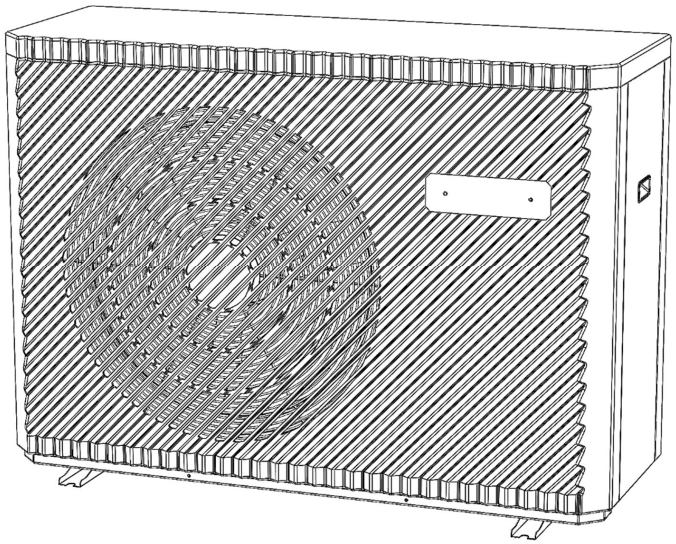
OPERATING AND ASSEMBLY MANUAL

Heat Pump KIPI HERO Premium



BTI GUMKOWSKI Sp. z o.o. Sp.k.
ul. Obornicka 71, 62-002 Suchy Las
NIP: 972 125 12 63
REGON: 302 832 793
www.bti-gumkowski.pl

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Contents

ATTENTION

- *Please read this manual before using the heat pump! The heating device may only be used in accordance with this manual,*
- *Any other use of the device requires the written consent of the manufacturer,*
- *The manufacturer of the device is not responsible for the consequences of improper use of the device, contrary to the instructions!*

1 Introduction

This manual includes a description, construction, technical data, rules of installation and operation, as well as other necessary information for safe and trouble-free operation of the heat pump. The following manuals / documents are supplied with the operating and assembly instructions for the device:

• Instruction of the controller with a touch panel by PLUM,,

2 Safety Information

To prevent damage to the appliance by users and others, to avoid damage to the appliance or other property, and to use the heat pump correctly, please read this manual carefully and understand the following information correctly.

Table I - Safety Information

category	Symbol	meaning
indication	WARNING	Incorrect use may lead to serious bodily injuries.
	CAUTION	Incorrect use may lead to personal injury or material loss.
icons		Prohibition. Anything near this icon is prohibited.
		Mandatory implementation. The listed actions should be taken.
		Please pay attention to other risks.

category	Symbol	meaning
Instalation	 Professional installer required to perform the steps	The heat pump must be installed by qualified personnel. Incorrect installation may lead to water leakage, electric shock or fire.
	 Earthing required	Make sure the electrical connection is grounded. Otherwise, there is a risk of electric shock.
Operation	 PROHIBITION	DO NOT put fingers or other limbs into the evaporator. Otherwise, parts of the body may be damaged.
	 Turn off the power	In the event of an unusual or suspect odor, disconnect the device from the power supply. Continuing to work may result in electric shock or fire.
Transport and repair	 Specialist intervention required	In the event that the pump must be moved or transported, please contact your distributor or qualified personnel. Incorrect installation may lead to water leakage, electric shock, injury or fire.
	 Specialist intervention required	It is forbidden to repair the device by the user. Failure to do so may result in electric shock or fire.
	 PROHIBITION	If the device requires repair, please contact your distributor or qualified personnel. Improper repair may result in water leakage, electric shock, injury or fire.

Do not use agents to accelerate the defrosting or cleaning process other than those recommended by the manufacturer.

The device should be stored in rooms free from constant fire exposure (e.g. open fire, working gas appliances, working electric heaters.).

Category	Symbol	Meaning
Instalation	 Miejsce instalacji	The device must NOT be installed in the vicinity of flammable gases. If any gas leakage occurs, it may cause a fire.
	 Napraw jednostkę	Make sure that the surface on which the heat pump stands is sufficiently strong and stable. Do not allow the device to tip over.
	 Wymagany wyłącznik główny	Make sure there is a main power switch. Failure to do so may result in electric shock or fire.
Operation	 Sprawdź przymocowanie do podłoża	Check attachment to the ground at least once a month to avoid tipping the device over. There is a risk of personal injury or damage to the device.
	 Wyłącz zasilanie	Turn off the power before maintaining and servicing the equipment.
	 ZAKAZ	It is forbidden to use copper or iron as a fuse. The appropriate fuse must be installed by a person with appropriate permissions.
	 ZAKAZ	It is forbidden to spray flammable gas onto the heat pump. This can lead to fire.

3 Device description

The Hero Plus inverter heat pump is characterized by economy and high efficiency. Can be used in extremely cold areas with climatic temperatures down to -25 ° C for heating / cooling and domestic hot water preparation.

The characteristics of this pump are:

• Wide range of operation - Thanks to EVI inverter technology, HERO PLUS series air-to-water heat pumps offer a wide range of operating temperatures for heating, cooling and domestic hot water preparation. This means that high water temperatures can be achieved even in cold climates with safe and reliable operation at ambient temperatures down to - 25 ° C.

• Intelligent Defrost - Pressure shift defrost technology enables intelligent defrosting, specifying the exact defrost time and starting pressure according to the actual ambient temperature. This saves energy and makes the heat pump run at high efficiency.

• Intelligent touch display - HERO PLUS has been equipped with a 4.3-inch display that allows you to control the entire heating system from one place. The advanced interface allows you to control the temperature of all circuits and adjusts it taking into account both the outside and inside temperature

• Environmentally friendly R32 refrigerant - The pump uses a fully inverter solution with R32 environmentally friendly refrigerant. Compared to common refrigerants such as R-22 and R-410A, R32 has a two-thirds lower global warming potential and has a low environmental impact.

The Hero Plus heat pump is available in three different variants: P6, P10T and P17T. This manual covers all three types. Information on the differences between the different types can be found in chapter: 4 Technical specification.

The purpose of using the device is to supply the central heating (C.H.) and central utility water (C.W.U) installations. Examples of application objects are places such as a detached house or small commercial premises

3.1 Construction

The construction of the Kipi Hero premium heat pump is presented below.

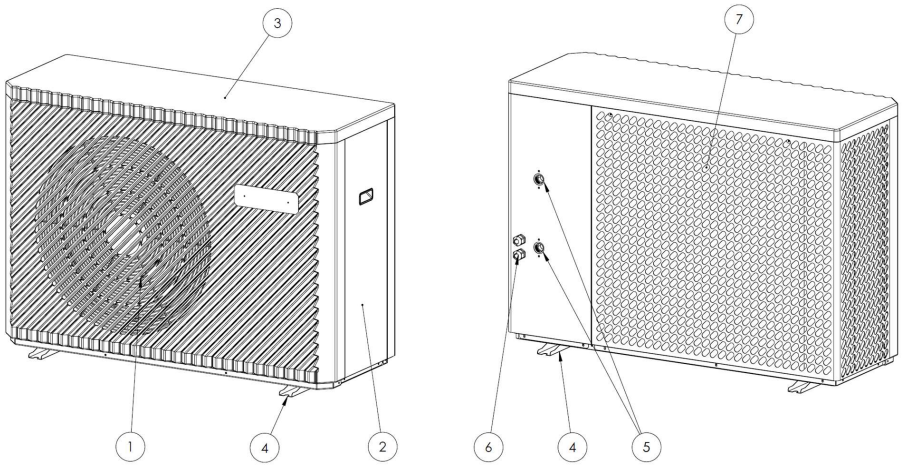


Figure 1 - Construction of the Hero Plus heat pump

Table II - List of the main parts of the boiler

No	Component	Function/descroption
1	Air launcher	Air is drawn in by the fan
2	Side cover	Providing access to service for the hydraulic part of the heat pump
3	Top cover	Allowing access to electronics
4	Mounting feet	installation of the device, e.g. on a foundation
5	Hydraulic connection sockets	Connecting the water circuit
6	Electrical connection socket	Electric power supply to the boiler.
7	Evaporator (air intake)	ATTENTION! The pump can be delivered with a box or with bushings

4 Technical Specification

4.1 Dimenssions

The dimensions of each type of KIPI Hero Plus heat pump are presented below.

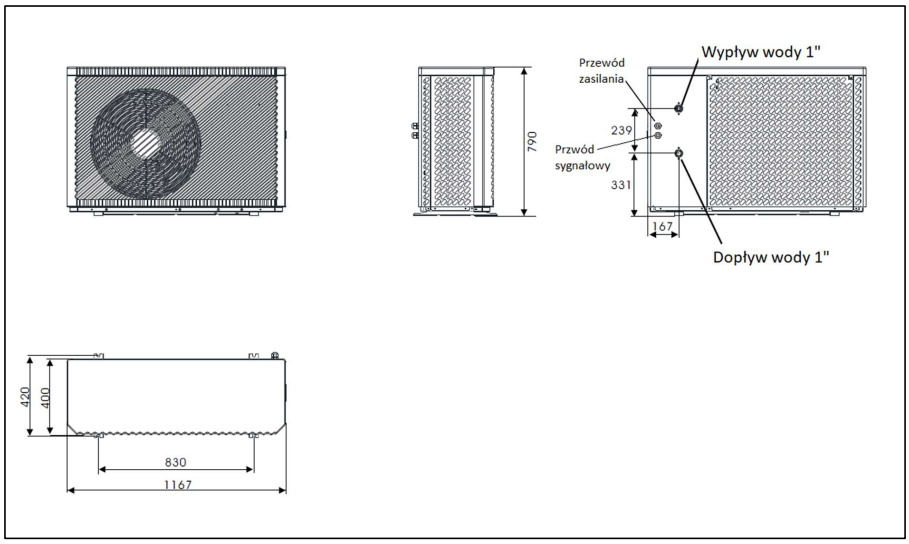


Figure 2 - Overall dimensions of the Hero Premium Q9 heat pump

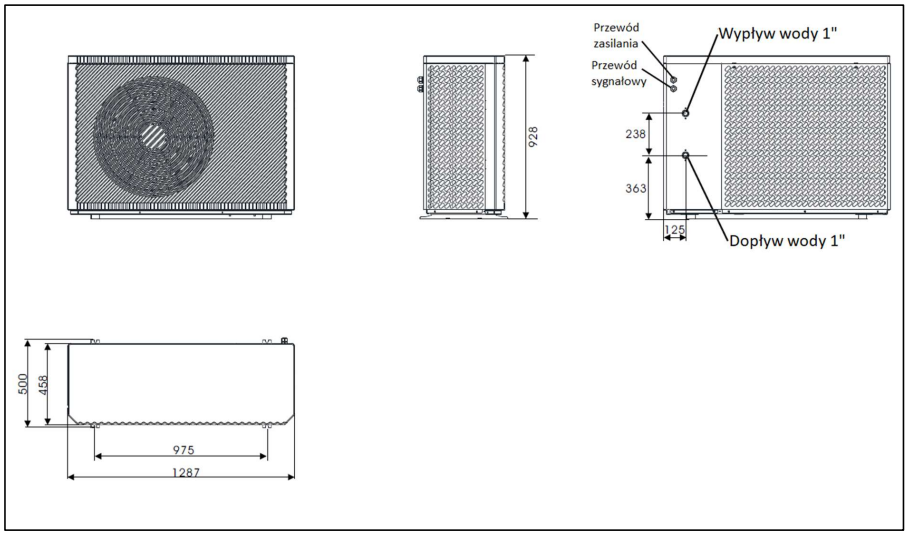


Figure 3 - Overall dimensions of the Hero Premium Q15 heat pump

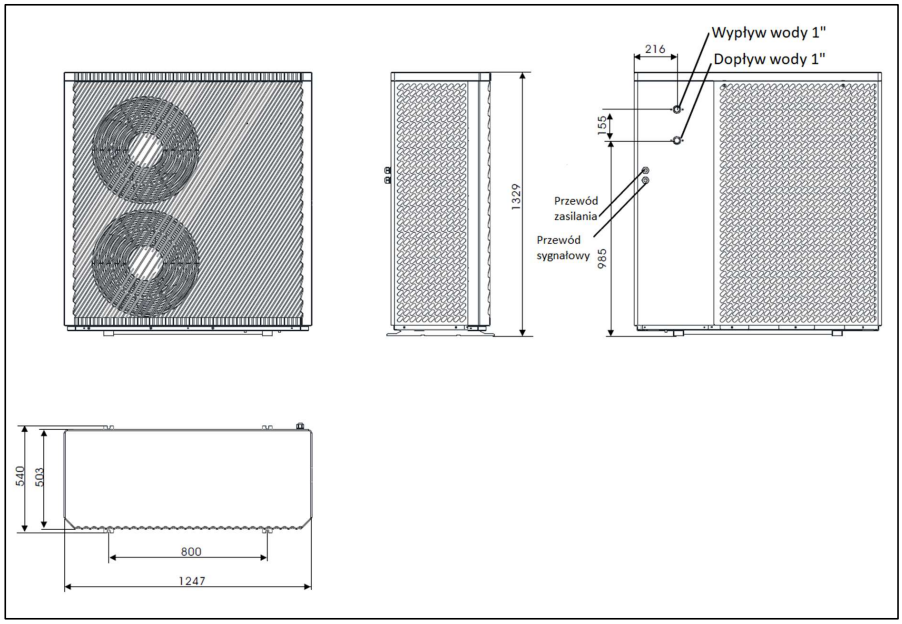


Figure 4 - Overall dimensions of the Hero Premium Q22 heat pump

ATTENTION! The dimensions given above are approximate and may slightly differ from the actual dimensions for a given pump. In order to confirm the actual dimensions, please contact the manufacturer.

