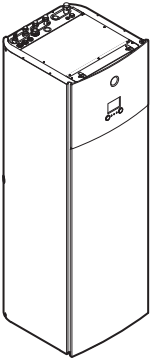




# Installation manual



## R32 Split Series - Domestic Hot Water Tank (230l)



**CKHWSU230BJ▲V3▼**

▲ = 1, 2, 3, ..., 9, A, B, C, ..., Z  
▼ = , , 1, 2, 3, ..., 9

Installation manual  
R32 Split Series - Domestic Hot Water Tank (230l)

English

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# 1 About this document

## Target audience

Authorised installers

## 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 indoor unit)
- **Operation manual:**
  - Quick guide for basic usage
  - Format: Paper (in the box of the indoor unit)
- **User reference guide:**
  - Detailed step-by-step instructions and background information for basic and advanced usage
  - Format: Digital files on <https://www.daikin.eu>. Use the search function 🔍 to find your model.
- **Installation manual – Outdoor unit:**
  - Installation instructions
  - Format: Paper (in the box of the outdoor unit)
- **Installation manual – Indoor unit:**
  - Installation instructions
  - Format: Paper (in the box of the indoor unit)
- **Installer reference guide:**
  - Preparation of the installation, good practices, 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.

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).

## Online tools

In addition to the documentation set, some online tools are available for installers:

- **Daikin Technical Data Hub**
  - Central hub for technical specifications of the unit, useful tools, digital resources, and more.
  - Publicly accessible via <https://daikintechdatahub.eu>.
- **Heating Solutions Navigator**
  - Digital toolbox that offers a variety of tools to facilitate the installation and configuration of heating systems.
  - To access the Heating Solutions Navigator, registration to the Stand By Me platform is required. For more information, see <https://professional.standbyme.daikin.eu>.
- **Daikin e-Care**
  - Mobile app for installers and service technicians that allows you to register, configure and troubleshoot heating systems.
  - Use the QR codes below to download the mobile app for iOS and Android devices. Registration to the Stand By Me platform is required to access the app.

App Store



Google Play



# 2 Specific installer safety instructions

Always observe the following safety instructions and regulations.

**Installation site** (see "[4.1 Preparing the installation site](#)" ▶ 6)



## 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 reuse refrigerant piping that has been used with any other refrigerant. Replace the refrigerant pipes or clean thoroughly.



## WARNING

Follow the service space dimensions in this manual to install the unit correctly. See "[4.1.1 Installation site requirements of the indoor unit](#)" ▶ 6].

**Special requirements for R32** (see "[4.1.2 Special requirements for R32 units](#)" ▶ 6)



## WARNING

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use means to accelerate the defrosting process or to clean the equipment, other than those recommended by the manufacturer.
- Be aware that R32 refrigerant does NOT contain an odour.



## WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater).



## WARNING

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation (for example national gas regulation) and are executed ONLY by authorised persons.



## WARNING

For units using the R32 refrigerant it is necessary to keep any required ventilation openings and chimneys clear of obstructions.

**Opening and closing the unit** (see "[4.2 Opening and closing the unit](#)" ▶ 13)



## DANGER: RISK OF ELECTROCUTION



## DANGER: RISK OF BURNING/SCALDING

**Mounting the indoor unit** (see "[4.3 Mounting the indoor unit](#)" ▶ 15)



## WARNING

Fixing method of the indoor unit MUST be in accordance with the instructions from this manual. See "[4.3 Mounting the indoor unit](#)" ▶ 15].

## 2 Specific installer safety instructions

### Piping installation (see "5 Piping installation" [p 15])



#### WARNING

Field piping MUST be in accordance with the instructions from this manual. See "5 Piping installation" [p 15].



#### WARNING

The discharge pipes from the pressure relief valves MUST terminate in a safe and visible position without forming any risk to persons in the vicinity.



#### WARNING

- Discharge piping, tundish, drain valves, etc. MUST be positioned away from any electrical components.
- The discharge pipe away from the tundish MUST terminate in a safe, visible position without forming any risk to persons in the vicinity.



#### WARNING

- Do NOT install any valves between the domestic hot water tank and relief valves/expansion vessel.
- Do NOT install shut-off valves between the expansion relief valve and the domestic hot water tank.

### Electrical installation (see "6 Electrical installation" [p 19])



#### DANGER: RISK OF ELECTROCUTION



#### WARNING

Electrical wiring MUST be in accordance with the instructions from:

- This manual. See "6 Electrical installation" [p 19].
- The wiring diagram, which is delivered with the unit, located on the inside of the indoor unit switch box cover. For a translation of its legend, see "11.2 Wiring diagram: Indoor unit" [p 34].



#### 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

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

ALWAYS use multicore cable for power supply cables.



#### WARNING

Do NOT extend the power supply or the interconnection cable by using wire connectors, wire connection clamps, taped wires, extension cords.

These can cause overheating, electric shock or fire.



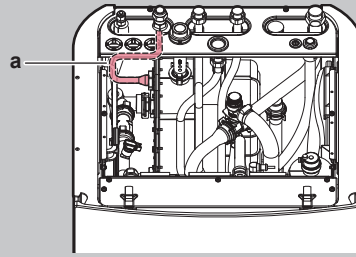
#### CAUTION

Do NOT push or place redundant cable length into the unit.



#### WARNING

Make sure that the electrical wiring does NOT touch the refrigerant gas pipe, which can be very hot.



a Refrigerant gas pipe



#### WARNING

The backup heater MUST have a dedicated power supply and MUST be protected by the safety devices required by the applicable legislation.



#### CAUTION

To guarantee the unit is completely earthed, ALWAYS connect the backup heater power supply and the earth cable.

### Commissioning (see "8 Commissioning" [p 28])



#### WARNING

Commissioning MUST be in accordance with the instructions from this manual. See "8 Commissioning" [p 28].



#### WARNING

##### Air purging heating circuit for domestic hot water.

Before you purge air, check if  or  is displayed on the home screen of the user interface.

- If not, you can purge air immediately.
- If yes, make sure that the room where you want to purge air is sufficiently ventilated. **Reason:** In case of a breakdown, refrigerant might leak into the water circuit, and subsequently into the room when you purge air from the heating circuit of the domestic hot water.

### Maintenance and service (see "9 Maintenance and service" [p 30])



#### CAUTION

Water coming out of the valve may be very hot.



#### WARNING

If the internal wiring is damaged, it has to be replaced by the manufacturer, its service agent or similarly qualified persons.



#### DANGER: RISK OF BURNING/SCALDING

The water in the tank can be very hot.



#### NOTICE

Check the condition of the O-rings and replace if needed. Apply water or silicon grease to the O-rings before installation.

### 3 About the box

Keep the following in mind:

- At delivery, the unit **MUST** be checked for damage and completeness. Any damage or missing parts **MUST** be reported immediately to the claims agent of the carrier.
- Bring the packed unit as close as possible to its final installation position to prevent damage during transport.
- Prepare in advance the path along which you want to bring the unit to its final installation position.

#### 3.1 Indoor unit

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

- a 1x Shut-off valve for water circuit
- b 1x Tundish (to mount onto the pressure relief valve discharge pipe)
- c 1x Quick fixture (for the discharge pipe)
- d 1x Discharge pipe (for pressure relief valve)
- e 1x Cable tie + clip (for the discharge pipe)
- f 1x General safety precautions
- g 1x Indoor unit installation manual
- h 1x Operation manual
- i 1x WLAN cartridge
- j 4x Sealing rings for shut-off valves (water circuit)
- k 4x Sealing rings for field-supplied shut-off valves (domestic hot water circuit)
- l 1x Sealing tape for low voltage wiring intake (66x80 mm)
- m 1x Antisweat sticker to cover the hole at the back of the unit (50x80 mm)

##### 3.1.2 To handle the indoor unit

- a Handles at the back of the unit
- b Handles at the bottom of the unit. Carefully tilt the unit backwards so that the handles become visible.

#### 3.2 Domestic hot water tank kit

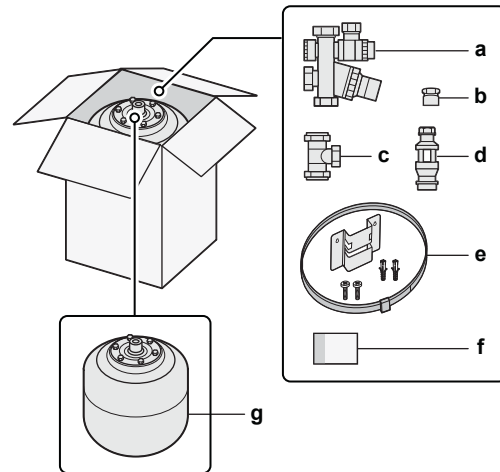
##### 3.2.1 To remove the accessories from the domestic hot water tank kit

Kit EKHUHG3D



#### INFORMATION

The kit needs to be ordered separately.



- a Pressure reducing valve/pressure relief valve combination. Water inlet and water outlet 22 mm connection, discharge piping connection 15 mm
- b Adaptor 22 mm×3/4" Female BSP
- c T-piece 22 mm×22 mm×22 mm
- d Tundish 15 mm inlet, 22 mm outlet
- e Wall mounting set for expansion vessel
- f Instruction sheet
- g Expansion vessel of 18 l – 3/4" Male BSP



#### NOTICE

All piping **MUST** be installed according to section G3 of the Building Regulations.

#### 3.3 Checklist for the required DHW accessories

For installation compliant with section G3 of the Building Regulations, you must verify that the following accessories are present.

##### Delivered with indoor unit:

<input type="checkbox"/>	Tundish 15 mm inlet, 22 mm outlet
--------------------------	-----------------------------------

##### Delivered with domestic hot water tank kit:

<input type="checkbox"/>	Pressure reducing valve/pressure relief valve combination
<input type="checkbox"/>	Adaptor 22 mm×3/4" Female BSP
<input type="checkbox"/>	T-piece 22 mm×22 mm×22 mm
<input type="checkbox"/>	Tundish 15 mm inlet, 22 mm outlet
<input type="checkbox"/>	Wall mounting set for expansion vessel
<input type="checkbox"/>	Instruction sheet
<input type="checkbox"/>	Expansion vessel of 18 l – 3/4" Male BSP

## 4 Unit installation

### 4 Unit installation

#### 4.1 Preparing the installation site



##### 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 reuse refrigerant piping that has been used with any other refrigerant. Replace the refrigerant pipes or clean thoroughly.

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

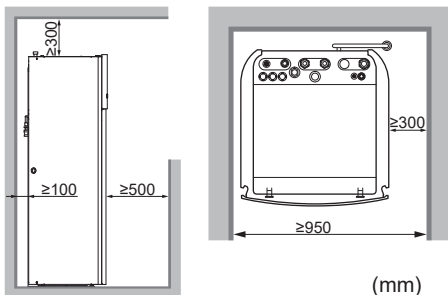
- The indoor unit is designed for indoor installation only and for the following ambient temperatures:
  - Domestic hot water production: 5~35°C
- Mind the following measurements guidelines:

Maximum refrigerant piping length <sup>(a)</sup> between indoor unit and outdoor unit	≤30 m
Minimum refrigerant piping length <sup>(a)</sup> between indoor unit and outdoor unit	3 m

<sup>(a)</sup> Refrigerant piping length is the one-way length of liquid piping.

	Height difference outdoor-indoor	Height difference indoor-indoor
Outdoor unit installed higher than indoor unit	≤30 m	≤7.5 m
Outdoor unit installed lower than at least 1 indoor unit	≤15 m	≤15 m

- Mind the following spacing installation guidelines:



(mm)

Additionally to the spacing guidelines: Because the total refrigerant charge in the system is  $\geq 1.84$  kg, the room where you install the indoor unit must also comply with the conditions described in "4.1.3 Installation patterns" [ 7].



##### INFORMATION

If you have limited installation space, do the following before installing the unit in its final position: "4.3.1 To connect the drain hose to the drain" [ 15]. It requires to remove one or both side panels.

#### 4.1.2 Special requirements for R32 units

Additionally to the spacing guidelines: Because the total refrigerant charge in the system is  $\geq 1.84$  kg, the room where you install the indoor unit must also comply with the conditions described in "4.1.3 Installation patterns" [ 7].



##### WARNING

- Do NOT pierce or burn refrigerant cycle parts.
- Do NOT use means to accelerate the defrosting process or to clean the equipment, other than those recommended by the manufacturer.
- Be aware that R32 refrigerant does NOT contain an odour.



##### WARNING

The appliance shall be stored so as to prevent mechanical damage and in a well-ventilated room without continuously operating ignition sources (example: open flames, an operating gas appliance or an operating electric heater) and have a room size as specified below.



##### NOTICE

- Do NOT re-use joints and copper gaskets which have been used already.
- Joints made in the installation between parts of the refrigerant system shall be accessible for maintenance purposes.



##### WARNING

Make sure installation, servicing, maintenance and repair comply with instructions from Daikin and with applicable legislation (for example national gas regulation) and are executed ONLY by authorised persons.



##### NOTICE

- The pipework shall be securely mounted and guarded protected from physical damage.
- Keep the pipework installation to a minimum.

## 4.1.3 Installation patterns



### WARNING

For units using the R32 refrigerant it is necessary to keep any required ventilation openings and chimneys clear of obstructions.

Depending on the type of room in which you install the indoor unit, different installation patterns are allowed:

Room type	Allowed patterns			
Living room, kitchen, garage, attic, basement, storage room	1, 2, 3			
Technical room (i.e. room that is NEVER occupied by persons)	1, 2, 3, 4			
	PATTERN 1	PATTERN 2	PATTERN 3	PATTERN 4
Ventilation openings	N/A	Between room A and B	N/A	Between room A and outside
Minimum floor area	Room A	Room A + Room B	N/A	N/A
Chimney	Might be needed	Might be needed	Connected to outside	N/A
Release in case of refrigerant leakage	Inside room A	Inside room A	Outside	Inside room A
Restrictions	See "PATTERN 1" [▶ 8], "PATTERN 2" [▶ 8], "PATTERN 3" [▶ 10], and "Tables for PATTERN 1, 2 and 3" [▶ 10]			See "PATTERN 4" [▶ 13]

<b>A</b>	Room A (= room where indoor unit is installed)
<b>B</b>	Room B (= adjacent room)
<b>a</b>	If no chimney is installed, this is the default point of release in case of refrigerant leakage. If needed, you can connect a chimney here.
<b>b</b>	Chimney
<b>c1</b>	Bottom opening for natural ventilation
<b>c2</b>	Top opening for natural ventilation
$H_{\text{release}}$	Actual release height: <b>1a/2a</b> : Without chimney. From floor to top of the unit. ▪ For 230 l units => $H_{\text{release}}=1.86$ m <b>1b/2b</b> : With chimney. From floor to top of the chimney. ▪ For 230 l units => $H_{\text{release}}=1.86$ m + Chimney height
<b>3a</b>	Installation with chimney connected to the outside. The release height is not relevant. There are no requirements to the minimum floor area.
<b>N/A</b>	Not applicable

Minimum floor area / Release height:

- The minimum floor area requirements depend on the release height of the refrigerant in case of a leakage. The higher the release height, the lower the minimum floor area requirements.
- The default point of release (without chimney) is at the top of the unit. To decrease the minimum floor area requirements, you can increase the release height by installing a chimney. If the chimney leads outside of the building, there are no requirements anymore to the minimum floor area.
- You can also take advantage of the floor area of the adjacent room (= room B) by providing ventilation openings between the two rooms.
- For installations in technical rooms (i.e. room that is NEVER occupied by persons), additionally to patterns 1, 2 and 3, you can also use **PATTERN 4**. For this pattern there are no requirements to the minimum floor area if you provide 2 openings (one at the bottom, one at the top) between the room and the outside to ensure natural ventilation. The room must be protected from frost.



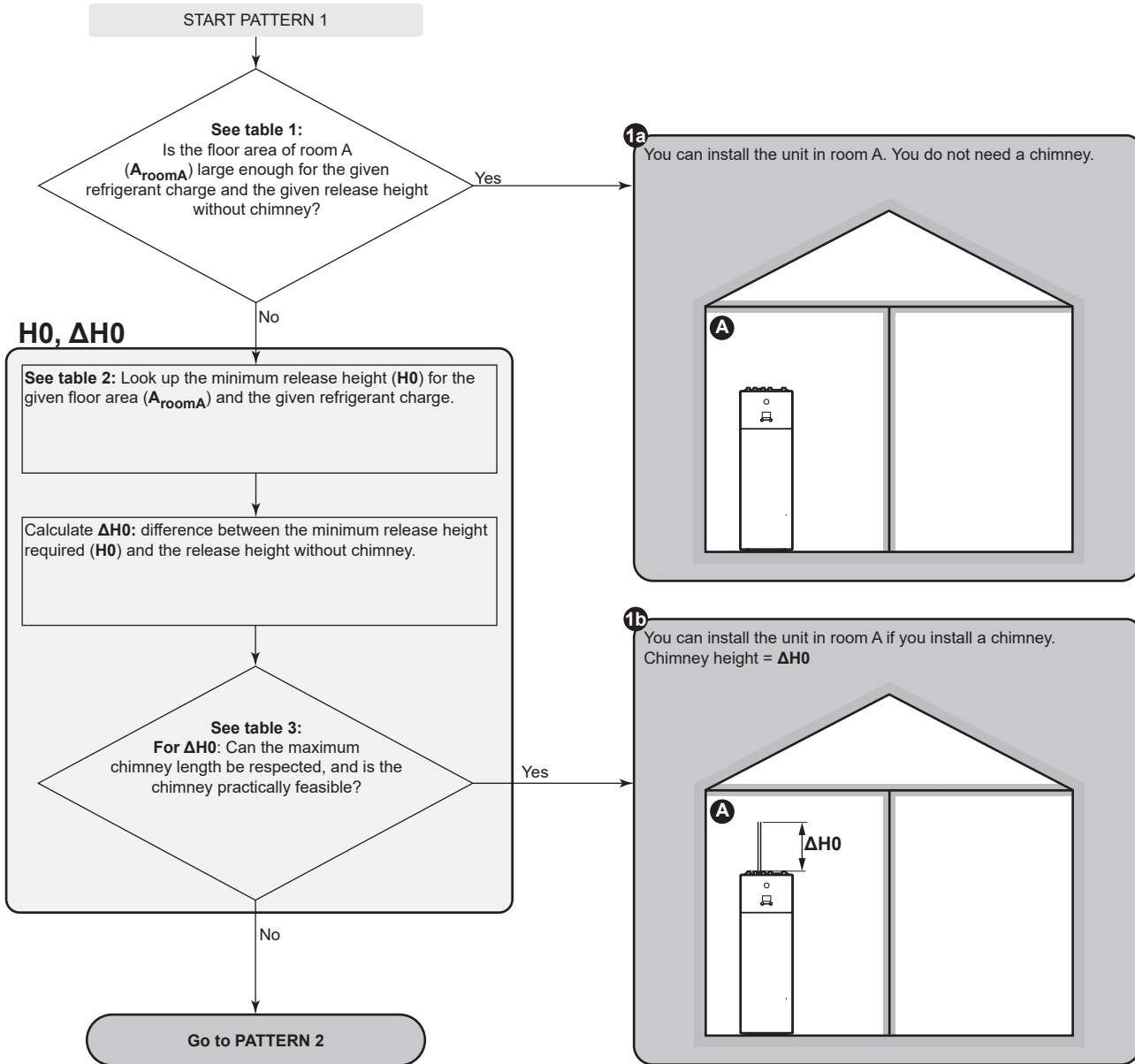
### WARNING

**Chimney connection.** When connecting a chimney, take the following into account:

- Unit's connection point for the chimney = 1" male thread. Use a compatible counterpart for the chimney.
- Make sure the connection is airtight.
- The chimney material is unimportant.

