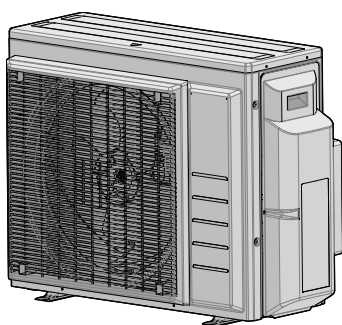




Installation manual

R32 Split series



3AMXM52N2V1B9
3MXM40N2V1B9
3MXM52N2V1B9
3MXM68N2V1B9

4MXM68N2V1B9
4MXM80N2V1B9

5MXM90N2V1B9

3AMXF52A2V1B9
3MXF52A2V1B9
3MXF68A2V1B9

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1 About the documentation

1.1 About this document

Target audience

Authorised installers

**INFORMATION**

This appliance is intended to be used by expert or trained users in shops, in light industry, and on farms, or for commercial and household use by lay persons.

**WARNING**

Make sure installation, servicing, maintenance, repair and applied materials follow the instructions from Daikin and, in addition, comply with applicable legislation and are performed by qualified persons only. In Europe and areas where IEC standards apply, EN/IEC 60335-2-40 is the applicable standard.

Documentation set

This document is part of a documentation set. The complete set consists of:

- **General safety precautions:**
 - Safety instructions that you **MUST** read before installing
 - Format: Paper (in the box of the outdoor unit)
- **Outdoor unit installation manual:**
 - Installation instructions
 - Format: Paper (in the box of the outdoor unit)
- **Installer reference guide:**
 - Preparation of the installation, reference data,...
 - Format: Digital files on <http://www.daikineurope.com/support-and-manuals/product-information/>

Latest revisions of the supplied documentation may be available on the regional Daikin website or via your dealer.

The original documentation is written in English. All other languages are translations.

Technical engineering data

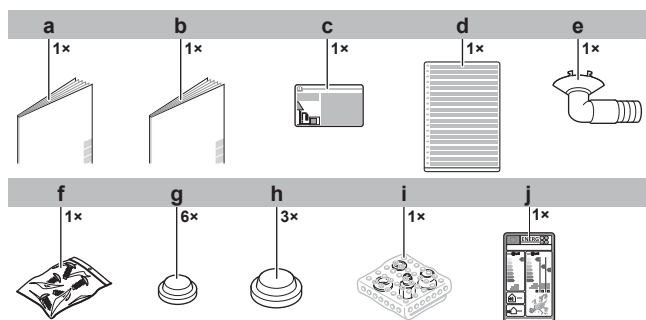
- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

2 About the box

2.1 Outdoor unit

2.1.1 To remove the accessories from the outdoor unit

- 1 Lift the outdoor unit.
- 2 Remove the accessories at the bottom of the package.



- a Outdoor unit installation manual
- b General safety precautions
- c Fluorinated greenhouse gases label
- d Multilingual fluorinated greenhouse gases label
- e Drain socket
- f Screw bag. The screws will be used for fixing the electrical wire anchor bands.
- g Drain cap (small)
- h Drain cap (large)
- i Reducer assembly
- j Energy label

3 Preparation

3.1 Preparing the installation site

- Choose a location where the operation noise or the hot/cold air discharged from the unit will not disturb anyone.



WARNING

Do NOT install the air conditioner at any place where flammable gas may leak out. If the gas leaks out and stays around the air conditioner, a fire may break out.

- Install units, power cables and communication wiring at least 3 m away from televisions or radios to prevent interference. Depending on the radio waves, a distance of 3 m may not be sufficient.
- Objects placed under the unit may be damaged by water from the drain.



WARNING

If appliances contain R32 refrigerant, then the floor area of the room in which the appliances are installed, operated and stored must be larger than the minimum floor area. This applies to:

- Indoor units **without** refrigerant leakage sensor; in case of indoor units **with** refrigerant leakage sensor, consult the installation manual
- Outdoor units installed or stored indoors (example: winter garden, garage, machinery room)
- Field piping in unventilated spaces

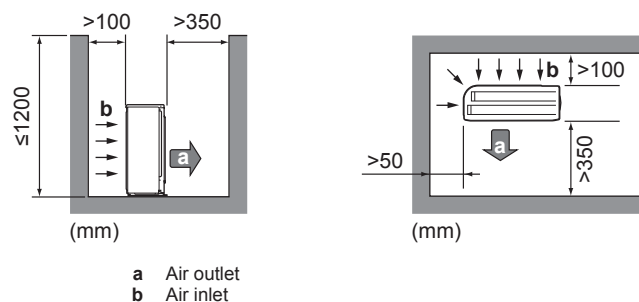


WARNING

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

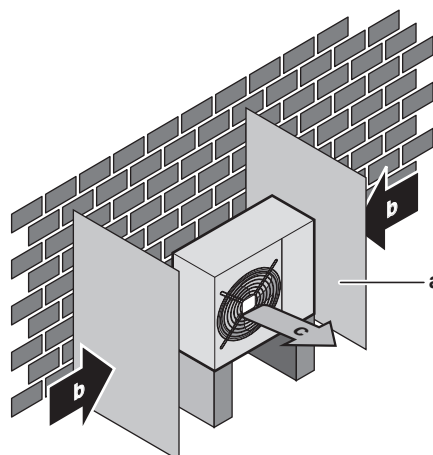
3.1.1 Installation site requirements of the outdoor unit

Mind the following spacing guidelines:



- a Air outlet
- b Air inlet

Allow 300 mm of work space below the ceiling surface and 250 mm for piping and electrical servicing.



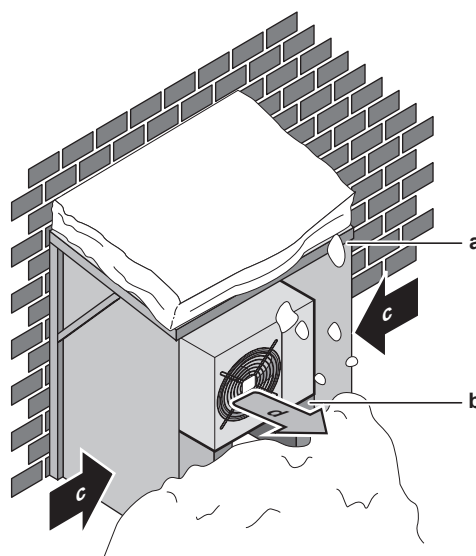
- a Baffle plate
- b Prevailing wind direction
- c Air outlet

The outdoor unit is designed for outdoor installation only, and for ambient temperatures within the following ranges:

Cooling mode	Heating mode
-10~46°C DB	-15~24°C DB

3.1.2 Additional installation site requirements of the outdoor unit in cold climates

Protect the outdoor unit against direct snowfall and take care that the outdoor unit is NEVER snowed up.



- a Snow cover or shed
- b Pedestal
- c Prevailing wind direction
- d Air outlet

4 Installation

It is recommended to provide at least 150 mm of free space below the unit (300 mm for heavy snowfall areas). Additionally, make sure the unit is positioned at least 100 mm above the maximum expected level of snow. If necessary, construct a pedestal. See "[4.1 Mounting the outdoor unit](#)" [p. 6] for more details.

In heavy snowfall areas it is very important to select an installation site where the snow will NOT affect the unit. If lateral snowfall is possible, make sure that the heat exchanger coil is NOT affected by the snow. If necessary, install a snow cover or shed and a pedestal.

3.1.3 Refrigerant piping length and height difference



INFORMATION

For the Hybrid for Multi application and the DHW generator for Multi, see the indoor unit installation manual for the maximum allowable refrigerant piping length and height difference.

The shorter the refrigerant piping, the better the performance of the system.

The piping length and height differences must comply with the following requirements.

Model	Minimum required space
3MXM40, 3MXM52, 3AMXM52, 3MXF52, 3AMXF52	4.7 m ²
3MXM68, 3MXF68	5.5 m ²
4MXM68	6.5 m ²
4MXM80	9.8 m ²
5MXM90	10.4 m ²

Shortest allowable length per room is 3 m.

