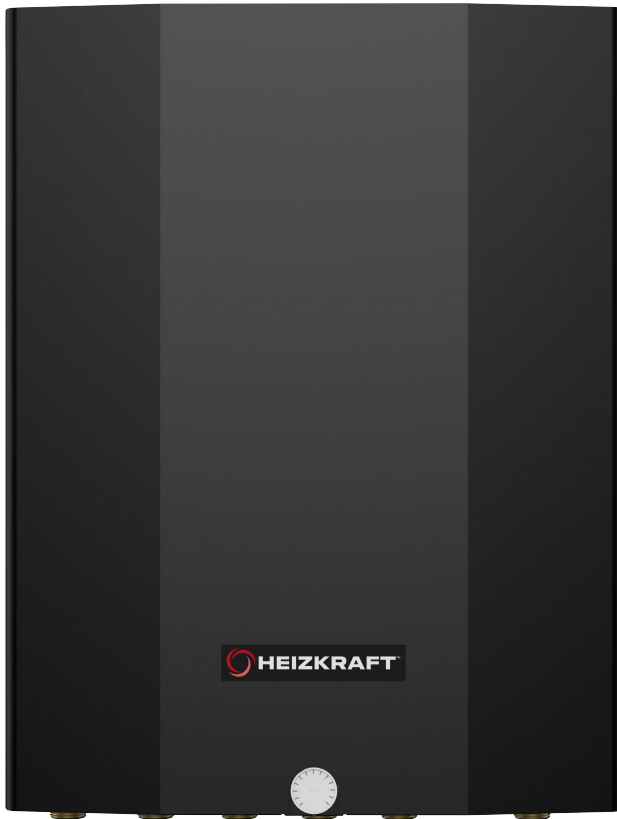


Hydrobox

Installation and Instruction Manual



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Preface

This manual includes all the necessary information about installation, debugging, discharging and maintenance. Please read this manual carefully before you open or maintain the unit.

The manufacture of this product will not be held responsible if someone is injured or the unit is damaged, as a result of improper installation, debugging, unnecessary maintenance which is not in line with this manual.

The unit must be installed by qualified personnel.

It is vital that the below instructions are adhered to at all times to keep the warranty.

—The unit can only be opened or repaired by qualified installer or an authorized dealer.

—Maintenance and operation must be carried out according to the recommended time and frequency, as stated in this manual.

—Use genuine standard spare parts only.

Failure to comply with these recommendations will invalidate the warranty.

Introduce



Hydrobox is a module designed for installation inside the building, accelerating the installation of an air-to-water heat pump system, a buffer tank and a domestic hot water tank. The compact form and well-thought-out design make the whole installation take up less space, while providing easy access for maintenance.

Due to the company's philosophy of continuous product improvement, we reserve the right to change the user manual and any specifications in this document without notice.




Safety Precaution

To prevent the users and others from the harm of this unit, and avoid damage on the unit or other property, and use the hydrobox properly. please read this manual carefully and understand the following information correctly.

Mark Notes


Mark	Meaning
 WARNING	A wrong operation may lead to death or heavy injury on people.
 ATTENTION	A wrong operation may lead to harm on people or loss of material.


Icon notes


Icon	Meaning
	Pohibition. What is prohibited will be nearby this icon
	Compulsory implement. The listed action need to be taken.
	ATTENTION (include WARNING) Please pay attention to what is indicated.

Safety Precaution

Warning

Installation	Meaning
 Earthing is required	Please make sure that the unit and power connection have good earthing, otherwise may cause electrical shock.

Operation	Meaning
 Shut off the power	When there is something wrong or strange smell, the power supply need to be shut off to stop the unit. Continue to run may cause electrical short or fire.




Move and repair	Meaning
 Entrust	It is prohibited to repair the unit by the user himself, otherwise electrical shock or fire may be occur.







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

Safety Precaution

ATTENTION

Installation	Meaning
 Installation Place	The unit CANNOT be installed near the flammable gas. Once there is any leakage of the gas, fire can occur.
 Fix the unit	Make sure that the basement of the heat pump is strong enough, to avoid any decline or fall down of the unit.
 Need circuit breaker	Make sure that there is circuit breaker for the unit, lack of circuit breaker can lead to electrical shock or fire.