# 4 Unit installation

## PATTERN 1

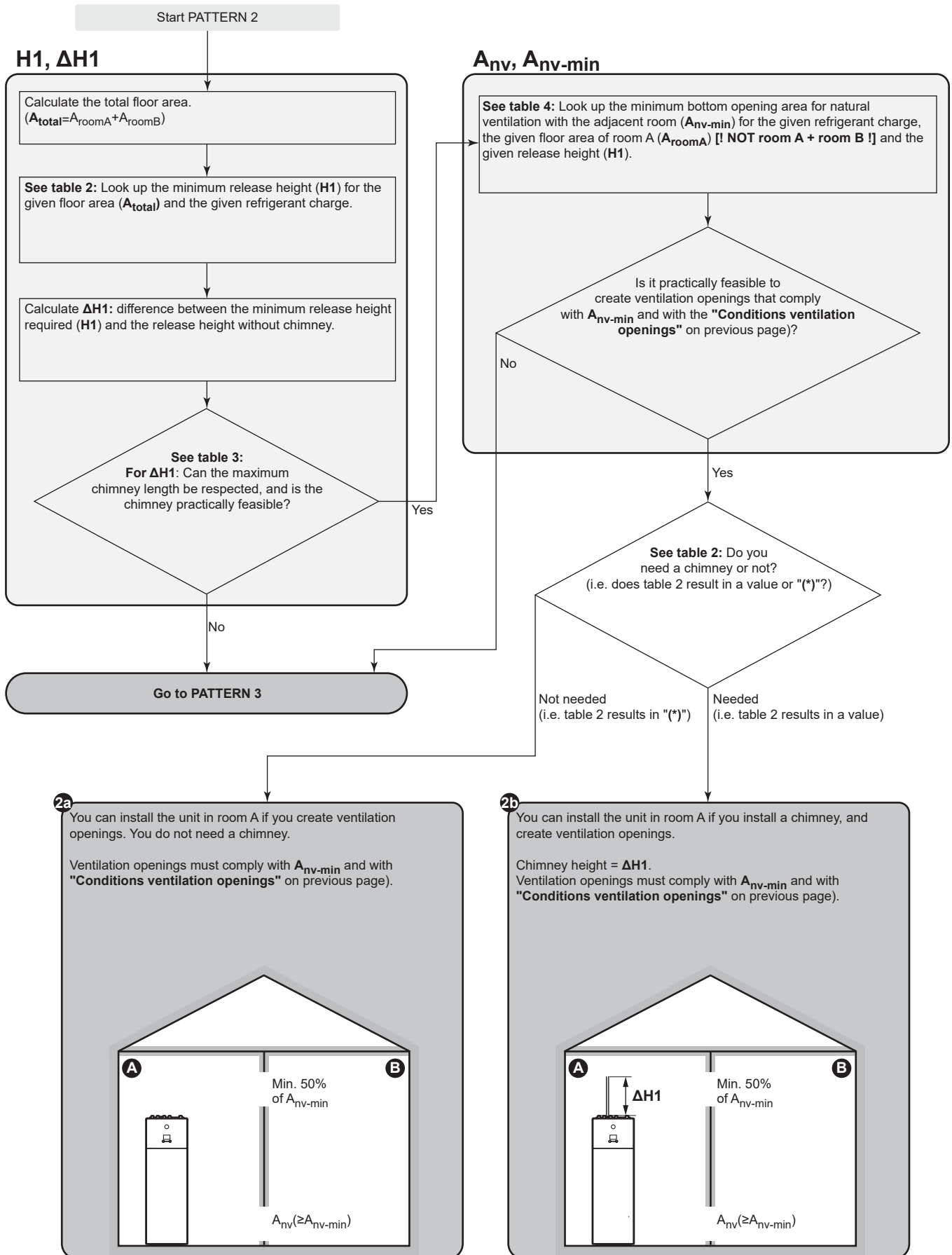


## PATTERN 2

**PATTERN 2: Conditions ventilation openings**

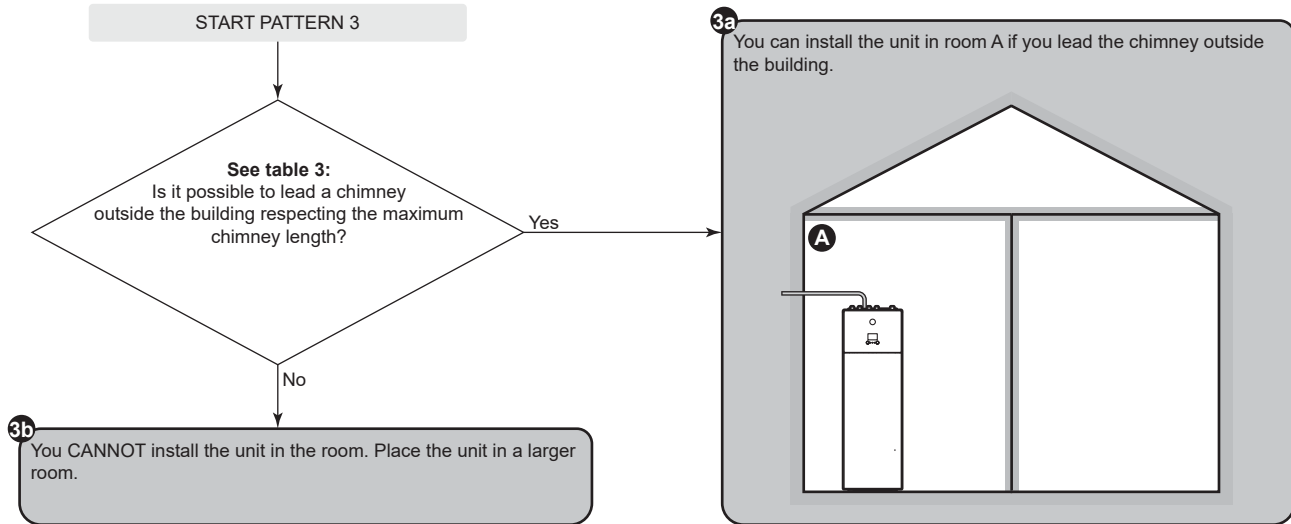
If you want to take advantage of the floor area of the adjacent room, you must provide 2 openings (one at the bottom, one at the top) between the rooms to ensure natural ventilation. The openings must comply with the following conditions:

- Bottom opening ( $A_{nv}$ ):**
  - Must be a permanent opening that cannot be closed.
  - Must be completely located between 0 and 300 mm from the floor.
  - Must be  $\geq A_{nv-min}$  (minimum bottom opening area).
  - $\geq 50\%$  of the required opening area  $A_{nv-min}$  must be  $\leq 200$  mm from the floor.
  - The bottom of the opening must be  $\leq 100$  mm from the floor.
  - If the opening starts from the floor, the height of the opening must be  $\geq 20$  mm.
- Top opening:**
  - Must be a permanent opening that cannot be closed.
  - Must be  $\geq 50\%$  of  $A_{nv-min}$  (minimum bottom opening area).
  - Must be  $\geq 1.5$  m from the floor.



## 4 Unit installation

### PATTERN 3



### Tables for PATTERN 1, 2 and 3

**Table 1: Minimum floor area**

For intermediate refrigerant charges, use the row with the higher value. **Example:** If the refrigerant charge is 1.8 kg, use the row of 2 kg.

Charge (kg)	Minimum floor area (m <sup>2</sup> )	
	Release height without chimney (m)	
	1.86 (Unit=230 l)	
2	4.66	
2.4	5.60	
2.6	6.06	
3	7.95	
3.3	9.62	

**Table 2: Minimum release height**

Take the following into account:

- For intermediate floor areas, use the column with the lower value. **Example:** If the floor area is 10.50 m<sup>2</sup>, use the column of 10.00 m<sup>2</sup>.
- For intermediate refrigerant charges, use the row with the higher value. **Example:** If the refrigerant charge is 1.8 kg, use the row of 2 kg.
- (\*): The release height of the unit without chimney (for 230 l units: 1.86 m) is already higher than the minimum required release height. => OK (no chimney needed).

Charge (kg)	Minimum release height (m)							
	Floor area (m <sup>2</sup> )							
	1.18	2.00	3.00	4.00	6.00	8.00	10.00	12.00
2	7.37	4.35	2.90	2.18	(*)	(*)	(*)	(*)
2.2	8.10	4.78	3.19	2.39	(*)	(*)	(*)	(*)
2.4	8.84	5.22	3.48	2.61	(*)	(*)	(*)	(*)
2.6	9.57	5.65	3.77	2.83	1.89	(*)	(*)	(*)
2.8	10.31	6.09	4.06	3.05	2.03	(*)	(*)	(*)
3	11.05	6.52	4.35	3.26	2.18	1.86	(*)	(*)
3.3	12.15	7.17	4.78	3.59	2.39	2.05	(*)	(*)

**Table 3: Maximum chimney length**

When installing a chimney, the chimney length must be less than the maximum chimney length.

- Use the columns with the correct refrigerant charge. For intermediate refrigerant charges, use the columns with the higher value. **Example:** If the refrigerant charge is 3.0 kg, use the columns of 3.3 kg.
- For intermediate diameters, use the column with the lower value. **Example:** If the diameter is 23 mm, use the column of 22 mm.
- X: Not allowed

Chimney	Maximum chimney length (m) – In case of Refrigerant charge=2.6 kg (and T=60°C)					In case of Refrigerant charge=3.3 kg (and T=60°C)				
	Inside diameter of chimney (mm)					Inside diameter of chimney (mm)				
	20 mm	22 mm	24 mm	26 mm	28 mm	20 mm	22 mm	24 mm	26 mm	28 mm
Straight pipe	46.99 m	78.61 m	123.42 m	185.02 m	267.54 m	27.35 m	46.93 m	74.81 m	113.26 m	164.87 m
1× 90° elbow	45.19 m	76.63 m	121.26 m	182.68 m	265.02 m	25.55 m	44.95 m	72.65 m	110.92 m	162.35 m
2× 90° elbow	43.39 m	74.65 m	119.10 m	180.34 m	262.50 m	23.75 m	42.97 m	70.49 m	108.58 m	159.83 m
3× 90° elbow	41.59 m	72.67 m	116.94 m	178.00 m	259.98 m	21.95 m	40.99 m	68.33 m	106.24 m	157.31 m

**Table 4: Minimum bottom opening area for natural ventilation**

Take the following into account:

- Use the correct table. For intermediate refrigerant charges, use the table with the higher value. **Example:** If the refrigerant charge is 1.8 kg, use the table of 2 kg.
- For intermediate floor areas, use the column with the lower value. **Example:** If the floor area is 10.50 m<sup>2</sup>, use the column of 10.00 m<sup>2</sup>.
- For intermediate release height values, use the row with the lower value. **Example:** If the release height is 1.90 m, use the row of 1.86 m.
- A<sub>nv</sub>: Bottom opening area for natural ventilation.
- A<sub>nv-min</sub>: Minimum bottom opening area for natural ventilation.
- (\*): Already OK (no ventilation openings needed).

Release height (m)	Minimum opening area for natural ventilation A <sub>nv</sub> (dm <sup>2</sup> ) - In case of Refrigerant charge=2.0 kg								
	Floor area of room A (m <sup>2</sup> )								
	1.18	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
1.86	3.5	2.7	1.7	0.7	(*)	(*)	(*)	(*)	(*)
2.00	3.3	2.4	1.4	0.4	(*)	(*)	(*)	(*)	(*)
2.20	3.0	2.1	1.1	(*)	(*)	(*)	(*)	(*)	(*)
2.40	2.8	1.9	0.7	(*)	(*)	(*)	(*)	(*)	(*)
2.60	2.6	1.6	0.4	(*)	(*)	(*)	(*)	(*)	(*)
2.80	2.4	1.4	0.2	(*)	(*)	(*)	(*)	(*)	(*)
3.00	2.2	1.2	(*)	(*)	(*)	(*)	(*)	(*)	(*)
3.20	2.0	1.0	(*)	(*)	(*)	(*)	(*)	(*)	(*)

Release height (m)	Minimum opening area for natural ventilation A <sub>nv</sub> (dm <sup>2</sup> ) - In case of Refrigerant charge=2.4 kg								
	Floor area of room A (m <sup>2</sup> )								
	1.18	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
1.86	4.4	3.6	2.6	1.6	0.6	(*)	(*)	(*)	(*)
2.00	4.2	3.3	2.3	1.3	0.3	(*)	(*)	(*)	(*)
2.20	3.9	3.0	1.9	0.8	(*)	(*)	(*)	(*)	(*)
2.40	3.6	2.7	1.6	0.4	(*)	(*)	(*)	(*)	(*)
2.60	3.3	2.4	1.2	0.1	(*)	(*)	(*)	(*)	(*)
2.80	3.1	2.1	0.9	(*)	(*)	(*)	(*)	(*)	(*)
3.00	2.9	1.9	0.6	(*)	(*)	(*)	(*)	(*)	(*)
3.20	2.7	1.7	0.4	(*)	(*)	(*)	(*)	(*)	(*)

Release height (m)	Minimum opening area for natural ventilation A <sub>nv</sub> (dm <sup>2</sup> ) - In case of Refrigerant charge=2.6 kg								
	Floor area of room A (m <sup>2</sup> )								
	1.18	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
1.86	4.9	4.1	3.1	2.1	1.1	0.1	(*)	(*)	(*)
2.00	4.6	3.8	2.7	1.7	0.7	(*)	(*)	(*)	(*)
2.20	4.3	3.4	2.3	1.3	0.2	(*)	(*)	(*)	(*)
2.40	4.0	3.1	2.0	0.8	(*)	(*)	(*)	(*)	(*)
2.60	3.7	2.8	1.6	0.4	(*)	(*)	(*)	(*)	(*)
2.80	3.5	2.5	1.3	0.1	(*)	(*)	(*)	(*)	(*)
3.00	3.3	2.3	1.0	(*)	(*)	(*)	(*)	(*)	(*)
3.20	3.1	2.0	0.7	(*)	(*)	(*)	(*)	(*)	(*)

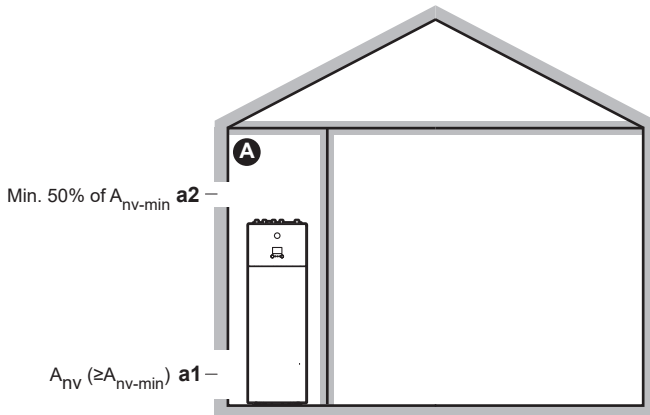
Release height (m)	Minimum opening area for natural ventilation A <sub>nv</sub> (dm <sup>2</sup> ) - In case of Refrigerant charge=3.1 kg								
	Floor area of room A (m <sup>2</sup> )								
	1.18	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
1.86	6.0	5.2	4.2	3.2	2.3	1.3	0.3	(*)	(*)
2.00	5.7	4.9	3.9	2.8	1.8	0.8	(*)	(*)	(*)
2.20	5.3	4.5	3.4	2.3	1.2	0.2	(*)	(*)	(*)
2.40	5.0	4.1	3.0	1.8	0.7	(*)	(*)	(*)	(*)
2.60	4.7	3.7	2.6	1.4	0.3	(*)	(*)	(*)	(*)
2.80	4.4	3.4	2.2	1.0	(*)	(*)	(*)	(*)	(*)
3.00	4.2	3.2	1.9	0.7	(*)	(*)	(*)	(*)	(*)
3.20	4.0	2.9	1.6	0.3	(*)	(*)	(*)	(*)	(*)

## 4 Unit installation

Minimum opening area for natural ventilation $A_{nv}$ (dm <sup>2</sup> ) - In case of Refrigerant charge=3.3 kg									
Release height (m)	Floor area of room A (m <sup>2</sup> )								
	1.18	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00
1.86	6.5	5.7	4.7	3.7	2.7	1.7	0.8	(*)	(*)
2.00	6.2	5.3	4.3	3.3	2.3	1.2	0.2	(*)	(*)
2.20	5.8	4.9	3.8	2.7	1.7	0.6	(*)	(*)	(*)
2.40	5.4	4.5	3.4	2.3	1.1	(*)	(*)	(*)	(*)
2.60	5.1	4.1	3.0	1.8	0.6	(*)	(*)	(*)	(*)
2.80	4.8	3.8	2.6	1.4	0.2	(*)	(*)	(*)	(*)
3.00	4.5	3.5	2.3	1.0	(*)	(*)	(*)	(*)	(*)
3.20	4.3	3.2	2.0	0.7	(*)	(*)	(*)	(*)	(*)

**PATTERN 4**

PATTERN 4 is only allowed for installations in technical rooms (i.e. room that is NEVER occupied by persons). For this pattern there are no requirements to the minimum floor area if you provide 2 openings (one at the bottom, one at the top) between the room and the outside to ensure natural ventilation. The room must be protected from frost.