4.2 Technical parameters

Table III - Technical parameters

parameter	**R290/Q9**	**R290/Q15**	**R290/Q22**
Heating power at A7 / W35 [kW]	3.21| 9.14	5.34 | 15.37	7.94 | 22.62
Heating power at A2 / W35 [kW]	2.93| 8.34	4.92 | 14.01	7.24 | 20.62
Heating power at A-7 / W55 [kW]	2.49| 7.10	4.19 | 11.93	6.16 | 17.56
Heating power at A-7 / W55 [kW]	2.03| 5.78	3.41 | 9.71	5.01 | 14.29
Maximum supply temperature [° C]	75	75	75
Cooling power at A35 / W7 [kW]	1.20 | 5.72	1.05 | 3.39	1.89 | 5.09
COP at A2 / W35	4,69	4.74	4.64
COP at A7 / W35	5.04	5.09	4.99
Voltage and current [V; A]	230/13,5	3x400/10,5	3x400/15,8
Maximum electricity consumption [kW]	3	5,3	9
Limits applied [° C]	from -25 to 43	from -25 to 43	From -25 to 43
Outdoor acoustic power 1m [dB (A)]	42	44	47
The minimum acoustic power outside 1m [dB (A)]	57	58	62
DHW tank [l]	–	–	–
Cooling	Yes	Yes	Yes
Built-in electric heater [kW]	6	6	6
Hermetically closed	YES	YES	YES
Work factor	R290	R290	R290
Amount of factor [kg]	0.50	0.85	1.30
CO2 equivalent [t CO2]	0.0015	0.0026	0.0039
Heat pump dimensions W x D x H [mm]	1167 x 407 x 795	1287 x 458 x 928	1250 x 540 x 1330
Heat pump weight packed | net [kg]	100/90	123/100	175/155
A device with a regulator - supply temperature 35 ° C	A+++	A+++	A+++
A device with a regulator - supply temperature 55 ° C	A++	A++	A++

4.3 Work parameters

The performance curves for each version of the heat pump are presented below:

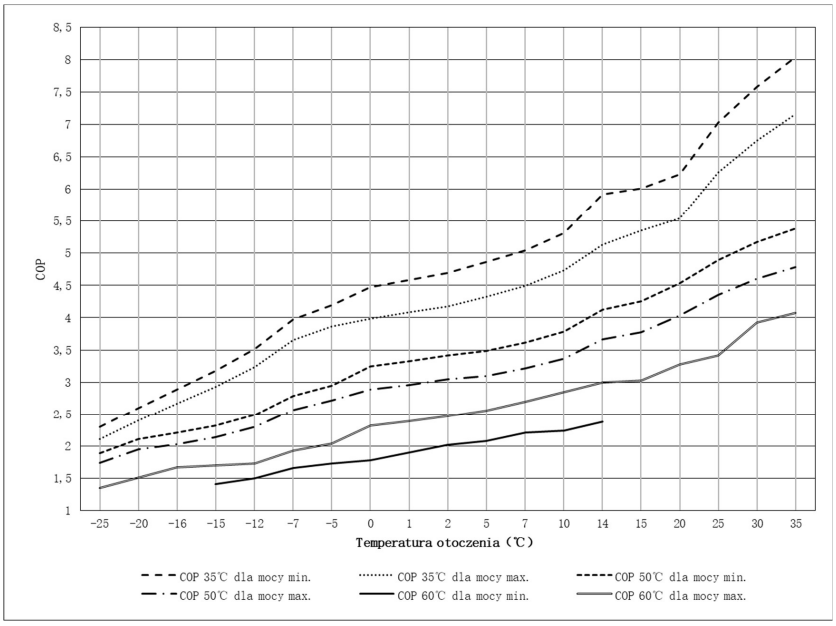


Figure 5 - Hero Premium R290 / Q9 - Coefficient of performance as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

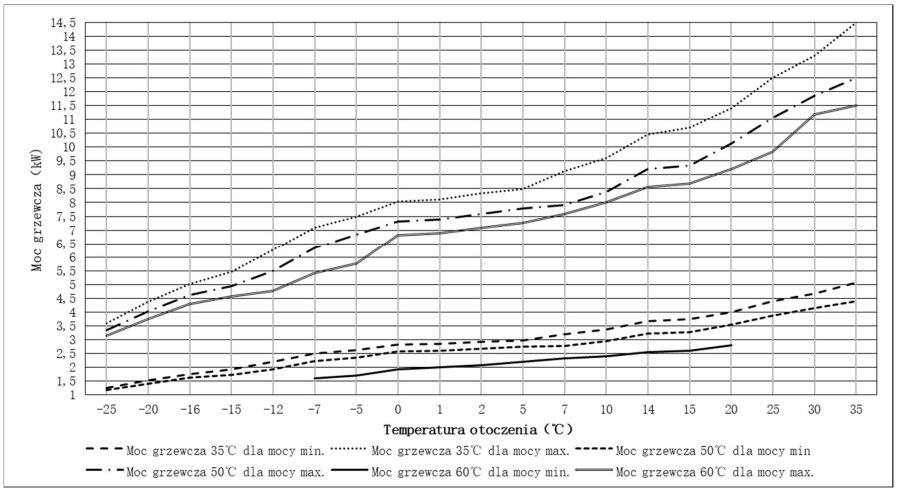


Figure 6 - Hero Premium R290 / Q9 - Heating capacity as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

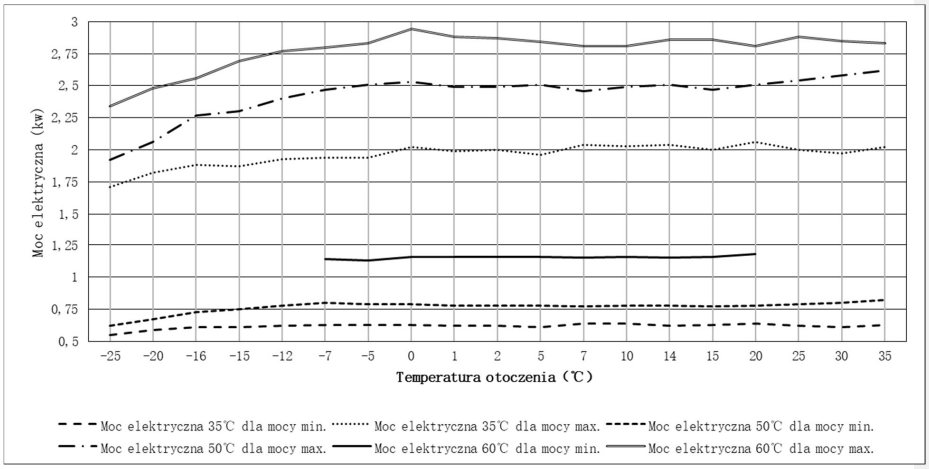


Figure 7 - Hero Premium R290 / Q9 - Electric power as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

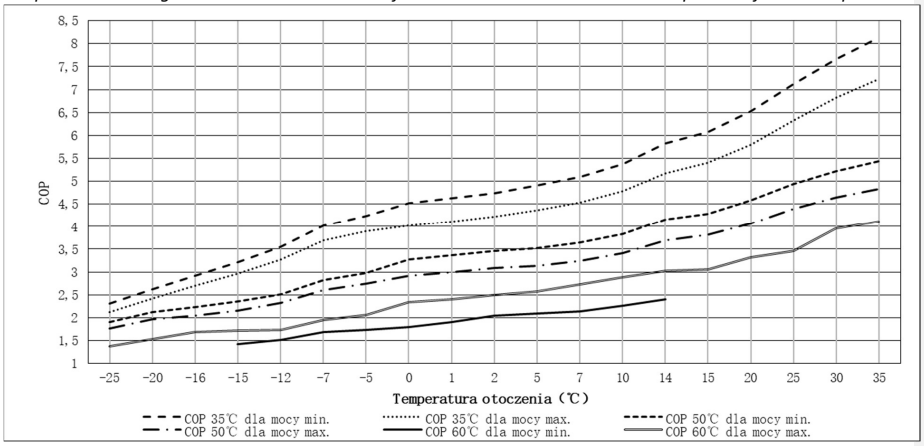


Figure 8 - Hero Premium R290 / Q15 - Coefficient of Performance as a Function of Ambient Temperature for Different System Water Temperature Setpoints and for Minimum and Maximum Compressor Power

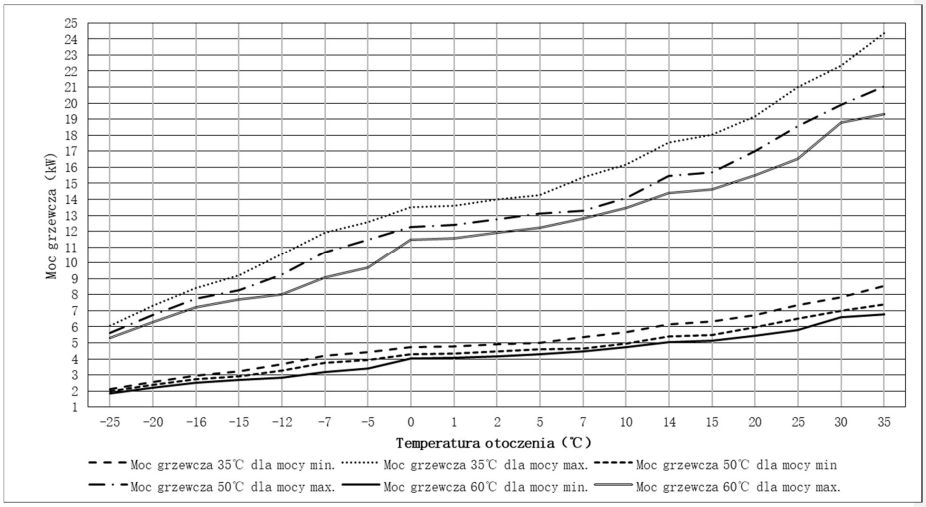


Figure 9 - Hero Premium R290 / Q15 - Heating capacity as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