Outdoor unit	Refrigerant piping length to each indoor unit	Refrigerant piping total length
3MXM40, 3MXM52, 3AMXM52, 3MXM68, 3MXF52, 3AMXF52, 3MXF68	≤25 m	≤50 m
4MXM68		≤60 m
4MXM80		≤70 m
5MXM90		≤75 m

	Height difference outdoor-indoor	Height difference indoor-indoor
Outdoor unit installed higher than indoor unit	≤15 m	≤7.5 m
Outdoor unit installed lower than at least 1 indoor unit	≤7.5 m	≤15 m

4 Installation



WARNING

Installation shall be done by an installer, the choice of materials and installation shall comply with the applicable legislation. In Europe, EN378 is the applicable standard.

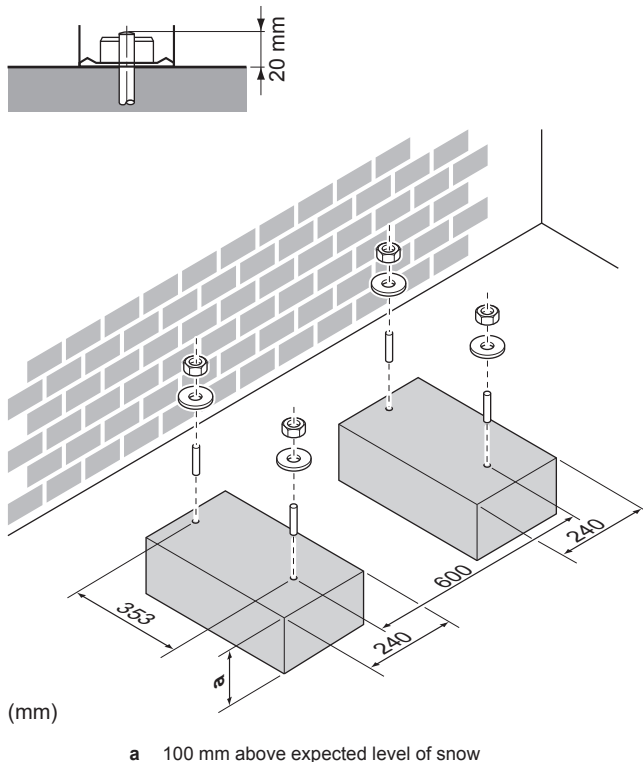
4.1 Mounting the outdoor unit

4.1.1 To provide the installation structure

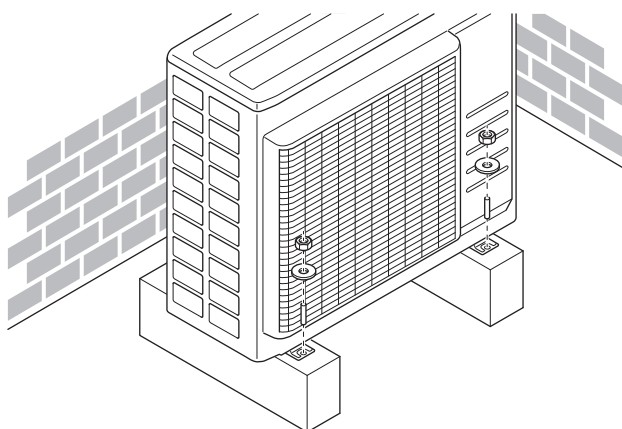
Use a vibration-proof rubber (field supply) in cases where vibrations may be transmitted to the building.

The unit may be installed directly on a concrete veranda or another solid surface as long as it provides proper drainage.

Prepare 4 sets of M8 or M10 anchor bolts, nuts and washers (field supply).



4.1.2 To install the outdoor unit



4.1.3 To provide drainage



NOTICE

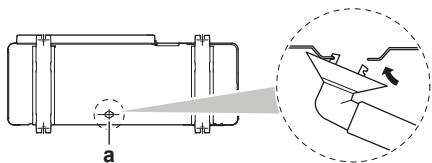
In cold areas, do NOT use a drain socket, hose and caps (large, small) with the outdoor unit. Take adequate measures so that the evacuated condensate CANNOT freeze.



NOTICE

If the drain holes of the outdoor unit are blocked up by a mounting base or floor surface, place additional foot bases ≤30 mm under the outdoor unit's feet.

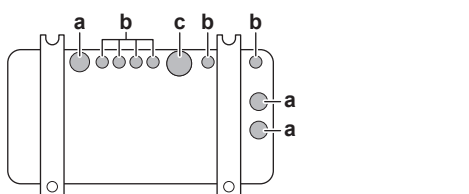
- Use a drain socket for drainage if necessary.



a Drain hole

To close the drain holes and attach the drain socket

- Install drain caps (accessory f) and (accessory g). Make sure the edges of the drain caps close off the holes completely.
- Install the drain socket.

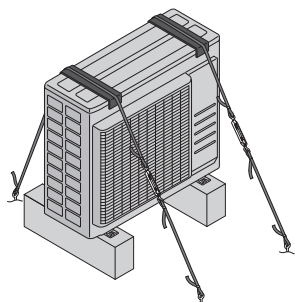


a Drain hole. Install a drain cap (large).
b Drain hole. Install a drain cap (small).
c Drain hole for drain socket

4.1.4 To prevent the outdoor unit from falling over

In case the unit is installed in places where strong wind can tilt the unit, take following measure:

- Prepare 2 cables as indicated in the following illustration (field supply).
- Place the 2 cables over the outdoor unit.
- Insert a rubber sheet between the cables and the outdoor unit to prevent the cables from scratching the paint (field supply).
- Attach the ends of the cables.
- Tighten the cables.



4.2 Connecting the refrigerant piping



DANGER: RISK OF BURNING



CAUTION

- No brazing or welding on site for units with R32 refrigerant charge during shipment.
- During installation of the refrigeration system, joining of parts with at least one part charged shall be performed taking into account the following requirements:
 - inside occupied spaces non permanent joints are not allowed for R32 refrigerant except for site made joints directly connecting the indoor unit to piping. Site made joints directly connecting piping to indoor units shall be of non permanent type.



CAUTION

Do NOT connect the embedded branch piping and the outdoor unit when only carrying out piping work without connecting the indoor unit in order to add another indoor unit later.

4.2.1 Connections between outdoor and indoor unit using reducers



INFORMATION

- For the DHW generator for Multi use the same reducer as for the 20 class indoor unit.
- For the Hybrid for Multi, see the indoor unit installation manual for the capacity class and applicable reducer.

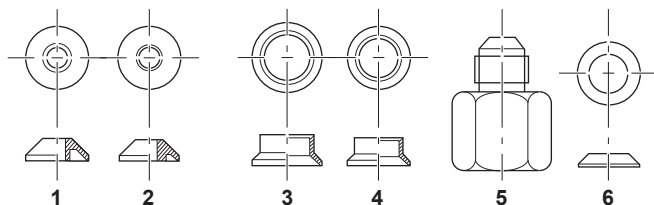
Total indoor unit capacity class that can be connected to this outdoor unit:

Outdoor unit	Total indoor unit capacity class
3MXM40	≤7.0 kW
3MXM52, 3AMXM52, 3MXF52, 3AMXF52	≤9.0 kW
3MXM68, 4MXM68, 3MXF68	≤11.0 kW
4MXM80	≤14.5 kW
5MXM90	≤15.6 kW

Port	Class	Reducer
3MXM40		
A	15, 20, 25, 35	—
B + C	15, 20, 25, 35	2+4
3MXM52, 3AMXM52		
A	15, 20, 25, 35	—
B + C	15, 20, 25, 35	2+4
	42, 50	—
3MXM68		
A	15, 20, 25, 35	—
B + C	15, 20, 25, 35	2+4
	42, 50, 60	—
3MXF52, 3AMXF52, 3MXF68		
A	20, 25, 35	—
B + C	20, 25, 35	2+4
4MXM68		
A + B	15, 20, 25, 35	—
C + D	15, 20, 25, 35	2+4
	42, 50, 60	—
4MXM80		
A	15, 20, 25, 35	—
B	15, 20, 25, 35	2+4
	42, 50, 60	—

