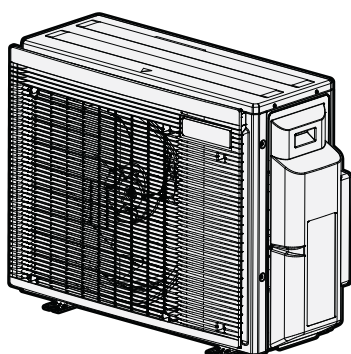




# Installation manual



## R32 Split series



2MXM68A2V1B8  
3MXM40A2V1B8  
3MXM52A2V1B8  
3MXM68A2V1B8  
4MXM68A2V1B8  
4MXM80A2V1B8  
5MXM90A2V1B8

Installation manual  
R32 Split series

English

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## 1 About the documentation

### 1.1 Product code

2MXM68A2, 3MXM40A2, 3MXM52A2, 3MXM68A2, 4MXM68A2, 4MXM80A2, 5MXM90A2

### 1.2 About this document



#### WARNING

Make sure installation, servicing, maintenance, repair and applied materials follow the instructions from Daikin (including all documents listed in "Documentation set") 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.



#### INFORMATION

Make sure that the user has the printed documentation and ask him/her to keep it for future reference.

#### 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.



#### INFORMATION

This document only describes installation instructions specific to the outdoor unit. For installation of the indoor unit (mounting the indoor unit, connecting the refrigerant piping to the indoor unit, connecting the electrical wiring to the indoor unit ...), see the installation manual of the indoor unit.

#### 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 <https://www.daikin.eu>. Use the search function 🔍 to find your model.

The latest revision of the supplied documentation is published on the regional Daikin website and is available via your dealer.

Scan the QR code below to find the full documentation set and more information about your product on the Daikin website.

2MXM-A8



4MXM-A8



3MXM-A8



5MXM-A8



The original instructions are written in English. All other languages are translations of the original instructions.

### Technical engineering data

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

## 2 Specific installer safety instructions

Always observe the following safety instructions and regulations.

Unit installation (see ["4 Unit installation" \[p 5\]](#))



### 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.

Installation site (see ["4.1 Preparing the installation site" \[p 5\]](#))



### CAUTION

- Check if the installation location can support the unit's weight. Poor installation is hazardous. It can also cause vibrations or unusual operating noise.
- Provide sufficient service space.
- Do NOT install the unit so that it is in contact with a ceiling or a wall, as this may cause vibrations.



### WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (e.g. open flames, an operating gas appliance, or an operating electric heater). The room size shall be as specified in the General safety precaution.

Piping installation (see ["5 Piping installation" \[p 6\]](#))



### CAUTION

Piping and joints of a split system shall be made with permanent joints when inside an occupied space except joints directly connecting the piping to the indoor units.



### 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.



### 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.



### CAUTION

- Incomplete flaring may cause refrigerant gas leakage.
- Do NOT re-use flares. Use new flares to prevent refrigerant gas leakage.
- Use flare nuts that are included with the unit. Using different flare nuts may cause refrigerant gas leakage.



### CAUTION

Do NOT open the valves before flaring is complete. This would cause refrigerant gas leakage.



### DANGER: RISK OF EXPLOSION

Do NOT open the stop valves before the vacuum drying is finished.

Charging refrigerant (see ["6 Charging refrigerant" \[p 9\]](#))



A2L

### WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.



### 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.



### 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.



### WARNING

NEVER directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.

Electrical installation (see ["7 Electrical installation" \[p 11\]](#))



### WARNING

- All wiring MUST be performed by an authorised electrician and MUST comply with the national wiring regulation.
- Make electrical connections to the fixed wiring.
- All components procured on-site and all electrical construction MUST comply with the applicable legislation.

## 3 About the box



### 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 provides 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.

Finishing the outdoor unit installation (see **"8 Finishing the outdoor unit installation"** [p 12])



### DANGER: RISK OF ELECTROCUTION

- Make sure that the system is earthed properly.
- Turn OFF the power supply before servicing.
- Install the switch box cover before turning ON the power supply.

Commissioning (see **"10 Commissioning"** [p 14])



### CAUTION

Do NOT perform the test operation while working on the indoor unit(s).

When performing the test operation, NOT ONLY the outdoor unit, but the connected indoor unit will operate as well. Working on an indoor unit while performing a test operation is dangerous.



### CAUTION

Do NOT insert fingers, rods or other objects into the air inlet or outlet. Do NOT remove the fan guard. When the fan is rotating at high speed, it will cause injury.

Maintenance and service (see **"11 Maintenance and service"** [p 15])



### DANGER: RISK OF ELECTROCUTION



### DANGER: RISK OF BURNING/SCALDING



### 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.



### WARNING

- Before carrying out any maintenance or repair activity, ALWAYS switch off the circuit breaker on the supply panel, remove the fuses or open the protection devices of the unit.
- Do NOT touch live parts for 10 minutes after the power supply is turned off because of high voltage risk.
- Please note that some sections of the electric component box are hot.
- Make sure you do NOT touch a conductive section.
- Do NOT rinse the unit. This may cause electric shocks or fire.



### DANGER: RISK OF ELECTROCUTION

- Use this compressor on a grounded system only.
- Turn the power off before servicing the compressor.
- Reattach the switch box cover and service lid after servicing.



### CAUTION

ALWAYS wear safety glasses and protective gloves.



### DANGER: RISK OF EXPLOSION

- Use a pipe cutter to remove the compressor.
- Do NOT use the brazing torch.
- Use approved refrigerants and lubricants only.



### DANGER: RISK OF BURNING/SCALDING

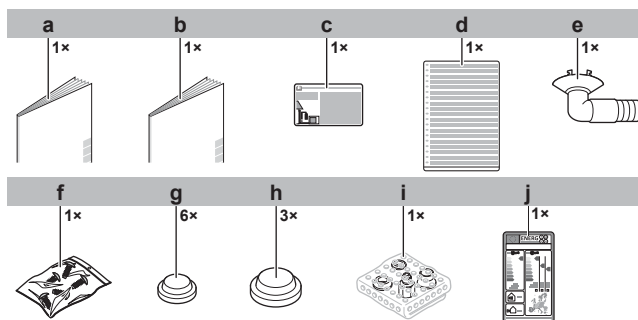
Do NOT touch the compressor with bare hands.

## 3 About the box

### 3.1 Outdoor unit

#### 3.1.1 To remove the accessories from the outdoor unit

Make sure you have all following accessories delivered with the unit:



- 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

## 4 Unit 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 Preparing the installation site

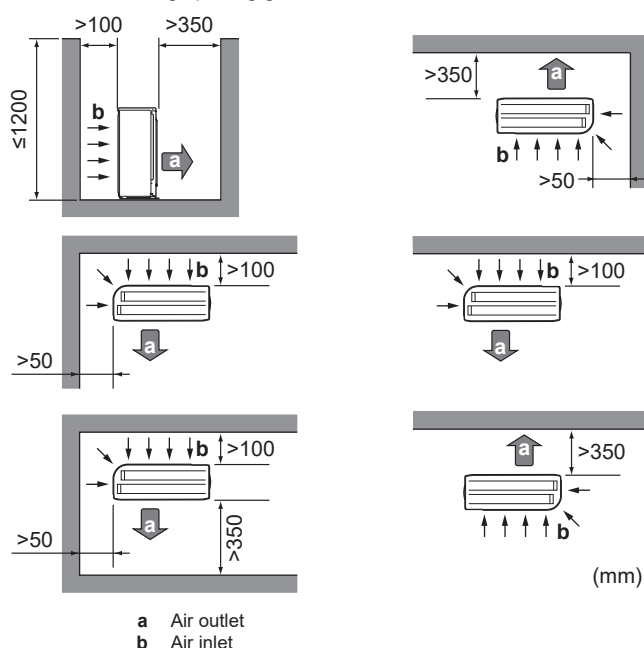


### WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (e.g. open flames, an operating gas appliance, or an operating electric heater). The room size shall be as specified in the General safety precaution.