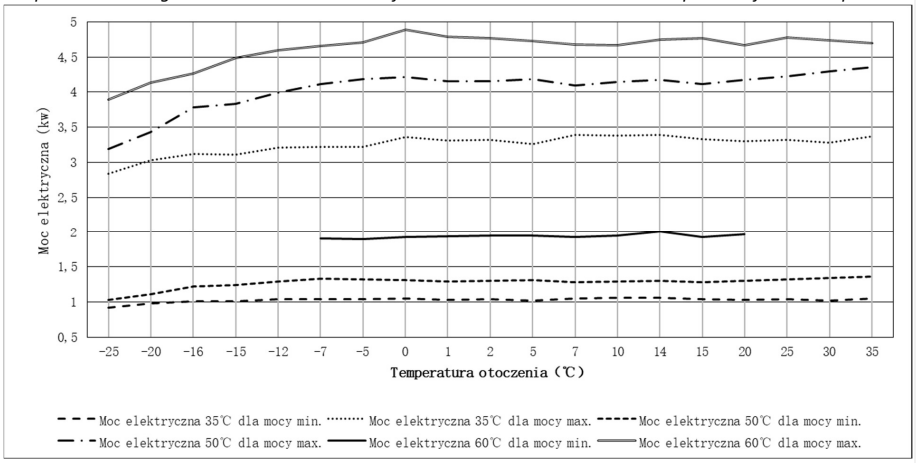


Figure 10 - Hero Premium R290 / Q15 - Electric power as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

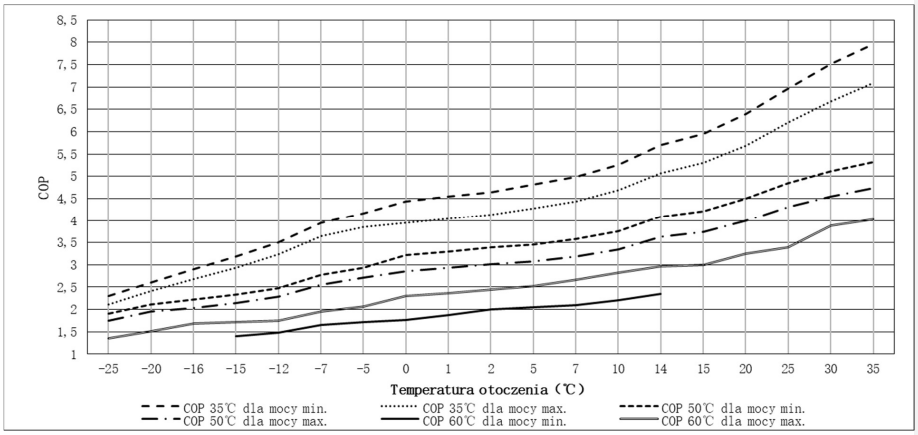


Figure 11 - Hero Premium R290 / Q22 - Coefficient of Performance as a Function of Ambient Temperature for Different System Water Temperature Setpoints and for Minimum and Maximum Compressor Power

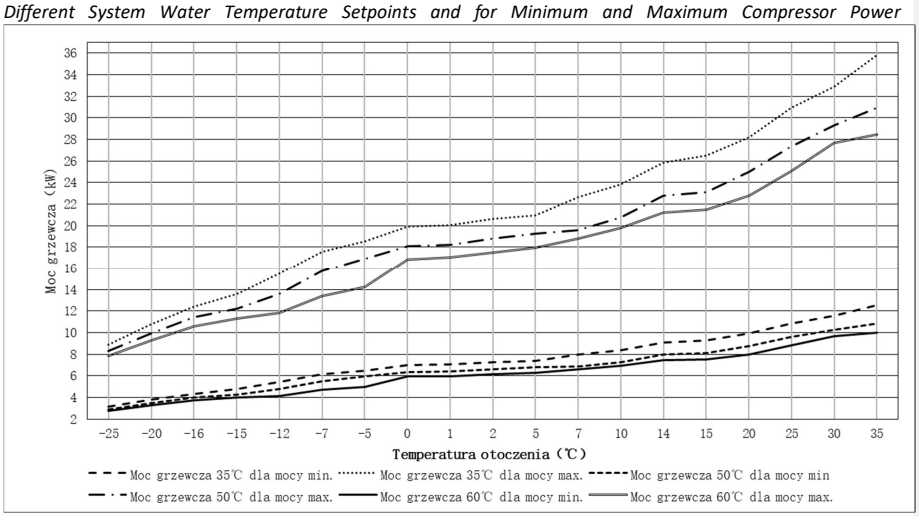


Figure 12 - Hero Premium R290 / Q22 - Heating capacity as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

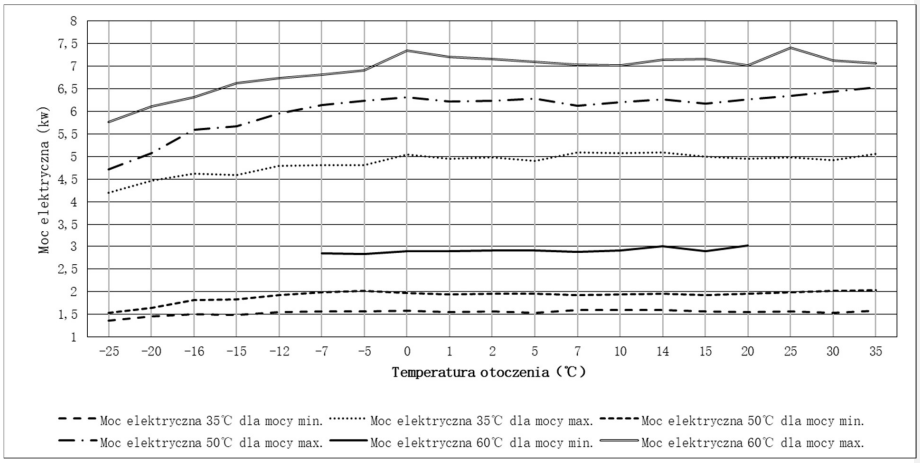


Figure 13 - Hero Premium R290 / Q22 - Electric power as a function of ambient temperature for different water temperature settings in the installation and for the minimum and maximum power of the compressor

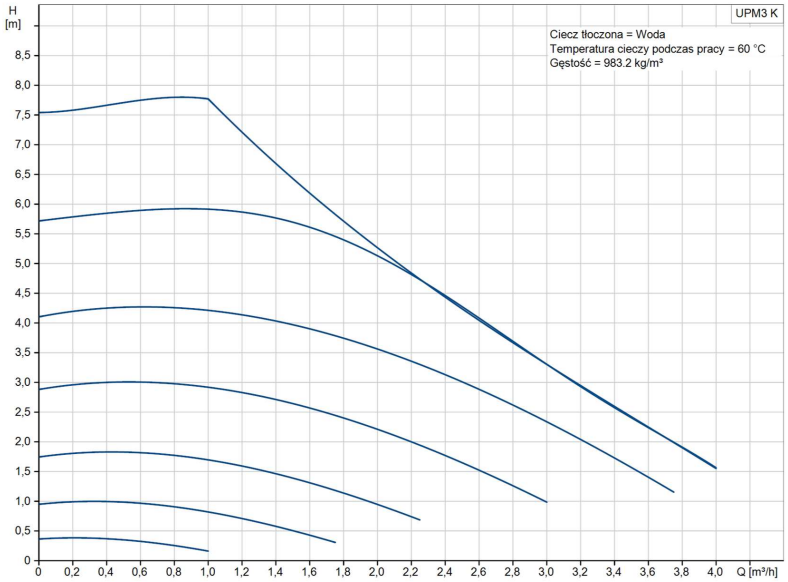


Figure 14 - Characteristics of the circulation pump in Hero Premium Q9 and Q15 (UPM3K 25-75 130 AZA)

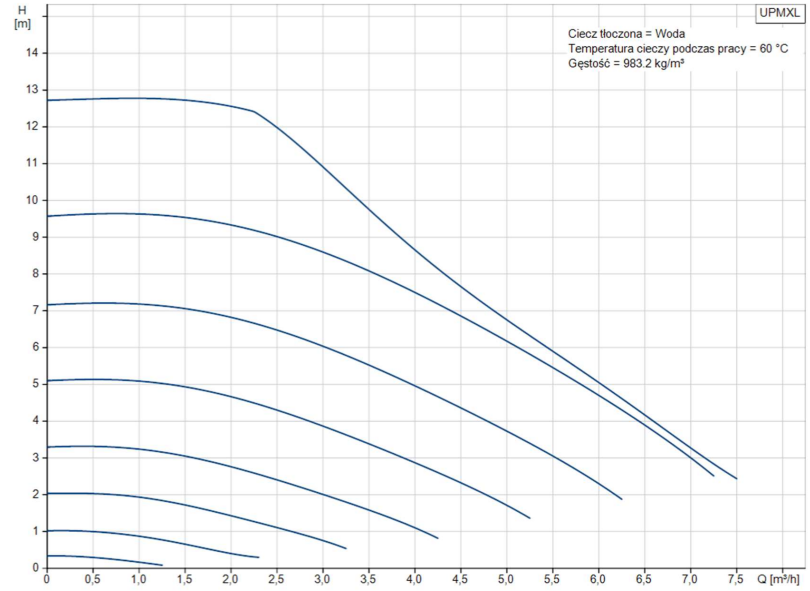


Figure 15 - Characteristics of the circulation pump in Hero Premium Q22 (UPMXL 25-125 130)

5 Transport

5.1 Heat pump delivery

The heat pump is delivered by the manufacturer on a pallet adapted to the pump. The device should be transported on a pallet to its destination, and then removed from it. Likewise, if the heat pump needs to be transported to another location, set it up and secure it on a pallet, sticking to the following guidelines:

• Make sure that the device has its weight on the legs so that it cannot fall between the boards of the pallet (1),

• The heat pump should be protected with stretch foil (if necessary)

• The pump should be attached to the pallet with bandages (2),

• Use cardboard angles (3) to prevent damage to the housing

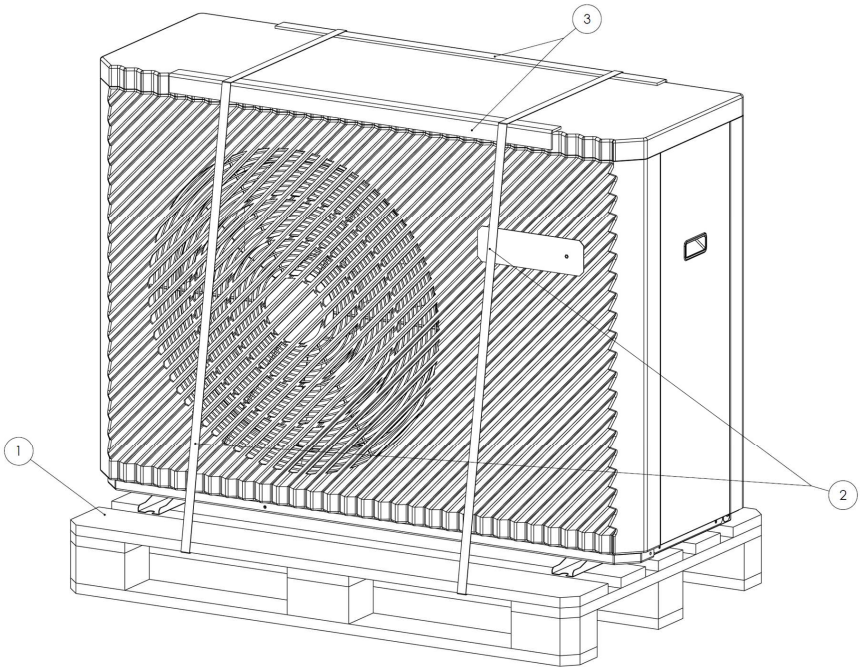


Figure 16 - Transporting the heat pump

The heat pump, packed as above, can be transported with a pallet truck or a forklift truck.

ATTENTION

DO NOT transport the heat pump in a position other than that shown in the picture. It is forbidden to transport or store the device on its side in a lying position.

Steps when removing the boiler from the pallet:

1. 1. Remove the protective foil
2. 2. Cut the bandages and remove the mounting angles
3. 3. Put together the heat pump from the pallet - MINIMUM OF 2 PEOPLE!!

