2.9.1 Checking procedures" on page 34 .

To perform a mechanical check of the DC fan motor assembly

Prerequisite: First perform a mechanical check of the propeller fan blade assembly, see ["2.9.1 Checking procedures" on page 34](#).

- 1 Check the friction of the DC fan motor shaft bearing.

Is the DC fan motor shaft friction normal?	Action
Yes	Perform an electrical check of the DC fan motor assembly, see "2.9.1 Checking procedures" on page 34 .
No	Replace the DC fan motor assembly, see "2.9.2 Repair procedures" on page 35 .

To perform an electrical check of the DC fan motor assembly

- 1 First perform a mechanical check of the DC fan motor assembly, see ["2.9.1 Checking procedures" on page 34](#).
- 2 Measure the resistance between the pins 1-2, 1-3, and 2-3 of the DC fan motor connector. All measurements MUST be 15~20 Ω.

DC fan motor resistance measurements are correct?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the DC fan motor, see "2.9.2 Repair procedures" on page 35 .

Problem solved?

After all checking procedures listed above have been performed:

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.9.2 Repair procedures

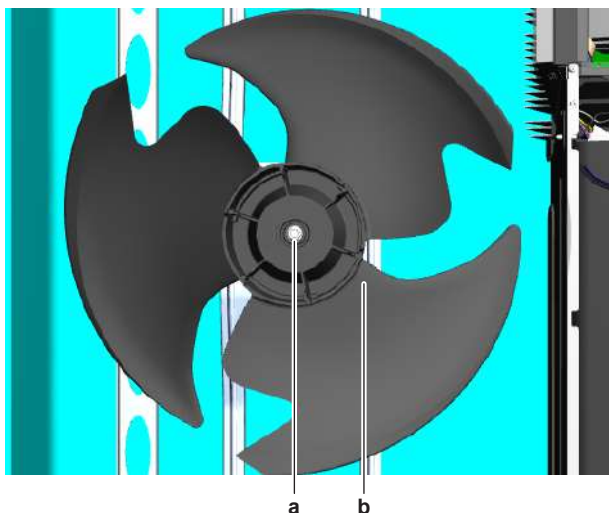
To remove the propeller fan blade assembly

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Remove the nut that fixes the propeller fan blade assembly.



a Nut
b Propeller fan blade assembly

- 2 Pull and remove the propeller fan blade assembly from the DC fan motor assembly.
- 3 To install the propeller fan blade assembly, see ["2.9.2 Repair procedures" on page 35](#).

To remove the DC fan motor assembly

- 1 Remove the propeller fan blade assembly from the DC fan motor assembly, see ["2.9.2 Repair procedures" on page 35](#).
- 2 Disconnect the DC fan motor connector from the main PCB.
- 3 Unlock the ferrite bead.
- 4 Cut the tie strap.
- 5 Detach the DC fan motor harness from the switch box.
- 6 Slightly bend the harness retainers to detach the DC fan motor harness.
- 7 Remove the 4 screws that fix the DC fan motor assembly.
- 8 Remove the DC fan motor assembly from the unit.
- 9 To install the DC fan motor assembly, see ["2.9.2 Repair procedures" on page 35](#).

To install the DC fan motor assembly

- 1 Install the DC fan motor assembly in the correct location.
- 2 Fix the DC fan motor assembly to the unit by tightening the screws.

- 3 Route the DC fan motor harness through the harness retainers and bend the harness retainers to attach the DC fan motor harness.
- 4 Attach the DC fan motor harness to the switch box.
- 5 Install a new tie strap to fix the DC fan motor harness to the switch box.
- 6 Connect the DC fan motor connector to the connector on the main PCB.
- 7 Lock the ferrite bead.
- 8 Install the propeller fan blade assembly, see ["2.9.2 Repair procedures" on page 35](#).

To install the propeller fan blade assembly

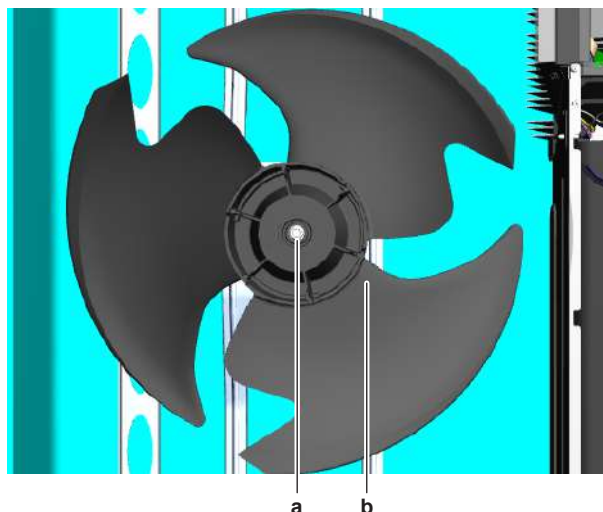
- 1 Install the propeller fan blade assembly on the DC fan motor assembly.



CAUTION

Do NOT install a damaged propeller fan blade assembly.

- 2 Install and tighten the nut to fix the propeller fan blade assembly.



a Nut
b Propeller fan blade assembly

Is the problem solved?	Action
Yes	No further actions required.
No	Return to "2.9.1 Checking procedures" on page 34 of the outdoor unit fan motor and continue with the next procedure.

2.10 Plate work

2.10.1 Outdoor unit

To remove the refrigerant connection cover

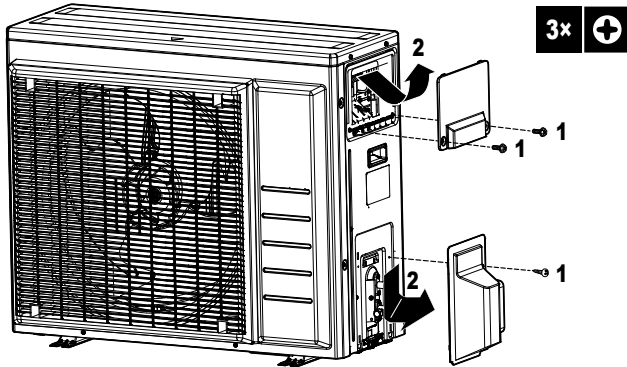
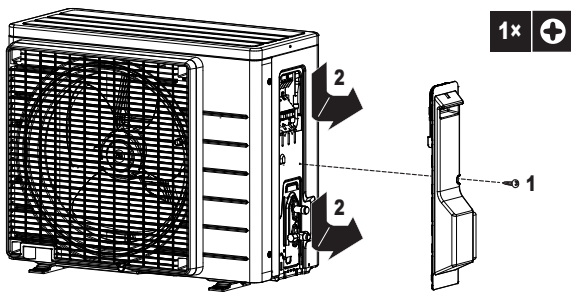


DANGER: RISK OF ELECTROCUTION



DANGER: RISK OF BURNING

2 Components



To remove the top plate

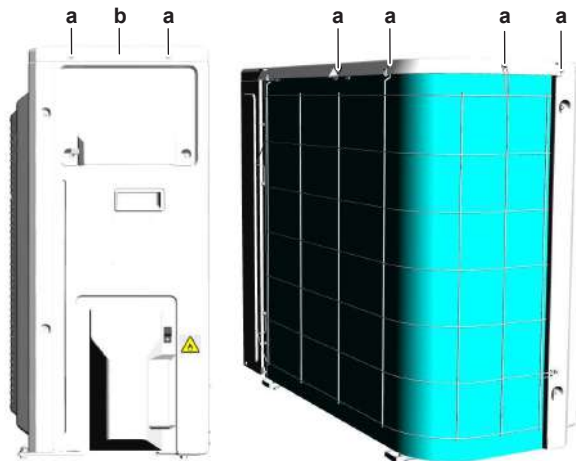
i INFORMATION

This procedure is just an example and may differ on some details for your actual unit.

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

- 1 Loosen and remove the screws that fix the top plate.



a Screw
b Top plate

- 2 Remove the top plate.

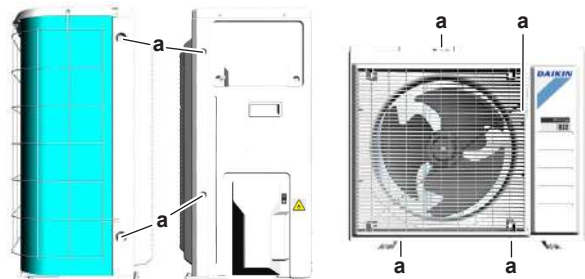
To remove the front plate

i INFORMATION

This procedure is just an example and may differ on some details for your actual unit.

Prerequisite: Remove the top plate, see "2.10 Plate work" on page 35.

- 1 Loosen and remove the screws that fix the front plate.



a Screw
b Front plate

- 2 Remove the front plate.

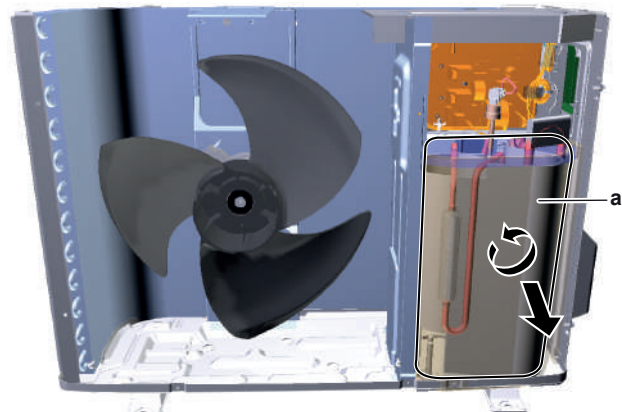
To remove the compressor sound insulation

i INFORMATION

This procedure is just an example and may differ on some details for your actual unit.

Prerequisite: Remove the front plate, see "2.10 Plate work" on page 35.

- 1 Untwist the cord and remove the compressor sound insulation.



a Compressor sound insulation

To remove the switch box

i INFORMATION

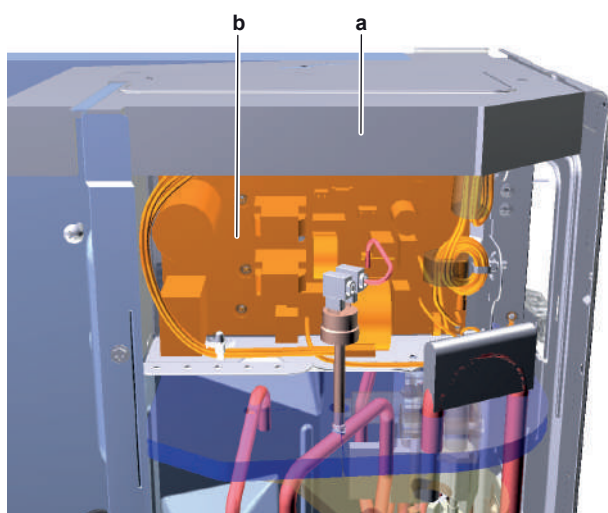
This procedure is just an example and may differ on some details for your actual unit.