#### 4.1.1 Installation site requirements of the outdoor unit

Mind the following spacing guidelines:

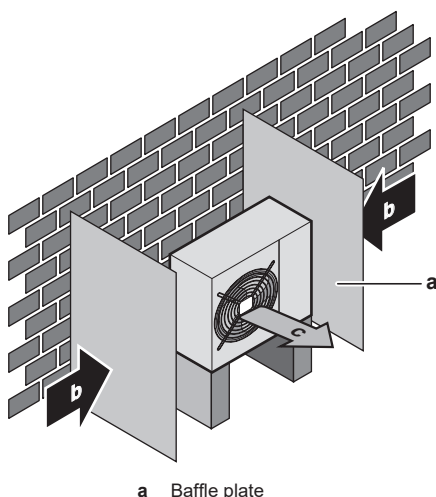


Allow 300 mm of work space below the ceiling surface and 250 mm for piping and electrical servicing.



### NOTICE

The height of the wall on the outlet side of the outdoor unit **MUST** be ≤1200 mm.



- b Prevailing wind direction
- c Air outlet

Do NOT install the unit in sound sensitive areas (e.g. near a bedroom), so that the operation noise will cause no trouble.

**Note:** If the sound is measured under actual installation conditions, the measured value might be higher than the sound pressure level mentioned in "Sound spectrum" in the data book due to environmental noise and sound reflections.



### INFORMATION

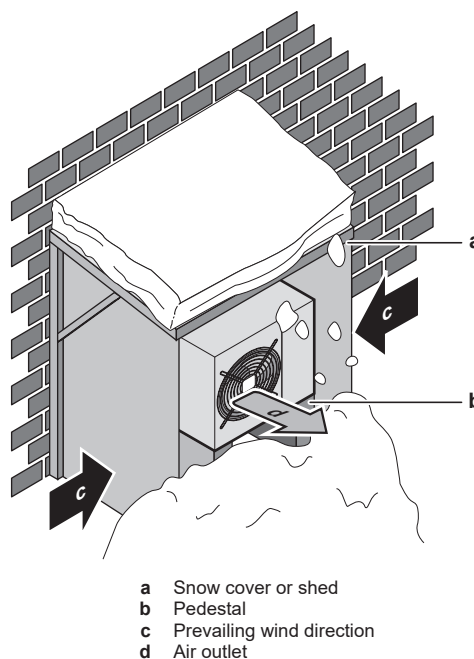
The sound pressure level is less than 70 dBA.

The outdoor unit is designed for outdoor installation only, and for ambient temperatures within the following ranges (unless otherwise specified in the operation manual of the connected indoor unit):

Cooling mode	Heating mode
-10~50°C DB	-20~24°C DB

#### 4.1.2 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.



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 "4.2 Mounting the outdoor unit" [p 5] 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.

## 4.2 Mounting the outdoor unit

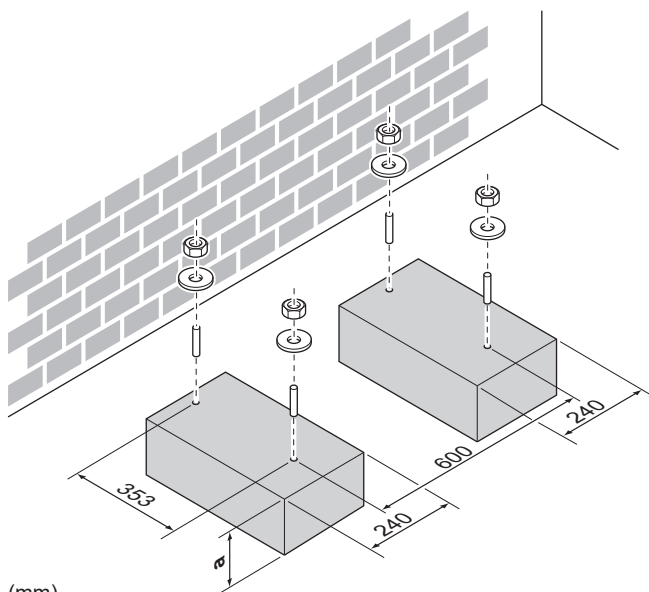
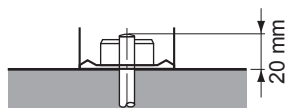
### 4.2.1 To provide the installation structure

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).

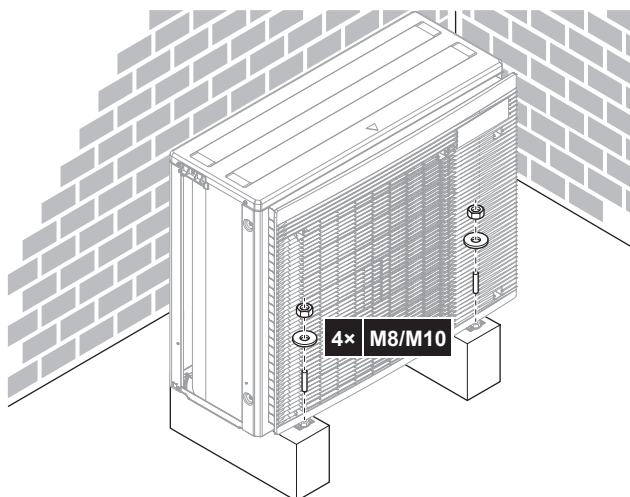
## 5 Piping installation



(mm)

a 100 mm above expected level of snow

### 4.2.2 To install the outdoor unit



### 4.2.3 To provide drainage



#### NOTICE

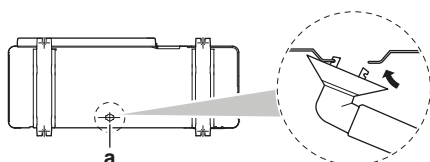
In cold areas, do NOT use a drain socket, hose and caps (large, small) with the outdoor unit. Take adequate measures so that the evacuated condensate CANNOT freeze.



#### 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.

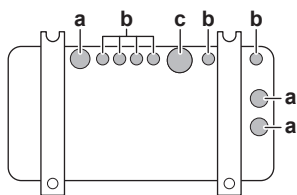
- Use a drain socket for drainage if necessary.



a Drain hole

### To close the drain holes and attach the drain socket

- Install drain caps (accessory g) and (accessory h). 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

## 5 Piping installation

### 5.1 Preparing refrigerant piping

#### 5.1.1 Refrigerant piping requirements



#### CAUTION

Piping and joints of a split system shall be made with permanent joints when inside an occupied space except joints directly connecting the piping to the indoor units.



#### NOTICE

The piping and other pressure-containing parts shall be suitable for refrigerant. Use phosphoric acid deoxidised seamless copper for refrigerant piping.

- Foreign materials inside pipes (including oils for fabrication) must be ≤30 mg/10 m.

#### Refrigerant piping diameter

2MXM68	
Liquid piping	2× Ø6.4 mm (1/4")
Gas piping	1× Ø9.5 mm (3/8") 1× Ø12.7 mm (1/2")

3MXM40, 3MXM52, 3MXM68	
Liquid piping	3× Ø6.4 mm (1/4")
Gas piping	1× Ø9.5 mm (3/8") 2× Ø12.7 mm (1/2")

4MXM68	
Liquid piping	4× Ø6.4 mm (1/4")
Gas piping	2× Ø9.5 mm (3/8") 2× Ø12.7 mm (1/2")

4MXM80	
Liquid piping	4× Ø6.4 mm (1/4")
Gas piping	1× Ø9.5 mm (3/8") 1× Ø12.7 mm (1/2") 2× Ø15.9 mm (5/8")

5MXM90	
Liquid piping	5× Ø6.4 mm (1/4")



5MXM90	
Gas piping	2× Ø9.5 mm (3/8")
	1× Ø12.7 mm (1/2")
	2× Ø15.9 mm (5/8")



## INFORMATION

Usage of reducers might be required based on the indoor unit. See "5.2.1 Connections between outdoor and indoor unit using reducers" [p. 7] for more information.