5.2 Removing for the palet

WARNING

DO NOT touch the heat pump exchanger (radiator) with fingers or other objects.

if it is necessary to raise the heat pump to a greater height, an eight meter long belt should be used. In addition, a soft material should be used between the belt and the device to avoid scratching and damage. The Heat Pump must be suspended in accordance with the figure below.

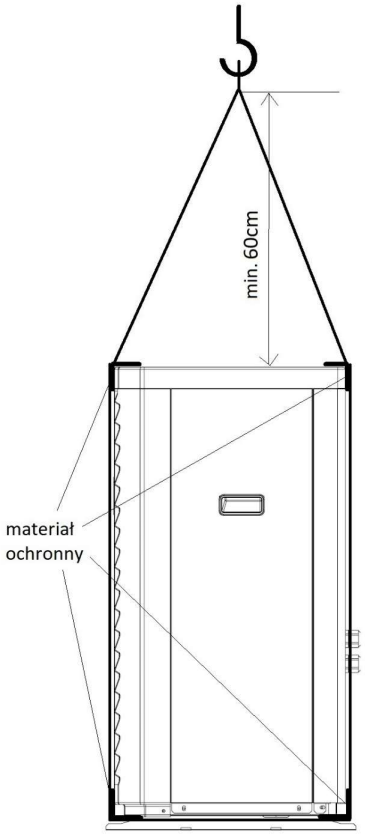


Figure 17 - Lifting the heat pump with straps

6 Assembly / installation of the heat pump

Before starting the installation, check:

• whether the purchased device is free from mechanical defects and damage, e.g. during transport,

• whether the central heating plumbing is properly made, whether there is any dirt, rust, etc. that could cause the heat pump to malfunction (e.g. increase the water flow resistance),

• if the electric network has the correct voltage (230 V) and if the phase cable (L) is correctly connected and the electric socket is secured with a protective contact.

The heat pump must be installed before it is put into operation. When installing the heat pump, pay particular attention to:

a) Cross-sections of the hydraulic system of the heating system to ensure adequate water flows,

b) Place the device in a suitable place and at appropriate distances from walls - (Chapter 7.1 Place and method)

c) Connect the device to the heating system - (Chapter 7.2 Connection to the central heating and domestic hot water system)

d) Connect the device to the mains - (Chapter 7.3 Connecting to the electrical system)

6.1 Place and method of installation

ATTENTION

The heat pump must be level! Failure to level the pump can lead to continual overflow of condensate through the technical openings.

When installing the heat pump, observe the following considerations:

1. The device can be mounted in two ways:

a) In an upright position, on a concrete foundation with expansion bolts or on a steel frame with rubber feet (shock absorbers), which can be placed on the ground or on a table top. Make sure the device is level.

In addition, there must be enough space around the device for maintenance. The figure below shows the positioning of the heat pump with the minimum distances from the walls..

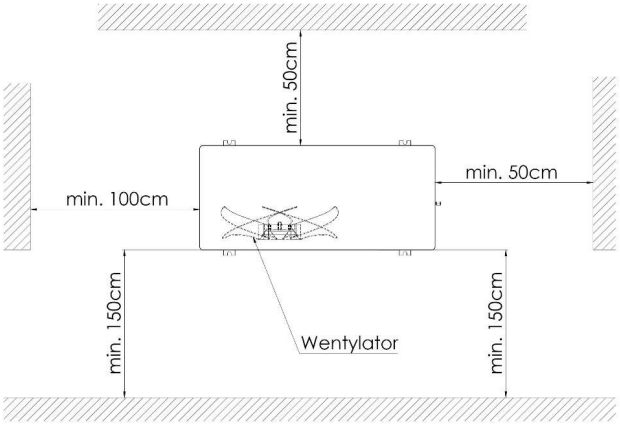


Figure 18 - Distances from the walls of the heat pump

a) Wall-hooked - Use the wall-mounting console as shown in Figure 19.

ATTENTION

Select the wall bracket according to the weight of the installed heat pump!

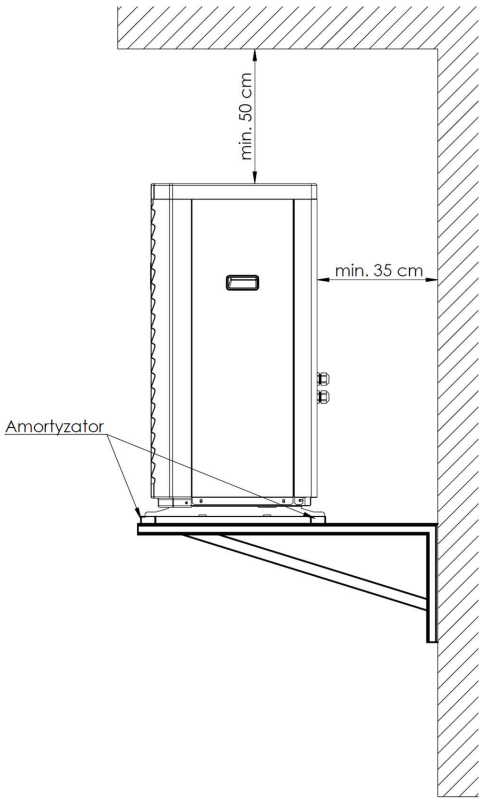


Figure 19 - Fixing the heat pump to the wall

WARNING

W obydwu wyżej wymienionych przypadkach urządzenie MUSI BYĆ zakotwione za pomocą amortyzatorów lub postumentów gumowych!

1. The location must have good ventilation.
2. The place must be free from heat radiation and potential sources of fire.
3. In winter, protect the heat pump from snow. "Snow walls" must not be allowed to block the free flow of air through the fan and the evaporator.

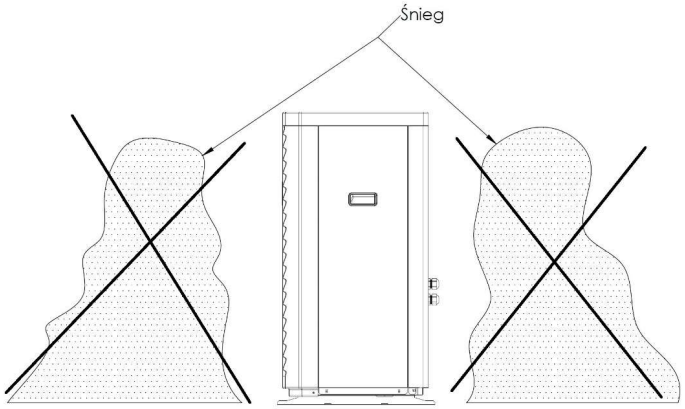


Figure 20 - Warning of too much snow around the heat pump

WARNING

Check and remove excess snow around the machine. DO NOT allow the situation as shown in the picture above!

1. There must be no obstacles in the vicinity of the air inlet and air outlet of the heat pump.
2. The place should be free from strong gusts of air.
3. Provide access to free condensate drainage from the heat pump according to one of the following methods::

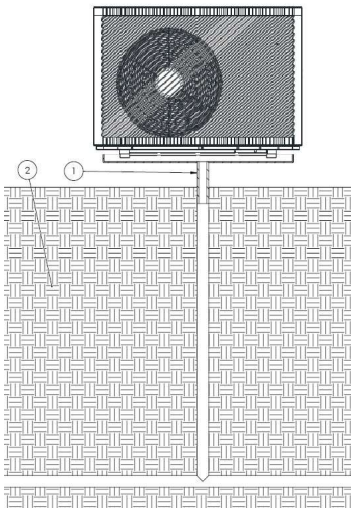


Figure 21 - Direct discharge of condensate to the ground
1 - Insulated condensate drain pipe; 2 - ground; 3 - Gravel layer to receive up to 50 liters of condensate per day as an infiltration buffer zone

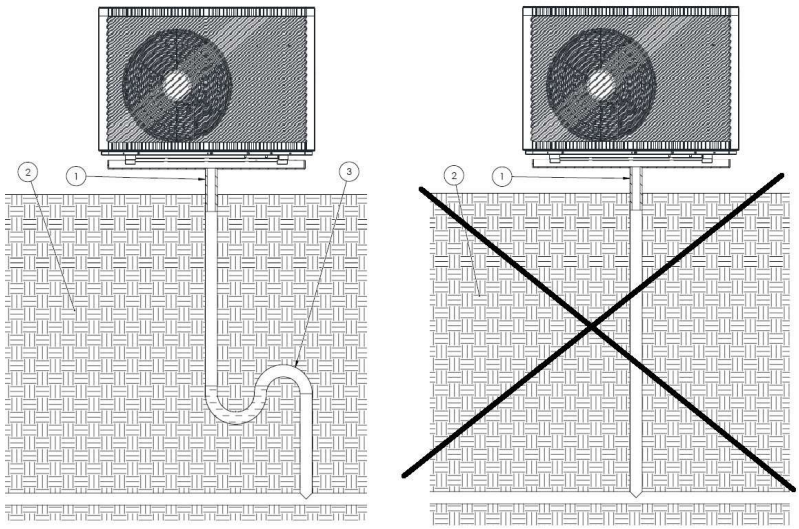


Figure 22 - Option for direct drainage of condensate to the waste water or rainwater drain

1 - Insulated condensate drain pipe; 2 - ground; 3 - siphon

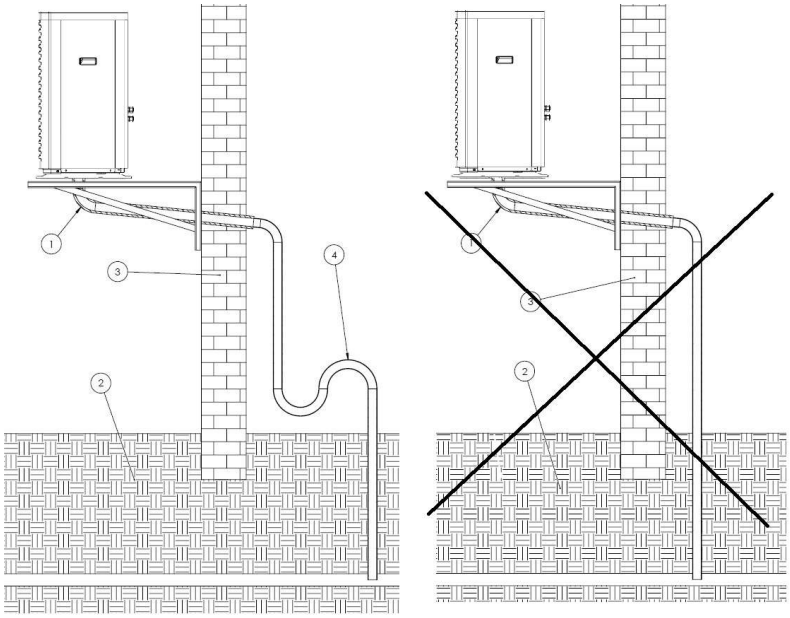


Figure 23 - Connecting the condensate pipe inside the building

1 - Insulated condensate drain pipe; 2 - ground; 3 - wall; 4 - siphon

WARNING

Condensation (condensation) during defrosting of a strongly frozen condenser, excess water can be drained off through technical overflows to the outside of the device

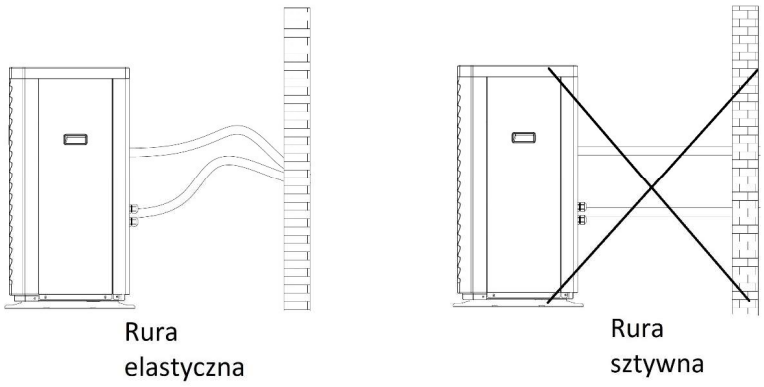


Figure 24 - Connecting the hydraulic system to the pump with flexible hoses

WARNING

The heat pump must not be connected via rigid pipes. This can damage the device due to vibration.