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

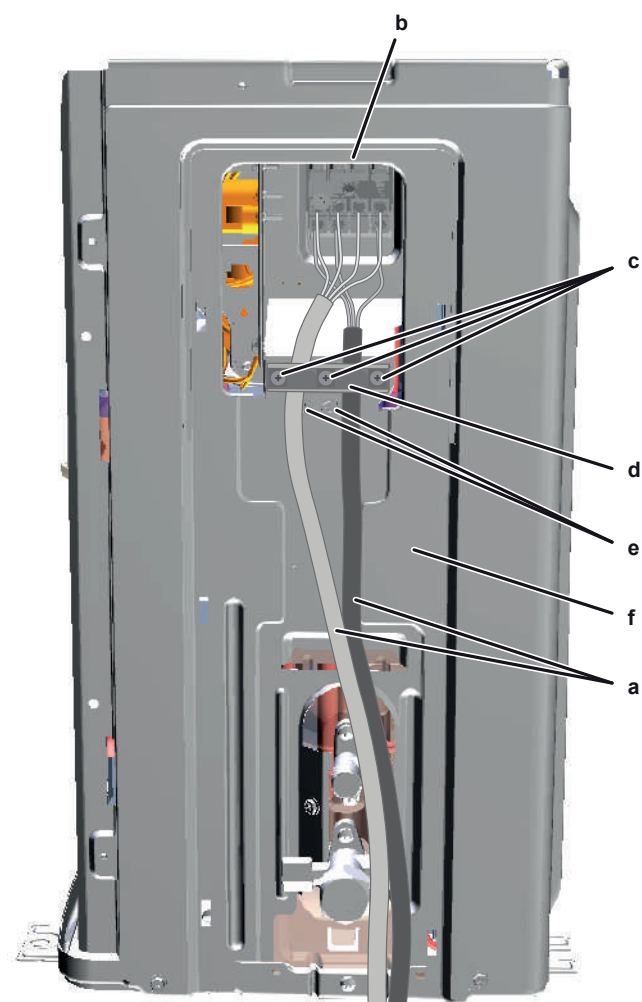
Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Remove the insulation on the upper side of the switch box.



a Insulation
b Main PCB

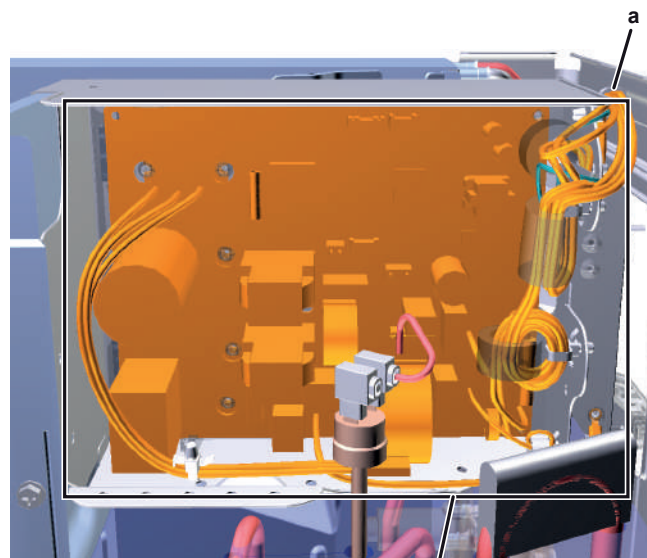
- 2 Disconnect all connectors from the main PCB.
- 3 Disconnect the electrical power supply wiring from the wire terminals.



a Electrical power supply wiring
b Wire terminals
c Screws
d Wire clamp
e Screws
f Right side plate assembly

- 4 Remove the screws that fix the wire clamp.
- 5 Remove the wire clamp.
- 6 Remove the screws that fix the right side plate assembly.

- 7 Cut the cable tie.



a Cable tie
b Switch box

- 8 Lift and remove the switch box from the outdoor unit.
- 9 To install the switch box, see "2.10 Plate work" on page 35.

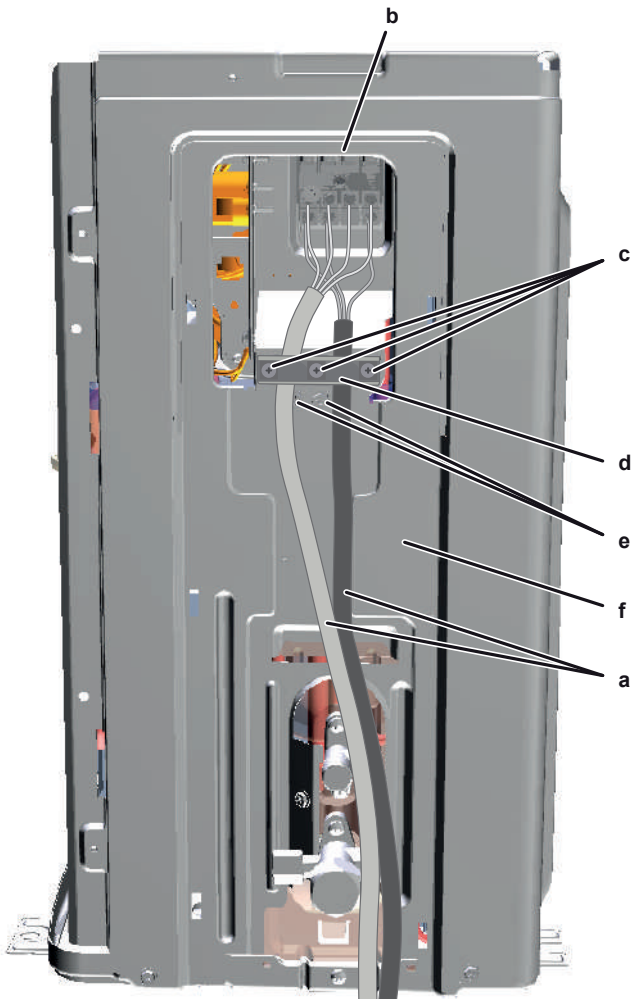
To install the switch box

i INFORMATION

This procedure is just an example and may differ on some details for your actual unit.

- 1 Install the switch box on the correct location in the outdoor unit.
- 2 Install the right side plate assembly on the outdoor unit and fix it using the screws.

2 Components



- a Electrical power supply wiring
- b Wire terminals
- c Screws
- d Wire clamp
- e Screws
- f Right side plate assembly

- 3 Connect the electrical power supply wiring to the wire terminals.
- 4 Install the wire clamp and fix it using the screws.
- 5 Connect all connectors to the main PCB.



INFORMATION

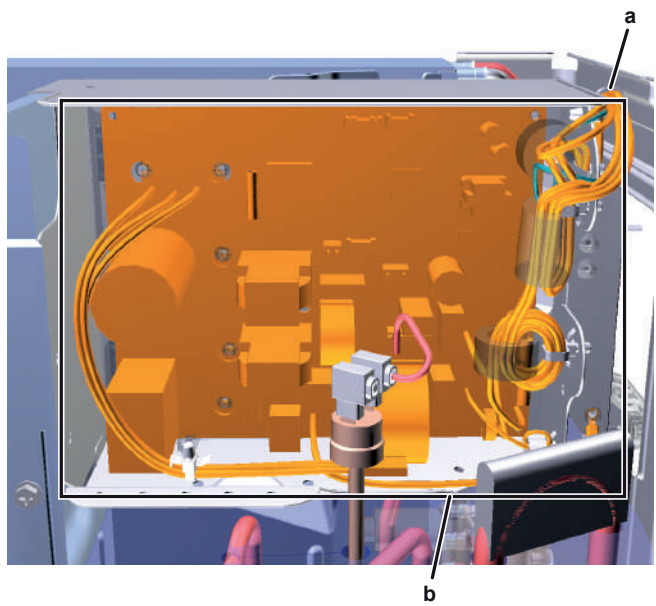
Use the wiring diagram and connection diagram for correct installation of the connectors, see ["5.2 Wiring diagram" on page 50](#).



WARNING

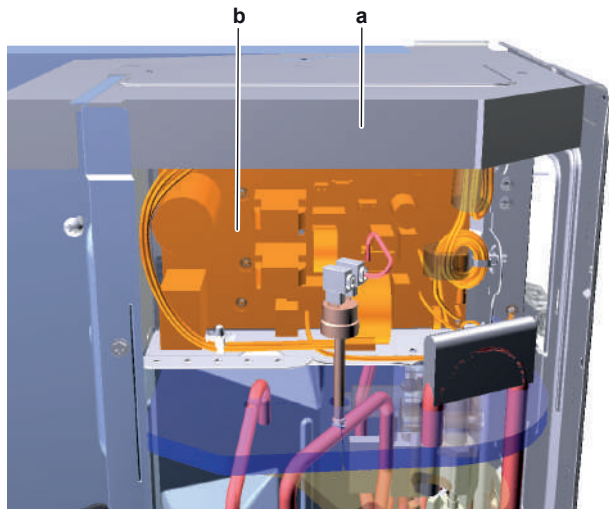
When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

- 6 Fix the wiring to the switch box using a new cable tie.



- a Cable tie
- b Switch box

- 7 Install the insulation on the upper side of the switch box.

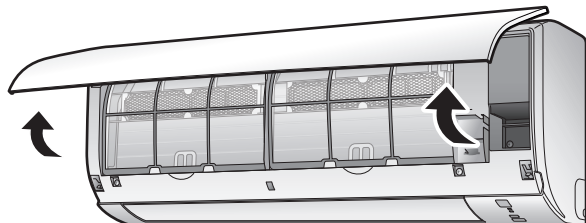


- a Insulation
- b Main PCB

2.10.2 Indoor unit

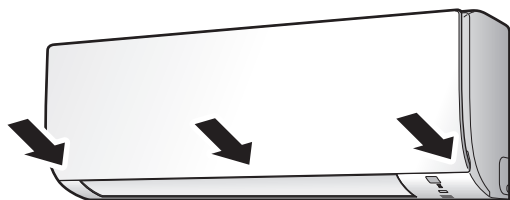
To open the front panel

- 1 Hold the front panel by the panel tabs on both sides and open it.



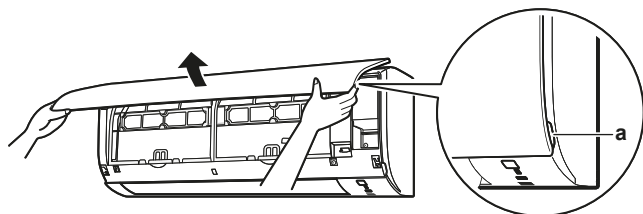
To close the front panel

- 1 Install the air filters and the titanium apatite deodorizing filters back in their original positions.
- 2 Gently press the front panel at both sides and at the center until it clicks.



To remove the front panel

- 1 Hold the front panel by the panel tabs on both sides and open it.

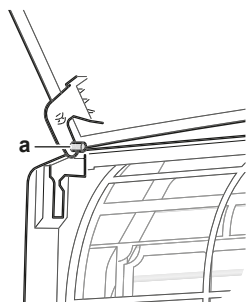


a Panel tabs

- 2 Remove the front panel by sliding it to the left or the right and pulling it toward you.

Result: The front panel shaft on 1 side will be disconnected.

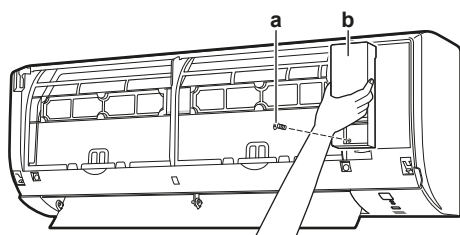
- 3 Disconnect the front panel shaft on the other side in the same manner.



a Front panel shaft

To open the service cover

- 1 Remove 1 screw from the service cover.
- 2 Pull out the service cover horizontally away from the unit.



a Service cover screw
b Service cover

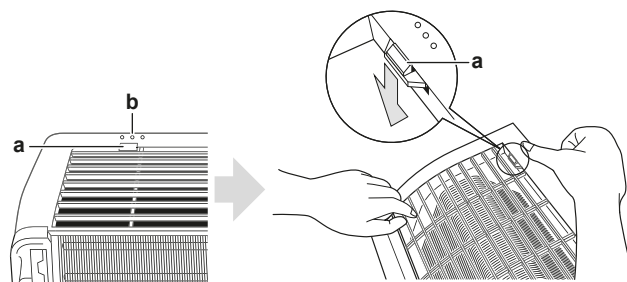
To remove the front grille



CAUTION

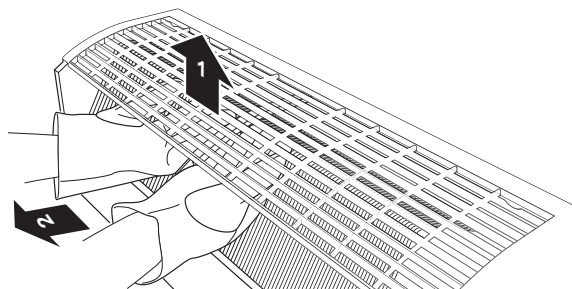
Wear adequate personal protective equipment (protective gloves, safety glasses,...) when installing, maintaining or servicing the system.

- 1 Remove the front panel to remove the air filter.
- 2 Remove 2 screws (class 20~35) or 3 screws (class 50~71) from the front grille.
- 3 Push down the 3 upper hooks marked with a symbol with 3 circles.



a Upper hook
b Symbol with 3 circles

- 4 We recommend opening the flap before removing the front grille.
- 5 Place both hands under the centre of the front grille, push it up and then toward you.