4 Installation

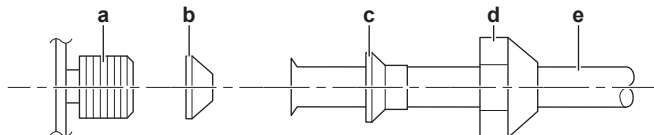
Port	Class	Reducer
C + D	15, 20, 25, 35	5+6
	42, 50, 60	1+3
	71	—
5MXM90		
A + B	15, 20, 25, 35	—
C	15, 20, 25, 35	2+4
	42, 50, 60	—
D + E	15, 20, 25, 35	5+6
	42, 50, 60	1+3
	71	—



Reducer type	Connection
1	Ø15.9 mm → Ø12.7 mm
2	Ø12.7 mm → Ø9.5 mm
3	Ø15.9 mm → Ø12.7 mm
4	Ø12.7 mm → Ø9.5 mm
5	Ø15.9 mm → Ø9.5 mm
6	Ø15.9 mm → Ø9.5 mm

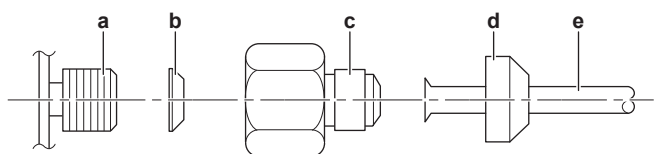
Connection examples:

- Connecting a Ø12.7 mm pipe to a Ø15.9 mm gas pipe connection port



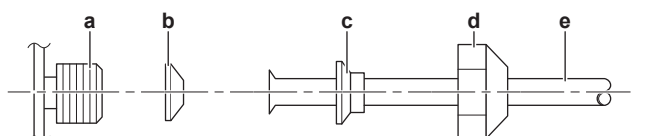
- a Outdoor unit connection port
- b Reducer no. 1
- c Reducer no. 3
- d Flare nut for Ø15.9 mm
- e Inter-unit piping

- Connecting a Ø9.5 mm pipe to a Ø15.9 mm gas pipe connection port



- a Outdoor unit connection port
- b Reducer no. 6
- c Reducer no. 5
- d Flare nut for Ø9.5 mm
- e Inter-unit piping

- Connecting a Ø9.5 mm pipe to a Ø12.7 mm gas pipe connection port



- a Outdoor unit connection port
- b Reducer no. 2
- c Reducer no. 4
- d Flare nut for Ø12.7 mm
- e Inter-unit piping

Coat the threaded connection port of the outdoor unit where the flare nut comes in with refrigeration oil.

Flare nut for (mm)	Tightening torque (N·m)
Ø9.5	33~39
Ø12.7	50~60
Ø15.9	62~75



NOTICE

Use an appropriate wrench to avoid damaging the connection thread by overtightening the flare nut. Be careful NOT to overtighten the nut, or the smaller pipe may be damaged (about 2/3-1× the normal torque).

4.2.2 To connect the refrigerant piping to the outdoor unit

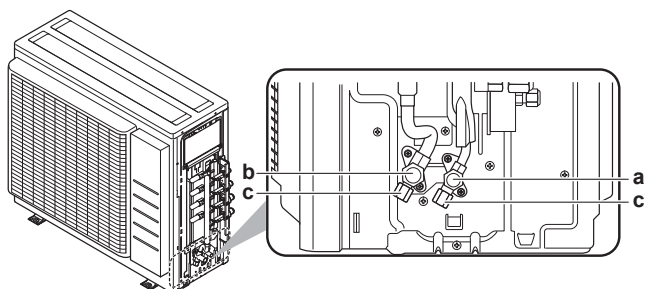
- Piping length.** Keep field piping as short as possible.
- Piping protection.** Protect the field piping against physical damage.



WARNING

Connect the refrigerant piping securely before running the compressor. If the refrigerant piping is NOT connected and the stop valve is open when the compressor is run, air will be sucked in. This will cause abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.

- 1 Connect the liquid refrigerant connection from the indoor unit to the liquid stop valve of the outdoor unit.



- a Liquid stop valve
- b Gas stop valve
- c Service port

- 2 Connect the gas refrigerant connection from the indoor unit to the gas stop valve of the outdoor unit.



NOTICE

It is recommended that the refrigerant piping between indoor and outdoor unit is installed in a ducting or the refrigerant piping is wrapped with finishing tape.

4.3 Checking the refrigerant piping

4.3.1 To check for leaks



NOTICE

Do NOT exceed the unit's maximum working pressure (see "PS High" on the unit name plate).

**NOTICE**

Make sure to use a recommended bubble test solution from your wholesaler. Do not use soap water, which may cause cracking of flare nuts (soap water may contain salt, which absorbs moisture that will freeze when the piping gets cold), and/or lead to corrosion of flared joints (soap water may contain ammonia which causes a corrosive effect between the brass flare nut and the copper flare).

- 1 Charge the system with nitrogen gas up to a gauge pressure of at least 200 kPa (2 bar). It is recommended to pressurize to 3000 kPa (30 bar) in order to detect small leaks.
- 2 Check for leaks by applying the bubble test solution to all connections.
- 3 Discharge all nitrogen gas.

4.3.2 To perform vacuum drying

- 1 Vacuum the system until the pressure on the manifold indicates -0.1 MPa (-1 bar).
- 2 Leave as is for 4-5 minutes and check the pressure:

If the pressure...	Then...
Does not change	There is no moisture in the system. This procedure is finished.
Increases	There is moisture in the system. Go to the next step.

- 3 Vacuum the system for at least 2 hours to a manifold pressure of -0.1 MPa (-1 bar).
- 4 After turning the pump OFF, check the pressure for at least 1 hour.
- 5 If you do NOT reach the target vacuum or CANNOT maintain the vacuum for 1 hour, do the following:
 - Check for leaks again.
 - Perform vacuum drying again.

**NOTICE**

Be sure to open the gas stop valve after piping installation and vacuuming. Running the system with the valve closed, the compressor may break down.

4.4 Charging refrigerant**4.4.1 About the refrigerant**

This product contains fluorinated greenhouse gases. Do NOT vent gases into the atmosphere.

Refrigerant type: R32

Global warming potential (GWP) value: 675

**NOTICE**

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO₂ equivalent.

Formula to calculate the quantity in CO₂ equivalent tonnes: GWP value of the refrigerant × total refrigerant charge [in kg] / 1000

Please contact your installer for more information.

**WARNING: MILDLY FLAMMABLE MATERIAL**

The refrigerant inside this unit is mildly flammable.

**WARNING**

The appliance shall be stored in a room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).

**WARNING**

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use cleaning materials or means to accelerate the defrosting process other than those recommended by the manufacturer.
- Be aware that the refrigerant inside the system is odourless.

**WARNING**

The refrigerant inside the unit is mildly flammable, but normally does NOT leak. If the refrigerant leaks in the room and comes in contact with fire from a burner, a heater, or a cooker, this may result in fire, or the formation of a harmful gas.

Turn off any combustible heating devices, ventilate the room, and contact the dealer where you purchased the unit.

Do NOT use the unit until a service person confirms that the part from which the refrigerant leaked has been repaired.

4.4.2 To determine the additional refrigerant amount

If the total liquid piping length is...	Then...
≤30 m	Do NOT add additional refrigerant.
>30 m	R=(total length (m) of liquid piping–30 m)×0.020 R=Additional charge (kg) (rounded in units of 0.1 kg)

**INFORMATION**

Piping length is the one-way length of liquid piping.

Maximum allowable refrigerant charge amount	
3MXM40, 3MXM52, 3AMXM52, 3MXF52, 3AMXF52	2.2 kg
3MXM68, 3MXF68	2.4 kg
4MXM68	2.6 kg
4MXM80	3.2 kg
5MXM90	3.3 kg

4.4.3 To determine the complete recharge amount**INFORMATION**

If a complete recharge is necessary, the total refrigerant charge is: the factory refrigerant charge (see unit name plate) + the determined additional amount.