6.2 Connecting to the central heating installation and domestic hot water

WARNING

Between the heat pump and the central heating system Install shut-off valves inside the building, allowing the disassembly of the device without the need to drain water from the entire system

Due to the possibility of defrosting, there must be an adequate amount of water in the system. It depends on the pump used in the circuit. The table below shows the minimum volume of water that must be in the system depending on the power of the circulation pumpTabela I - Minimalna objętość wody w instalacji

Pump power	Min. volume of water in installtion
6kW	100 l.
10kW	120 l.
17kW	170 l.

WARNING

The above conditions MUST be met. If the system itself does not have sufficient water volume, an additional buffer must be used.

WARNING

In the return of the heat pump installation, a particle filter or a desilter system should be used

When choosing a tank, pay attention to its heat exchange surface. It must be large enough for the stability of the pump operation. The following criterion should be used: 1 kW of heat pump power is: 0.25-0.45 m2 of coil surface. So for Hero Premium:

Table V - Coil heat transfer area

Hero Premium	Coil heat exchange surface [m^2]
Q9	min. 1,7
Q15	min. 2,2
Q22	min. 2,8

WARNING

In case of not respec intermittent and incorrect operation of the heat pump, as well as significantly extending the DHW tank loading time.

HERO heat pumps enable the management of 5 independent hydraulic systems. Thanks to the controller and room thermostats, they are regulated automatically depending on the outside and inside temperature in the given rooms.

The proposed systems (solution with a buffer or with a clutch) can be made in a closed or open system. However, the solution with the exchanger should be made on the side of the pumping system as a closed system, and on the side of the system, open or closed.

When installing the heat pump, observe the following considerations::

4. To minimize the hydraulic resistance of the installation, it is necessary:

a) Use the suggested diameters of the system pipes according to the table below:

Table VI - Proposed diameter of pipes in the installation

Heat pump	Cooper installation	PEX Installation
Q9	≥28	≥32
Q15		≥32
Q21		≥40

- When carrying out the installation between the pump and the building, the length of routes and the number of fittings should be minimized so that the following minimum flows are obtained:

Table VII - Minimum flows in the installation

Heat Pump	Minimum flows [m^3/h]
Q9	1,2
Q15	1,7
Q21	2,8

- Pipes must be clean and free from dirt and blockages. Perform a leak test to make sure there are no leaks. Only then can the pipe be insulated. In addition, the pipes must be pressure tested independently (without connecting the heat pump),
- The installation must include an expansion tank or an expansion vessel,
- The flow switch is installed inside the heat pump. Check that the wiring and operation of the switch is correct,
- Make sure that the installation is properly vented,
- There must be a thermometer and pressure gauge on the water inlet and outlet to facilitate checking during operation.

WARNING

Failure to comply with the above conditions may cause flow resistance, pressure drop and, consequently, the mechanical flow switch will stop the pump operation.

The heat pump can be connected to the installation in many different ways. Installation should be performed by a trained / authorized specialist in this field. Diagrams of possible connections of the heat pump to the central heating and hot water systems are presented below.

The recommended hydraulic system is one in which the minimum amount of water will be ensured according to Table IV. In addition to the systems indicated below, it is also possible to connect the pump in a direct system. In the case of not providing the right amount of water, or if the installation

equipped with thermostatic heads on receivers or manifolds, it is advisable to use a thermal buffer in the installation.

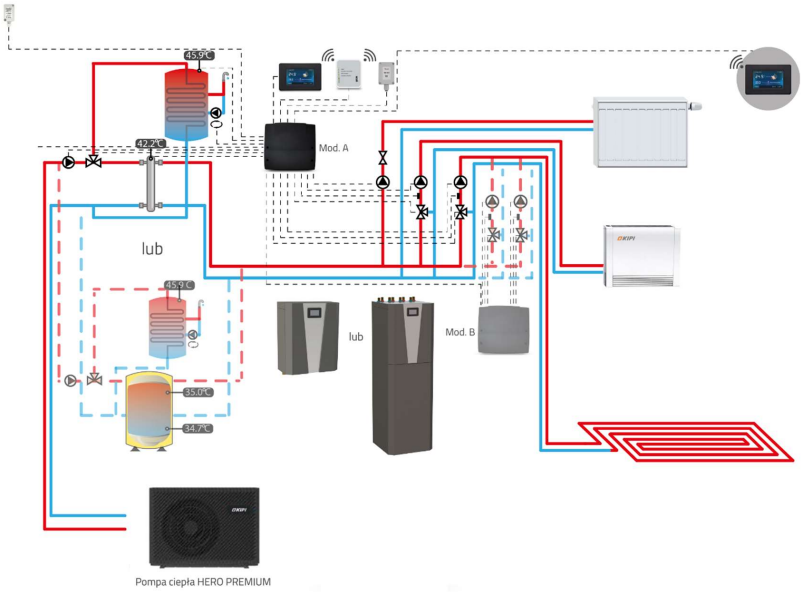


Figure 25 - Possible variants of the heat pump application in the building's hydraulic system with the possible circuits - radiator, air-convector, floor circuit

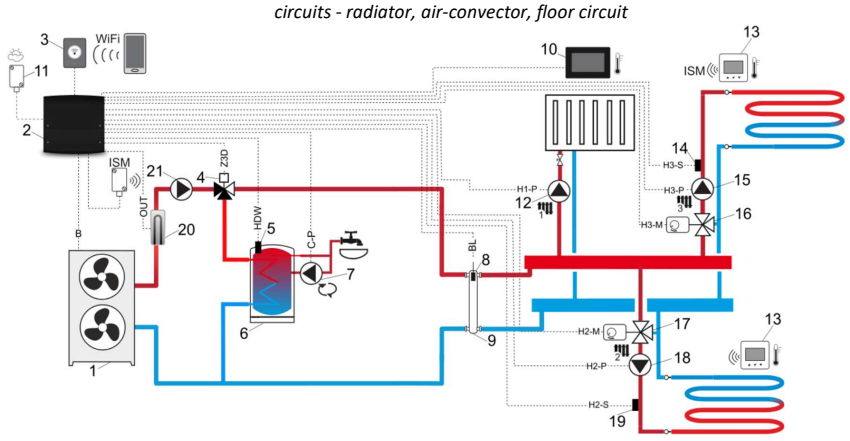


Figure 26 - Diagram with a hydraulic coupler and DHW tank;

1 - heat pump, 2 - regulator, 3 - internet module, 4 - 3-way valve, 5 - DHW temperature sensor, 6 - DHW tank, 7 - circulation pump, 8 - hydraulic clutch temperature sensor, 9 - hydraulic coupling , 10 - control panel with a room thermostat function, 11 - external (weather) temperature sensor, 12 - mixer 1 pump, 13 - wireless room thermostat, 14 - mixer 3 temperature sensor, 15 - mixer 3 pumps, 16 - mixer actuator 3, 17 - mixer 2 actuator, 18 - mixer 2 pump, 19 - mixer 2 temperature sensor, 20 - flow heater, 21 - DHW pumps.

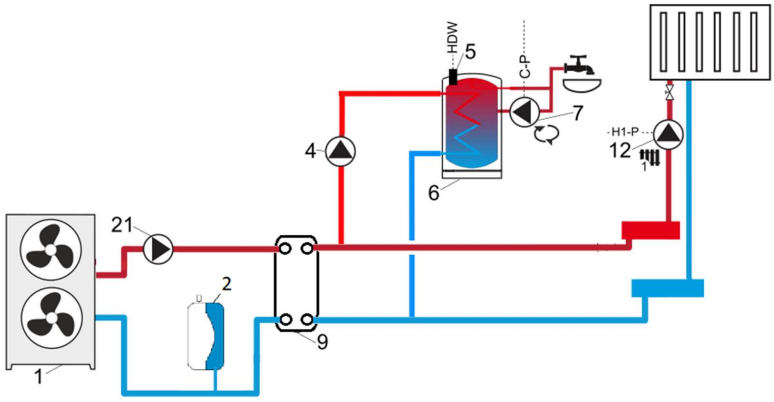


Figure 27 - Diagram with a plate heat exchanger and DHW tank;

1 - heat pump, 2 - expansion vessel (equalizing), 4 - DHW pump, 5 - DHW temperature sensor, 6 - DHW tank, 7 - circulation pump, 9 - plate heat exchanger, 12 - mixer 1 pump, 21 - pump the heat pump circuit.

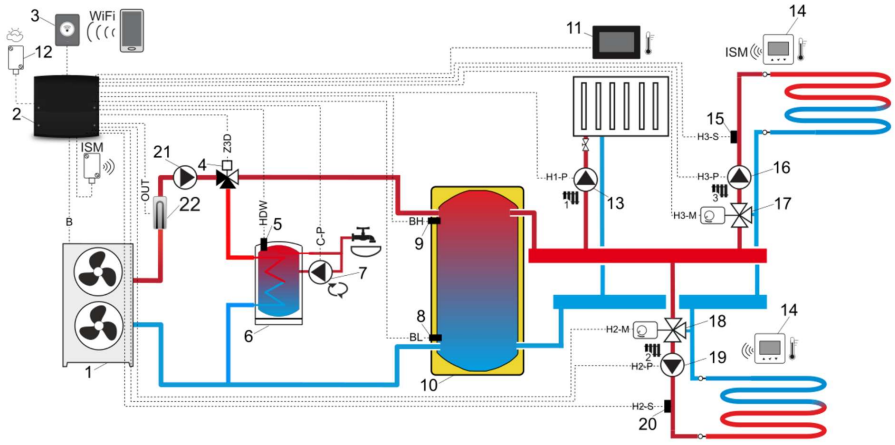


Figure 28 - Diagram with heat buffer and DHW tank;

1 - heat pump, 2 - regulator, 3 - internet module, 4 - 3-way valve, 5 - DHW tank temperature sensor, 6 - DHW tank, 7 - circulation pump, 8 - lower buffer temperature sensor, 9 - upper buffer temperature sensor, 10 - heat buffer, 11 - control panel with room thermostat function, 12 - external (weather) temperature sensor, 13 - mixer 1 pump, 14 - wireless room thermostat, 15 - mixer 3 temperature sensor, 16 - mixer 3 pumps, 17 - mixer 3 actuator, 18 - mixer 2 actuator, 19 - mixer 2 pump, 20 - mixer 2 temperature sensor, 21 - DHW pump, 22 - flow heater

6.3 Connecting to the electrical installation

To connect the device to the electrical system, follow the steps below::

- Open the electric cover to access the electric part of the pump.
- The heat pump's power supply must be connected to the corresponding terminals in the control box. Then connect the cable to wired controller and main controller.
- If an external pump is required, connect its power supply together to the appropriate terminals in the control box.
- If an additional auxiliary heater is required to be controlled by the heat pump's control computer, it must be connected to the corresponding output of the control.

The heat pump must be powered by alternating current according to the table below:

Table VIII - Electricity supply

Parameter	Unit	P9	P15T	P22T
Maximum input power	A	13,0	7,6	12,0
Supply	V/Hz	220~240V～/50Hz	380~415V/3N~/50Hz	380~415V/3N~/50Hz

In addition, the following types of cabling should be used depending on the flowing current:

Table IX - Electric wires

Max. Power on name plate	ONE PHASE phase conductor	phase conductor FOR THREE PHAS	CB ground conductor	MCB	Residual current protection	Sigal wire
<10A	3×1.5mm^2	5×1.5mm^2	1.5mm^2	20A	30mA less then 0,1 s	n×0.5mm^2
10~16A	3×2.5mm^2	5×2.5mm^2	2.5mm^2	32A	30mA less then 0,1 s	
16~25A	3×4mm^2	5×4mm^2	4mm^2	40A	30mA less then 0,1 s	
25~32A	3×6mm^2	5×6mm^2	6mm^2	40A	30mA less then 0,1 s	
32~40A	3×10mm^2	5×10mm^2	10mm^2	63A	30mA less then 0,1 s	
40~63A	3×16mm^2	5×16mm^2	16mm^2	80A	30mA less then 0,1 s	

Z komentarzem [MC1]: Przewód dla zasilania 3N powinien być w układzie TNCs zastosowany np. 5x4mm2

WARNING *Use cables that are resistant to UV radiation*

ATTENTION *SEP qualifications (up to 1kVA) are required to connect heating system devices (pumps, actuators, pump groups, solenoid valves).*

ATTENTION

Before connecting the device, make sure that it is disconnected from all voltage sources!

