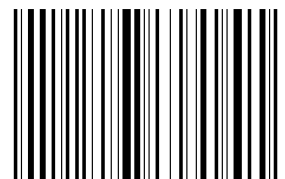


Installation Manual



Heat pump EASYPELL EPA 09 / 12

ENGLISH



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1 Dear Customer

- This manual is intended to help you operate the product safely, properly and economically.
- Please read this manual right through and take note of the safety warnings.
- Keep all documentation supplied with this unit in a safe place for future reference. Please pass on the documentation to the new user if you decide to part with the unit at a later date.
- Please contact your authorised dealer if you have any questions.

2 Types of safety warning sign

The warning signs use the following symbols and texts.

Types of safety warning sign

1. Risk of injury
2. Consequences of risk
3. Avoiding risk

DANGER

Danger - indicates a situation that could lead to death or lifethreatening injury.

- ▶ Observe the instructions for eliminating this hazard!

WARNING

Warning - indicates a situation that could lead life-threatening or serious injury.

CAUTION

Caution - indicates a situation that could lead to injury.

NOTICE

- ▶ indicates a situation that could lead to property damage.

3 Important safety precautions



This manual contains installation and operating instructions for the air source heat pump. Please keep it for future reference.



Read and observe all warnings and enclosed instructions before installing this product. Failure to observe the safety information and instructions may result in injury or damage to property.

3.1 Guidelines and standards

The heat pump must be installed in accordance with local building regulations. The installation regulations of the responsible utility company or the responsible authority must be observed.

All local regulations take precedence over national regulations.

DANGER

Electric shock

The electrical supply for this product must be installed by a licensed or certified specialist.

- ▶ Improper installation poses a risk to users and technicians. Read and follow the specific instructions in this document.



To reduce the risk of injury, children must not use this product.



The heat pump complies with all directives, regulations and standards relevant to this type of appliance within the scope of the declaration of conformity of the CE marking.

The heat pump complies with the following standards and directives:

Article 3.1(a) Health & Safety
EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021
EN 60335-2-40:2003 + A11:2004 + A12:2005 + A1:2006 + A2:2009 + A13:2012
EN 62233:2008
EN IEC 62311: 2020

