

DAIKIN

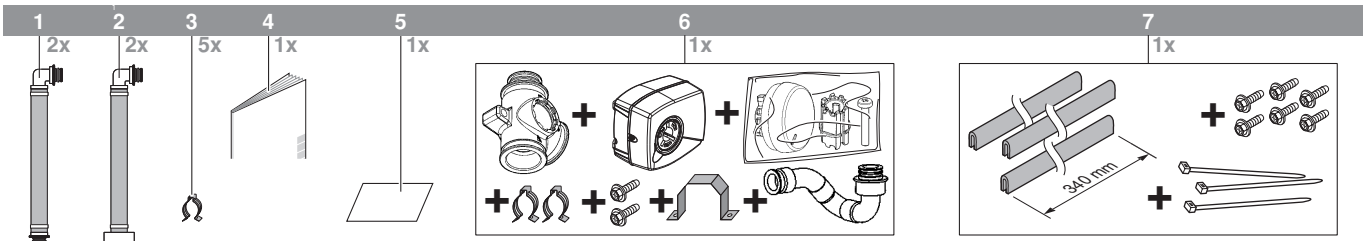


INSTALLATION MANUAL

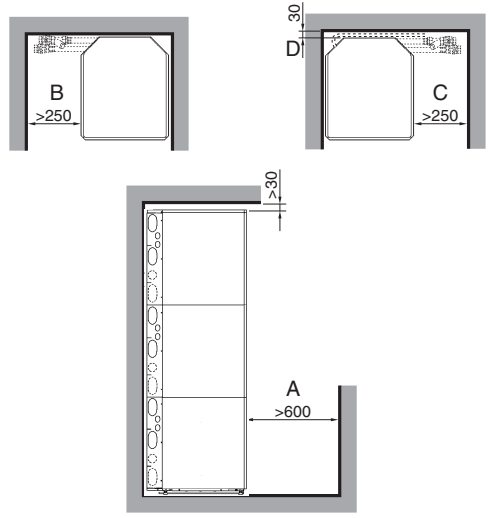
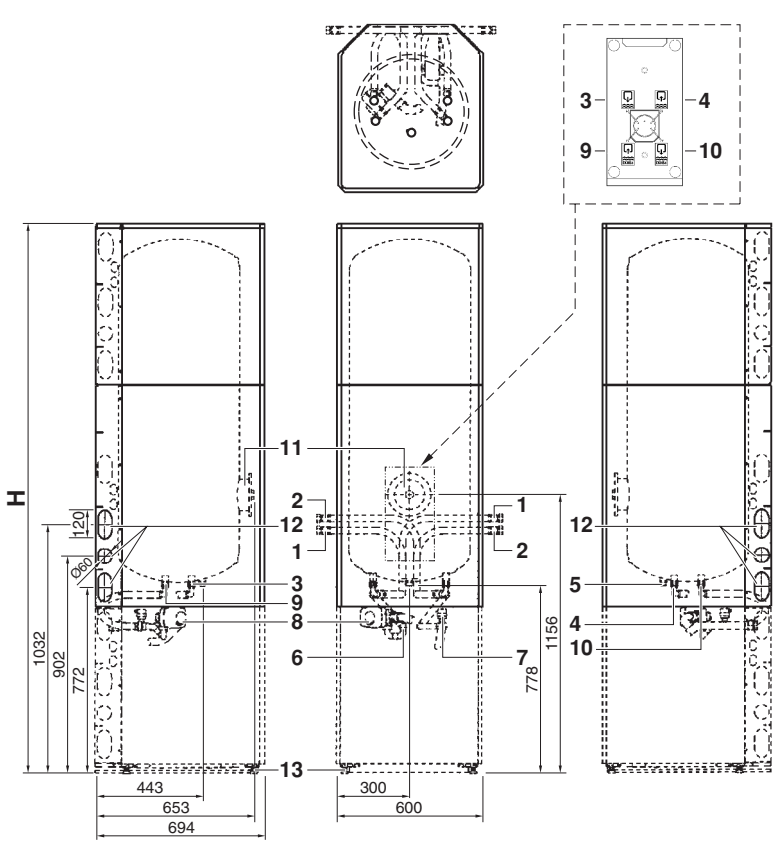
Domestic hot water tank for air to water heat pump system