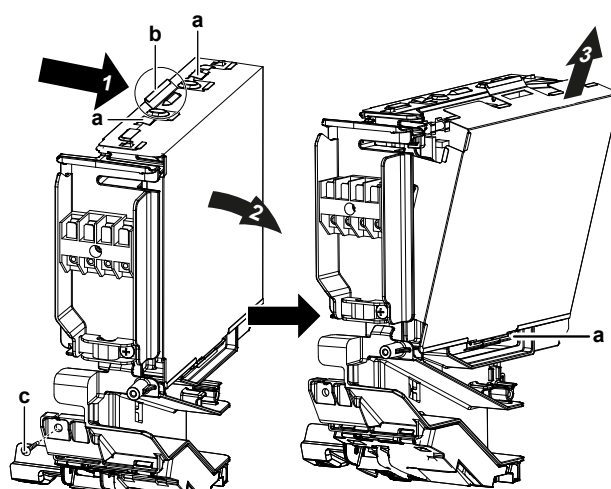


To re-install the front grille

- 1 Install the front grille and firmly engage the 3 upper hooks.
- 2 Install 2 screws (class 20~35) or 3 screws (class 50~71) back on the front grille.
- 3 Install the air filter and then mount the front panel.

To remove the electrical wiring box cover

- 1 Remove the front grille.
- 2 Remove 1 screw from the electrical wiring box.
- 3 Open the electrical wiring box cover by pulling the protruding part on the top of the cover.
- 4 Unhook the tab on the bottom and remove the electrical wiring box cover.



a Tab
b Protruding part on the top of the cover
c Screw

- 5 To re-install the cover, first hook the bottom tab onto the electrical wiring box, and slide the cover into the 2 upper tabs.

2 Components

2.11 Reactor

2.11.1 Checking procedures

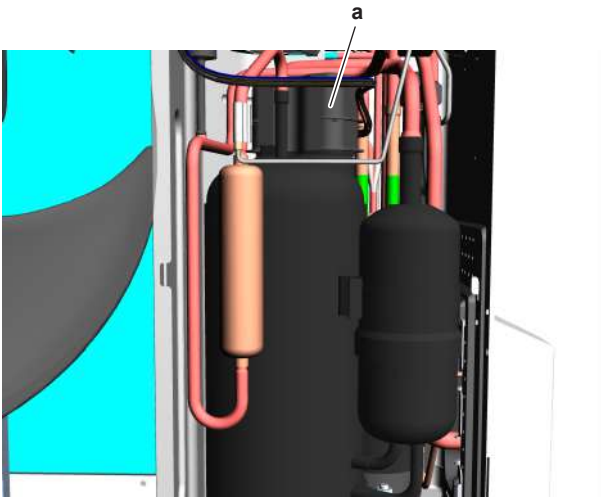
To perform an electrical check of the reactor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Open the compressor insulation.
- 2 Remove the cover of the compressor wire terminals.



a Compressor wire terminals cover

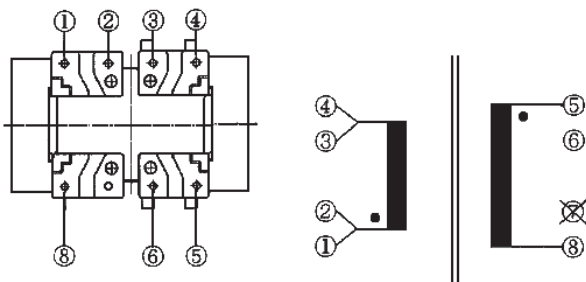


INFORMATION

The reactor will trip at a temperature of 115°C and will reset at a temperature of 95°C.

- 3 Measure the resistance on the following locations of the reactor. Resistance values MUST be as follows:

Location	Resistance (Ω)
1,2-3,4	0.037 \pm 20%
5-8	0.19 \pm 20%



Is the measured reactor resistance correct?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next step.
No	Replace the reactor, see "2.11.2 Repair procedures" on page 40 .

2.11.2 Repair procedures

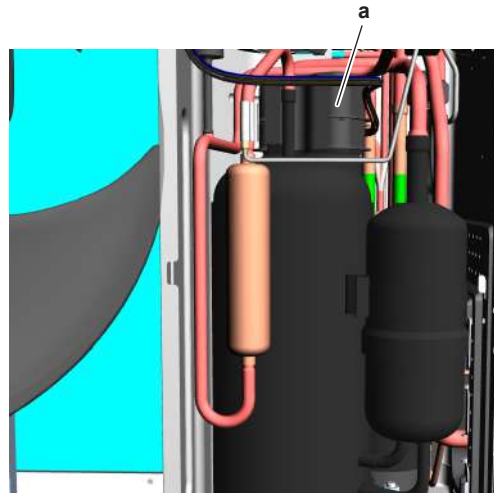
To remove the reactor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Open the compressor insulation.
- 2 Remove the cover of the compressor wire terminals.

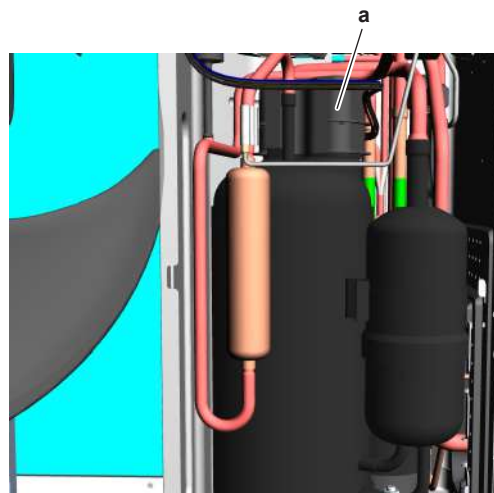


a Compressor wire terminals cover

- 3 Disconnect the connector.
- 4 Remove the clip and remove the reactor from the compressor.
- 5 To install the reactor, see ["2.11.2 Repair procedures" on page 40](#).

To install the reactor

- 1 Install the reactor in the correct location and install the clip.
- 2 Connect the reactor connector.
- 3 Install the cover of the compressor wire terminals.



a Compressor wire terminals cover

- 4 Install the compressor insulation.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.12 Swing flap motor



NOTICE

Select the correct type.

2.12.1 Checking procedures

To perform an electrical check of the swing flap motor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Disconnect the motor connector from the indoor unit PCB.
- 2 Measure the resistance between the following pins of the motor connector. The measurements MUST be as shown in the table below.

Pins	Measured resistance (Ω)
1-2	235
1-3	
1-4	
1-5	
2-3	470
2-4	
2-5	
3-4	
3-5	
4-5	

Swing flap motor resistance measurements are correct?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the swing flap motor, see "2.12.2 Repair procedures" on page 41 .

2.12.2 Repair procedures

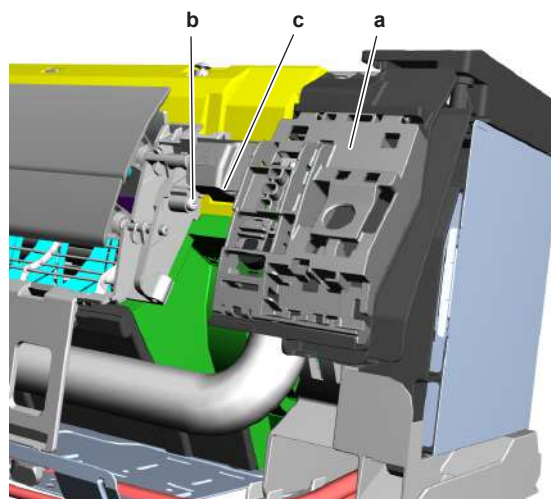
To remove the swing flap motor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Remove the cover.

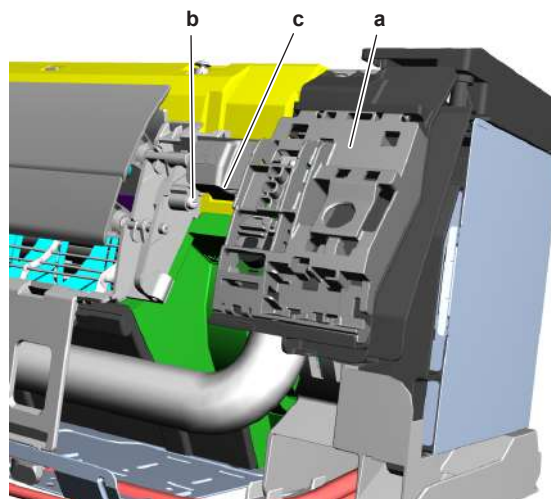


a Cover
b Screw
c Swing flap motor

- 2 Disconnect the connector from the swing flap motor.
- 3 Remove the screw from the swing flap motor.
- 4 Remove the swing flap motor from the swing flap.
- 5 To install the swing flap motor, see ["2.12.2 Repair procedures" on page 41](#).

To install the swing flap motor

- 1 Install the swing flap motor in the correct location on the swing flap.



a Cover
b Screw
c Swing flap motor

- 2 Install and tighten the screw to fix the swing flap motor.
- 3 Connect the connector to the swing flap motor.
- 4 Install the cover.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.13 Thermistors



NOTICE

Select the correct type.

2 Components

2.13.1 Refrigerant thermistors

Checking procedures



INFORMATION

It is recommended to perform the checks in the listed order.

To perform a mechanical check of the specific thermistor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Locate the thermistor and remove the insulation if needed. Check if there is thermal contact between the thermistor and the piping or ambient.

Is the thermistor correctly installed (thermal contact between the thermistor and the piping)?	Action
Yes	Perform an electrical check of the specific thermistor, see "Checking procedures" on page 42.
No	Correctly install the thermistor, see "Repair procedures" on page 43.

To perform an electrical check of the specific thermistor

Prerequisite: First perform a mechanical check of the thermistor, see "Checking procedures" on page 42.

- 1 Locate the thermistor.
- 2 Measure the temperature using a contact thermometer.

Name	Symbol	Location (PCB)	Connector (pins)	Type
Air thermistor	R1T	Main	S90:1-2	1
Heat exchanger thermistor	R2T	Main	S90:3-4	1
Discharge pipe thermistor	R3T	Main	S90:5-6	1
Heat exchanger thermistor	R2T	Indoor	S32:1-2	1



INFORMATION

The thermistors may vary according to the specific unit.

- 3 Determine the thermistor resistance that matches the measured temperature.

Type 1 thermistor

T °C	kΩ	T °C	kΩ	T °C	kΩ	T °C	kΩ
-20	197.81	10	39.96	40	10.63	70	3.44

T °C	kΩ	T °C	kΩ	T °C	kΩ	T °C	kΩ
-19	186.53	11	38.08	41	10.21	71	3.32
-18	175.97	12	36.30	42	9.81	72	3.21
-17	166.07	13	34.62	43	9.42	73	3.11
-16	156.80	14	33.02	44	9.06	74	3.01
-15	148.10	15	31.50	45	8.71	75	2.91
-14	139.94	16	30.06	46	8.37	76	2.82
-13	132.28	17	28.70	47	8.05	77	2.72
-12	125.09	18	27.41	48	7.75	78	2.64
-11	118.34	19	26.18	49	7.46	79	2.55
-10	111.99	20	25.01	50	7.18	80	2.47
-9	106.03	21	23.91	51	6.91		
-8	100.41	22	22.85	52	6.65		
-7	95.14	23	21.85	53	6.41		
-6	90.17	24	20.90	54	6.65		
-5	85.49	25	20.00	55	6.41		
-4	81.08	26	19.14	56	6.18		
-3	76.93	27	18.32	57	5.95		
-2	73.01	28	17.54	58	5.74		
-1	69.32	29	16.80	59	5.14		
0	65.84	30	16.10	60	4.87		
1	62.54	31	15.43	61	4.70		
2	59.43	32	14.79	62	4.54		
3	56.49	33	14.18	63	4.38		
4	53.71	34	13.59	64	4.23		
5	51.09	35	13.04	65	4.08		
6	48.61	36	12.51	66	3.94		
7	46.26	37	12.01	67	3.81		
8	44.05	38	11.52	68	3.68		
9	41.95	39	11.06	69	3.56		

- 4 Disconnect the thermistor connector from the appropriate PCB.
- 5 Measure the resistance between the appropriate pins of the thermistor connector.
- 6 Check that the measured resistance value matches the resistance determined through the measured temperature (earlier step in the procedure). E.g. R1T thermistor:
 - Measured temperature with contact thermometer: 23.1°C,
 - Resistance value determined through temperature (using the table for type 1 thermistors):
Resistance at 23°C: 21.85 kΩ,
Resistance at 24°C: 20.90 kΩ,
 - Disconnect connector and measure resistance between S90 pin 1-2:
Measured resistance: 21.86 kΩ,
 - Measured resistance value is inside the range. R1T thermistor passes the check.