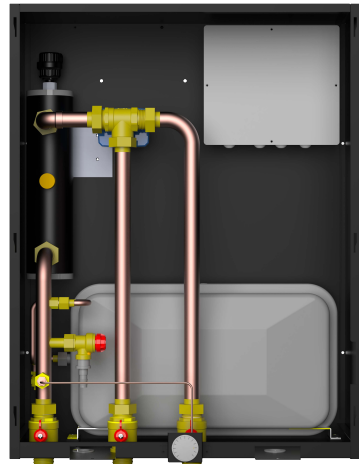
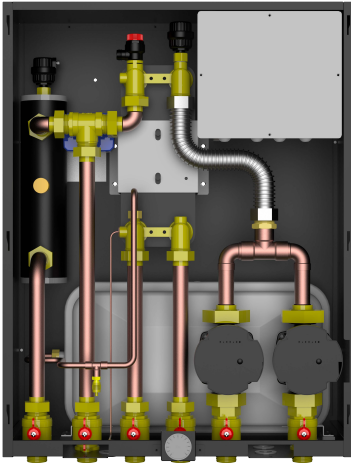
Operation	Meaning
 Check the installation basement	Please check the installation basement in a period (one month), to avoid any decline or damage on the basement, which may hurt people or damage the unit
 Switch off the power	Please switch off the power for clean or maintenance.
 Prohibition	It is prohibited to use copper or iron as fuse. The right fuse must be fixed by electrician for the heat pump.
 Prohibition	It is prohibited to spray the flammable gas to the heat pump, as it may cause fire.

Specification

1. Structure

Model:Article Nr. ZB1161

Model:Article Nr. ZB1160



2. The specification

Mode		Article Nr. ZB1161	Article Nr. ZB1160
Power Supply		220-240V~/50Hz	220-240V~/50Hz
Electric Heater	kW	3	3
Rated Current Input	A	15	13
Circulation Pump Input	W	95	/
Circulation Pump Head	m	9	/
Plate heat exchanger capacity ⁽¹⁾	kW	16	/
Expansion vessel	L	10	10
Heat Pump connection	inch	1	1
Heating connection	inch	1	1
Hot Water connection	inch	1	1
Rated flow on heat pump side	l/min	41	41
Pressure drop on heat pump side	kPa	20	5
Rated flow on heating side	l/min	48	/
Pressure drop on heating side	kPa	30	/
Noise	dB(A)	35	35
Unit Net Dimensions (L/W/H)	mm	538×319×730	538×319×730
Unit Shipping Dimensions (L/W/H)	mm	785.5×628×471	785.5×628×471
Net Weight	kg	see data on the package	see data on the package

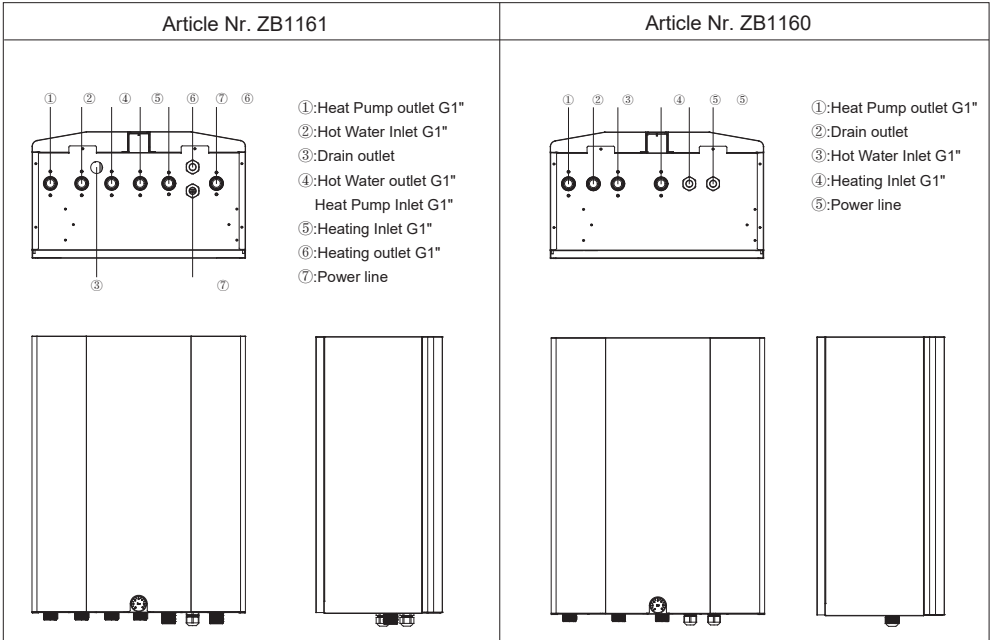
(1)Test condition:

Heat pump side supply water temperature 38 °C, return 32 °C.

