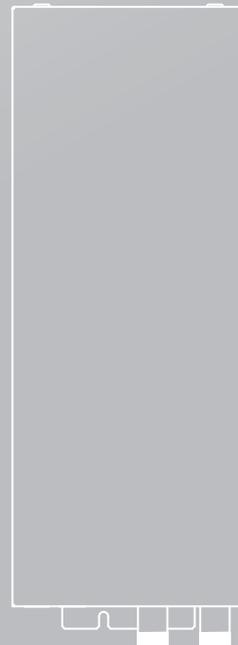


INSTALLATION AND OWNER'S MANUAL

BH30A
BH30B
BH45B
BH45B/R
BH90B/R



IMPORTANT NOTE:



Thank you very much for purchasing our product,
Before using your unit , please read this manual carefully and keep it for future reference.

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1 SAFETY PRECAUTIONS

The precautions listed here are divided into the following types. They are quite important, so be sure to follow them carefully. Meanings of DANGER, WARNING, CAUTION and NOTE symbols.

INFORMATION

- Read these instructions carefully before installation. Keep this manual in a handy for future reference.
- Improper installation of equipment or accessories may result in electric shock, short-circuit, leakage, fire or other damage to the equipment. Be sure to only use accessories made by the supplier, which are specifically designed for the equipment and make sure to get installation done by a professional.
- All the activities described in this manual must be carried out by a licensed technician. Be sure to wear adequate personal protection equipment such as gloves and safety glasses while installing the unit or carrying out maintenance activities.
- Contact your dealer for any further assistance.

DANGER

Indicates an imminently hazardous situation which if not avoided, will result in death or serious injury.

WARNING

Indicates a potentially hazardous situation which if not avoided, could result in death or serious injury.

CAUTION

Indicates a potentially hazardous situation which if not avoided, may result in minor or moderate injury. It is also used to alert against unsafe practices.

NOTE

Indicates situations that could only result in accidental equipment or property damage.

NOTE

- This document is prepared for authorised installers, read this document carefully before installation. keep this manual in a handy place for future reference.
- Improper installation or attachment of equipment or accessories could result in electrical shock, short circuit, leaks, fire or other damage to the equipment.
- All activities described in this manual shall be carried out by a licensed technician.
- Be sure to wear adequate personal protection equipment(Protection gloves, safety glasses) when performing installation, maintenance or service to the unit.
- If unsure of installation procedure or use, always contact your dealer for advice and information.
- This appliance BH45B can be connected only to a supply with system impedance no more than 0.298 Ω. In case necessary, please consult your supply authority for system impedance information.
- The unit described here is designed for indoor installation.

2 GENERAL INTRODUCTION

2.1 Accessories

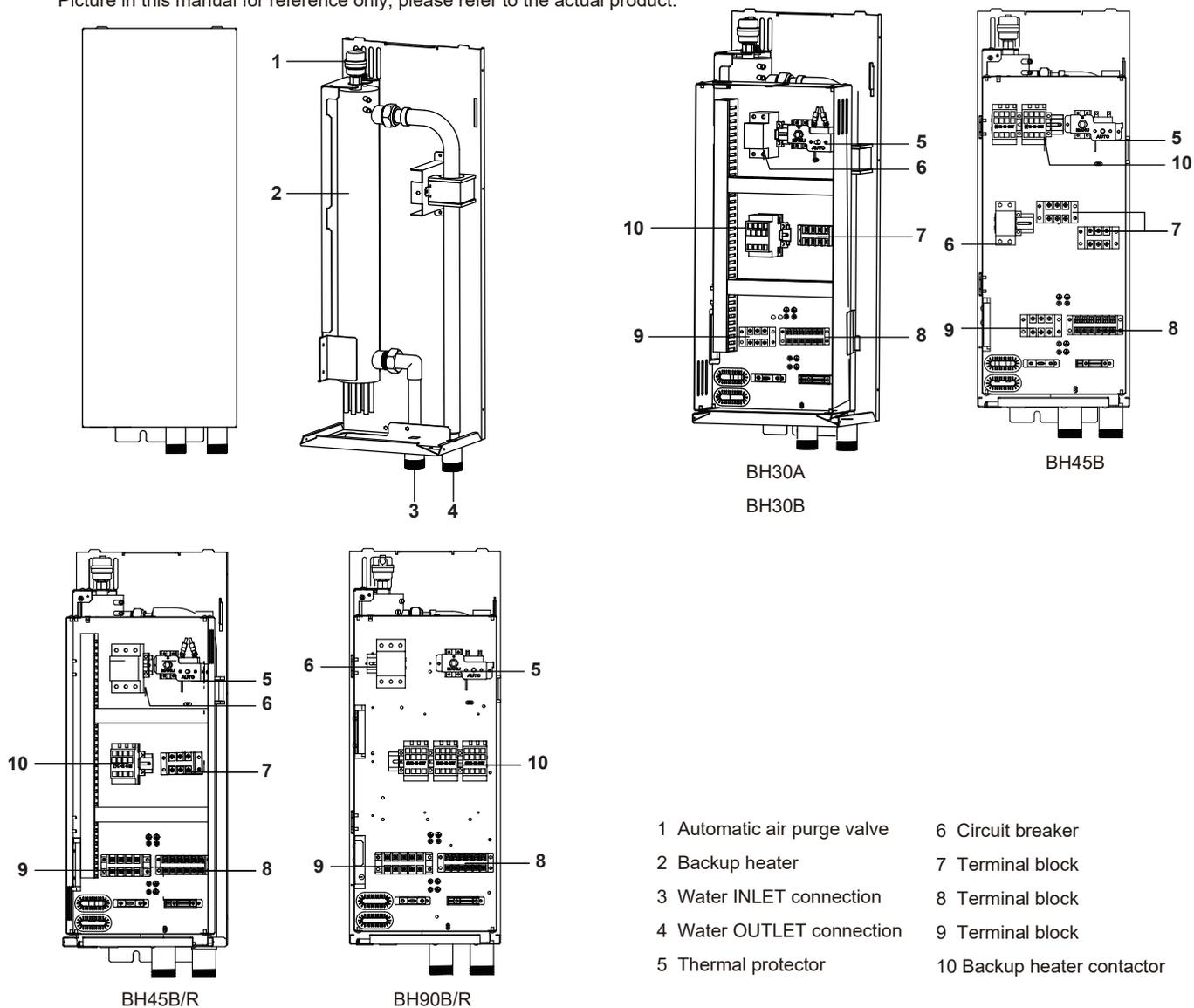
Accessory Name	Qty.	Shape
Installation & owner's manual (this book)	1	
Mounting bracket	1	
Mounting bracket	1	
M4 screws	2	
M8 expansion screws	3	
Adapter (Optional: G5/4" change to G1")	2	
T1 connector wire (Optional)	1	

2.2 Backup heater (IBH)

2.2.1 Structure of the backup heater

1) Remove the front cover of the backup heater.