<b>A</b>	Unoccupied room where the indoor unit is installed. Must be protected from frost.
<b>a1</b>	$A_{nv}$ : <b>Bottom opening</b> for natural ventilation between the unoccupied room and the outside. <ul style="list-style-type: none"> <li>Must be a permanent opening that cannot be closed.</li> <li>Must be above ground level.</li> <li>Must be completely located between 0 and 300 mm from the floor of the unoccupied room.</li> <li>Must be <math>\geq A_{nv-min}</math> (minimum bottom opening area as specified in the table below).</li> <li><math>\geq 50\%</math> of the required opening area <math>A_{nv-min}</math> must be <math>\leq 200</math> mm from the floor of the unoccupied room.</li> <li>The bottom of the opening must be <math>\leq 100</math> mm from the floor of the unoccupied room.</li> <li>If the opening starts from the floor, the height of the opening must be <math>\geq 20</math> mm.</li> </ul>
<b>a2</b>	<b>Top opening</b> for natural ventilation between room A and the outside. <ul style="list-style-type: none"> <li>Must be a permanent opening that cannot be closed.</li> <li>Must be <math>\geq 50\%</math> of <math>A_{nv-min}</math> (minimum bottom opening area as specified in the table below).</li> <li>Must be <math>\geq 1.5</math> m from the floor of the unoccupied room.</li> </ul>

**$A_{nv-min}$  (minimum bottom opening area for natural ventilation)**

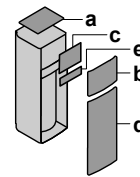
The minimum bottom opening area for natural ventilation between the unoccupied room and the outside depends on the total refrigerant in the system. For intermediate refrigerant charges, use the row with the higher value. **Example:** If the refrigerant charge is 1.8 kg, use the row of 2 kg.

Total refrigerant charge (kg)	$A_{nv-min}$ (dm <sup>2</sup> )
1.5 kg	6.2 dm <sup>2</sup>
2 kg	7.1 dm <sup>2</sup>
2.4 kg	7.8 dm <sup>2</sup>
2.6 kg	8.1 dm <sup>2</sup>
3 kg	8.8 dm <sup>2</sup>
3.3 kg	9.2 dm <sup>2</sup>

**4.2 Opening and closing the unit**

**4.2.1 To open the indoor unit**

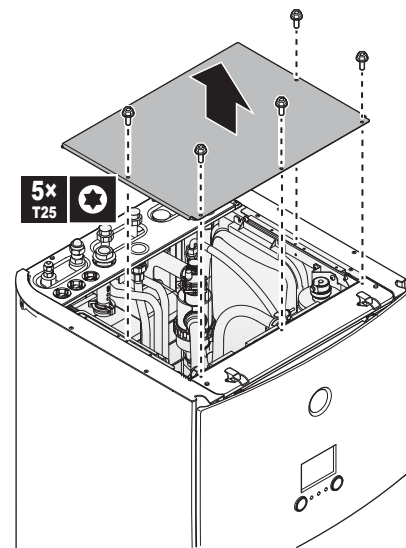
**Overview**



- a Top panel
- b User interface panel
- c Switch box cover
- d Front panel
- e High voltage switch box cover

**Open**

- 1 Remove the top panel

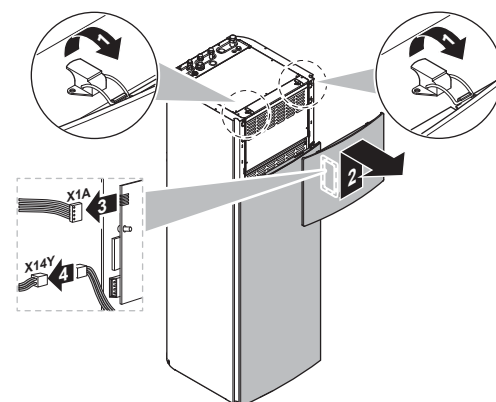


- 2 Remove the user interface panel. Open the hinges at the top and slide the top panel upwards.



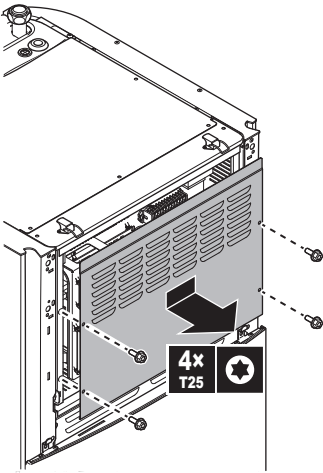
**NOTICE**

If you remove the user interface panel, also disconnect the cables from the back of the user interface panel to prevent damage.



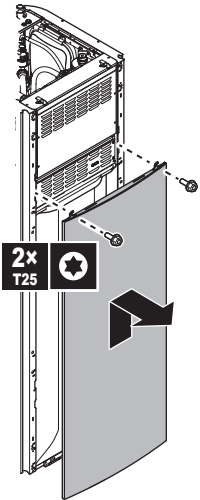
## 4 Unit installation

- 3 Remove the switch box cover.

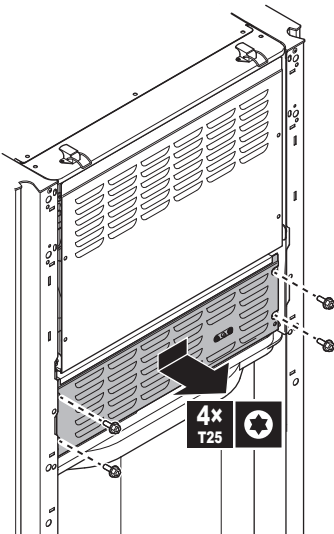


- 4 If necessary, remove the front plate. This is, for example, necessary in the following cases:

- "4.2.2 To lower the switch box" [▶ 14]
- "4.3.1 To connect the drain hose to the drain" [▶ 15]
- When you need access to the high voltage switch box



- 5 If you need access to the high voltage components, remove the high voltage switch box cover.

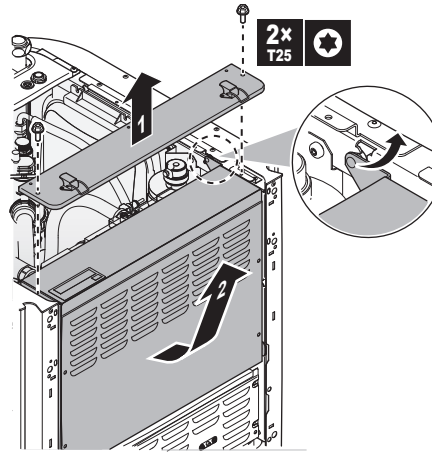


### 4.2.2 To lower the switch box

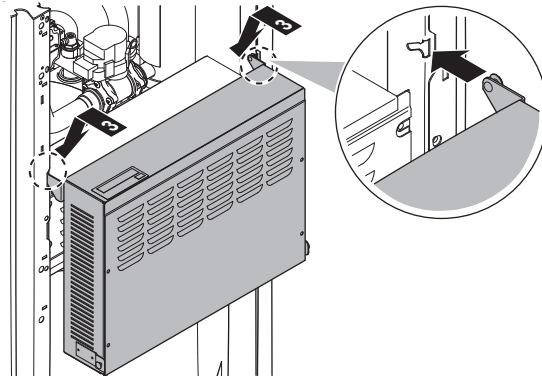
During the installation, you will need access to the inside of the indoor unit. To have easier front access, hang the switch box outside the unit, over the high voltage switch box cover.

**Prerequisite:** The user interface panel and front panel have been removed.

- 1 Remove the fixing plate at the top of the unit.
- 2 Tilt the switch box to the front and lift it out of its hinges.



- 3 Hang the switch box in front of the high voltage switch box cover. Use the 2 hinges located lower on the unit.



### 4.2.3 To close the indoor unit

- 1 Close the cover of the switch box.
- 2 Put the switch box back into place.
- 3 Reinstall the top panel.
- 4 Reinstall the side panels.
- 5 Reinstall the front panel.
- 6 Reconnect the cables to the user interface panel.
- 7 Reinstall the user interface panel.



#### NOTICE

When closing the indoor unit, make sure that the tightening torque does NOT exceed 4.1 N•m.

## 4.3 Mounting the indoor unit

### 4.3.1 To connect the drain hose to the drain

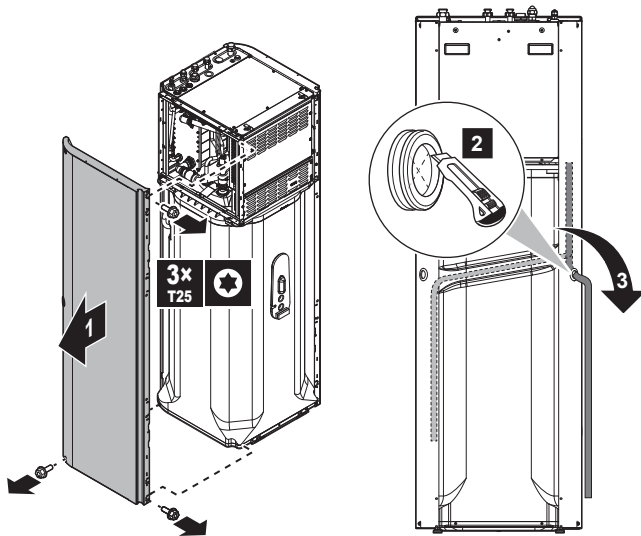
Water coming from the pressure relief valve is collected in the drain pan. The drain pan is connected to a drain hose inside the unit. Connect the drain hose to an appropriate drain according to the applicable legislation. You can route the drain hose through the left or right side panel.

**Prerequisite:** The user interface panel and front panel have been removed.

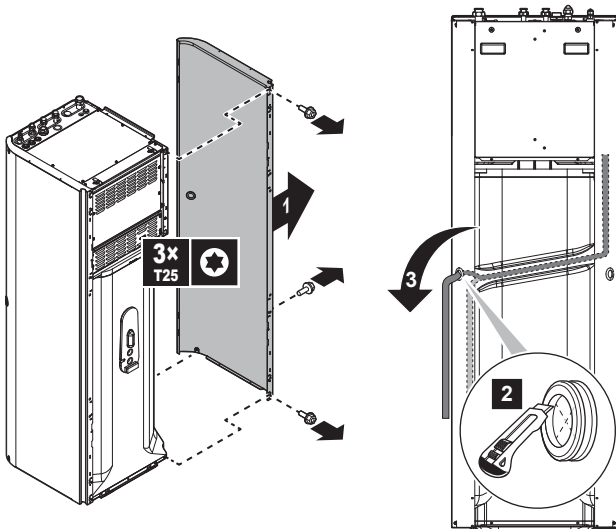
- 1 Remove one of the side panels.
- 2 Cut out the rubber grommet.
- 3 Pull the drain hose through the hole.
- 4 Reattach the side panel. Ensure the water can flow through the drain tube.

It is recommended to use a tundish to collect the water.

#### Option 1: Through the left side panel

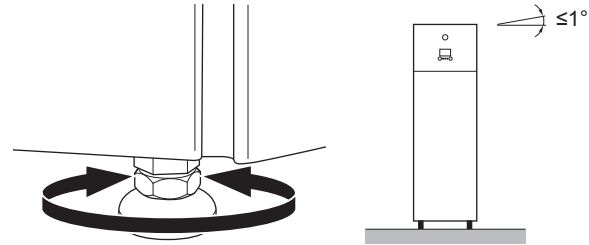


#### Option 2: Through the right side panel



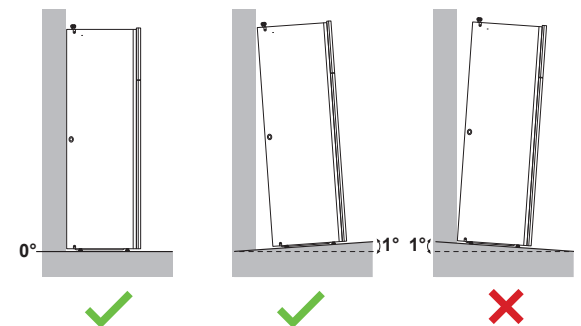
### 4.3.2 To install the indoor unit

- 1 Lift the indoor unit from the pallet and place it on the floor. Also see "3.1.2 To handle the indoor unit" [p 5].
- 2 Connect the drain hose to the drain. See "4.3.1 To connect the drain hose to the drain" [p 15].
- 3 Slide the indoor unit into position.
- 4 Adjust the height of the leveling feet to compensate for floor irregularities. The maximum allowed deviation is 1°.



#### NOTICE

Do NOT tilt the unit forwards:



## 5 Piping installation

### 5.1 Preparing refrigerant piping

#### 5.1.1 Refrigerant piping requirements

Also see "4.1.2 Special requirements for R32 units" [p 6] for additional requirements.

- **Piping length:** See "4.1.1 Installation site requirements of the indoor unit" [p 6].

#### Piping material

Phosphoric acid deoxidised seamless copper

- **Piping connections:** Only flare and brazed connections are allowed. The indoor and outdoor units have flare connections. Connect both ends without brazing. If brazing should be needed, take the guidelines in the installer reference guide into account.

#### Flare connections


Only use annealed material.

- **Piping diameter for the indoor unit:**

Liquid piping	Gas piping
Ø6.35 mm (1/4")	Ø15.9 mm (5/8")

## 5 Piping installation

### Piping temper grade and thickness for the indoor unit

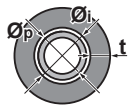
Outer diameter (Ø)	Tempter grade	Thickness (t) <sup>(a)</sup>	
6.5 mm (1/4")	Annealed (O)	≥0.8 mm	
15.9 mm (5/8")	Annealed (O)	≥1.0 mm	

<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)
6.35 mm (1/4")	7~10 mm	≥13 mm
15.9 mm (5/8")	17~20 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.



#### INFORMATION

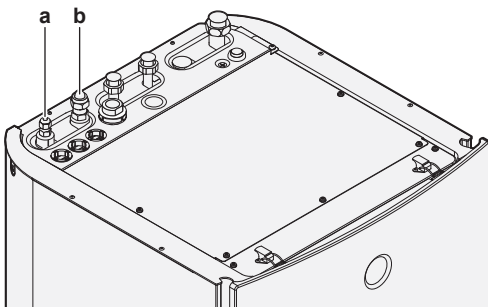
Refer to the installer reference guide of the outdoor unit for more information.

## 5.2 Connecting refrigerant piping

See the installation manual of the outdoor unit for all guidelines, specifications and installation instructions.

### 5.2.1 To connect the refrigerant piping to the indoor unit

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



- a Refrigerant liquid connection  
b Refrigerant gas connection

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

## 5.3 Preparing water piping



#### NOTICE

In case of plastic pipes, make sure they are fully oxygen diffusion tight according to DIN 4726. The diffusion of oxygen into the piping can lead to excessive corrosion.



#### NOTICE

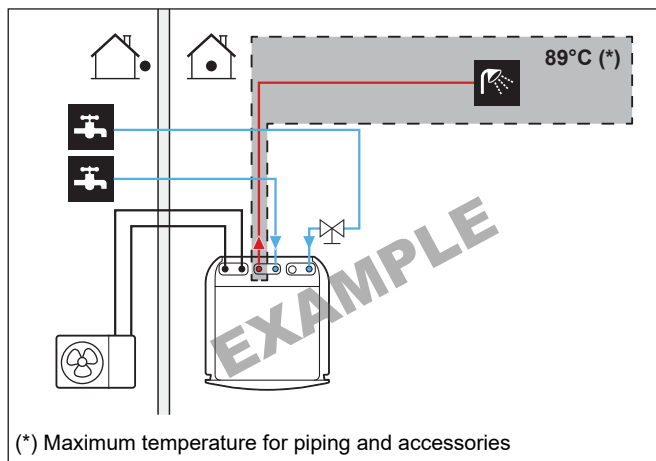
**Water circuit requirements.** Make sure to comply with the water pressure and water temperature requirements below. For additional water circuit requirements, see the installer reference guide.

- Water pressure – Domestic hot water.** The maximum water pressure is 10 bar (=1.0 MPa), and must be in accordance with the applicable legislation. Provide adequate safeguards in the water circuit to ensure that the maximum pressure is NOT exceeded (see "5.4.1 To connect the water piping" [p 17]). The minimum water pressure to operate is 1 bar (=0.1 MPa).
- Water pressure – Heating circuit for domestic hot water.** The maximum water pressure is 3 bar (=0.3 MPa). Ensure that the maximum pressure is NOT exceeded. The minimum water pressure to operate is 1 bar (=0.1 MPa).
- Water temperature.** All installed piping and piping accessories (valve, connections,...) MUST withstand the following temperatures:



#### INFORMATION

The following figure is an example and may NOT completely match your system layout.



### 5.3.1 To check the flow rate

#### Minimum flow rate

Check that the minimum flow rate in the domestic hot water is guaranteed in all conditions.

If operation is...	Then the minimum required flow rate is...
Domestic hot water production/defrost	22 l/min



#### NOTICE

It is important to ALWAYS guarantee the minimum flow rate. In case the minimum flow rate cannot be reached, a flow error 7H will be generated (no domestic hot water heating or operation). The tank has a fixed volume. Ensure that the water circuit of the tank is filled and verify that the minimum water pressure of 1 bar is maintained.

See the installer reference guide for more information.

See the recommended procedure as described in "8.2 Checklist during commissioning" [p 29].

## 5.4 Connecting water piping

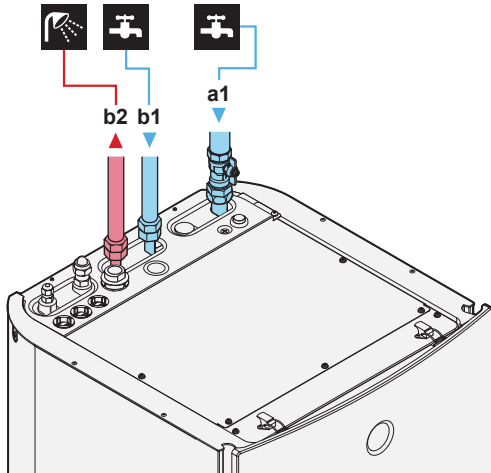
### 5.4.1 To connect the water piping

**NOTICE**

Do NOT use excessive force when connecting the piping. Deformation of the piping can cause malfunctioning of the unit.

