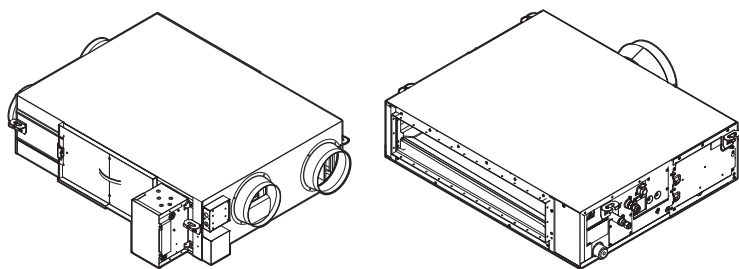


Service manual

# VRV system air conditioner



VAM350J8VEB  
VAM500J8VEB  
VAM650J8VEB  
VAM800J8VEB  
VAM1000J8VEB  
VAM1500J8VEB  
VAM2000J8VEB

EKVDX32A2VEB  
EKVDX50A2VEB  
EKVDX80A2VEB  
EKVDX100A2VEB

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# Version log

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# 1 Safety precautions

The precautions described in this document cover very important topics, follow them carefully.

All activities described in the service manual must be performed by an authorized person.

If you are NOT sure how to install, operate or service the unit, contact your dealer.

In accordance with the applicable legislation, it might be necessary to provide a logbook with the product containing at least:

information on maintenance, repair work, results of tests, stand-by periods, ...

Also, at least, following information must be provided at an accessible place at the product:

- Instructions for shutting down the system in case of an emergency
- Name and address of fire department, police and hospital
- Name, address and day and night telephone numbers for obtaining service

In Europe, EN378 provides the necessary guidance for this logbook.

## 1.1 Meaning of warnings and symbols



### **DANGER**

Indicates a situation that results in death or serious injury.



### **DANGER: RISK OF ELECTROCUTION**

Indicates a situation that could result in electrocution.



### **DANGER: RISK OF BURNING/SCALDING**

Indicates a situation that could result in burning/scalding because of extreme hot or cold temperatures.



### **DANGER: RISK OF EXPLOSION**

Indicates a situation that could result in explosion.



### **WARNING**

Indicates a situation that could result in death or serious injury.



### **WARNING: FLAMMABLE MATERIAL**



### **CAUTION**

Indicates a situation that could result in minor or moderate injury.



### **NOTICE**

Indicates a situation that could result in equipment or property damage.

**INFORMATION**

Indicates useful tips or additional information.

## 1.2 Dangers

**DANGER: RISK OF BURNING/SCALDING**

- Do NOT touch the refrigerant piping, water piping or internal parts during and immediately after operation. It could be too hot or too cold. Give it time to return to normal temperature. If you MUST touch it, wear protective gloves.
- Do NOT touch any accidental leaking refrigerant.

**DANGER: RISK OF ELECTROCUTION**

- Turn OFF all power supply before removing the switch box cover, connecting electrical wiring or touching electrical parts.
- Where applicable, stop the equipment's operation first and allow (refrigerant) pressure to equalize, before turning OFF the power.
- Disconnect the power supply for more than 10 minutes, and measure the voltage at the terminals of main circuit capacitors or electrical components before servicing. The voltage MUST be less than 50 V DC before you can touch electrical components. For the location of the terminals, see the wiring diagram. If the measured voltage is still higher than 50 V DC, discharge the capacitors in a safe manner by using a dedicated capacitor discharge pen to avoid possibility of sparking.
- Do NOT touch electrical components with wet hands.
- Do NOT leave the unit unattended when the service cover is removed.
- Protect electric components from getting wet while the service cover is opened.

## 1.3 Warnings

**WARNING**

Improper installation or attachment of equipment or accessories could result in electrical shock, short-circuit, leaks, fire or other damage to the equipment. ONLY use accessories, optional equipment and spare parts made or approved by Daikin.

**WARNING**

Do NOT apply any permanent inductive or capacitance loads to the circuit without ensuring that this will NOT exceed the permissible voltage and current permitted for the equipment in use.



### WARNING

If a fault exists that could compromise safety, Do NOT connect electrical supply to the circuit until it is satisfactorily dealt with. If the fault CANNOT be corrected immediately but it is necessary to continue operation, an adequate temporary solution MUST be used. This MUST be reported to the owner of the equipment so all parties are advised.

Initial safety checks MUST include that:

- capacitors are discharged: this MUST be done in a safe manner to avoid possibility of sparking,
- NO live electrical components and wiring are exposed while charging, recovering or purging the system.



### WARNING

Make sure that the refrigerating piping and components are installed in a position where they are unlikely to be exposed to any corroding substance.



### WARNING

Make sure installation, testing and applied materials comply with applicable legislation (on top of the instructions described in the Daikin documentation).



### WARNING

Make sure the work site environment is clean and safe to work in. Beware of spilled fluids, like water, oil or other substances.

Protect bystanders from injury and property from possible damage cause by service works.



### WARNING

If any work is to be conducted on the refrigerating equipment or any associated parts which involves brazing, an appropriate dry powder or CO<sub>2</sub> fire extinguisher MUST be present.

When charging the unit, an appropriate dry powder or CO<sub>2</sub> fire extinguisher MUST be present.



### WARNING

No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, MUST be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs MUST be displayed.



### WARNING

Tear apart and throw away plastic packaging bags so that nobody, especially children, can play with them. Possible risk: suffocation.



### WARNING

During tests, NEVER pressurise the product with a pressure higher than the maximum allowable pressure (as indicated on the nameplate of the unit).

**WARNING**

Make sure the total refrigerant charge is in accordance with the room size in which the unit is installed: please consult the detailed instructions on charging and allowed room sizes in the installation manual.

**WARNING**

- NEVER mix different refrigerants or allow air to enter the refrigerant system.
- NEVER charge recovered refrigerant from another unit. Use recovered refrigerant only on the same unit where it was recovered from, or have it recycled at a certified facility.

**WARNING**

When reconnecting a connector to the PCB, make sure to connect it on the correct location and do NOT apply force, as this may damage the connector or connector pins of the PCB.

**WARNING**

ALWAYS recover the refrigerant. Do NOT release them directly into the environment. Use a vacuum pump to evacuate the installation.

**WARNING**

Removal of refrigerant MUST be according to the following:

When breaking into the refrigerant circuit to make repairs, be sure to remove the refrigerant from the system first. The refrigerant charge MUST be recovered into the correct recovery cylinders.

**WARNING**

Take sufficient precautions in case of refrigerant leakage. If refrigerant gas leaks, ventilate the area immediately. Possible risks:

- Excessive refrigerant concentrations in a closed room can lead to oxygen deficiency.
- Toxic gas might be produced if refrigerant gas comes into contact with fire.

**WARNING**

- Under no circumstances, potential sources of ignition SHALL be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) MUST NOT be used.
- Ensure that the detector is NOT a potential source of ignition and is suitable for the detection of R32.
- If a leak is suspected, all naked flames MUST be removed or extinguished.
- Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine MUST be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.
- If a leakage of refrigerant is found which requires brazing, all of the refrigerant MUST be recovered from the system, or isolated (by means of shut-off valves) in a part of the system remote from the leak.
- Only use the electronic leak tester for R32. The old flame leak tester CANNOT be used on a system with HFC refrigerant because there is no chlorine component in the refrigerant. In case of R32 (HFC) refrigerant, any flame in contact with (leaking) refrigerant is extremely dangerous.



### WARNING

- In order to prevent oxygen deficiency and R32 combustion, keep the room well-ventilated for a healthy work environment. Do NOT work in a confined space. If a refrigerant leak is detected in a confined room or an inadequately ventilated location, do NOT start the work until the area has been ventilated appropriately.
- If the work area is NOT located in the open air, make sure the work area is adequately ventilated before breaking into the system or conducting any brazing. The ventilation MUST continue to operate during the period that the work is carried out to prevent accumulation of refrigerant in the work area. The ventilation should safely disperse any released refrigerant and preferably ventilate to the open air.



### WARNING

Ensure that no external live wiring is exposed while charging, recovering or purging the system. Sparks created when live wiring is short-circuited might ignite the refrigerant if it is leaked into the room while charging, recovering or purging the system.



### WARNING

Ensure that the unit is properly earthed prior to conducting maintenance or service or charging the system with refrigerant. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earthing may cause electrical shock.



### WARNING

- ONLY use copper wires.
- Make sure the field wiring complies with the applicable legislation.
- All field wiring MUST be performed in accordance with the wiring diagram supplied with the product.
- NEVER squeeze bundled cables and make sure they do NOT come in contact with the piping and sharp edges. Make sure no external pressure is applied to the terminal connections.
- Make sure to install earth wiring. Do NOT earth the unit to a utility pipe, surge absorber, or telephone earth. Incomplete earth may cause electrical shock.
- Make sure to use a dedicated power circuit. NEVER use a power supply shared by another appliance.
- Make sure to install the required fuses or circuit breakers.
- Make sure to install an earth leakage protector. Failure to do so may cause electrical shock or fire.
- When installing the earth leakage protector, make sure it is compatible with the inverter (resistant to high frequency electric noise) to avoid unnecessary opening of the earth leakage protector.



### WARNING

Make sure the markings on the unit remain visible and legible after inspection or repair work. Markings and signs that are illegible shall be corrected.



### WARNING

- After finishing the electrical work, confirm that each electrical component and terminal inside the electrical components box is connected securely.
- Make sure all covers are closed before starting up the unit.

**WARNING**

- The area **MUST** be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres.
- Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.
- Prior to and during work, the area **MUST** be checked with an appropriate refrigerant detector capable of detecting R32 refrigerant, to ensure a work environment free of refrigerant.

**WARNING**

- Equipment **MUST** be labelled stating that it has been de-commissioned and emptied of refrigerant.
- The label **MUST** be dated and signed.
- For appliances containing flammable refrigerants, ensure that there are labels on the equipment stating the equipment contains flammable refrigerant.

**WARNING**

Before carrying out refrigerant recovery procedure, it is essential that the technician is completely familiar with the equipment and all its details. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample **MUST** be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.
- Ensure that mechanical handling equipment is available, if required, for handling refrigerant cylinders.
- Ensure that all personal protective equipment is available and is used correctly.
- Ensure that the recovery process is supervised at all times by a competent person.
- Ensure that recovery equipment and cylinders conform to the appropriate standards.
- If a vacuum is **NOT** possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with instructions.
- Do **NOT** overfill cylinders (no more than 60% volume liquid charge).
- Do **NOT** exceed the maximum working pressure of the cylinder, **NOT** even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed.
- Recovered refrigerant **MUST NOT** be charged into another refrigerating system unless it has been cleaned and checked.

**WARNING**

All maintenance staff and others working in the local area **MUST** be instructed on the nature of work being carried out.



### WARNING

Provide adequate measures to prevent that the unit can be used as a shelter by small animals. Small animals that make contact with electrical parts can cause malfunctions, smoke or fire.



### WARNING

Prior to start working on systems containing flammable refrigerant, safety checks are necessary to ensure that the risk of ignition is minimised. Therefore, some instructions should be followed.

Please refer to the service manual for more information.



### WARNING

- In case refrigerant recovery is required, use the appropriate service ports.
- If applicable for your unit, use the appropriate recovery mode or field setting to smoothly recover the refrigerant.
- ONLY use leak free hoses, couplings and manifolds in good working condition.
- ONLY use recovery cylinders designated and labelled to recover R32. Note that thread connection to the cylinder is counter clock.
- Always use a calibrated scale in good condition prior and during the refrigerant recovery process to determine the weight of the recovered refrigerant into the external refrigerant cylinder.
- Read the operation instructions of the recovery unit prior to connecting the recovery unit. Verify the recovery unit is suited for R32 refrigerant, check that it is in good working condition, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.
- Do NOT overfill the refrigerant cylinder, confirm with the supplier of the refrigerant cylinder about maximum filling ratio if NOT mentioned on the refrigerant cylinder itself. Generally the maximum filling amount should be limited to 60% of the maximum volume of the cylinder.
- Do NOT exceed the maximum working pressure of the refrigerant cylinder, NOT even temporarily.
- When the cylinders have been filled correctly, and the refrigerant recovery process is completed, make sure that the cylinders and the equipment are removed from site promptly and all stop valves on the equipment are (kept) closed.
- The recovered refrigerant MUST be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do NOT mix refrigerants in recovery units and especially NOT in cylinders.
- Recovered refrigerant MUST NOT be charged into another refrigerant system unless it has been cleaned and checked.



### WARNING

If compressor is to be removed, ensure that the compressor has been evacuated to an acceptable level to make sure that flammable refrigerant does NOT remain within the lubricant. The evacuation process MUST be carried out prior to returning the compressor to the supplier. During the refrigerant recovery, confirm that the crankcase heater of the compressor body is energized to accelerate this process. When oil is drained from a system, it MUST be carried out safely.

## 1.4 Cautions

**CAUTION**

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

**CAUTION**

To avoid injury, do NOT touch the air inlet or aluminium fins of the unit.

**CAUTION**

- Do NOT place any objects or equipment on top of the unit.
- Do NOT sit, climb or stand on the unit.

## 1.5 Notices

**NOTICE**

- Make sure water quality complies with EU directive 2020/2184.
- Check the system for leaks after each repair/modification of the water side.
- Check drainage system(s) after repairs.
- Be careful when tilting units as water may leak.

**NOTICE**

Make sure refrigerant piping installation complies with applicable legislation. In Europe, EN378 is the applicable standard.

**NOTICE**

Make sure the field piping and connections are NOT subjected to stress.

## 2 General operation

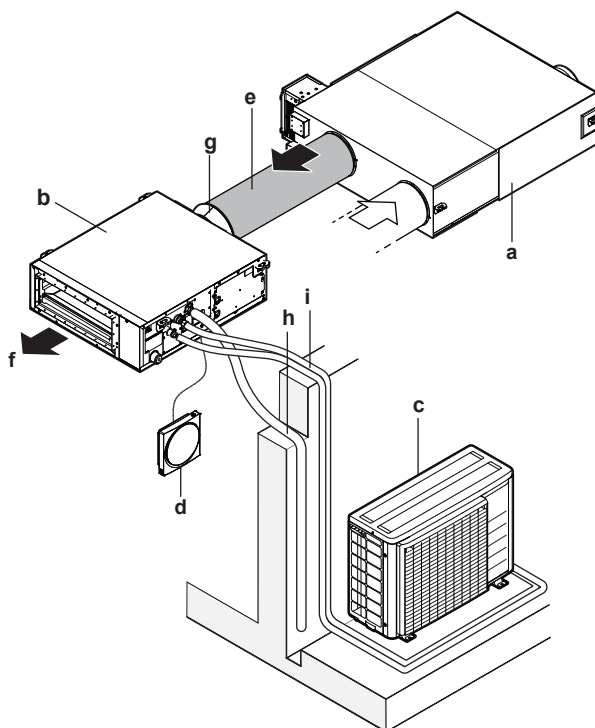
The EKVDX is an airconditioning unit for pretreatment of incoming supply air from a VAM heat reclaim ventilation unit. For comfort temperature control, it is still required to install a normal indoor unit.

Do not place the EKVDX before the heat reclaim ventilation unit.

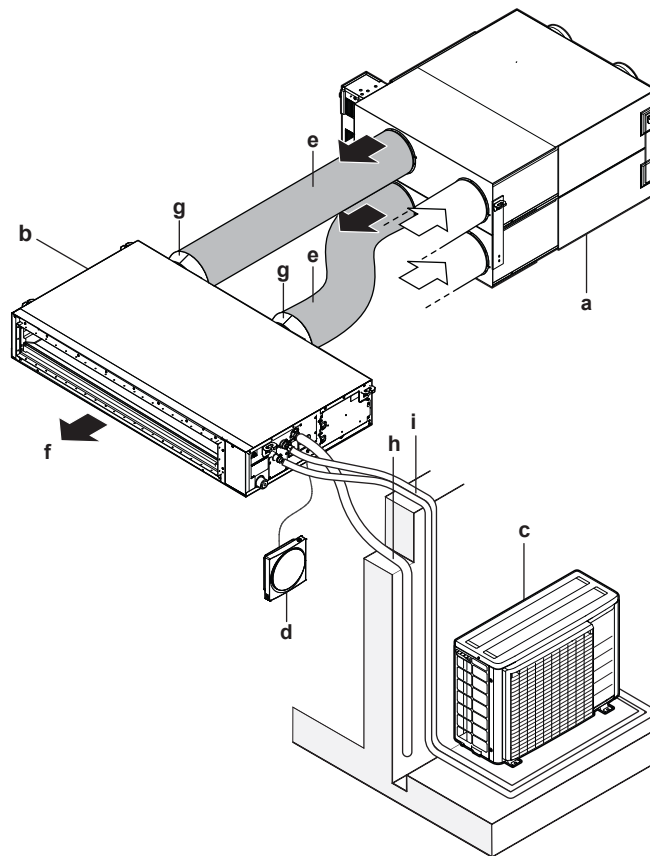


### INFORMATION

The following figures are just examples and may NOT completely match your system layout.



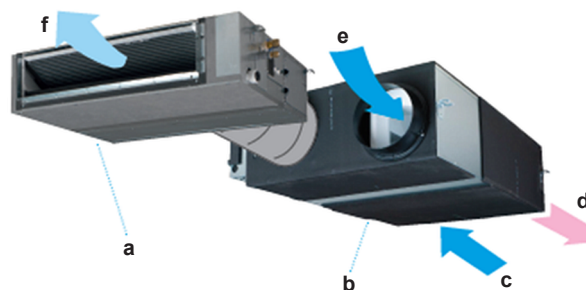
2-1 For VAM500~1000 and EKVDX32~80



2-2 For VAM1500+2000 and EKVDX100

- a Heat reclaim ventilation unit (VAM)
- b EKVDX indoor unit
- c Outdoor unit
- d User interface
- e Air inlet duct for EKVDX indoor unit
- f Discharge air
- g Duct flange(s)
- h Drain pipe
- i Refrigerant piping + transmission cable

The EKVDX-A DX coil module is a unit based on the FXSA-A VRV indoor unit (without its fan). The new VAM-J8 range is mechanically the same as the current VAM-J series but upgraded from PCB and control software point of view to allow cooperation with the DX coil module. The two units are connected with a field supplied duct and with necessary wiring for the control.

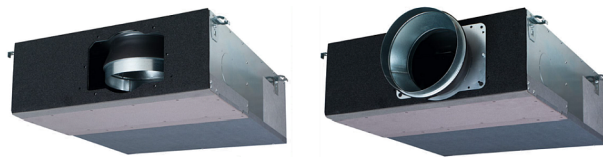


- a EKVDX unit
- b VAM-J8 unit
- c Fresh air
- d Exhaust air
- e Return air
- f Supply air

EKVDX-A/VAM-J8 is a fresh air pre-treatment solution. Please keep in mind that this is NOT a comfort solution. It CAN be connected to a VRV IV, VRV IV+ or VRV5 Outdoor Unit. There are some exception for combinations due to R32 safety, such as VAM350J8 and EKVDX32A2 combination is NOT allowed, these combination rules are present in the Databook. The unit is delivered by default for VRV5 connection.

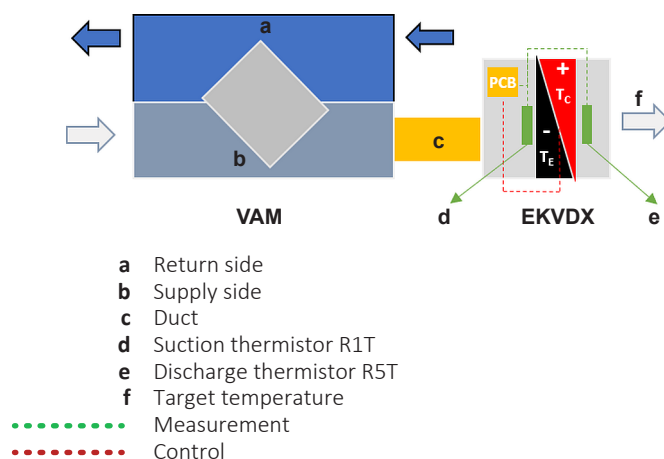
VAM-J8 is flexible for installation: CAN be installed horizontally, vertically or upside down and it is also possible to choose the connecting duct length in function of installation and available ESP conditions. EKVDX-A however, is NOT flexible for installation as you might expect, because it is a DX unit. See installer reference guide for more details.

VAM-J8 unit CAN be installed stand-alone as a Heat Recovery Ventilator while EKVDX-A CANNOT be installed stand-alone.



The two units are connected to each other with the use of field supplied ducts. Depending on the combination of units a duct reducer may be required in order to match the diameter of the duct connection of the two units. The reducer is placed inside the EKVDX-A unit for easier transportation.

### Operation logic



When combining VAM + EKVDX-A, the setpoint on the remote controller will be the target temperature that supply air should have at the end of the duct (just before the ventilated room). Achieving the target temperature will be done indirectly via the measurement of R5T (temperature after coil) and a correction factor (CF) functionality available on the remote controller:

- If ducting is long or NOT well insulated or R5T does NOT correspond to the average supply air temperature, target temperature will be different than R5T. In these cases CF CAN be applied to increase/reduce evaporation/condensation temperature to achieve such R5T which will result to the required target temperature.

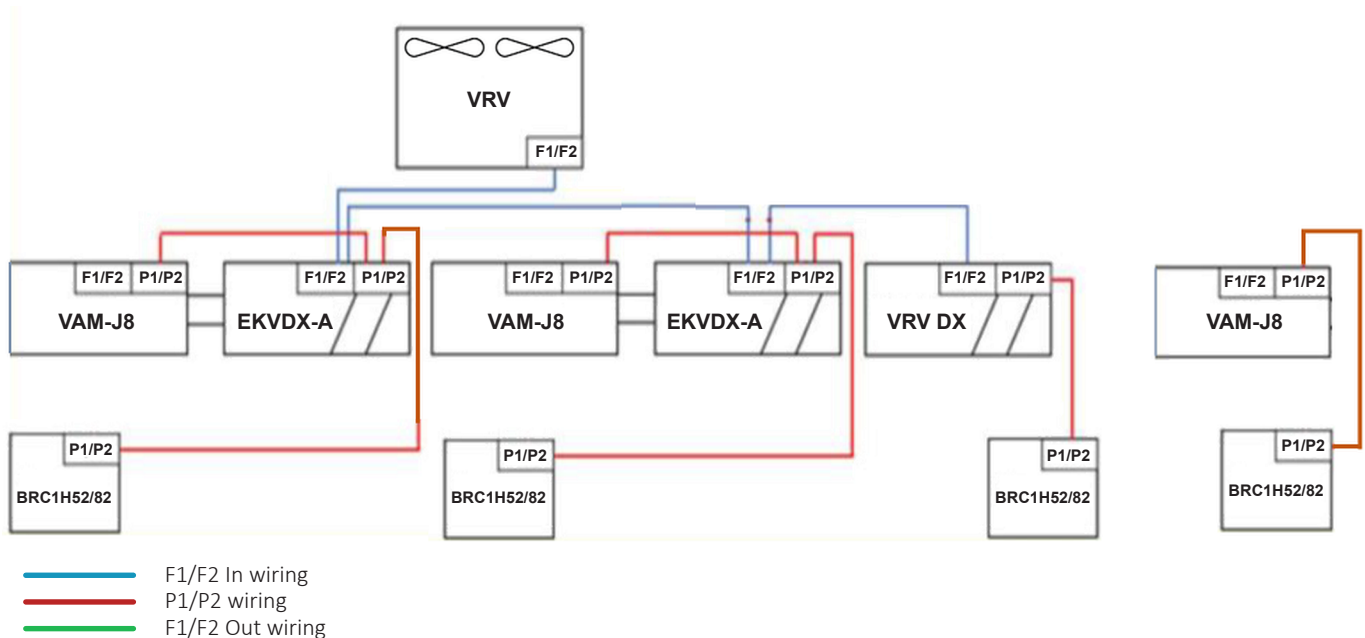
In cooling, target temperature = R5T + CF  
 In heating, target temperature = R5T - CF

- If ducting is short or well insulated, the installer can consider that R5T= target temperature, so NO need to set any CF (CF=0 by default).
- Correction factor CAN be set by field setting 20-13. Default setting is 0. CF CAN be set in range 0~7 with increments of 0.5.

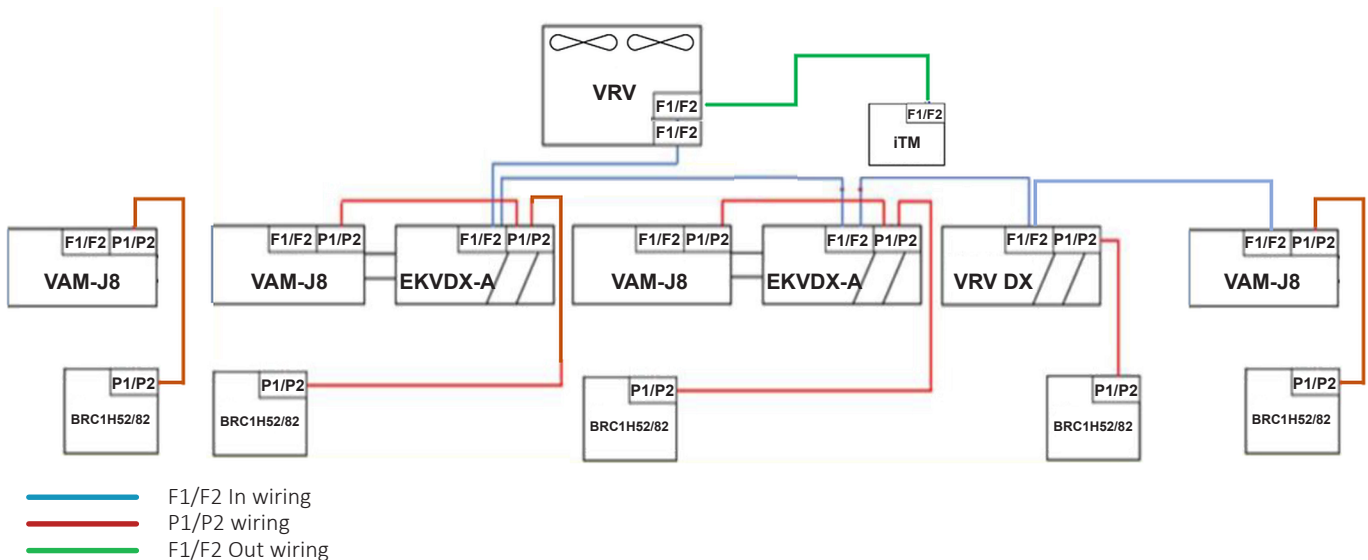
- Example: Remote controller is set to Cooling and temperature is set to 19°C. R5T (discharge temperature) is 19°C but we expect that air will reach the room at 21°C due to heat losses in the ducting. In this case, you MUST use of correction factor  $21-19=2$  [it means CF=2]. Then the unit tries to achieve R5T = 17°C which will result to target temperature = 19°C.