Picture in this manual for reference only, please refer to the actual product.



3 PREPARATION

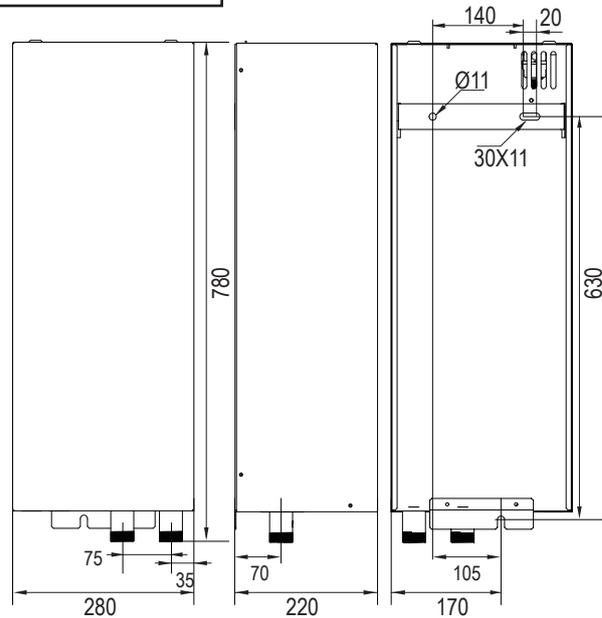
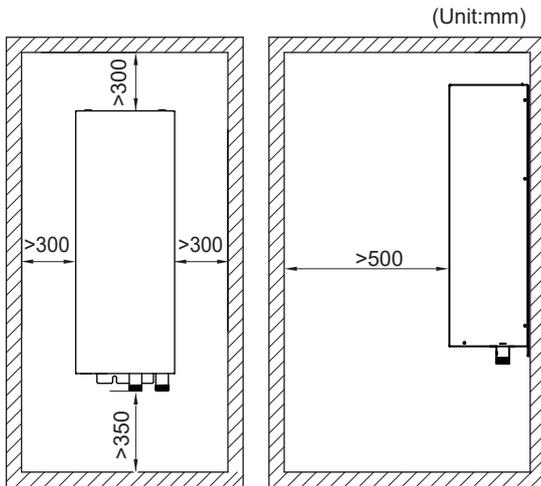
3.1 Preparing installation site

3.1.1 Installation site requirements of the backup heater

Keep in mind the guidelines for the measures:

Maximum distance between the backup heater and the external drive	5m (If you exceed this distance, you need an additional water pump)
Operating range (Internal installation)	5~35 °C

- Mind the following spacing installation guidelines:



- The backup heater is designed to be wall mounted in indoor locations only.
- Make sure the installation surface is a flat and vertical noncombustible wall.

3.2 Preparing water piping

When installing the backup heater in the system, make sure the required minimum water flow rate is guaranteed at all times.

For more information, refer to the installation manual of the outdoor unit.

3.3 Preparing electrical wiring

3.3.1 Overview of electrical connections for external and internal actuators.

Item	Description	Wires	Maximum running current
Interconnection cable			
1	Interconnection cable between backup heater kit and outdoor unit	4/5	^(a) 0.2A
(a)Minimum cable section: 0.75 mm ² ;			

Backup heater	Power supply	Required number of conductors
BH30A BH30B BH45B	220-240V~ 50Hz	3Wires
BH45B/R	380-415V 3~ 50Hz	4Wires
BH90B/R	380-415V 3N~ 50Hz	5Wires
Minimum cable section: 4 mm ² ;		

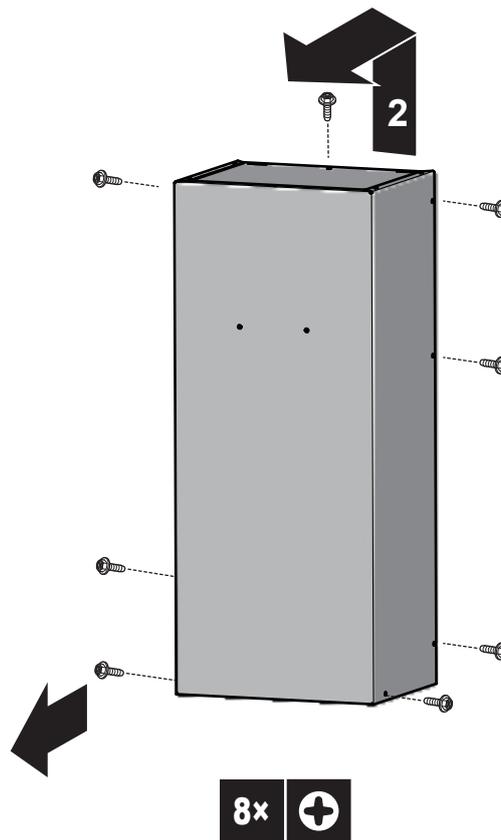
NOTE

More technical specifications of the different connections are indicated on the inside of the backup heater.