To facilitate service and maintenance, 1 shut-off valve is provided. Mount the shut-off valve on the circuit filler water pipe.

- 1 Install the shut-off valve on the circuit filler pipe.
- 2 Screw the indoor unit nuts on the shut-off valve.
- 3 Connect the domestic hot water IN and OUT pipes to the indoor unit. It is obligatory to use the accessory G3 kit EKHUHWG3D to comply with UK legislation. See "5.4.2 To connect the water piping for domestic hot water" [▶ 17].



- a1 Filler circuit – Water IN (screw connection, 1")
- b1 DHW – Cold water IN (screw connection, 3/4")
- b2 DHW – Hot water OUT (screw connection, 3/4")

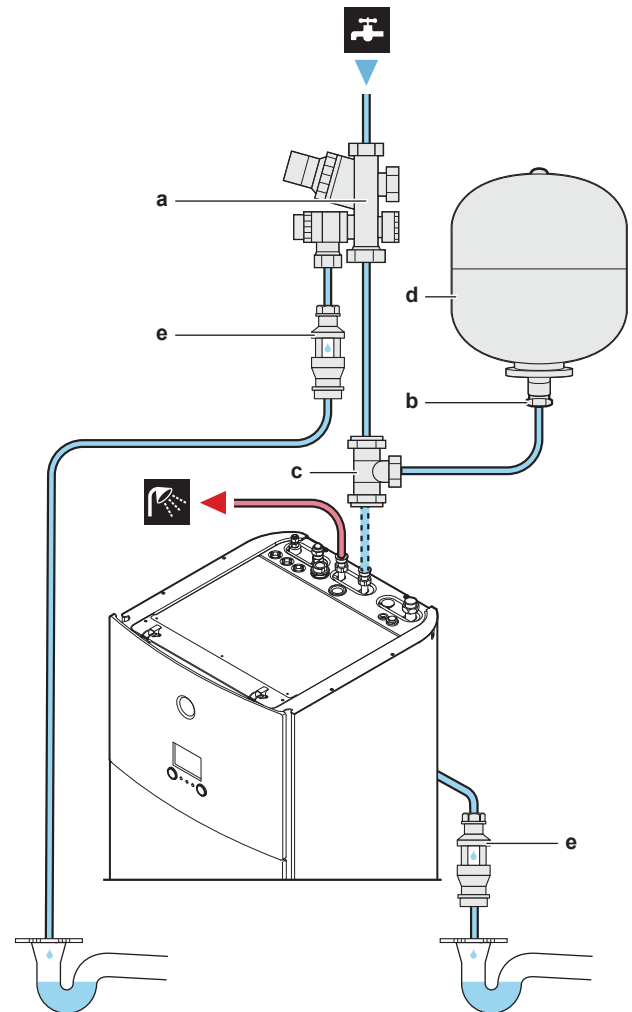
**NOTICE**

- It is recommended to install shut-off valves to domestic cold water in and domestic hot water out connections. These shut-off valves are field supplied.
- **However, make sure there is no valve between the pressure relief valve (delivered with the domestic hot water tank kit) and the DHW tank.**
- Select valves complying to EN 1487, EN 1488, EN 1489, EN 1490 and EN 1491.

**NOTICE**

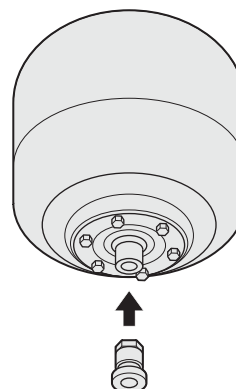
Install air purge valves at all local high points.

### 5.4.2 To connect the water piping for domestic hot water



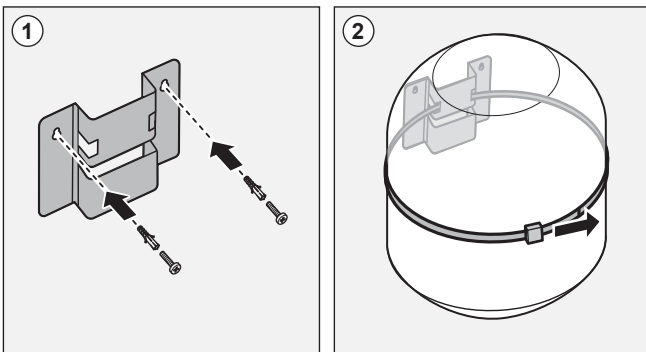
- a Pressure reducing valve/pressure relief valve combination. Water inlet and water outlet 22 mm connection, discharge piping connection 15 mm
- b Adaptor 22 mm×3/4" Female BSP
- c T-piece 22 mm×22 mm×22 mm
- d Expansion vessel of 18 l – 3/4" Male BSP
- e Tundish 15 mm inlet, 22 mm outlet

- 1 Pre-assemble the adaptor and expansion vessel so that the expansion vessel is ready for installation.



## 5 Piping installation

2 Mount the expansion vessel to the wall.



- 3 Fit the T-piece (part of the kit) to the domestic hot water cold water IN pipe of the unit.
- 4 Connect the pressure reducing valve/pressure relief valve combination (part of the kit) to the T-piece with a length of copper tube Ø22 mm (field supply).
- 5 Connect the expansion vessel to the T-piece with a length of copper tube Ø22 mm (field supply).
- 6 Connect the pressure reducing valve/pressure relief valve combination to the water mains inlet.
- 7 Install the tundish (part of the kit) in a vertical position within a maximum of 600 mm away from the pressure reducing valve/pressure relief valve combination.

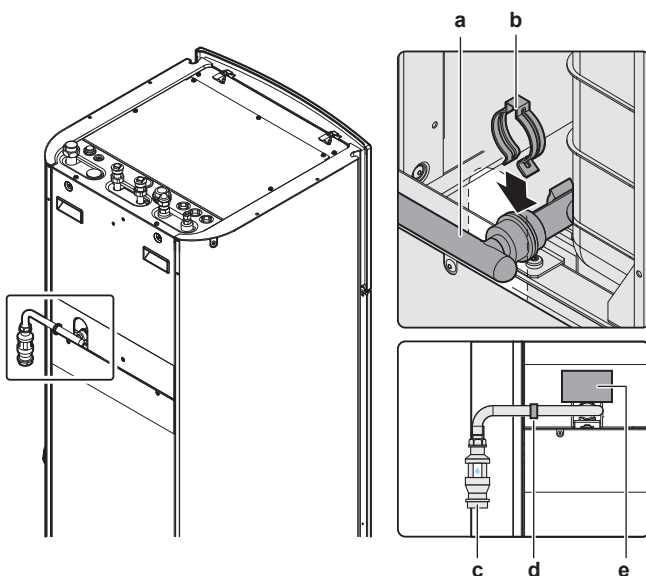
### WARNING

Install the tundish away from any electrical device.  
**Possible consequence:** Electrical shock or fire.

### NOTICE

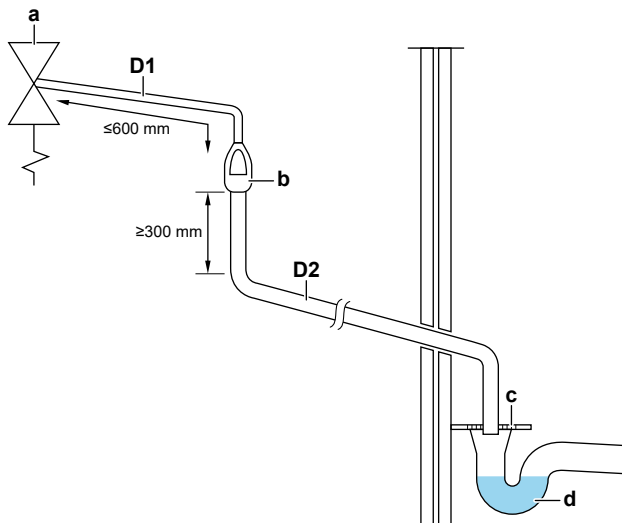
To ensure a free water flow through the discharge pipe, manually operate the pressure relief valve by turning its knob left.

- 8 Use the quick fixture to connect the discharge pipe (see "3.1.1 To remove the accessories from the indoor unit" [▶ 5]) to the pipe connection in the hole located at the back of the unit, and fix the pipe to the rear plate with the cable tie + clip. This pipe starts at the pressure relief valve of the domestic hot water tank. After connecting the discharge pipe, cover the hole with the antisweat sticker.



- a Discharge pipe (for pressure relief valve)
- b Quick fixture
- c Tundish
- d Cable tie + clip
- e Antisweat sticker (50×80 mm)

- 9 Connect the two tundishes (one from the pressure relief valve of the domestic hot water tank, and one from the pressure relief valve of the domestic hot water tank kit) to an appropriate drain according to the applicable legislation. The following example shows discharge below fixed grating (Building Regulation G3 section 3.61 gives alternative points of discharge):



- a Safety device (pressure and temperature relief valve of domestic hot water tank; pressure relief valve of domestic hot water tank kit)
- b Tundish
- c Fixed grating
- d Trapped gully
- D1 Metal discharge pipe from safety device to tundish
- D2 Discharge pipe from tundish, with continuous fall. See Building Regulation G3 section 3.56, Table 03 and worked example.

- 10 After completing the installation, the installer MUST fill out the warning label on the tank with indelible ink, in order to comply with the building regulations. The warning label can be found in the vicinity of the nameplate.

### WARNING TO USER

- a. Do not remove or adjust any component of this unvented water heater; contact the installer.
- b. If this unvented water heater develops a fault, such as a flow of hot water from the discharge pipe, switch the heater off and contact the installer.

### WARNING TO INSTALLER

- a. This installation is subject to the Building Regulations.
- b. Use only appropriate components for installation or maintenance.

### Installed by:

Name .....  
Address .....  
Tel. No. ....  
Completion date .....

### WARNING

The discharge pipes from the pressure relief valves MUST terminate in a safe and visible position without forming any risk to persons in the vicinity.

### WARNING

- Discharge piping, tundish, drain valves, etc. MUST be positioned away from any electrical components.
- The discharge pipe away from the tundish MUST terminate in a safe, visible position without forming any risk to persons in the vicinity.



### WARNING

- Do NOT install any valves between the domestic hot water tank and relief valves/expansion vessel.
- Do NOT install shut-off valves between the expansion relief valve and the domestic hot water tank.



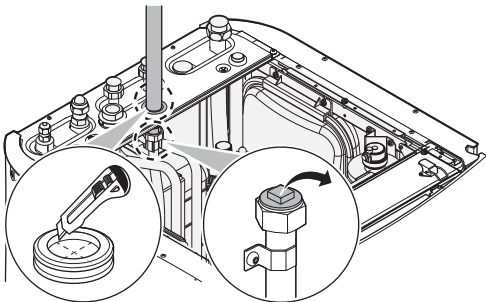
### NOTICE

- All pipework and fittings must be flushed free of flux and debris prior to installing the domestic hot water tank kit. Failure to do this may cause irreparable damage to the tank kit controls. Flush the system by opening the hot water tap.
- The tundish pipework must be a 22 mm metal pipe with a minimal vertical length of 300 mm below the tundish before any elbows or bends in the pipework. All pipework must have a continuous fall of 1 in 200 thereafter. Maximum permitted (equivalent) length of 22 mm pipework is 9 m. Each bend or elbow is equivalent to 0.8 m of pipework.

### 5.4.3 To connect the recirculation piping

**Prerequisite:** Only required if you need recirculation in your system.

- Remove the top panel from the unit, see "4.2.1 To open the indoor unit" [▶ 13].
- Cut out the rubber grommet on top of the unit, and remove the stop. The recirculation connector is placed below the hole.
- Route the recirculation piping through the grommet and connect it to the recirculation connector.



- Reattach the top panel.

### 5.4.4 To fill the heating circuit for domestic hot water

To fill the water circuit, use a field supply filling kit. Make sure you comply with the applicable legislation.



### NOTICE

**Pump.** To prevent blocking of the pump rotor, commission the unit as quickly as possible after filling the water circuit.



### INFORMATION

Make sure that the air purge valve on the backup heater is open.

### 5.4.5 To fill the domestic hot water tank

- Open every hot water tap in turn to purge air from the system pipe work.
- Open the cold water supply valve.
- Close all water taps after all air is purged.
- Check for water leaks.
- Manually operate the field-installed pressure relief valve to ensure a free water flow through the discharge pipe.

### 5.4.6 To insulate the water piping

The piping in the complete water circuit MUST be insulated to prevent reduction of the heating capacity.

## 6 Electrical installation



### DANGER: RISK OF ELECTROCUTION



### WARNING

ALWAYS use multicore cable for power supply cables.



### WARNING

Do NOT extend the power supply or the interconnection cable by using wire connectors, wire connection clamps, taped wires, extension cords.

These can cause overheating, electric shock or fire.



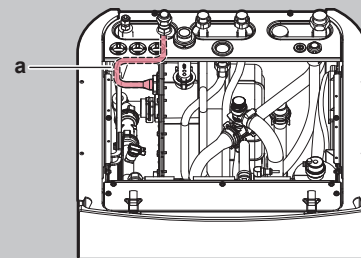
### NOTICE

In the power supply line, ALWAYS install a residual current device (RCD) that complies with the national wiring regulation. This MUST be an RCD of 30 mA with an instantaneous action, unless otherwise defined by the national wiring regulation.



### WARNING

Make sure that the electrical wiring does NOT touch the refrigerant gas pipe, which can be very hot.



a Refrigerant gas pipe

### 6.1 About electrical compliance

Only for the backup heater of the indoor unit

See "6.3.2 To connect the backup heater power supply" [▶ 20].

### 6.2 Guidelines when connecting the electrical wiring

#### Tightening torques

Indoor unit:

Item	Tightening torque (N·m)
X1M	2.45 ±10%
X2M	0.88 ±10%
X5M	0.88 ±10%
X6M	2.45 ±10%
X10M	0.88 ±10%
M4 (earth)	1.47 ±10%

### 6.3 Connections to the indoor unit

Item	Description
Power supply (main)	See "6.3.1 To connect the main power supply" [▶ 20].

## 6 Electrical installation

Item	Description
Power supply (backup heater)	See "6.3.2 To connect the backup heater power supply" [▶ 20].
Electricity meters	See "6.3.3 To connect the electricity meters" [▶ 21].
WLAN cartridge	See: <ul style="list-style-type: none"> <li>Installation manual of the WLAN cartridge</li> <li>Installer reference guide</li> </ul>
	[D] Wireless gateway



### 6.3.1 To connect the main power supply

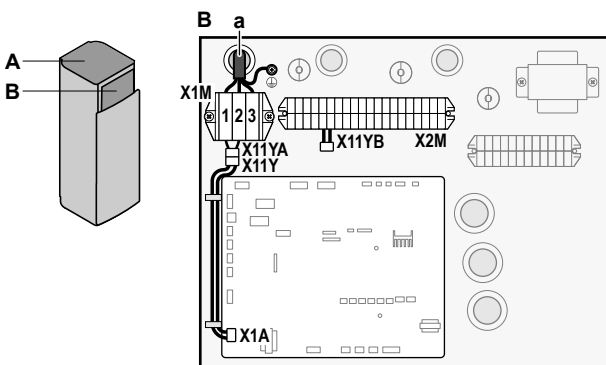
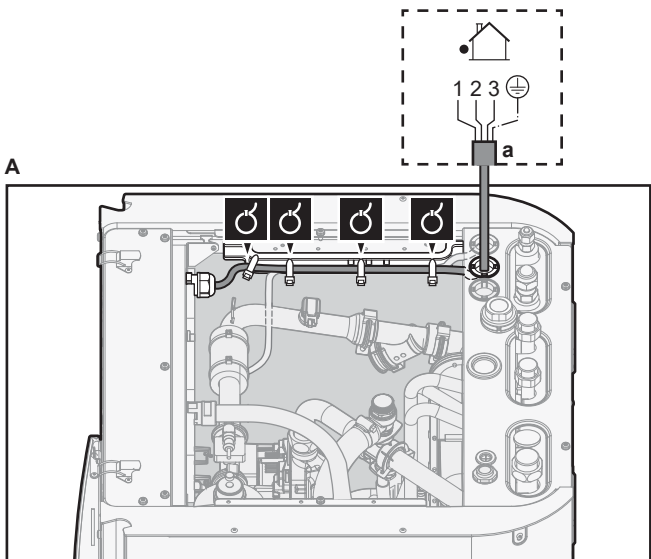
#### NOTICE

The pump is equipped with an anti-blockage safety routine. This means that the pump operates for a short period of time every 24 hours during long periods of inactivity to ensure it does not get stuck. To enable this function, the unit must be connected to the power supply all year round.

- 1 Connect the main power supply.


#### In case of normal kWh rate power supply

 Interconnection cable (= main power supply)	Wires: (3+GND)×1.5 mm <sup>2</sup>
	—



a Interconnection cable (=main power supply)

### 6.3.2 To connect the backup heater power supply

 Backup heater type	Power supply	Wires
*1.5 kW BUH	1N~ 230 V	2+GND



#### WARNING

The backup heater MUST have a dedicated power supply and MUST be protected by the safety devices required by the applicable legislation.



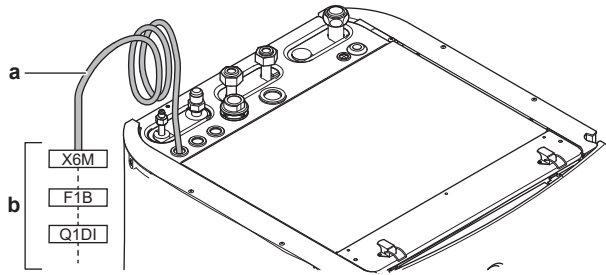
#### CAUTION

To guarantee the unit is completely earthed, ALWAYS connect the backup heater power supply and the earth cable.