## Refrigerant piping material

### Piping material

Phosphoric acid deoxidised seamless copper

### Flare connections

Only use annealed material.

### Piping temper grade and thickness

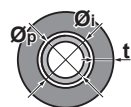
Outer diameter (Ø)	Temper grade	Thickness (t) <sup>(a)</sup>	
6.4 mm (1/4")	Annealed (O)	≥0.8 mm	
9.5 mm (3/8")			
12.7 mm (1/2")			
15.9 mm (5/8")		≥1 mm	

<sup>(a)</sup> Depending on the applicable legislation and the maximum working pressure of the unit (see "PS High" on the unit name plate), larger piping thickness might be required.

## 5.1.2 Refrigerant piping insulation

- Use polyethylene foam as insulation material:
  - with a heat transfer rate between 0.041 and 0.052 W/mK (0.035 and 0.045 kcal/mh°C)
  - with a heat resistance of at least 120°C
- Insulation thickness:

Pipe outer diameter (Ø <sub>p</sub> )	Insulation inner diameter (Ø <sub>i</sub> )	Insulation thickness (t)
6.4 mm (1/4")	8~10 mm	≥10 mm
9.5 mm (3/8")	10~14 mm	≥13 mm
12.7 mm (1/2")	14~16 mm	≥13 mm
15.9 mm (5/8")	16~20 mm	≥13 mm



If the temperature is higher than 30°C and the humidity is higher than RH 80%, the thickness of the insulation materials should be at least 20 mm to prevent condensation on the surface of the insulation.

Use separate thermal insulation pipes for the gas and liquid refrigerant piping.

## 5.1.3 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.

Shortest allowable length per room is 3 m.

Outdoor unit	Refrigerant piping length to each indoor unit	Refrigerant piping total length
2MXM68, 3MXM40, 3MXM52, 3MXM68	≤25 m	≤50 m
4MXM68		≤60 m
4MXM80		≤70 m
5MXM90		≤80 m



## INFORMATION

In case of combination of the outdoor unit 3MXM40 or 3MXM52 with the indoor units CVXM-A and/or FVXM-A, the total liquid refrigerant piping length MUST be ≤30 m.

CVXM-A9, FVXM-A9 is without this limitation.

	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

## 5.2 Connecting the refrigerant piping



## DANGER: RISK OF BURNING/SCALDING



## 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.

## 5.2.1 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
2MXM68	≤10.2 kW
3MXM40	≤7.0 kW

## 5 Piping installation

Outdoor unit	Total indoor unit capacity class
3MXM52	≤9.0 kW
3MXM68, 4MXM68	≤11.0 kW
4MXM80	≤14.5 kW
5MXM90	≤15.6 kW

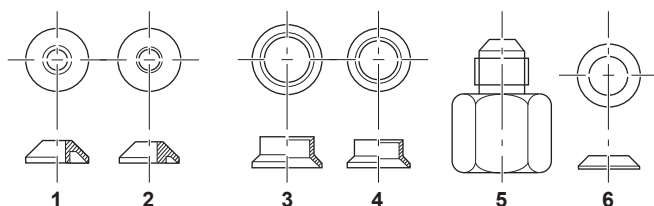


### INFORMATION

It is NOT possible to connect only 1 indoor unit. Connect at least 2 indoor units.

Port	Class	Reducer
<b>2MXM68</b>		
A (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
B (Ø12.7mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	2+4
	42, 50, 60	—
<b>3MXM40</b>		
A (Ø9.5 mm)	15, 20, 25, 35	—
B + C (Ø12.7mm)	15, 20, 25, 35	2+4
<b>3MXM52</b>		
A (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
B + C (Ø12.7mm)	15, 20, 25, 35	2+4
	42, 50	—
<b>3MXM68</b>		
A (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
B + C (Ø12.7mm)	15, 20, 25, 35, 42	2+4
	50, 60	—
<b>4MXM68</b>		
A + B (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
C + D (Ø12.7mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	2+4
	42, 50, 60	—
<b>4MXM80</b>		
A (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
B (Ø12.7mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	2+4
	42, 50, 60	—
C + D (Ø15.9 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	5+6
	42, 50, 60	1+3
	71	—
<b>5MXM90</b>		
A + B (Ø9.5 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	—
C (Ø12.7mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	2+4
	42, 50, 60	—
D + E (Ø15.9 mm)	15, 20, 25, 35, (42) <sup>(a)</sup>	5+6
	42, 50, 60	1+3
	71	—

<sup>(a)</sup> Only in case of connection with FTXM42R, FTXM42A, FTXA42C

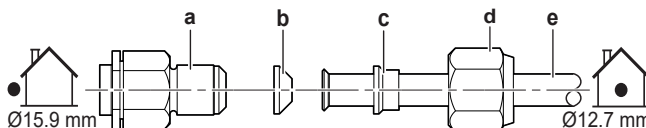


Reducer type	Connection
1	Ø15.9 mm → Ø12.7 mm
2	Ø12.7 mm → Ø9.5 mm
3	Ø15.9 mm → Ø12.7 mm

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

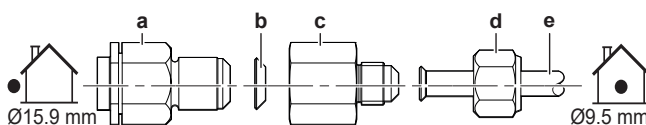
### Connection examples:

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



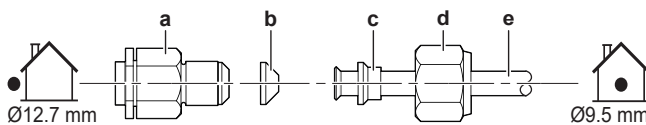
- a Outdoor unit connection port
- b Reducer no. 1
- c Reducer no. 3
- d Flare nut for Ø15.9 mm
- e Inter-unit piping

- 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



### NOTICE

To prevent gas leakage, apply refrigeration oil for R32 (FW68DA):

- Ø9.5 mm → Ø15.9 mm, to both sides of the Reducer 6 (b) AND to the inner surface of the flare.
- Ø12.7mm → Ø15.9 mm or Ø9.5 mm → Ø12.7 mm, to both sides of Reducer 1 or 2 (b).

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).

### 5.2.2 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

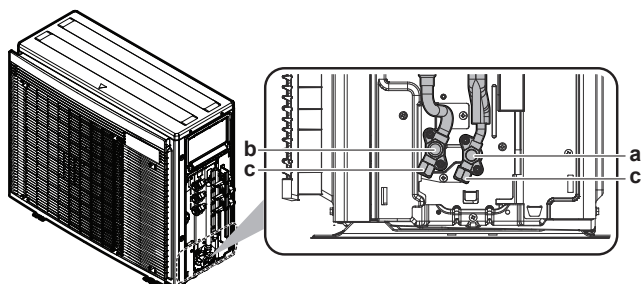
Connect the refrigerant piping securely before running the compressor. If the refrigerant piping is NOT connected and the stop valve is open when the compressor is run, air will be sucked in. This will cause abnormal pressure in the refrigeration cycle, which may result in equipment damage and even injury.



## NOTICE

- Use the flare nut fixed to the main unit.
- To prevent gas leakage, apply refrigeration oil only to the inside of the flare. Use refrigeration oil for R32 (**Example:** FW68DA, SUNISO Oil).
- Do NOT reuse joints.

- 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.

## 5.3 Checking the refrigerant piping

### 5.3.1 To check for leaks



## NOTICE

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



## NOTICE

ALWAYS use a recommended bubble test solution from your wholesaler.