4 INSTALLATION

4.1 Opening the units

4.1.1 To open the backup heater



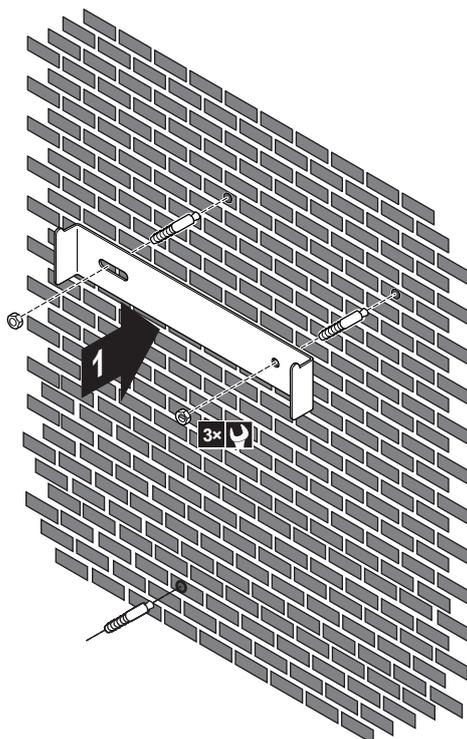
4.2 Mounting the backup heater

4.2.1 To install the backup heater

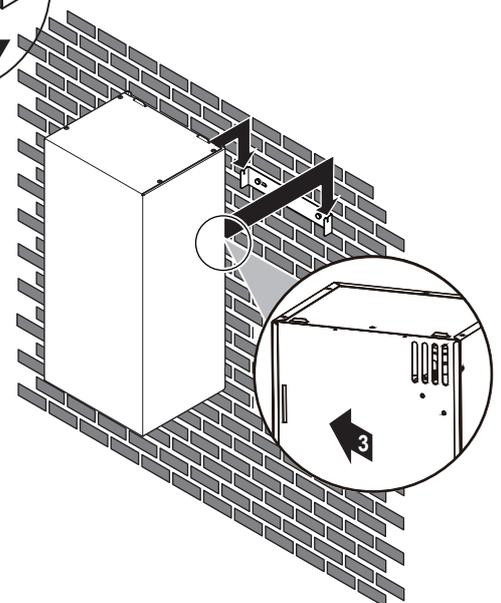
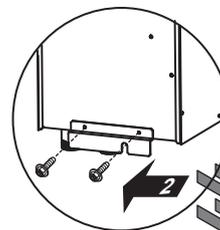
1 Fix the wall bracket to the wall with M8 screws.

Mark the position of the hole at the bottom of the backup heater.

Drill a hole for the bottom screw and insert a plug.



2 Fix the wall bracket to the backup heater with M4 screws.



3 Hang the backup heater onto the wall bracket. Make sure it is fixed properly.

4 Fix the bottom of the backup heater to the wall with an M8 expansion screw.

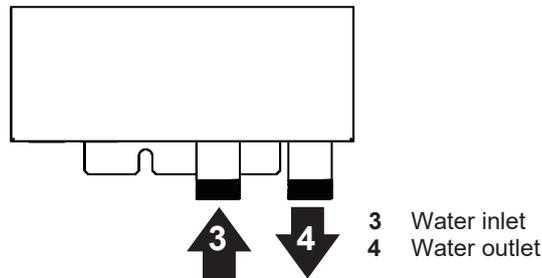
4.3 Connecting the water piping

4.3.1 To connect the water piping

NOTE

Do not use excessive force when connecting the piping. Deformation of the piping can cause malfunction of the unit.

Connect the water piping (field supply) to the water inlet and outlet of the backup heater.



INFORMATION

An automatic air purge valve is installed inside the unit. Make sure the air purge valve is not tightened so that the air in the water circuit can be expelled.

4.4 Connecting the electrical wiring

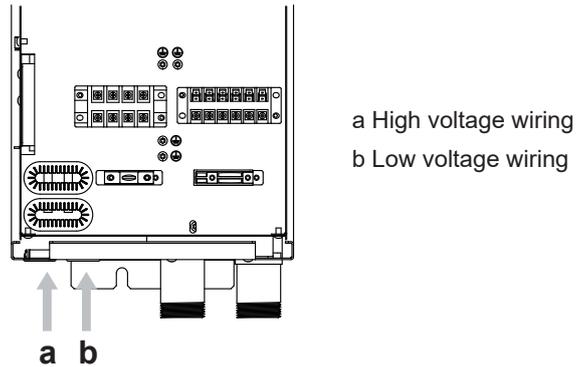
CAUTION

- The power supply should be an independent circuit with rated voltage.
- Power supply circuit should be earthed effectively.
- The wiring must be performed by professional technicians in accordance with national wiring regulations and this circuit diagram.
- An all-pole disconnection device which has at least 3mm separation distance in all pole and a residual current device(RCD)with the rating of above 10mA shall be incorporated in the fixed wiring according to the national rule.
- Set the electric leakage protector electric technical standards of the state.
- The power cord and the signal cord and properly without mutual interference connection pipe or valve.
- After wire connection, check it again correctness before power on.
- If you want to rotate the electric box, please release the iron tie on the top of the E-box to avoid sensor's connection losing.

4.4.1 To connect the electrical wiring on the backup heater

Routing	Possible cables (depends on the installed options)
a High voltage	<ul style="list-style-type: none"> Main power supply Backup heater kit connection (to outdoor unit)
b Low voltage	<ul style="list-style-type: none"> Backup heater kit sensor (interconnection with outdoor unit)

- 1 Insert the wiring from the bottom of the backup heater.
- 2 Inside the backup heater, route the wiring as follows:



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

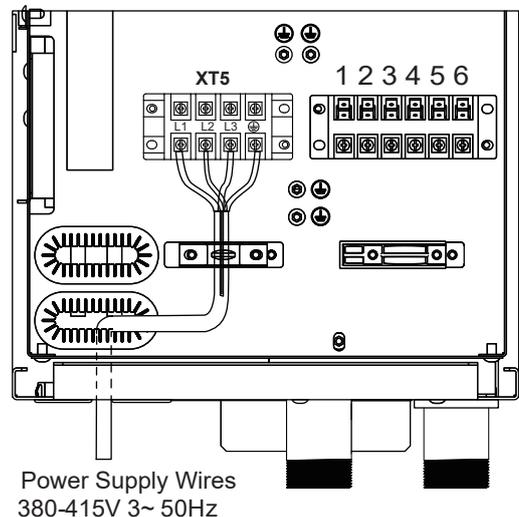
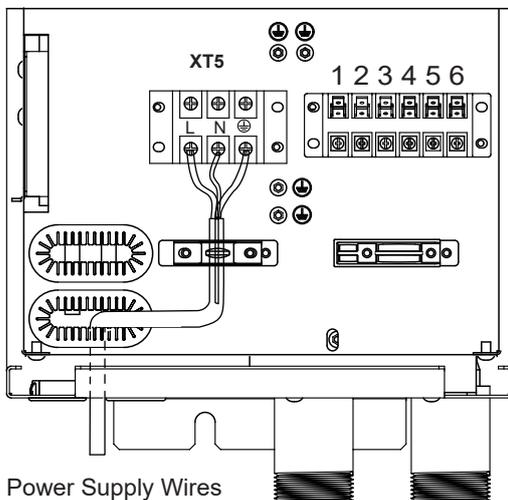
4.4.2 To connect the backup heater power supply

CAUTION

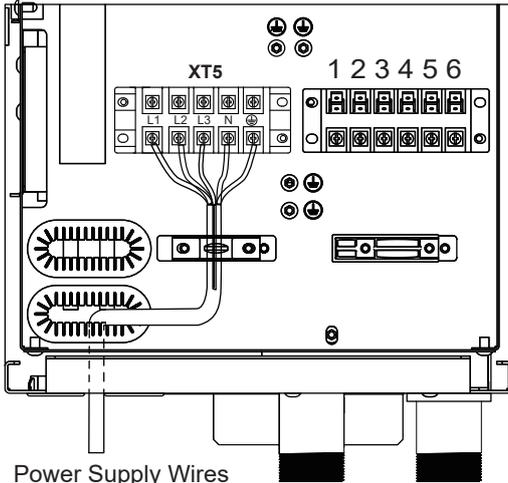
- Leakage Protection Switch must be installed to the Power Supply of the electric heating.
- To guarantee the unit is completely earthed, always connect the backup heater power supply and the earth cable.