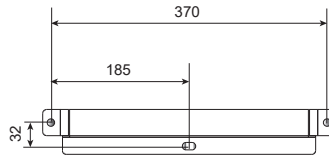
Heating side supply water temperature 35 °C, return 30 °C

Specification

3. Unit dimension



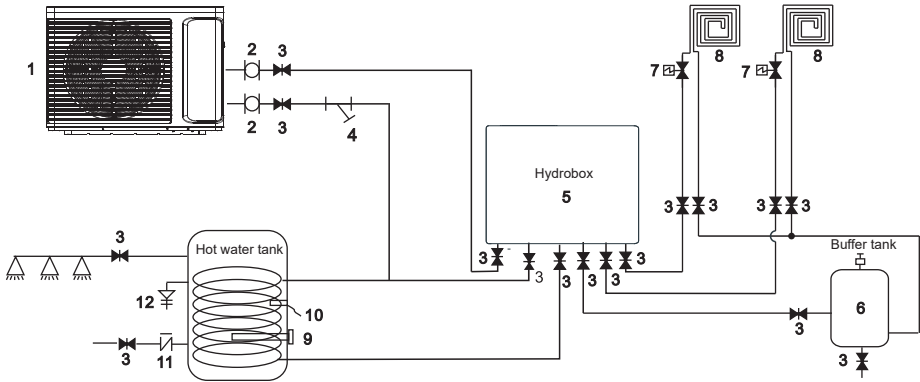
Wall mounted plate



Installation

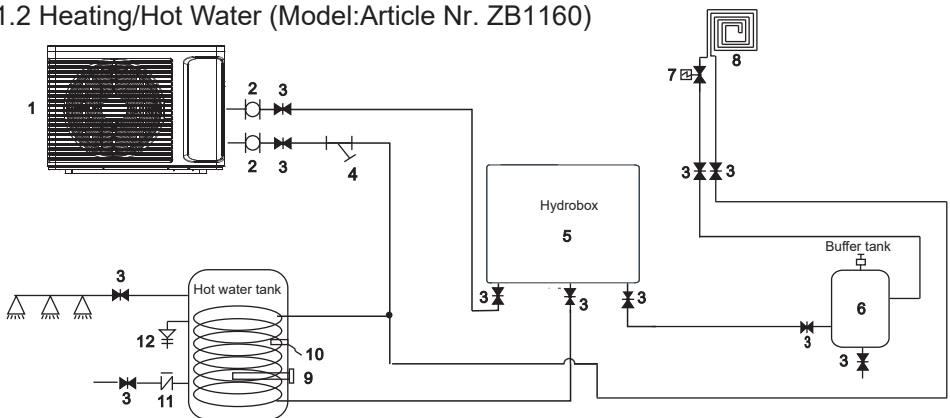
1 Application of the Hydrobox and heat pump

1.1 Heating/Hot Water (Model:Article Nr. ZB1161)



1	Heat pump	7	Floor heating valve
2	Flexible pipe	8	Floor heating pipe/fan coil unit
3	Shut-off valve	9	Electrical heater
4	Y type water filter	10	Hot water sensor
5	Hydrobox	11	Check valve
6	Buffer tank	12	PT valve

1.2 Heating/Hot Water (Model:Article Nr. ZB1160)



1	Heat pump	7	Floor heating valve
2	Flexible pipe	8	Floor heating pipel/fan coil unit
3	Shut-off valve	9	Electrical heater
4	Y type water filter	10	Hot water sensor
5	Hydrobox	11	Check valve
6	Buffer tank	12	PT valve

Installation

2 Installtion Position

The unit installation site must be able to withstand the weight of the unit, and does not generate resonance with the unit and does not increase operation noise;