NEVER use soap water:

- Soap water may cause cracking of components, such as flare nuts or stop valve caps.
- Soap water may contain salt, which absorbs moisture that will freeze when the piping gets cold.
- Soap water contains ammonia which may lead to corrosion of flared joints (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) or higher (depending on local legislation) to detect small leaks.
- 2 Check for leaks by applying the bubble test solution to all connections.
- 3 Discharge all nitrogen gas.

### 5.3.2 To perform vacuum drying



## DANGER: RISK OF EXPLOSION

Do NOT open the stop valves before the vacuum drying is finished.

- 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

Make sure to open the stop valves after installing the refrigerant piping and performing vacuum drying. Running the system with the stop valves closed may break the compressor.

## 6 Charging refrigerant

### 6.1 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

Periodical inspections for refrigerant leaks may be required depending on the applicable legislation. Contact your installer for more information.



## WARNING: MILDLY FLAMMABLE MATERIAL

The refrigerant inside this unit is mildly flammable.



## 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.



## WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (e.g. open flames, an operating gas appliance, or an operating electric heater). The room size shall be as specified in the General safety precaution.

## 6 Charging refrigerant



### 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

NEVER directly touch any accidental leaking refrigerant. This could result in severe wounds caused by frostbite.



### 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

Contact your installer for more information.

## 6.2 To determine the additional refrigerant amount

If the total liquid piping length is...	Then...
≤30 m	Do NOT add additional refrigerant.
>30 m	$R = (\text{total length (m) of liquid piping} - 30 \text{ m}) \times 0.020$ $R = \text{Additional charge (kg) (rounded in units of 0.1 kg)}$



### INFORMATION

NEVER exceed maximum allowable refrigerant charge.

**Example:** For 5MXM90 with 80 m total length of liquid piping, use maximum allowable amount according to table "6-1 Maximum allowable refrigerant charge amount" ▶ 10].



### INFORMATION

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



### INFORMATION

Additional refrigerant charge is NOT allowed in case of combination of the outdoor unit **3MXM40** or **3MXM52** with the indoor units **CVXM-A** and/or **FVXM-A**. The total piping length MUST be ≤30 m.

CVXM-A9, FVXM-A9 is without this limitation

6-1 Maximum allowable refrigerant charge amount

Maximum allowable refrigerant charge amount	
3MXM40, 3MXM52	2.2 kg
3MXM68, 2MXM68	2.4 kg
4MXM68	2.6 kg
4MXM80	3.2 kg
5MXM90	3.3 kg

## 6.3 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.

## 6.4 To charge additional refrigerant



### WARNING

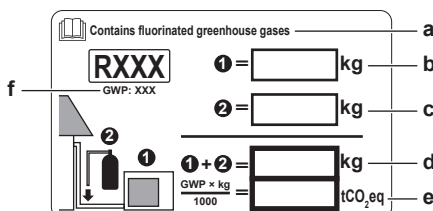
- Only use R32 as refrigerant. Other substances may cause explosions and accidents.
- R32 contains fluorinated greenhouse gases. Its global warming potential (GWP) value is 675. Do NOT vent these gases into the atmosphere.
- When charging refrigerant, ALWAYS use protective gloves and safety glasses.

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

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

## 6.5 To fix the fluorinated greenhouse gases label

- 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 CO<sub>2</sub> 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 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

Use the GWP value mentioned on the refrigerant charge label.

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

## 6.6 To check refrigerant piping joints for leaks after charging refrigerant

### Tightness test of field-made refrigerant joints indoors

- Use a leakage test method with a minimum sensitivity of 5 g of refrigerant/year. Test leaks using a pressure of at least 0.25 times the maximum working pressure (see "PS High" on the unit nameplate).

### If a leak is detected

- Recover the refrigerant, repair the joint, and repeat the test.
- Perform the leak tests see "5.3.1 To check for leaks" ▶ 9].
- Charge refrigerant.
- Check for refrigerant leaks after charging (see above).

## 7 Electrical installation



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



### **WARNING**

- All wiring **MUST** be performed by an authorised electrician and **MUST** comply with the national wiring regulation.
- Make electrical connections to the fixed wiring.
- All components procured on-site and all electrical construction **MUST** comply with the applicable legislation.



### **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 provides 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.

### 7.1 Specifications of standard wiring components



### **NOTICE**

We recommend using solid (single-core) wires. If stranded wires are used, slightly twist the strands to consolidate the end of the conductor for either direct use in the terminal clamp or insertion in a round crimp-style terminal. Details are described in "Guidelines when connecting the electrical wiring" in the installer reference guide.

Power supply	
Voltage	220~240 V
Frequency	50 Hz
Phase	1~

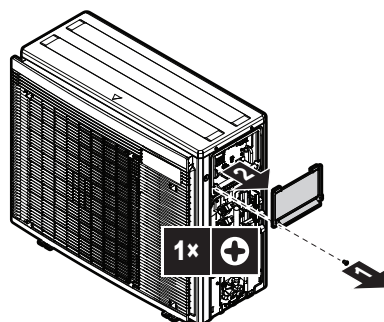
Power supply	
Current	3MXM40:16.0 A
	2MXM68:19.8 A
	3MXM52:16.3 A
	3MXM68:19.8 A
	4MXM68:19.8 A
	4MXM80:20.4 A
	5MXM90:24.9 A

Components	
Power supply cable	MUST comply with national wiring regulation. 3-core cable Wire size based on the current, but not less than 2.5 mm <sup>2</sup> .
Interconnection cable (indoor↔outdoor)	Only use harmonised wire providing double insulation and suitable for applicable voltage. 4-core cable Minimum size 1.5 mm <sup>2</sup>
Recommended circuit breaker	3MXM40:16.0 A 2MXM68, 3MXM52, 3MXM68, 4MXM68:20 A 4MXM80, 5MXM90: 25 A
Earth leakage circuit breaker / residual current circuit breaker	MUST comply with national wiring regulation

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.

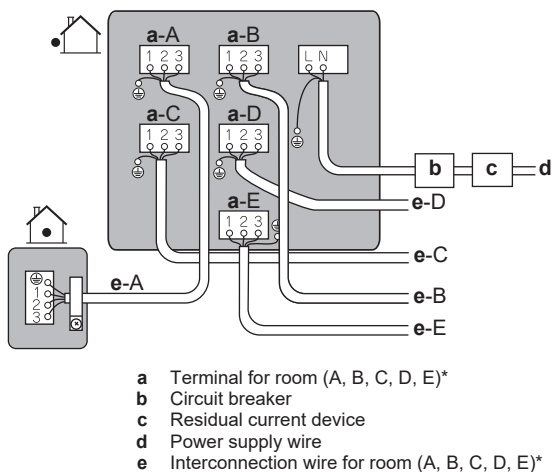
### 7.2 To connect the electrical wiring to the outdoor unit

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



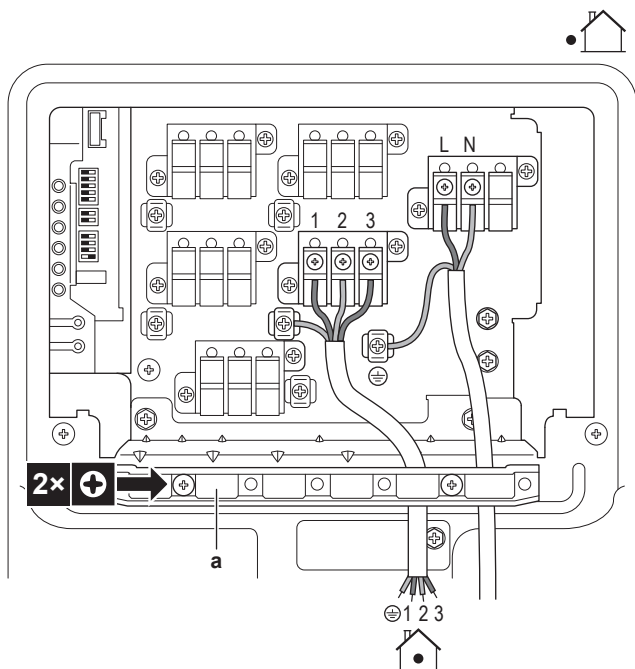
- 2 Connect the wires between the indoor and outdoor units so that the terminal numbers match. Make sure to match the symbols for piping and wiring.
- 3 Make sure to connect correct wiring to correct room.