INFORMATION

All thermistors have a resistance tolerance of 5%.



INFORMATION

The user interface allows to monitor most thermistors.

If the measured resistance value matches the resistance determined through the measured temperature, but the temperature for the corresponding thermistor is NOT correct on the user interface display, replace the applicable PCB.

Does the measured resistance of the thermistor match with the temperature determined resistance?	Action
Yes	Thermistor is OK. Return to the troubleshooting of the specific error and continue with the next procedure.
No	Replace the specific thermistor, see "Repair procedures" on page 43.

Repair procedures

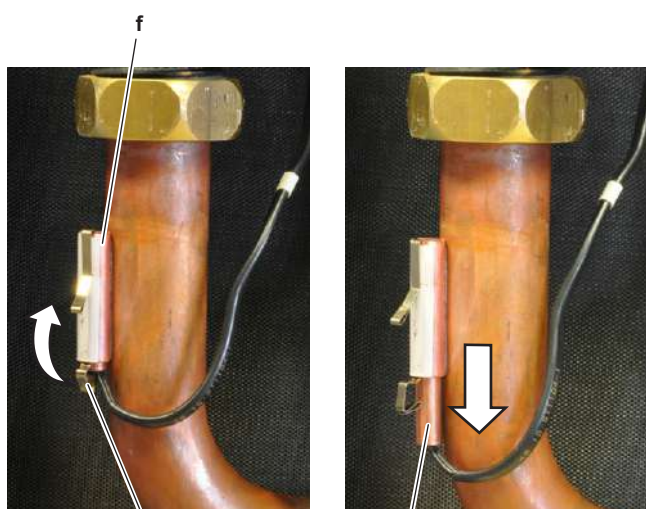
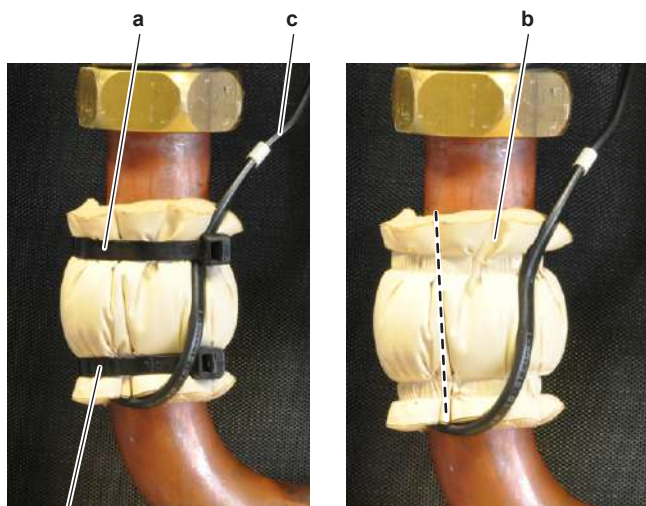
To remove the thermistor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Locate the thermistor that needs to be removed.
- 2 Cut the tie straps that fix the insulation and the thermistor wire.

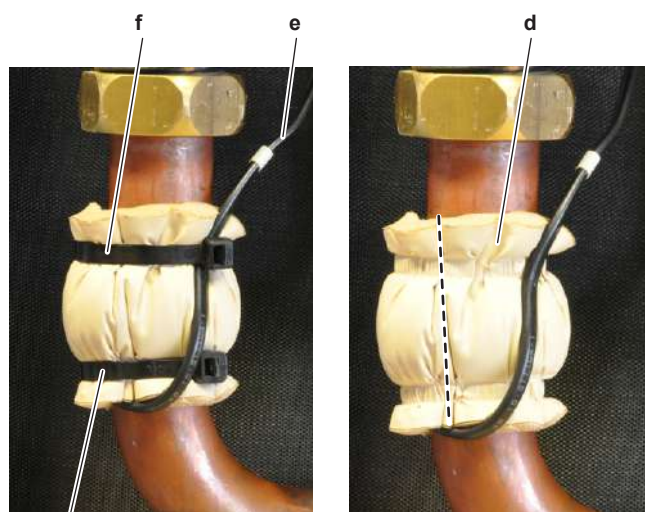
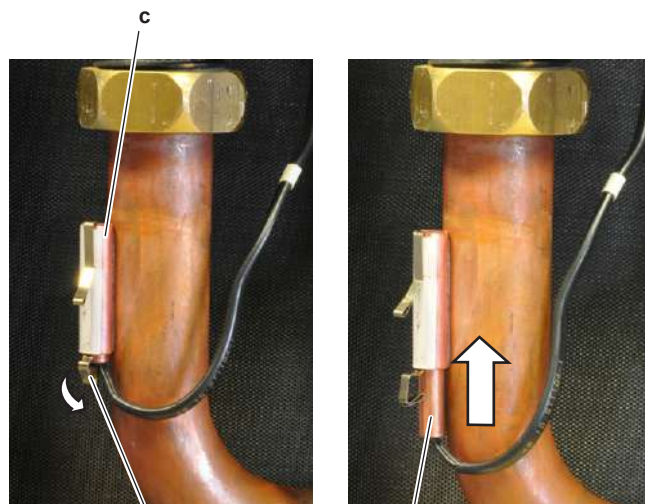


- a Tie strap
- b Insulation
- c Thermistor wire
- d Clip
- e Thermistor
- f Thermistor holder

- 3 Cut and remove the insulation.
- 4 Pull the clip that fixes the thermistor.
- 5 Remove the thermistor from the thermistor holder.
- 6 Disconnect the thermistor connector from the appropriate PCB and remove the thermistor.
- 7 To install the thermistor, see "Repair procedures" on page 43.

To install the thermistor

- 1 Pull the clip and install the thermistor in the specific thermistor holder. Make sure the clip is in the correct position (blocking the thermistor).



- a Clip
- b Thermistor
- c Thermistor holder
- d Insulation
- e Thermistor wire
- f Tie strap

- 2 Connect the thermistor connector to the appropriate PCB.



WARNING

When reconnecting a connector to the PCB, do NOT apply force, as this may damage the connector or connector pins of the PCB.

- 3 Install the insulation around the thermistor.
- 4 Fix the insulation and the thermistor wire using new tie straps.

3 Third party components

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

2.13.2 Other thermistors

Checking procedures

To perform a mechanical check of the specific thermistor

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Locate the thermistor and remove the insulation if needed. Check if there is thermal contact between the thermistor and the piping or ambient.

Is the thermistor correctly installed (thermal contact between the thermistor and the piping or ambient)?	Action
Yes	Perform an electrical check of the specific thermistor, see "Checking procedures" on page 44 .
No	Correctly install the thermistor, see "Repair procedures" on page 44 .

Repair procedures

To remove the room thermistor PCB

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

Prerequisite: Remove the required plate work, see ["2.10 Plate work" on page 35](#).

- 1 Locate the room thermistor PCB on the indoor unit PCB.
- 2 Disconnect the connector of the room thermistor PCB from the indoor unit PCB.
- 3 Press the latches to unlock and remove the room thermistor PCB from the indoor unit PCB.
- 4 To install the room thermistor PCB, see ["Repair procedures" on page 43](#).

To install the room thermistor PCB

- 1 Install the room thermistor PCB in the correct location on the indoor unit PCB.
- 2 Connect the connector of the room thermistor PCB to the indoor unit PCB.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

3 Third party components

3.1 Power supply

3.1.1 Checking procedures

To check if the power supply is conform with the regulations

- 1 Check that the power source is in line with the requirements described in the databook.

Is the power supply conform with the regulations?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Adjust the power supply, see "3.1.2 Repair procedures" on page 44 .

To check the wiring between the outdoor unit and the indoor unit

- 1 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 2 Check that no connectors are damaged.
- 3 Check that the wiring corresponds with the wiring diagram, see ["5.2 Wiring diagram" on page 50](#).

Is all wiring between the outdoor unit and the indoor unit correct?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Adjust the wiring where needed, see "3.1.2 Repair procedures" on page 44 .

3.1.2 Repair procedures

To adjust the power supply

- 1 Make sure that the power source is in line with the requirements described in the databook.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

To adjust the wiring between the outdoor unit and the indoor unit

- 1 Adjust the wiring according to the wiring diagram and connection diagram, see ["5.2 Wiring diagram" on page 50](#).
- 2 Check that all connectors are fully plugged-in. All colour codes MUST correspond.
- 3 Check that no connectors are damaged.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

3.2 Refrigerant circuit

3.2.1 Checking procedures

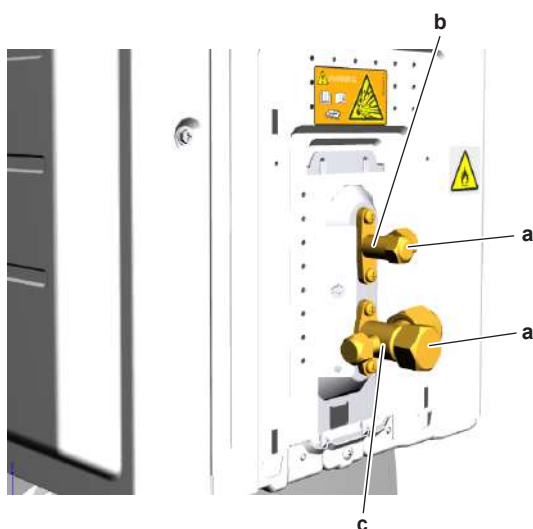
INFORMATION

It is recommended to perform the checks in the listed order.

To check if the stop valve is open

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Remove the caps.



- a Cap
- b Liquid stop valve
- c Gas stop valve

- 2 Check if the stop valve is completely open.

The refrigerant circuit stop valve is open?	Action
Yes	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.
No	Open the stop valve of the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

To check if the refrigerant circuit is clogged

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

- 1 Wait for the refrigerant to reach the outdoor temperature.
- 2 Connect a manometer to the service port.
- 3 Measure the low pressure as a reference.
- 4 Turn ON the power of the unit.
- 5 Activate Cooling via the user interface.
- 6 Again measure the low pressure.

Low pressure lower than expected?	Then
Yes	Obstruction is possible.
No	Obstruction is less likely.

- 7 Using a thermometer, check for a temperature drop of minimum 4°C. The obstruction is most likely located where this temperature drop occurs.

Temperature drop found?	Action
Yes	Replace the clogged part, see "3.2.2 Repair procedures" on page 46.
No	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.

To check if the refrigerant circuit is correctly charged

- 1 Recuperate all refrigerant from the unit, see "3.2.2 Repair procedures" on page 46.
- 2 Weigh the recuperated refrigerant.
- 3 Compare the weight of the recuperated refrigerant with the logbook of the unit. If the weight does NOT match the logbook, the refrigerant circuit is charged incorrectly.



CAUTION

Make sure that the original calculation of refrigerant is correct. (e.g. take into account that due to additional piping, additional refrigerant could be required).

Is the refrigerant circuit charged correctly?	Action
Yes	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.
No	Add or recuperate refrigerant until correctly charged, see "3.2.2 Repair procedures" on page 46.

To check for non-condensables in the refrigerant circuit

Prerequisite: Turn OFF the unit via the user interface.

Prerequisite: Turn OFF the respective circuit breaker.

- 1 Wait for the refrigerant to reach the outdoor temperature.
- 2 Connect a manometer to the service port.
- 3 Measure the pressure of the refrigerant. The measured pressure MUST be in line with the expected pressure at outdoor temperature.
- 4 If the measured pressure is higher than the expected pressure (at outdoor temperature), other non-condensables are mixed in the refrigerant.

Any non-condensables found in the refrigerant circuit?	Action
Yes	To replace the refrigerant, see "3.2.2 Repair procedures" on page 46.
No	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.

To perform a pressure test of the refrigerant circuit

- 1 Perform a pressure test in line with local legislation.



CAUTION

Perform a pressure test only when leaks are expected.

3 Third party components

Is the pressure in the refrigerant circuit correct?	Action
Yes	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.
No	Replace the leaking part of the refrigerant circuit, see "3.2.2 Repair procedures" on page 46.

Problem solved?