**EKHTS200A
EKHTS260A**

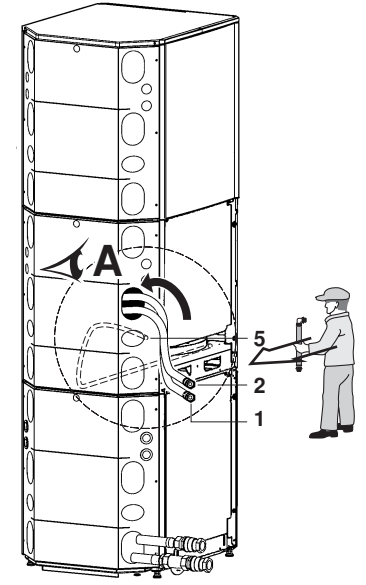
**EKHTSP200AA
EKHTSP260AA**



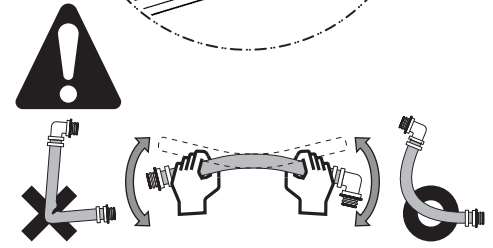
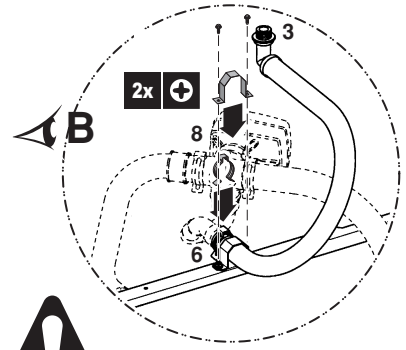
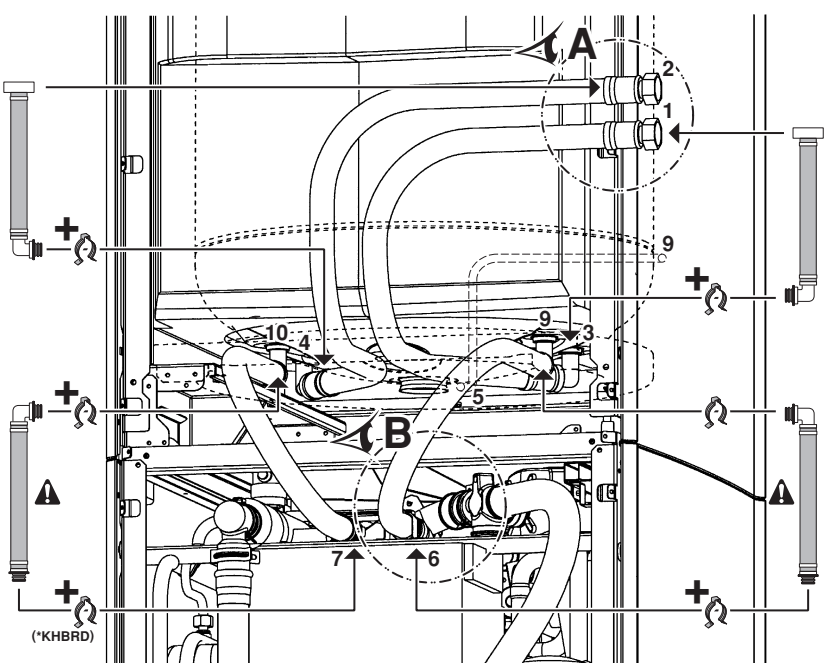
1



3



2



4

CONTENTS

	<u>Page</u>
Introduction.....	1
General information.....	1
Scope of this manual.....	1
Model identification.....	1
Accessories.....	1
Accessories supplied with the domestic hot water tank.....	1
Optional equipment.....	1
Overview of the unit.....	2
Main components.....	2
Outlook diagram.....	2
Installation of the EKHTS domestic hot water tank.....	3
Installation guidelines.....	3
Installing and commissioning the domestic hot water tank.....	3
Maintenance.....	6
Descaling.....	6
Draining.....	6
Troubleshooting.....	7
General guidelines.....	7
General symptoms.....	7
Disposal requirements.....	7
Technical specifications.....	7
Domestic hot water tank specifications.....	7



READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. KEEP THIS MANUAL IN A HANDY PLACE FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO THE EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN WHICH ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

THE UNIT DESCRIBED IN THIS MANUAL IS DESIGNED FOR INDOOR INSTALLATION ONLY AND FOR AMBIENT TEMPERATURES RANGING 5°C~35°C.

The English text is the original instruction. Other languages are translations of the original instructions.

INTRODUCTION

General information

Thank you for purchasing this domestic hot water tank.

The EKHTS domestic hot water tank can only be connected to the EKHBRD indoor unit. The domestic hot water tank is available in two sizes: approximately 200 and 260 litre. All models can be mounted on top of the indoor unit. For installation of the domestic hot water tank on the floor next to the indoor unit, the dedicated EKFMAHTA connection kit is required.