### Wiring

#### INDEPENDENT SYSTEM



#### CENTRALIZED SYSTEM



F1/F2 wiring should ONLY be connected to EKVDX-A in case of EKVDX-A/VAM pair. Upon communication initialization of F1/F2 communication circuit via VRV outdoor unit, if EKVDX-A is detected alone (due to installation mistake or issues at P1/P2 wiring between EKVDX-A and VAM etc) then UJ-35 error will be triggered. If F1/F2 is connected to VAM as well, then UJ-36 error will be triggered.

BRC1H52/82\* is the dedicated remote controller for R32 units. In case of VRV R32 and BRC1H51/81 is used, U5-04 error will be triggered. No more than 1 pair of EKVDX-A/VAM CAN be connected through P1/P2 wiring. EKVDX-A/VAM is ALSO

compatible with VRV IV and VRV IV+, in this case a field setting is required at VAM and EKVDX-A unit to indicate system is R410A. In this case BRC1H51/81 can be used.

VAM CAN be installed standalone as well. In this case it should have a separate remote controller. If centralized control is to be used, then F1/F2 In wiring will include the standalone VAM. In this case VAM will NOT be registered as a unit via VRV, but it will be visible through the central controller.

## 3 Troubleshooting

### 3.1 To retrieve error codes and check error history

#### 3.1.1 Via the indoor unit remote controller BRC1H

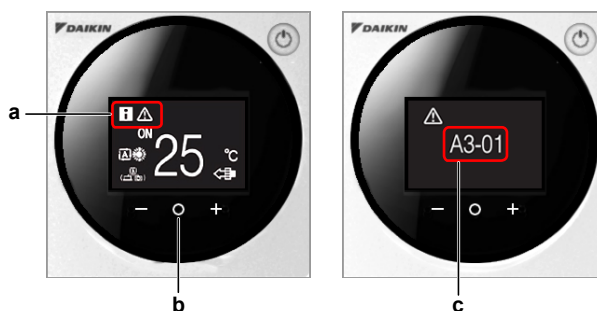


#### INFORMATION

Images are in English and for reference ONLY. For more details on the Madoka Assistant please refer to the BRC1H training course material which is available on the Daikin Business Portal.

#### To retrieve the error code

To indicate a system error, the controller displays on the messages zone of the home screen.



- a Messages zone
- b Middle button
- c Error screen

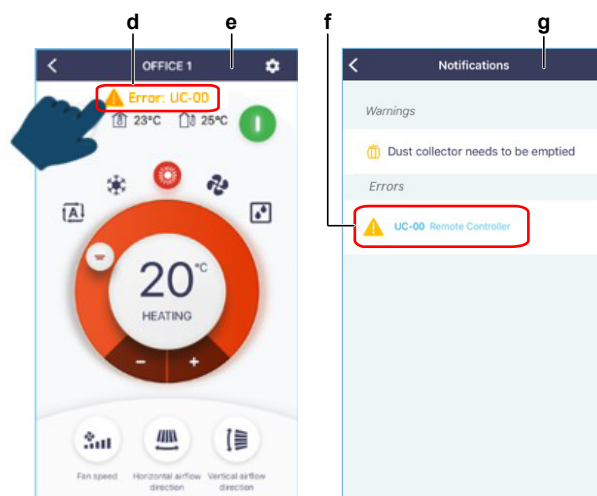
- 1 Press the middle button to enter the main menu from the home screen.

**Result:** An error screen is displayed.

- 2 Press the middle button to return to the home screen.

Active error codes are also accessible through the Madoka Assistant for BRC1H.

The active error is shown on the home screen.



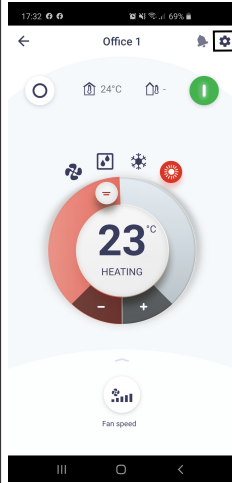
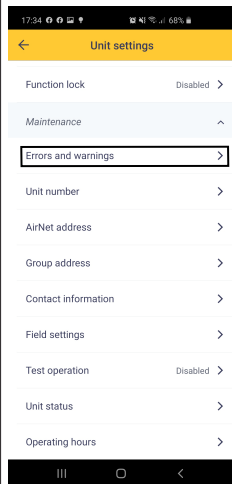
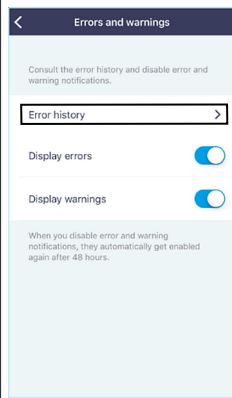
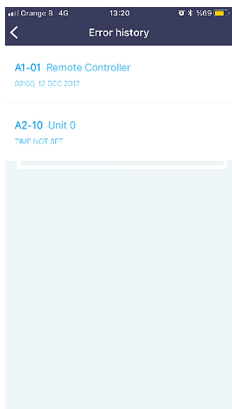
- d Active error
- e Home screen
- f Error(s) details
- g Notifications screen

### 3 Tap the active error.

**Result:** The detail(s) of the error(s) are shown on the Notifications screen.

#### To check the error history

To check the error history with the Madoka Assistant for BRC1H:

| # | Action                   | Image for reference                                                                  | Result                                                                                                                          |
|---|--------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| 1 | Tap the settings icon.   |    | The Unit settings screen is displayed.                                                                                          |
| 2 | Tap Errors and warnings. |   | The Errors and warnings screen is displayed.                                                                                    |
| 3 | Tap Error history.       |  | <br>The Error history screen is displayed. |

## 3.2 Error based troubleshooting

### 3.2.1 A0-00 – External protection device activated

#### EKVDX-A units

| Trigger                                     | Effect                   | Reset       |
|---------------------------------------------|--------------------------|-------------|
| T1-T2 input is ON and field setting 22-1=3. | Unit will stop operating | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- Check if the field setting 22-1 is correctly set according to the following wiring situations on T1-T2 of X1M terminal of the indoor unit. See "[5.8 Field settings](#)" [▶ 83]. Correct as needed.

  - No wiring connected: Field setting 22-1=1
  - Wiring connected to a window or door contact: Field setting 22-1=1
  - Wiring connected to a remote operation switch: Field setting 22-1=2
  - Wiring connected to an external protection device (fire alarm, R32 leak detection sensor,...): Field setting 22-1=3

**Possible cause:** Incorrect field setting.
- If wiring connected to T1-T2 of X1M terminal of the indoor unit, check correct connection and continuity of the wiring. See "[5.2 Wiring diagram](#)" [▶ 63].

**Possible cause:** Faulty or damaged wiring between T1-T2 of X1M terminal of the indoor unit and external device.
- If wiring is connected, measure on T1-T2 of X1M terminal of the indoor unit to check for the correct functioning of the external device:

  - Wiring connected to a window or door contact: Open circuit (unit continues previous operation, remote controller enabled) when window / door is closed, short-circuit (forced stop, remote controller buttons disabled) when window / door is open. Replace window / door contact if incorrect measurement.  
**Possible cause:** Faulty window / door contact.
  - Wiring connected to a remote operation switch: Open circuit when OFF command to the unit, short-circuit when ON command to the unit. Replace remote operation switch if incorrect measurement.  
**Possible cause:** Faulty remote operation switch.
  - Wiring connected to an external protection device (fire alarm, R32 leak detection sensor,...): Short-circuit when normal operation, open circuit (forced stop with error code A0-00) when external protection device is active. If open circuit is detected, check and eliminate the root cause why the protection device is activated. Do NOT try to run the unit until the root cause is eliminated. If NO root cause was found, protection device may be faulty. Replace as needed.  
**Possible cause:** Root cause of external protection device activation or faulty external protection device.
- Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.

**Possible cause:** External source may cause interference.

- 5 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.2 A0-11 – R32 leakage detection

#### EKVDX-A units

| Trigger                                                                                         | Effect                                                                                           | Reset                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The R32 sensor indoor unit detected a refrigerant leak while fan of indoor unit is switched ON. | Indoor unit will stop operating after end of automatic refrigerant recovery to the outdoor unit. | <ul style="list-style-type: none"> <li>▪ Power reset of the indoor unit.</li> <li>▪ Set field setting 25-14-01 to 02 on the remote controller of the faulty indoor unit.</li> <li>▪ Outdoor unit shows error “UA-55”. Set field setting 2-47 to 1 on the outdoor unit.</li> </ul> |

#### To solve the error code



#### INFORMATION

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

- 1 Check the field piping for refrigerant leak. Check saturation pressure of the field piping via the liquid service port and gas stop valve.
- 2 If saturation pressure (gas and/or liquid) < outdoor ambient temperature, refrigerant leak is present. Perform as follows to repair the refrigerant leak:
  - Recover the refrigerant, see To recuperate the refrigerant.
  - Repair the field piping.
  - Perform a pressure test of the field piping.
  - Replace the R32 leak detection sensor of the indoor unit with error code A0-11. After replacement, indoor unit will display error code CH-10.
  - Recharge the refrigerant at the outdoor unit. Consult amount sticker. See installation manual of the outdoor unit for correct refrigerant charge procedure.
  - Fill in the logbook.

**Possible cause:** Refrigerant leak at indoor unit side.
- 3 If saturation pressure (gas and/or liquid) = outdoor ambient temperature, NO refrigerant leak is present. Perform as described below.
- 4 Perform a check of the R32 leak detection sensor of the faulty indoor unit. See R32 leak detection sensor.
 

**Possible cause:** Faulty R32 leak detection sensor.
- 5 Check if any external (foreign) vapor substance influenced the functioning of the R32 leak detection sensor. Repair as needed.

**Possible cause:** External (foreign) vapor substance reacted with R32 leak detection sensor.

- 6 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.3 A1-00 – Main PCB abnormality

#### EKVDX-A and VAM-J8 units



#### INFORMATION

In case of EKVDX-A + VAM-J8 combination: check via the remote controller which indoor unit generates this error. Perform procedures described below for the applicable indoor unit.

| Trigger                      | Effect                    | Reset                       |
|------------------------------|---------------------------|-----------------------------|
| Data read error from EEPROM. | Unit will stop operating. | Power reset of indoor unit. |

#### To solve the error code



#### INFORMATION

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

- 1 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.

**Possible cause:** External source may cause interference.

- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.4 A3-00 – Drain water level abnormality

#### EKVDX-A units

| Trigger                                               | Effect                    | Reset                    |
|-------------------------------------------------------|---------------------------|--------------------------|
| Float switch is open circuit during normal operation. | Unit will stop operating. | Remote controller reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Check for excess water level in the drain pan. Empty the drain pan and correct installation of drain piping as needed. See indoor unit installation manual for more detailed information.  
**Possible cause:** Excess water in the drain pan and/or incorrect installation of drain piping.
- 3 Perform a check of the float switch. See Float switch.  
**Possible cause:** Faulty float switch.
- 4 Perform a check of the drain pump. See Drain pump.  
**Possible cause:** Faulty drain pump.
- 5 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

#### 3.2.5 A3-08 – Drain pump connector open

##### EKVDX-A units

| Trigger                  | Effect                    | Reset        |
|--------------------------|---------------------------|--------------|
| Drain pump NOT detected. | Unit will stop operating. | Power reset. |

##### To solve the error code



#### INFORMATION

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

- 1 Perform a check of the drain pump. See Drain pump.  
**Possible cause:** Faulty drain pump.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

## 3.2.6 A6-01-02-05-06 – Fan motor abnormality - motor lock

## VAM-J8 units

| Trigger                                          | Effect                     | Reset                    |
|--------------------------------------------------|----------------------------|--------------------------|
| Fan speed does NOT rise when PCB command fan ON. | Units will stop operating. | Remote controller reset. |

| Sub code | Unit           | Fan motor            |     | Fan PCB |
|----------|----------------|----------------------|-----|---------|
| 01       | VAM350~650J8   | Supply air           | M1F | A2P     |
|          | VAM800+1000J8  | Supply air           | M2F | A3P     |
|          | VAM1500+2000J8 | Supply air (bottom)  | M2F | A3P     |
| 02       | VAM350~650J8   | Exhaust air          | M2F | A2P     |
|          | VAM800+1000J8  | Exhaust air          | M1F | A2P     |
|          | VAM1500+2000J8 | Exhaust air (bottom) | M1F | A2P     |
| 05       | VAM1500+2000J8 | Supply air (top)     | M4F | A5P     |
| 06       | VAM1500+2000J8 | Exhaust air (top)    | M3F | A4P     |

## To solve the error code



## INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Depending on your unit, perform a check of the appropriate indoor unit fan motor (see table above). See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
- 3 Depending on your unit, perform a check of the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

## 3.2.7 A6-10-12-14-16 – Fan motor abnormality - overcurrent or IPM protection

## VAM-J8 units

| Trigger                       | Effect                     | Reset                    |
|-------------------------------|----------------------------|--------------------------|
| PCB detects too high current. | Units will stop operating. | Remote controller reset. |

| Sub code | Unit           | Fan motor            |     | Fan PCB |
|----------|----------------|----------------------|-----|---------|
| 10       | VAM350~650J8   | Supply air           | M1F | A2P     |
|          | VAM800+1000J8  | Supply air           | M2F | A3P     |
|          | VAM1500+2000J8 | Supply air (bottom)  | M2F | A3P     |
| 12       | VAM350~650J8   | Exhaust air          | M2F | A2P     |
|          | VAM800+1000J8  | Exhaust air          | M1F | A2P     |
|          | VAM1500+2000J8 | Exhaust air (bottom) | M1F | A2P     |
| 14       | VAM1500+2000J8 | Supply air (top)     | M4F | A5P     |
| 16       | VAM1500+2000J8 | Exhaust air (top)    | M3F | A4P     |

## To solve the error code



## INFORMATION

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

- Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- Depending on your unit, perform a check of the appropriate indoor unit fan motor (see table above). See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
- Depending on your unit, perform a check of the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
- Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

## 3.2.8 A6-11-13-15-17 – Fan motor abnormality - position detection error

## VAM-J8 units

| Trigger                                                                                                                                                            | Effect                     | Reset                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|--------------------------|
| While unit is running:<br>actual rotation speed by<br>Hall IC sensor on fan<br>motor < fan step<br>command by PCB or no<br>position signal from Hall<br>IC sensor. | Units will stop operating. | Remote controller reset. |

| Sub code | Unit           | Fan motor            |     | Fan PCB |
|----------|----------------|----------------------|-----|---------|
| 11       | VAM350~650J8   | Supply air           | M1F | A2P     |
|          | VAM800+1000J8  | Supply air           | M2F | A3P     |
|          | VAM1500+2000J8 | Supply air (bottom)  | M2F | A3P     |
| 13       | VAM350~650J8   | Exhaust air          | M2F | A2P     |
|          | VAM800+1000J8  | Exhaust air          | M1F | A2P     |
|          | VAM1500+2000J8 | Exhaust air (bottom) | M1F | A2P     |
| 15       | VAM1500+2000J8 | Supply air (top)     | M4F | A5P     |
| 17       | VAM1500+2000J8 | Exhaust air (top)    | M3F | A4P     |

## To solve the error code



## INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Depending on your unit, perform a check of the appropriate indoor unit fan motor (see table above). See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
- 3 Depending on your unit, perform a check of the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

#### 3.2.9 A6-22 – Unstable fan rpm

##### VAM-J8 units

| Trigger                                    | Effect                        | Reset       |
|--------------------------------------------|-------------------------------|-------------|
| Fan PCB detects irregular fan rpm signals. | Unit will NOT stop operating. | Auto reset. |

##### To solve the error code



##### INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Perform a check of the indoor unit fan motors. See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
- 3 Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



##### INFORMATION

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

#### 3.2.10 A6-28 – Airflow rate below critical threshold

##### VAM-J8 units

| Trigger                                    | Effect                                                                                            | Reset        |
|--------------------------------------------|---------------------------------------------------------------------------------------------------|--------------|
| The airflow is lower than the legal limit. | VAM and EKVDX unit will stop operating. Outdoor unit connected to EKVDX unit will stop operating. | Power reset. |

##### To solve the error code



##### INFORMATION

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

- 1 This error can ONLY occur if VAM-J8 and EKVDX-A are installed together where field settings are 28-10=2 and 29-15=2. If it's a standalone VAM-J8 make sure to perform correct field settings. See "5.8 Field settings" [► 83].  
**Possible cause:** Incorrect field settings.
- 2 Check that the ducting is compliant with the installation limits. See installer reference guide.

- Possible cause:** Ducting is incorrect, too long or has incorrect size.
- 3 Clean the air filter of the indoor unit(s). See "4 Maintenance" [▶ 57].  
**Possible cause:** Faulty or dirty air filter.
  - 4 Perform a check of the indoor air thermistor. See Thermistors.  
**Possible cause:** Faulty indoor air thermistor.
  - 5 Perform a check of the outdoor air thermistor. See Thermistors.  
**Possible cause:** Faulty outdoor air thermistor.
  - 6 Perform a check of the indoor unit fan motors. See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
  - 7 Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
  - 8 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.11 A6-29 – Airflow rate too low

**VAM-J8 units**

| Trigger                                        | Effect                                  | Reset        |
|------------------------------------------------|-----------------------------------------|--------------|
| The airflow is lower than the threshold level. | VAM and EKVDX unit will stop operating. | Power reset. |

**To solve the error code****INFORMATION**

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

- 1 This error can ONLY occur if VAM-J8 and EKVDX-A are installed together where field settings are 28-10=2 and 29-15=2. If it's a standalone VAM-J8 make sure to perform correct field settings. See "5.8 Field settings" [▶ 83].  
**Possible cause:** Incorrect field settings.
- 2 Check that the ducting is compliant with the installation limits. See installer reference guide.  
**Possible cause:** Ducting is incorrect, too long or has incorrect size.
- 3 Clean the air filter of the indoor unit(s). See "4 Maintenance" [▶ 57].  
**Possible cause:** Faulty or dirty air filter.
- 4 Perform a check of the indoor air thermistor. See Thermistors.  
**Possible cause:** Faulty indoor air thermistor.
- 5 Perform a check of the outdoor air thermistor. See Thermistors.  
**Possible cause:** Faulty outdoor air thermistor.
- 6 Perform a check of the indoor unit fan motors. See Indoor unit fan motor.

**Possible cause:** Faulty indoor unit fan motor.

- 7 Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.

**Possible cause:** Faulty indoor unit fan PCB.

- 8 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.12 A6-30 – Airflow rate lower than normal

#### VAM-J8 units

| Trigger                                        | Effect                        | Reset       |
|------------------------------------------------|-------------------------------|-------------|
| The airflow is lower than the threshold level. | Unit will NOT stop operating. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 This error can ONLY occur if VAM-J8 and EKVDX-A are installed together where field settings are 28-10=2 and 29-15=2. If it's a standalone VAM-J8 make sure to perform correct field settings. See ["5.8 Field settings"](#) [► 83].

**Possible cause:** Incorrect field settings.

- 2 Check that the ducting is compliant with the installation limits. See installer reference guide.

**Possible cause:** Ducting is incorrect, too long or has incorrect size.

- 3 Clean the air filter of the indoor unit(s). See ["4 Maintenance"](#) [► 57].

**Possible cause:** Faulty or dirty air filter.

- 4 Perform a check of the indoor air thermistor. See Thermistors.

**Possible cause:** Faulty indoor air thermistor.

- 5 Perform a check of the outdoor air thermistor. See Thermistors.

**Possible cause:** Faulty outdoor air thermistor.

- 6 Perform a check of the indoor unit fan motors. See Indoor unit fan motor.

**Possible cause:** Faulty indoor unit fan motor.

- 7 Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.

**Possible cause:** Faulty indoor unit fan PCB.

- 8 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

## 3.2.13 A8-01 – Fan motor abnormality - power supply abnormality

## VAM-J8 units

| Trigger                                            | Effect                     | Reset                    |
|----------------------------------------------------|----------------------------|--------------------------|
| Input voltage detected by PCB too low or too high. | Units will stop operating. | Remote controller reset. |

## To solve the error code

**INFORMATION**

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
- 3 Perform a check of the indoor unit fan motors. See Indoor unit fan motor.  
**Possible cause:** Faulty indoor unit fan motor.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.14 A9-01 – Y1E Expansion valve coil abnormality

## EKVDX-A units

| Trigger                                                     | Effect                    | Reset                       |
|-------------------------------------------------------------|---------------------------|-----------------------------|
| Upon power reset, Y1E expansion valve coil is NOT detected. | Unit will stop operating. | Power reset of indoor unit. |

## To solve the error code

**INFORMATION**

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.

- 2 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.

**Possible cause:** External source may cause interference.

- 3 Perform a check of the indoor unit expansion valve. See Expansion valve.

**Possible cause:** Faulty expansion valve.

- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.15 A9-02 – Y1E Expansion valve body abnormality

#### EKVDX-A units

| Trigger                                                                                                                                    | Effect                                                                                                                                                                                             | Reset                       |
|--------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| Difference between gas temperature and liquid temperature too high or liquid temperature too low during cooling operation, thermostat OFF. | The indoor unit with this error will stop refrigerant flow (expansion valve OFF) and VAM unit will resume fan operation (fan ON). All other indoor units and outdoor unit will continue operating. | Power reset of indoor unit. |

#### To solve the error code



#### INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.

**Possible cause:** External source may cause interference.

- 3 Perform a check of the indoor unit refrigerant gas thermistor. See Thermistors.

**Possible cause:** Faulty refrigerant gas thermistor or connector fault.

- 4 Perform a check of the indoor unit refrigerant liquid thermistor. See Thermistors.

**Possible cause:** Faulty refrigerant liquid thermistor.

- 5 Perform a check of the indoor unit expansion valve. See Expansion valve.

**Possible cause:** Faulty expansion valve.

- 6 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.16 AF-00 – Drain back flow

#### EKVDX-A units

| Trigger                                                                                                                                                                    | Effect                                                          | Reset       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------|-------------|
| During drain pump OFF, float switch opens, drain pump recovery operation starts for 10 minutes. When drain pump recovery restarted 5 times, error code AF-00 is displayed. | Unit will stop thermostat during drain pump recovery operation. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Check for excess water level in the drain pan. Check drain connector to the common drain pipe, and make sure minimum height is respected. Empty the drain pan and correct installation of drain piping as needed. See indoor unit installation manual for more detailed information.

**Possible cause:** Excess water in the drain pan and/or incorrect installation of drain piping. Drain water from other operating indoor unit may run into the indoor unit with non-operating drain pump.

- 2 Perform a check of the float switch. See Float switch.

**Possible cause:** Faulty float switch.

- 3 Perform a check of the drain pump. See Drain pump.

**Possible cause:** Faulty drain pump.

- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.17 AJ-01 – A1P Capacity setting error

#### EKVDX-A and VAM-J8 units



#### INFORMATION

In case of EKVDX-A + VAM-J8 combination: check via the remote controller which indoor unit generates this error. Perform procedures described below for the applicable indoor unit.

| Trigger                                                | Effect                    | Reset                       |
|--------------------------------------------------------|---------------------------|-----------------------------|
| Capacity class CANNOT be read by indoor unit main PCB. | Unit will stop operating. | Power reset of indoor unit. |

#### To solve the error code



#### INFORMATION

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.  
**Possible cause:** External source may cause interference.
- 3 Check if the correct spare part is installed for the indoor unit main PCB. See Indoor unit main PCB. Check that the correct capacity setting adapter is connected to X23A of the PCB.  
**Possible cause:** Incorrect spare part PCB or incorrect capacity setting adapter.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.18 AJ-02 – A1P Setting error for Y1E expansion valve

#### EKVDX-A units

| Trigger                                             | Effect                    | Reset                       |
|-----------------------------------------------------|---------------------------|-----------------------------|
| Y1E expansion valve type CANNOT be read by PCB A1P. | Unit will stop operating. | Power reset of indoor unit. |

## To solve the error code

**INFORMATION**

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

- 1 Check the power supply to the indoor unit. See Power supply.  
**Possible cause:**
  - Faulty or disturbance of the power supply (imbalance),
  - Phase missing,
  - Power drop,
  - Short circuit.
- 2 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.  
**Possible cause:** External source may cause interference.
- 3 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.19 C1-00 – Communication abnormality between main PCB and fan PCB

| Trigger                                                                                                             | Effect                    | Reset        |
|---------------------------------------------------------------------------------------------------------------------|---------------------------|--------------|
| When normal transmission between main PCB and fan PCB is NOT conducted for a certain duration (15 seconds or more). | Unit will stop operating. | Power reset. |

## To solve the error code

- 1 Perform power reset. If error is NOT resolved:
  - Perform a check of the indoor unit fan PCBs. See Indoor unit fan PCB.  
**Possible cause:** Faulty indoor unit fan PCB.
  - Perform a check of the indoor unit main PCB. See Indoor unit main PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

### 3.2.20 C4-00 – Liquid thermistor abnormality

#### EKVDX-A units

| Trigger                                                 | Effect                    | Reset       |
|---------------------------------------------------------|---------------------------|-------------|
| Indoor unit liquid thermistor read-out is out of range. | Unit will stop operating. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Perform a check of the indoor unit refrigerant liquid thermistor. See Thermistors.