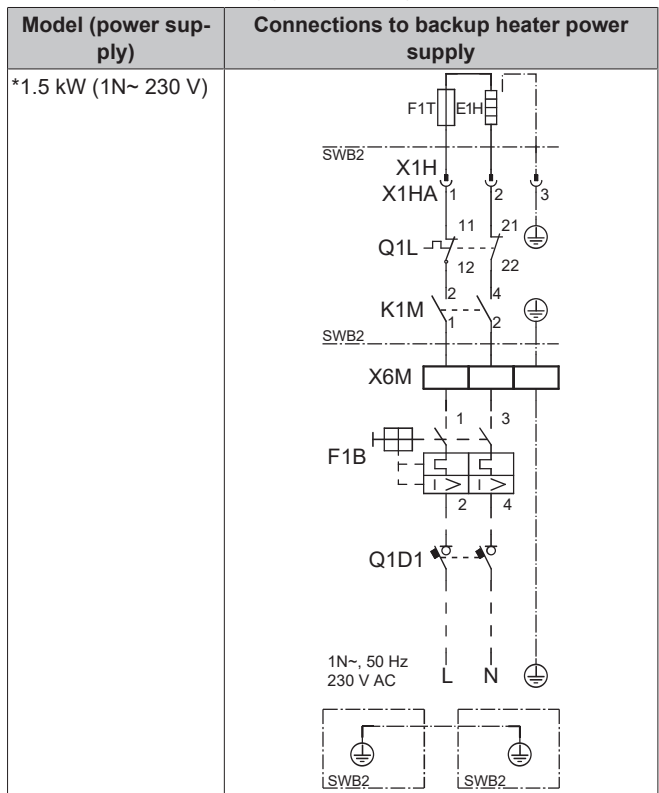
Make sure that the power supply is in accordance with the backup heater capacity, as listed in the table below.

Backup heater type	Backup heater capacity	Power supply	Maximum running current	Z <sub>max</sub>
*1.5 kW BUH	1.5 kW	1N~ 230 V	6.5 A	—

Connect the backup heater power supply as follows:



- Factory-mounted cable connected to the contactor of the backup heater, inside the switch box (K1M)
- Field wiring (see table below)



F1B Overcurrent fuse (field supply). Recommended fuse: 2-pole; 10 A, curve 230 V

- K1M** Contactor (in the lower switch box)
- Q1DI** Earth leakage circuit breaker (field supply)
- SWB** Switch box
- X6M** Terminal (field supply)



### NOTICE

Do NOT cut or remove the backup heater power supply cable.

### 6.3.3 To connect the electricity meters



Wires: 2 (per meter)×0.75 mm<sup>2</sup>

Electricity meters: 12 V DC pulse detection (voltage supplied by PCB)



[9.A] Energy metering



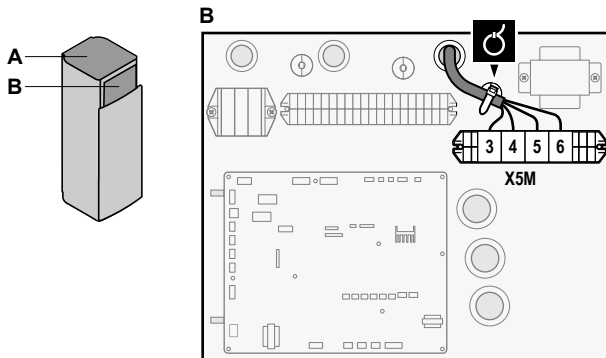
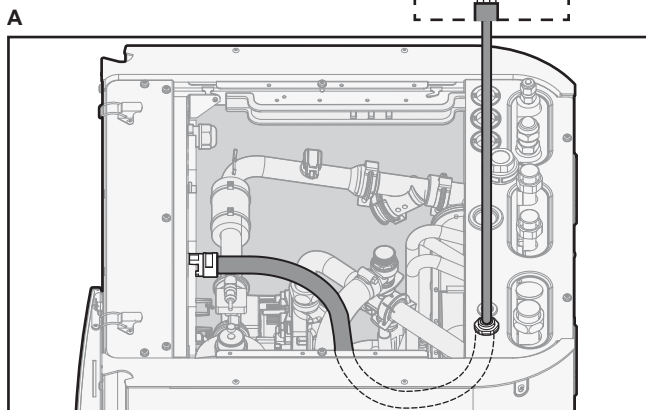
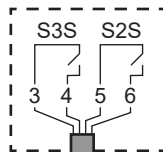
### INFORMATION

In case of an electricity meter with transistor output, check the polarity. The positive polarity MUST be connected to X5M/6 and X5M/4; the negative polarity to X5M/5 and X5M/3.

- 1 Open the following (see "4.2.1 To open the indoor unit" ▶ 13):

1	Top panel	
2	User interface panel	
3	Upper switch box cover	

- 2 Connect the electricity meters cable to the appropriate terminals as shown in the illustration below.



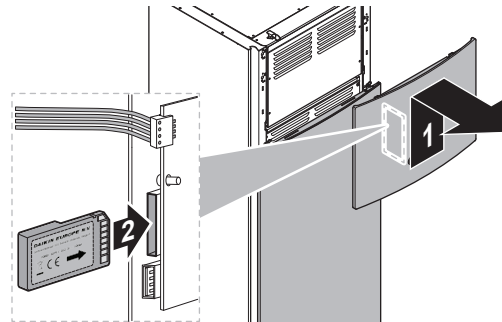
- 3 Fix the cable with cable ties to the cable tie mountings.

### 6.3.4 To connect the WLAN cartridge (delivered as accessory)



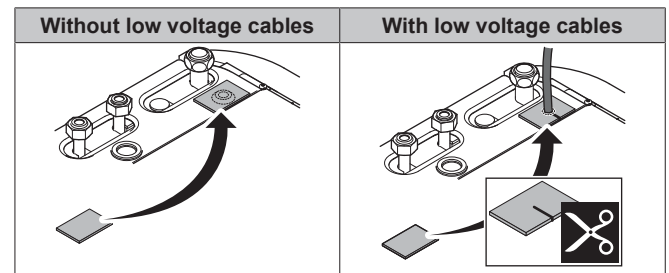
[D] Wireless gateway

- 1 Insert the WLAN cartridge into the cartridge slot on the user interface of the indoor unit.



### 6.4 After connecting the electrical wiring to the indoor unit

To prevent water ingress to the switch box, seal the low voltage wiring intake using the sealing tape (delivered as accessory).



## 7 Configuration

# 7 Configuration

## 7.1 Overview: Configuration

This chapter describes what you have to do and know to configure the system after it is installed.



### NOTICE

This chapter explains only the basic configuration. For more detailed explanation and background information, see the installer reference guide.

### Why

If you do NOT configure the system correctly, it might NOT work as expected. The configuration influences the following:

- The calculations of the software
- What you can see on and do with the user interface

### How

You can configure the system via the user interface.

- **First time – Configuration wizard.** When you turn ON the user interface for the first time (via the unit), the configuration wizard starts to help you configure the system.
- **Restart the configuration wizard.** If the system is already configured, you can restart the configuration wizard. To restart the configuration wizard, go to **Installer settings > Configuration wizard**. To access **Installer settings**, see ["7.1.1 To access the most used commands"](#) [p 22].
- **Afterwards.** If necessary, you can make changes to the configuration in the menu structure or the overview settings.



### INFORMATION

When the configuration wizard is finished, the user interface will show an overview screen and request to confirm. When confirmed, the system will restart and the home screen will be displayed.

### Accessing settings – Legend for tables

You can access the installer settings using two different methods. However, NOT all settings are accessible via both methods. If so, the corresponding table columns in this chapter are set to N/A (not applicable).

Method	Column in tables
Accessing settings via the breadcrumb in the <b>home menu screen</b> or the <b>menu structure</b> . To enable breadcrumbs, press the <b>?</b> button in the home screen.	<b>#</b> For example: [2.9]
Accessing settings via the code in the <b>overview field settings</b> .	<b>Code</b> For example: [C-07]






See also:

- ["To access the installer settings"](#) [p 22]
- ["7.5 Menu structure: Overview installer settings"](#) [p 27]

### 7.1.1 To access the most used commands

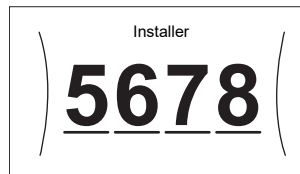
#### To change the user permission level

You can change the user permission level as follows:

1	Go to [B]: User profile.	
2	Enter the applicable pin code for the user permission level.	—
	<ul style="list-style-type: none"> <li>▪ Browse through the list of digits and change the selected digit.</li> </ul>	
	<ul style="list-style-type: none"> <li>▪ Confirm the digit to proceed to the next digit.</li> </ul>	
	OR, move the cursor from left to right.	
	<ul style="list-style-type: none"> <li>▪ Confirm the pin code and proceed.</li> </ul>	

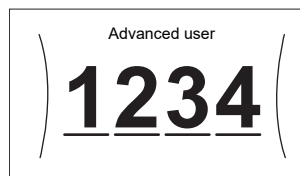
#### Installer pin code

The Installer pin code is **5678**. Additional menu items and installer settings are now available.



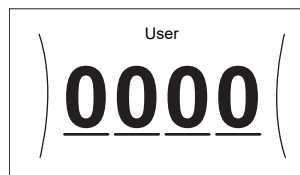
#### Advanced user pin code

The Advanced user pin code is **1234**. Additional menu items for the user are now visible.



#### User pin code

The User pin code is **0000**.




#### To access the installer settings


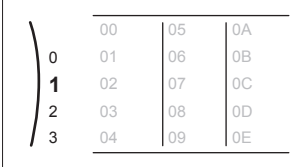

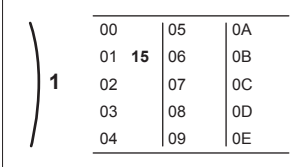

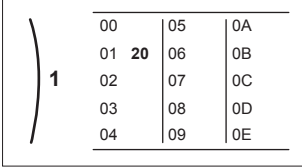


- 1 Set the user permission level to Installer.
- 2 Go to [9]: **Installer settings**.

#### To modify an overview setting

**Example:** Modify [1-01] from 15 to 20.

Most settings can be configured via the menu structure. If for any reason it is required to change a setting using the overview settings, then the overview settings can be accessed as follows:

1	Set the user permission level to Installer. See <a href="#">"To change the user permission level"</a> [p 22].	—
2	Go to [9.1]: <b>Installer settings &gt; Overview field settings</b> .	

3	Turn the left dial to select the first part of the setting and confirm by pressing the dial.	
		
4	Turn the left dial to select the second part of the setting	
		
5	Turn the right dial to modify the value from 15 to 20.	
		
6	Press the left dial to confirm the new setting.	
7	Press the center button to go back to the home screen.	

### INFORMATION

When you change the overview settings and you go back to the home screen, the user interface will show a popup screen and request to restart the system.

When confirmed, the system will restart and recent changes will be applied.

## 7.2 Configuration wizard

After first power ON of the system, the user interface starts a configuration wizard. Use this wizard to set the most important initial settings for the unit to run properly. If required, you can afterwards configure more settings. You can change all these settings via the menu structure.

### Protective functions

The unit is equipped with the following protective function:

- Tank disinfection [2-01]

The unit automatically runs the protective functions when necessary. During installation or service, this behaviour is undesired. Therefore, the protective functions can be disabled. For more information, see the Installer reference guide, chapter Configuration.

### 7.2.1 Configuration wizard: Language

#	Code	Description
[7.1]	N/A	Language

### 7.2.2 Configuration wizard: Time and date

#	Code	Description
[7.2]	N/A	Set the local time and date

### INFORMATION

By default, daylight savings time is enabled and clock format is set to 24 hours. These settings can be changed during initial configuration or via the menu structure [7.2]: User settings > Time/date.

### 7.2.3 Configuration wizard: System

#### Indoor unit type

The indoor unit type is displayed, but cannot be adjusted.

#### Backup heater type

The backup heater is adapted to be connected to most common European electricity grids. The type of backup heater can be viewed but not changed.

#	Code	Description
[9.3.1]	[E-03]	• 2: 1.5V

#### Domestic hot water

The tank type is displayed, but cannot be adjusted.

#### Emergency

When the heat pump fails to operate, the backup heater can serve as an emergency heater. It then takes over the heat load either automatically or by manual interaction.

- When Emergency is set to Automatic and a heat pump failure occurs, the backup heater automatically takes over the domestic hot water production.

- When Emergency is set to Manual and a heat pump failure occurs, the domestic hot water heating stops.

To manually recover it via the user interface, go to the Malfunctioning main menu screen and confirm whether the backup heater can take over the heat load or not.

To keep energy consumption low, we recommend to set Emergency to Manual if the house is unattended for longer periods.

#	Code	Description
[9.5.1]	[4-06]	• 0: Manual • 1: Automatic

### INFORMATION

The auto emergency setting can be set in the menu structure of the user interface only.

### 7.2.4 Configuration wizard: Backup heater

The backup heater is adapted to be connected to most common European electricity grids. The voltage, configuration and capacity of the backup heater can be found on the user interface.

#### Backup heater type

The backup heater is adapted to be connected to most common European electricity grids. The type of backup heater can be viewed but not changed.

#	Code	Description
[9.3.1]	[E-03]	• 2: 1.5V

#### Voltage

- For a 1.5V model, this is set to:
  - 230V, 1ph

#	Code	Description
[9.3.2]	[5-0D]	• 0: 230V, 1ph

#### Configuration

The backup heater configuration can be viewed but not changed. The backup heater will operate with 1-step only.

#	Code	Description
[9.3.3]	[4-0A]	• 0: 1.5 kW

#### Capacity step 1

#	Code	Description
[9.3.4]	[6-03]	• The capacity of the first step of the backup heater at nominal voltage.

## 7 Configuration

### 7.2.5 Configuration wizard: Tank



#### INFORMATION

To make tank defrost possible, we recommend a minimum tank temperature of 35°C.

#### Heat up mode

The domestic hot water can be prepared in 3 different ways. They differ from each other by the way the desired tank temperature is set and how the unit acts upon it.

#	Code	Description
[5.6]	[6-0D]	Heat up mode: <ul style="list-style-type: none"> <li>▪ 0: Reheat only: Only reheat operation is allowed.</li> <li>▪ 1: Schedule + reheat: The domestic hot water tank is heated according to a schedule and between the scheduled heat up cycles, reheat operation is allowed.</li> <li>▪ 2: Schedule only: The domestic hot water tank can ONLY be heated according to a schedule.</li> </ul>

See the operation manual for more details.

#### Settings for Reheat only mode

During Reheat only mode, the tank setpoint can be set on the user interface. The maximum allowed temperature is determined by the following setting:

#	Code	Description
[5.8]	[6-0E]	Maximum: The maximum temperature that users can select for the domestic hot water. You can use this setting to limit the temperature at the hot water taps.  The maximum temperature is NOT applicable during disinfection function. See disinfection function.



#### INFORMATION

The installer is allowed to select maximum between 60°C~65°C. A higher setpoint selection can cause a high power consumption due to the backup heater only operation zone.

To set the heat pump ON hysteresis:

#	Code	Description
[5.9]	[6-00]	Heat pump ON hysteresis <ul style="list-style-type: none"> <li>▪ 2°C~40°C</li> </ul>

#### Settings for Schedule only mode and Schedule + reheat mode

##### Comfort setpoint

Only applicable when domestic hot water preparation is Schedule only or Schedule + reheat. When programming the schedule, you can make use of the comfort setpoint as a preset value. When you later want to change the storage setpoint, you only have to do it in one place.

The tank will heat up until the **storage comfort temperature** has been reached. It is the higher desired temperature when a storage comfort action is scheduled.

Additionally, a storage stop can be programmed. This feature puts a stop to tank heating even if the setpoint has NOT been reached. Only program a storage stop when tank heating is absolutely undesirable.

#	Code	Description
[5.2]	[6-0A]	Comfort setpoint: <ul style="list-style-type: none"> <li>▪ 30°C~[6-0E]°C</li> </ul>

##### Eco setpoint

The **storage economic temperature** denotes the lower desired tank temperature. It is the desired temperature when a storage economic action is scheduled (preferably during day).

#	Code	Description
[5.3]	[6-0B]	Eco setpoint: <ul style="list-style-type: none"> <li>▪ 30°C~min(50,[6-0E])°C</li> </ul>

##### Reheat setpoint

**Desired reheat tank temperature**, used:

- in Schedule + reheat mode, during reheat mode: the guaranteed minimum tank temperature is set by the Reheat setpoint minus the reheat hysteresis. If the tank temperature drops below this value, the tank is heated up.

#	Code	Description
[5.4]	[6-0C]	Reheat setpoint: <ul style="list-style-type: none"> <li>▪ 30°C~min(50,[6-0E])°C</li> </ul>

##### Hysteresis (reheat hysteresis)

Applicable when domestic hot water preparation is scheduled+reheat. When the tank temperature drops below the reheat temperature minus the reheat hysteresis temperature, the tank heats up to the reheat temperature.

#	Code	Description
[5.A]	[6-08]	Reheat hysteresis <ul style="list-style-type: none"> <li>▪ 2°C~20°C</li> </ul>

## 7.3 Weather-dependent curve

### 7.3.1 What is a weather-dependent curve?

#### Weather-dependent operation

The unit operates 'weather-dependent' if the desired tank temperature is determined automatically by the outdoor temperature. It therefore is connected to a temperature sensor on the north wall of the building. If the outdoor temperature drops or rises, the unit compensates instantly. Thus, the unit does not have to wait for feedback by the thermostat to increase or decrease the temperature of the tank. Because it reacts more quickly, it prevents high rises and drops of the water temperature at tap points.

#### Advantage

Weather-dependent operation reduces energy consumption.

#### Weather-dependent curve

To be able to compensate for differences in temperature, the unit relies on its weather-dependent curve. This curve defines how much the temperature of the tank or leaving water must be at different outdoor temperatures. Because the slope of the curve depends on local circumstances such as climate and the insulation of the building, the curve can be adjusted by an installer or user.

#### Types of weather-dependent curve

There are 2 types of weather-dependent curves:

- 2-points curve
- Slope-offset curve

Which type of curve you use to make adjustments, depends on your personal preferences. See "7.3.4 Using weather-dependent curves" [p 26].

#### Availability

The weather-dependent curve is available for:

- Tank



#### INFORMATION

To operate weather-dependent, correctly configure the setpoint of the tank. See "7.3.4 Using weather-dependent curves" [p 26].