NOTE

Especially for the United Kingdom

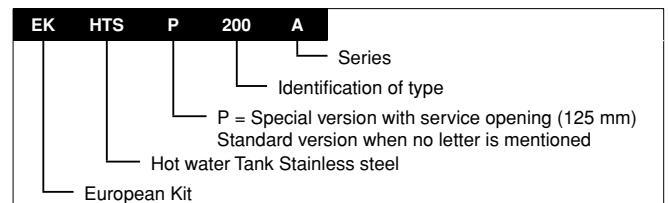


For installation of an EKHTSU domestic hot water tank, refer to the part of EKHTSU in this manual.

Scope of this manual

This installation manual describes the procedures for unpacking, installing and connecting the domestic hot water tank.

Model identification



ACCESSORIES

Accessories supplied with the domestic hot water tank

See figure 1

- 1 Flexible hose of heat exchanger coil
- 2 Hot/cold water flexible hose
- 3 Clamp
- 4 Installation manual
- 5 Unpacking instruction sheet
- 6 3-way valve assembly (body + motor + clamps + pipe + screws)
- 7 Knockout hole assembly (grommet + clamps + screws)

Optional equipment

EKFMAHTA

Connection kit for installation of the domestic hot water tank on the floor next to the indoor unit.

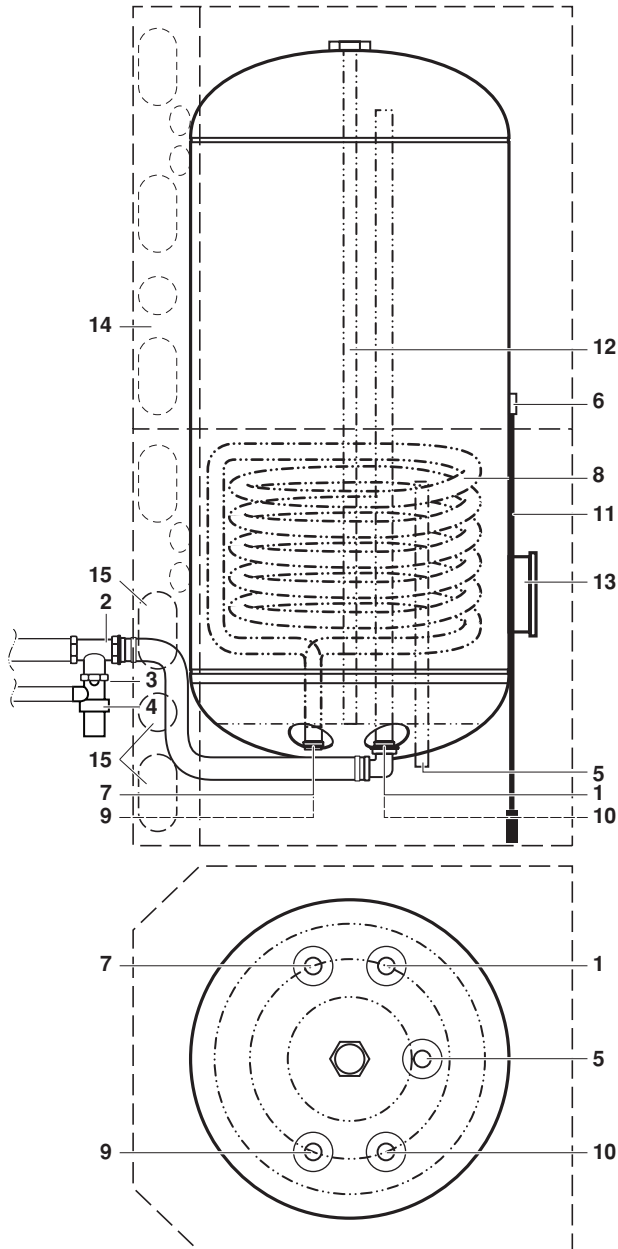
Refer to the installation manual of the kit for more details.

OVERVIEW OF THE UNIT



The total system (indoor unit and outdoor unit) is designed for combination with a Daikin domestic hot water tank. In case another tank is being used in combination with the Daikin indoor unit, Daikin cannot guarantee neither good operation nor reliability of the system. For those reasons Daikin cannot give warranty of the system in such case.

Main components



- 1 Hot water connection
- 2 T-piece (field supply)
- 3 Pressure relief valve connection
- 4 Pressure relief valve (field supply)
- 5 Recirculation hole
- 6 Thermistor socket
- 7 Flow inlet connection
- 8 Heat exchanger coil
- 9 Return outlet connection
- 10 Cold water connection
- 11 Thermistor
- 12 Anode
- 13 Service opening (only for EKHTSP)
- 14 Casing
- 15 Knockout holes

Safety devices



- The domestic hot water tank relief valve connections may not be used for other purpose.
- This domestic hot water tank can only be used with an EKHBRD indoor unit.