**Possible cause:** Faulty refrigerant liquid thermistor.

- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.21 C5-00 – Gas thermistor abnormality

#### EKVDX-A units

| Trigger                                              | Effect                    | Reset       |
|------------------------------------------------------|---------------------------|-------------|
| Indoor unit gas thermistor read-out is out of range. | Unit will stop operating. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Perform a check of the indoor unit refrigerant gas thermistor. See Thermistors.

**Possible cause:** Faulty refrigerant gas thermistor or connector fault.

- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

## 3.2.22 C6-01-11-21-31 – Compatibility error between main PCB and fan PCB

## VAM-J8 units

| Trigger                                                | Effect                     | Reset        |
|--------------------------------------------------------|----------------------------|--------------|
| Incompatibility detected between main PCB and fan PCB. | Units will stop operating. | Power reset. |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 01       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A3P     |
|          | VAM1500+2000J8 | A3P     |
| 11       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A2P     |
|          | VAM1500+2000J8 | A2P     |
| 21       | VAM1500+2000J8 | A5P     |
| 31       | VAM1500+2000J8 | A4P     |

## To solve the error code



## INFORMATION

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

- 1 Depending on your unit, check if the correct spare part is installed for the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.

**Possible cause:** Incorrect spare part PCB.

- 2 Check if the correct spare part is installed for the indoor unit main PCB. See Indoor unit main PCB. Check that the correct capacity setting adapter is connected to X23A of the PCB.

**Possible cause:** Incorrect spare part PCB or incorrect capacity setting adapter.



## INFORMATION

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

## 3.2.23 C6-02-12-22-32 – Setting error between main PCB and fan PCB

## VAM-J8 units

| Trigger                                              | Effect                     | Reset        |
|------------------------------------------------------|----------------------------|--------------|
| Setting error detected between main PCB and fan PCB. | Units will stop operating. | Power reset. |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 02       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A3P     |
|          | VAM1500+2000J8 | A3P     |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 12       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A2P     |
|          | VAM1500+2000J8 | A2P     |
| 22       | VAM1500+2000J8 | A5P     |
| 32       | VAM1500+2000J8 | A4P     |

#### To solve the error code



#### INFORMATION

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

- 1 Depending on your unit, check if the correct spare part is installed for the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.

**Possible cause:** Incorrect spare part PCB.

- 2 Check if the correct spare part is installed for the indoor unit main PCB. See Indoor unit main PCB. Check that the correct capacity setting adapter is connected to X23A of the PCB.

**Possible cause:** Incorrect spare part PCB or incorrect capacity setting adapter.



#### INFORMATION

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

### 3.2.24 C6-05-15-25-35 – Fan PCB EEPROM error

#### VAM-J8 units

| Trigger                           | Effect                     | Reset        |
|-----------------------------------|----------------------------|--------------|
| EEPROM error detected on fan PCB. | Units will stop operating. | Power reset. |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 05       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A3P     |
|          | VAM1500+2000J8 | A3P     |
| 15       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A2P     |
|          | VAM1500+2000J8 | A2P     |
| 25       | VAM1500+2000J8 | A5P     |
| 35       | VAM1500+2000J8 | A4P     |

#### To solve the error code



#### INFORMATION

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

- 1 Depending on your unit, check if the correct spare part is installed for the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.

**Possible cause:** Incorrect spare part PCB.

- 2 Check if the correct spare part is installed for the indoor unit main PCB. See Indoor unit main PCB. Check that the correct capacity setting adapter is connected to X23A of the PCB.

**Possible cause:** Incorrect spare part PCB or incorrect capacity setting adapter.



#### INFORMATION

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

### 3.2.25 C6-06-16-26-36 – Fan PCB fin thermistor malfunction

#### VAM-J8 units

| Trigger                                          | Effect                     | Reset        |
|--------------------------------------------------|----------------------------|--------------|
| Fan PCB fin thermistor is open or short-circuit. | Units will stop operating. | Power reset. |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 06       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A3P     |
|          | VAM1500+2000J8 | A3P     |
| 16       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A2P     |
|          | VAM1500+2000J8 | A2P     |
| 26       | VAM1500+2000J8 | A5P     |
| 36       | VAM1500+2000J8 | A4P     |

#### To solve the error code



#### INFORMATION

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

- 1 Depending on your unit, perform a check of the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.

**Possible cause:** Faulty indoor unit fan PCB.



#### INFORMATION

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

## 3.2.26 C6-07-17-27-37 – Fan PCB fin thermistor abnormality

## VAM-J8 units

| Trigger                                      | Effect                     | Reset        |
|----------------------------------------------|----------------------------|--------------|
| Fan PCB fin thermistor read-out is abnormal. | Units will stop operating. | Power reset. |

| Sub code | Unit           | Fan PCB |
|----------|----------------|---------|
| 07       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A3P     |
|          | VAM1500+2000J8 | A3P     |
| 17       | VAM350~650J8   | A2P     |
|          | VAM800+1000J8  | A2P     |
|          | VAM1500+2000J8 | A2P     |
| 27       | VAM1500+2000J8 | A5P     |
| 37       | VAM1500+2000J8 | A4P     |

## To solve the error code



## INFORMATION

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

- 1 Depending on your unit, perform a check of the appropriate indoor unit fan PCB (see table above). See Indoor unit fan PCB.

**Possible cause:** Faulty indoor unit fan PCB.



## INFORMATION

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

## 3.2.27 C9-00 – Air thermistor abnormality

## EKVDX-A units

| Trigger                                              | Effect                    | Reset       |
|------------------------------------------------------|---------------------------|-------------|
| Indoor unit air thermistor read-out is out of range. | Unit will stop operating. | Auto reset. |

## To solve the error code



## INFORMATION

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

- 1 Perform a check of the indoor unit air thermistor. See Thermistors.

**Possible cause:** Faulty indoor unit air thermistor.

- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.28 CA-00 – Discharge thermistor abnormality

**EKVDX-A units**

| Trigger                                                    | Effect                    | Reset       |
|------------------------------------------------------------|---------------------------|-------------|
| Indoor unit discharge thermistor read-out is out of range. | Unit will stop operating. | Auto reset. |

**To solve the error code****INFORMATION**

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

- 1 Perform a check of the indoor unit discharge thermistor. See Thermistors.  
**Possible cause:** Faulty indoor unit discharge thermistor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

3.2.29 CH-00 – CO<sub>2</sub> sensor alarm**VAM-J8 units**

| Trigger                                                           | Effect                                                                                          | Reset       |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|-------------|
| Optional CO <sub>2</sub> sensor is disconnected or short-circuit. | Unit will continue operating. Fan speed is NO more adjusted according to CO <sub>2</sub> level. | Auto reset. |

**To solve the error code****INFORMATION**

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

- 1 Perform a check of the optional CO<sub>2</sub> sensor. See CO<sub>2</sub> sensor.  
**Possible cause:** Faulty CO<sub>2</sub> sensor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.30 CH-01 – R32 leak detection sensor failure or disconnected

## EKV DX-A units

| Trigger                                               | Effect                    | Reset                                                                                |
|-------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------|
| The R32 sensor NOT connected to indoor unit main PCB. | Unit will stop operating. | Set field setting 25-14-01 to 02 on the remote controller of the faulty indoor unit. |
| R32 sensor PCB failure                                |                           |                                                                                      |

## To solve the error code



## INFORMATION

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

- 1 Check wiring (insertion and continuity) on connector X41A on the indoor unit main PCB and connector CN1 on the PCB of the R32 leak detection sensor. See ["5.2 Wiring diagram"](#) [▶ 63].  
**Possible cause:** Faulty or damaged wiring between indoor unit main PCB and R32 leak detection sensor.
- 2 Check the error history for error code A0-11, see ["3 Troubleshooting"](#) [▶ 19]. If A0-11 is found, R32 leak detection sensor was replaced after this error and power reconnected. Check if field setting 25-14=02. Correct if needed, see ["5.8 Field settings"](#) [▶ 83].  
**Possible cause:** R32 leak detection sensor was replaced without adjusting field setting 25-14.
- 3 Perform a check of the R32 leak detection sensor of the faulty indoor unit. See R32 leak detection sensor.  
**Possible cause:** Faulty R32 leak detection sensor.
- 4 Check if any external (foreign) vapor substance influenced the functioning of the R32 leak detection sensor. Repair as needed.  
**Possible cause:** External (foreign) vapor substance reacted with R32 leak detection sensor.
- 5 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

## 3.2.31 CH-02 – R32 leak detection sensor life time is exceeded

## EKV DX-A units

| Trigger                                                | Effect                           | Reset                                                                                                                                                                           |
|--------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The R32 sensor detected operation of 10 years or more. | Indoor unit will stop operating. | <ul style="list-style-type: none"> <li>Power reset of the indoor unit.</li> <li>Set field setting 25-14-01 to 02 on the remote controller of the faulty indoor unit.</li> </ul> |

## To solve the error code



## INFORMATION

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

- 1 Check the error history to see if R32 leak detection sensor was replaced, see "3 Troubleshooting" [▶ 19]. If replaced, check if timer was reset during sensor replacement. Reset as needed.

**Possible cause:** R32 leak detection sensor was replaced without timer reset.

- 2 Check the operation time of the R32 leak detection sensor of the faulty indoor unit. If operation time is 10 years, replace the R32 leak detection sensor. See R32 leak detection sensor.

**Possible cause:** R32 leak detection sensor operation time reached maximum value (10 years).

- 3 Perform a check of the R32 leak detection sensor of the faulty indoor unit. See R32 leak detection sensor.

**Possible cause:** Faulty R32 leak detection sensor.

- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

## 3.2.32 CH-05 – R32 leak detection sensor life time &lt;6 months

## EKV DX-A units

| Trigger                                                 | Effect                        | Reset       |
|---------------------------------------------------------|-------------------------------|-------------|
| The R32 sensor detected operation of 9.5 years or more. | Unit will continue operating. | Auto reset. |

## To solve the error code



## INFORMATION

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

- 1 Check the error history to see if R32 leak detection sensor was replaced, see "3 Troubleshooting" [▶ 19]. If replaced, check if timer was reset during sensor replacement. Reset as needed.

**Possible cause:** R32 leak detection sensor was replaced without timer reset.

- 2 Check the operation time of the R32 leak detection sensor of the faulty indoor unit. If operation time approaches 10 years, order a new R32 leak detection sensor and replace at the next maintenance interval.

**Possible cause:** R32 leak detection sensor operation time approaches maximum value (10 years).

- 3 Perform a check of the R32 leak detection sensor of the faulty indoor unit. See R32 leak detection sensor.

**Possible cause:** Faulty R32 leak detection sensor.

- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.33 CH-10 – R32 leak detection sensor replacement to confirm

#### EKVDX-A units

| Trigger                                                                            | Effect                           | Reset                                                                                                                                    |
|------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| The R32 sensor detected disconnection between indoor unit main PCB and R32 sensor. | Indoor unit will stop operating. | <ul style="list-style-type: none"> <li>▪ Set field setting 25-14-01 to 02 on the remote controller of the faulty indoor unit.</li> </ul> |
| R32 sensor replaced and power reset after error A0-11                              |                                  |                                                                                                                                          |

#### To solve the error code



#### INFORMATION

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

- 1 Check wiring (insertion and continuity) on connector X41A on the indoor unit main PCB and connector CN1 on the PCB of the R32 leak detection sensor. See "5.2 Wiring diagram" [▶ 63].

**Possible cause:** Faulty or damaged wiring between indoor unit main PCB and R32 leak detection sensor.

- 2 Check the error history for error code A0-11, see "3 Troubleshooting" [▶ 19]. If A0-11 is found, R32 leak detection sensor was replaced after this error and power reconnected. Check if field setting 25-14=02. Correct if needed, see "5.8 Field settings" [▶ 83].

**Possible cause:** R32 leak detection sensor was replaced without adjusting field setting 25-14.

- 3 Perform a check of the R32 leak detection sensor of the faulty indoor unit. See R32 leak detection sensor.

**Possible cause:** Faulty R32 leak detection sensor.

- 4 Check if any external (foreign) vapor substance influenced the functioning of the R32 leak detection sensor. Repair as needed.

**Possible cause:** External (foreign) vapor substance reacted with R32 leak detection sensor.

- 5 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.34 CJ-00 – Remote controller air thermistor abnormality

#### EKVDX-A units

| Trigger                                                    | Effect                                                                          | Reset       |
|------------------------------------------------------------|---------------------------------------------------------------------------------|-------------|
| Remote controller air thermistor read-out is out of range. | Indoor unit will continue operating, using indoor unit air thermistor as input. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Clear the error history of the remote controller. See operation manual of the remote controller for detailed information.
- 2 If error is still active, replace the remote controller. See Remote controller user interface.



#### INFORMATION

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

### 3.2.35 U5-04 – Communication abnormality between indoor unit main PCB and remote controller

#### EKVDX-A and VAM-J8 units

| Trigger                                                                      | Effect                    | Reset       |
|------------------------------------------------------------------------------|---------------------------|-------------|
| Transmission abnormality between indoor unit main PCB and remote controller. | Unit will stop operating. | Auto reset. |

## To solve the error code

**INFORMATION**

EKVDX-A + VAM-J8 pair can ONLY have 1 remote controller. In this setup sub remote controllers and/or supervisor remote controllers are NOT allowed. Make sure remote controller is set to normal mode. slave mode or supervisor mode is NOT allowed.

VAM-J8 stand-alone installation can have master and slave remote controllers.

EKVDX-A unit CANNOT be installed stand-alone.

**INFORMATION**

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

▪ IN CASE OF VAM-J8 STAND-ALONE

- 1 Check if multiple remote controllers are wired to the same indoor unit. One remote controller needs to be set to main while all other remote controllers need to be set to sub. Also check that the remote controllers are correctly wired. See installer reference guide of the remote controller for detailed information.

**Possible cause:** No main remote controller set when multiple units are wired to the same indoor unit.

- 2 Perform a check of the remote controller. See Remote controller user interface.

**Possible cause:** Faulty remote controller or faulty transmission wiring between remote controller and indoor unit.

- 3 If possible, switch the faulty remote controller with a remote controller from another indoor unit.

- If error transfers to the other indoor unit, replace the remote controller. See Remote controller user interface.

**Possible cause:** Faulty remote controller.

- If error is still present on the indoor unit, Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.

▪ IN CASE OF EKVDX-A + VAM-J8 COMBINATION

- 1 Perform a check of the remote controller. See Remote controller user interface.

**Possible cause:** Faulty remote controller or faulty transmission wiring between remote controller and indoor unit.

- 2 If possible, switch the faulty remote controller with a remote controller from another indoor unit.

- If error transfers to the other indoor unit, replace the remote controller. See Remote controller user interface.

**Possible cause:** Faulty remote controller.

- If error is still present on the indoor unit, Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.

**INFORMATION**

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

## 3.2.36 U5-06 – Supervisor remote controller not connected/not set

## EKV DX-A units

**INFORMATION**

This error code is NOT generated by the EKV DX-A unit or VAM unit, but by another DX indoor unit in the F1/F2 transmission circuit of the system. The error code is ALSO shown on the remote controller of the EKV DX-A unit.

Supervisor remote controller is NOT possible for EKV DX-A + VAM pair.

| Trigger                                                              | Effect                    | Reset        |
|----------------------------------------------------------------------|---------------------------|--------------|
| Faulty supervisor remote controller or faulty setting in the system. | Unit will stop operating. | Power reset. |

## To solve the error code

- 1 See "Error based troubleshooting" in the outdoor unit service manual and proceed with the troubleshooting of this error code.

**INFORMATION**

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

## 3.2.37 U8-00 – Transmission error between Master and Slave remote controller

## VAM-J8 units

| Trigger                                                                          | Effect                    | Reset        |
|----------------------------------------------------------------------------------|---------------------------|--------------|
| Main PCB detects abnormal/missing signal on remote controller transmission line. | Unit will stop operating. | Power reset. |

## To solve the error code

**INFORMATION**

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

- 1 Check if multiple remote controllers are wired to the same indoor unit. One remote controller needs to be set to main while all other remote controllers need to be set to sub. Also check that the remote controllers are correctly wired. See installer reference guide of the remote controller for detailed information.

**Possible cause:** No main remote controller set when multiple units are wired to the same indoor unit.

- 2 Perform a check of the remote controller. See Remote controller user interface.

**Possible cause:** Faulty remote controller or faulty transmission wiring between remote controller and indoor unit.

- 3 If possible, switch the faulty remote controller with a remote controller from another indoor unit.

- If error transfers to the other indoor unit, replace the remote controller. See Remote controller user interface.  
**Possible cause:** Faulty remote controller.
- If error is still present on the indoor unit, Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.38 U9-01 – Other indoor unit has error

#### EKVDX-A units

| Trigger                                                           | Effect                        | Reset       |
|-------------------------------------------------------------------|-------------------------------|-------------|
| System mismatch, non-compatible indoor units.                     | Unit will continue operation. | Auto reset. |
| At least one other indoor unit on same F1-F2 wiring has an error. |                               |             |

#### To solve the error code



#### INFORMATION

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

- 1 Check the indoor units for error codes other than U9-01. See ["3.2 Error based troubleshooting"](#) [► 21] to solve the error code(s).
- 2 See "Error based troubleshooting" in the outdoor unit service manual and proceed with the troubleshooting of this error code.



#### INFORMATION

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

### 3.2.39 U9-02 – Other indoor unit has error

#### EKVDX-A units

| Trigger                                                           | Effect                    | Reset                                           |
|-------------------------------------------------------------------|---------------------------|-------------------------------------------------|
| At least one other indoor unit on same F1-F2 wiring has an error. | Unit will stop operating. | Depends on the error type at other indoor unit. |

#### To solve the error code



#### INFORMATION

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

- 1 Check the indoor units for error codes other than U9-02. See "3.2 Error based troubleshooting" [▶ 21] to solve the error code(s).
- 2 See "Error based troubleshooting" in the outdoor unit service manual and proceed with the troubleshooting of this error code.

**INFORMATION**

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

## 3.2.40 UA-00 – Wrong remote controller

**EKVDX-A and VAM-J8 units**

| Trigger                                   | Effect                    | Reset        |
|-------------------------------------------|---------------------------|--------------|
| Wrong type of remote controller detected. | Unit will stop operating. | Power reset. |

**To solve the error code****INFORMATION**

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

- 1 Check the databook for compatible remote controllers. Connect compatible remote controller.

**Possible cause:** Incompatible remote controller.

**INFORMATION**

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

## 3.2.41 UC-00 – Central address duplication error

**EKVDX-A and VAM-J8 units**

| Trigger                                                    | Effect                                 | Reset       |
|------------------------------------------------------------|----------------------------------------|-------------|
| Same central address is assigned to multiple indoor units. | Central controller CANNOT communicate. | Auto reset. |

**To solve the error code****INFORMATION**

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

- 1 Consult remote controller manual and assign dedicated addresses to each indoor unit.

**Possible cause:** Incorrect address setting.

**INFORMATION**

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

#### 3.2.42 UE-00 – Communication abnormality with central controller

##### EKVDX-A and VAM-J8 units

| Trigger                                           | Effect                    | Reset       |
|---------------------------------------------------|---------------------------|-------------|
| Transmission abnormality with central controller. | Unit will stop operating. | Auto reset. |

##### To solve the error code



##### INFORMATION

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

##### If all indoor units display error UE-00

- 1 See "Error based troubleshooting" in the outdoor unit service manual and proceed with the troubleshooting of this error code.

##### If ONLY 1 indoor unit displays error UE-00

- 1 Check if the indoor unit has an assigned group address. Set a group address as needed. See installation manual of the remote controller for procedure to set group address.

**Possible cause:** No group address assigned to indoor unit.

- 2 Perform a power reset on the central controller and check if error is resolved.
- 3 Using the service monitoring tools, check the communication registers.



##### INFORMATION

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

#### 3.2.43 UJ-34 – Capacity mismatch between VAM and DX module

##### EKVDX-A units

| Trigger                                                       | Effect                 | Reset        |
|---------------------------------------------------------------|------------------------|--------------|
| Incompatible VAM and EKVDX capacities are installed together. | Unit will NOT operate. | Power reset. |

##### To solve the error code



##### INFORMATION

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

- 1 Check for improper combination of units. See the combination table in the Databook for more information. Change the installation with ONLY compatible type units.
- 2 Check if the correct spare part is installed for the indoor unit main PCB. See Indoor unit main PCB. Check that the correct capacity setting adapter is connected to X23A of the PCB.

**Possible cause:** Incorrect spare part PCB or incorrect capacity setting adapter.

**INFORMATION**

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

## 3.2.44 UJ-35 – Abnormality at VAM unit

**EKVDX-A units**

| Trigger                           | Effect                    | Reset        |
|-----------------------------------|---------------------------|--------------|
| Malfunction detected at VAM unit. | Unit will stop operating. | Power reset. |

**To solve the error code**

- 1 Check the error code at the VAM-J8 indoor unit. See ["3.2 Error based troubleshooting"](#) [▶ 21] to solve the error code.

**INFORMATION**

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

## 3.2.45 UJ-36 – Transmission error between VAM and EKVDX

**EKVDX-A units**

| Trigger                                           | Effect                    | Reset        |
|---------------------------------------------------|---------------------------|--------------|
| Error detected in transmission between the units. | Unit will stop operating. | Power reset. |

**To solve the error code****INFORMATION**

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

- 1 Check the transmission wiring between the VAM unit and the DX unit. See ["5.2 Wiring diagram"](#) [▶ 63].

**Possible cause:** Faulty transmission wiring.

- 2 Check the field settings for VAM unit and DX unit pair application. Make sure to perform the correct settings. See ["5.8 Field settings"](#) [▶ 83].

**Possible cause:** Incorrect field setting.

**INFORMATION**

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

## 3.2.46 UJ-37 – VAM unit has A6-28 error

**EKVDX-A units**

| Trigger                   | Effect                    | Reset        |
|---------------------------|---------------------------|--------------|
| VAM unit has A6-28 error. | Unit will stop operating. | Power reset. |

**To solve the error code**

- 1 Check the VAM-J8 indoor unit for error code A6-28. See ["3.2 Error based troubleshooting"](#) [▶ 21] to solve the error code.

**INFORMATION**

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

## 3.2.47 UJ-38 – VAM unit has A6-29 error

**EKVDX-A units**

| Trigger                   | Effect                    | Reset        |
|---------------------------|---------------------------|--------------|
| VAM unit has A6-29 error. | Unit will stop operating. | Power reset. |

**To solve the error code**

- 1 Check the VAM-J8 indoor unit for error code A6-29. See ["3.2 Error based troubleshooting"](#) [▶ 21] to solve the error code.

**INFORMATION**

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

## 3.2.48 60-00 – External protection device activated

**VAM-J8 units**

| Trigger                                                                          | Effect                       | Reset       |
|----------------------------------------------------------------------------------|------------------------------|-------------|
| Input signal JC-J1 on terminal X2M is closed and field setting 28-8=2 or 28-8=3. | Unit will continue operating | Auto reset. |

**To solve the error code****INFORMATION**

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

- 1 If wiring connected to JC-J1 of X2M terminal of the indoor unit, check correct connection and continuity of the wiring. See ["5.2 Wiring diagram"](#) [▶ 63].  
**Possible cause:** Faulty or damaged wiring between JC-J1 of X2M terminal of the indoor unit and external device.
- 2 Check if the field setting 28-8 is correctly set according to the installation. See ["5.8 Field settings"](#) [▶ 83]. Correct as needed.  
**Possible cause:** Incorrect field setting.
- 3 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.  
**Possible cause:** External source may cause interference.
- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.49 64-01 – Indoor air thermistor malfunction

#### VAM-J8 units

| Trigger                                      | Effect                        | Reset       |
|----------------------------------------------|-------------------------------|-------------|
| Indoor air thermistor open or short-circuit. | Unit will continue operating. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Perform a check of the indoor air thermistor. See Thermistors.  
**Possible cause:** Faulty indoor air thermistor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

### 3.2.50 64-02 – Indoor air thermistor out of range

#### VAM-J8 units

| Trigger                                         | Effect                        | Reset       |
|-------------------------------------------------|-------------------------------|-------------|
| Indoor air thermistor read-out is out of range. | Unit will continue operating. | Auto reset. |

#### To solve the error code



#### INFORMATION

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

- 1 Perform a check of the indoor air thermistor. See Thermistors.  
**Possible cause:** Faulty indoor air thermistor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

#### 3.2.51 65-01 – Outdoor air thermistor malfunction

##### VAM-J8 units

| Trigger                                       | Effect                        | Reset       |
|-----------------------------------------------|-------------------------------|-------------|
| Outdoor air thermistor open or short-circuit. | Unit will continue operating. | Auto reset. |

##### 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 Thermistors.  
**Possible cause:** Faulty outdoor air thermistor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



##### INFORMATION

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

#### 3.2.52 65-02 – Outdoor air thermistor out of range

##### VAM-J8 units

| Trigger                                          | Effect                        | Reset       |
|--------------------------------------------------|-------------------------------|-------------|
| Outdoor air thermistor read-out is out of range. | Unit will continue operating. | Auto reset. |

##### 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 Thermistors.  
**Possible cause:** Faulty outdoor air thermistor.
- 2 Perform a check of the indoor unit main PCB. See Indoor unit PCB.  
**Possible cause:** Faulty indoor unit main PCB.