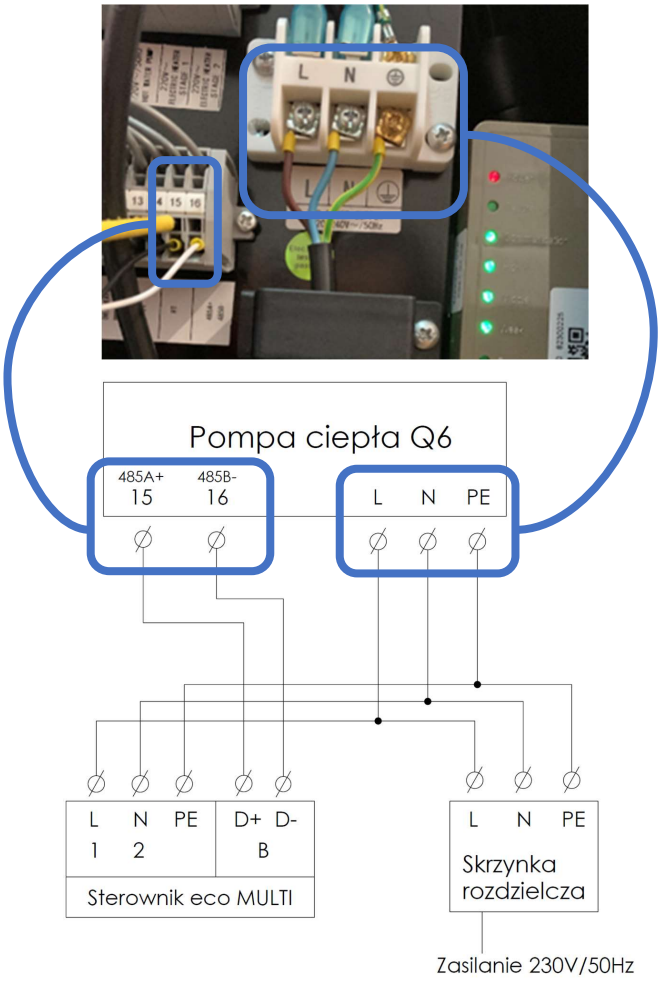

L N
13 14 15 16
Pompa ciepła Q6
485A+ 15
485B- 16
L N PE
L N PE D+ D-
1 2 B
Sterownik eco MULTI
L N PE
Skrzynka rozdzielcza
Zasilanie 230V/50Hz

Figure 30 - Hero Premium Q6 heat pump connection diagram

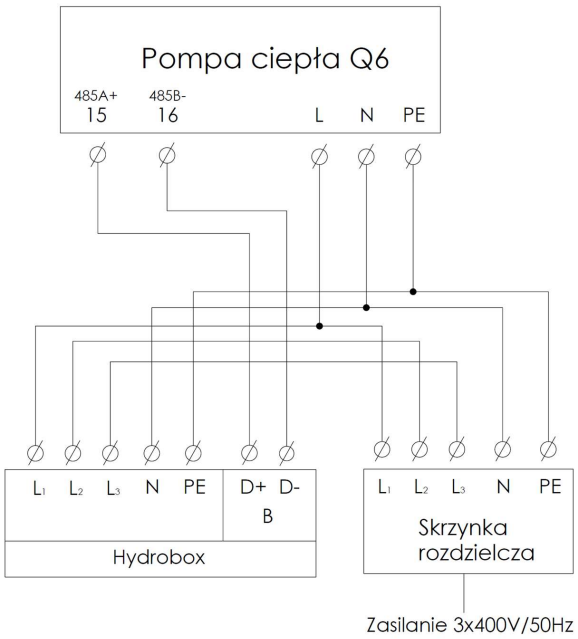


Figure 31 - Wiring diagram for Hero Premium Q6 heat pump with hydrobox connected option

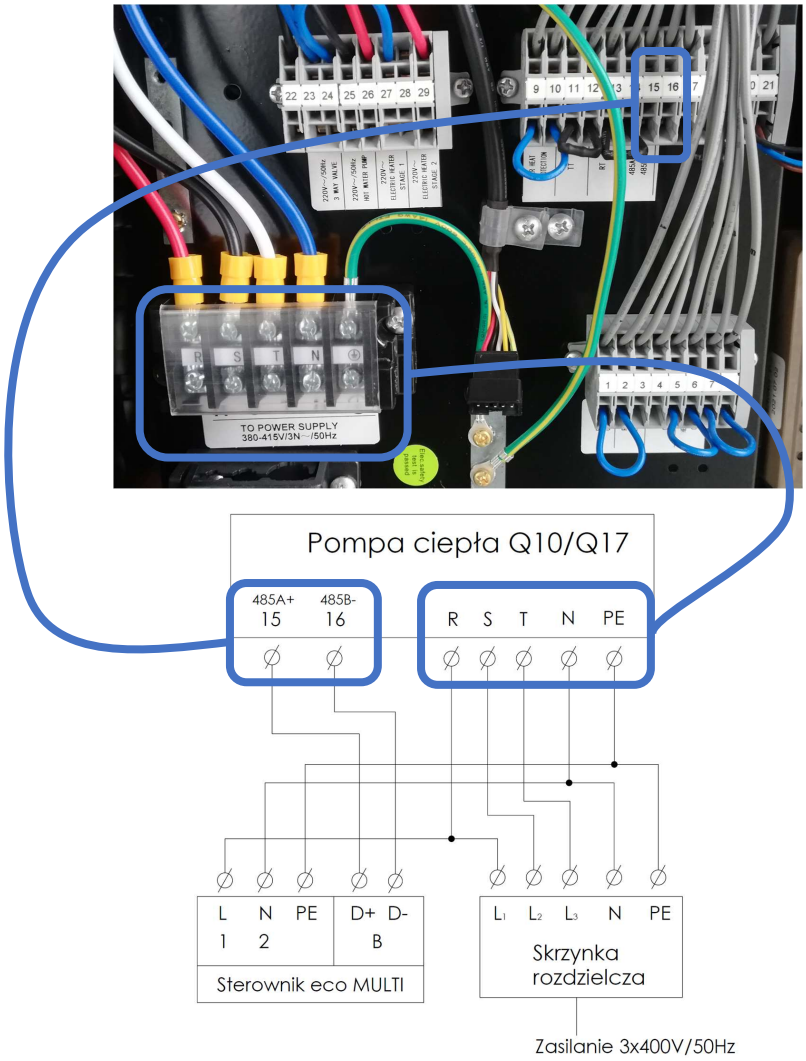


Figure 33 - Hero Premium Q10 and Q17 heat pump connection diagram

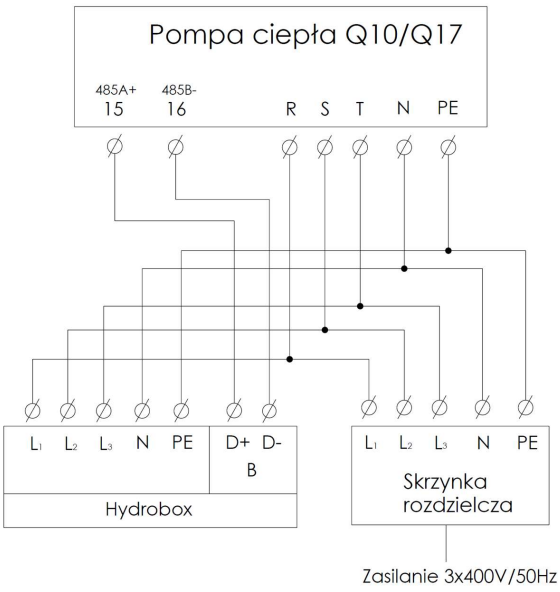
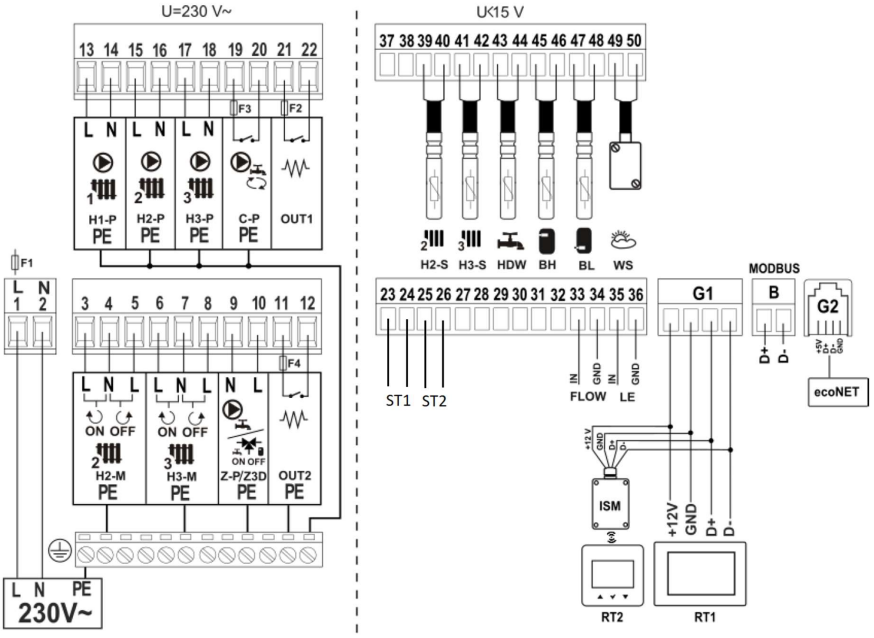


Figure 34 - Hero Premium Q10 and Q17 heat pump connection diagram with hydrobox connected option



Rysunek 1 - Schemat podłączeń elektrycznych regulatora

L N PE - mains supply ~ 230 V, F1 - main internal mains fuse, H2-M - regulated circuit 2 actuator, H3-M - regulated circuit 3 actuator, Z3D - 3-way valve, DHW buffer / tank, Z-P - DHW pump, OUT2 - three-phase heater - voltage-free contact, must be protected with an external fuse F4 - max. 3.15 A, H1-P - direct (non-regulated) circuit water pump, H2-P - regulated circuit 2 water pump, H3-P - water pump regulated circuit 3, C-P - DHW circulation pump - voltage-free contact and must be protected with an external fuse F3 - max. 3.15 A, OUT1 - three-phase heater - voltage-free contact, must be protected with an external fuse F2 - max. 3.15 A, H2 -S - temperature sensor of the regulated water of the circuit 2, type CT-10, H3-S - temperature sensor of the water of the regulated circuit, type CT-10, HDW - temperature sensor of the DHW tank, type CT, BH - upper temperature sensor of the buffer, type CT -10, BL - lower buffer temperature sensor or CT hydraulic clutch temperature sensor -10, WS - outdoor temperature sensor (weather) type CT6-P, OUT3 - connection of the heat pump compressor, FLOW - flow meter, LE - electricity meter, RT1 - control panel with thermostat function, RT2 - wireless thermostat or wireless temperature sensor room (ISM radio module), B - RS485 (ModBus) communication with the heat pump and additional module B (extension with additional regulated circuits), ecoNET - internet module (optional), ST1 - No voltage contact for circuit 1, ST2 - No voltage contact circuit 2.