- Thermal protector — The EKHBRD indoor unit is equipped with a thermal protector. The thermal protector is activated when the temperature becomes too high. When activated, the protector has to be reset on the indoor unit by pressing the red button (for access, remove the decoration panels like indicated in the manual of the indoor unit).



Switch off the power supply before opening the decoration panels of the indoor unit.

- Pressure relief valve — A pressure relief valve (field supply) in accordance with relevant local and national regulations, and with an opening pressure of maximum 10 bar must be connected to the pressure relief valve connection.
- If a discharge pipe is connected to the pressure relief device it must be installed in a continuously downward direction and in a frost-free environment. It must be left open to the atmosphere.

Outlook diagram

Outlook diagram, see [figure 2](#).

- 1 Hot water out connection (G 3/4" Female)
- 2 Cold water in connection (G 3/4" Female)
- 3 Hot water out connection at the bottom of the tank (quick coupling)
- 4 Cold water in connection at the bottom of the tank (quick coupling)
- 5 Recirculation connection (G 1/2" Male)
- 6 Flow inlet connection from the main EKHBRD indoor unit (quick coupling)
- 7 Return outlet connection to the main EKHBRD indoor unit (quick coupling)
- 8 3-way valve
- 9 Flow inlet connection from the main EKHBRD indoor unit at the bottom of the tank (quick coupling)
- 10 Return outlet connection to the main EKHBRD indoor unit at the bottom of the tank (quick coupling)
- 11 Service opening (Ø125 mm) (only for EKHTSP models)
- 12 Knockout holes for water piping
- 13 Levelling feet (EKHBRD unit only)

Domestic hot water tank model	H
EKHTS200A, EKHTSP200AA	2010 mm
EKHTS260A, EKHTSP260AA	2285 mm

INSTALLATION OF THE EKHTS DOMESTIC HOT WATER TANK



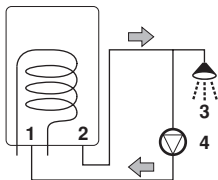
- Installation shall be done by a licensed technician, the choice of materials and installation shall comply with local and national regulations.
- The equipment is not intended for use in a potentially explosive atmosphere.
- Domestic hot water quality must be according to EU directive 98/83 EC.
- A drain device should be installed on the cold water connection on the domestic hot water tank.
- For safety reasons, it is not allowed to add any kind of glycol to the water circuit.
- To avoid stagnation of water, it is important that the storage capacity of the domestic hot water tank meets the daily consumption of domestic hot water.

In cases where during longer periods of time there is no consumption of hot water, the equipment must be flushed with fresh water before usage.

The disinfection function provided on the equipment is specified in the operation manual of the indoor unit.

- It is advised to avoid long runs of piping between the domestic hot water tank and the hot water end point (shower, bath, ...) and to avoid dead ends.
- The installation must be in compliance with local and national regulations and may require additional hygienic installation measures.
- In accordance with local and national regulations it may be necessary to install thermostatic mixing valves.
- Immediately after installation, the domestic hot water tank must be flushed with fresh water. This procedure must be repeated at least once a day the first 5 consecutive days after installation.

If required by relevant local and national regulations, connect a recirculation pump in between the hot water end point and the recirculation connection of the domestic hot water tank.



- 1 Recirculation connection
- 2 Hot water connection
- 3 Shower
- 4 Recirculation pump

Installation guidelines

Keep in mind the following guidelines when installing the domestic hot water tank:

- The installation location is frost-free.
- Standard installation location of the domestic hot water tank is on top of the indoor unit.



If available service space to left and/or right side is limited, carefully consider all indoor module installation steps first.

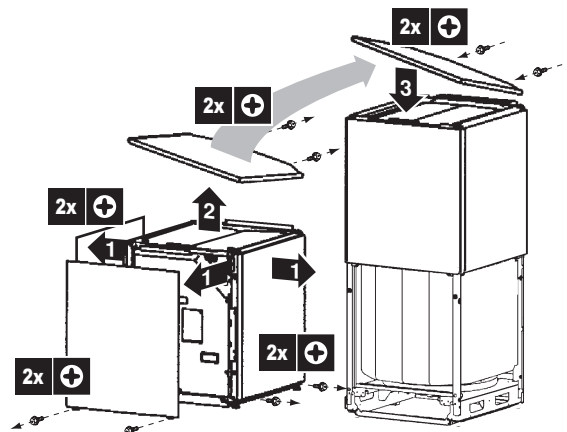
- The domestic hot water tank can be floor mounted as well. In that case, the dedicated EKFMAHTA connection kit for installation of the domestic hot water tank next to the indoor unit is required and to be ordered separately.
- Locate the domestic hot water tank in a suitable position to facilitate ease of maintenance. Refer to [figure 3](#) and to the installation manual of the EKHRD indoor unit.