##### INFORMATION

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

## 3.2.53 65-03 – Low outdoor air temperature

## VAM-J8 units

| Trigger                                                                                   | Effect                    | Reset       |
|-------------------------------------------------------------------------------------------|---------------------------|-------------|
| Low outdoor ambient temperature detected during filter contamination inspection function. | Unit will stop operating. | Auto reset. |

## To solve the error code



## INFORMATION

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

- 1 Check that the field setting 29-0 is NOT set as 29-0=4 or 29-0=5. See "5.8 Field settings" [▶ 83].

**Possible cause:** Faulty field setting (filter contamination inspection function NOT available at low ambient temperature).

- 2 Perform a check of the outdoor air thermistor. See Thermistors.

**Possible cause:** Faulty outdoor air thermistor.

- 3 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



## INFORMATION

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

## 3.2.54 6A-00 – Damper related malfunction

## VAM-J8 units

| Trigger                                                                                    | Effect                        | Reset        |
|--------------------------------------------------------------------------------------------|-------------------------------|--------------|
| Limit switch of the damper motor did NOT detect damper movement after motor was energized. | Unit will continue operating. | Power reset. |

## To solve the error code



## INFORMATION

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



## INFORMATION

VAM1500+2000J8 units have 2 damper motors and limit switches. Make sure to check both damper motors and limit switches.

- 1 Perform a check of the limit switch. See Limit switch.

**Possible cause:** Faulty limit switch.

- 2 Perform a check of the damper motor. See Damper motor.

**Possible cause:** Faulty damper motor.

- 3 Perform a power reset. If the error disappears and is raised again after a while, check for the presence of an external source causing electrical noise. See External factors.

**Possible cause:** External source may cause interference.

- 4 Perform a check of the indoor unit main PCB. See Indoor unit PCB.

**Possible cause:** Faulty indoor unit main PCB.



#### INFORMATION

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

## 4 Maintenance



### NOTICE

**General maintenance/inspection checklist.** Next to the maintenance instructions in this chapter, a general maintenance/inspection checklist is also available on the Daikin Business Portal (authentication required).

The general maintenance/inspection checklist is complementary to the instructions in this chapter and can be used as a guideline and reporting template during maintenance.

### 4.1 Maintenance for heat reclaim ventilation units



### CAUTION

See "User safety instructions" in the installer reference guide to acknowledge all related safety instructions.



### NOTICE

Maintenance **MUST** be done by an authorised installer or service agent.

We recommend performing maintenance at least once a year. However, applicable legislation might require shorter maintenance intervals.



### NOTICE

We recommend to clean at least once every 2 years (for general office use). If necessary, shorter maintenance intervals might be required.



### NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO<sub>2</sub> equivalent.

**Formula to calculate the quantity in CO<sub>2</sub> equivalent tonnes:** GWP value of the refrigerant × total refrigerant charge [in kg] / 1000

#### 4.1.1 Maintenance safety precautions



### DANGER: RISK OF ELECTROCUTION



### DANGER: RISK OF BURNING/SCALDING



### NOTICE: Risk of electrostatic discharge

Before performing any maintenance or service work, touch a metal part of the unit in order to eliminate static electricity and to protect the PCB.

### 4.1.2 Checklist for maintenance of the heat reclaim ventilation unit

|                          |                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <p>Check the air filters at least once a year.</p> <p>The air filters can get blocked due to dust, dirt, leaves, etc. It is recommended to clean the air filters yearly. A blocked air filter can cause an excessive pressure drop and reduced performance. See "<a href="#">Maintenance of the air filter</a>" [▶ 58].</p>                                                        |
| <input type="checkbox"/> | <p>Check the heat exchange element at least once every 2 years.</p> <p>The heat exchange element can get blocked due to dust, dirt, etc. It is recommended to clean the heat exchange element once every 2 years. A blocked heat exchange element can cause excessive pressure and reduced performance. See "<a href="#">Maintenance of the heat exchange element</a>" [▶ 60].</p> |

### 4.1.3 Maintenance of the air filter

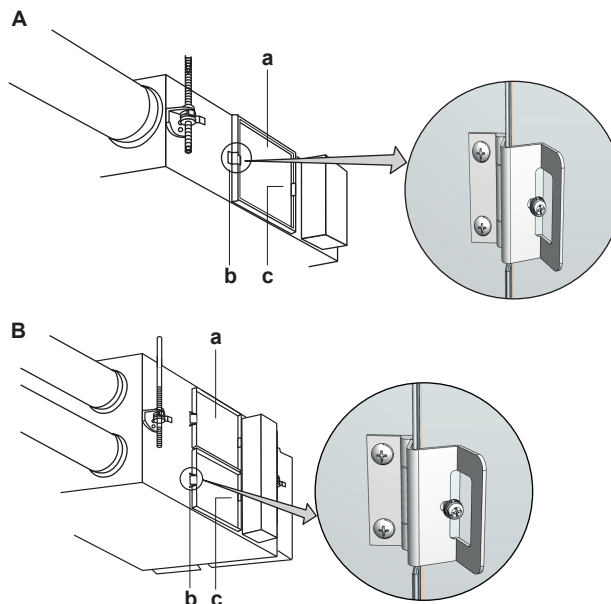


#### NOTICE

- Do NOT wash the air filter in hot water.
- Do NOT dry the air filter over a fire.
- Do NOT subject the air filter to direct sunlight.
- Do NOT use organic solvents, such as gasoline or thinner, on the air filter.
- Make sure to install the air filter after servicing (missing air filter causes clogged heat exchange element). Replacement air filters are available.

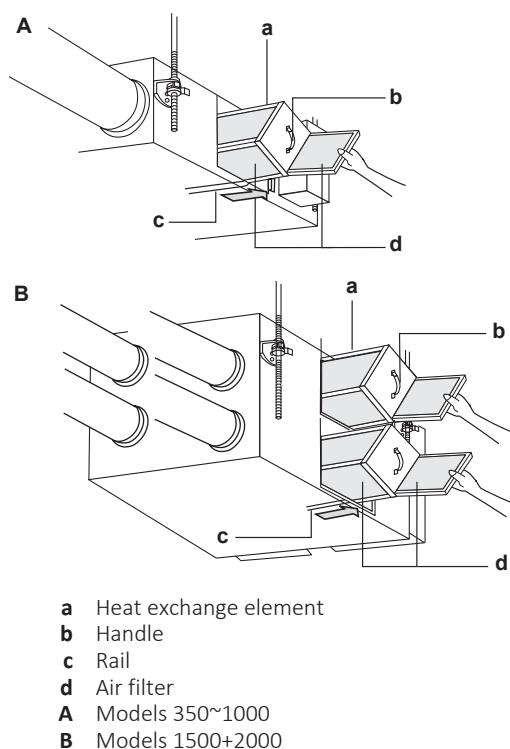
#### To clean the air filters

- 1 Go into the ceiling through the inspection hole, loosen the screw of the hinge mechanism (on the left side) to open the service cover. Take the service cover off by rotating it around the vertical axis of the hanging metal.

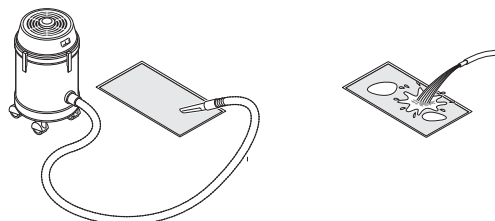


- a Service cover
- b Hinge mechanism
- c Hanging metal
- A Models 350~1000
- B Models 1500+2000

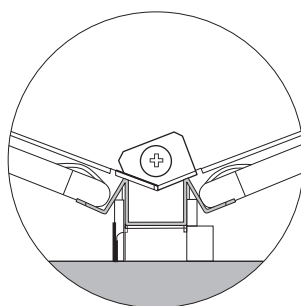
- 2 Take out the air filters from the unit body.



- 3** To clean the air filter, lightly pat it with your hand or remove dust with a vacuum cleaner. If excessively dirty, wash it in water.



- 4** If the air filter is washed, remove water completely and allow to dry for 20 to 30 minutes in the shade.
- 5** When dried completely, install the air filter back in place after the installation of the heat exchange element. Make sure the air filter is orientated correctly, as shown in the figure.



- 6** Install the service cover securely in place.

### 4.1.4 Maintenance of the heat exchange element

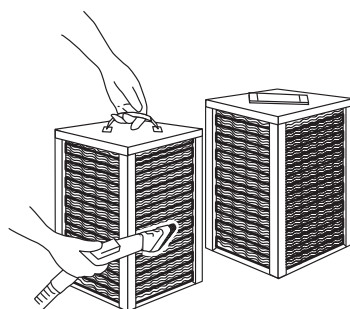


#### NOTICE

- NEVER wash the heat exchange element with water.
- NEVER touch the heat exchange element paper because it can be damaged if it is forced.
- Do NOT crush the heat exchange element.

#### To clean the heat exchange element

- 1 Take out the heat exchange elements. Refer to "4.1.3 Maintenance of the air filter" [▶ 58].
- 2 Equip a vacuum cleaner with a brush on the end of the suction nozzle.
- 3 Use the vacuum cleaner and lightly apply the brush to the surface of the heat exchange element to remove dust.



- 4 Place the heat exchange element on the rail and insert it in the unit.
- 5 Install the air filters in the unit.
- 6 Install the service cover.

## 4.2 Maintenance for DX units



#### NOTICE

Maintenance MUST be done by an authorised installer or service agent.

We recommend performing maintenance at least once a year. However, applicable legislation might require shorter maintenance intervals.



#### NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO<sub>2</sub> equivalent.

**Formula to calculate the quantity in CO<sub>2</sub> equivalent tonnes:** GWP value of the refrigerant × total refrigerant charge [in kg] / 1000



#### INFORMATION

During a test run of the system or during maintenance, the R32 safety needs to be deactivated. Refer to "To deactivate the R32 safety system" in the installer reference guide.

### 4.2.1 Checklist for yearly maintenance of the indoor unit

Check the following at least once a year:

- Heat exchanger
- Drain pan

### Instructions

The heat exchanger and drain pan of the indoor unit can get contaminated and blocked up. It is recommended to clean the heat exchanger and drain pan yearly. A blocked heat exchanger can lead to too low pressure or too high pressure leading to worse performance.

When cleaning the indoor unit heat exchanger and drain pan make sure to:

- Use proper field supply cleaning agent which is suitable for cleaning heat exchangers and drain pans.
- Clearly follow the instructions of local supply cleaning agent and to NOT use household cleaning agents.
- Rinse the heat exchanger and drain pan with water after the cleaning process.



#### CAUTION

Rinse out the cleaning agent until there is NO cleaning agent left. Otherwise, the corrosion of heat exchanger and drain pan may occur. Pay attention to the cleaning agent that may also corrode other materials of the indoor unit (Aluminium, copper, plastic, ABS, ...).

### 4.2.2 Cleaning the air outlet



#### CAUTION

Turn off the unit before cleaning the air outlet.

#### To clean the air outlet



#### WARNING

Do NOT let the indoor unit get wet. **Possible consequence:** Electrical shock or fire.

Clean with a soft cloth. If it is difficult to remove stains, use water or a neutral detergent.

### 4.2.3 Maintenance before a long stop period

E.g., at the end of the season.

- Let the indoor units run in fan only operation for about half a day in order to dry the interior of the units.
- Clean casings of indoor units (see "4.2.2 Cleaning the air outlet" [▶ 61]).
- Remove the batteries from the user interface (if applicable).

### 4.2.4 Maintenance after a long stop period

E.g., at the beginning of the season.

- Check and remove everything that might be blocking inlet and outlet vents of indoor units and outdoor units.
- Clean casings of indoor units (see "4.2.2 Cleaning the air outlet" [▶ 61]).
- Insert batteries in the user interface (if applicable).

## 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: Remote controller

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

## 5.2 Wiring diagram

### 5.2.1 Wiring diagram: VAM-J8

The wiring diagram can be found on the outside of the service cover.

#### Legend for wiring diagrams:

|           |                                                    |
|-----------|----------------------------------------------------|
| A1P       | Printed circuit board                              |
| A2P       | Printed circuit board assy (fan) (VAM350~650)      |
| A2P-A3P   | Printed circuit board assy (fan) (VAM800+1000)     |
| A2P~A5P   | Printed circuit board assy (fan)<br>(VAM1500+2000) |
| C7        | Capacitor (M1F)                                    |
| F1U (A1P) | Fuse (250 V, 6.3 A, T)                             |
| F2U (A2P) | Fuse (250 V, 5 A, T) (VAM350~650)                  |
| F3U       | Fuse (250 V, 6.3 A, T) (VAM800~2000)               |
| F4U (A2P) | Fuse (250 V, 6.3 A, T) (VAM350~650)                |
| HAP       | Pilot lamp (service monitor - green)               |
| K*R       | Magnetic relay                                     |
| L*R       | Reactor                                            |
| M1D       | Motor (damper)                                     |
| M2D       | Motor (damper) (VAM1500+2000)                      |
| M1F       | Supply air fan                                     |
| M2F       | Exhaust air fan                                    |
| M3F       | Motor (exhaust air fan) (top) (VAM1500+2000)       |
| M4F       | Motor (supply air fan) (top) (VAM1500+2000)        |
| PS        | Switching power supply                             |
| Q1DI      | Field earth leak detector ( $\leq 300$ mA)         |
| R*        | Resistance                                         |
| R1T       | Thermistor (indoor air)                            |
| R2T       | Thermistor (outdoor air)                           |
| R3T       | Thermistor (PTC)                                   |
| S1C       | Limit switch damper motor                          |
| S2C       | Limit switch damper motor (VAM1500+2000)           |
| V1R       | Diode bridge                                       |
| X1M (A1P) | Terminal                                           |
| X2M (A1P) | Terminal (outside input)                           |
| X3M       | Terminal (power supply)                            |
| Z1F       | Noise filter                                       |
| Z*C       | Noise filter (ferrite core)                        |

**Remote controller**

SS1 Selector switch

**Connector for option**

X14A Connector (CO<sub>2</sub> sensor)  
 X24A Connector (outside damper)  
 X33A Connector (contact printed circuit board)  
 X35A Connector (power supply printed circuit board)

**Symbols:**

 Field wiring  
 Terminals  
 Connectors  
 Protective earth  
 Noiseless earth

**Colours:**

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

**Translation of text on wiring diagram**

| English                                                                                                                                                               | Translation                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes                                                                                                                                                                 | Notes                                                                                                                                                                 |
| X35A is connected when optional accessories are being used, see wiring diagram of this accessory                                                                      | X35A is connected when optional accessories are being used, see wiring diagram of this accessory                                                                      |
| An EKVDX unit and its corresponding VAM-J8 unit should be connected to a common power supply. Refer to the installation manual of the EKVDX unit for further details. | An EKVDX unit and its corresponding VAM-J8 unit should be connected to a common power supply. Refer to the installation manual of the EKVDX unit for further details. |
| Transmission wiring                                                                                                                                                   | Transmission wiring                                                                                                                                                   |
| Ext. output - error state                                                                                                                                             | External output - error state                                                                                                                                         |
| Ext. output - R32 alarm                                                                                                                                               | External output – R32 alarm                                                                                                                                           |
| Caution when performing service inside the el. compo. box                                                                                                             | Caution when performing service inside the electrical component box.                                                                                                  |

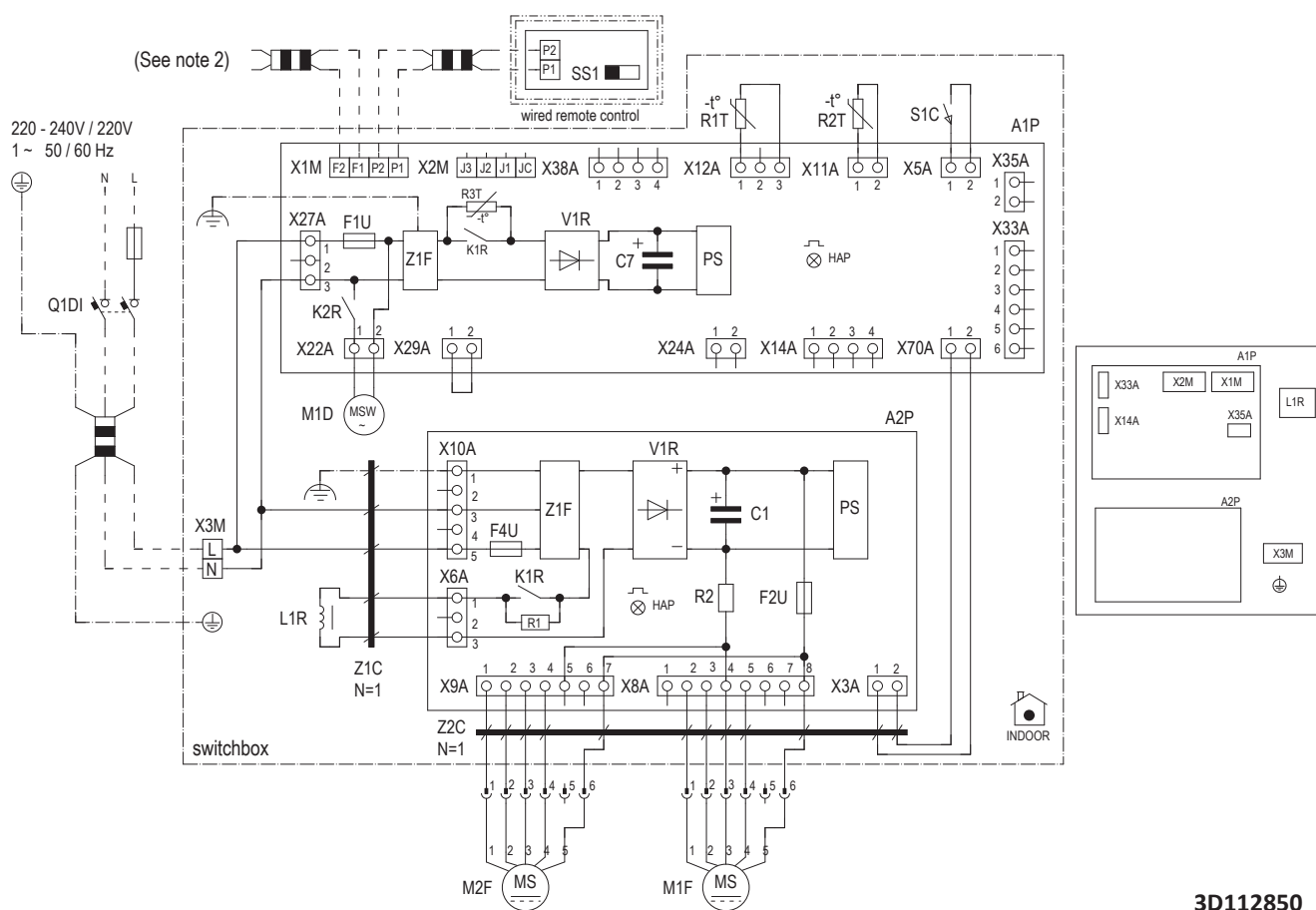
| English                                                                                                                                                                                  | Translation                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Caution for ELECTRIC SHOCK                                                                                                                                                               | Caution for ELECTRIC SHOCK                                                                                                                                                                         |
| Do not open the el. compo. box cover for 10 minutes after the power supply is turned off.                                                                                                | Do not open the electrical component box cover for 10 minutes after the power supply is turned off.                                                                                                |
| After opening the el. compo. box, measure (on A1P~A5P) the points shown at the right with a tester and confirm that the voltage of the capacitor in the main circuit is less than DC50V. | After opening the electrical component box, measure (on A1P~A5P) the points shown at the right with a tester and confirm that the voltage of the capacitor in the main circuit is less than DC50V. |
| Measuring points for voltage                                                                                                                                                             | Measuring points for voltage                                                                                                                                                                       |
| Printed circuit board                                                                                                                                                                    | Printed circuit board                                                                                                                                                                              |

### Wiring diagram VAM350~650J8



#### 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.

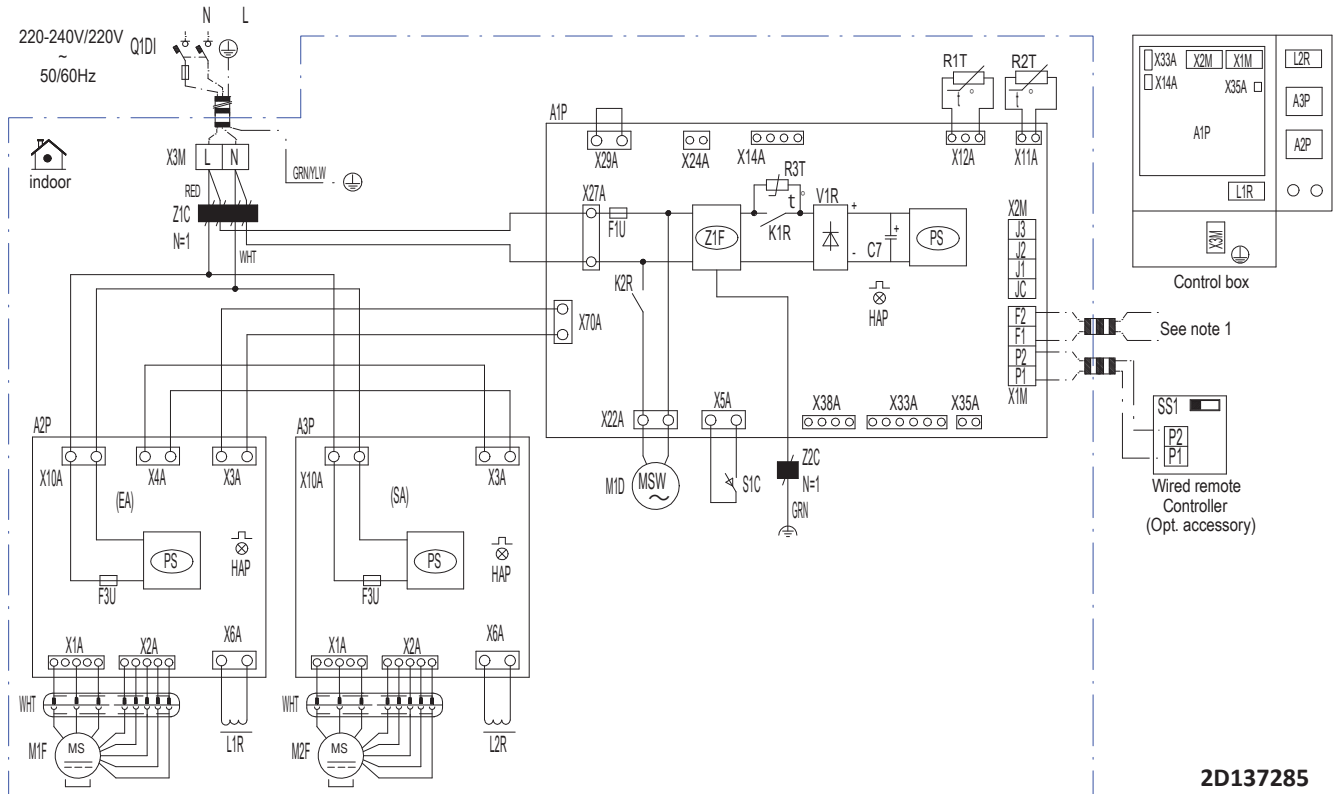


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## Wiring diagram VAM800+1000J8



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.