For the power supply, connect 3 wires to XT5/L+N+⊕

For the power supply, connect 4 wires to XT5/L1+L2+L3+⊕



For the power supply, connect 5 wires to XT5/L1+L2+L3+N+⊕



Power Supply Wires
380-415V 3N~ 50Hz

⚠ WARNING

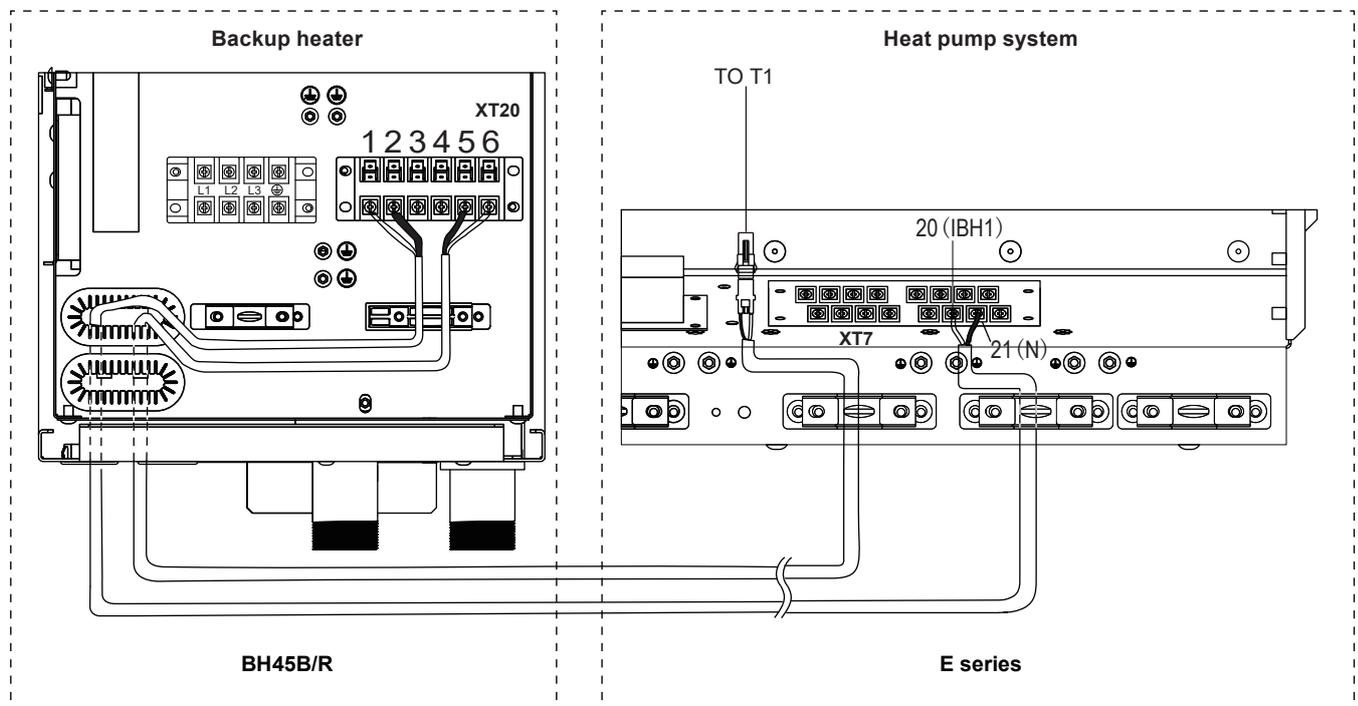
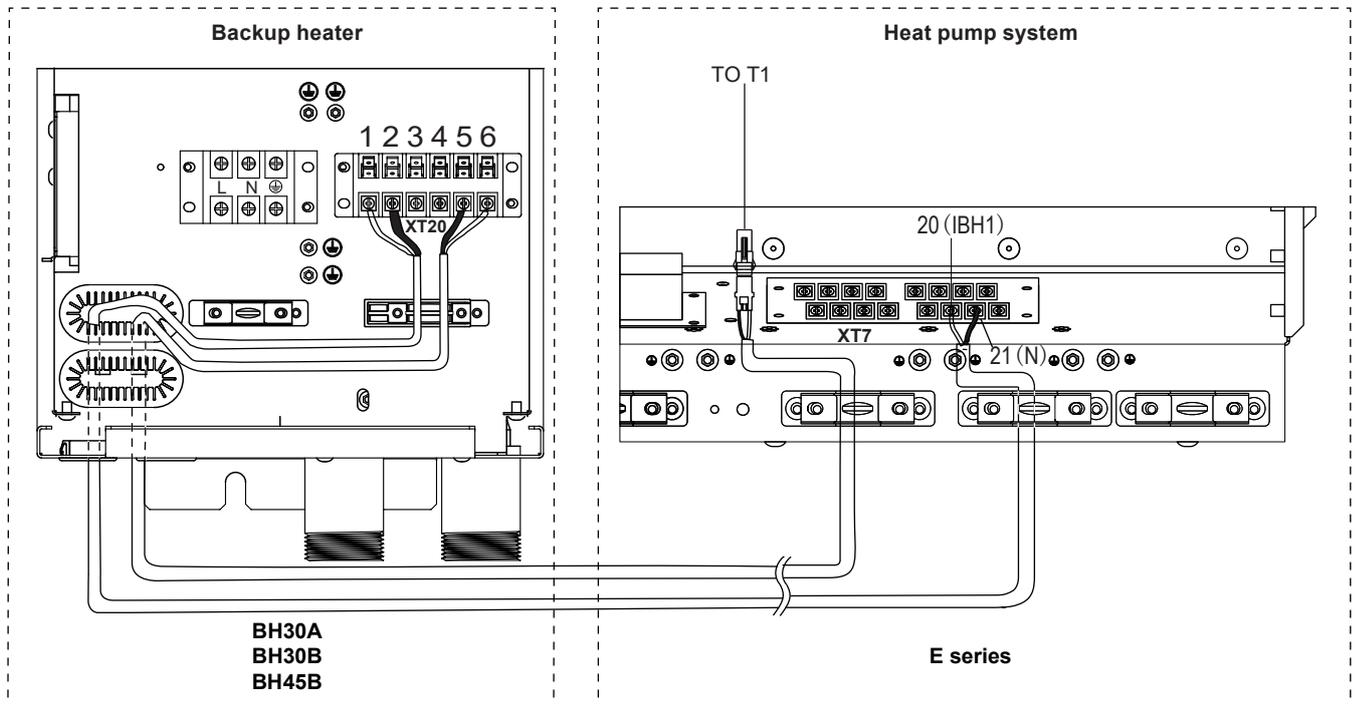
If a tank with a builtin electrical booster heater is part of the system, use a dedicated power circuit for the backup heater and booster heater.