- Provide a connection for the pressure relief valve and drain on the cold water inlet.
- To avoid back siphonage it is advised to install a non-return valve on the cold water inlet of the domestic hot water tank in accordance with local and national regulations.
- Take care that in the event of a leak, water can not cause any damage to the installation space and surroundings.
- It is advised to install a pressure reducing valve on the cold water inlet in accordance with local and national regulations.
- An expansion vessel should be installed on the cold water inlet in accordance with local and national regulations.

Installing and commissioning the domestic hot water tank

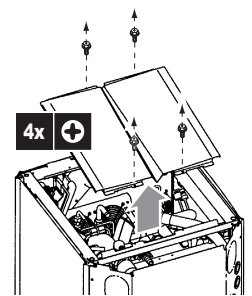
Installing the hot water tank on top of the indoor unit

- 1 Unpack the domestic hot water tank according to the instructions mentioned on the unpacking instruction sheet.
- 2 Check if all domestic hot water tank accessories are enclosed (see "Accessories" on page 1).
- 3 Remove front decoration panel and top plate of the indoor unit. To take away the front decoration panel, remove the 2 bottom screws and then unhitch the panel. Mount the top plate of the indoor unit on the domestic hot water tank module.



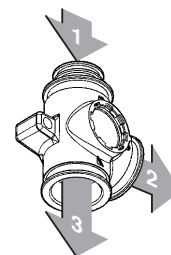
4 Connect the 3-way valve

- 1 Remove drain plate on top of the indoor unit before installing the 3-way valve.



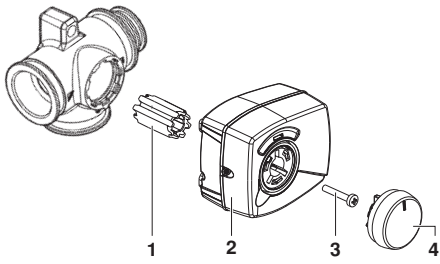
2 Installation position.

The 3-way valve must be installed in the indoor unit.



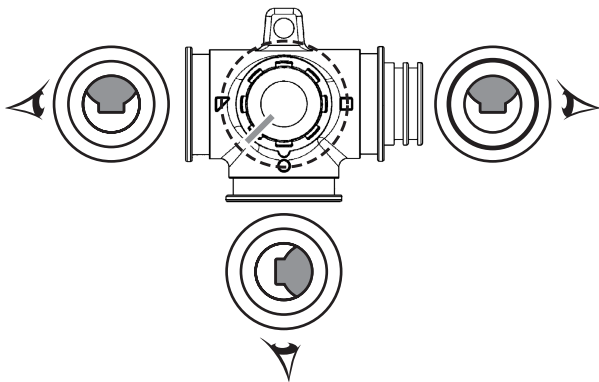
- 1 From indoor unit
- 2 To domestic hot water tank
- 3 To room heating

- 3 Unpack the 3-way valve body and 3-way valve motor. Verify that following accessories are provided with the motor.



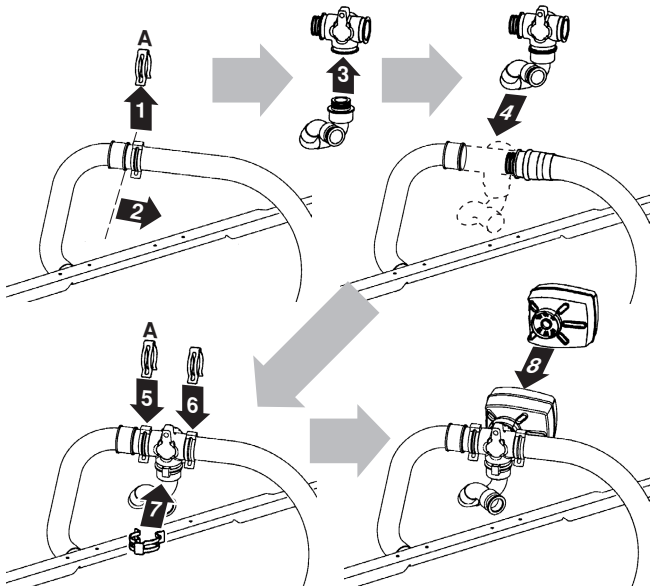
- 1 Sleeve
- 2 Valve motor cover
- 3 Screw
- 4 Turn knob

- 4 Put the sleeve on the valve and turn the valve so that the sleeve is positioned according to the figure below.



If the valve is not positioned in this way before mounting the motor, the valve will give way to both domestic water and room heating during operation.