4 Installation

4.4.4 To charge additional refrigerant



WARNING

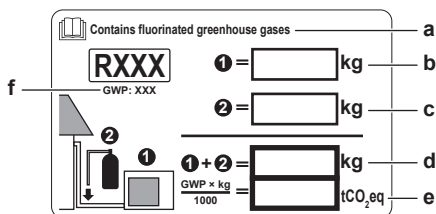
- Only use R32 as refrigerant. Other substances may cause explosions and accidents.
- R32 contains fluorinated greenhouse gases. Its global warming potential (GWP) value is 675. Do NOT vent these gases into the atmosphere.
- When charging refrigerant, ALWAYS use protective gloves and safety glasses.

Prerequisite: Before charging refrigerant, make sure the refrigerant piping is connected and checked (leak test and vacuum drying).

- 1 Connect the refrigerant cylinder to the service port.
- 2 Charge the additional refrigerant amount.
- 3 Open the gas stop valve.

4.4.5 To fix the fluorinated greenhouse gases label

- 1 Fill in the label as follows:



- If a multilingual fluorinated greenhouse gases label is delivered with the unit (see accessories), peel off the applicable language and stick it on top of a.
- Factory refrigerant charge: see unit name plate
- Additional refrigerant amount charged
- Total refrigerant charge
- Quantity of fluorinated greenhouse gases** of the total refrigerant charge expressed as tonnes CO₂ equivalent.
- GWP = Global warming potential



NOTICE

Applicable legislation on **fluorinated greenhouse gases** requires that the refrigerant charge of the unit is indicated both in weight and CO₂ equivalent.

Formula to calculate the quantity in CO₂ equivalent tonnes: GWP value of the refrigerant × total refrigerant charge [in kg] / 1000

Use the GWP value mentioned on the refrigerant charge label. That GWP is based on the current legislation on fluorinated greenhouse gases. The GWP mentioned in the manual might be outdated.

- 2 Fix the label on the inside of the outdoor unit near the gas and liquid stop valves.

4.5 Connecting the electrical wiring



DANGER: RISK OF ELECTROCUTION



WARNING

Appliance shall be installed in accordance with national wiring regulations.



WARNING

ALWAYS use multicore cable for power supply cables.



WARNING

Use an all-pole disconnection type breaker with at least 3 mm between the contact point gaps that provide full disconnection under overvoltage category III.



WARNING

If the supply cord is damaged, it MUST be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.



WARNING

Do NOT connect the power supply to the indoor unit. This could result in electrical shock or fire.



WARNING

- Do NOT use locally purchased electrical parts inside the product.
- Do NOT branch the power supply for the drain pump, etc. from the terminal block. This could result in electrical shock or fire.



WARNING

Keep the interconnection wiring away from copper pipes without thermal insulation as such pipes will be very hot.



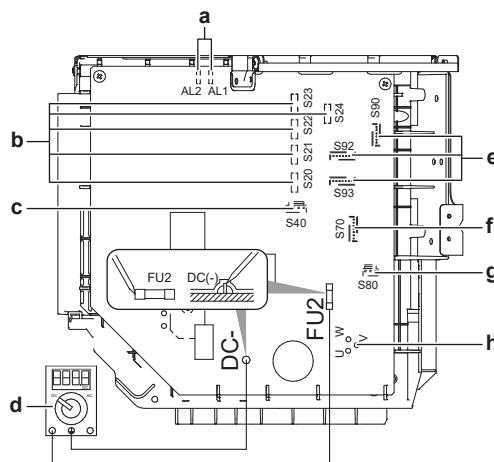
DANGER: RISK OF ELECTROCUTION

All electrical parts (including thermistors) are powered by the power supply. Do not touch them with bare hands.



DANGER: RISK OF ELECTROCUTION

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.



- AL1, AL2 - solenoid valve lead wire connector*
- S20~24 - electronic expansion valve coil lead wire connector (room A, B, C, D, E)*
- S40 - thermal overload relay lead wire and high pressure switch connector*
- Multimeter (DC voltage range)
- S90~93 - thermistor lead wire connector
- S70 - fan motor lead wire connector
- S80 - 4-way valve lead wire connector
- Compressor lead wire connector

*May differ depending on the model.

4.5.1 Specifications of standard wiring components

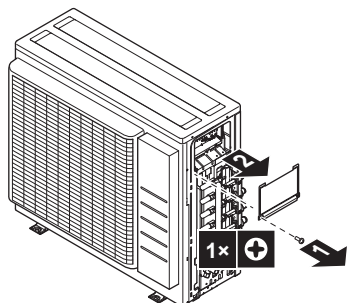
Component		
Power supply cable	Voltage	220~240 V
	Phase	1~
	Frequency	50 Hz
	Wire type	A
Interconnection cable (indoor↔outdoor)		4-core cable 1.5 mm ² or 2.5 mm ² and applicable for 220~240 V H05RN-F (60245 IEC 57)
Recommended circuit breaker		B
Earth leakage circuit breaker		MUST comply with applicable legislation

Model	A	B
3MXM40	3- core cable 2.5 mm ²	16 A
3AMXM52, 3AMXF52, 3MXF52, 3MXM52, 3MXF68, 3MXM68, 4MXM68	H05RN-F (60245 IEC 57) H07RN-F (60245 IEC 66) 3- core cable 4.0 mm ² H07RN-F (60245 IEC 66)	20 A
4MXM80	3- core cable 4.0 mm ²	25 A
5MXM90	H07RN-F (60245 IEC 66)	32 A

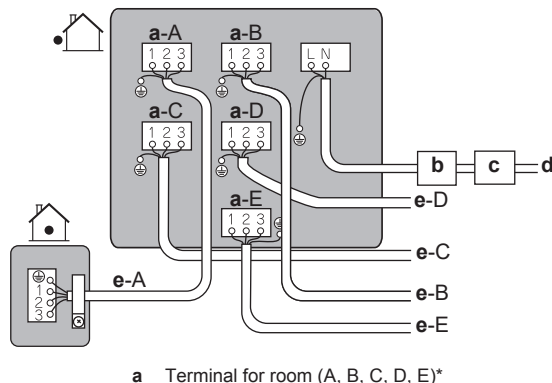
Electrical equipment must comply with EN/IEC 61000-3-12, the European/International Technical Standard setting the limits for harmonic currents produced by equipment connected to public low-voltage systems with input current >16 A and ≤75 A per phase.

4.5.2 To connect the electrical wiring to the outdoor unit

- 1 Remove the switch box cover (1 screw).



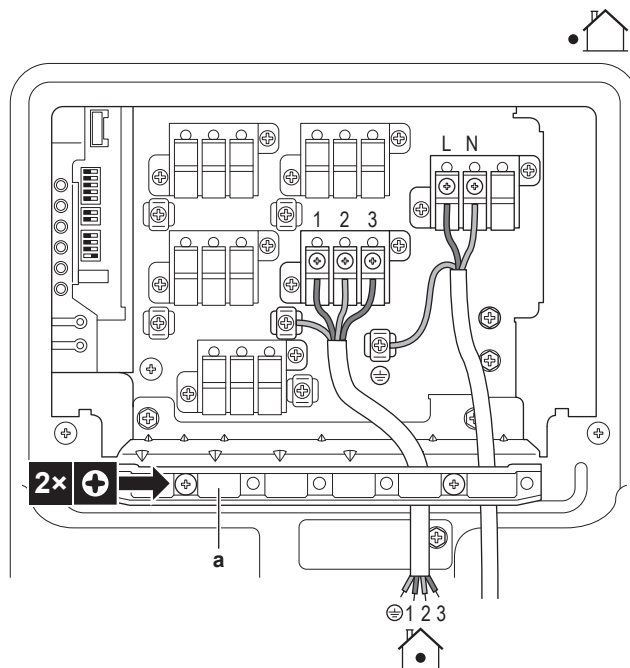
- 2 Connect the wires between the indoor and outdoor units so that the terminal numbers match. Make sure to match the symbols for piping and wiring.
- 3 Make sure to connect correct wiring to correct room.



- b Circuit breaker
- c Earth leakage circuit breaker
- d Power supply wire
- e Interconnection wire for room (A, B, C, D, E)*

*May differ depending on the model.