## 8 Finishing the outdoor unit installation



\*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.



a Wire retainer

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

## 8 Finishing the outdoor unit installation

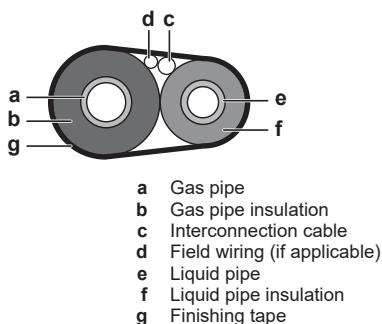
### 8.1 To finish the outdoor unit installation



#### DANGER: RISK OF ELECTROCUTION

- Make sure that the system is earthed properly.
- Turn OFF the power supply before servicing.
- Install the switch box cover before turning ON the power supply.

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



- 2 Install the service cover.

## 9 Configuration

### 9.1 About standby electricity saving function

The standby electricity saving function:

- turns OFF the power supply to the outdoor unit and,
- turns ON the standby electricity saving mode on the indoor unit.

The standby electricity saving function works with following units:

3MXM40, 3MXM52	FTXM, FTXP, FTXJ, FVXM, CTXA, CTXM, CVXM

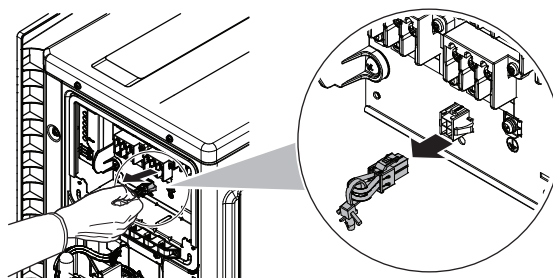
If another indoor unit is used, the connector for standby electric saving MUST be plugged in.

The standby electricity saving function is turned OFF before shipping.

#### 9.1.1 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.

## 9.2 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.

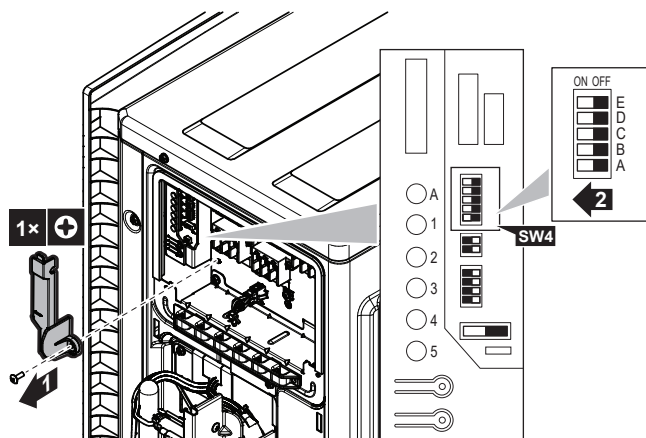
The indoor unit for which the priority room setting is applied takes priority in the following cases:

- 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.

### 9.2.1 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.



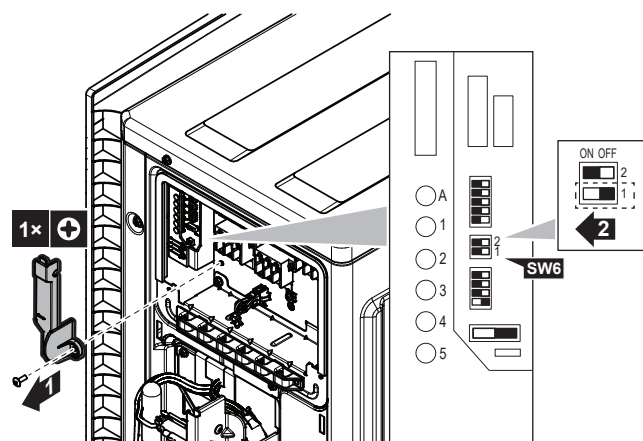
- 3 Reset the power.

## 9.3 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.

### 9.3.1 To turn ON the night quiet mode

- 1 Remove the switch cover on the service PCB.



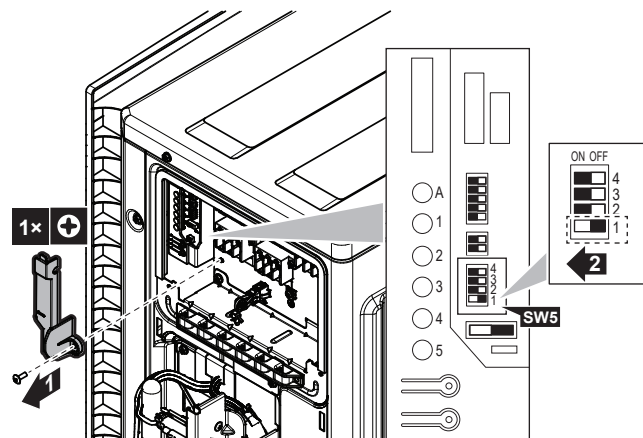
- 2 Set the night quiet mode switch (SW6-1) to ON.

## 9.4 About heat mode lock

Heat mode lock limits the unit to heat operation.

### 9.4.1 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.



## 9.5 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

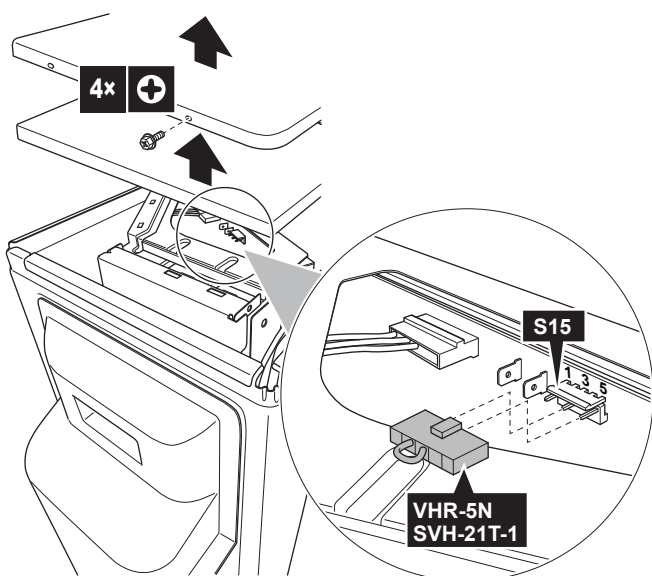
When cool mode lock is used in combination with the Hybrid for Multi, these units will NOT operate by the heat pump.

### 9.5.1 To turn ON cool mode lock

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



## 10 Commissioning



## 10 Commissioning



### NOTICE

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

The general commissioning checklist is complementary to the instructions in this chapter and can be used as a guideline and reporting template during commissioning and hand-over to the user.



### NOTICE

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

### 10.1 Checklist before commissioning

- After the installation of the unit, check the items listed below.
- Close the unit.
- Power up the unit.

<input type="checkbox"/>	The <b>indoor unit</b> is properly mounted.
<input type="checkbox"/>	The <b>outdoor unit</b> is properly mounted.
<input type="checkbox"/>	The system is properly <b>earthed</b> and the earth terminals are tightened.
<input type="checkbox"/>	The <b>power supply voltage</b> matches the voltage on the identification label of the unit.
<input type="checkbox"/>	There are NO <b>loose connections</b> or damaged electrical components in the switch box.
<input type="checkbox"/>	There are NO <b>damaged components</b> or <b>squeezed pipes</b> on the inside of the indoor and outdoor units.
<input type="checkbox"/>	There are NO <b>refrigerant leaks</b> .
<input type="checkbox"/>	The <b>refrigerant pipes</b> (gas and liquid) are thermally insulated.
<input type="checkbox"/>	The correct pipe size is installed and the <b>pipes</b> are properly insulated.
<input type="checkbox"/>	The <b>stop valves</b> (gas and liquid) on the outdoor unit are fully open.