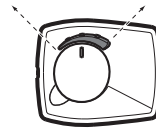
- 5 Install the 3-way valve body in the piping. Refer to the figure below before making the connection.



- 6 Push the motor on the sleeve. Make sure not to rotate the sleeve during this action, so as to maintain the valve position as set during step 4.

- 7 Put the turn knob on the valve motor cover as shown below.

Room heating Domestic hot water tank



Make sure that the turn knob is completely pushed in to allow the turn knob being operated automatically by the unit. If the turn knob is lifted slightly, manual operation is possible.

- 8 Make sure to firmly fix the power supply cord onto the 3-way valve body with a field supplied cable tie like in illustration below.



- 9 Perform the wiring in the indoor unit switch box in accordance with the following figure: (make sure power supply is switched off)

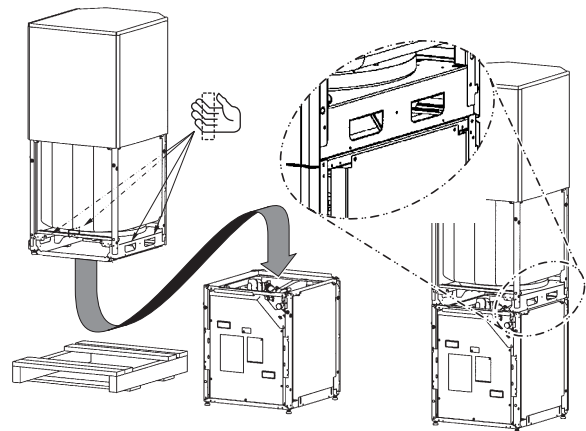
X2M

3	4	5
3-way valve		
BLU	BLK	BRN
N	Y	L

Make sure to follow the appropriate wiring routing inside of the unit (this wiring routing can be found in the installation manual of the indoor unit).

Refer also to the wiring diagram delivered with the indoor unit.

- 5 Mount the tank module on top of the indoor unit using the lifting holes.



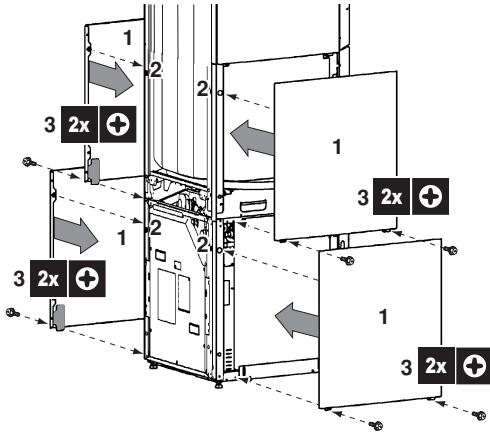
Because of the weight of the domestic hot water tank, it is advised to handle and lift it with two persons.

6 Connect the flexible hoses as indicated in figure 4.

- The 2 flexible hoses with quick coupling connections on both sides must be connected to the foreseen coil connection (see figure 4).
- The 2 flexible hoses with quick coupling connection on one side and threaded connection coupling on the other side must be connected to the hot water outlet and cold water inlet (they have to be routed out from the rear plate (see figure 4). Depending on the installation location (left or right side installation), punch the required right or left knockout holes out of the rear plate. Apply the grommet to the edges of the knocked out holes to protect the flexible piping. If the recirculation connection is used, connect a tube with threaded connection to this hole and guide it through a hole in the rear plate too (see figure 4).

- 1 Hot water out connection (G 3/4" Female)
- 2 Cold water in connection (G 3/4" Female)
- 3 Hot water out connection at the bottom of the tank (quick coupling)
- 4 Cold water in connection at the bottom of the tank (quick coupling)
- 5 Recirculation connection (G 1/2" Male)
- 6 Flow inlet connection from the main EKHBRD indoor unit (quick coupling)
- 7 Return outlet connection to the main EKHBRD indoor unit (quick coupling)
- 8 3-way valve
- 9 Flow inlet connection from the main EKHBRD indoor unit at the bottom of the tank (quick coupling)
- 10 Return outlet connection to the main EKHBRD indoor unit at the bottom of the tank (quick coupling)

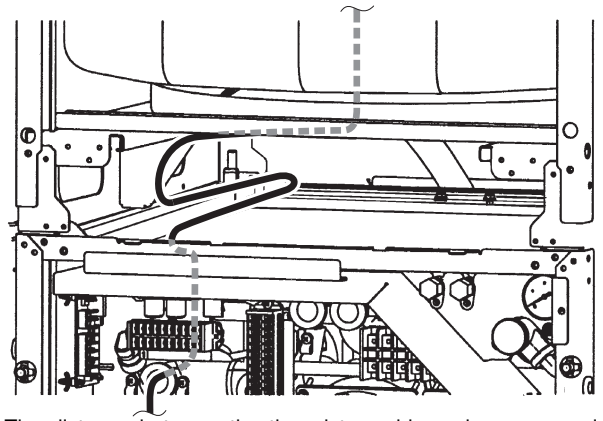
7 Fix the side bottom decoration panels of the domestic hot water tank to the indoor unit.