After all checking procedures listed above have been performed:

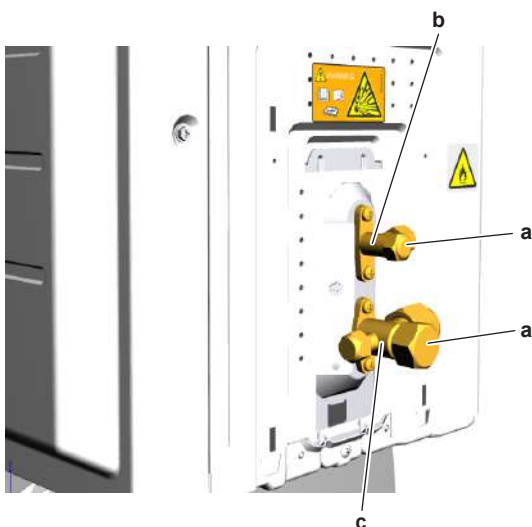
Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

3.2.2 Repair procedures

To open the stop valve of the refrigerant circuit

Prerequisite: Remove the required plate work, see "2.10 Plate work" on page 35.

- 1 Remove the caps.



- a Cap
- b Liquid stop valve
- c Gas stop valve

- 2 Completely open the stop valve by screwing the stop valve screw counterclockwise.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

To replace the clogged/leaking part of the refrigerant circuit

- 1 See the correct procedure for the component that needs to be repaired. See also "Repair information" on page 47 for more details.

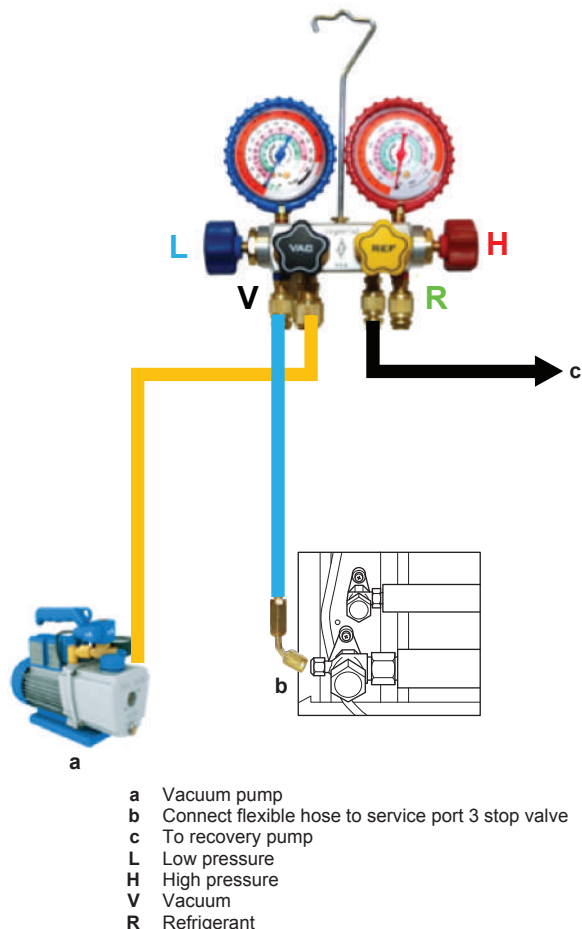
Is the problem solved?	Action
Yes	No further actions required.

Is the problem solved?	Action
No	Return to "3.2.1 Checking procedures" on page 45 of the refrigerant circuit and continue with the next procedure.

To recuperate the refrigerant

Prerequisite: Turn OFF the unit via the user interface.

- 1 Manually open the expansion valve.
- 2 Connect the vacuum pump, manifold, recovery unit, and refrigerant bottle to the service port of the refrigerant circuit as shown below.



- a Vacuum pump
- b Connect flexible hose to service port 3 stop valve
- c To recovery pump
- L Low pressure
- H High pressure
- V Vacuum
- R Refrigerant

- 3 To add refrigerant, see "3.2.2 Repair procedures" on page 46.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

To add refrigerant

- 1 See the installer reference guide for the correct procedure.

Is the problem solved?	Action
Yes	No further actions required.
No	Perform a pressure test of the refrigerant circuit, see "3.2.1 Checking procedures" on page 45.

Repair information

Refrigerant piping handling

- Make sure that the applied pressure is never higher than the unit design pressure indicated on the nameplate (PS).
- Work according to the F-gas regulation and/or local regulations.
- Make sure the correct amount of refrigerant is charged after repair according to the F-gas regulation label on the unit (factory + additional where required).
- Make sure to use the appropriate equipment and tools according to the refrigerant and unit type.
- Charge non-azeotropic refrigerant (e.g. R410A) always in a liquid state.
- R32 can be charged in gas phase.
- Make sure to use a digital scale (no charging cylinder).
- Execute correct vacuum drying procedure after repair:
 - -0.1 MPa / -760 mm Hg / -750 Torr / -1 bar for at least 1 hour.
 - Connect the unit according to the available service ports.
 - Use related field setting where necessary to open expansion valve / solenoid valve.

To perform refrigerant pump down operation

The unit is equipped with an automatic pump down operation which will collect all refrigerant from the field piping and indoor unit in the outdoor unit. To protect the environment, make sure to perform the following pump down operation when relocating the unit.



DANGER: RISK OF EXPLOSION

Pump down – Refrigerant leakage. If you want to pump down the system, and there is a leak in the refrigerant circuit:

- Do NOT use the unit's automatic pump down function, with which you can collect all refrigerant from the system into the outdoor unit. **Possible consequence:** Self-combustion and explosion of the compressor because of air going into the operating compressor.
- Use a separate recovery system so that the unit's compressor does NOT have to operate.



CAUTION

Some outdoor units are equipped with a low pressure switch to protect the compressor by switching it off. NEVER short-circuit the low pressure switch during pump down operation.

- 1 Remove the refrigerant connection cover, see ["2.10 Plate work" on page 35](#).
- 2 Remove the cap from the stop valves.
- 3 Perform pump down operation, see installer reference guide for the correct procedure.
- 4 After 5~10 minutes (after only 1~2 minutes in case temperature <-10°C), close the liquid stop valve using a hexagonal wrench.
- 5 Check the manifold if vacuum is reached. Close the gas stop valve and stop forced cooling operation.

Refrigerant piping repair

- Make sure to cover open pipe ends during repair so no dust or moisture can enter.
- Make sure to re-apply insulation removed during repair.

- Pipe expansion / flare making:
 - Remove any burrs on the cut surface using the correct tool such as reamer or scraper (note that excessive deburring can thin the pipe walls and cause cracking of the pipe).
 - Make sure the flare has the correct size (use a flare gauge).
 - Make sure no particles remain in the piping.
 - Apply just a drop of refrigerant oil on the inner surface of the flare.
 - Make sure the flare connection is tightened with the correct torque (torque values refer to installation manual).
- Brazing:
 - Use the correct brazing tool.
 - Use a phosphor copper filler metal (silver composition of 0 to 2%). Do not use flux material.
 - Flush the piping before brazing with nitrogen to avoid oxidation of the inside of the copper tubes (nitrogen purity ≥99.99%).

3.3 External factors

3.3.1 Checking procedures

To check the outdoor temperature

- 1 The outdoor unit is designed to operate within a temperature range of -25°C and 35°C. If the outdoor temperature is outside this range, the outdoor unit may stop operating.

Is the outdoor temperature within the operating range?	Action
Yes	Return to the troubleshooting of the specific error and continue with the next procedure.
No	Wait for the outdoor temperature to return within the operating range.

To check for objects that may block the airflow

- 1 Check for the presence of objects near the indoor unit that may block the airflow.

Is an object found that may block the airflow?	Action
Yes	Remove the object, see "3.3.2 Repair procedures" on page 47 .
No	Return to the troubleshooting of the specific error and continue with the next procedure.

3.3.2 Repair procedures

To remove objects that may block the airflow

- 1 Remove objects that may block the airflow from the near environment of the indoor unit.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

4 Maintenance

4 Maintenance

4.1 To clean the outdoor unit heat exchanger

- 1 Straighten the hair fins.
- 2 Clear the outdoor unit heat exchanger from dust, leaves,... using a fin-comb or compressed air/N₂.



CAUTION

Avoid bending or damaging the hair fins of the outdoor unit heat exchanger during the cleaning process.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

4.2 To clean the indoor unit heat exchanger

- 1 Straighten the hair fins.
- 2 Clear the indoor unit heat exchanger from dust, leaves,... using a fin-comb or compressed air/N₂.



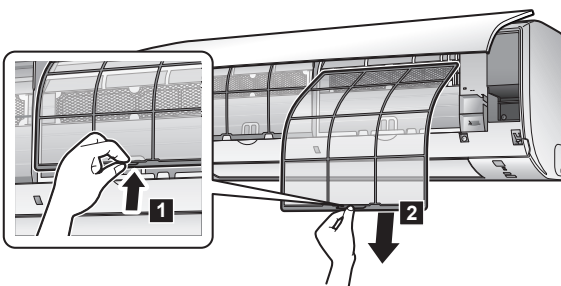
CAUTION

Avoid bending or damaging the hair fins of the indoor unit heat exchanger during the cleaning process.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

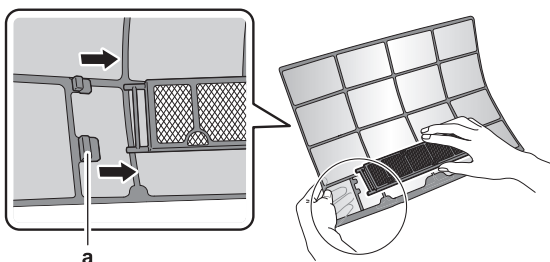
4.3 To clean the air filters

- 1 Push the tab at the centre of each air filter, then pull it down.
- 2 Pull out the air filters.



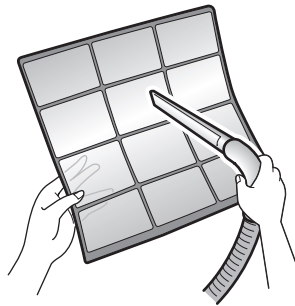
Note: (class 50~71) The titanium apatite deodorizing filter **MUST** be removed before cleaning the air filter.

- 3 Remove the titanium apatite deodorizing filter from all 4 claws.



a Claw

- 4 Wash the air filters with water or clean them with a vacuum cleaner.



- 5 Soak in lukewarm water for about 10 to 15 minutes.



INFORMATION

- If the dust does NOT come off easily, wash the air filters with a neutral detergent diluted in lukewarm water. Dry the air filters in the shade.
- Be sure to remove the titanium apatite deodorizing filter.
- It is recommended to clean the air filters every 2 weeks.

Is the problem solved?	Action
Yes	No further actions required.
No	Return to the troubleshooting of the specific error and continue with the next procedure.

5 Technical data

5.1 Detailed information setting mode

5.1.1 Detailed information setting mode: Indoor unit

See the installer reference guide on business portal for more information.

5.1.2 Detailed information setting mode: Outdoor unit

See the installer reference guide on business portal for more information.

5.1.3 Detailed information setting mode: Remote controller

See the installer reference guide on business portal for more information.

5 Technical data

5.2 Wiring diagram

5.2.1 Wiring diagram: Indoor unit


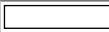


The wiring diagram is delivered with the unit, located inside of the outdoor unit (bottom side of the top plate).

Class 20~35

(1) Wiring diagram

English	Translation
Wiring diagram	Wiring diagram
Indoor	Indoor
Outdoor	Outdoor
Transmission circuit	Transmission circuit
Signal receiver	Signal receiver
Wireless remote control	Wireless remote control

(2) Notes

English	Translation
	Connection
X1M	Main terminal
-----	Field supply
	PCB
	Protective earth
	Rectifier
==■ ■ ■==	Field wire

NOTES:

BLK : Black
 BLU : Blue
 BRN : Brown
 GRN : Green
 ORG : Orange
 PNK : Pink
 RED : Red
 WHT : White
 YLW : Yellow
 Caution

When the main power is turned off and then back on again, operation will resume automatically.

(3) Legend




BZ	Buzzer
FG	Frame ground
FU1	Fuse
H*	Harness
IPM*	Intelligent power module
LED 1, LED 2	Light-emitting diode
M1F	Fan motor
M1S	Swing flap motor
MR*	Magnetic relay
PCB1, PCB2, PCB3	Printed circuit board
R1T	Room thermistor
R2T	Suction pipe thermistor
S6-S602	Connector
S1W	Operation switch
V2	Varistor
X1M	Terminal strip
Z°C	Ferrite core

Class 50~71

(1) Wiring diagram

English	Translation
Wiring diagram	Wiring diagram
Indoor	Indoor
Outdoor	Outdoor
Transmission circuit	Transmission circuit
Wireless remote control	Wireless remote control

(2) Notes

English	Translation
	Connection
X1M	Main terminal
-----	Field supply
	PCB
	Protective earth
==■ ■ ■==	Field wire

NOTES:

BLK : Black
 RED : Red
 BLU : Blue
 WHT : White
 GRN : Green
 YLW : Yellow
 ORG : Orange
 Caution

When the main power is turned off and then back on again, operation will resume automatically.