### 7.3.2 Slope-offset curve

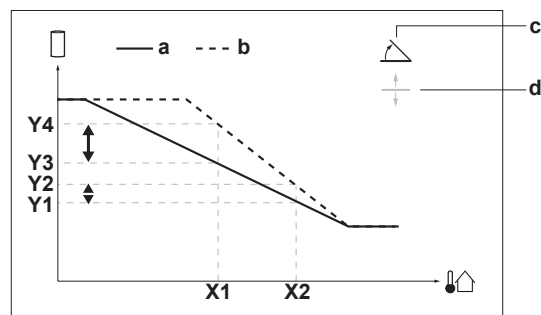
#### Slope and offset

Define the weather-dependent curve by its slope and offset:

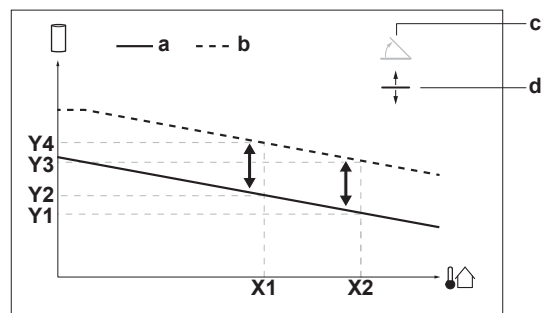
- Change the **slope** to differently increase or decrease the target temperature of the tank for different ambient temperatures. For example, if tank water temperature is in general fine but at low ambient temperatures too cold, raise the slope so that the tank temperature is heated increasingly more at decreasingly lower ambient temperatures.
- Change the **offset** to equally increase or decrease the target temperature of the tank for different ambient temperatures. For example, if the tank temperature is always a bit too cold at different ambient temperatures, shift the offset up to equally increase the tank target temperature for all ambient temperatures.

#### Examples

Weather-dependent curve when slope is selected:



Weather-dependent curve when offset is selected:



Item	Description
a	WD curve before changes.
b	WD curve after changes (as example): <ul style="list-style-type: none"> <li>• When slope is changed, the new preferred temperature at X1 is unequally higher than the preferred temperature at X2.</li> <li>• When offset is changed, the new preferred temperature at X1 is equally higher as the preferred temperature at X2.</li> </ul>
c	Slope
d	Offset
X1, X2	Examples of outdoor ambient temperature
Y1, Y2, Y3, Y4	Examples of desired tank temperature. The icon corresponds to the domestic hot water tank: <ul style="list-style-type: none"> <li>• : Domestic hot water tank</li> </ul>

Possible actions on this screen	
	Select slope or offset.
	Increase or decrease the slope/offset.
	When slope is selected: set slope and go to offset. When offset is selected: set offset.
	Confirm changes and return to the submenu.

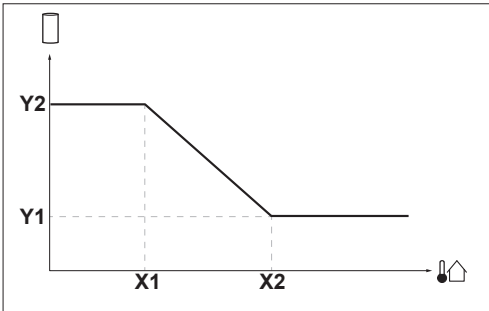
## 7 Configuration

### 7.3.3 2-points curve

Define the weather-dependent curve with these two setpoints:

- Setpoint (X1, Y2)
- Setpoint (X2, Y1)

#### Example



Item	Description
X1, X2	Examples of outdoor ambient temperature
Y1, Y2	Examples of desired tank temperature. The icon corresponds to the domestic hot water tank: <ul style="list-style-type: none"> <li>• : Domestic hot water tank</li> </ul>

Possible actions on this screen	
	Go through the temperatures.
	Change the temperature.
	Go to the next temperature.
	Confirm changes and proceed.

### 7.3.4 Using weather-dependent curves

Configure weather-dependent curves as following:

#### To define the setpoint mode

To use the weather-dependent curve, you need to define the correct setpoint mode.

Go to setpoint mode ...	Set the setpoint mode to ...
<b>Tank</b>	
[5.B] Tank > Setpoint mode	<b>Restriction:</b> Only available to installers. Weather dependent

#### To change the type of weather-dependent curve

To change the type of the weather-dependent curve for the tank, go to [5.E] Tank > WD curve type

**Restriction:** Only available for installers.

#### To change the weather-dependent curve

Zone	Go to ...
<b>Tank</b>	<b>Restriction:</b> Only available to installers. [5.C] Tank > WD curve



#### INFORMATION

##### Maximum and minimum setpoints

You cannot configure the curve with temperatures that are higher or lower than the set maximum and minimum setpoints for the tank. When the maximum or minimum setpoint is reached, the curve flattens out.

#### To fine-tune the weather-dependent curve: slope-offset curve

The following table describes how to fine-tune the weather-dependent curve of the tank:

The domestic hot water temperature is ...		Fine-tune with slope and offset:	
At regular outdoor temperatures ...	At cold outdoor temperatures ...	Slope	Offset
Hot	OK	↑	↓
Hot	Cold	↑	↓
Hot	Hot	–	↓

See "7.3.2 Slope-offset curve" [▶ 25].

#### To fine-tune the weather-dependent curve: 2-points curve

The following table describes how to fine-tune the weather-dependent curve of the tank:

The domestic hot water temperatures is ...		Fine-tune with set-points:			
At regular outdoor temperatures ...	At cold outdoor temperatures ...	Y2 <sup>(a)</sup>	Y1 <sup>(a)</sup>	X1 <sup>(a)</sup>	X2 <sup>(a)</sup>
OK	Cold	↑	–	↑	–
OK	Hot	↓	–	↓	–
Cold	OK	–	↑	–	↑
Cold	Cold	↑	↑	↑	↑
Cold	Hot	↓	↑	↓	↑
Hot	OK	–	↓	–	↓
Hot	Cold	↑	↓	↑	↓
Hot	Hot	↓	↓	↓	↓

<sup>(a)</sup> See "7.3.3 2-points curve" [▶ 26].

## 7.4 Settings menu

You can set additional settings using the main menu screen and its submenus. The most important settings are presented here.

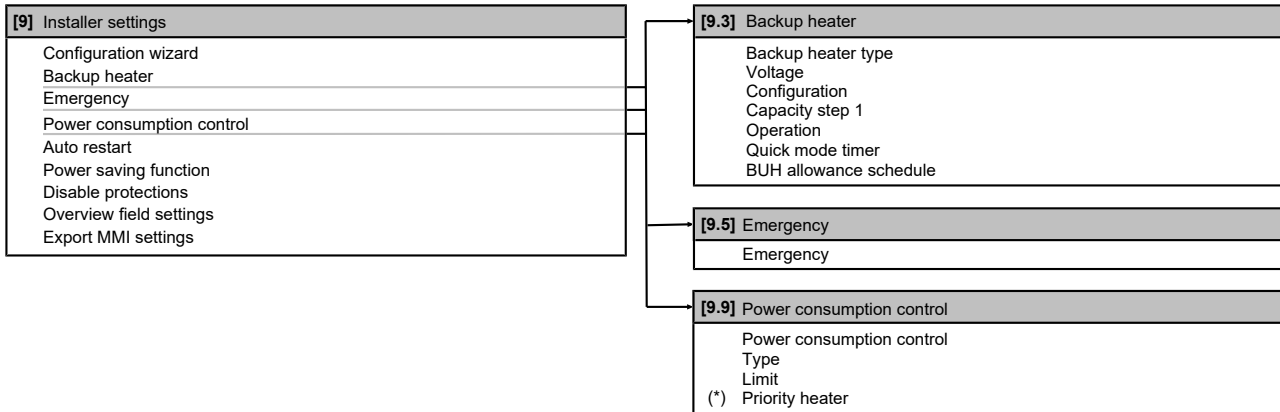
### 7.4.1 Information

#### Dealer information

The installer can fill in his contact number here.

#	Code	Description
[8.3]	N/A	Number that users can call in case of problems.

## 7.5 Menu structure: Overview installer settings



(\*) Can NOT be adjusted



### INFORMATION

Depending on the selected installer settings and unit type, settings will be visible/invisible.

## 8 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.



### NOTICE

The pump is equipped with an anti-blockage safety routine. This means that the pump operates for a short period of time every 24 hours during long periods of inactivity to ensure it does not get stuck. To enable this function, the unit must be connected to the power supply all year round.



### NOTICE



Make sure the air purge valve on the backup heater is open. This valve must remain open after commissioning.



### NOTICE

**Pump.** To prevent blocking of the pump rotor, commission the unit as quickly as possible after filling the water circuit.



### INFORMATION

**Protective functions – "Installer-on-site mode".** The software is equipped with protective functions, such as Legionella disinfection function. The unit automatically runs this function according to its scheduled time.

- **At first power-on:** The protective functions are disabled by default. After 12 hours they will be automatically enabled.
- **Afterwards:** An installer can manually disable the protective functions by setting [9.G]: Disable protections = Yes. After his work is done, he can enable the protective functions by stating [9.G]: Disable protections = No.

Also see "[Protective functions](#)" [▶ 23].



### INFORMATION

In the case of an outdoor unit and tank-only connection, the backup heater may be used instead of the heat pump during cold outdoor conditions. This can occur within the first 7 hours after the power supply is turned on to ensure reliable compressor operation.

## 8.1 Checklist before commissioning

- 1 After the installation of the unit, ensure that the user interface (MMI) software is version 7.7.0 or higher. If not, upgrade it and check the items listed below.
- 2 Close the unit.
- 3 Power up the unit.

<input type="checkbox"/>	You read the complete installation instructions, as described in the <b>installer reference guide</b> .
<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 following <b>field wiring</b> has been carried out according to this document and the applicable legislation: <ul style="list-style-type: none"> <li>▪ Between the local supply panel and the outdoor unit</li> <li>▪ Between indoor unit and outdoor unit</li> <li>▪ Between the local supply panel and the indoor unit</li> <li>▪ Between the indoor unit and the valves (if applicable)</li> </ul>
<input type="checkbox"/>	The system is properly <b>earthed</b> and the earth terminals are tightened.
<input type="checkbox"/>	The <b>fuses, circuit breakers, or locally installed protection devices</b> are of the size and type specified in the chapter " <a href="#">6 Electrical installation</a> " [▶ 19], and have NOT been bypassed.
<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"/>	<b>Backup heater circuit breaker F1B</b> (field supply) is turned ON.
<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"/>	There is NO <b>water leak</b> inside the indoor unit.
<input type="checkbox"/>	The <b>stop valves</b> (gas and liquid) on the outdoor unit are fully open.
<input type="checkbox"/>	The <b>air purge</b> valve is open (at least 2 turns).
<input type="checkbox"/>	The <b>pressure relief valve</b> (DHW tank circuit) purges water when opened. Clean water <b>MUST</b> come out.
<input type="checkbox"/>	The <b>minimum water volume</b> <sup>(1)</sup> is guaranteed in all conditions. See "To check the water volume and flow rate" in " <a href="#">5.3 Preparing water piping</a> " [▶ 16].
<input type="checkbox"/>	The <b>domestic hot water tank</b> is filled completely.

<sup>(1)</sup> Make sure that the closed loop system is fully filled in with water. Once the air purge is finished, make sure that the closed loop system has enough water.

## 8.2 Checklist during commissioning

<input type="checkbox"/>	To perform an <b>air purge</b> .
<input type="checkbox"/>	To check that the <b>minimum flow rate</b> <sup>(1)</sup> during backup heater/defrost operation is guaranteed in all conditions. See "To check the water volume and flow rate" in "5.3 Preparing water piping" [▶ 16].
<input type="checkbox"/>	To perform an <b>actuator test run</b> .
<input type="checkbox"/>	To perform a <b>test run</b> .

### 8.2.1 To check the minimum flow rate

1	Make sure that the water circuit and the water tank volume is filled in with water.	—
2	Start the pump test run (see "8.2.3 To perform an actuator test run" [▶ 29]).	—
3	Read out the flow rate <sup>(a)</sup> to reach the minimum required flow rate + 2 l/min.	—

<sup>(a)</sup> During pump test run, the unit can operate below the minimum required flow rate.

If operation is...	Then the minimum required flow rate is...
Domestic hot water production/defrost	22 l/min

### 8.2.2 To perform an air purge

**Conditions:** Make sure all operation is disabled. Go to [C]: Operation and turn off Tank operation.

1	Set the user permission level to Installer. See "To change the user permission level" [▶ 22].	—
2	Go to [A.3]: Commissioning > Air purge.	
3	Select OK to confirm. <b>Result:</b> The air purge starts. It stops automatically when air purge cycle is finished. To stop the air purge manually:	
1	Go to Stop air purge.	
2	Select OK to confirm.	

### 8.2.3 To perform an actuator test run

#### Purpose

Perform an actuator test run to confirm the operation of the different actuators. For example, when you select Pump, a test run of the pump will start.

**Conditions:** Make sure all operation is disabled. Go to [C]: Operation and turn off Tank operation.

1	Set the user permission level to Installer. See "To change the user permission level" [▶ 22].	—
2	Go to [A.2]: Commissioning > Actuator test run.	
3	Select a test from the list. <b>Example:</b> Pump.	
4	Select OK to confirm. <b>Result:</b> The actuator test run starts. It stops automatically when ready (±30 min). To stop the test run manually:	
1	In the menu, go to Stop test run.	
2	Select OK to confirm.	

## Possible actuator test runs

- Backup heater 1 test
- Pump test



### INFORMATION

Make sure that all air is purged before executing the test run. Also avoid disturbances in the water circuit during the test run.

### 8.2.4 To perform an operation test run

**Conditions:** Make sure all operation is disabled. Go to [C]: Operation and turn off Tank operation.

1	Set the user permission level to Installer. See "To change the user permission level" [▶ 22].	—
2	Go to [A.1]: Commissioning > Operation test run.	
3	Select the Tank.	
4	Select OK to confirm. <b>Result:</b> The test run starts. It stops automatically when ready (±30 min). To stop the test run manually:	
1	In the menu, go to Stop test run.	
2	Select OK to confirm.	



### INFORMATION

If the outdoor temperature is outside the range of operation, the unit may NOT operate or may NOT deliver the required capacity.



### INFORMATION

Under specific conditions, the compressor may remain OFF to ensure oil reliability in case the AC unit is not connected.

### To monitor tank temperatures

During test run, the correct operation of the unit can be checked by monitoring its tank temperature (domestic hot water mode).

To monitor the temperatures:

1	In the menu, go to Sensors.	
2	Select the temperature information.	

<sup>(1)</sup> If the air purge is done correctly, this flow rate should be reached.

## 9 Maintenance and service

### 9 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.

### 9.1 Overview: Maintenance and service

This chapter contains information about:

- The yearly maintenance of the indoor unit
- Draining the domestic hot water tank
- Inspecting the inside of the domestic hot water tank
- Cleaning the water filter in case of trouble

### 9.2 Maintenance safety precautions

 **DANGER: RISK OF ELECTROCUTION**

 **DANGER: RISK OF BURNING/SCALDING**

#### NOTICE: Risk of electrostatic discharge

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

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

Check the following at least once a year:

- Water pressure
- Water pressure relief valve
- Relief valve hose
- Pressure relief valve of the domestic hot water tank
- Switch box
- Descaling
- Chemical disinfection
- Pressure reducing valve of the domestic hot water tank kit
- Temperature and pressure relief valve

#### Water pressure

Keep water pressure above 1 bar. If it is lower, add water.

#### Water pressure relief valve

Open the valve and check if it operates correctly. **The water may be very hot!**

Checkpoints are:

- The water flow coming from the relief valve is high enough, no blockage of the valve or in between piping is suspected.

- Dirty water coming out of the relief valve:
  - open the valve until the discharged water does NOT contain dirt anymore
  - flush the system

To make sure this water originates from the tank, check after a tank heat up cycle.

It is recommended to do this maintenance more frequently.

#### Pressure relief valve hose

Check whether the pressure relief valve hose is positioned appropriately to drain the water. See "[4.3.1 To connect the drain hose to the drain](#)" [▶ 15].

#### Pressure relief valve of the domestic hot water tank

Open the valve.



#### CAUTION

Water coming out of the valve may be very hot.

- Check if nothing blocks the water in the valve or in between piping. The water flow coming from the relief valve must be high enough.
- Check if the water coming out of the relief valve is clean. If it contains debris or dirt:
  - Open the valve until the discharged water does not contain debris or dirt anymore.
  - Flush and clean the complete tank, including the piping between the relief valve and cold water inlet.

To make sure this water originates from the tank, check after a tank heat up cycle.



#### INFORMATION

It is recommended to perform this maintenance more than once a year.

#### Switch box

- Carry out a thorough visual inspection of the switch box and look for obvious defects such as loose connections or defective wiring.
- Using an ohmmeter, check if contactors K1M, K2M, K3M and K5M (depending on your installation) operate correctly. All contacts of these contactors must be in open position when the power is turned OFF.



#### WARNING

If the internal wiring is damaged, it has to be replaced by the manufacturer, its service agent or similarly qualified persons.

#### Descaling

Depending on water quality and set temperature, scale can deposit on the heat exchanger inside the domestic hot water tank and can restrict heat transfer. For this reason, descaling of the heat exchanger may be required at certain intervals.

#### Chemical disinfection

If the applicable legislation requires a chemical disinfection in specific situations, involving the domestic hot water tank, please be aware that the domestic hot water tank is a stainless steel cylinder. We recommend to use a non-chloride based disinfectant approved for use with water intended for human consumption.

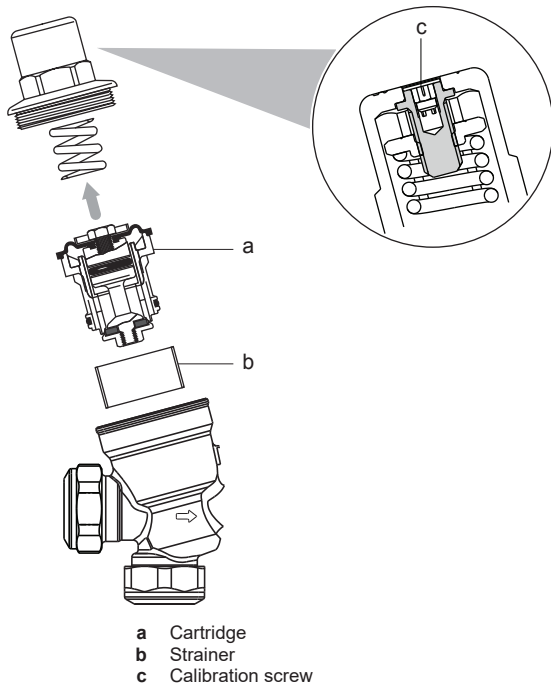


#### NOTICE

When using means for descaling or chemical disinfection, make sure water quality still complies with EU directive 2020/2184.

**Pressure reducing valve**

Depending on local water conditions, annual inspection of the integral line strainer, pressure reducing valve cartridge and seating may be necessary.