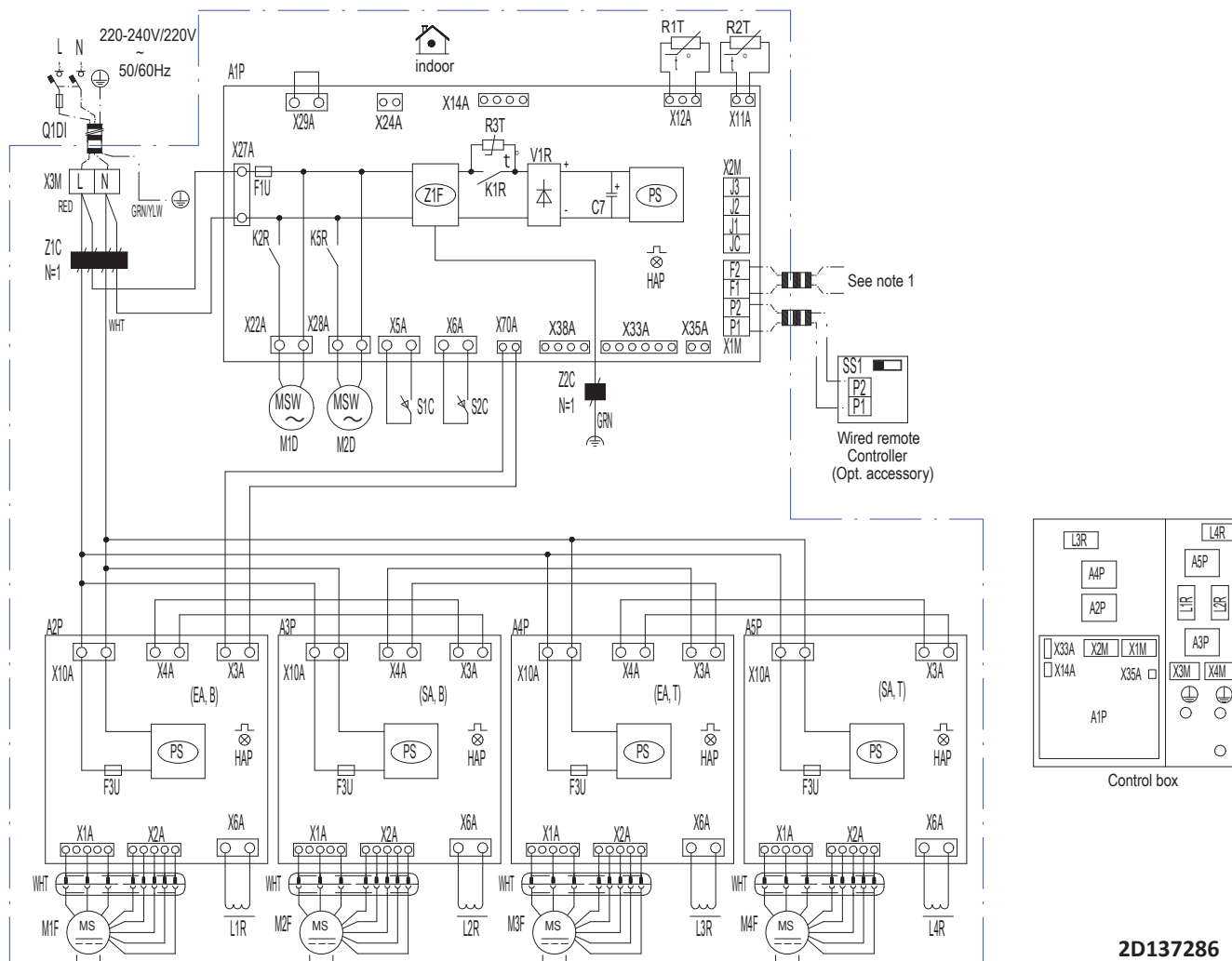


## Wiring diagram VAM1500+2000J8



## 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.



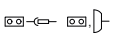
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## 5.2.2 Wiring diagram: EKVDX

See the internal wiring diagram supplied with the unit (on the inside of the indoor unit switch box cover). The abbreviations used are listed below.

## Unified legend

For applied parts and numbering, refer to the wiring diagram on the unit. Part numbering is by Arabic numbers in ascending order for each part and is represented in the overview below by "\*" in the part code.

| Symbol                                                                              | Meaning                 | Symbol                                                                             | Meaning                  |
|-------------------------------------------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|--------------------------|
|    | Circuit breaker         |   | Protective earth         |
|    |                         |                                                                                    |                          |
|    |                         |                                                                                    |                          |
|    | Connection              |   | Protective earth (screw) |
|    | Connector               |   | Rectifier                |
|    | Earth                   |   | Relay connector          |
|    | Field wiring            |   | Short-circuit connector  |
|    | Fuse                    |   | Terminal                 |
|    | Indoor unit             |   | Terminal strip           |
|   | Outdoor unit            |  | Wire clamp               |
|  | Residual current device |                                                                                    |                          |

| Symbol | Colour | Symbol   | Colour |
|--------|--------|----------|--------|
| BLK    | Black  | ORG      | Orange |
| BLU    | Blue   | PNK      | Pink   |
| BRN    | Brown  | PRP, PPL | Purple |
| GRN    | Green  | RED      | Red    |
| GRY    | Grey   | WHT      | White  |
|        |        | YLW      | Yellow |

| Symbol                                                                           | Meaning                             |
|----------------------------------------------------------------------------------|-------------------------------------|
| A*P                                                                              | Printed circuit board               |
| BS*                                                                              | Pushbutton ON/OFF, operation switch |
| BZ, H*O                                                                          | Buzzer                              |
| C*                                                                               | Capacitor                           |
| AC*, CN*, E*, HA*, HE*, HL*, HN*, HR*, MR*_A, MR*_B, S*, U, V, W, X*A, K*R_*, NE | Connection, connector               |
| D*, V*D                                                                          | Diode                               |
| DB*                                                                              | Diode bridge                        |
| DS*                                                                              | DIP switch                          |

| Symbol                                                         | Meaning                                      |
|----------------------------------------------------------------|----------------------------------------------|
| E*H                                                            | Heater                                       |
| FU*, F*U, (for characteristics, refer to PCB inside your unit) | Fuse                                         |
| FG*                                                            | Connector (frame ground)                     |
| H*                                                             | Harness                                      |
| H*P, LED*, V*L                                                 | Pilot lamp, light emitting diode             |
| HAP                                                            | Light emitting diode (service monitor green) |
| HIGH VOLTAGE                                                   | High voltage                                 |
| IES                                                            | Intelligent eye sensor                       |
| IPM*                                                           | Intelligent power module                     |
| K*R, KCR, KFR, KHuR, K*M                                       | Magnetic relay                               |
| L                                                              | Live                                         |
| L*                                                             | Coil                                         |
| L*R                                                            | Reactor                                      |
| M*                                                             | Stepper motor                                |
| M*C                                                            | Compressor motor                             |
| M*F                                                            | Fan motor                                    |
| M*P                                                            | Drain pump motor                             |
| M*S                                                            | Swing motor                                  |
| MR*, MRCW*, MRM*, MRN*                                         | Magnetic relay                               |
| N                                                              | Neutral                                      |
| n=*, N=*                                                       | Number of passes through ferrite core        |
| PAM                                                            | Pulse-amplitude modulation                   |
| PCB*                                                           | Printed circuit board                        |
| PM*                                                            | Power module                                 |
| PS                                                             | Switching power supply                       |
| PTC*                                                           | PTC thermistor                               |
| Q*                                                             | Insulated gate bipolar transistor (IGBT)     |
| Q*C                                                            | Circuit breaker                              |
| Q*DI, KLM                                                      | Earth leak circuit breaker                   |
| Q*L                                                            | Overload protector                           |
| Q*M                                                            | Thermo switch                                |
| Q*R                                                            | Residual current device                      |
| R*                                                             | Resistor                                     |
| R*T                                                            | Thermistor                                   |
| RC                                                             | Receiver                                     |
| S*C                                                            | Limit switch                                 |

| Symbol      | Meaning                                                             |
|-------------|---------------------------------------------------------------------|
| S*L         | Float switch                                                        |
| S*NG        | Refrigerant leak detector                                           |
| S*NPH       | Pressure sensor (high)                                              |
| S*NPL       | Pressure sensor (low)                                               |
| S*PH, HPS*  | Pressure switch (high)                                              |
| S*PL        | Pressure switch (low)                                               |
| S*T         | Thermostat                                                          |
| S*RH        | Humidity sensor                                                     |
| S*W, SW*    | Operation switch                                                    |
| SA*, F1S    | Surge arrester                                                      |
| SR*, WLU    | Signal receiver                                                     |
| SS*         | Selector switch                                                     |
| SHEET METAL | Terminal strip fixed plate                                          |
| T*R         | Transformer                                                         |
| TC, TRC     | Transmitter                                                         |
| V*, R*V     | Varistor                                                            |
| V*R         | Diode bridge, Insulated-gate bipolar transistor (IGBT) power module |
| WRC         | Wireless remote controller                                          |
| X*          | Terminal                                                            |
| X*M         | Terminal strip (block)                                              |
| Y*E         | Electronic expansion valve coil                                     |
| Y*R, Y*S    | Reversing solenoid valve coil                                       |
| Z*C         | Ferrite core                                                        |
| ZF, Z*F     | Noise filter                                                        |

#### Translation of text on wiring diagram

| English                                                                                                                                                               | Translation                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes                                                                                                                                                                 | Notes                                                                                                                                                                 |
| X35A is connected when optional accessories are being used, see wiring diagram of this accessory                                                                      | X35A is connected when optional accessories are being used, see wiring diagram of this accessory                                                                      |
| An EKVDX unit and its corresponding VAM-J8 unit should be connected to a common power supply. Refer to the installation manual of the EKVDX unit for further details. | An EKVDX unit and its corresponding VAM-J8 unit should be connected to a common power supply. Refer to the installation manual of the EKVDX unit for further details. |
| Transmission wiring                                                                                                                                                   | Transmission wiring                                                                                                                                                   |
| Ext. output - error state                                                                                                                                             | External output - error state                                                                                                                                         |
| Ext. output - R32 alarm                                                                                                                                               | External output – R32 alarm                                                                                                                                           |

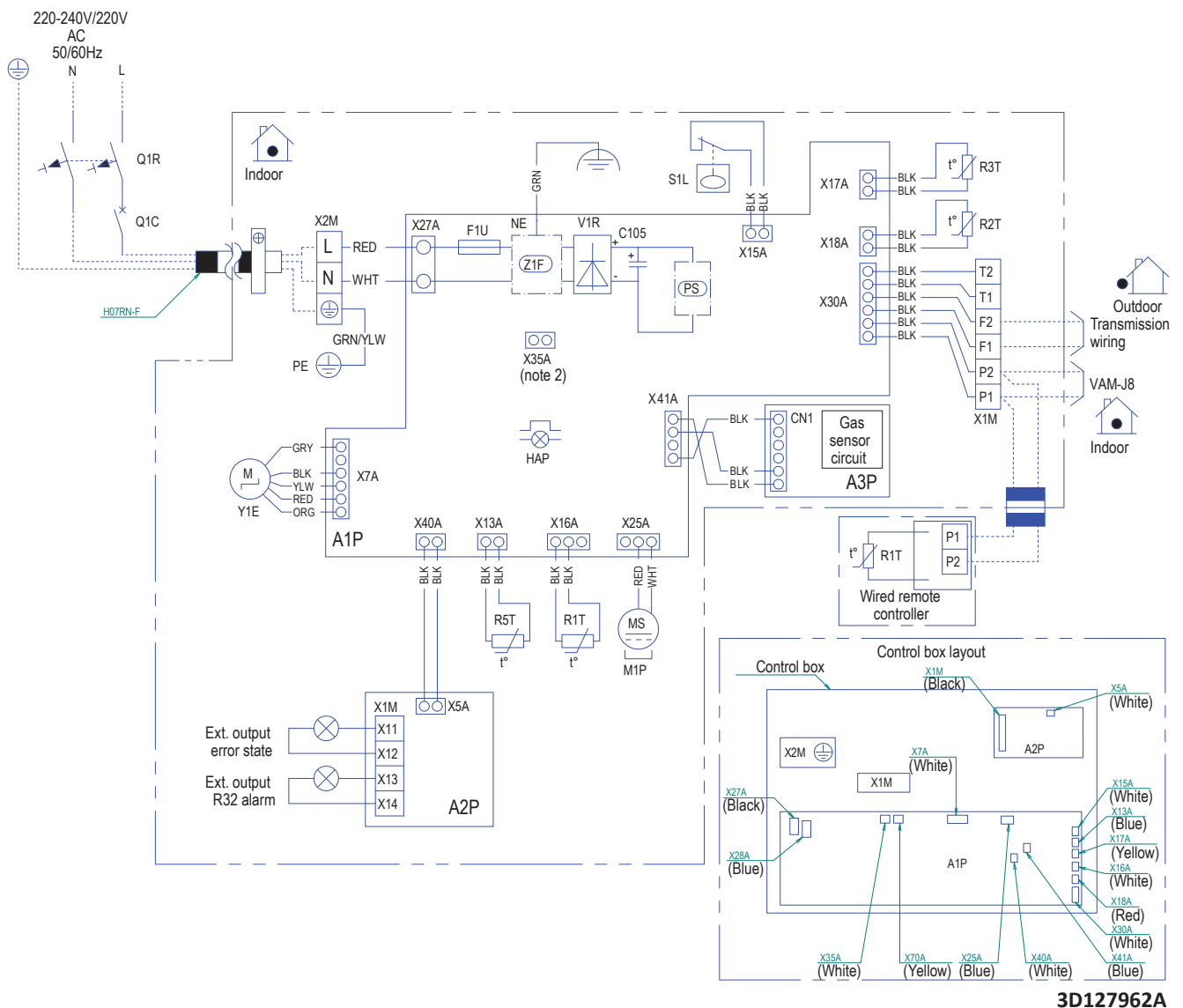
| English                 | Translation             |
|-------------------------|-------------------------|
| Gas sensor circuit      | Gas sensor circuit      |
| Wired remote controller | Wired remote controller |
| Control box layout      | Control box layout      |

## Wiring diagram



## 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.



## 5.3 Piping diagram

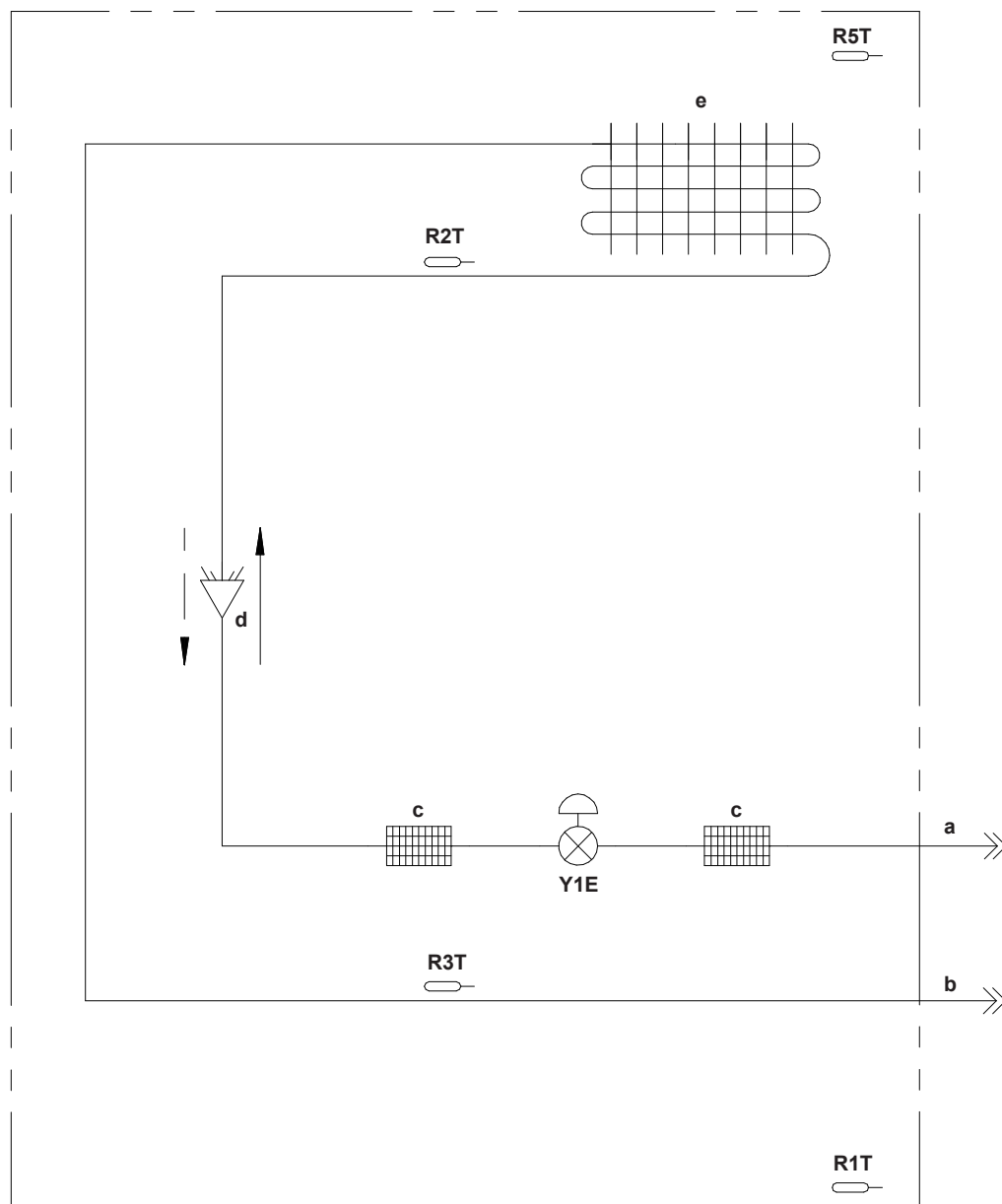
### 5.3.1 Piping diagram: Indoor unit

**EKVDX**



#### INFORMATION

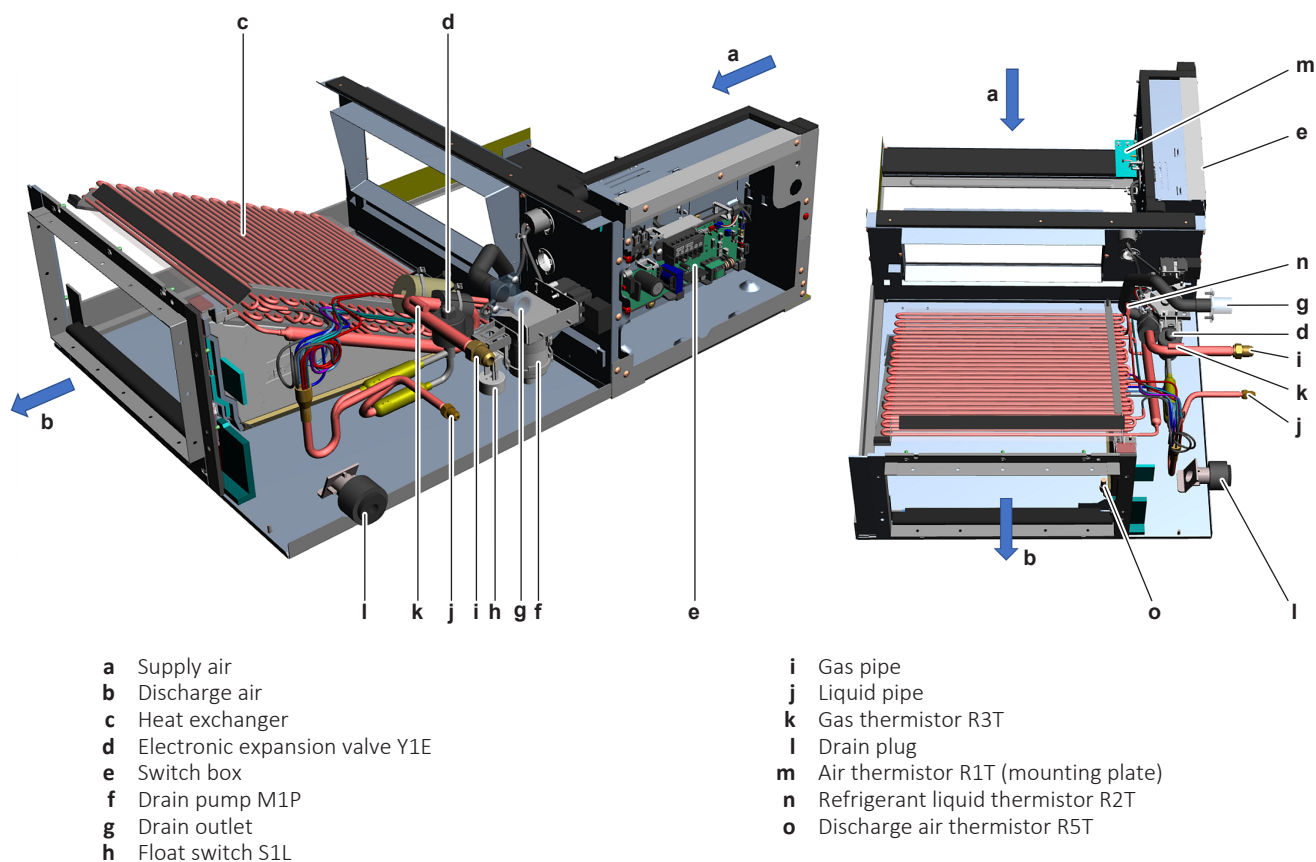
The diagrams shown in this manual may be incorrect due to changes/updates to the unit. Correct diagrams are supplied with the unit and can also be found in the technical data book.



- a** Liquid pipe connection port
- b** Gas pipe connection port
- c** Filter
- d** Distributor
- e** Heat exchanger
- R1T** Air thermistor
- R2T** Refrigerant liquid thermistor
- R3T** Gas thermistor
- R5T** Discharge air thermistor
- Y1E** Electronic expansion valve
- > Heating
- > Cooling

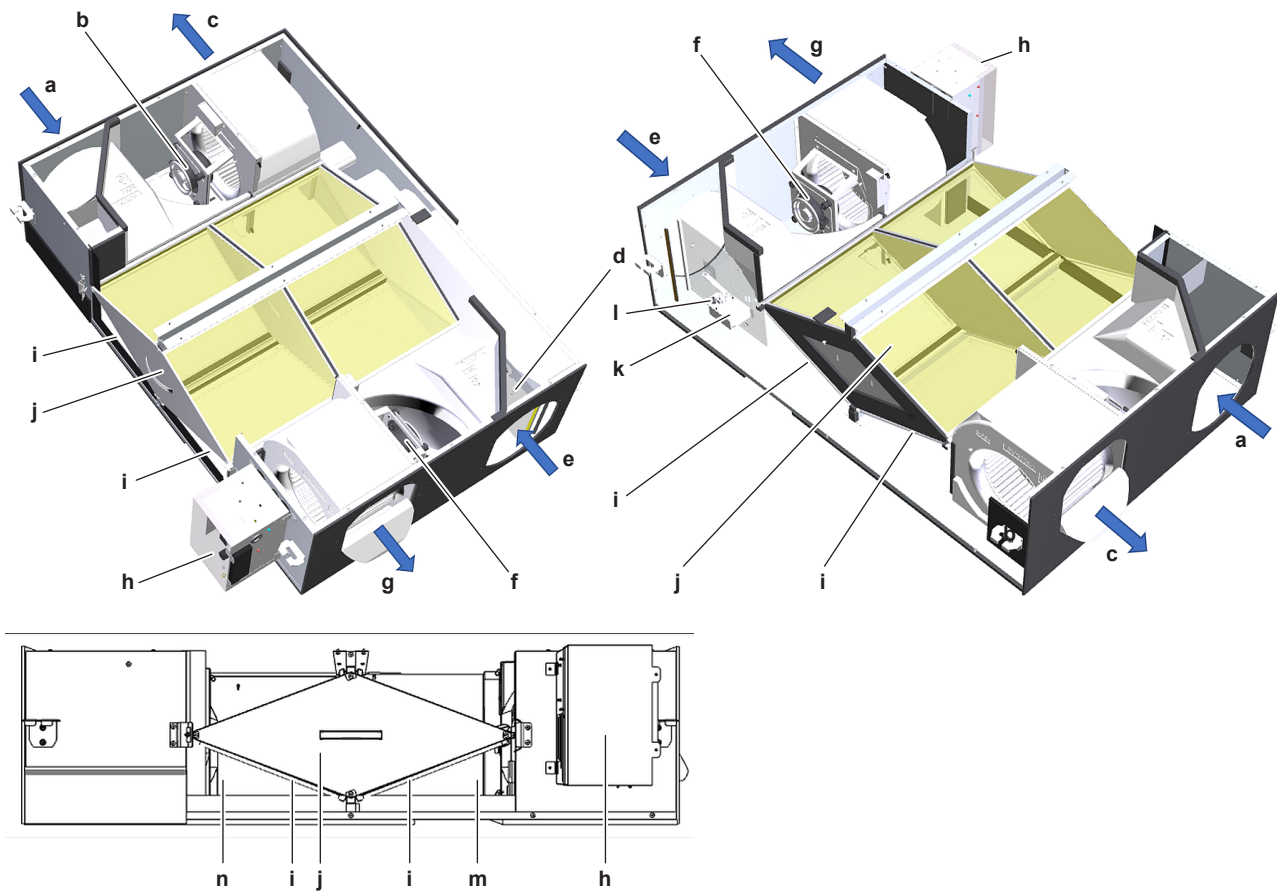
## 5.4 Component overview

### 5.4.1 Component overview: DX unit



## 5.4.2 Component overview: Heat reclaim ventilation unit

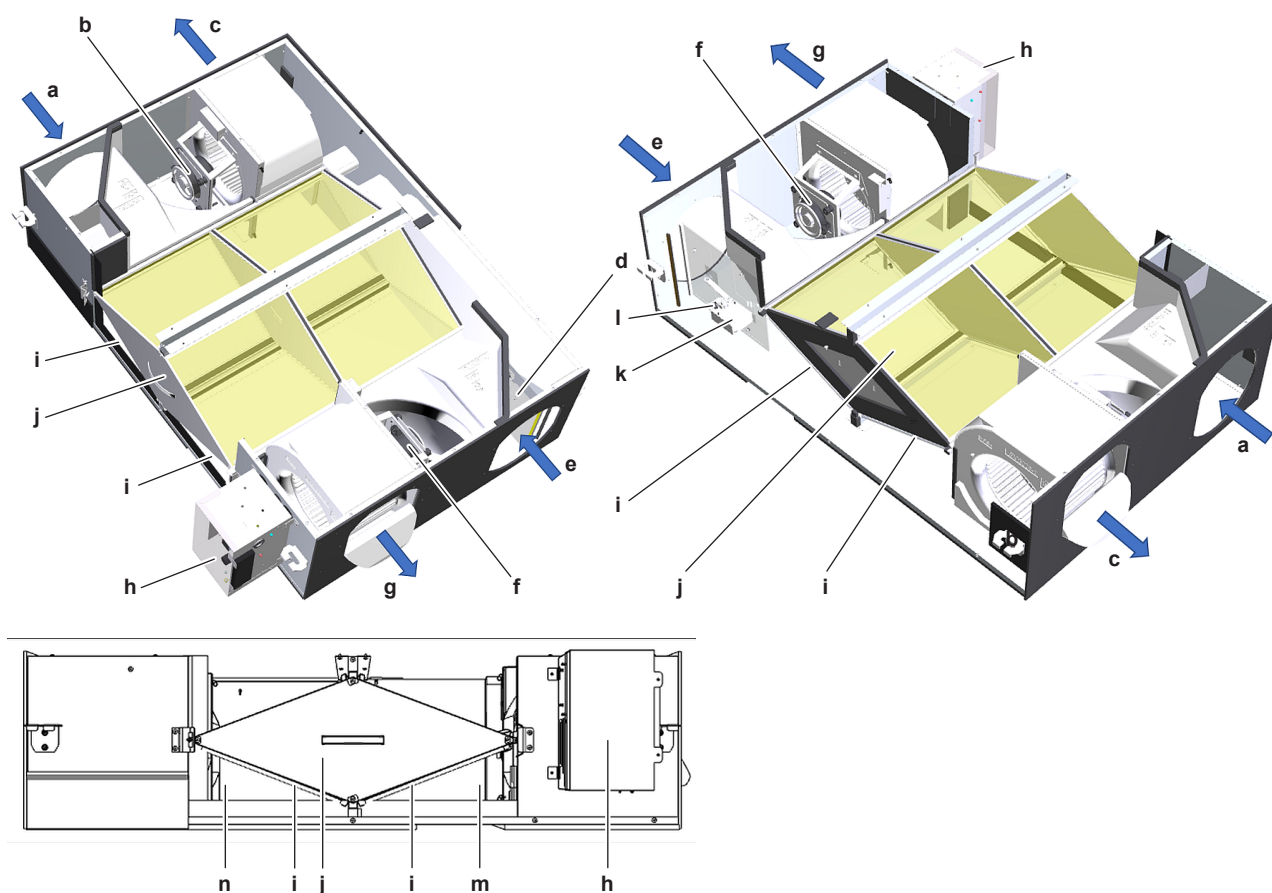
## VAM350~650J8



- a** Air inlet
- b** Exhaust air fan M2F
- c** Exhaust air
- d** Bypass damper
- e** Air return
- f** Supply air fan M1F
- g** Air supply