- 4 Tighten the terminal screws securely using a Philips screwdriver.
- 5 Check that the wires do not disconnect by pulling them lightly.
- 6 Firmly secure the wire retainer to avoid external stress on wire terminations.
- 7 Pass the wiring through the cutout on the bottom of the protection plate.
- 8 Make sure the electrical wiring does not contact with the gas piping.

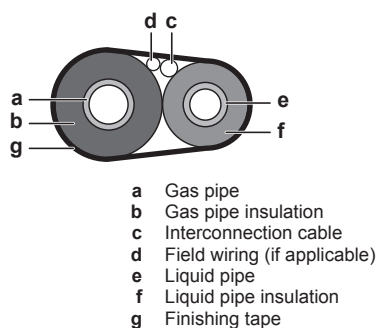


- 9 Reattach the switch box cover and the service cover.

4.6 Finishing the outdoor unit installation

4.6.1 To finish the outdoor unit installation

- 1 Insulate and fix the refrigerant piping and cables as follows:



- 2 Install the service cover.

4.6.2 About standby electricity saving function

The standby electricity saving function:

- turns OFF the power supply to the outdoor unit and,

4 Installation

- turns ON the standby electricity saving mode on the indoor unit.

The standby electricity saving function works with following units:

	
3MXM40, 3MXM52, 3AMXM52	FTXM, FTXP, FTXJ, FVXM

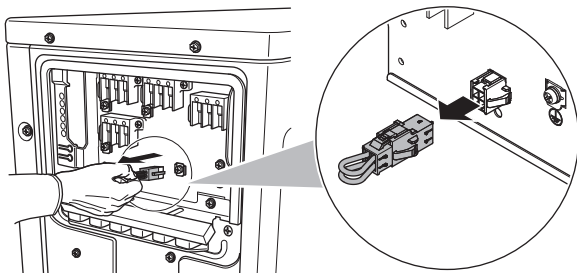
If another indoor unit is used, the connector for standby electric saving must be plugged in.

The standby electricity saving function is turned off before shipping.

To turn on standby electricity saving function

Prerequisite: The main power supply MUST be turned off.

- 1 Remove the service cover.
- 2 Disconnect the selective standby electricity saving connector.



- 3 Turn on the main power supply.

4.6.3 About priority room function

INFORMATION

- The priority room function requires initial settings to be made during the installation of the unit. Ask the customer in which rooms he plans to use this function and make the necessary settings during installation.
- The priority room setting is only applicable for an air conditioner indoor unit and only one room can be set.

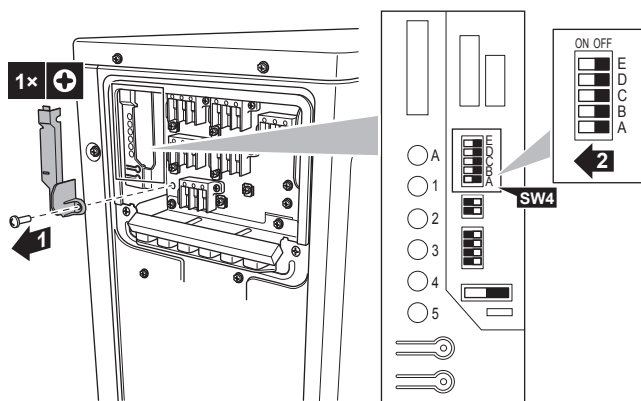
The indoor unit for which the priority room setting is applied takes priority in the following cases:

- **Operation mode priority:** If the priority room function is set on an indoor unit, all other indoor units enter the standby mode.
- **Priority during high-power operation:** If the indoor unit on which the priority room function is set operates at high power, the other indoor units will run with reduced capabilities.
- **Quiet operation priority:** If the indoor unit on which the priority room function is set to quiet operation, the outdoor unit will also run quietly.

Ask the customer in which rooms he plans to use this function and make the necessary settings during installation. Setting it in the guest rooms is convenient.

To set the priority room function

- 1 Remove the switch cover on the service PCB.
- 2 Set the switch (SW4) for the indoor unit for which you want to activate the priority room function to ON.



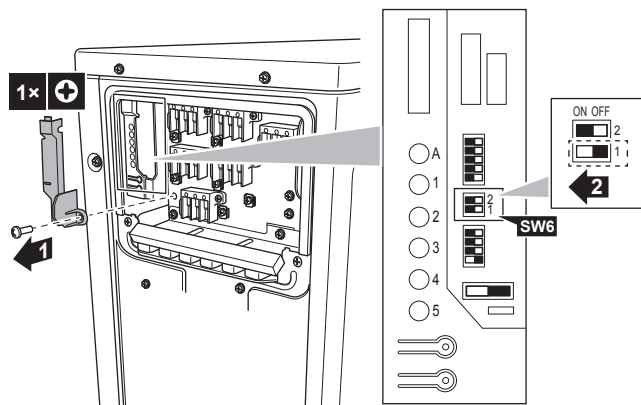
- 3 Reset the power.

4.6.4 About night quiet mode

The night quiet mode function makes the outdoor unit run more quietly at nighttime. This will reduce the cooling capacity of the unit. Explain Night quiet mode to the customer and confirm if customer wants to use this mode.

To turn on the night quiet mode

- 1 Remove the switch cover on the service PCB.



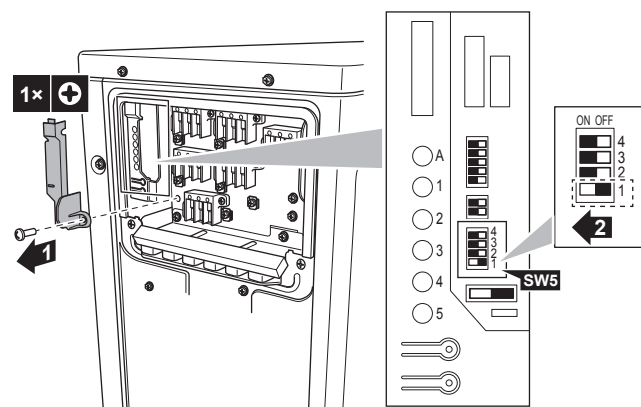
- 2 Set the night quiet mode switch (SW6-1) to ON.

4.6.5 About heat mode lock

Heat mode lock limits the unit to heat operation.

To turn on heat mode lock

- 1 Remove the switch cover on the service PCB.
- 2 Set the heat mode lock switch (SW5-1) to ON.



4.6.6 About cool mode lock

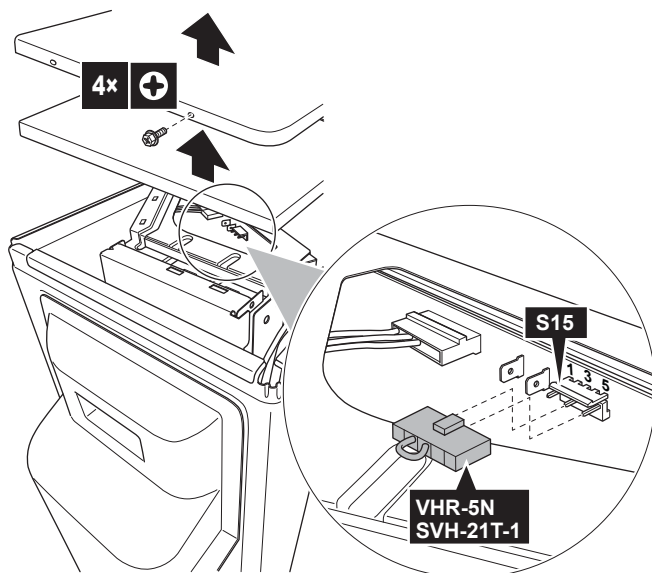
Cool mode lock limits the unit to cool operation. Forced operation remains possible in cool mode.

Specifications for the connector housing and pins: ST products, housing VHR-5N, pin SVH-21T-1,1

When cool mode lock is used in combination with the Hybrid for Multi, these units will not operate by the heat pump.

To turn on cool mode lock

- 1 Short-circuit pins 3 and 5 of connector S15.



5 Commissioning



NOTICE

ALWAYS operate the unit with thermistors and/or pressure sensors/switches. If NOT, burning of the compressor might be the result.

5.1 Checklist before commissioning

After the installation of the unit, first check the items listed below. Once all checks are fulfilled, the unit must be closed. Power-up the unit after it is closed.