Z komentarzem [MC2]: Zaciski 23-24 styk bez napięciowy termostatu obiegu 2 (ecoFLOOR)
25-26 – styk bez napięciowy termostatu obiegu 3

Z komentarzem [MG3R2]: 23, 24 – ST1
25, 26 -ST 2

Styk bez napięciowy obiegu 2

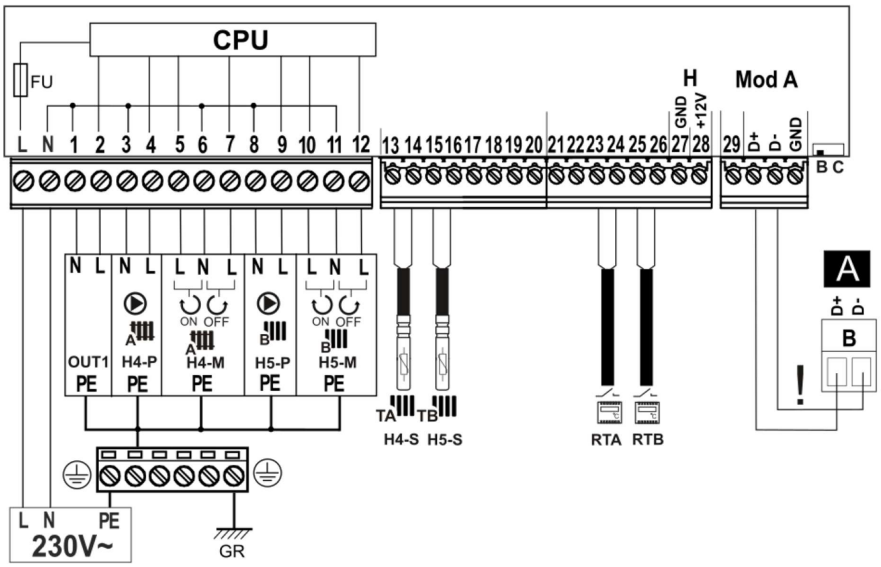


Figure 36 - Diagram of electrical connections of additional module B.

L N PE - 230 V ~ mains supply, FU - mains fuse, GR - neutral strip, OUT1 - not connected, H4-P - water pump for circuit 4 (regulated), H5-P - water pump for circuit 5 (regulated), H4-M - electric actuator of circuit 4 (regulated), H5-M - electric actuator of circuit 5 (regulated), H4-S - water temperature sensor of circuit 4 (regulated) type CT-4, H5-S - water temperature sensor of circuit 5 (regulated) type CT-4, RTA - standard circuit 4 thermostat (regulated), normally open type, RTB - standard circuit 5 thermostat (regulated), normally open type, A - main regulator,! - connect only with two wires (you cannot connect with four wires, as it may damage the regulator). Switch in position B - extension module is used as module B (servicing of regulated circuits 4 and 5), in position C - extension module is used as module C (servicing of regulated circuits 6 and 7).

7 Expoloitation

7.1 First running

WARNING

Do not start the device if the building's hydraulic system is not filled with the working medium and is not connected to the heat pump, and if the system is not deaerated..

The manufacturer recommends that the first start-up be performed by an Authorized Installer at the request of the User.

Before starting up for the first time, do the following:

- Check the installation inside the building and make sure that the connections are correct and that the corresponding valves are open;
- Check the water circuit. The expansion vessel (if present) must be filled with water and the system must be vented. When we are dealing with a closed system, the pressure gauge of the system should show 0.2MPa after venting. Also make sure that the pipes are well insulated;
- Check the electrical connections. Make sure that the supply voltage is normal, the wiring is in accordance with the diagram, and that the ground is properly connected;
- Check that all device elements are in good condition;
- Check that the controller shows errors (if they occur, see 8.4 List of controller errors)

ATTENTION

Connecting the pressure gauges requires F-GAZY licenses

The scope of the first launch includes:

- Turn on the heat pump with the controller and check that the water pump is started.
- The compressor will start when the water pump is running for 1 minute. Hear if there is a strange noise from the compressor. If there is any abnormal noise, stop the unit and check the compressor for the pump on the mufflers. If the noise continues
- Then check that the power consumption and operating current are in accordance with the instructions. If not, contact an authorized service center
- Adjust the valves in the installation to ensure that each consumer (eg room) has a good supply of hot or chilled water and meets the heating or cooling requirements.
- Check if the leaving water temperature is stable.

- The controller parameters are set at the factory, then you must not change them yourself.

7.2 Starting and stopping the heat pump

Detailed activation and deactivation of the device can be found in the enclosed controller manual.Tryby pracy

7.3 Procedure in the event of a failure

The table below lists problems that may occur during the operation of the heat pump and the recommended solutions::

Table X - List of failures

Failure	Probable cause of failure	solution
The heat pump cannot start	1. Wrong parameters of the mains connection 2. loose power cord 3. circuit breaker disconnected 4. Incorrect phase sequence	1. turn off and check the power; 2. check the power cord and make a proper connection 3.Replace the miniature circuit breaker 4. Check the phase connection sequence
	1.no water in the system 2. air in the installation 3. Water valves closed 4.dirt and flow blockage on the water filter	1.Check the water supply and fill the installation with water 2. bleed the installation; 3. open the valves in the installation; 4.Clean or replace the water filter.
The water pump is noisy or runs without water	1.no refrigerant; 2. poor insulation on the installation pipes 3. low heat transfer coefficient on the air side heat exchanger; 4.no water flow	1.check for gas leakage and replenish refrigerant; 2. make appropriate insulation on the water system pipes 3. clean the air side heat exchanger; 4.Clean or replace the water filter
The heat pump capacity is low, the compressor does not stop	1.too much refrigerant 2. low heat transfer coefficient on the air side heat exchanger	1. Drain excess gas 2.Clean the air side heat exchanger
Discharge pressure of the working medium is too high	1.no gas 2.flow blocked on filter or capillary 3.no water flow	1.check for gas leakage and replenish refrigerant; 2. replace the filter or capillary; 3. clean the water filter and deflate the water loop.
Low pressure problem in the installation	1.Power failure 2. Compressor overcurrent switch defective 3. loose power cord 4. damaged compressor protection 5. wrong return water temperature setting	1.check the power; 2. replace the compressor circuit breaker; 3. tighten the power cord; 4. check the refrigerant temperature on the compressor discharge side; 5. Reset the return water temperature; 6. Clean or replace the water filter and vent the installation

	6.no water flow	
The compressor is not working	1.the liquid refrigerant goes to the compressor 2.compressor failure	1. The pairing process is not working properly. The cause must be found and eliminated 2. Replace the compressor with a new one
The compressor is loud	1.fan relay failure 2.fan motor damaged	1 replace the fan relay; 2 replace the fan motor.
The fan is not working	1.no gas in the heat pump; 2. damaged heat exchanger; 3. compressor failure.	1.check the system for leaks and replenish the refrigerant; 2. find the cause and eliminate it or replace the heat exchanger; 3. replace the compressor.
The compressor is running but the heat pump does not have adequate heating or cooling capacity	1.too little water flow; 2. Too low set water temperature;	1.Clean the water filter and vent the installation 2.Reset the water temperature.
Low leaving water temperature	1.no water in the circuit; 2.Failure of the flow switch	1.Clean the water filter and vent the installation 2.Replace the flow switch.

7.4 List of controller errors

Table XI - Electronic control errors

Name / Error	Error code	reason	Solution
Standby	Non		
normal mode	Non		
Input temperature error	P01	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Outlet temperature error	P02	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Hot water temperature sensor error	P032	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
AT sensor error	P04	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Coil temp sensor malfunction	P153	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Suction temperature sensor malfunction	P17	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Flue gas temperature sensor malfunction	P181	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Discharge temperature exceeded	P182	The compressor is overloaded	Check that the compressor system is operating normally

Name / Error	Error code	reason	Solution
Damage to the high pressure sensor	PP1	The pressure sensor is broken or short-circuited	Check or change the pressure sensor
Low pressure sensor malfunction	PP2	The pressure sensor is broken or short-circuited	Check or change the pressure sensor
EVI inlet temperature sensor malfunction	P001	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
EVI discharge temperature sensor malfunction	P002	Temperature sensor damaged or short-circuited	Check or change the temperature sensor
Pump protection at low outdoor temperature	TP	Low ambient temperature	
No flow on the hydraulic side	E032	No or little water in the system	Check the water flow in the pipes and the water pump
Protection against electrical overheating	E04	The safety switch of the electric heater is defective	Check if the electric heater has been operating at a temperature above 150oC for a long time
Compressor overcurrent shutdown error	E051	The compressor is overloaded	Check that the compressor system is operating normally
Communication error	E08	Communication failure between the wired controller and the motherboard	Communication failure between the wired controller and the motherboard
Communication error (fan)	E081	The speed control module and communication with the motherboard have failed	Check communication connection
HP protection	E11	The high pressure switch is defective	Check pressure switch and cold circuit
Protection of LP	E12	The low pressure switch is defective	Check pressure switch and cold circuit
Frost protection	E171	Water temperature too low on the heat pump flow side	1. Check the water temperature or replace the temperature sensor
Basic frost protection	E19	Low ambient temperature	2. Check the water installation for blockage
Secondary frost protection	E29	Low ambient temperature	
1st fan motor (DC) failure	F031	1. Motor is in rotor lockout condition	
Awaria 2. silnika (DC) wentylatora	F032	2. the fan motor and motor module cable connections are damaged	1. Replace fan motor

Table XII - Inverter errors

Name / Error	Error code	Reason	solution
IPM overcurrent trip error	F00	The input current of the IPM is large	Check and adjust current measurement
Compressor activation error	F01	Missing phase, step, or hardware failure of the drive	Check the measuring voltage, check the hardware of the frequency conversion board
PFC malfunction	F03	PFC circuit protection defective	Check if there is a short circuit in the PFC tube
DC bus overload	F05	DC bus voltage is too high	Check the input voltage value
DC bus underload	F06	DC bus voltage is too low	Check the input voltage value
AC underload at input	F07	The input voltage is low, which makes the input current low	Check the input voltage value
AC overload on input	F08	Input voltage is too high, greater than RMS overload protection current	Check the input voltage value
Input voltage sample error	F09	Input voltage sampling error!	Check and adjust current measurement
Communication error between DSP and PFC	F10	DSP and PFC connection error	Check communication connection
Communication error (DSP)	F11	Motherboard I DSP connection error	Check communication connection
Communication error (Inverter board)	F12	Frequency conversion board and motherboard communication error	Check communication connection
Overheating of the IPM	F13	The IPM is overheated	Check and adjust current measurement
Weak Magnetism Alarm	F14	The magnetic force of the compressor is insufficient	
Input voltage phase is missing	F15	Input voltage phase loss	Check and measure voltage regulation
IPM read error (with motherboard)	F16	The IPM electricity sampling is faulty	Check and adjust current measurement
Module / radiator sensor malfunction	F17	The temperature sensor is broken or short-circuited	
IGBT power device overheating alarm	F20		Check and adjust current measurement
Overload alarm	F21	IGBT is overheated	Check compressor overcurrent protection
Input current alarm is too high	F22	The compressor current is too high	Check compressor overcurrent protection
EEPROM error alarm	F23	The compressor current is too high	Check if the chip is damaged. Replace the chip
Destroyed EEPROM	F24	MCU error	Check if the chip is damaged. Replace the chip

Name / Error	Error code	Reason	solution
Activation lock alarm	F25	MCU error	Check the input voltage V15V in the range: 13.5V ~ 16.5V
LP 15V underload fault	F26	V15V is overloaded or underloaded	Check and adjust current measurement

8 Inspection and service activities and maintenance recommendations

ATTENTION! - SHOCK HAZARD !!!

- *Switch off the heat pump before maintenance*
- *Use protective clothing (gloves, safety glasses)*

Service inspection is recommended once a year by the installer or an authorized service center of the device. The scope of service activities includes:

- Verification of the tightness of the installation,
- Verification of the dirtiness of the filters,
- Verification of the cleanliness of the evaporator
- Verification of fan operation
- Verification of the patency of the condensate drain system
- Verification of pressure in the heating system
- Verification of the fixation state of the device
- Verification of the safety system (valves)
- Repair of any detected faults

The service should be completed with the completion of annual inspection cards (attached in this manual). This is a condition for maintaining the warranty of the device and its efficient operation.