(3) Legend

FG, HE, S6~S900	Connector
F1U (FU1)	Fuse
T1R (L301)	Transformer
M1F	Fan motor
M1S	Swing flap motor
K1R (MR10)	Magnetic relay
A*P	Printed circuit board
R1T, R2T	Thermistor
BS1 (S1W)	Operation switch
R2V (V2)	Varistor
X1M	Terminal strip
Z°C	Ferrite core
IPM*	Intelligent power module
H*P (LED*)	Pilot lamp
V1R (DB301)	Diode bridge
H1O (BZ)	Buzzer
C*	Capacitor
SR (WLU)	Signal receiver

5.2.2 Wiring diagram: Outdoor unit


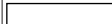

See the internal wiring diagram supplied with the unit (on the inside of the top plate). The abbreviations used are listed below.

Class 20~35

(1) Wiring diagram

English	Translation
Wiring diagram	Wiring diagram
Indoor	Indoor
Outdoor	Outdoor
Condenser	Condenser
Discharge	Discharge

(2) Notes

English	Translation
Note:	Note
	Connection
X1M	Main terminal
-----	Field supply
	PCB
	Protective earth
==■□■==	Field wire

NOTES:

- 1 Refer to the nameplate for the power requirements.

(3) Legend

C*	Capacitor
D401, D402	Diode
DB1	Diode bridge
FU2, FU3	Fuse
IPM*	Intelligent power module
K30R, K10R, MR4	Magnetic relay
L1R	Reactor
M1C	Compressor motor
M1F	Fan motor
A1P	Printed circuit board
PS	Switching power supply
Q1L	Overload protector
R1T	Thermistor (air)
R2T	Thermistor (heat exchanger)
R3T	Thermistor (discharge)
SA1	Surge arrestor
S20-S90	Connector
V2, V3	Varistor
X1M	Terminal strip
Y1S	Reversing solenoid valve coil
PTC1	Thermistor
Y1E	Electronic expansion valve
Z*C	Noise filter (ferrite core)
Z*F	Noise filter





Class 50~71

(1) Wiring diagram

English	Translation
Wiring diagram	Wiring diagram
Indoor	Indoor
Outdoor	Outdoor

English	Translation
Condenser	Condenser
Discharge	Discharge

(2) Notes

English	Translation
	Connection
X1M	Main terminal
-----	Field supply
	PCB
	Protective earth
	Earth
==■□■==	Field wire

NOTES:

BLK : Black
 BLU : Blue
 BRN : Brown
 GRN : Green
 GRY : Grey
 ORG : Orange
 RED : Red
 WHT : White
 YLW : Yellow

For the power requirements, refer to the nameplate.

(3) Legend

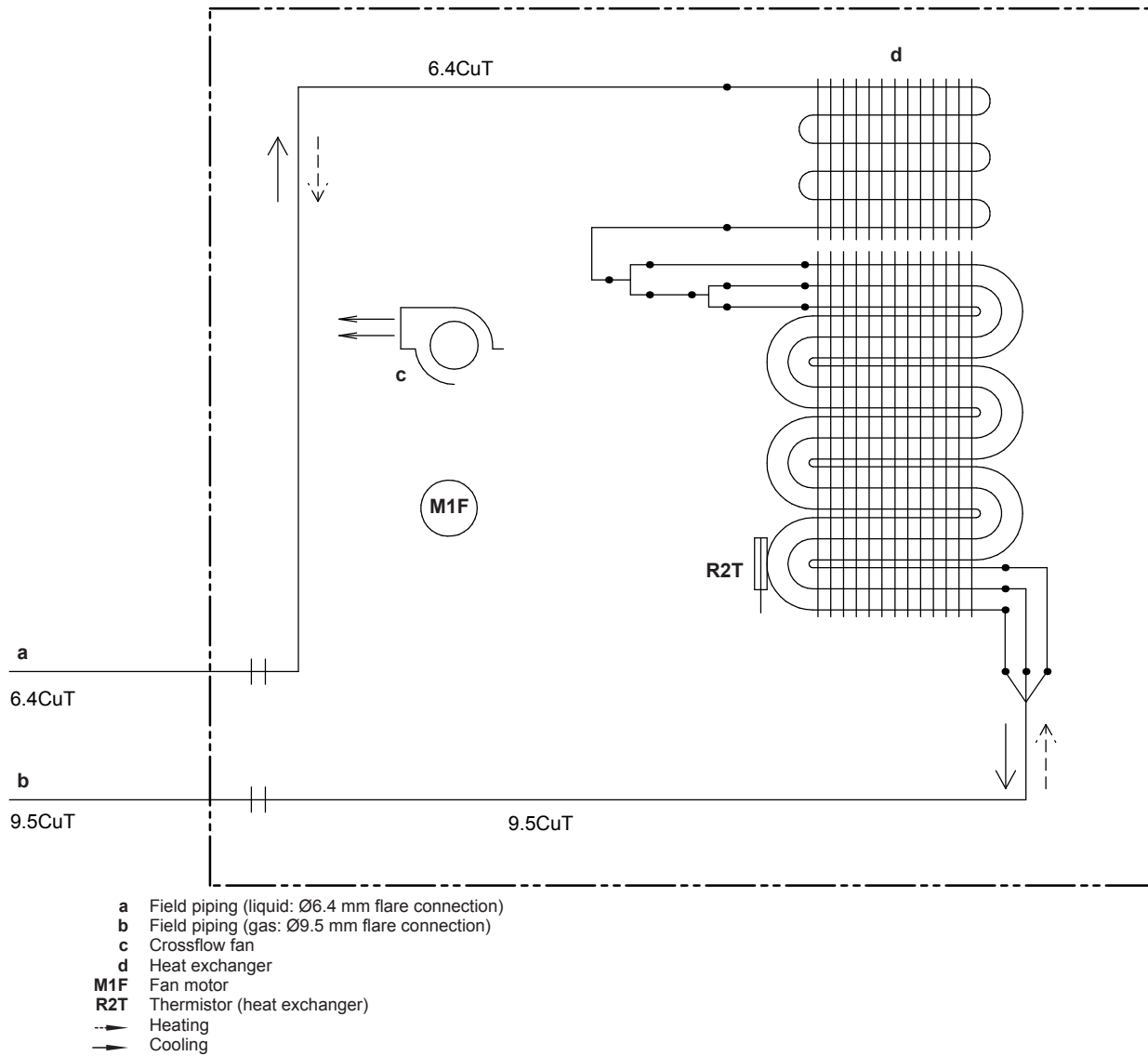
C*	Capacitor
D*	Diode
DB1	Diode bridge
E1, E2, HL1, HN1, S, U, V, W	Connector
FU1, FU2, FU3	Fuse
IPM*	Intelligent power module
L	Live
M1C	Compressor motor
M1F	Fan motor
MR*	Magnetic relay
N	Neutral
N = 4, N= 5	Number of passes
PAM	Pulse-amplitude modulation
PCB	Printed circuit board
PS	Switching power supply
Q1L	Overload protector
R1T, R2T, R3T	Thermistor
S1PH	High pressure switch
S2 -S90	Terminal connector
SA1	Surge arrestor
V1, V2, V3	Varistor
X11A	Connector
X1M	Terminal strip
Y1E	Electronic expansion valve
Y1S	Reversing solenoid valve coil
Z*C	Ferrite core
Z*F	Noise filter

5 Technical data

5.3 Piping diagram

5.3.1 Piping diagram: Indoor unit

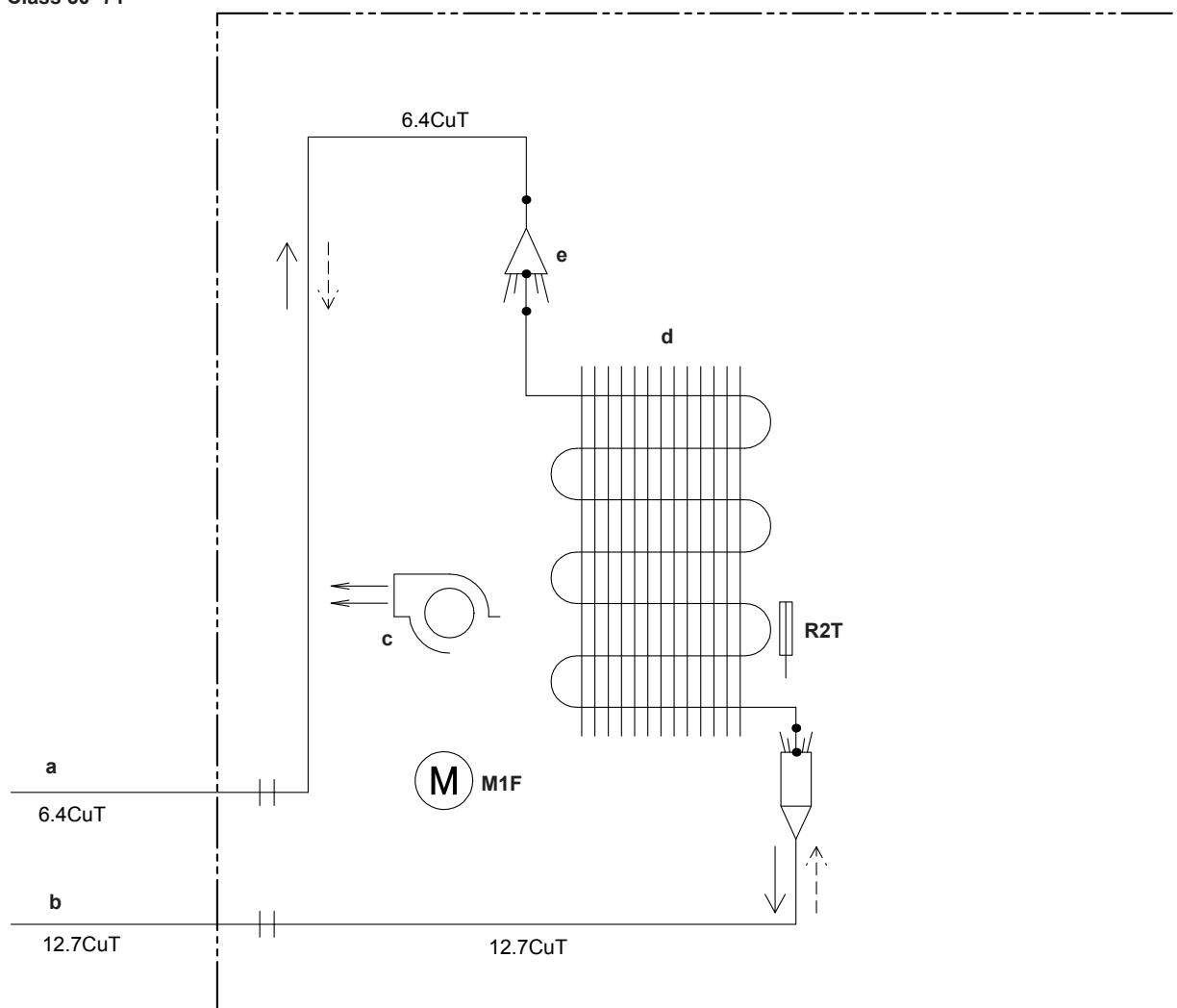
Class 20~35



INFORMATION

The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.