- 1 Decoration panel
- 2 Quick fixation hole
- 3 Fasten with 2 screws

8 Connect the pressure relief valve (field supply, opening pressure maximum 10 bar) and drain.

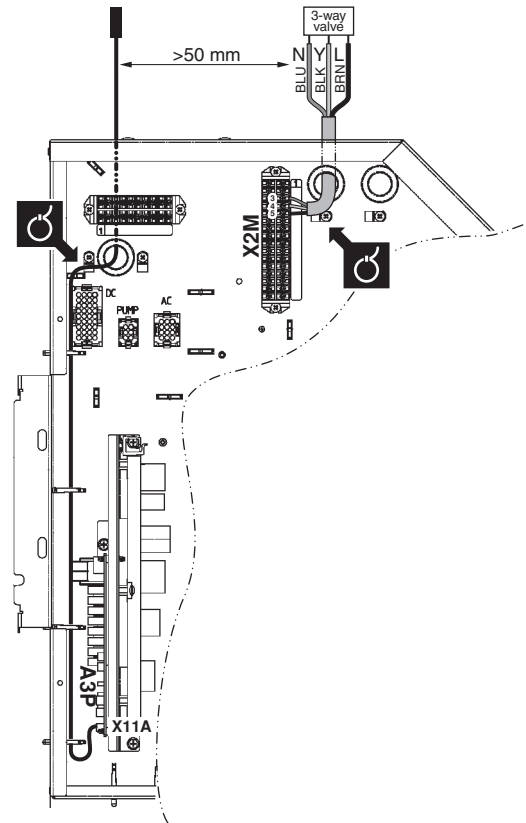
9 Connect the thermistor wire to the indoor unit switch box. Make sure power supply is switched off. Refer to the wiring diagram delivered with the indoor unit.



The distance between the thermistor cable and power supply cable must always be at least 50 mm to prevent electromagnetic interference on the thermistor cable.

- 1 Plug the thermistor cable connector in the socket X11A on the PCB.
- 2 Fix the cables to the cable tie mountings with cable ties to ensure strain relief.
- 3 When routing out cables, make sure that these do not obstruct mounting of the indoor unit cover.

Note: only relevant field wiring is shown.



10 Reattach the drain plate on the indoor unit.

11 Commissioning



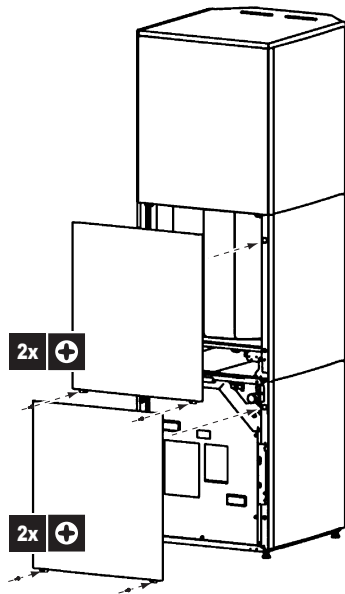
The domestic hot water tank coil must be filled with water at the indoor unit water inlet. This to avoid that dirt enters the system.

Follow the next steps to fill up the domestic hot water tank:

- 1 Open each hot water tap in turn to expel air from the system pipe work.
- 2 Open the cold water supply valve. Make sure the decoration panels of both the domestic hot water tank and the indoor unit are aligned.
- 3 Close all water taps after all air is expelled.
- 4 Check for leaks.
- 5 Manually operate the pressure relief valve to ensure free water flow through the discharge pipe (turn knob left). Refer to "Main components" on page 2 for location of the pressure relief valve.

12 Reattach the front decoration panel of the domestic hot water tank.

13 Reattach the front decoration panel of the indoor unit.



Installing the hot water tank by the side of the indoor unit

Refer to the manual delivered with the kit EKFMAHTA.

MAINTENANCE

In order to ensure optimal availability of the unit, a number of checks and inspections on the unit and the field wiring have to be carried out at regular intervals.