9 Warranty conditions

WARNING

Damage resulting from failure to comply with the terms of the warranty will void the warranty

9.1 Clause of consent to the processing of personal data in accordance with the GDPR

1. I, the undersigned / signed …….

I consent to the processing of my personal data, including: name and surname, address, telephone number, e-mail by the data administrator BTI GUMKOWSKI Sp. z o.o. Sp.k with headquarters in Suchy Las, ul. Obornicka 71, KRS 0000520520, for the purpose of: marketing and information.

2. I provide my personal data voluntarily and declare that they are true.

3. I have read the content of the information clause, including information about the purpose and methods of processing personal data and the right to access my data and the right to correct it.

……..……..

(date / signature of the data subject)

9.2 Information clause in the case of collecting data from the data subject

Please be advised that:

1.the administrator of your personal data is the company BTI Gumkowski Sp.zo.o.Sp.k. hereinafter referred to as the Administrator; The administrator conducts the processing of your personal data,

2. Your personal data will be processed for information and marketing purposes and will not be made available to other recipients, the basis for the processing of your personal data is art. 6 of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of individuals with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46 / EC (general regulation on data protection),

3.providing data is necessary to fulfill the legal obligations incumbent on the administrator, in the case of failure to provide data, it is impossible to effectively perform them,

4.you have the right to:

a) requests from the Administrator to access their personal data, rectify them, delete or limit the processing of personal data,

b) object to such processing,

c) data portability,

d) lodge a complaint with the supervisory authority,

e) withdraw consent to the processing of personal data.

5. Your personal data is not subject to automated decision making, including profiling,

I declare that I have read the above content, understand and accept its terms.

9.3 Warranty conditions

1. BTI GUMKOWSKI Sp. z o.o. Sp.k. guarantees that the device is free from physical defects.

2. BTI GUMKOWSKI Sp. z o.o. Sp.k. provides a guarantee on the condition that the heat pump:

a) it was installed by an Authorized Installer / Service Technician who received training at the manufacturer's premises and received a certificate authorizing him to do so,

b) has been installed in accordance with the guidelines contained in the technical and operational documentation as well as the regulations and standards in force in Poland,

c) is used in accordance with its intended use and the information contained in the manual,

d) was launched by an Authorized Installer / Service Engineer,

e) it is serviced, repaired by Authorized Installers / Service technicians,

f) annual inspections are performed only by an Authorized Installer / Service Engineer.

3. The warranty is valid after the following conditions are jointly met:

a) the user has a proof of purchase and a valid Warranty Card,

b) The warranty card has all the required data, dates, signatures and stamps,

c) assembly, installation and first start-up was performed by an Authorized Installer / Service Engineer,

d) The warranty card, the protocol of the first start-up and the consent clauses have been sent back to the manufacturer no later than 3 months from the date of the first start-up,

e) the user carries out paid annual inspections by an authorized service technician,

f) the heat pump has been connected to installations made in accordance with the applicable technical standards.

4. BTI GUMKOWSKI Sp. z o.o. Sp.k. provides a warranty for a period of 24 months from the date of the first start-up, but no longer than 30 months from the date of purchase

5. It is possible to extend the warranty up to 5 years from the date of first start-up by:

a) timely performance of paid 1,2,3,4 and 5-year inspections,

b) inspections performed by an Authorized Service Provider,

c) presentation of complete and correct data in the warranty card from all performed inspections.

6. During the warranty period, the manufacturer undertakes to remove the physical defect of the device by repairing or delivering the device free from defects.

7. The manufacturer reserves the right not to grant or limit the warranty in the case of defective devices

8. The rights and obligations under the warranty apply only to the user who is the legal owner of the device.

9. The first start-up will be performed by an authorized service technician of the manufacturer with possible cooperation with the installer.

10. It is necessary to provide Internet access for the correct operation of the heat pump as well as its verification, diagnosis and adjustment.

11. In the event of a heat pump failure and the inability to remedy the problem by the ecoNET internet module, the manufacturer's Authorized Service Center will be sent to the site.

In special cases, the installer may be asked to verify the problem at the customer's site.

12. Telephone contact with the manufacturer's service is possible on working days

from 7-18, and on Saturdays 7-14. If it is necessary to visit the manufacturer's factory service, the intervention will take place within 72 hours

1. Defects that arose as a result of an incorrectly made heating system or incorrect pump installation will be on the side of the service, which may charge the contractor with the cost of repairing the defect.

2. If on-site repair is not possible, the pump will be replaced 1: 1.

3. Remote start-up will take place within 72 hours of notification, and in the case of on-site activation by the manufacturer's service, it will take place within 14 days.

4. The first start-up is understood as verifying the connection method, starting the pump, adjusting the settings to the building specification.

5. The first start-up does not include the connection of the pump's electrical system

and regulator, communication connection between the regulator and the pump, connection of sensors, room regulators, connection of ecoNET modules and additional modules with sensors. It also does not include balancing the hydraulic system, deaerating the hydraulic system, connecting pump mixers, connecting circulation pumps. It does not include connecting the installation to the Hydrobox.

6. Annual inspections are performed in accordance with the valid price list.

7. The service, inspection and first start-up may be performed by the manufacturer's authorized service technician, who has undergone training at the manufacturer's premises and has received an authorizing certificate.

8. The warranty does not cover:

a) damage resulting from improper performance of the electrical installation,

b) damage resulting from improper performance of the hydraulic system

c) any defects resulting from incorrect selection of the heating system components or the lack of a buffer tank,

d) devices the initial commissioning of which was performed by unauthorized persons

e) defects resulting from improper transport, storage, use or maintenance,

f) damage caused by improper operation or long-term operation in extreme parameters of the operating range or operation in critical conditions,

g) damage resulting from the use of non-original spare parts, without prior agreement on their selection,

h) defects caused by fire, flood, lightning, power grid surges, incorrect supply voltage and the like,

i) naturally worn components and parts that function properly,

j) consequences of repairs and tampering with devices by unauthorized persons, including incorrect automation regulations,

k) damage caused by failure to perform annual inspections.

l) Damage resulting from:

• Protection against freezing of the installation

9. The heat pump must be used in accordance with the principles of health and safety and fire protection. and other legally defined rules.

10. The warranty applies to devices purchased in Poland

11. Any irregularities in the operation of the device should be reported to the Authorized Service Provider.

12. In matters not covered by the warranty conditions, the relevant provisions of the Civil Code shall apply.

BTI GUMKOWSKI Sp. z o.o. Sp.k.
ul. Obornicka 71, 62-002 Suchy Las
+48 61-811-70-37 biuro@kipi.pl

Warranty Card

nr. ……/……

Heat Pump HERO

USER / DEVICE INSTALLATION LOCATION Name and surname: street: City / Code postal: phone / e-mail: Delivery to Customer date:	1. I declare that I have read with the warranty conditions and I accept them without reservations. I have received the Manual service and I have been trained for the operation of the device. ..... (date and legible signature of the User)
DEVICE INFORMATION name: power [kW]: Serial no. i rok produkcji: sale date	
Instllation company data (Company name, Name and surname of the person carrying out the installation, telephone number / stamp)	2. I certify that the device was installed in accordance with applicable standards and legal regulations. The device has been checked and it is unqualified. ..... (installation date, seal and signature of the Installer)

DATA OF THE COMPANY PERFORMING THE FIRST RUNNING	3. I certify that the device has been installed in accordance with with applicable standards and legal regulations. The device has been checked and is flawless. The device is working properly.
(Company name, Name and surname of the person carrying out the first commissioning, telephone number / stamp)	…… (date of first start-up, stamp and signature of the person carrying out the first start-up)

First Running

User – place of installation

Name and surname:

street:

City / code postal:

phone / e-mail:

Delivery date:

1. I declare that I have read with the warranty conditions and I accept them without reservations. I have received the Manual service and I have been trained for the operation of the device.

.....

(date and legible signature of the User)

Device details

name:

power [kW]:

Serial no and production year:

Sale date:

Installation Company Data

(Company name, Name and surname of the person carrying out the installation, telephone number / stamp)

2. I certify that the device was installed in accordance with applicable standards and legal regulations. The device has been checked and it is unqualified.

.....

(data instalacji, pieczątka i podpis Instalatora)

DATA OF THE COMPANY PERFORMING THE FIRST RUNNING

(Company name, Name and surname of the person carrying out the first commissioning, telephone number / stamp)

3. . I certify that the device has been installed in accordance with with applicable standards and legal regulations. The device has been checked and is flawless. The device is working properly..

.....

(installation date, seal and signature of the Installer)

Annual service

(after the first year of use - made before the expiry of 12 months from the date of first start-up)

Activities:

Remarks:

I confirm the performance of the annual inspection of the heat pump along with its regulation and verification of all systems.

The warranty is valid until:

Date of the inspection:

…….

(Stamp and signature of an authorized service technician)

Two-year service

(after the first year of use - made before the expiry of 12 months from the date of first start-up)

Activities:

Remarks:

I confirm the performance of the annual inspection of the heat pump along with its regulation and verification of all systems.

The warranty is valid until:

Date of the inspection:

…….

(Stamp and signature of an authorized service technician)

Theree-year review

(after the first year of use - made before the expiry of 12 months from the date of first start-up)

Activities:

Remarks:

I confirm the performance of the annual inspection of the heat pump along with its regulation and verification of all systems.

The warranty is valid until:

Date of the inspection:

…….

(Stamp and signature of an authorized service technician)

Four-year review

(after the first year of use - made before the expiry of 12 months from the date of first start-up)

Activities:

Remarks:

I confirm the performance of the annual inspection of the heat pump along with its regulation and verification of all systems.

The warranty is valid until:

Date of the inspection:

…….

(Stamp and signature of an authorized service technician)

Five-year review

(after the first year of use - made before the expiry of 12 months from the date of first start-up)

Activities:

Remarks:

I confirm the performance of the annual inspection of the heat pump along with its regulation and verification of all systems.

The warranty is valid until:

Date of the inspection:

…….

(Stamp and signature of an authorized service technician)

repairs

date of reporting the defect:…… date of removal of the defect:…….. problem description: …… …… …… …… …… List of saper parts: …… …… Stamp/ signature/ licence no of installer.:……..
date of reporting the defect:…… date of removal of the defect:…….. problem description: …… …… …… …… …… List of saper parts: …… …… Stamp/ signature/ licence no of installer.:……..

date of reporting the defect:……

date of removal of the defect:……..

problem description: ……

……..

……..

……..

……..

List of saper parts:

……..

……..

Stamp/ signature/ licence no of installer.:……..

EC declaration of conformity

Distributor:

BTI GUMKOWSKI Sp. z o.o. Sp. k.

ul. Obornicka 71, 62-002Suchy Las

declares that:

product The heat pump, type: HERO Premium, model: Q6, Q10 and Q17 meets the requirements and is in compliance with the directives:

- Directive on pressure equipment 2014/68 / EU
- 2014/35 / EU Low Voltage Directive
- 2014/30 / EU Electromagnetic Compatibility Directive
- Machinery directive 2006_42_WE

and meets the requirements of the following harmonized standards:

- PN-EN 378-(1-4):2016
- PN-EN 14511-(1-3):2018
- EN 378-1:2017
- EN 55014-2:1997/A2:2008
- PN-EN 61000-6-3:2008+A1:2012
- EN 378-2:2017
- EN 60335-2-40:2003/A13:2012/AC:2013
- PN-EN 61000-6-4:2008+A1:2012
- EN 55014-1:2006/A2:2011
- EN 60335-1:2012/AC:2014

The person authorized to prepare the technical documentation is: Marcin Gamalczyk.

Poznań, 10-03-2022

BTI GUMKOWSKI Sp. z o.o. Sp. k.
ul. Obornicka 71, 62-002 Suchy Las
KRS 0000520520 NIP 9721251263
REGON 302832783 tel. 61 811 70 37

Nameplate

Nameplate

HERO Premium Q9	HERO Premium Q15	HERO Premium Q21