NEVER use a power circuit shared by another appliance. This power circuit must be protected with the required safety devices according to the applicable legislation.

4.4.3 To connect the backup heater kit to the outdoor unit

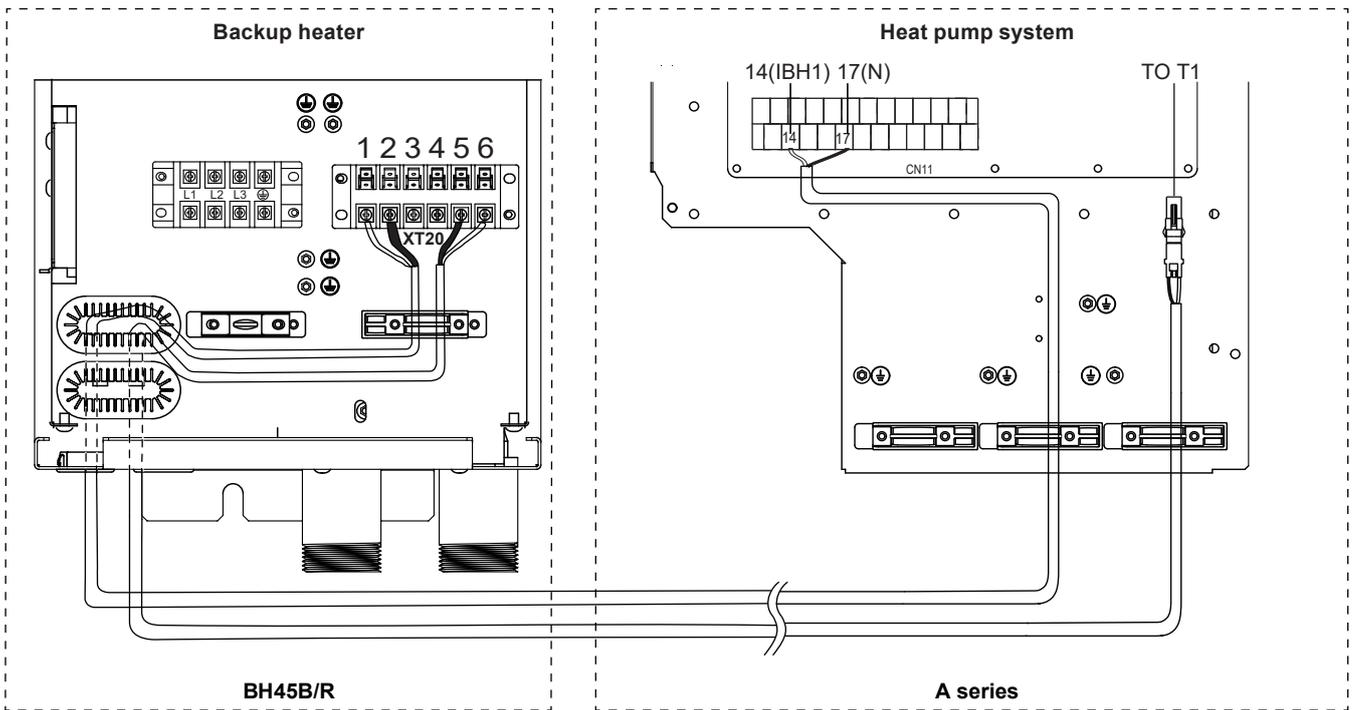
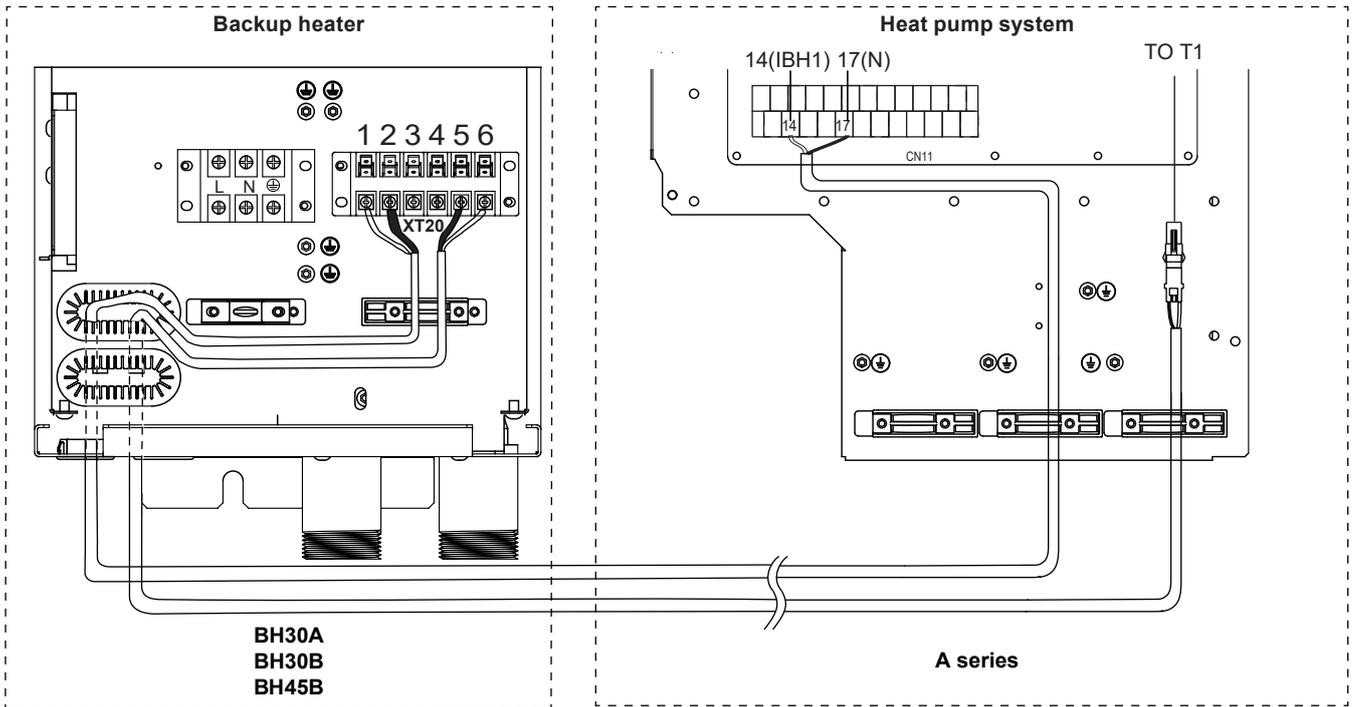
For the sensor, connect 2 wires between backup heater terminals XT20/5+6 and control box connector T1.