Class 50~71



- a Field piping (liquid: Ø6.4 mm flare connection)
- b Field piping (gas: Ø12.7 mm flare connection)
- c Crossflow fan
- d Heat exchanger
- e Distributor
- M1F Fan motor
- R2T Thermistor (heat exchanger)
- Heating
- Cooling

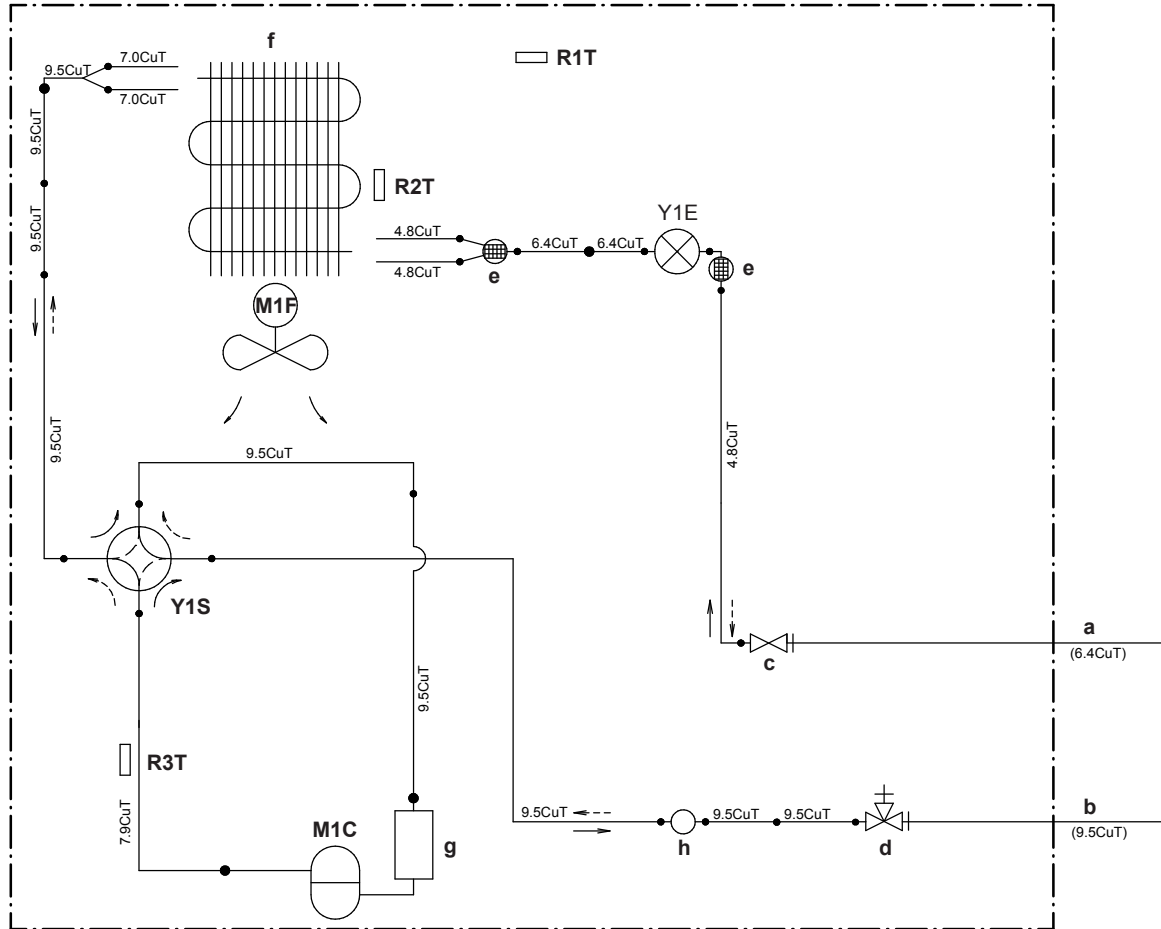
**INFORMATION**

The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.

5 Technical data

5.3.2 Piping diagram: Outdoor unit

Class 20~35



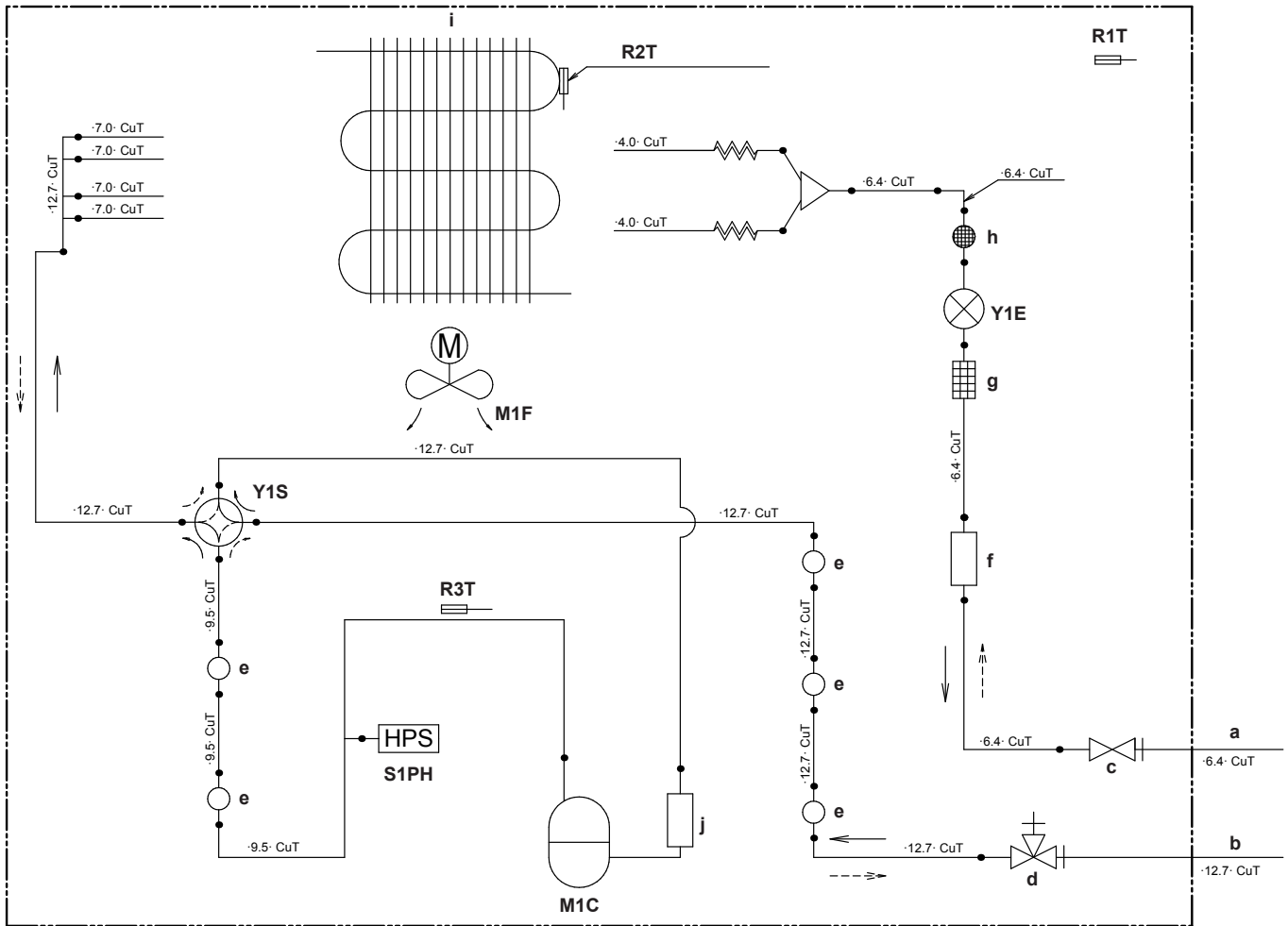
- a Field piping (liquid: Ø6.4 mm flare connection)
- b Field piping (gas: Ø9.5 mm flare connection)
- c Stop valve (liquid)
- d Stop valve with service port (gas)
- e Muffler with filter
- f Heat exchanger
- g Accumulator
- h Muffler
- M1C Compressor
- M1F Fan
- R1T Thermistor (outdoor air)
- R2T Thermistor (heat exchanger)
- R3T Thermistor (compressor discharge)
- Y1E Electronic expansion valve
- Y1S Solenoid valve (4-way valve)(ON: cooling)
- ↔ Heating
- Cooling



INFORMATION

The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.

RXP50L



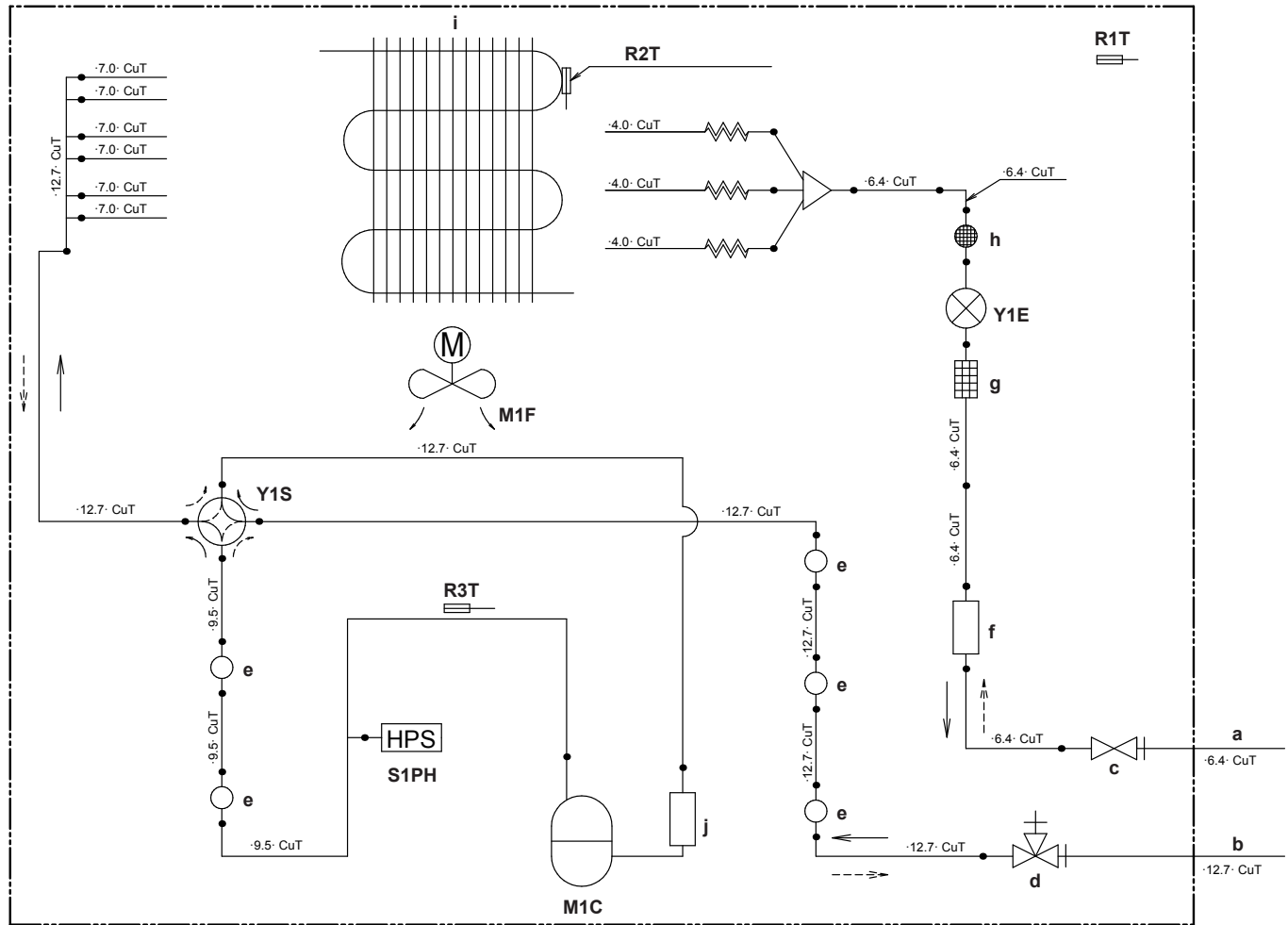
- a Field piping (liquid: Ø6.4 mm flare connection)
- b Field piping (gas: Ø12.7 mm flare connection)
- c Stop valve (liquid)
- d Stop valve (gas)
- e Muffler
- f Liquid receiver
- g Filter
- h Muffler with filter
- i Heat exchanger
- j Compressor
- Accumulator Compressor
- M1C Compressor
- M1F Fan
- R1T Thermistor (outdoor air)
- R2T Thermistor (heat exchanger)
- R3T Thermistor (compressor discharge)
- S1PH High pressure switch
- Y1E Electronic expansion valve
- Y1S Solenoid valve (4-way valve)(ON: heating)
- Heating
- Cooling

i INFORMATION

The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.