☐	The indoor unit is properly mounted.
☐	The outdoor unit is properly mounted.
☐	The system is properly earthed and the earth terminals are tightened.
☐	The power supply voltage matches the voltage on the identification label of the unit.
☐	There are NO loose connections or damaged electrical components in the switch box.
☐	There are NO damaged components or squeezed pipes on the inside of the indoor and outdoor units.
☐	There are NO refrigerant leaks .
☐	The refrigerant pipes (gas and liquid) are thermally insulated.
☐	The correct pipe size is installed and the pipes are properly insulated.

☐	The stop valves (gas and liquid) on the outdoor unit are fully open.
☐	Drainage Make sure drainage flows smoothly. Possible consequence: Condensate water might drip.
☐	The indoor unit receives the signals of the user interface .
☐	The specified wires are used for the interconnection cable .
☐	The fuses, circuit breakers , or locally installed protection devices are installed according to this document, and have NOT been bypassed.
☐	Check if marks (room A~E) on the wiring and piping match for each indoor unit.
☐	Check if the priority room setting is set for 2 or more rooms. Keep in mind that the DHW generator for Multi or the Hybrid for Multi shall not be selected as the priority room.

5.2 Checklist during commissioning

☐	To perform a wiring check .
☐	To perform an air purge .
☐	To perform a test run .

5.3 Trial operation and testing

For the Hybrid for Multi, certain precautions are required before using this function. For more information, see the indoor unit installation manual and/or the indoor installer reference guide.

☐	Before starting the test run, measure the voltage at the primary side of the safety breaker .
☐	The piping and wiring work match.
☐	The stop valves (gas and liquid) on the outdoor unit are fully open.

Initialization of the Multi system can take several minutes depending on the number of indoor units and options used.

5.3.1 About wiring error check

The wiring error check function will check and automatically correct any wiring errors. This is useful for checking wiring that CANNOT be checked directly, such as underground wiring.

This function CANNOT be used within 3 minutes after activating the safety breaker or when the outside air temperature is $\leq 5^{\circ}\text{C}$.

To perform a wiring error check

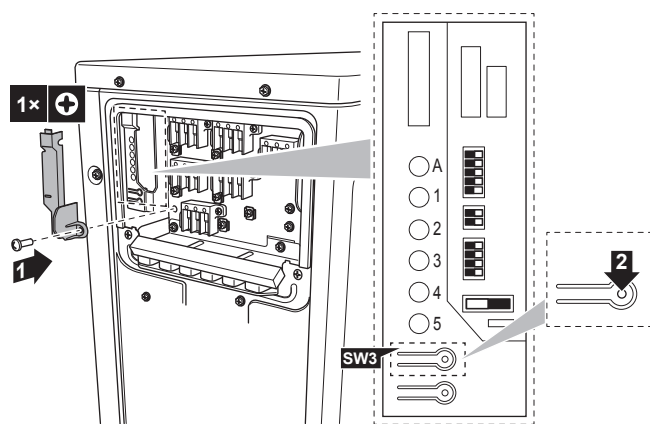


INFORMATION

- You only have to perform a wiring error check if you are not sure that the electrical wiring and piping is connected correctly.
- If you perform a wiring error check, the hybrid for multi indoor unit will not operate by heat pump for 72 hours. During this time, the gas boiler will take over the hybrid operation.

- 1 Remove the service PCB switch cover.

6 Disposal



- 2 Press the wiring error check switch (SW3) on the outdoor unit service PCB.

Result: The service monitor LEDs indicate whether correction is possible or not. For details about how to read the LED display, refer to the service manual.

Result: Wiring errors will be corrected after 15-20 minutes. If automatic correction is not possible, check the indoor unit wiring and piping in the usual way.

INFORMATION

- The number of LEDs displayed depends on the number of rooms.
- The wiring error check function will NOT work if outside temperature is $\leq 5^{\circ}\text{C}$.
- After wiring error check operation is completed, LED indication will continue until normal operation starts.
- Follow the product diagnosis procedures. For details of product error diagnosis refer to service manual.

Status of LEDs:

- All LEDs flash: automatic correction is NOT possible.
- LEDs flash alternately: automatic correction is completed.
- One or more LEDs are permanently on: abnormal stop (follow the diagnosis procedure on the back of the right side plate and refer to service manual).

5.3.2 To perform a test run

Prerequisite: Power supply MUST be in the specified range.

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

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

- 1 In cooling mode, select the lowest programmable temperature. In heating mode, select the highest programmable temperature.
- 2 Measure the temperature at the indoor unit inlet and outlet after running the unit for about 20 minutes. The difference should be more than 8°C (cooling) or 20°C (heating).
- 3 First check operation of each unit individually, then check simultaneous operation of all indoor units. Check both heating and cooling operation.
- 4 When test run is finished, set the temperature to a normal level. In cooling mode: $26\sim 28^{\circ}\text{C}$, in heating mode: $20\sim 24^{\circ}\text{C}$.

INFORMATION

- Test run can be disabled if necessary.
- After the unit is turned OFF, it cannot be started again for 3 minutes.
- When the test run is started in the heat mode right after turning the safety breaker on, in some cases no air will be output for about 15 minutes in order to protect the unit.
- Operate only air conditioner during test run. Do NOT operate the Hybrid for Multi or the DHW generator during test run.
- During cooling operation, frost may form on the gas stop valve or other parts. This is normal.

INFORMATION

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

5.4 Starting up the outdoor unit

See the indoor unit installation manual for configuration and commissioning of the system.

6 Disposal

NOTICE

Do NOT try to dismantle the system yourself: dismantling of the system, treatment of the refrigerant, oil and other parts MUST comply with applicable legislation. Units MUST be treated at a specialised treatment facility for reuse, recycling and recovery.

6.1 To pump down

NOTICE

For the Hybrid for Multi, all required precautions must be taken to avoid possible freezing damage at the water heat exchanger before this function is allowed to be used or activated. For detailed information see the indoor installation manual.

Example: To protect the environment, pump down when relocating the unit or when disposing of the unit.



DANGER: RISK OF EXPLOSION

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

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

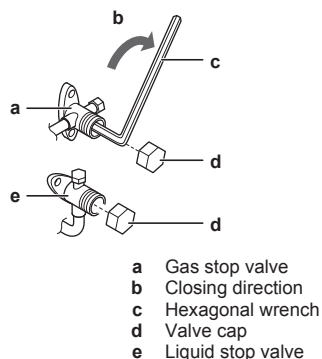


NOTICE

During pump down operation, stop the compressor before removing the refrigerant piping. If the compressor is still running and the stop valve is open during pump down, air will be sucked into the system. Compressor breakdown or damage to the system can result due to abnormal pressure in the refrigerant cycle.

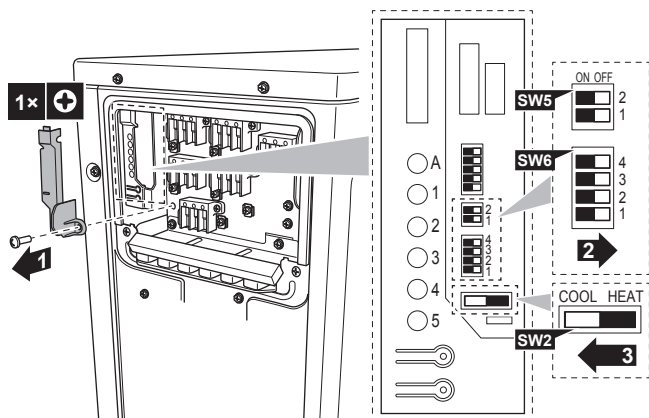
Pump down operation will extract all refrigerant from the system into the outdoor unit.

- 1 Remove the valve cap from the liquid stop valve and the gas stop valve.
- 2 Carry out forced cooling. See "6.2 To start and stop forced cooling" [▶ 15].
- 3 After 5 to 10 minutes (after only 1 or 2 minutes in case of very low ambient temperatures (<-10°C)), close the liquid stop valve with a hexagonal wrench.
- 4 Check on the manifold if the vacuum is reached.
- 5 After 2-3 minutes, close the gas stop valve and stop forced cooling.