- 1 Unscrew the plastic cover of the pressure reducing valve.
- 2 Extract the cartridge with the aid of long nosed pliers to grip the head of the set screw.
- 3 Remove the strainer element.
- 4 Clean the strainer element and cartridge under clean running water.
- 5 Replace if the strainer or cartridge are damaged.
- 6 Refit the strainer, cartridge and cover.
- 7 If the cartridge has been replaced, calibrate the pressure reducing valve:
  - Close the downstream isolating valve (field supply).
  - Install an Allen key on the calibration screw in the centre of the plastic cover. Rotate it clockwise to increase the outlet pressure and anticlockwise to reduce it.

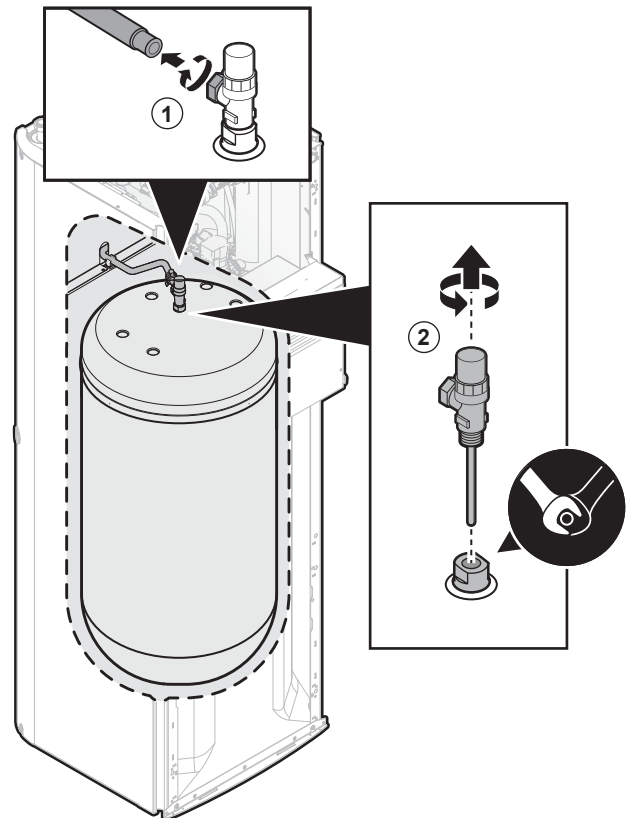
**Temperature and pressure relief valve**

Check for correct operation of the temperature and pressure relief valve. Manually operate the temperature and pressure relief valve to ensure free water flow through discharge pipe. Turn knob left.

**9.4 To drain the domestic hot water tank**

**DANGER: RISK OF BURNING/SCALDING**  
The water in the tank can be very hot.

- Prerequisite:** Stop the unit operation via the user interface.
- Prerequisite:** Turn OFF the respective circuit breaker.
- Prerequisite:** Close the cold water supply.
- Prerequisite:** Open all the hot water tapping points to allow air to enter the system.
- 1 Remove the top panel. See "4.2.1 To open the indoor unit" [p 13].
  - 2 Remove the user interface panel. See "4.2.1 To open the indoor unit" [p 13].
  - 3 Lower the switchbox. See "4.2.2 To lower the switch box" [p 14].
  - 4 Remove the tube from the temperature and pressure relief valve that is located on top of the tank.
  - 5 Remove the temperature and pressure relief valve from the tank.
  - 6 Use a drain hose and a pump to drain the tank via the access point.



7 Tightening torques for installation:

Item	Tightening torque
Tube connection	30 N•m
Temperature and pressure relief valve	40 N•m

## 10 Hand-over to the user

### 9.5 To inspect the inside of the domestic hot water tank



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

The water in the tank can be very hot.

**Prerequisite:** Stop the unit operation via the user interface.

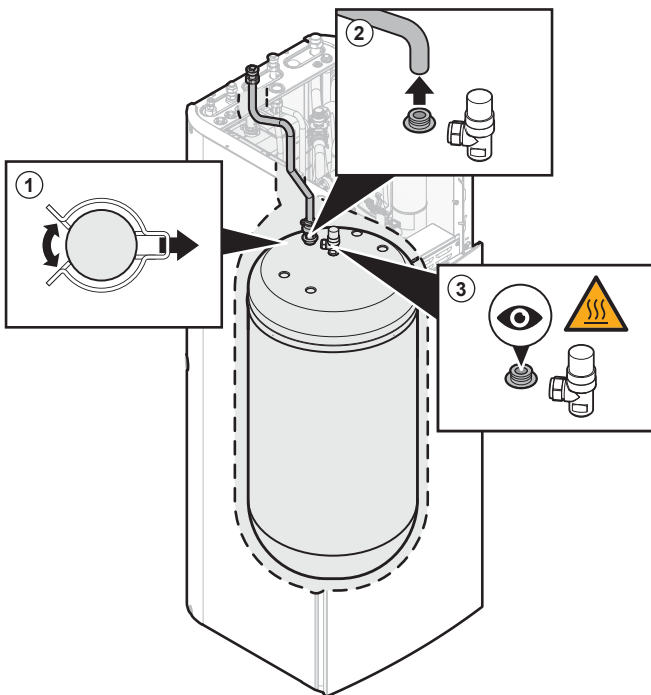
**Prerequisite:** Turn OFF the respective circuit breaker.

**Prerequisite:** Close the cold water supply.

**Prerequisite:** Open all the hot water tapping points to allow air to enter the system.

**Prerequisite:** Remove the top panel. See "[4.2.1 To open the indoor unit](#)" [p 13].

- 1 Remove the clip that fixes the domestic hot water OUT pipe.
- 2 Disconnect the pipe such that the tank is accessible for visual inspection (e.g. with an endoscope).



- 3 Reconnect the pipe to the tank.
- 4 Reinstall the clip to fix the domestic hot water OUT pipe.

## 10 Hand-over to the user

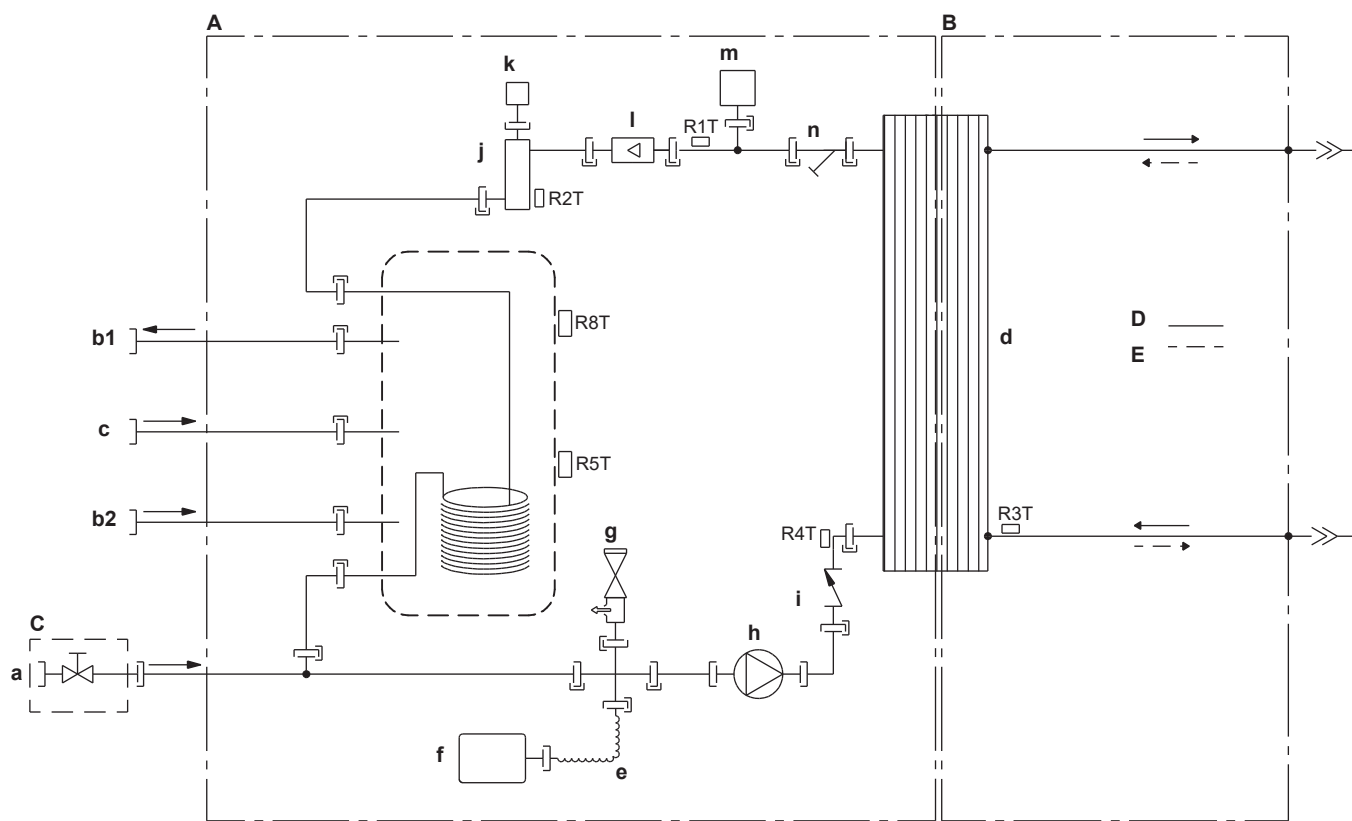
Once the test run is finished and the unit operates properly, make sure the following is clear for the user:

- Fill in the installer setting table (in the operation manual) with the actual settings.
- Make sure that the user has the printed documentation and ask him/her to keep it for future reference. Inform the user that he/she can find the complete documentation at the URL mentioned earlier in this manual.
- Explain to the user how to properly operate the system and what to do in case of problems.
- Show the user what to do for the maintenance of the unit.
- Explain about energy saving tips to the user as described in the operation manual.

## 11 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).

### 11.1 Piping diagram: Indoor unit



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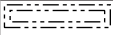
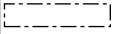
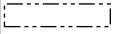
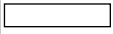
- A** Water side  
**B** Refrigerant side  
**C** Field installed  
**D** Evaporator  
**E** Condenser  
**a** Filler pipe water inlet  
**b1** Domestic hot water: hot water out  
**b2** Domestic hot water: cold water in  
**c** Recirculation connection  
**d** Plate heat exchanger  
**e** Flexible pipe  
**f** Expansion vessel  
**g** Safety valve  
**h** Pump  
**i** Check valve  
**j** Backup heater  
**k** Automatic air purge valve  
**l** Flow sensor  
**m** Water pressure sensor  
**n** Filter
- Thermistors**  
**R1T** Outlet water heat exchange thermistor  
**R2T** Outlet water backup heater thermistor  
**R3T** Thermistor (heat exchange, liquid pipe)  
**R4T** Inlet water thermistor  
**R5T** Tank thermistor  
**R8T** Tank thermistor

## 11 Technical data

### 11.2 Wiring diagram: Indoor unit

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

#### Notes to go through before starting the unit

English	Translation
Notes to go through before starting the unit	Notes to go through before starting the unit
X1M	Main terminal
X2M	Field wiring terminal for AC
X5M	Field wiring terminal for DC
X6M	Backup heater power supply terminal
-----	Earth wiring
-----	Field supply
①	Several wiring possibilities
	Option
	Not mounted in switch box
	Wiring depending on model
	PCB
Note 1: Connection point of the power supply for the BUH should be foreseen outside the unit.	Note 1: Connection point of the power supply for the backup heater should be foreseen outside the unit.
<b>Backup heater power supply</b>	<b>Backup heater power supply</b>
<input type="checkbox"/> 3V (1N~, 230 V, 1.5 kW)	<input type="checkbox"/> 3V (1N~, 230 V, 1.5 kW)
<b>User installed options</b>	<b>User installed options</b>
<input type="checkbox"/> Remote user interface	<input type="checkbox"/> Remote user interface
<input type="checkbox"/> WLAN adapter module	<input type="checkbox"/> WLAN adapter module
<input type="checkbox"/> WLAN cartridge	<input type="checkbox"/> WLAN cartridge

#### Position in switch box

English	Translation
Position in switch box	Position in switch box

#### Legend

A1P		Main PCB
A11P		Main PCB of the MMI (= user interface of the indoor unit)
A14P	*	User interface PCB
A20P	*	WLAN module
F1B	#	Overcurrent fuse backup heater
F2B	#	Overcurrent fuse main
FU1 (A1P)		Fuse T 5 A 250 V for PCB
K1M		Contacteur backup heater
M2P	#	Domestic hot water pump
Q1L		Thermal protector backup heater
Q*DI	#	Earth leakage circuit breaker
R1T (A14P)	*	Ambient sensor user interface
TR1		Power supply transformer
X6M	#	Backup heater power supply terminal strip
J*, X*, X*A, X*Y		Connector
X*M		Terminal strip

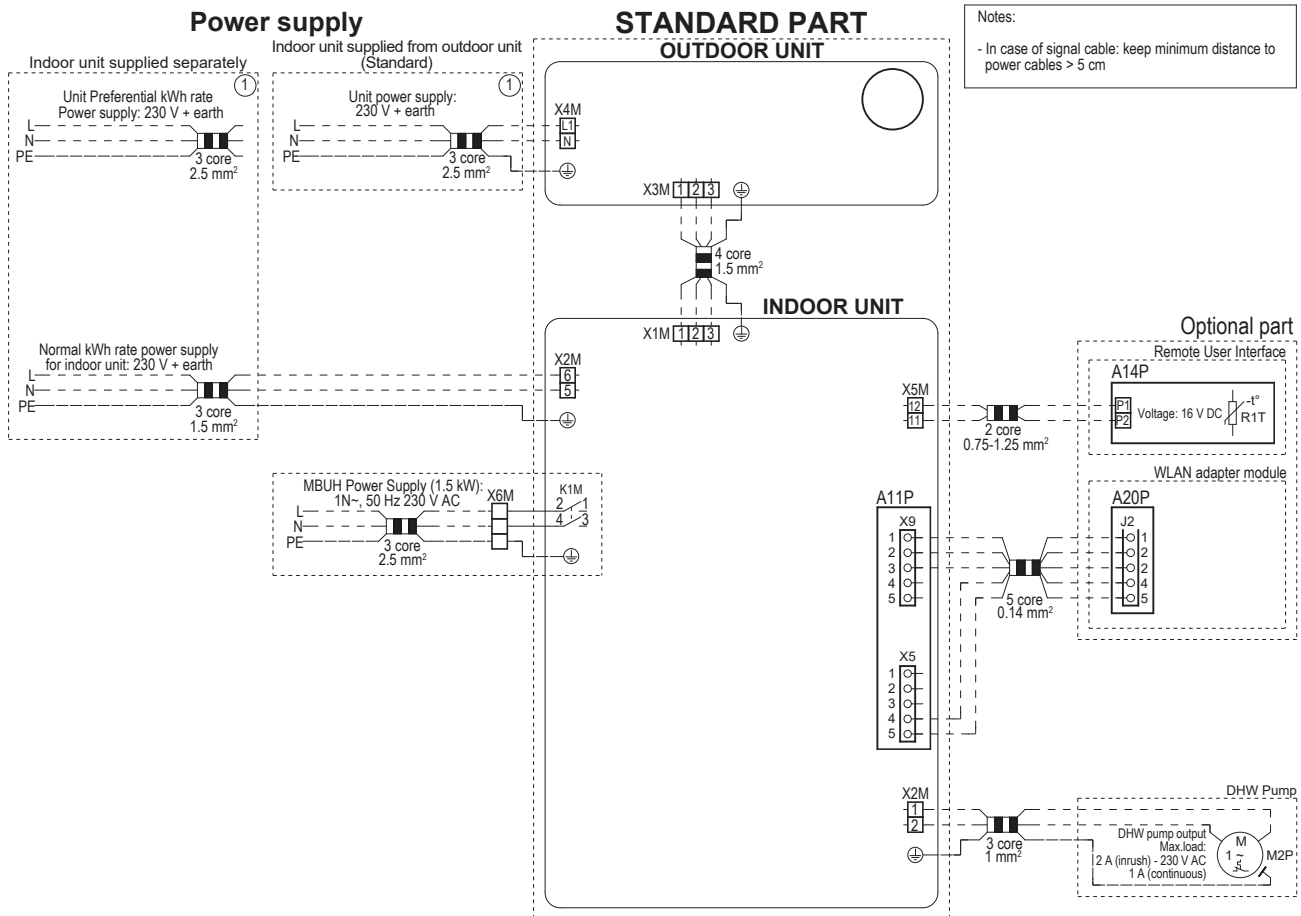
- \* Optional
- # Field supply

#### Translation of text on wiring diagram

English	Translation
(1) Main power connection	(1) Main power connection
2-pole fuse	2-pole fuse
Indoor unit supplied from outdoor (standard)	Indoor unit supplied from outdoor (standard)
Indoor unit supplied separately	Indoor unit supplied separately
Normal kWh rate power supply	Normal kWh rate power supply
Outdoor unit	Outdoor unit
(2) Backup heater power supply	(2) Backup heater power supply
2-pole fuse	2-pole fuse
Internal BUH	Internal backup heater
SWB	Switch box
(3) Options	(3) Options
Remote user interface	Remote user interface
SD card	Card slot for WLAN cartridge
SWB	Switch box
WLAN adapter module	WLAN adapter module
WLAN cartridge	WLAN cartridge
(4) Field supplied options	(4) Field supplied options
1 A (continuous)	1 A (continuous)
2 A (inrush) - 230 V AC	2 A (inrush) – 230 V AC
DHW pump	Domestic hot water pump
DHW pump output	Domestic hot water pump output
Max. load	Maximum load
SWB	Switch box

**Electrical connection diagram**

For more details, please check the unit wiring.



4D155602

## 11 Technical data

### 11.3 Technical specifications: Domestic hot water tank

#### 11.3.1 Test results in accordance with EN12897 (2016)



##### INFORMATION

This unit has been tested and approved according to BS EN12897:2016

Description	Hot water capacity	Reheat time
CKHWSU230BJV3	207 l	22 min

#### 11.3.2 Warning label

##### WARNING TO USER

- Do not remove or adjust any component part of this installation. Contact the installer.
- Should the system develop a fault, switch the system off and contact the installer.