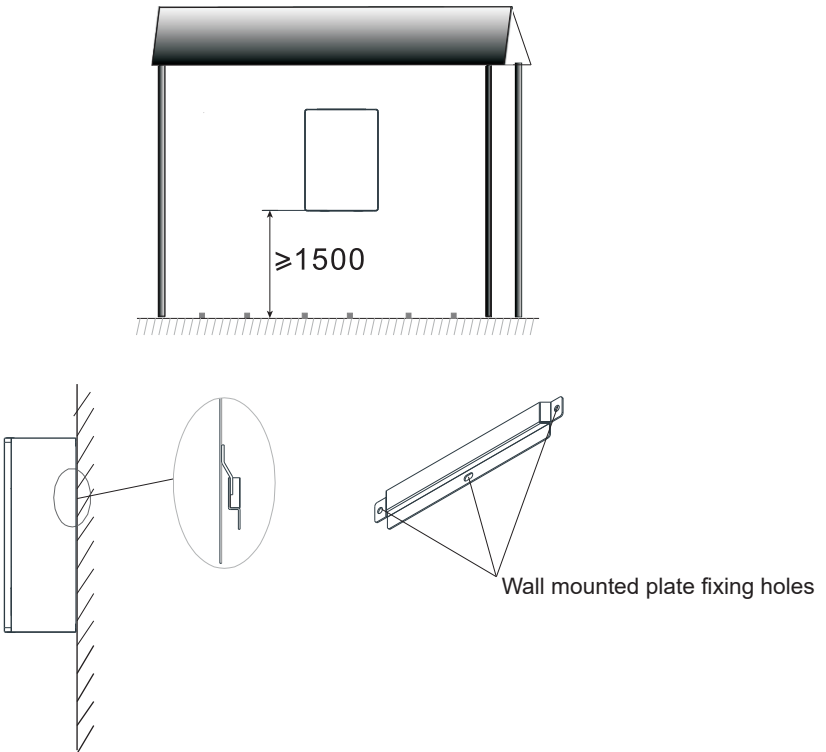
When the unit is installed, the base fixing plate must be erected to facilitate installation of the inlet and outlet pipes and the Freon way connecting pipe;

The unit is forbidden to install in places with corrosive gas, serious dust, salt fog, fumes and flammable and explosive materials;

The installation site should facilitate installation of piping and electrical connections. Please reserve enough space for maintenance of the unit;

Ensure that the height from the indoor unit to ground is between 1.5m and 1.8m, and it is easy to connect the outdoor unit;

The installation site should be inaccessible to children.



Installation

3 Hydraulic recommendations

The device can be filled with water with a low oxygen content, preferably with the use of dedicated corrosion inhibitors for heating systems.

The device should be installed taking into account the use of the necessary pressure and thermal protection in accordance with the PN-EN 12828+A1:2014-05 standard or newer.

It is not allowed to run the heater and the circulation pump dry.

Do not block the trigger of the safety valve. Do not install ball valves, non-return valves, filters or other shut-off devices in the section from the safety valve to the heat pump!

If the device is used for installations operating in cooling mode, it is necessary to additionally insulate the hydraulic components with a vapor barrier to reduce the effect of condensation.

4 Power supply connection

Live electrical device. Before performing any activities related to the power supply (connecting cables, installing the device, etc.), make sure that the device is not connected to the mains.

The electrical connection must be made taking into account the electrical parameters of the device and in accordance with applicable regulations. The used elements of the electrical installation, such as electric wires and apparatus, must be properly selected.

5 Transit

- Store the device in a dry and dust-free place.
- Do not store the device below 0°C or above 40°C.
- It is not recommended to transport the device unpacked from the delivered package.
- Moving the device requires at least two people or the use of a transport cart.
- When lifting the device, be careful not to accidentally open the cover. Do not lift by grabbing the connectors.

6 Trial Running

Inspection before trial running

Check the indoor unit, and make sure that the pipe connection is right and the relevant valves are open .

Check the water loop, to ensure that the water inside of the expansion tank is enough, the water supply is good, the water loop is full of water and without any air. Also make sure there is good insulation for the water pipe.

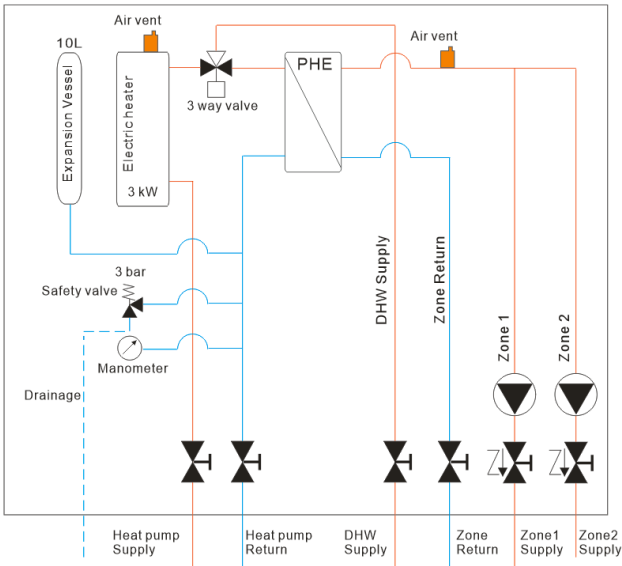
Check the electrical wiring. Make sure that the power voltage is normal, the screws are fastened, the wiring is made in line with the diagram, and the earthing is connected.