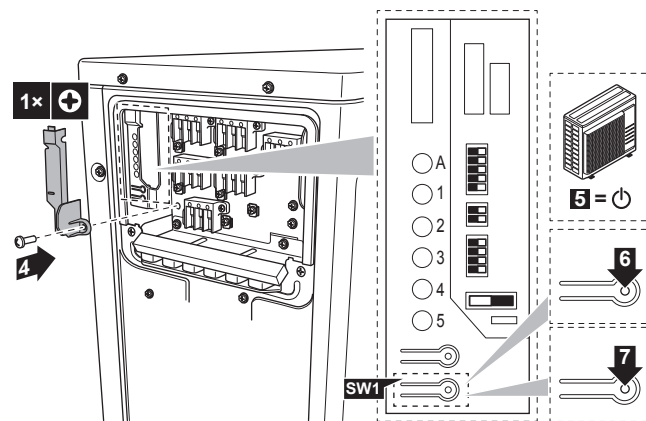


6.2 To start and stop forced cooling

- 1 Turn OFF the power.
- 2 Remove the service cover and the switch box cover.
- 3 Remove the service PCB switch cover.
- 4 Set DIP switch SW5 and SW6 to OFF.
- 5 Set DIP switch SW2 to COOL.



- 6 Reattach the service PCB switch cover, switch box cover and service cover.
- 7 Turn ON the outdoor unit.
- 8 Press the forced cooling operation switch SW1 to begin forced cooling.
- 9 Press the forced cooling operation switch SW1 to stop forced cooling.



NOTICE

Take care that while running forced cooling operation, the water temperature remains higher than 5°C (see temperature read out of the indoor unit). You can achieve this, for example, by activating all fans of the fan coil units.

7 Technical data

- A **subset** of the latest technical data is available on the regional Daikin website (publicly accessible).
- The **full set** of latest technical data is available on the Daikin Business Portal (authentication required).

7.1 Wiring diagram

7.1.1 Unified wiring diagram 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

7 Technical data

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
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

Symbol	Meaning
Q*M	Thermo switch
Q*R	Residual current device
R*	Resistor
R*T	Thermistor
RC	Receiver
S*C	Limit switch
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

7.2 Piping diagram: Outdoor unit

Component PED category classification:

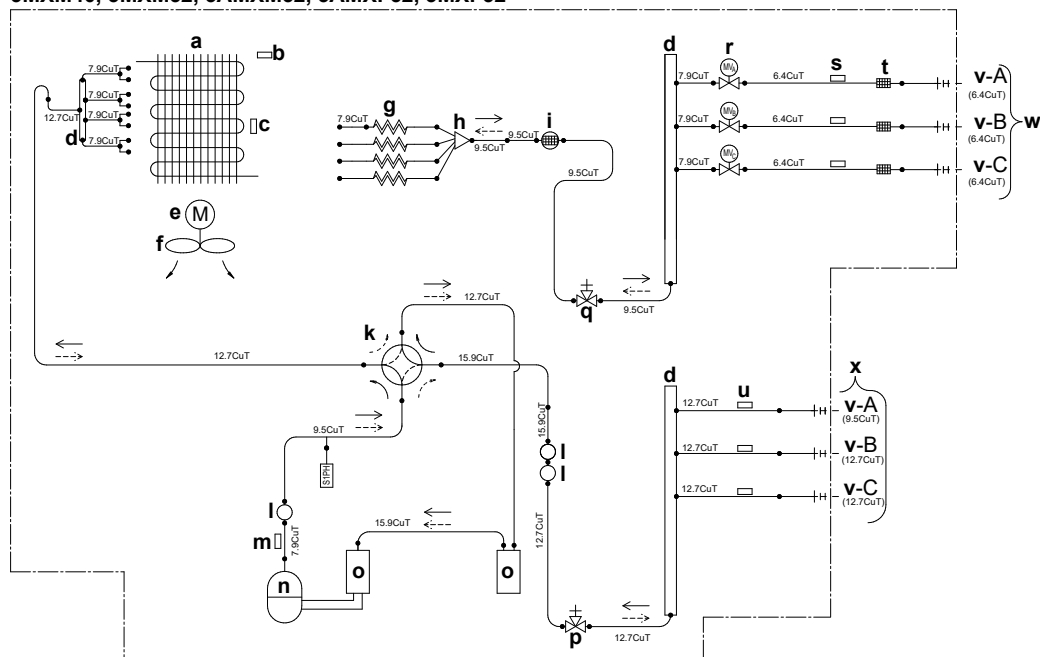
- High pressure switches: category IV
- Compressor: category II
- Accumulator: 4MXM80, 5MXM90 category II, other models category I
- Other components: refer to PED article 4, paragraph 3



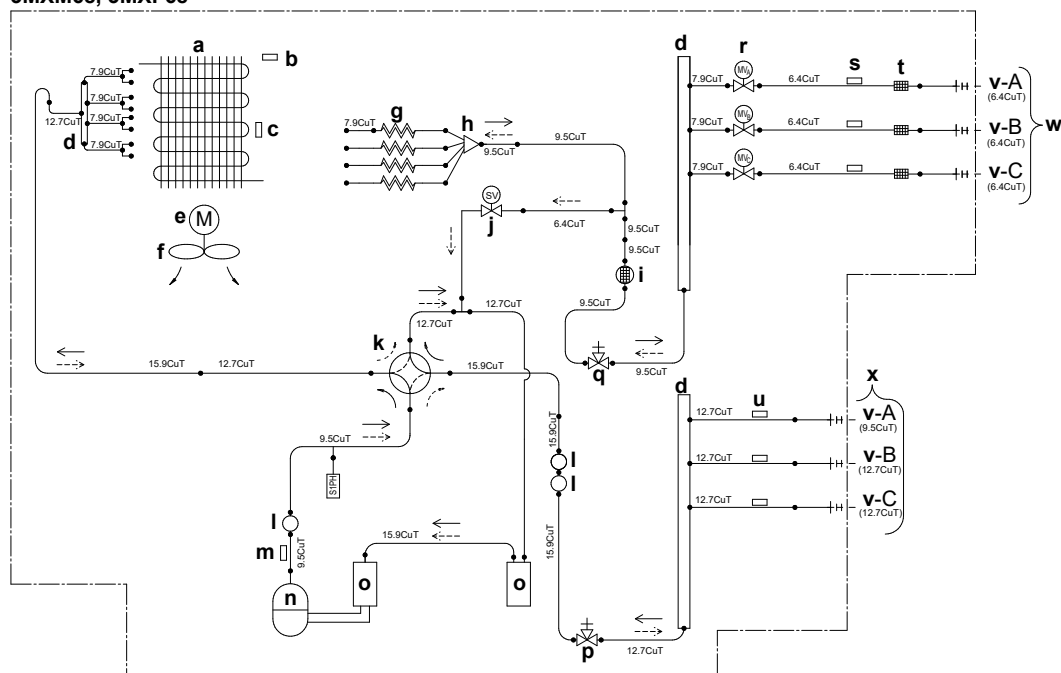
NOTICE

When the high pressure switch is activated, it **MUST** be reset by a qualified person.