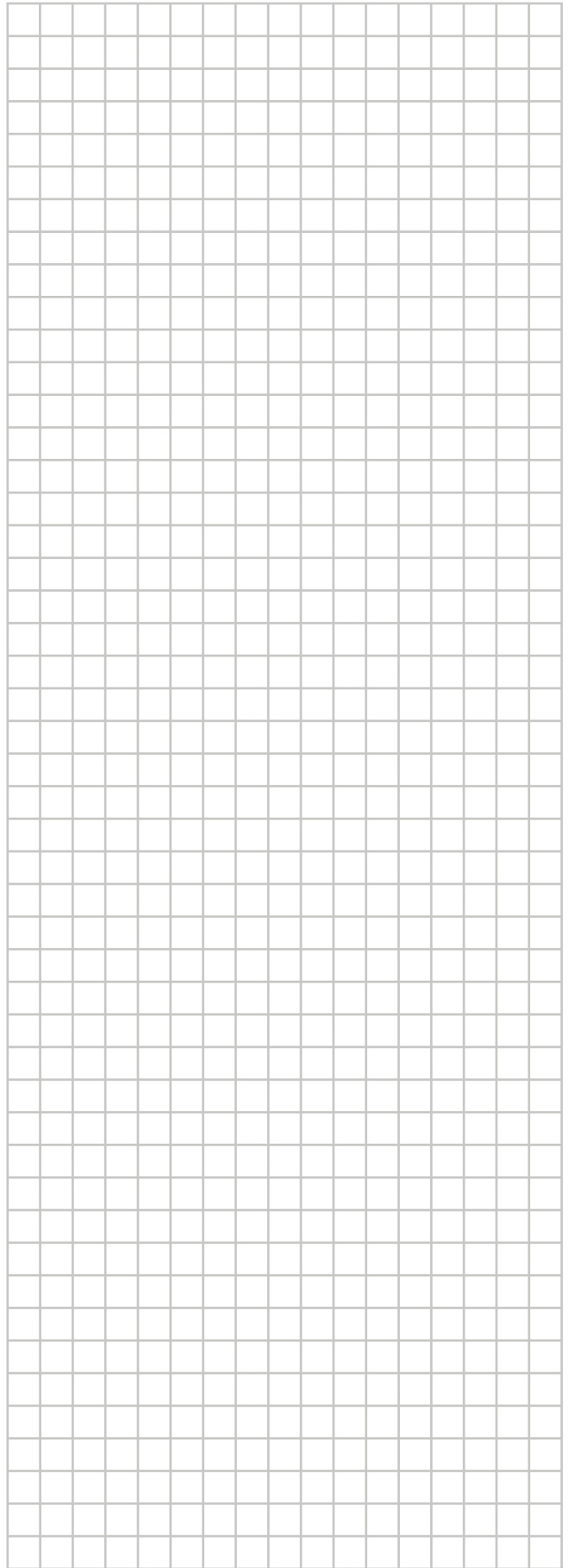
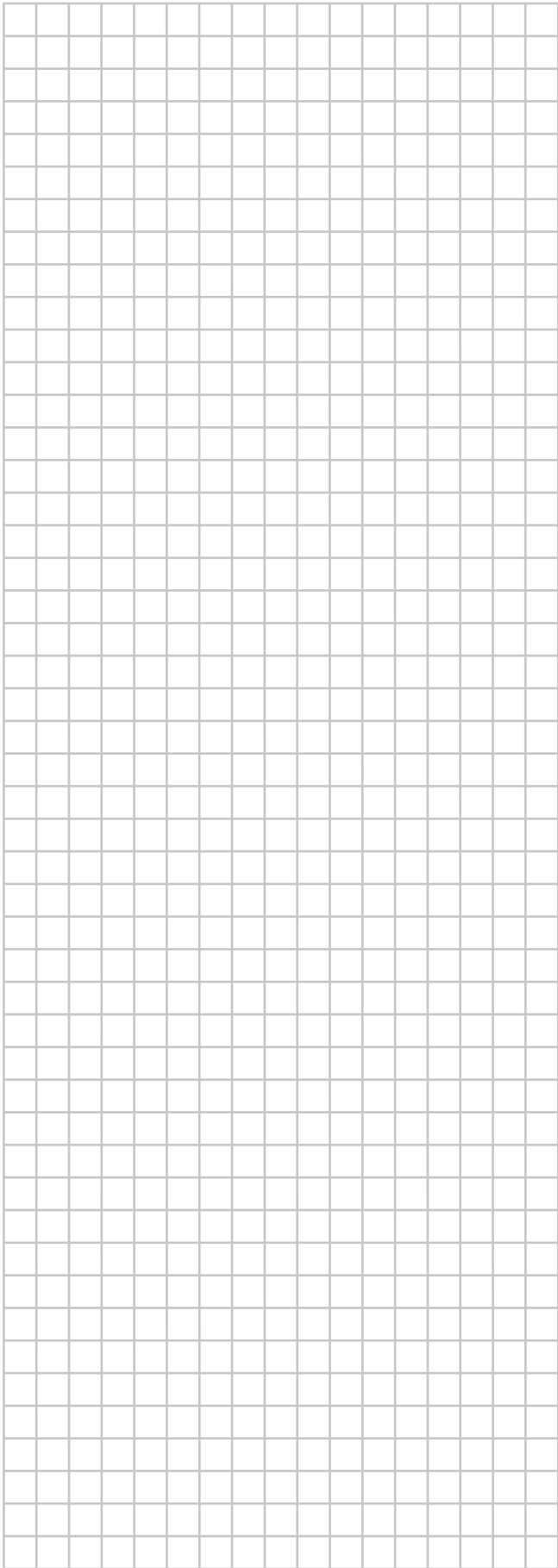
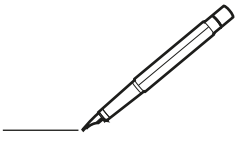
##### WARNING TO INSTALLER

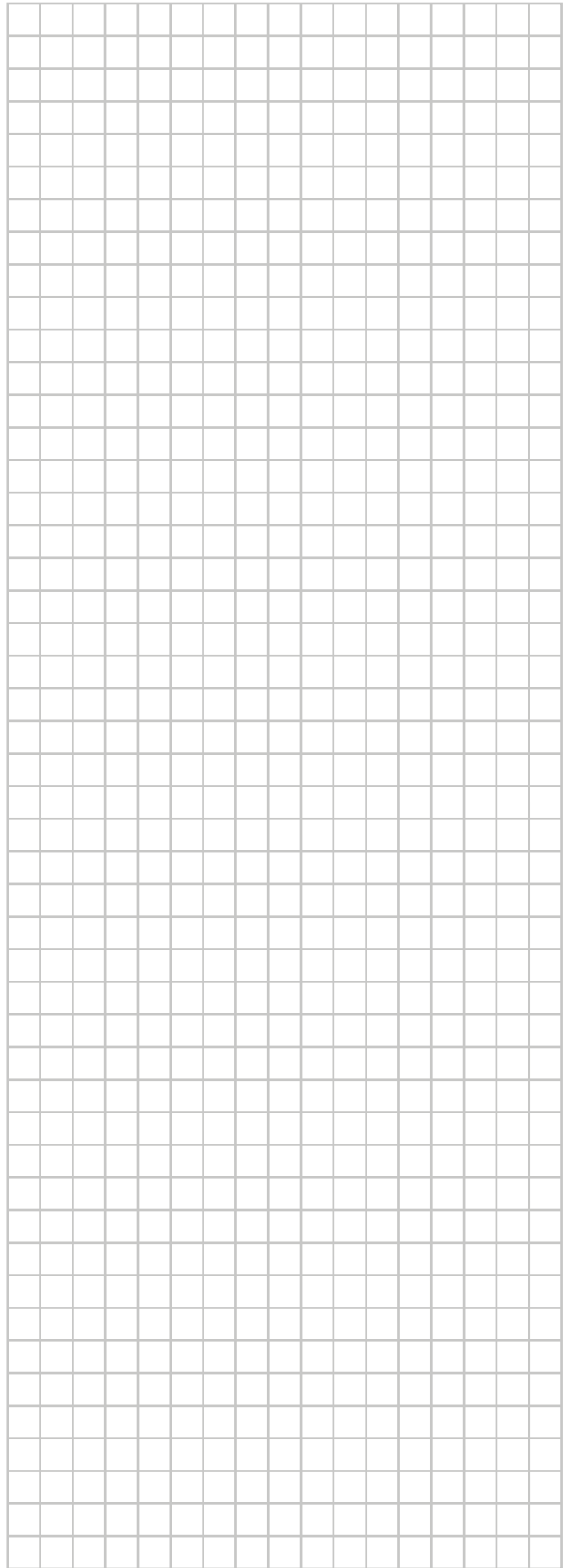
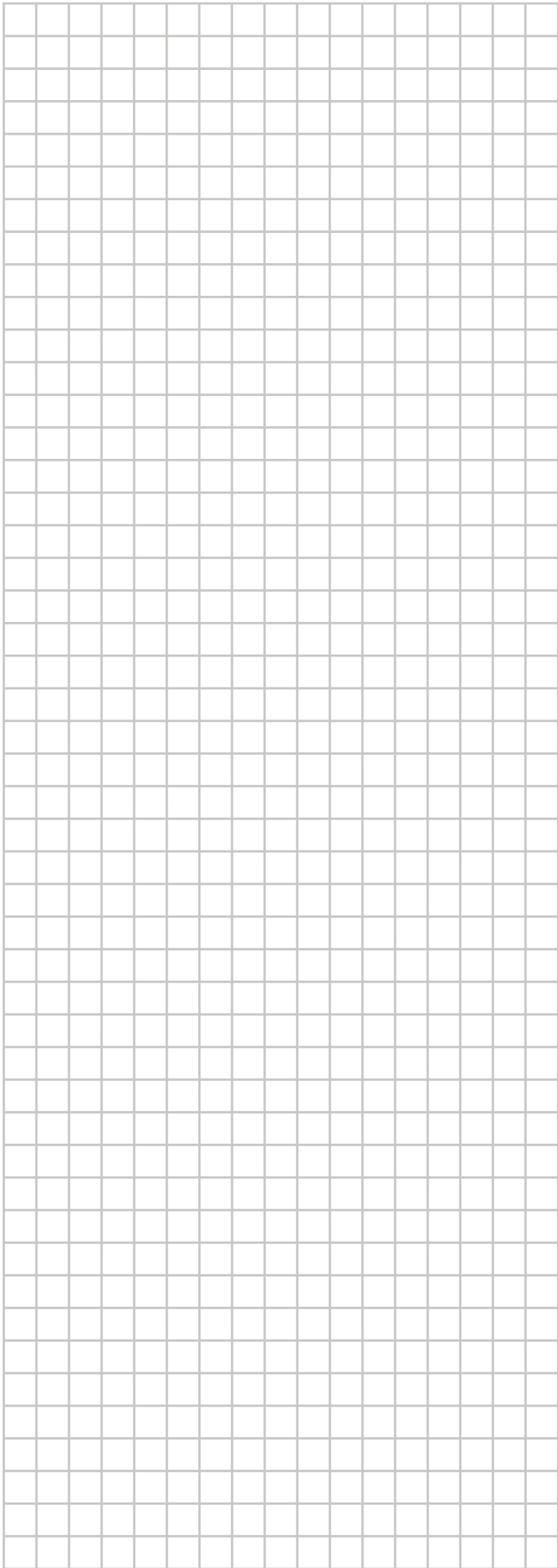
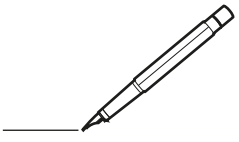
- This installation is subject to building regulation approval, notify Local Authority of intention to install.
- Use only manufacturer's recommended spare parts. Contact your local Daikin dealer.
- Installed by  
name .....  
address .....  
tel. No. ....  
completion date .....

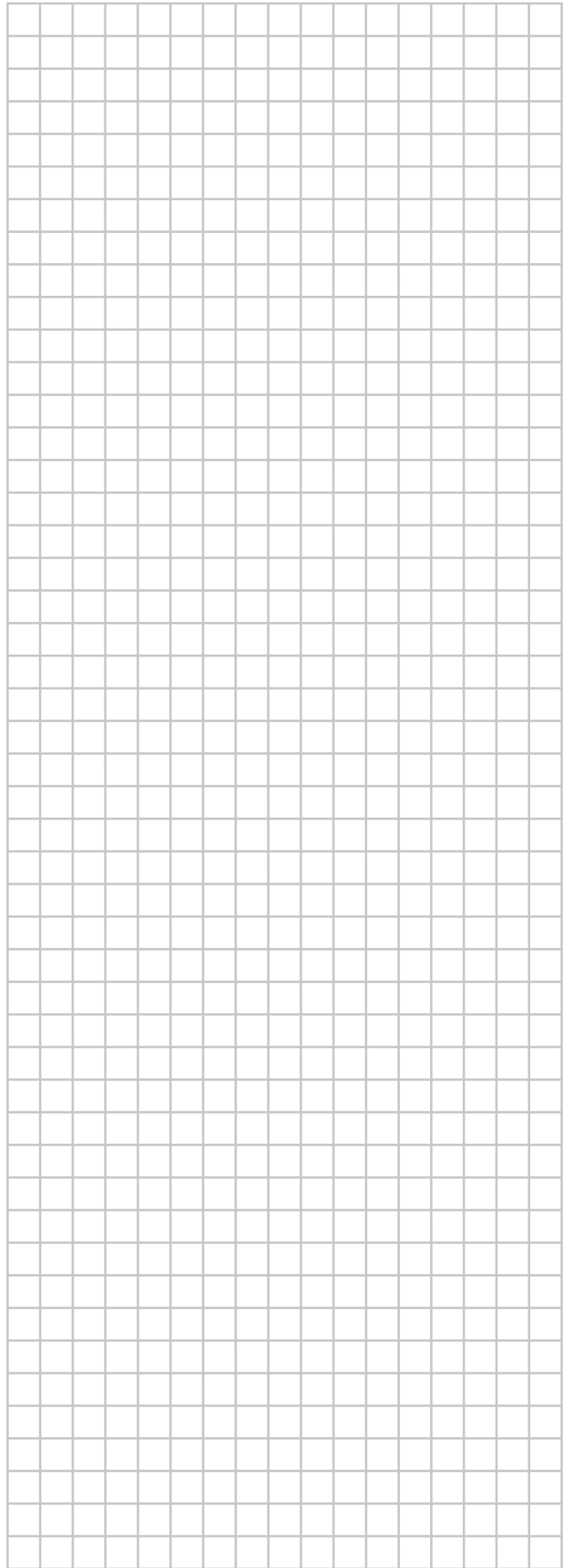
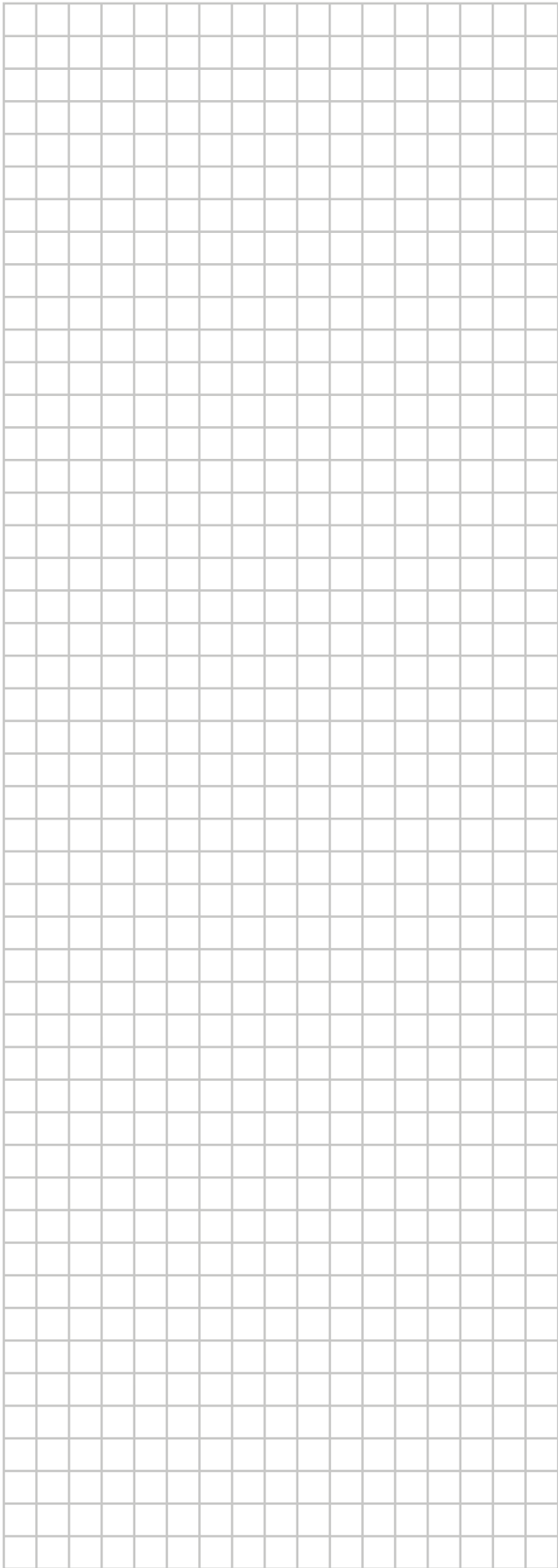
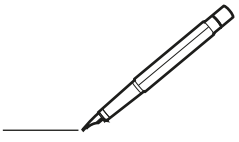
##### TECHNICAL SPECIFICATIONS EN12897: 2016

- Maximum water supply pressure to pressure reducing valve: **12 bar**
- Operating pressure/set pressure of pressure reducing valve: **3.5 bar**
- Maximum primary working pressure (heating): **2.5 bar**
- Maximum flow temperature: **65 °C**
- Expansion vessel pre-charge pressure: **3.5 bar**
- Expansion valve setting: **8 bar**
- Temperature and pressure relief valve replacement part No.: **302810P**
- Operating pressure of temperature and pressure relief valve: **10 bar**
- Operating temperature of temperature and pressure relief valve: **95 °C**
- Operating temperature of thermal cut-out (2 pieces): **89 °C**
- Primary heating power input: **32 kW**  
**CKHWSU230BJV3**
- Primary flow rate to reach primary heating power input: **15 l/min**
- Standing heat loss: **1.76 kWh/24h**  
**CKHWSU230BJV3**
- Model **CKHWSU230BJV3** storage capacity **221 l** mass of unit when full **351 kg**
- Maximum design pressure: **10 bar**
- Rated volume heat exchanger: **9.1 l**

**DAIKIN EUROPE N.V.**









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