<input type="checkbox"/>	<b>Drainage</b> Make sure drainage flows smoothly. <b>Possible consequence:</b> Condensate water might drip.
<input type="checkbox"/>	The indoor unit receives the signals of the <b>user interface</b> .
<input type="checkbox"/>	The specified wires are used for the <b>interconnection cable</b> .
<input type="checkbox"/>	The <b>fuses, circuit breakers</b> , or locally installed protection devices are installed according to this document, and have NOT been bypassed.
<input type="checkbox"/>	Check if marks (room A~E) on the wiring and piping match for each indoor unit.
<input type="checkbox"/>	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.

### 10.2 Checklist during commissioning

<input type="checkbox"/>	To perform a <b>wiring</b> check.
<input type="checkbox"/>	To perform an <b>air purge</b> .
<input type="checkbox"/>	To perform a <b>test run</b> .

### 10.3 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.

<input type="checkbox"/>	Before starting the test run, measure the voltage at the primary side of the <b>safety breaker</b> .
<input type="checkbox"/>	The <b>piping and wiring work</b> match.
<input type="checkbox"/>	The <b>stop valves</b> (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.

#### 10.3.1 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

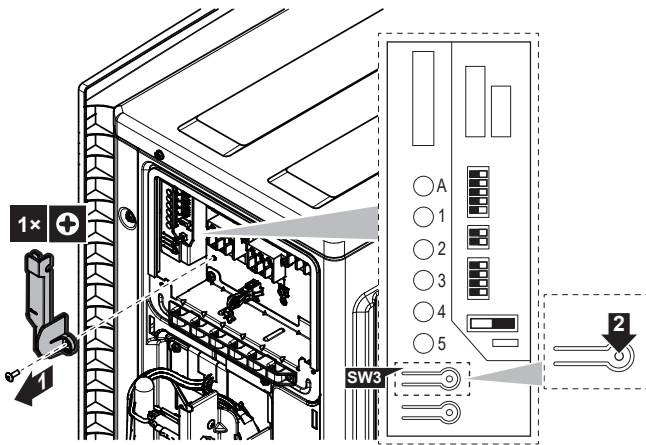


#### INFORMATION

- 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.

- Remove the service PCB switch cover.





- 2 Press shortly 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).

### 10.3.2 To perform a test run



#### INFORMATION

If the unit runs into an error during commissioning, see the service manual for the detailed troubleshooting guidelines.

**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.

- In cooling mode, select the lowest programmable temperature. In heating mode, select the highest programmable temperature.
- Measure the temperature at the indoor unit inlet and outlet after running the unit for about 20 minutes. The difference should be more than  $8^{\circ}\text{C}$  (cooling) or  $20^{\circ}\text{C}$  (heating).
- First check operation of each unit individually, then check simultaneous operation of all indoor units. Check both heating and cooling operation.
- 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.

## 10.4 Starting up the outdoor unit

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

# 11 Maintenance and service



#### 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.



#### 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  $\text{CO}_2$  equivalent.

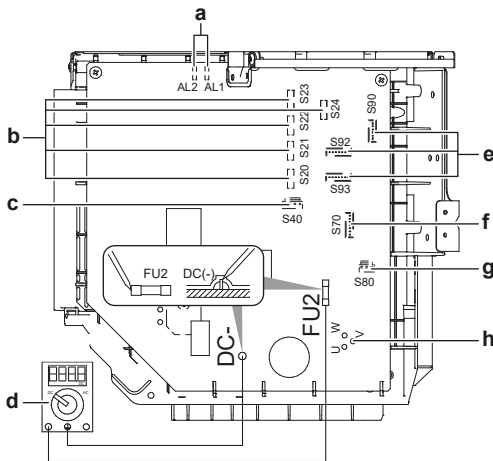
**Formula to calculate the quantity in  $\text{CO}_2$  equivalent tonnes:** GWP value of the refrigerant  $\times$  total refrigerant charge [in kg] / 1000



#### 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.

## 12 Disposal



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

\*May differ depending on the model.

## 12 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.



### INFORMATION

To protect the environment, make sure to perform an automatic pump down operation when relocating or dismantling the unit. For the pump down procedure, refer to the service manual or the installer reference guide.

## 13 Technical data

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

### 13.1 Wiring diagram

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

#### 13.1.1 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
			Noiseless earth
			Protective earth (screw)
	Connection		Rectifier
	Connector		Relay connector
	Earth		Short-circuit connector
	Field wiring		Terminal
	Fuse		Terminal strip
	Indoor unit		Wire clamp
	Outdoor unit		Heater
	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
SKY BLU	Sky blue	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
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

Symbol	Meaning
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
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)

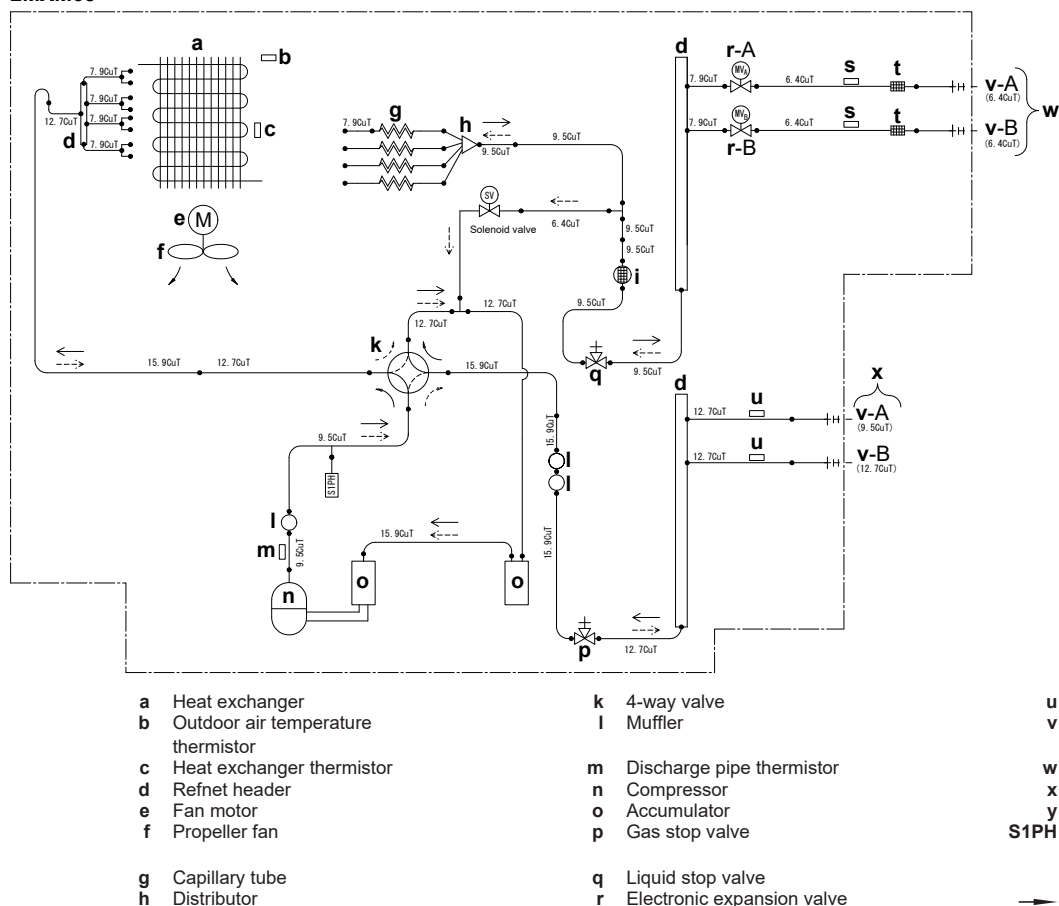
Symbol	Meaning
S*T	Thermostat
S*RH	Humidity sensor
S*W, SW*	Operation switch
SA*, F1S	Surge arrester
SR*, WLU	Signal receiver
SS*	Selector switch
SHEET METAL	Terminal strip fixed plate
T*R	Transformer
TC, TRC	Transmitter
V*, R*V	Varistor
V*R	Diode bridge, Insulated-gate bipolar transistor (IGBT) power 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