5 Technical data

RXP60~71L



- a Field piping (liquid: Ø6.4 mm flare connection)
- b Field piping (gas: Ø12.7 mm flare connection)
- c Stop valve (liquid)
- d Stop valve (gas)
- e Muffler
- f Liquid receiver
- g Filter
- h Muffler with filter
- i Heat exchanger
- j Accumulator
- M1C Compressor
- M1F Fan
- R1T Thermistor (outdoor air)
- R2T Thermistor (heat exchanger)
- R3T Thermistor (compressor discharge)
- S1PH High pressure switch
- Y1E Electronic expansion valve
- Y1S Solenoid valve (4-way valve)(ON: heating)
- Heating
- Cooling

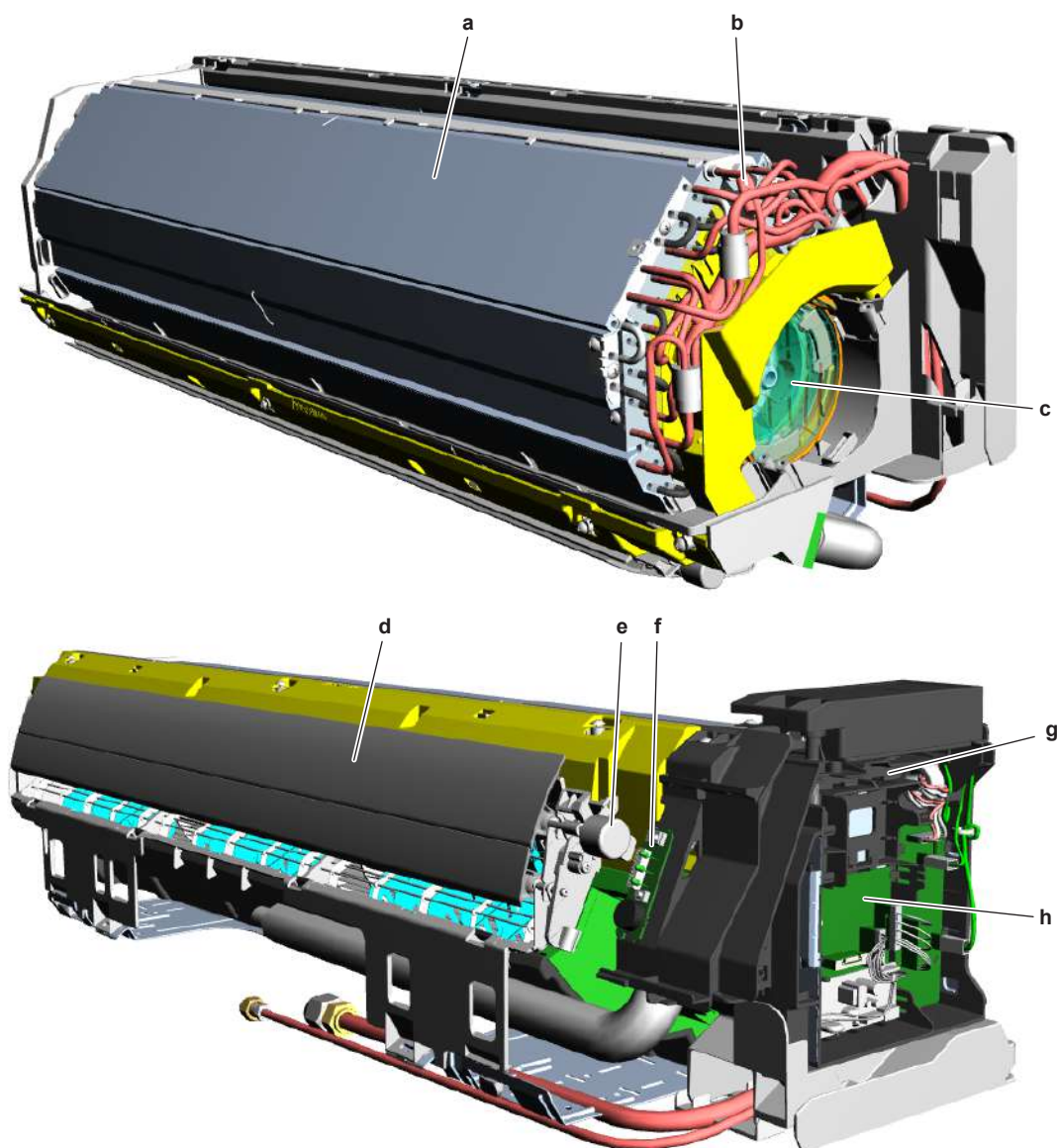


INFORMATION

The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.

5.4 Component overview

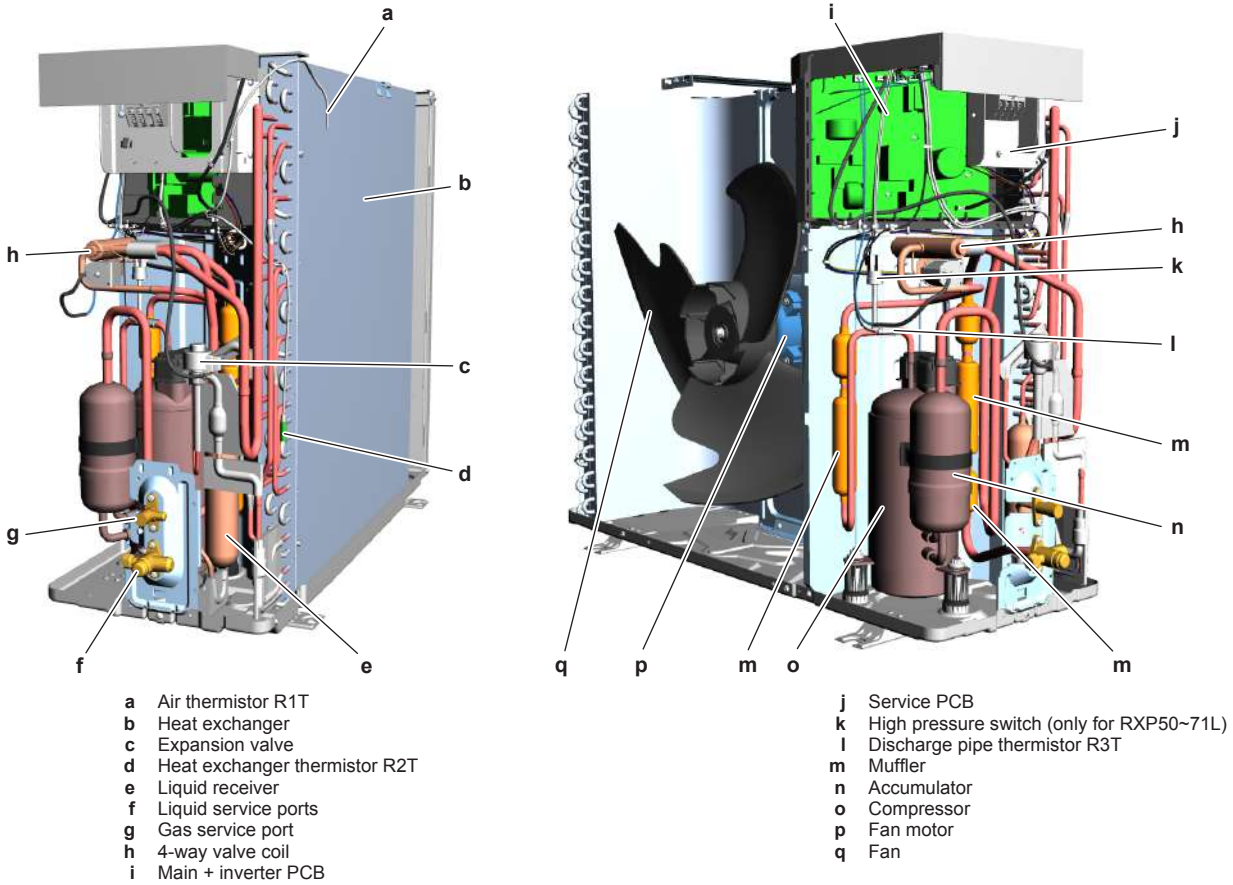
5.4.1 Component overview: Indoor unit



- a Heat exchanger
- b Heat exchanger thermistor R2T
- c Fan motor
- d Swing flap
- e Swing flap motor
- f Room thermistor R1T PCB
- g Switch box
- h Indoor unit PCB

5 Technical data

5.4.2 Component overview: Outdoor unit



5.5 Field information report

See next page.

In case a problem occurred on the unit which could not be resolved by using the content of this service manual or in case you have a problem which could be resolved but of which the manufacturer should be notified, we advise you to contact your distributor.
To facilitate the investigation, additional information is required. Please fill out the following form before contacting your distributor.

FIELD INFORMATION REPORT	
Key person information	
Name:	Company name:
Your contact details	
Phone number:	E-mail address:
Site address:	
Your reference:	Date of visit:
Claim information	
Title:	
Problem description:	
Error code:	Trouble date:
Problem frequency:	
Investigation steps done:	
Insert picture of the trouble.	
Current situation (solved, not solved,...):	
Countermeasures taken:	
Comments and proposals:	
Part available for return (if applicable):	

Application information

Application (house, apartment, office,...):

New project or reimbursement:

Heat emitters (radiators / under floor heating / fan coils /...):

Hydraulic layout (simple schematic):

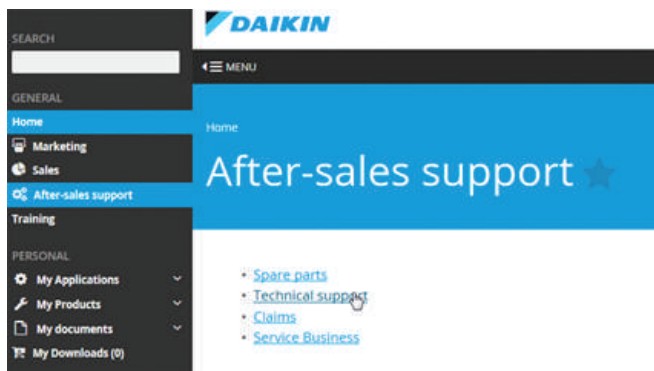
Unit / Installation information

Model name:	Serial number:
Installation / commissioning date:	Software version hydro PCB A1P
	Software version hydro PCB A5P
Software version user interface:	Software version outdoor PCB:
Minimum water volume:	Maximum water volume:
Brine composition and mixture:	
Brine freeze up temperature:	
Space heating control (leaving water temperature, room thermostat, external room thermostat):	
Space heating setpoint:	
Domestic hot water control (reheat only, schedule only, reheat + schedule):	
Domestic hot water setpoint:	
Provide pictures of the field settings overview (viewable on the user interface).	

5 Technical data

5.6 Service tools

- 1 For an overview of the available service tools, check the Business Portal: <http://www.mydaikin.eu>.
- 2 Go to the tab After-sales support on the left navigation pane and select Technical support.












- 3 Click the button Service tools. An overview of the available service tools for the different products is shown. Also additional information on the service tools (instruction, latest software) can be found here.

5.7 Field settings

5.7.1 Field settings: Indoor unit

To control the indoor unit fan during thermostat off

- 1 Press , , and  simultaneously.
- 2 Press .
- 3 Select SU.
- 4 Press  to confirm.
- 5 Press .
- 6 Select 4.
- 7 Press  to confirm.
- 8 Press .
- 9 Select 0 (0: fan ON, 1: fan OFF).
- 10 Press  to confirm.

5 Technical data

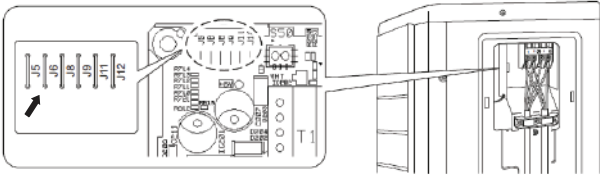
5.7.2 Field settings: Outdoor unit

To adapt the facility settings

INFORMATION

These settings are only to be used for facilities such as equipment or computer rooms and never in a residence or office with people.

- 1 Cut the jumper J6 on the circuit board using nippers or a similar tool to expand the operation range of the outdoor unit down to -15°C .



INFORMATION

The outdoor unit will stop operating when the temperature drops below -20°C and start back up once the temperature rises again.

- 2 Below is an overview of the other jumpers settings:
 - J5: No function for this unit
 - J8: Cold region setting (changing the operating range from -10°C to -15°C)
 - J9: No function for this unit
 - J11: Protection for error memory overwrite (only to be used during development)
 - J12: No function for this unit