For the connection with the control box, connect 2 wires between backup heater terminals XT20/1+2 and control box terminals XT7/20+21.



For the sensor, connect 2 wires between backup heater terminals XT20/5+6 and control box connector T1.

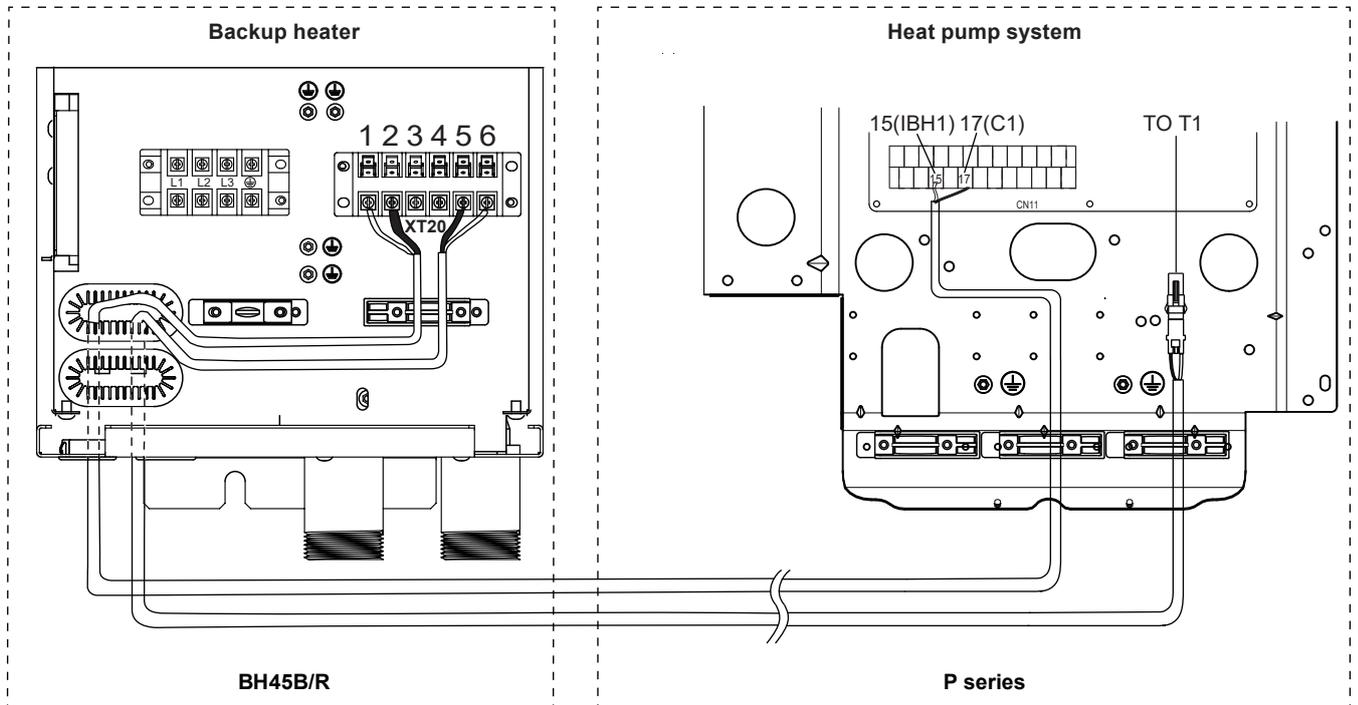
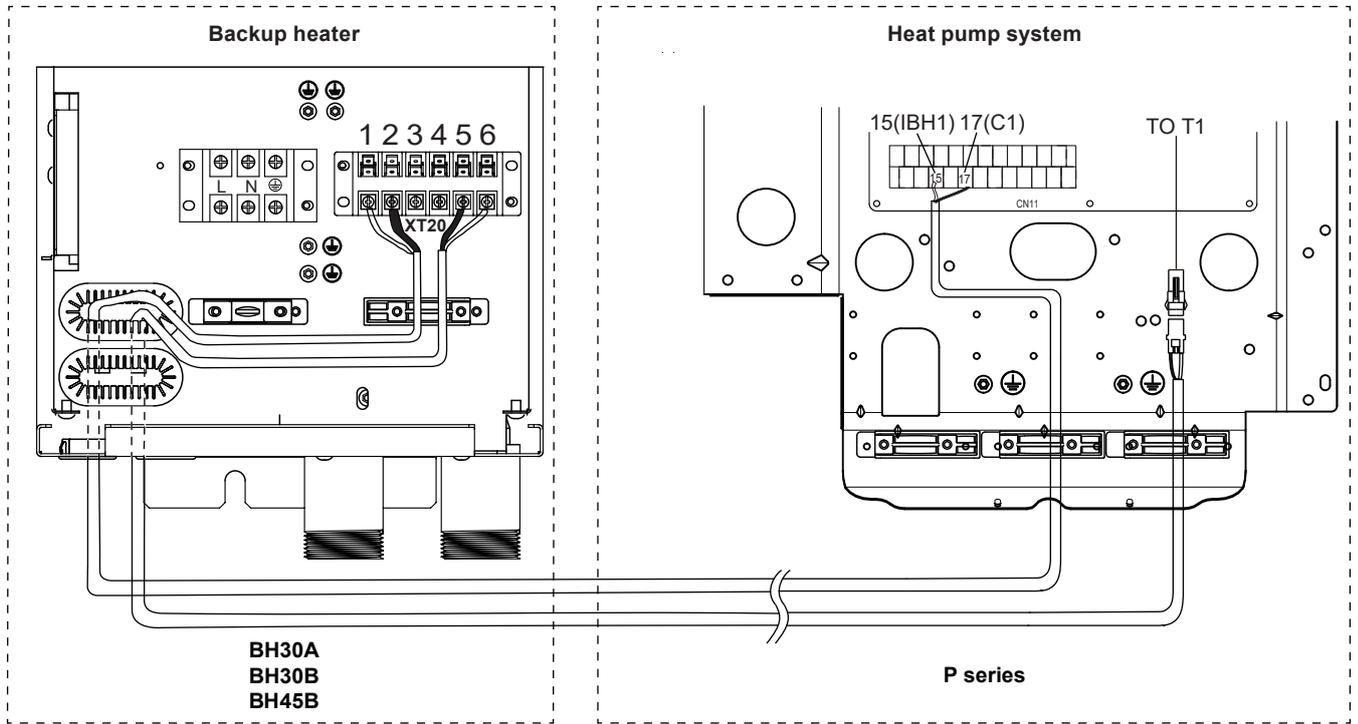
For the connection with the control box, connect 2 wires between backup heater terminals XT20/1+2 and control box terminals 14(IBH1)+17(N).