- h** Switch box
- i** Air filter
- j** Crossflow paper heat exchanger
- k** Damper motor M1D
- l** Limit switch S1C
- m** Indoor air thermistor R1T
- n** Outdoor air thermistor R2T

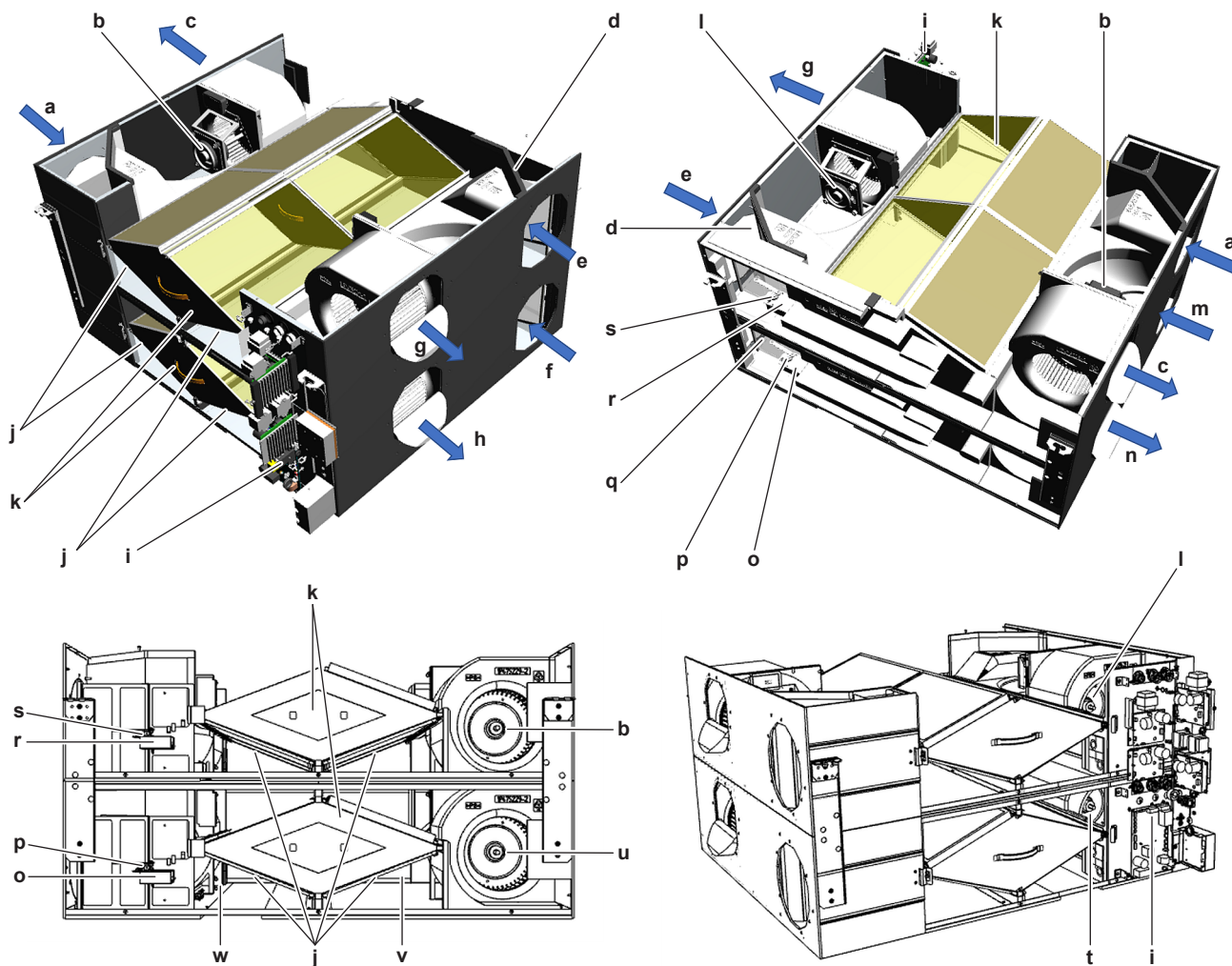
## VAM800+1000J8



- a** Air inlet
- b** Exhaust air fan M1F
- c** Exhaust air
- d** Bypass damper
- e** Air return
- f** Supply air fan M2F
- g** Air supply

- h** Switch box
- i** Air filter
- j** Crossflow paper heat exchanger
- k** Damper motor M1D
- l** Limit switch S1C
- m** Indoor air thermistor R1T
- n** Outdoor air thermistor R2T

# VAM1500+2000J8

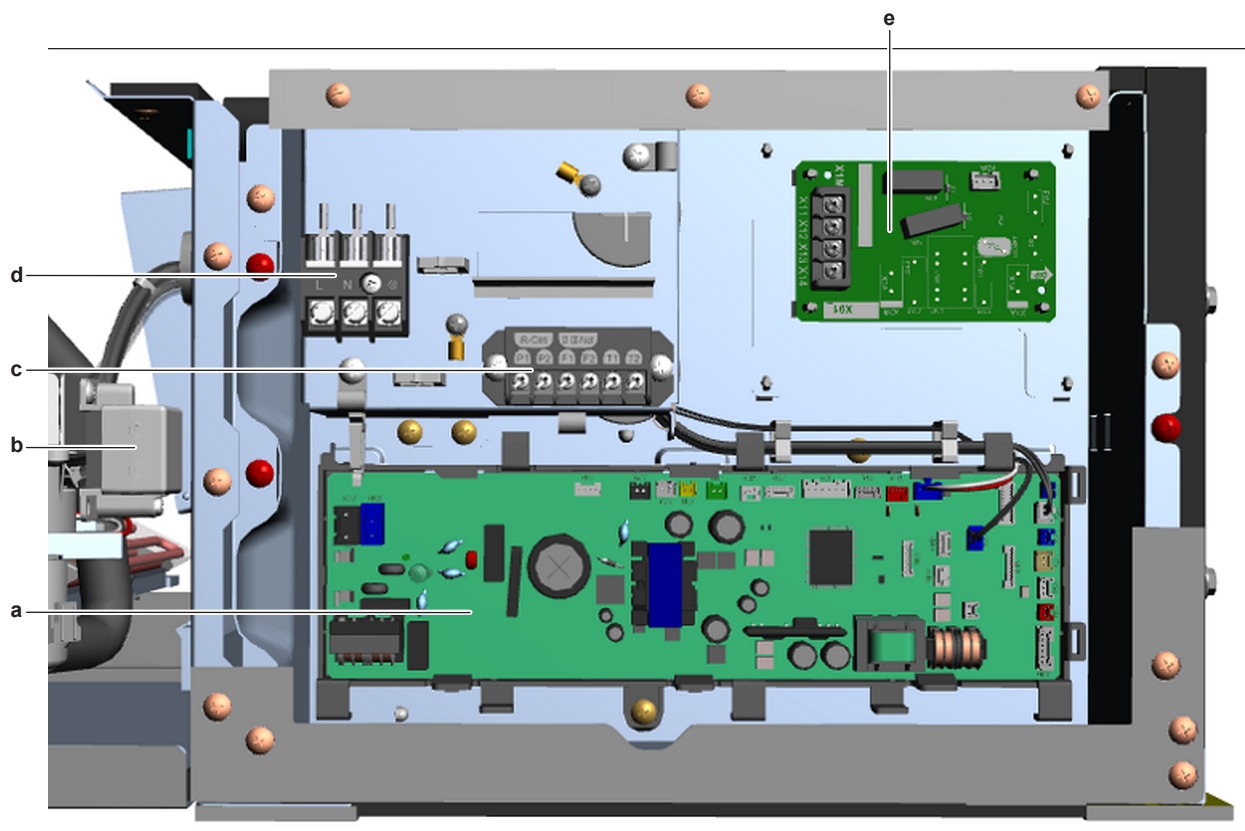


- a Air inlet (top)
- b Exhaust air fan (top) M3F
- c Exhaust air (top)
- d Bypass damper (top)
- e Air return (top)
- f Air return (bottom)
- g Air supply (top)
- h Air supply (bottom)
- i Switch box
- j Air filter
- k Crossflow paper heat exchanger
- l Supply air fan (top) M4F

- m Air inlet (bottom)
- n Exhaust air (bottom)
- o Damper motor (bottom) M1D
- p Limit switch (bottom) S1C
- q Bypass damper (bottom)
- r Damper motor (top) M2D
- s Limit switch (top) S2C
- t Supply air fan (bottom) M2F
- u Exhaust air fan (bottom) M1F
- v Outdoor air thermistor R2T
- w Indoor air thermistor R1T

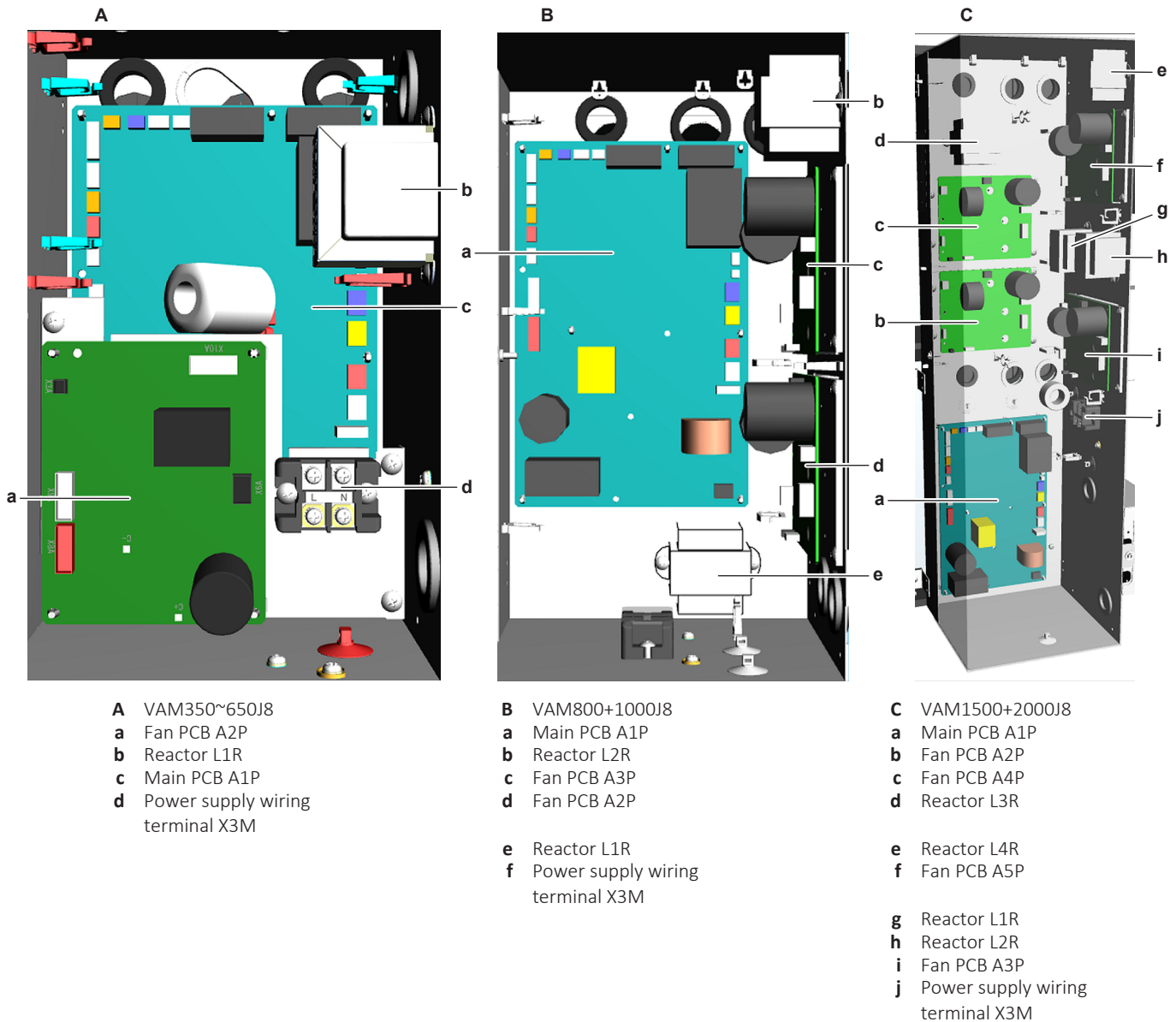
## 5.5 Switchbox overview

### EKVDX-A



- a** Main PCB A1P
- b** R32 leak sensor PCB A3P
- c** Transmission wiring terminal X1M
- d** Power supply wiring terminal X2M
- e** External output PCB A2P

# VAM-J8



## 5.6 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.

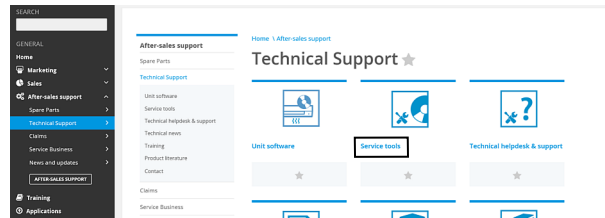
| FIELD INFORMATION REPORT                    |                 |
|---------------------------------------------|-----------------|
| <b>Key person information</b>               |                 |
| Name:                                       | Company name:   |
| Your contact details                        |                 |
| Phone number:                               | E-mail address: |
| Site address:                               |                 |
| Your reference:                             | Date of visit:  |
| <b>Claim information</b>                    |                 |
| 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:                     |
| Piping layout / Wiring layout (simple schematic): |

| Unit / Installation information                                                   |                                  |
|-----------------------------------------------------------------------------------|----------------------------------|
| Model name:                                                                       | Serial number:                   |
| Installation / commissioning date:                                                | Software version user interface: |
| Software version outdoor PCB:                                                     |                                  |
| Provide pictures of the field settings overview (viewable on the user interface). |                                  |

## 5.7 Service tools

- 1 For an overview of the available service tools, check the Daikin Business Portal (authentication required).
- 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.

## 5.8 Field settings

### 5.8.1 To retrieve the field settings

#### Via the indoor unit remote controller BRC1H

##### BRC1H remote controller

See the installer and user reference guide of the Madoka wired remote controller for correct procedure.

##### Madoka Assistant for BRC1H



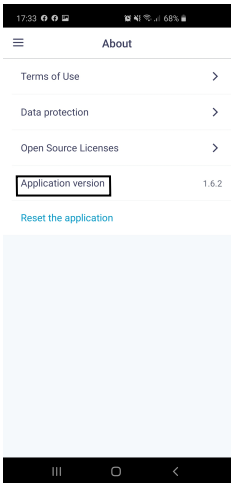
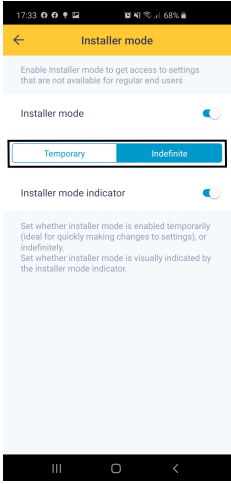
#### INFORMATION

Images are in English and for reference ONLY. For more details on the Madoka Assistant please refer to the BRC1H training course material which is available on the Daikin Business Portal.

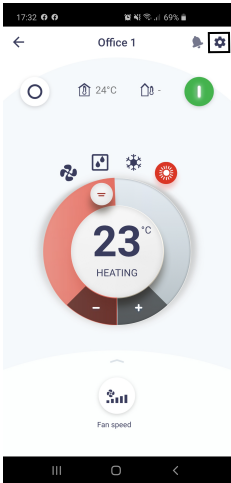
#### To set as installer mode

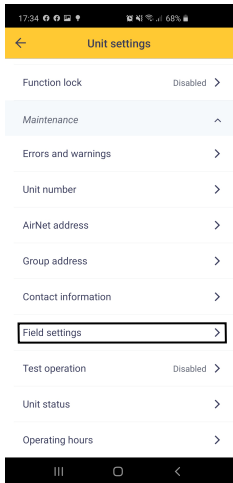
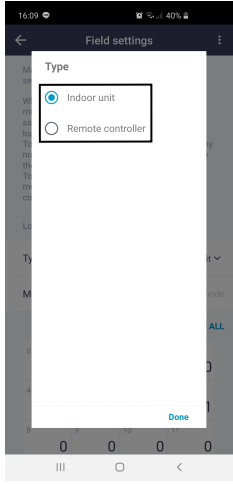
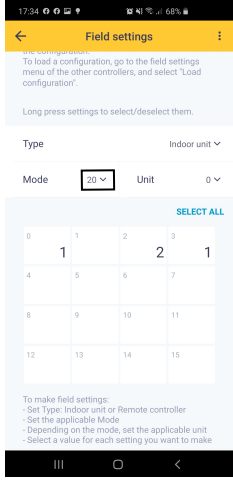
In order to retrieve the field settings, the Madoka Assistant app has to be set as installer mode. If already set as, skip to "To retrieve field settings".

| # | Action                        | Image | Result                              |
|---|-------------------------------|-------|-------------------------------------|
| 1 | Tap the menu icon.            |       | The menu screen is displayed.       |
| 2 | Tap About in the menu screen. |       | The About menu screen is displayed. |

| # | Action                                                                                                                                                                                               | Image                                                                               | Result                                             |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------------------------------|
| 3 | Tap Application version 5 times.                                                                                                                                                                     |   | Installer mode screen is displayed.                |
| 4 | Select (tap) the length of time the Madoka Assistant app is set as installer mode: <ul style="list-style-type: none"> <li>Temporary 30 minutes for</li> <li>Indefinite unlimited time for</li> </ul> |  | The Madoka Assistant app is set as installer mode. |

#### To retrieve field settings

| # | Action                 | Image                                                                                | Result                                 |
|---|------------------------|--------------------------------------------------------------------------------------|----------------------------------------|
| 1 | Tap the settings icon. |  | The Unit settings screen is displayed. |

| # | Action                                                                                                                                                         | Image                                                                                | Result                                               |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------------------------------------------------------|
| 2 | Tap Field settings.                                                                                                                                            |    | The Field settings screen is displayed.              |
| 3 | Tap and select the type for which you want to set the field settings: <ul style="list-style-type: none"> <li>Indoor unit</li> <li>Remote controller</li> </ul> |   | Field settings can now be set for the selected type. |
| 4 | Tap and select the desired Mode No. from the drop down list.                                                                                                   |  | The field setting mode is now selected.              |

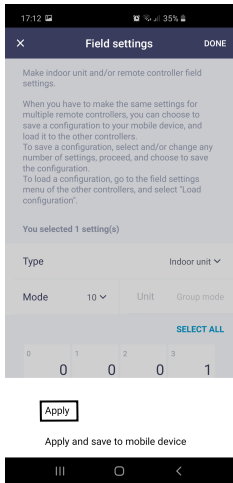
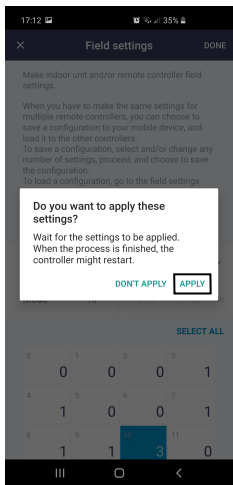
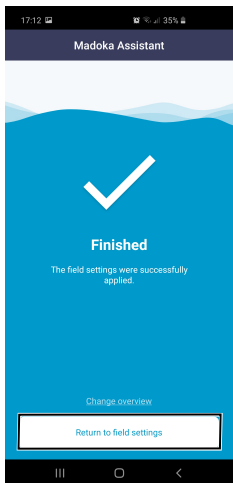
| # | Action                                                                                                                                                                                                                                                            | Image | Result                                                                                                                                                                                                                                                                                          |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | <p>In the case of setting per indoor unit during group control (When Mode No. such as 20, 21, 22, 23, 25 are selected), tap and select the Indoor unit No. which is required to set.</p> <p>In the case of group total setting, this operation is NOT needed.</p> |       | <ul style="list-style-type: none"> <li>In the case of individual setting per indoor unit, current settings are displayed.</li> <li>In the case of group total setting, all of Second Code No. which may be set are displayed as “*”.</li> <li>Second Code No. “-” means no function.</li> </ul> |
| 6 | <p>Tap the Second Code No. of the First Code No. to be changed.</p> <p>Select the desired Second Code No.</p> <p>Multiple identical mode number settings are available.</p>                                                                                       |       | Field settings are now set as desired, but still need to be saved.                                                                                                                                                                                                                              |

**INFORMATION**

In case of multiple settings, repeat previous steps to change the settings.

**To save field settings**

| # | Action    | Image | Result                                               |
|---|-----------|-------|------------------------------------------------------|
| 1 | Tap Done. |       | The screen to apply the field settings is displayed. |

| # | Action                          | Image                                                                                | Result                                       |
|---|---------------------------------|--------------------------------------------------------------------------------------|----------------------------------------------|
| 2 | Tap Apply to remote controller. |    | Changes are applied to the field settings.   |
| 3 | Tap Apply.                      |   | Changes to the field settings are confirmed. |
| 4 | Tap Return to field settings.   |  | Field settings are saved.                    |

## 5.8.2 Overview of field settings for DX units

**EKVDX field settings (user interface: indoor unit 0)**

| Mode                   | SW | SW description                                  | SW position <sup>(a)</sup> |                                   |                         |                                      |      |      |      |      |      |      |      |      |      |      |      |
|------------------------|----|-------------------------------------------------|----------------------------|-----------------------------------|-------------------------|--------------------------------------|------|------|------|------|------|------|------|------|------|------|------|
|                        |    |                                                 | 01                         | 02                                | 03                      | 04                                   | 05   | 06   | 07   | 08   | 09   | 10   | 11   | 12   | 13   | 14   | 15   |
| 10 (20) <sup>(b)</sup> | 13 | Discharge temperature correction factor (°C)    | 0                          | 0.5                               | 1                       | 1.5                                  | 2    | 2.5  | 3    | 3.5  | 4    | 4.5  | 5    | 5.5  | 6    | 6.5  | 7    |
| 12(22) <sup>(c)</sup>  | 1  | External input switching (T1 T2 )               | Forced stop (default)      | External Input (ON/OFF operation) | Protective device input | Forced stop B (multi-tenant setting) | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
| 14 (24) <sup>(d)</sup> | 10 | Cooling blowout temperature setpoint            | 13°C                       | 15°C                              | 16°C                    | 17°C                                 | 18°C | 19°C | 20°C | 21°C | 22°C | 23°C | 24°C | 25°C | 26°C | 28°C | 30°C |
| 14 (24) <sup>(d)</sup> | 11 | Heating blowout temperature setpoint            | 24°C                       | 26°C                              | 27°C                    | 28°C                                 | 29°C | 30°C | 31°C | 32°C | 33°C | 35°C | 37°C | 39°C | 41°C | 43°C | 45°C |
| 15 (25)                | 00 | Drain pump output when cooling thermo OFF       | Drain pump OFF             | Drain pump ON                     | —                       | —                                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|                        | 13 | R32 safety system <sup>(e)</sup>                | OFF                        | ON                                | OFF for 24 hours        | —                                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|                        | 14 | Sensor replacement completion setting           | Normal                     | Reset                             | —                       | —                                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |
|                        | 15 | External contact output settings <sup>(f)</sup> | Disable                    | Enable                            | —                       | —                                    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    | —    |

(a) Factory settings are marked with a grey background.

(b) This field setting cannot be modified via the remote controller menu.

(c) In case of R32 refrigerant, terminal connections T1 T2 are for fire alarm input ONLY.

(d) The VAM field setting 18(28)-13/-14 (see table below) MUST be identical to the EKVDX field setting. Set the EKVDX first (EKVDX=primary, VAM=secondary)

(e) In case R410A is used, set to 15(25)-13-1.