3MXM40, 3MXM52, 3AMXM52, 3AMXF52, 3MXF52



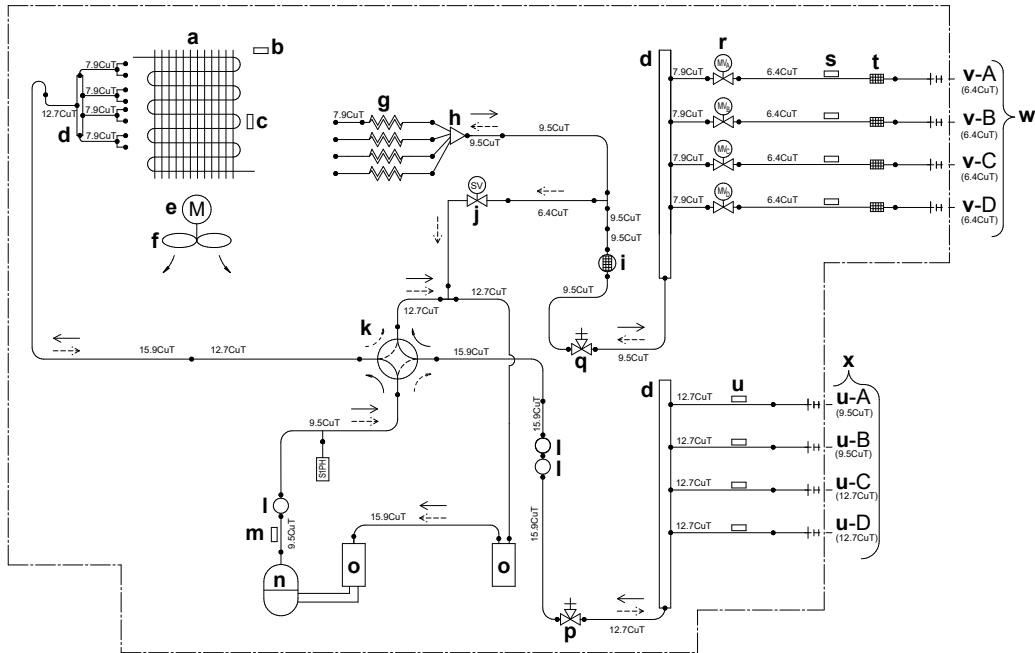
3MXM68, 3MXF68



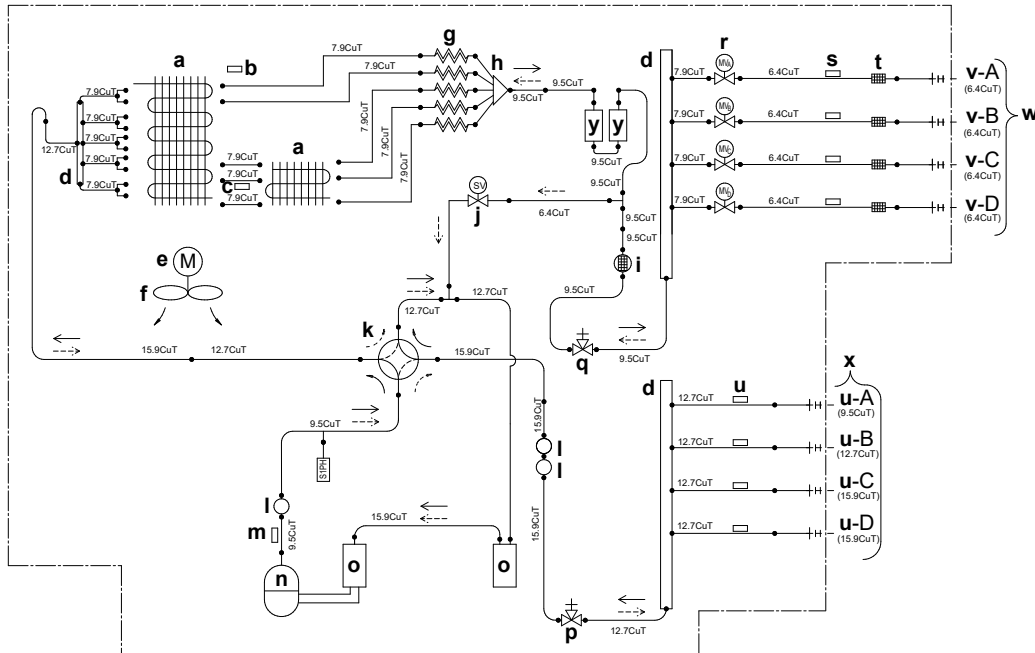
- | | | | |
|--------------------------------------|-----------------------------|------------------------------|---|
| a Heat exchanger | h Distributor | o Accumulator | v Room |
| b Outdoor air temperature thermistor | i Muffler with filter | p Gas stop valve | w Field piping – liquid |
| c Heat exchanger thermistor | j Solenoid valve | q Liquid stop valve | x Field piping – gas |
| d Refnet header | k 4-way valve | r Electronic expansion valve | y Liquid receiver |
| e Fan motor | l Muffler | s Thermistor (liquid) | S1PH High pressure switch (automatic reset) |
| f Propeller fan | m Discharge pipe thermistor | t Filter | → Refrigerant flow: cooling |
| g Capillary tube | n Compressor | u Thermistor (gas) | --- Refrigerant flow: heating |

7 Technical data

4MXM68



4MXM80



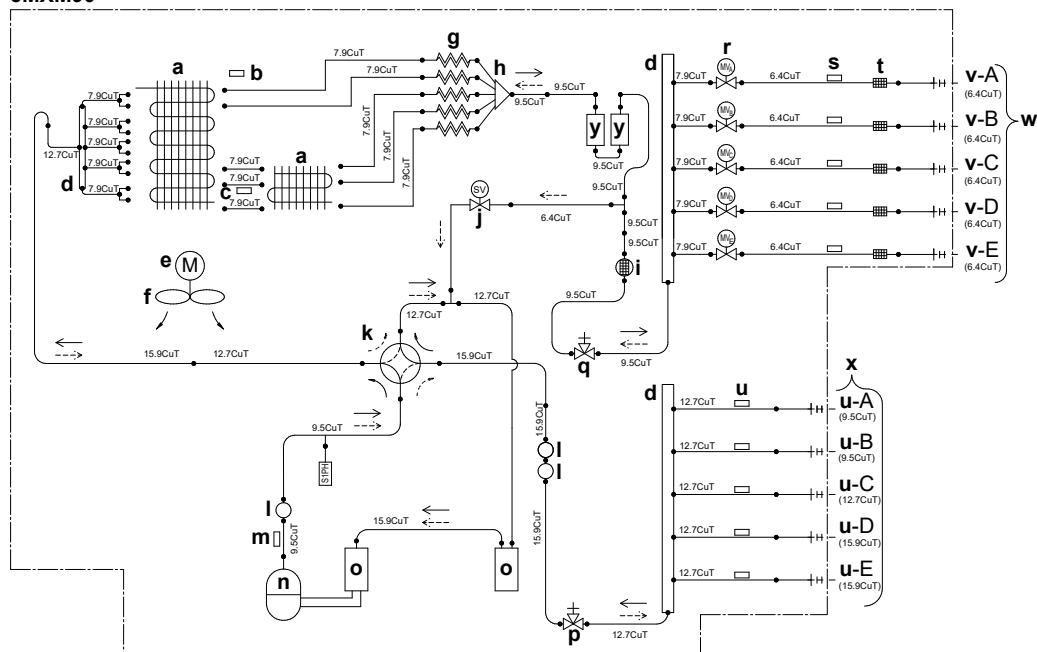
- a Heat exchanger
- b Outdoor air temperature thermistor
- c Heat exchanger thermistor
- d Refnet header
- e Fan motor
- f Propeller fan
- g Capillary tube

- h Distributor
- i Muffler with filter
- j Solenoid valve
- k 4-way valve
- l Muffler
- m Discharge pipe thermistor
- n Compressor

- o Accumulator
- p Gas stop valve
- q Liquid stop valve
- r Electronic expansion valve
- s Thermistor (liquid)
- t Filter
- u Thermistor (gas)

- v Room
- w Field piping – liquid
- x Field piping – gas
- y Liquid receiver
- S1PH High pressure switch (automatic reset)
- Refrigerant flow: cooling
- ← Refrigerant flow: heating

5MXM90



- a Heat exchanger
- b Outdoor air temperature thermistor
- c Heat exchanger thermistor
- d Refnet header
- e Fan motor
- f Propeller fan
- g Capillary tube

- h Distributor
- i Muffler with filter
- j Solenoid valve
- k 4-way valve
- l Muffler
- m Discharge pipe thermistor
- n Compressor

- o Accumulator
- p Gas stop valve
- q Liquid stop valve
- r Electronic expansion valve
- s Thermistor (liquid)
- t Filter
- u Thermistor (gas)

- v Room
- w Field piping – liquid
- x Field piping – gas
- y Liquid receiver

- S1PH** High pressure switch (automatic reset)
- Refrigerant flow: cooling
- Refrigerant flow: heating

ERC



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