## 13.2 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

### 2MXM68



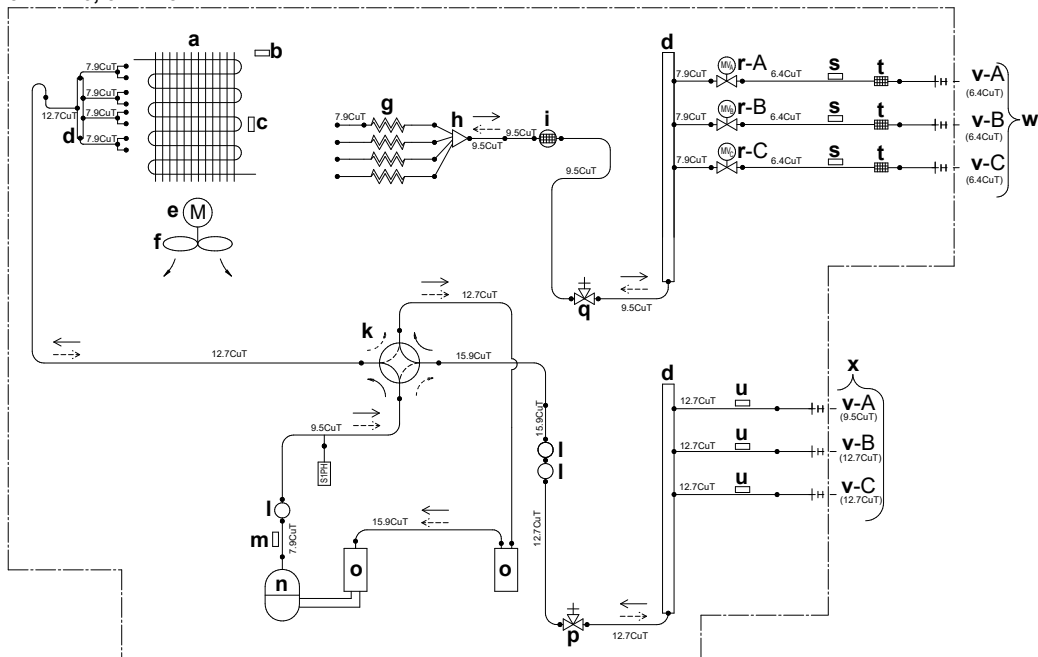
## 13 Technical data

i Muffler with filter  
j Solenoid valve

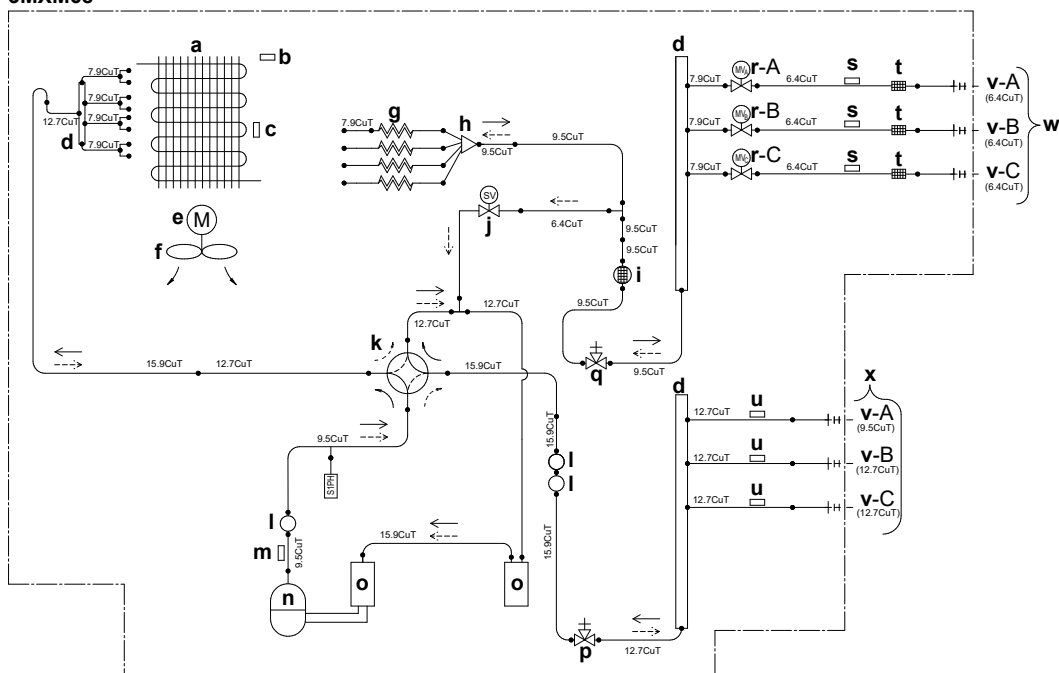
s Thermistor (liquid)  
t Filter

→ Refrigerant flow: heating  
--→ Refrigerant flow: cooling

### 3MXM40, 3MXM52



### 3MXM68



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

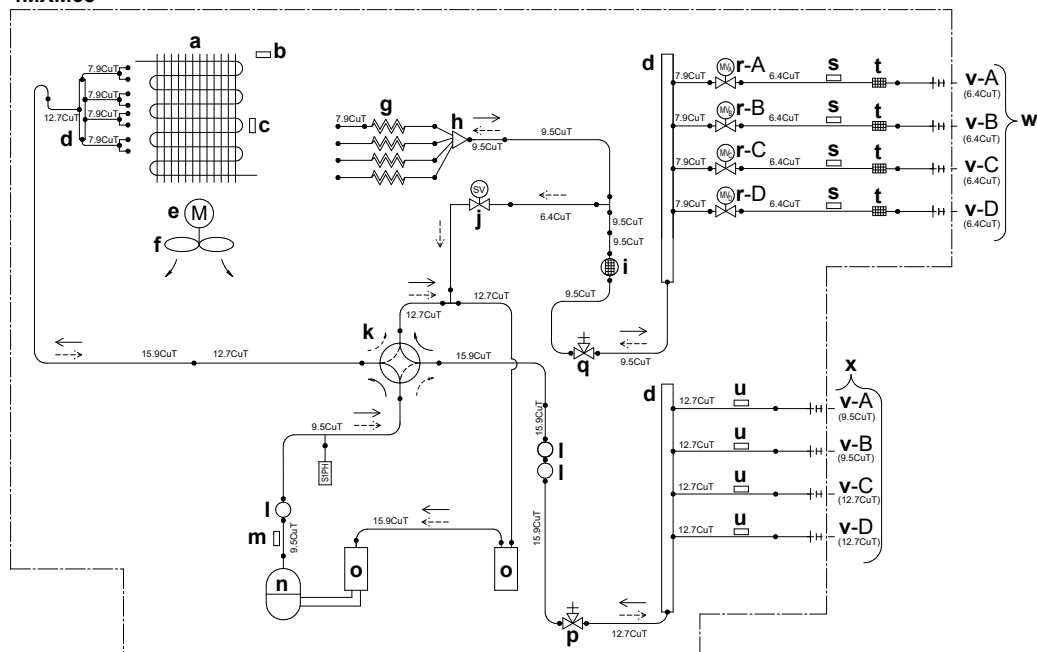
q Liquid stop valve  
r Electronic expansion valve  
s Thermistor (liquid)  
t Filter