(f) 15(25)-15-2 is required when R32 refrigerant is used.

## VAM field settings (user interface: indoor unit 1)

| Mode             | SW                                                                  | SW description                       | 01           | 02                         | 03                              | 04                                                   | 05             | 06                          | 07            | 08        | 09        | 10   | 11   | 12   | 13   | 14   | 15   |
|------------------|---------------------------------------------------------------------|--------------------------------------|--------------|----------------------------|---------------------------------|------------------------------------------------------|----------------|-----------------------------|---------------|-----------|-----------|------|------|------|------|------|------|
| 17(27)           | 4                                                                   | Initial fan speed <sup>(a)</sup>     | High         | Ultra-high                 | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 5 <sup>(b)</sup> | Yes/No setting for duct connection with VRV system                  |                                      | Without duct | With duct                  | Without duct                    |                                                      | With duct      |                             | Without duct  |           | With duct | —    | —    | —    | —    | —    | —    |
|                  | Setting for cold areas when heater thermostat is OFF <sup>(c)</sup> |                                      | —            | —                          | Stop/Stop                       | Low/Low                                              | Stop/stop      | Low/Low                     | —             | —         | —         | —    | —    | —    | —    | —    | —    |
|                  | Fan operation when defrost/oil return/hot start <sup>(d)</sup>      |                                      | —            | —                          | Stop/Stop                       | Stop/Stop                                            | Stop/Stop      | Stop/Stop                   | Stop/—        | Stop/Stop | Stop/—    | —    | —    | —    | —    | —    | —    |
| 6                | Nighttime free cooling (fan settings) <sup>(e)</sup>                |                                      | High         | Ultra-high                 | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 18(28)           | 0                                                                   | External signal <sup>(f)</sup> IC/J2 | Last command | Priority on external input | Priority on operation           | Disable nighttime free cooling / Perform forced stop | —              | 24 hours ventilation ON/OFF | Disable IC/J2 | —         | —         | —    | —    | —    | —    | —    | —    |
| 1                | Direct power ON <sup>(f)</sup>                                      |                                      | OFF          | ON                         | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 2                | Auto restart <sup>(f)</sup>                                         |                                      | OFF          | ON                         | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 8                | External input terminal function selection <sup>(g)</sup> IC/J1     |                                      | Fresh-up     | Error output               | Error output and stop operation | Forced off                                           | Fan forced off | Air-flow up                 | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 10               | EKV DX connected <sup>(h)</sup>                                     |                                      | No           | Yes                        | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |
| 13               | Cooling set point (with EKV DX)                                     |                                      | 13°C         | 15°C                       | 16°C                            | 17°C                                                 | 18°C           | 19°C                        | 20°C          | 21°C      | 22°C      | 23°C | 24°C | 25°C | 26°C | 28°C | 30°C |
| 14               | Heating set point (with EKV DX)                                     |                                      | 24°C         | 26°C                       | 27°C                            | 28°C                                                 | 29°C           | 30°C                        | 31°C          | 32°C      | 33°C      | 35°C | 37°C | 39°C | 41°C | 43°C | 45°C |
| 19(29)           | 15                                                                  | R32 safety system <sup>(i)</sup>     | OFF          | ON                         | —                               | —                                                    | —              | —                           | —             | —         | —         | —    | —    | —    | —    | —    | —    |

(a) When connected to an EKV DX, set to 2 or 4.

(b) When connected to an EKV DX, 17(27)-5 can be set to 1, 3, 4, 7 or 8.

(c) Supply air/Exhaust air), e.g. Low/Low means: Supply air low/Exhaust air low.

(d) In case VAM and EKV DX are combined and the R32 safety system of the VAM is active, the nighttime free cooling is disabled.

(e) When connected to an EKV DX, IC/J2 cannot be used. Set to 18(28)-0-7. Instead, use T1 T2 of the EKV DX. See the EKV DX Installation and operation manual.

(f) When connected to an EKV DX, do not change the default settings.

(g) When connected to an EKV DX, IC/J1 cannot be used. Instead, use T1 T2 of the EKV DX. See the EKV DX Installation and operation manual.

(h) When connected to an EKV DX, setting 2 (safety ON) is required in case R32 refrigerant is used. Setting 1 (safety OFF) is required in case R410A refrigerant is used.

(i) When connected to an EKV DX, setting 2 (safety ON) is required in case R32 refrigerant is used. Setting 1 (safety OFF) is required in case R410A refrigerant is used.

## 5.8.3 Overview of field settings for heat reclaim ventilation units

| Mode   | SW               | SW description                                                                      | SW position <sup>(a)</sup> |                            |                                  |                                                    |                         |                                  |                |           |           |      |      |      |      |      |      |
|--------|------------------|-------------------------------------------------------------------------------------|----------------------------|----------------------------|----------------------------------|----------------------------------------------------|-------------------------|----------------------------------|----------------|-----------|-----------|------|------|------|------|------|------|
|        |                  |                                                                                     | 01                         | 02                         | 03                               | 04                                                 | 05                      | 06                               | 07             | 08        | 09        | 10   | 11   | 12   | 13   | 14   | 15   |
| 17(27) | 0                | Filter cleaning time                                                                | ±2500 hours                | ±1250 hours                | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 1                | Nighttime free cooling timer (after stop) <sup>(b)</sup>                            | OFF                        | ON after 2 hours           | ON after 4 hours                 | ON after 6 hours                                   | ON after 8 hours        | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 2                | Precool/preheat <sup>(c)</sup>                                                      | OFF                        | ON                         | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 3                | Precool/preheat duration <sup>(c)</sup>                                             | 30 minutes                 | 45 minutes                 | 60 minutes                       | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 4                | Initial fan speed <sup>(d)</sup>                                                    | High                       | Ultra-high                 | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 5 <sup>(e)</sup> | Yes/No setting for duct connection with VRV system                                  | Without duct               | With duct                  | Without duct                     |                                                    | With duct               |                                  | Without duct   |           | With duct | —    | —    | —    | —    | —    | —    |
|        |                  | Setting for cold areas (fan operation when heater thermostat is OFF) <sup>(f)</sup> | —                          | —                          | Stop/Stop                        | Low/Low                                            | Stop/stop               | Low/Low                          | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        |                  | Fan operation during defrost/oil return/hot start <sup>(f)</sup>                    | —                          | —                          | Stop/Stop                        | Stop/Stop                                          | Stop/Stop               | Stop/Stop                        | Stop/—         | Stop/Stop | Stop/—    | —    | —    | —    | —    | —    | —    |
|        | 6                | Nighttime free cooling (fan settings) <sup>(b)</sup>                                | High                       | Ultra-high                 | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 7                | Target temperature for independent nighttime free cooling <sup>(h)</sup>            | 18°C                       | 19°C                       | 20°C                             | 21°C                                               | 22°C                    | 23°C                             | 24°C           | 25°C      | 26°C      | 27°C | 28°C | 29°C | 30°C | —    | —    |
|        | 8                | Central zone link                                                                   | No                         | Yes                        | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 9                | Preheat time extension <sup>(d)</sup>                                               | 0 minutes                  | 30 minutes                 | 60 minutes                       | 90 minutes                                         | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 0                | External signal <sup>(b)</sup> J/C1/2                                               | Last command               | Priority on external input | Priority on operation            | Disable nighttime free cooling/Perform forced stop | —                       | 24 hours ventilation ON/OFF      | Disable J/C1/2 | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 1                | Direct power ON                                                                     | OFF                        | ON                         | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 2                | Auto restart <sup>(h)</sup>                                                         | OFF                        | ON                         | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 3                | Output signal to external damper (X24A)                                             | —                          | —                          | Damper output (fan operation)    | Damper output (fan operation)                      | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 4                | Indication of ventilation mode                                                      | ON                         | OFF                        | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 6                | Automatic ventilation air flow mode                                                 | Linear                     | —                          | Fixed A                          | Fixed B                                            | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 7                | Fresh-up mode                                                                       | Supply – no indication     | Exhaust – no indication    | Supply – indication              | Exhaust – indication                               | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 8                | External input terminal function selection <sup>(g)</sup> (J/C1/1)                  | Fresh-up                   | Error output               | Error output and stop operation  | Forced off                                         | Fan forced off          | Air-flow up                      | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 9                | BRP4A50A output switching selection (between X3 and X4)                             | Heater output              | Error output               | Fan output (Low/High/Ultra-high) | Fan output (High/Ultra-high)                       | Fan output (Ultra-high) | Fan output (Low/High/Ultra-high) | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        |                  | (between X1 and X2)                                                                 | Operation output           | —                          | Operation output                 |                                                    | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 10               | EKVDX connected? <sup>(h)</sup>                                                     | No                         | Yes                        | —                                | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 11               | Filter contamination check                                                          | No action                  | Reset filter check         | Force filter check               | —                                                  | —                       | —                                | —              | —         | —         | —    | —    | —    | —    | —    | —    |
|        | 13               | Cooling set point (with EKVDX)                                                      | 13°C                       | 15°C                       | 16°C                             | 17°C                                               | 18°C                    | 19°C                             | 20°C           | 21°C      | 22°C      | 23°C | 24°C | 25°C | 26°C | 28°C | 30°C |
| 18(28) | 14               | Heating set point (with EKVDX)                                                      | 24°C                       | 26°C                       | 27°C                             | 28°C                                               | 29°C                    | 30°C                             | 31°C           | 32°C      | 33°C      | 35°C | 37°C | 39°C | 41°C | 43°C | 45°C |

| Mode   | SW | SW description                                                       | SW position <sup>(a)</sup>              |                                        |                                  |                                                          |                                                                                |                                  |                                  |        |        |         |         |         |         |         |         |
|--------|----|----------------------------------------------------------------------|-----------------------------------------|----------------------------------------|----------------------------------|----------------------------------------------------------|--------------------------------------------------------------------------------|----------------------------------|----------------------------------|--------|--------|---------|---------|---------|---------|---------|---------|
|        |    |                                                                      | 01                                      | 02                                     | 03                               | 04                                                       | 05                                                                             | 06                               | 07                               | 08     | 09     | 10      | 11      | 12      | 13      | 14      | 15      |
| 19(29) | 0  | Filter contamination inspection <sup>(8)</sup>                       | Pressure-based check with fan step 1-15 | Pressure-based check with new fan step | Timer based check                | Filter contamination target detection with fan step 1-15 | Auto ESP selection and filter contamination target detection with new fan step | —                                | —                                | —      | —      | —       | —       | —       | —       | —       |         |
|        | 1  | Low tap <sup>(i)</sup>                                               | OFF                                     | Run 1/15 (28 min. OFF/2 min. ON)       | Run 1/10 (27 min. OFF/3 min. ON) | Run 1/6 (25 min. OFF/5 min. ON)                          | Run 1/4 (22.5 min. OFF/7.5 min. ON)                                            | Run 1/3 (20 min. OFF/10 min. ON) | Run 1/2 (15 min. OFF/15 min. ON) | Step 1 | Step 2 | Step 3  | Step 4  | Step 5  | Step 6  | Step 7  | Step 8  |
|        | 2  | Supply fan step <sup>(m)</sup>                                       | Step 1                                  | Step 2                                 | Step 3                           | Step 4                                                   | Step 5                                                                         | Step 6                           | Step 7                           | Step 8 | Step 9 | Step 10 | Step 11 | Step 12 | Step 13 | Step 14 | Step 15 |
|        | 3  | Exhaust fan step <sup>(m)</sup>                                      | Step 1                                  | Step 2                                 | Step 3                           | Step 4                                                   | Step 5                                                                         | Step 6                           | Step 7                           | Step 8 | Step 9 | Step 10 | Step 11 | Step 12 | Step 13 | Step 14 | Step 15 |
| 19(29) | 4  | 24-hour ventilation <sup>(b)</sup>                                   | OFF                                     | Run 1/15 (28 min. OFF/2 min. ON)       | Run 1/10 (27 min. OFF/3 min. ON) | Run 1/6 (25 min. OFF/5 min. ON)                          | Run 1/4 (22.5 min. OFF/7.5 min. ON)                                            | Run 1/3 (20 min. OFF/10 min. ON) | Run 1/2 (15 min. OFF/15 min. ON) | Step 1 | Step 2 | Step 3  | Step 4  | Step 5  | Step 6  | Step 7  | Step 8  |
|        | 5  | Humidification ON/OFF setting                                        | ON                                      | OFF                                    | —                                | —                                                        | —                                                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |
|        | 7  | Reference concentration shift for ventilation air flow control (ppm) | 0                                       | +200                                   | +400                             | +600                                                     | -200                                                                           | -400                             | -600                             | —      | —      | —       | —       | —       | —       | —       | —       |
|        | 8  | Stop ventilation by automatic ventilation air flow control           | Allowed                                 | NOT allowed                            | Allowed                          | NOT allowed                                              | —                                                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |
| 1A     | 8  | Fan residual operation                                               | OFF                                     | OFF                                    | Heater operation                 | Heater operation                                         | —                                                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |
|        | 9  | Normal ventilation tap on automatic ventilation air flow control     | —                                       | —                                      | —                                | —                                                        | Control by CO <sub>2</sub> sensor                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |
|        | 15 | R32 safety system <sup>(h)</sup>                                     | OFF                                     | ON                                     | —                                | —                                                        | —                                                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |
|        | 0  | Fresh-up operation <sup>(8)</sup>                                    | OFF                                     | ON                                     | —                                | —                                                        | —                                                                              | —                                | —                                | —      | —      | —       | —       | —       | —       | —       | —       |

<sup>(a)</sup> Factory settings are marked with a grey background.

<sup>(b)</sup> In case VAM and EKVDX are combined and the R32 safety system of the VAM is active, the nighttime free cooling is disabled.

<sup>(c)</sup> The preheating/precooling function of the heat reclaim ventilation unit is disabled when it is connected to an EKVDX.

<sup>(d)</sup> When connected to an EKVDX, set to 2 or 4.

<sup>(e)</sup> When connected to an EKVDX, 17(27)-5 can be set to 1, 3, 4, 7 or 8.

<sup>(f)</sup> (Supply air/Exhaust air), e.g. Low/Low means: Supply air low/Exhaust air low.

<sup>(g)</sup> When connected to an EKVDX, JC/J2 cannot be used. Set to 18(28)-0-7. Instead, use T1 T2 of the EKVDX. See the EKVDX Installation and operation manual.

<sup>(h)</sup> When connected to an EKVDX, do not change the default settings.

<sup>(i)</sup> When connected to an EKVDX, JC/J1 cannot be used. Instead, use T1 T2 of the EKVDX. See the EKVDX Installation and operation manual.

<sup>(j)</sup> When connected to an EKVDX, set to 18(28)-10-2.

<sup>(k)</sup> When connected to an EKVDX, a filter contamination check is performed automatically and is timer based. This setting CANNOT be done with BRC301B61

<sup>(l)</sup> When connected to an EKVDX, this field setting will always be OFF.

<sup>(m)</sup> See the technical data book for pressure drop curves and selection of fan curves (step 1 to 15).

<sup>(n)</sup> When connected to an EKVDX, setting 2 (safety ON) is required in case R32 refrigerant is used. Setting 1 (safety OFF) is required in case R410A refrigerant is used.

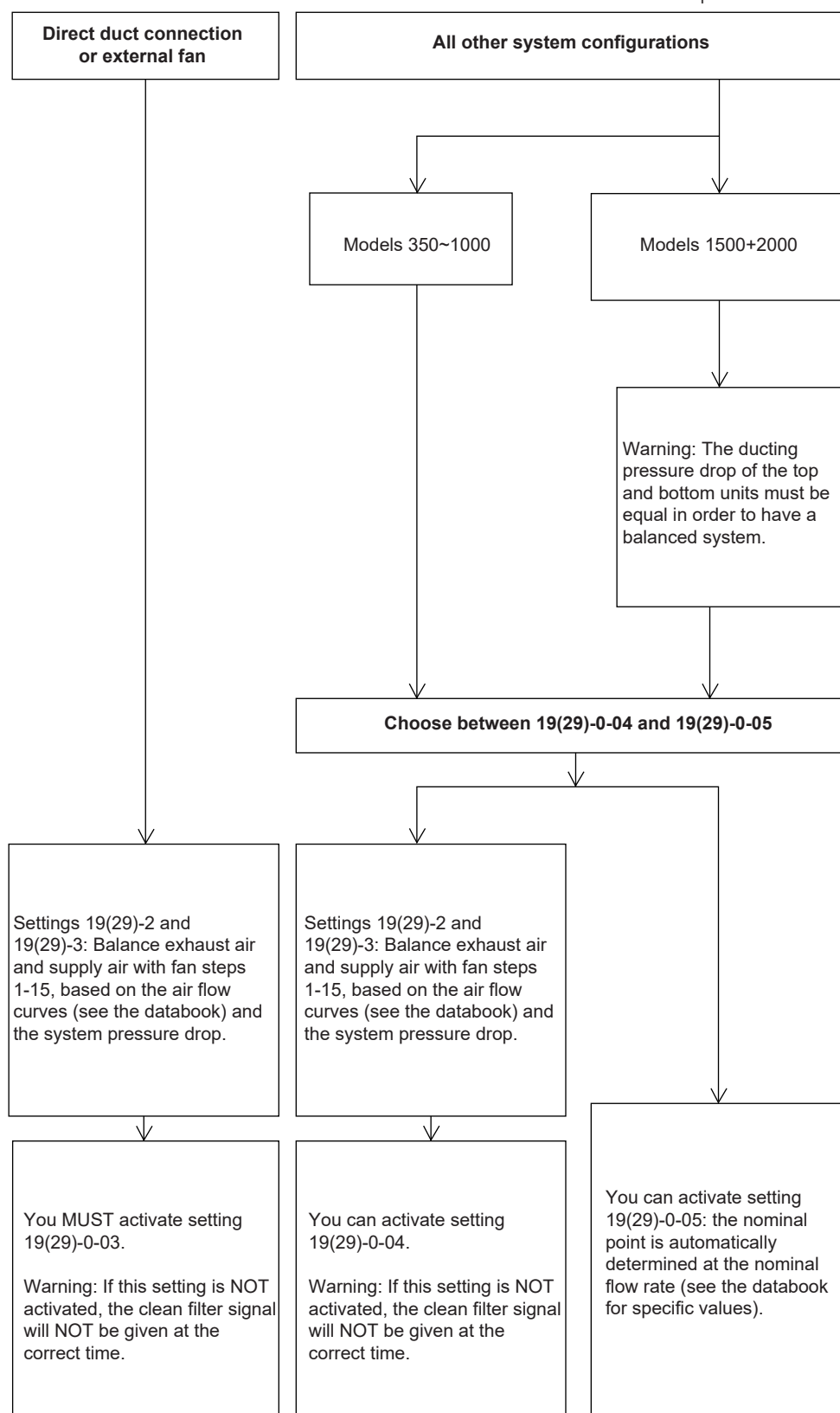
**Note:** When connected to an EKVDX, SS1 cannot be used. Instead, use T1 T2 of the EKVDX. See the EKVDX Installation and operation manual.

**Note:** The setting modes are mentioned as group settings, between parentheses are the setting modes for individual unit control or when connected to the EKVDX option. Group number setting for central controller: mode 00=group controller / mode 30=individual controller. For the setting procedure, see "Group number setting for central control" in the operation manual of either the ON/OFF controller or the central controller.

**Settings for all configurations**

Setting 17(27)-4: First choose the fan speed. Set it to high or ultra-high.

Flow "All other system configurations" is not applicable when combining VAM with EKVDX. Check the field settings for both units to make sure the combination of VAM and EKVDX is operational



### About setting 19(29)-0-04 and 19(29)-0-05

- When you have configured setting 19(29)-0-04 successfully, the system automatically changes it to setting 19(29)-0-01.
- When you have configured setting 19(29)-0-05 successfully, the system automatically changes it to setting 19(29)-0-02.



#### NOTICE

If the ducting is changed, install clean filters and reconfigure setting 19(29)-0-04 or 19(29)-0-05. Otherwise the signal to clean the filters will come too soon. Do NOT adjust the dampers when setting 19(29)-0-04 or 05 is activated.

- If the controller is switched off while activating setting 19(29)-0-04 or 19(29)-0-05, configuration is aborted. When you switch the controller back on, the function starts from the beginning.
- Setting 19(29)-0-04 takes between 1 and 6 minutes to complete. You can check if the setting was completed successfully by checking if the field setting is changed to 0-01.
- Setting 19(29)-0-05 takes between 3 and 35 minutes to complete. You can check if the setting was completed successfully by checking if the field setting is changed to 0-02.

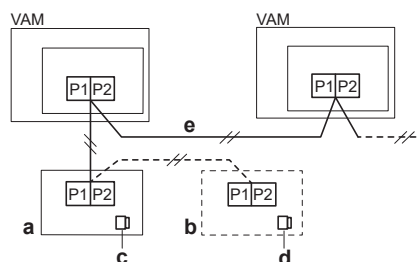


#### INFORMATION

While activating setting 19(29)-0-04 and 19(29)-0-05, the unit is set to heat recovery and the fan is on high or ultra high. After configuration, the settings are returned to what they were before the configuration.

- These settings can ONLY be activated with clean filters.
- For models 1500+2000, make sure that the ducting pressure drop of the top and bottom units is balanced.
- The function starts as soon as it is selected and the controller is on.
- Setting 19(29)-0-04 CANNOT be configured if the outside temperature is  $\leq -10^{\circ}\text{C}$ , which is out of the operation range.
- Setting 19(29)-0-05 CANNOT be configured if the outside temperature is  $\leq 5^{\circ}\text{C}$ . In this case, error 65-03 is shown and the unit stops working. Change the setting to 19(29)-0-04.
- The setting CANNOT be configured if there are alerts or errors present.
- If booster fans are used, you can ONLY configure setting 19(29)-0-03.
- Settings 19(29)-0-04 and 19(29)-0-05 can be configured for multiple units with 1 controller.

### Independent system



- a** Master controller for VAM
- b** Slave controller for VAM
- c** Switch position: Master
- d** Switch position: Slave

- e** Maximum length of connection line: 500 m  
**VAM** VAM heat reclaim ventilation unit



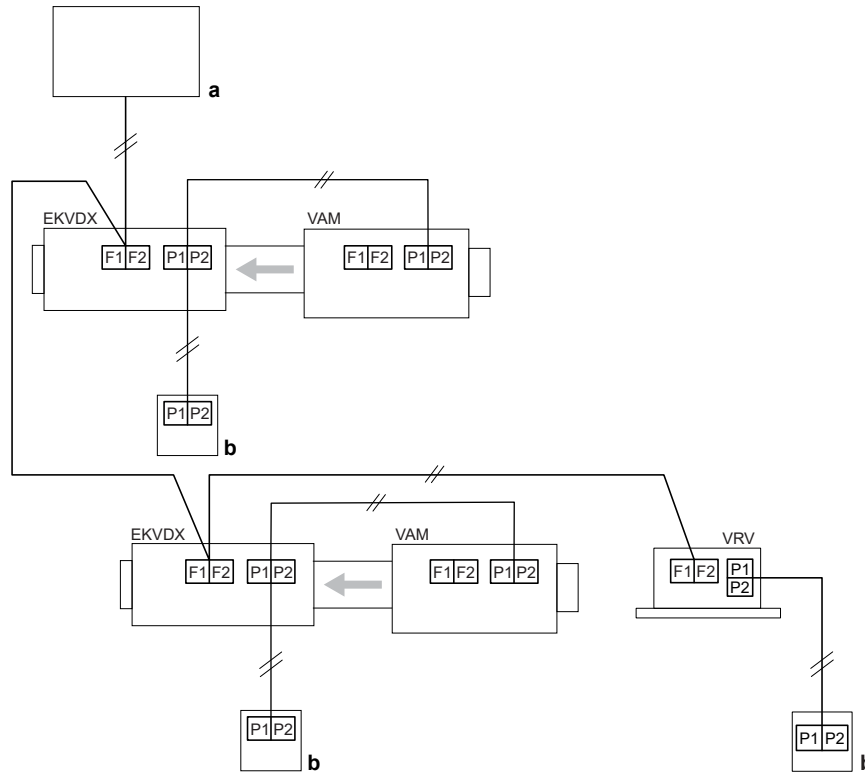
#### NOTICE

Factory settings: Do NOT change the switch settings when a controller is connected. SS1 is a setting switch to operate the unit without controller. Changing the switch setting when a controller is connected will stop the unit from operating normally. Keep the switch on the PCB in the factory setting position.



#### NOTICE

Group control connection is NOT allowed.



- a** Outdoor unit  
**b** Controller  
**VRV** VRV indoor unit  
**EKV DX** EKV DX indoor unit  
**VAM** VAM heat reclaim ventilation unit



#### NOTICE

Group control connection is NOT allowed.

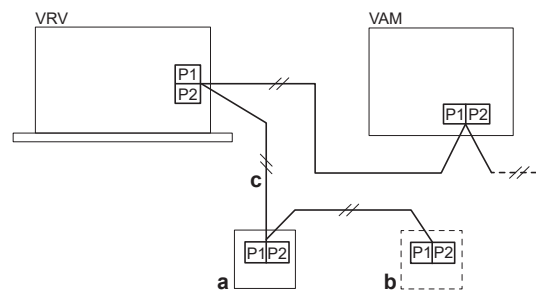
### 1-group linked-control system



#### NOTICE

Group control connection is NOT allowed with EKV DX indoor units.

- The air conditioner's controller can be used to control up to 16 units, a combination of indoor air conditioner units and heat reclaim ventilation units.
- You can configure initial settings for the functions of the VAM units. These functions are precool/preheat, ventilation air flow, ventilation mode, and fresh-up. Use the air conditioner's controller to configure the initial settings for the VAM units. See Field settings.