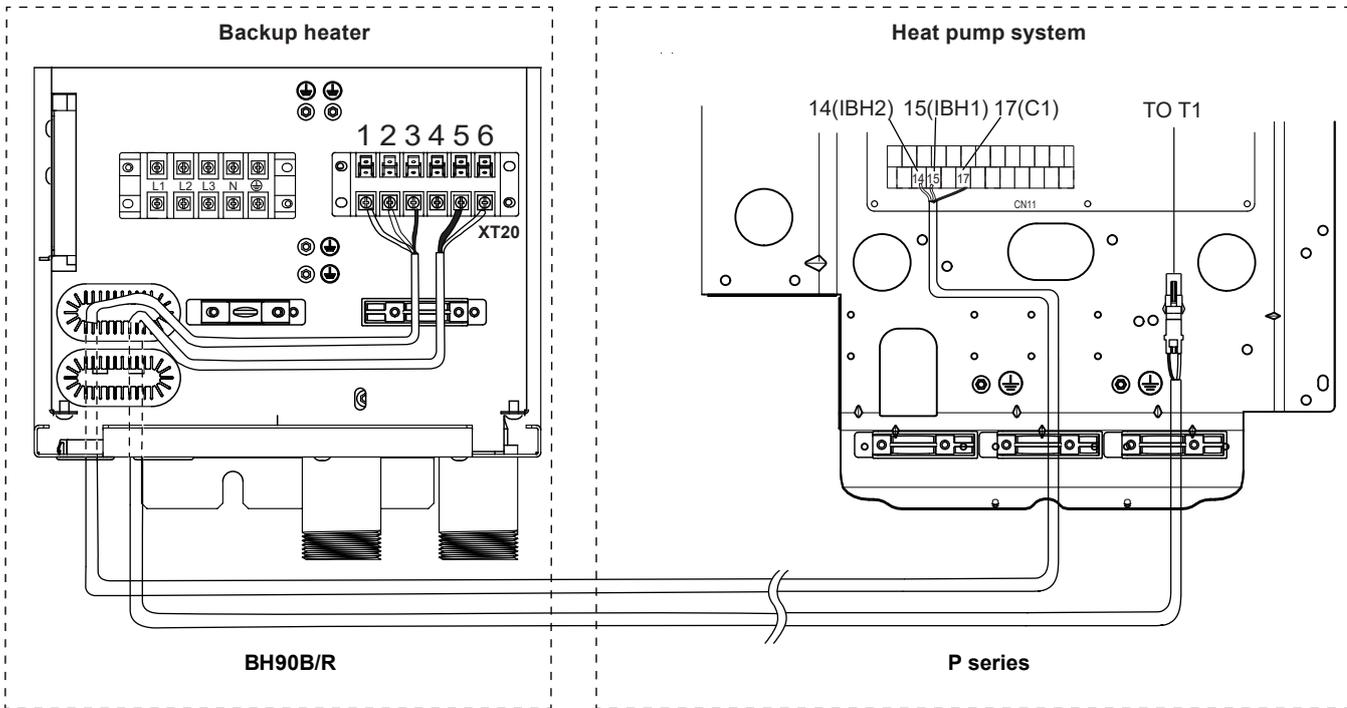


For the sensor, connect 2 wires between backup heater terminals XT20/5+6 and control box connector T1.

For the connection with the control box, connect 2 wires between backup heater terminals XT20/1+2 and control box terminals 15(IBH1)+17(C1).

For the connection with the control box, connect 3 wires between backup heater terminals XT20/1+2+3 and control box terminals 14(IBH2)+15(IBH1)+17(C1).





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

INFORMATION

- For details about the connections, refer to the wiring diagram.
- Use a multicore cable.
- IBH2 cannot be wired independently.
- IBH(Backup Heater) can be available when it is set valid by DIP switch on the main control board of hydraulic module after wiring is complete.

5 STARTING UP THE SYSTEM

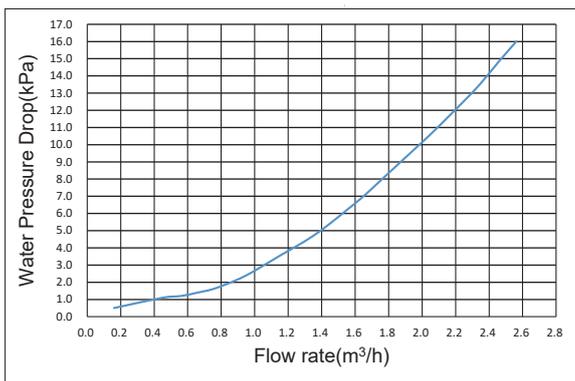
For instructions on how to configure and commission the system, and hand it over to the user, refer to the installation manual of the outdoor unit.

6 MAIN PARAMETERS

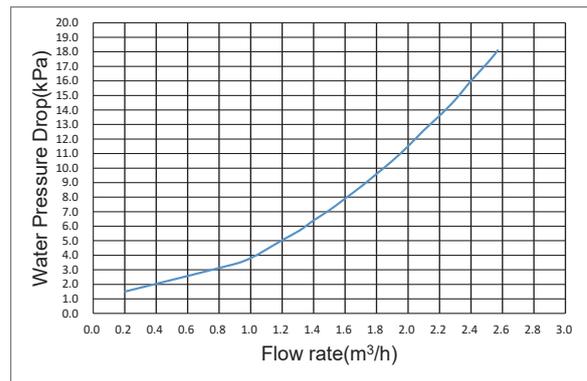
6.1 Main parameters

Model	BH30A	BH30B	BH45B	BH45B/R	BH90B/R
Capacity	3.0kW		4.5kW	4.5kW	9.0kW
Rated current	13A		19.6A	6.5A	13.3A
Power supply	220-240V~ 50Hz		220-240V~ 50Hz	380-415V 3~ 50Hz	380-415V 3N~ 50Hz
Dimensions	780mm×220mm×280mm	780mm×220mm×280mm	780mm×220mm×280mm	780mm×220mm×280mm	780mm×220mm×280mm
Packing Dimensions	890mm×325mm×385mm	890mm×325mm×385mm	890mm×325mm×385mm	890mm×325mm×385mm	890mm×325mm×385mm
Net weight	18.5kg		19kg	18.5kg	19kg
Outlet water temperature	<70°C		<70°C	<70°C	<70°C
Water inlet/outlet	G1"	G5/4"	G5/4"	G5/4"	G5/4"