u Thermistor (gas)  
v Room

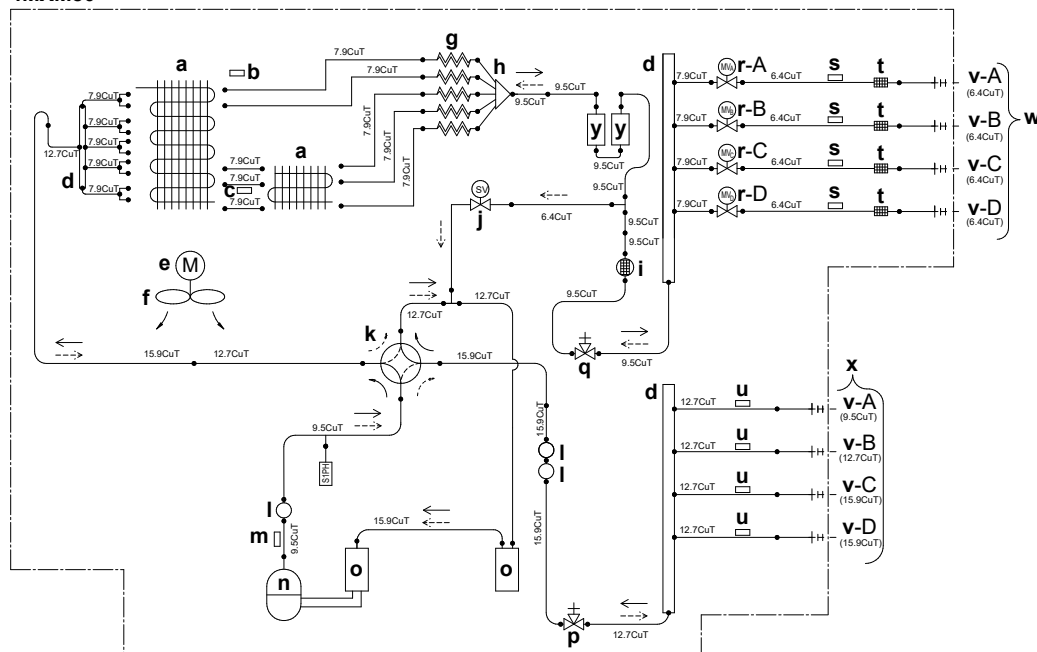
w Field piping – liquid  
x Field piping – gas  
y Liquid receiver  
S1PH High pressure switch (automatic  
reset)

→ Refrigerant flow: cooling  
--→ Refrigerant flow: heating

## 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

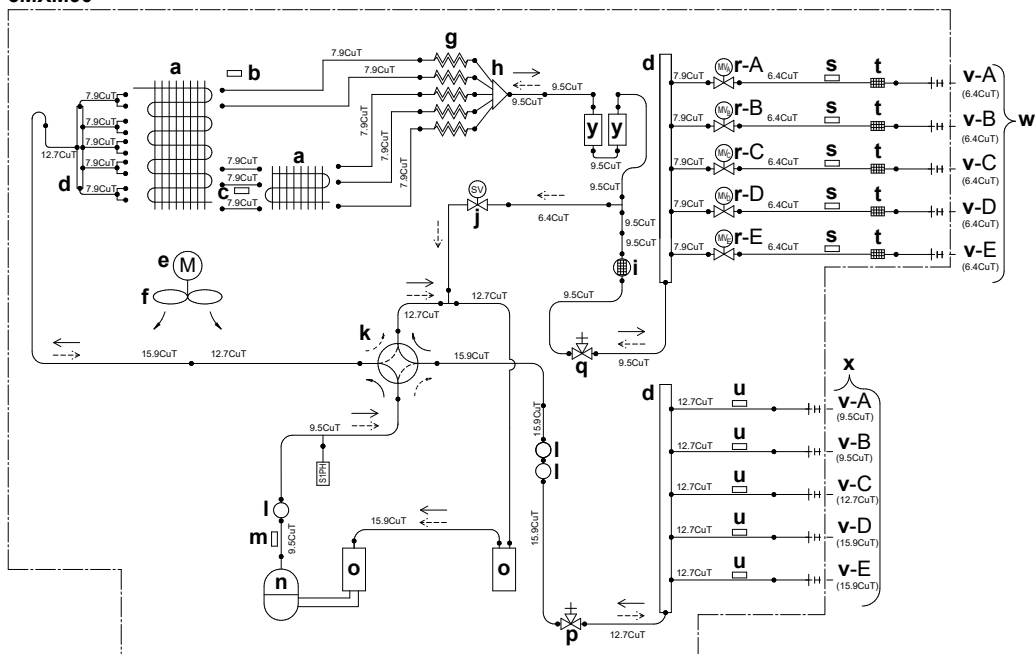
- k 4-way valve
- l Muffler
- m Discharge pipe thermistor
- n Compressor
- o Accumulator
- p Gas stop valve
- q Liquid stop valve
- r Electronic expansion valve
- s Thermistor (liquid)
- t Filter

- 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

## 13 Technical data

### 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

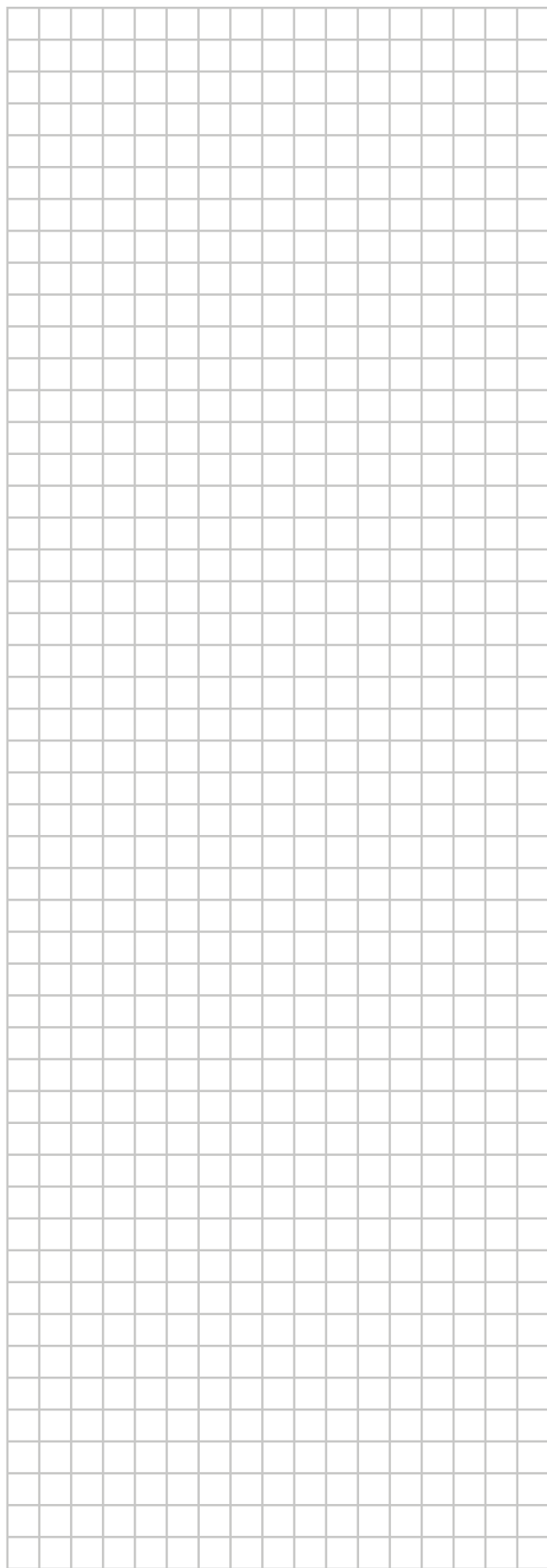
q Liquid stop valve  
r Electronic expansion valve  
s Thermistor (liquid)  
t Filter

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











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