- a** Controller for air conditioner
- b** Controller for air conditioner
- c** Maximum length of connection line: 500 m
- VRV** VRV indoor unit
- VAM** VAM heat reclaim ventilation unit

### Linked control with more than 2 groups



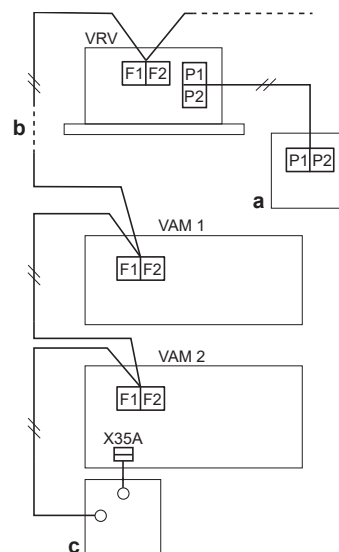
#### NOTICE

Group control connection is NOT allowed with EKVDX indoor units.

To change the settings, P1/P2 of the controller MUST be connected to the VAM units. The controller can be removed after the settings are changed.

If the unit is supposed to operate without controller, do NOT switch it on with the controller connected. Otherwise, the unit will give an error once the controller is removed, because it will keep on searching for the controller signal. To resolve the error, perform a power reset without the controller connected.

- The optional adapter PCB (KRP2A51) must be connected to 1 unit that is part of the F1/F2 loop. This unit can be an air conditioner or a VAM unit.
- Up to 64 units, a combination of air conditioners and VAM units, can be connected to the F1 and F2 terminals.
- KRP2A51 ONLY has ON/OFF control. If the VAM units run in automatic mode, they have a fixed setpoint. If P1/P2 is NOT connected, the setpoint of the air conditioner is unknown.
- Use the air conditioner's controller to configure the initial settings.



- a** Controller for air conditioner
- b** Maximum length of connection line: 1000 m
- c** Adapter PCB for remote control (KRP2A51)
- VRV** VRV indoor unit
- VAM 1** VAM heat reclaim ventilation unit 1
- VAM 2** VAM heat reclaim ventilation unit 2

Activate setting 17-8-02 to set the central zone link to ON. No further settings are required.

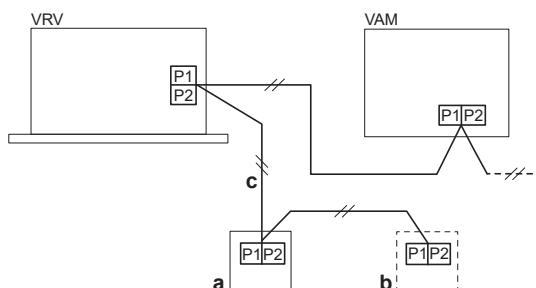
### Direct duct connection



#### NOTICE

Direct duct connection is NOT allowed with EKVDX indoor units.

The line connections are the same as for the 1-group linked-control system.



- a** Controller for air conditioner
- b** Controller for air conditioner
- c** Maximum length of connection line: 500 m

**VRV** VRV indoor unit

**VAM** VAM heat reclaim ventilation unit

### Initial settings

Activate below setting for direct duct connection. This direct duct configuration ONLY works if P1/P2 is connected.

- Mode number: 17
- Switch number: 5
- Position number: 07

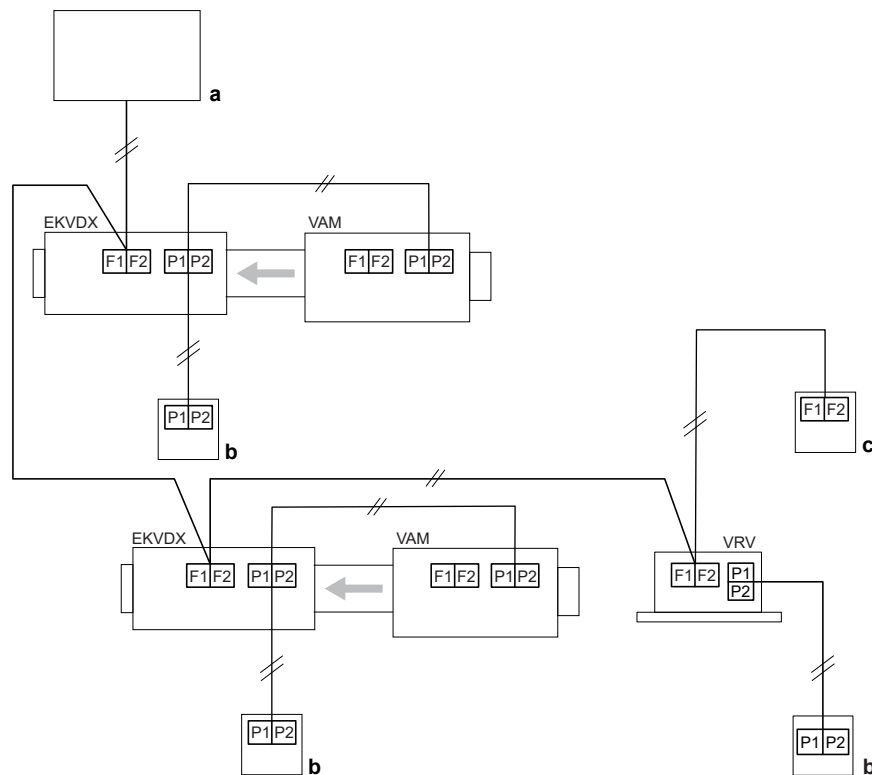
### Other functions

Like in a 1-group linked-control system, other VAM functions can also be configured.

### Central control system

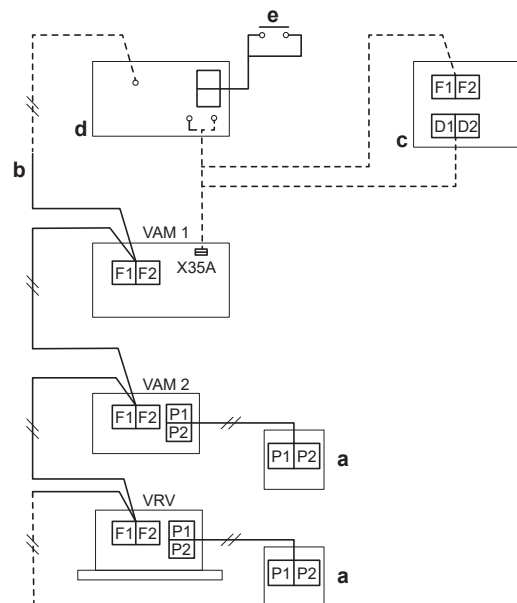
To change the settings, P1/P2 of the controller MUST be connected to the heat reclaim ventilation units. The controller can be removed after the settings are changed.

If the unit is supposed to operate without controller, do NOT switch it on with the controller connected. Otherwise, the unit will give an error once the controller is removed, because it will keep on searching for the controller signal. To resolve the error, perform a power reset without the controller connected.



- a** Outdoor unit  
**b** Controller  
**c** Central controller for all units  
**VRV** VRV indoor unit  
**EKVDX** EKVDX indoor unit  
**VAM** VAM heat reclaim ventilation unit

### All control

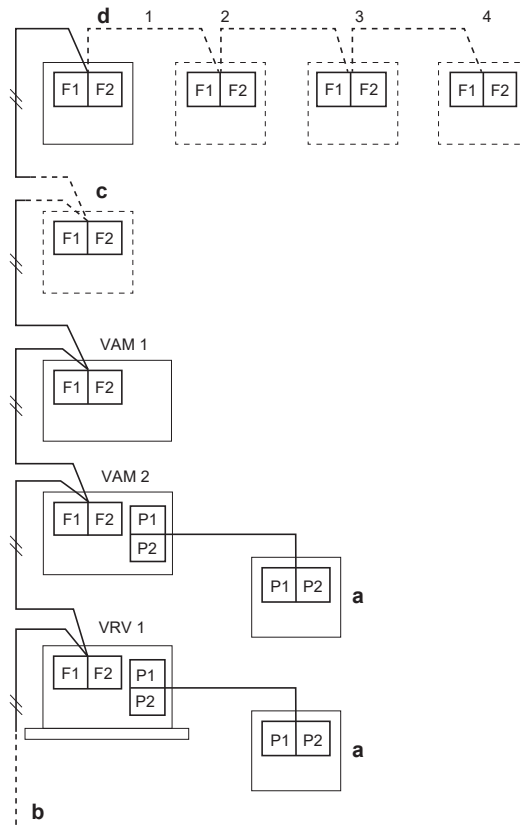


- a** Controller for air conditioner  
**b** Maximum length of connection line: 1000 m  
**c** Schedule timer (DST301B51)  
**d** Adapter PCB for remote control (KRP2A51)  
**e** On/Off signal  
**VAM 1** VAM heat reclaim ventilation unit 1  
**VAM 2** VAM heat reclaim ventilation unit 2  
**VRV** VRV indoor unit

If you use the adapter PCB (KRP2A51) or schedule timer (DST301B51), the following is valid:

- Up to 64 units, a combination of air conditioners and VAM units, can be connected to the F1 and F2 terminals.
- This system does NOT require group number setting for central control (auto-address system). The central control group number is automatically assigned if the adapter PCB (KRP2A51) or schedule timer (DST301B51) is connected.
- The adapter PCB and the schedule timer CANNOT be used together. The adapter PCB allows on/off control. The schedule timer allows on/off control with a weekly schedule.
- The adapter PCB can be connected to the electric component mounting base of either the VAM unit or the air conditioner.

### All/individual control



- a** Controller for air conditioner  
**b** Maximum length of connection line: 1000 m  
**c** Schedule timer  
**d** ON/OFF controller  
**VAM 1** VAM heat reclaim ventilation unit 1  
**VAM 2** VAM heat reclaim ventilation unit 2  
**VRV 1** VRV indoor unit 1

If the ON/OFF controller (DCS301B51) is used, the following is valid:

- Up to 64 units, a combination of air conditioners and VAM units, can be connected to the F1 and F2 terminals.
- Up to 4 ON/OFF controllers can be connected.
- A central control group number must be assigned to each VAM unit and air conditioner. See "The central control group number setting" in the operation manual of the ON/OFF controller for information about setting the group number.
- Use the air conditioner's controller to configure the initial settings.

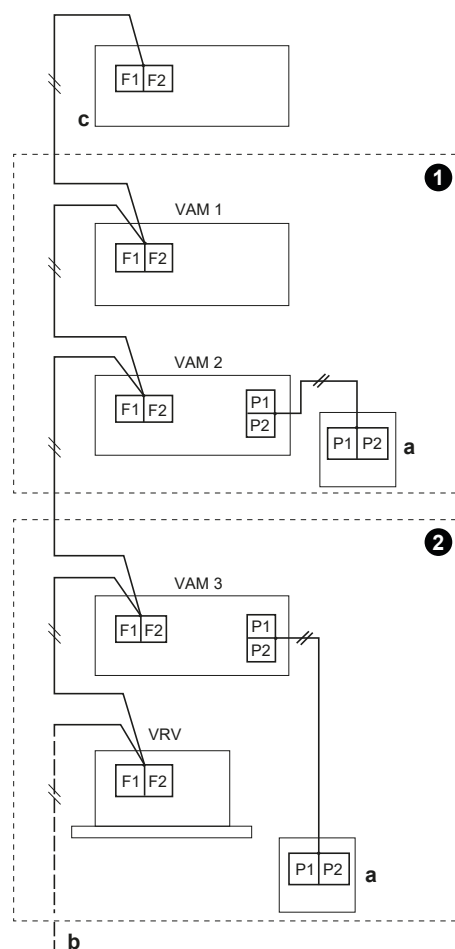
**Example**

Setting the central control group number 2-05 to 1:

Use the local setting on the controller to set the central control group number.

Mode number: 00

Central control group number: 2-05

**Zone control**

① Zone 1

② Zone 2

a Controller for air conditioner

b Maximum length of connection line: 1000 m

c Central controller (DCS302C51 or DCS601C51 or DCM601A51)

VAM 1 VAM heat reclaim ventilation unit 1

VAM 2 VAM heat reclaim ventilation unit 2

VAM 3 VAM heat reclaim ventilation unit 3

VRV VRV indoor unit

- Up to 64 units, a combination of air conditioners and VAM units, can be connected to the F1 and F2 terminals.
- Zone 1 and 2 can be controlled independently with the central controller.

**Zone 2**

The VAM units operate in the zone-linked mode, as described in "Linked control with more than 2 groups" [▶ 95].

Initial settings:

- A central control group number must be assigned to each VAM unit and air conditioner. See "The central control group number setting" in "All/individual control" [▶ 98] for information about setting the group number.

- For the ventilation air flow setting, follow the procedure described in "All control" [▶ 97].
- For zone setting using the central controller, see the operation manual of the central controller.
- The central controller can be used to control individual units in the zone for ventilation.

#### EKVDX option - extra settings

In case of a EKVDX +VAM combination, the following specific VAM settings can be made:

#### Automatic cool-heat switching function

The automatic cool-heat switching function, in case the EKVDX option is used, is only possible using the user interface.

To use this function, do the following:

- 1 Choose setting 1c-01-02.
- 2 The Auto operation mode logic depends on the set setpoint logic via the Madoka app.
  - Single set point (shared set point heating and cooling).
  - Dual set point (set point for heating and cooling).
- 3 Choose guard timer duration using setting 1e-11.
- 4 To switch the temperature
  - with the guard timer (=SP C1): choose setting 1c-14.
  - immediately (=C1 C2): choose setting 1c-15.

| Mode | SW | SW description                                                   | 01                | 02             | 03     | 04     |
|------|----|------------------------------------------------------------------|-------------------|----------------|--------|--------|
| 1c   | 01 | Which thermistor to show on user interface                       | Indoor unit (R1T) | User interface | —      | —      |
| 1c   | 14 | User interface auto mode: switching temperature with guard timer | 0.5°C             | 1°C            | 1.5°C  | 2°C    |
| 1c   | 15 | User interface auto mode: immediate switching temperature        | 0.5°C             | 1°C            | 1.5°C  | 2°C    |
| 1e   | 11 | User interface auto mode: guard timer duration                   | 15 min            | 30 min         | 60 min | 90 min |

#### Fan tap/air flow rate

In case the heat reclaim ventilation unit is combined with an EKVDX, the airflow rates in the L-tap are the same as in the H-tap. No action from the user is needed.

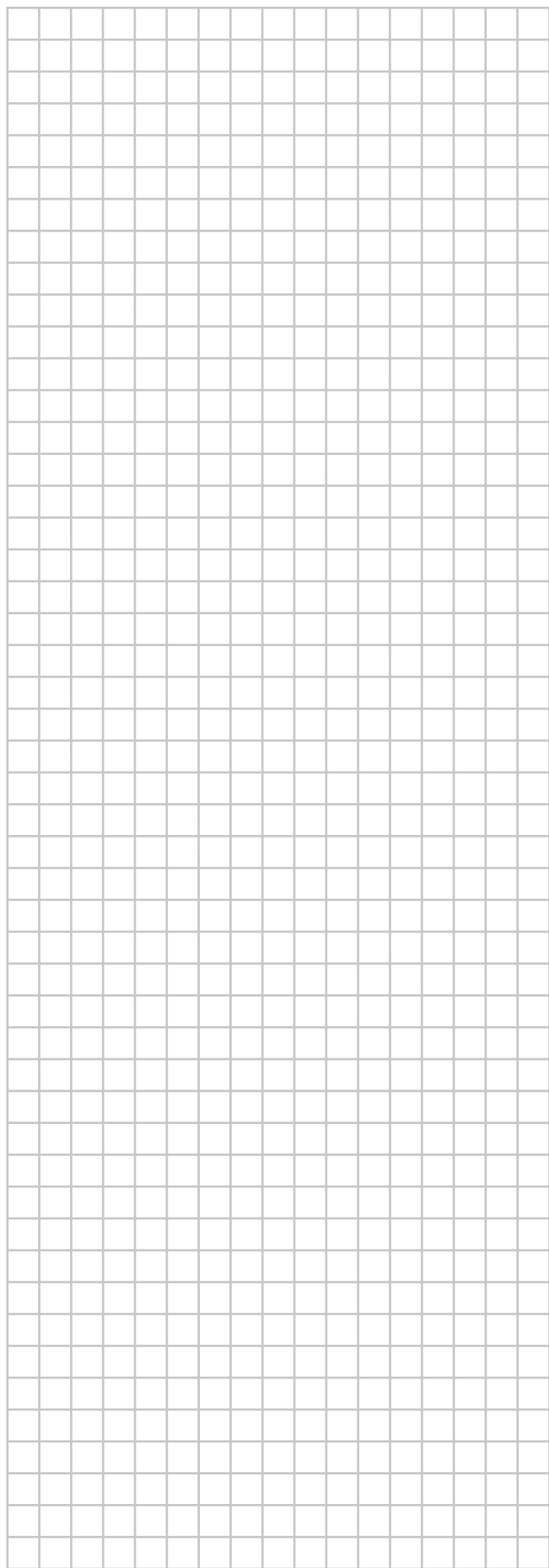
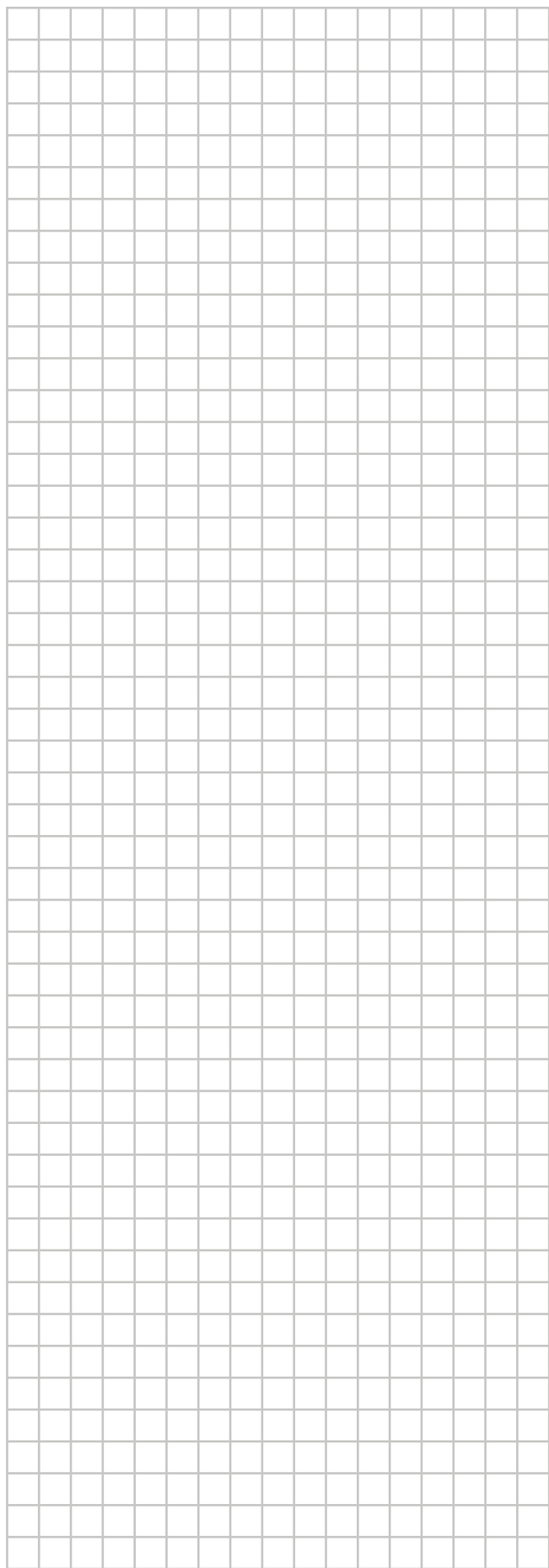
To determine the heat reclaim ventilation unit fan tap/airflow rate in case of combination with EKVDX:

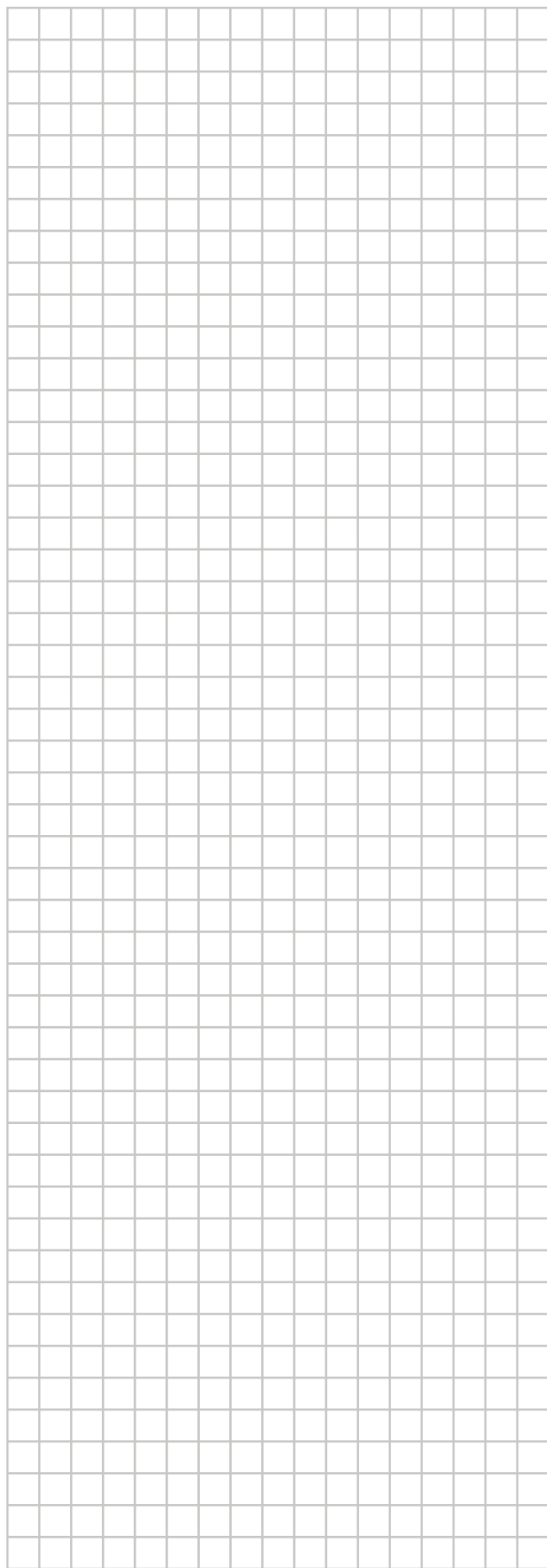
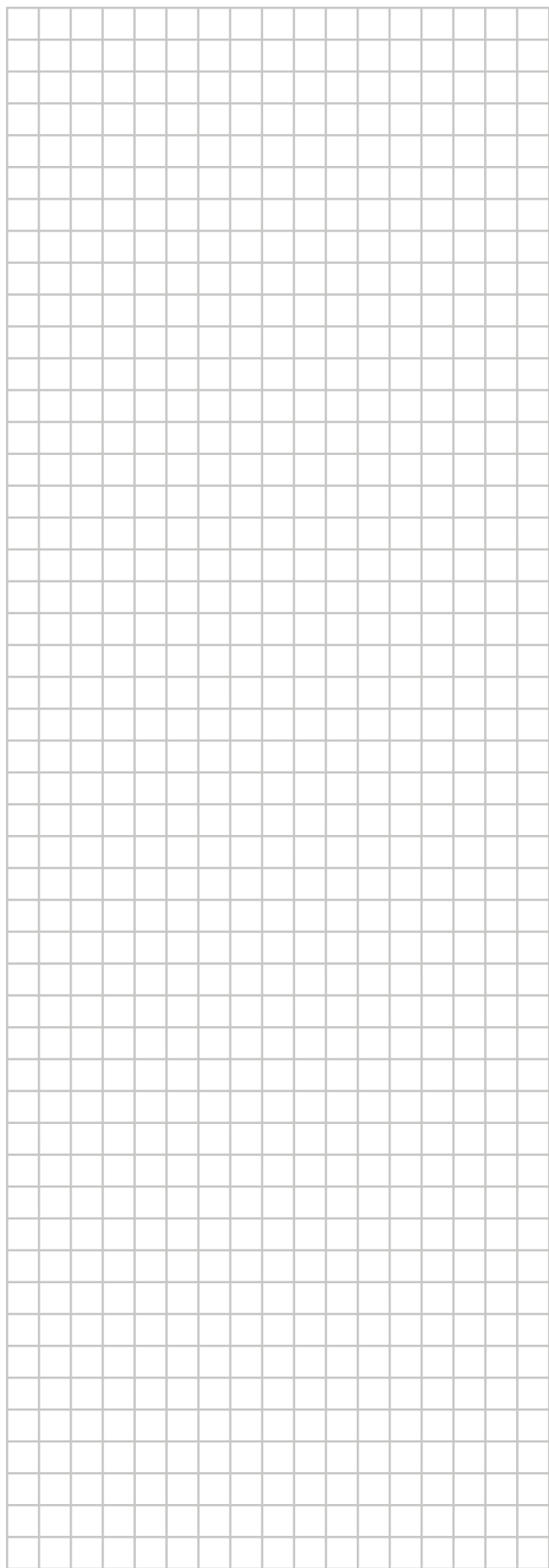
Via user interface:

- Weak (L/H tap)
- Strong (UH tap)

Onsite setting:

| Mode   | SW | SW position | Description |
|--------|----|-------------|-------------|
| 17(27) | 4  | 1           | L/H-tap     |
|        |    | 2           | UH-tap      |





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