6.2 Water pressure drop



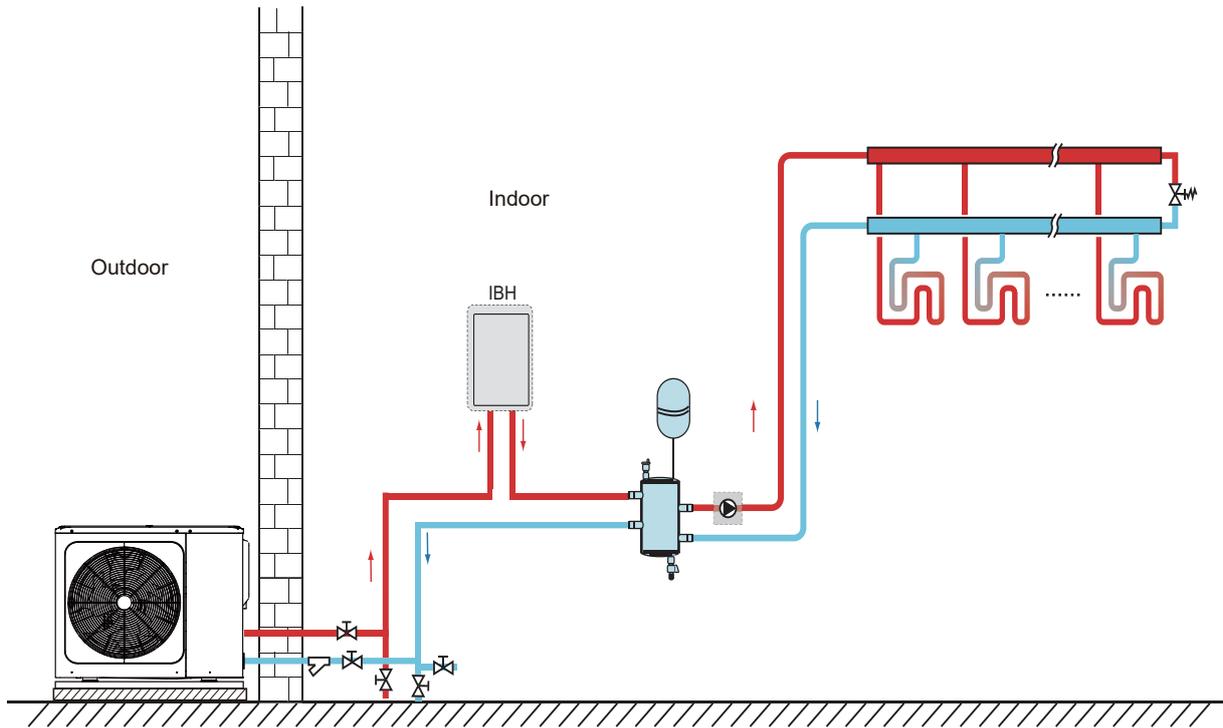
3kW/4.5kW



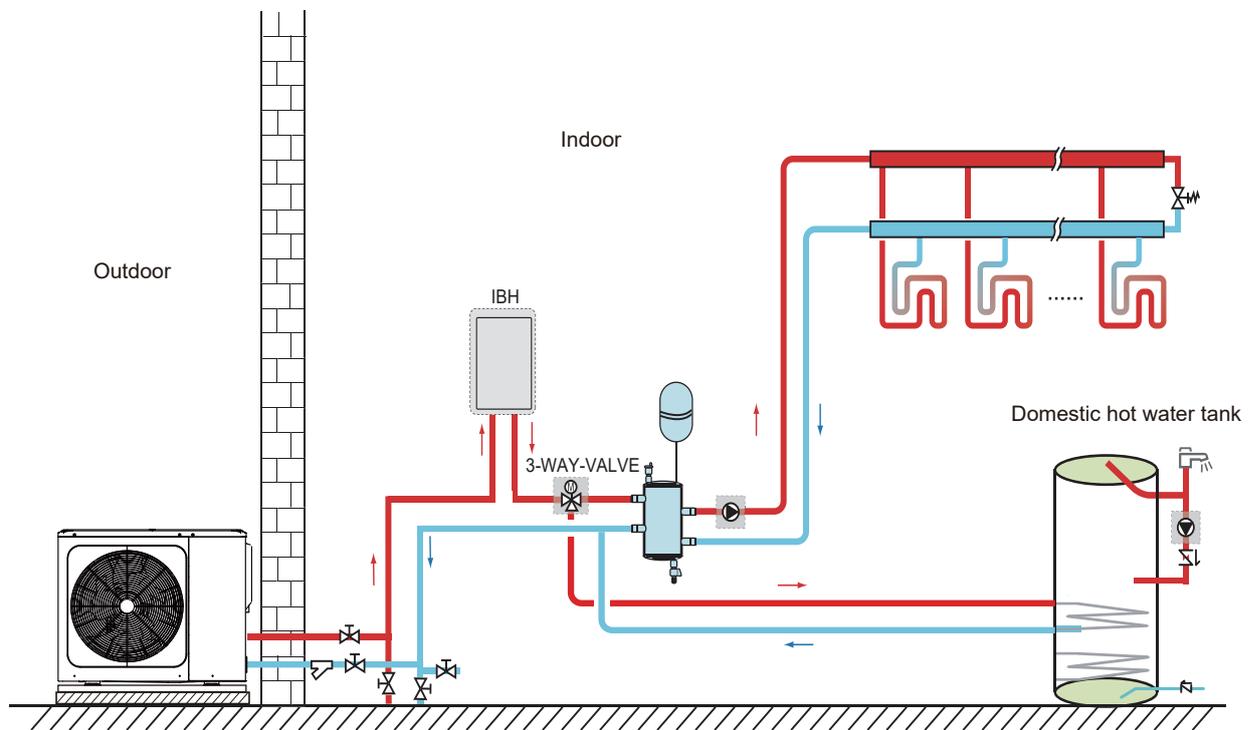
9kW

ANNEX:

The following diagrams are only for illustrating the installation of the 3-way valve, and are not used as a reference for applications of the heat pump system.



Without 3-WAY VALVE



With 3-WAY VALVE

NOTE

A series of horizontal dotted lines for writing notes.

16110600000085 V.D

此页不做菲林，仅核对使用

印刷技术要求

材质	双胶纸80g
规格	210*297(双面)
颜色	黑白
其他	

设计更改记录表（仅做说明用，不做菲林）

版本升级	更改人	更改日期	更改主要内容	涉及更改页面 (印刷页码)