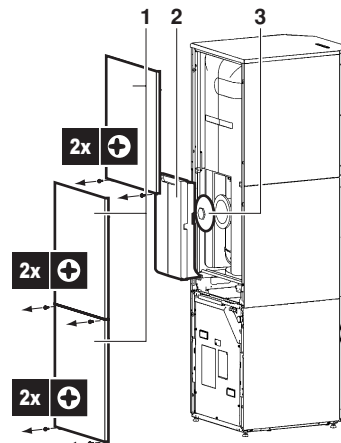
- Each inspection has to be carried out by a licensed technician and **not by the user**.
- Before carrying out any maintenance or repair activity, always switch off the circuit breaker on the supply panel, remove the fuses or open the protection devices of the unit.
- Make sure that before starting any maintenance or repair activity, also the power supply to the outdoor unit is switched off.

The described checks must be executed at least **once a year** by qualified personnel.

- 1 Domestic hot water tank pressure relief valve (field supply)
Check for correct operation of the pressure relief valve on the domestic hot water tank.
- 2 Remove the front panel to check for water leaks (first remove the front panel of the indoor unit).

3 Only for domestic hot water tanks with a service opening (EKHTSP):

For cleaning of the hot water tank interior and the heat exchanger, remove front decoration panels and insulation piece, drain the domestic hot water tank and remove the service cover with a socket spanner of 32 mm, like indicated in the figure below.



- 1 Front decoration panels
- 2 Insulation piece
- 3 Service cover

Descaling

Depending on the 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.



When using means for descaling, it must be ensured that the water quality remains compliant with the requirements of EU directive 98/83/EC.

Draining

Follow the next steps to drain the domestic hot water tank:

- 1 Switch off the power supply.
- 2 Turn off the cold water supply valve.
- 3 Open the hot water taps.
- 4 Open the drain valve.

TROUBLESHOOTING

This section provides useful information for diagnosing and correcting certain troubles which may occur in the unit.

General guidelines

Before starting the troubleshooting procedure, carry out a thorough visual inspection of the unit and look for obvious defects such as loose connections or defective wiring.



When carrying out an inspection on the supply panel or on the switch box of the unit, always make sure that the circuit breaker of the unit is switched off.

When a safety device was activated, stop the unit and find out why the safety device was activated before resetting it. Under no circumstances safety devices may be bridged or changed to a value other than the factory setting. If the cause of the problem cannot be found, call your local dealer.

General symptoms

Symptom 1: No water flow from hot taps

POSSIBLE CAUSES	CORRECTIVE ACTION
The main water supply is off.	Check that all shut off valves of the water circuit are completely open.

Symptom 2: Water from hot taps is cold

POSSIBLE CAUSES	CORRECTIVE ACTION
The thermal cut-out located in the indoor unit has operated	<ul style="list-style-type: none"> Check and find the cause of tripping and then reset button. Check if thermistor is correctly installed in thermistor socket. Procedure: remove front panel and insulation, replace or fix the sensor.
The indoor unit (EKHBRD) is not operating.	Check the indoor unit operation. Refer to the manual delivered with the indoor unit. If any faults are suspected, contact your local dealer.

Symptom 3: Intermittent water discharge

POSSIBLE CAUSES	CORRECTIVE ACTION
Thermal control failure (water will be hot).	Contact your local dealer.
The expansion vessel is broken.	Replace the expansion vessel.

DISPOSAL REQUIREMENTS

Dismantling of the unit and treatment of parts must be done in accordance with relevant local and national legislation.

TECHNICAL SPECIFICATIONS

Domestic hot water tank specifications

		EKHTS200A	EKHTS260A	EKHTSP200AA	EKHTSP260AA
Storage capacity	(l)	200	260	200	260
Internal heat exchanger volume	(l)	7.5	7.5	7.5	7.5
Material		Stainless steel	Stainless steel	Stainless steel	Stainless steel
Overall dimensions (h x l x w)	(mm)	1335 x 600 x 695	1610 x 600 x 695	1335 x 600 x 695	1610 x 600 x 695
Connections		Quick coupling/G 3/4" F	Quick coupling/G 3/4" F	Quick coupling/G 3/4" F	Quick coupling/G 3/4" F
Inspection opening		G1/2" M Recirculation connection	G1/2" M Recirculation connection	Ø125 mm Inspection and cleaning	Ø125 mm Inspection and cleaning
Weight (empty)		70	78	75	83
Mounting		On top of EKHBRD or floor mounted	On top of EKHBRD or floor mounted	On top of EKHBRD or floor mounted	On top of EKHBRD or floor mounted
Maximum pressure domestic hot water tank	(bar)	10	10	10	10
Maximum primary working pressure (heating side)	(bar)	3	3	3	3
Maximum temperature domestic hot water	(°C)	75	75	75	75
Maximum temperature heat exchanger	(°C)	85	85	85	85



4PW53247-1 A 000000N

Copyright © Daikin

DAIKIN EUROPE N.V.

Zandvoordestraat 300, B-8400 Oostende, Belgium

4PW53247-1A