Check the heat pump unit including all of the screws and parts of the heat pump to see if they are in good order. When power on, review the indicator on the controller to see if there is any failure indication.

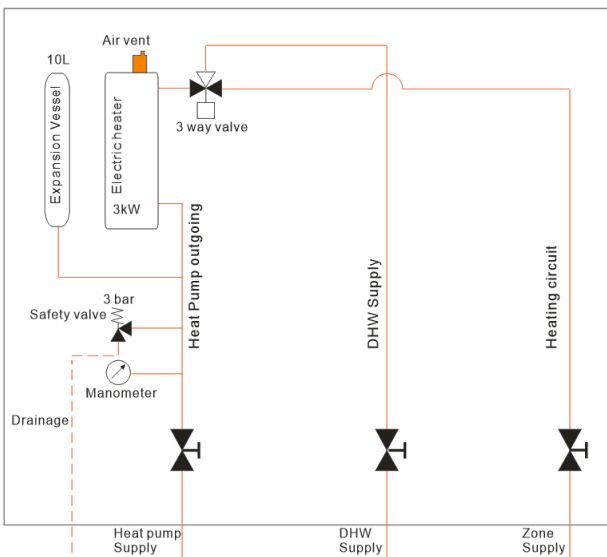
Installation

7 Schematic of the hydrobox's circuit

Model:Article Nr. ZB1161



Model:Article Nr. ZB1160



Appendix

Appendix 1、 Caution & Warning

- 1.The unit can only be repaired by qualified installer centre personnel or an authorised dealer. (for Europe market)
- 2.This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. (for Europe market)
Children should be supervised to ensure that they do not play with the appliance.
- 3.Please make sure that the unit and power connection have good earthing, otherwise may cause electrical shock.
4. If the supply cord is damaged, it must be replaced by the manufacturer or our service agent or similarly qualified person in order to avoid a hazard.
5. Directive 2002/96/EC (WEEE):
The symbol depicting a crossed-out waste bin that is underneath the appliance indicates that this product, at the end of its useful life, must be handled separately from domestic waste, must be taken to a recycling centre for electric and electronic devices or handed back to the dealer when purchasing an equivalent appliance.
6. Directive 2002/95/EC(RoHs):This product is compliant with directive 2002/95/EC(RoHs) concerning restrictions for the use of harmful substances in electric and electronic devices.
- 7.The unit CANNOT be installed near the flammable gas.Once there is any leakage of the gas , fire can be occur.
- 8.Make sure that there is circuit breaker for the unit, lack of circuit breaker can lead to electrical shock or fire.
9. The unit can only be repaired by the qualified personnel of an installer center or an authorized dealer. (for North America market)
10. Installation must be performed in accordance with the by authorized person only.
11. Caution:Single wall heat exchanger, not suitable for potable water connection.

Appendix 2、 Cable specification

1.Single phase unit

Nameplate maximum current	Phase line	Earth line	MCB	Creepage protector	signal line
No more than 10A	2×1.5mm ²	1.5mm ²	20A	30mA less than 0.1 sec	n×0.5mm ²
10~16A	2×2.5mm ²	2.5mm ²	32A	30mA less than 0.1 sec	
16~25A	2×4mm ²	4mm ²	40A	30mA less than 0.1 sec	
25~32A	2×6mm ²	6mm ²	40A	30mA less than 0.1 sec	
32~40A	2×10mm ²	10mm ²	63A	30mA less than 0.1 sec	
40~63A	2×16mm ²	16mm ²	80A	30mA less than 0.1 sec	
63~75A	2×25mm ²	25mm ²	100A	30mA less than 0.1 sec	
75~101A	2×25mm ²	25mm ²	125A	30mA less than 0.1 sec	
101~123A	2×35mm ²	35mm ²	160A	30mA less than 0.1 sec	
123~148A	2×50mm ²	50mm ²	225A	30mA less than 0.1 sec	
148~186A	2×70mm ²	70mm ²	250A	30mA less than 0.1 sec	
186~224A	2×95mm ²	95mm ²	280A	30mA less than 0.1 sec	

Appendix

Appendix 2. Water pump performance

Base on Max. speed of the circulation pump