Article 3.1(b) Electromagnetic Compatibility

EN 301 489-1 V2.2.3

EN 301 489-17 V3.2.4

EN IEC 55014-1: 2021

EN IEC 61000-3-2: 2019+A1:2021

EN 61000-3-3: 2013+A2:2021

EN IEC 55014-2: 2021

Article 3.2 Effective Use of Spectrum

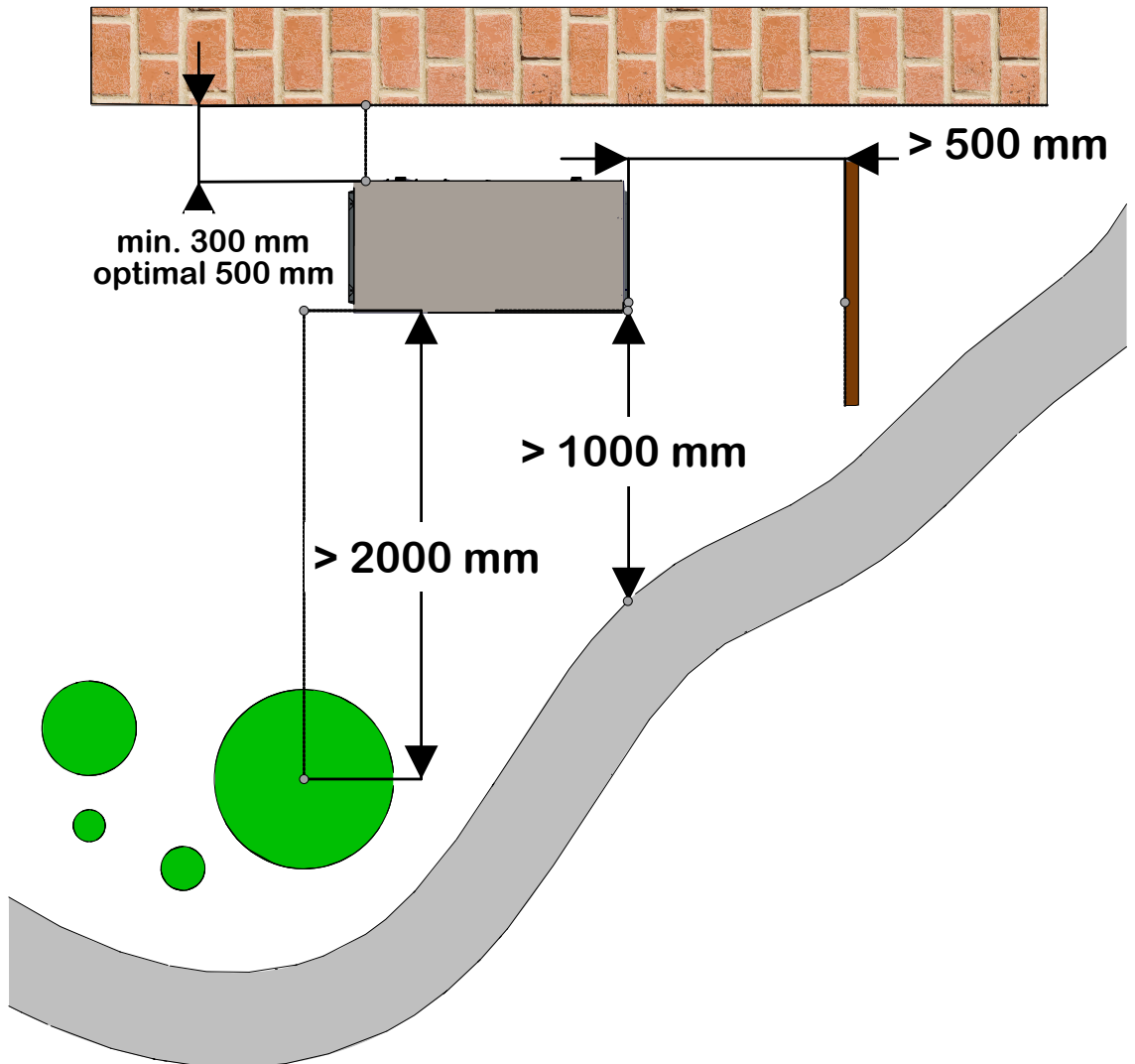
EN 300 328 V2.2.2

4 General information about the installation

- Installation and maintenance must be performed by a qualified installer or service technician and must comply with all national, state and local codes and/or safety regulations.
- This heat pump was specially developed for hot water preparation and central heating.

4.1 Minimum distances

The minimum distances must be maintained in all directions from buildings, walls (regardless of the material), paths and large plants.



4.2 Protected area for the installation site

The heat pump works with the climate and environmentally friendly refrigerant R290. The refrigerant R290 is flammable and heavier than air. The following installation requirements therefore apply:

- Consider the protection areas shown in the graphics.
- The protected area may not extend to public places (sidewalks, etc.) or neighboring properties.
- No ignition sources (naked flames, electrical switching devices, hot surfaces) may be operated in the protection zone.
- The outdoor unit must be installed in such a way that it can always be operated safely and is protected from mechanical influences (e.g. impact protection when installed in access routes).
- All supply lines to the outdoor unit (cable ducts, hydraulic coupling) must be sealed so that no refrigerant can enter the enclosed building.
- The outdoor unit must be connected to the supply voltage all year round to ensure frost protection (frost can cause damage to the cooling circuit).



There must be no cellar shafts, windows, doors or other openings in the protected area. In the event of a leak, refrigerant could enter the building through these openings.

The minimum distances for the protected area to the front, right and left when installed on a closed wall are 1 meter

Attention: For free-standing heat pumps, the minimum distance for the protected area to the rear is also extended to one meter

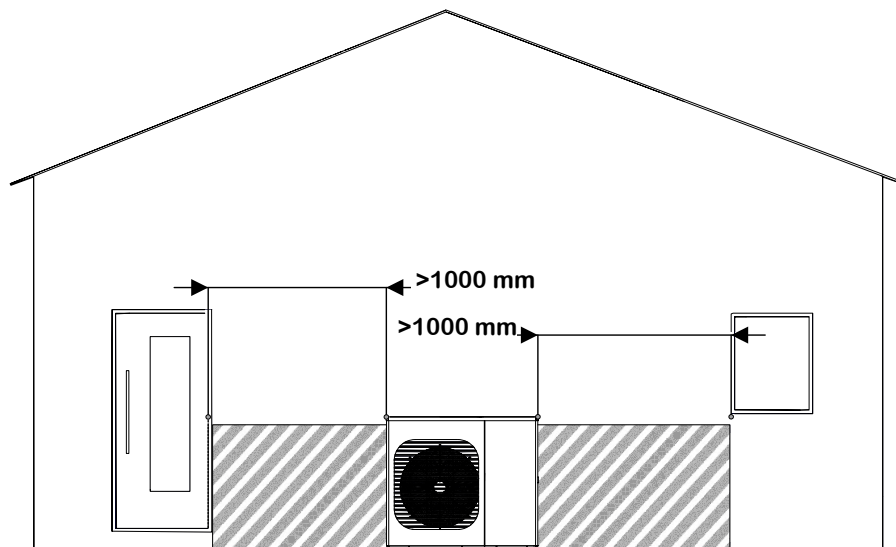


Fig. 1: Installation against a closed wall

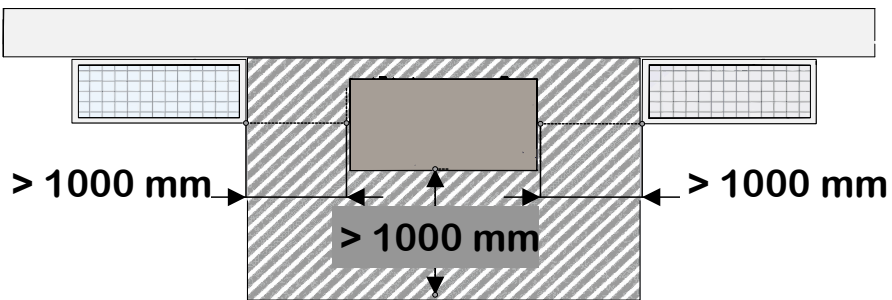
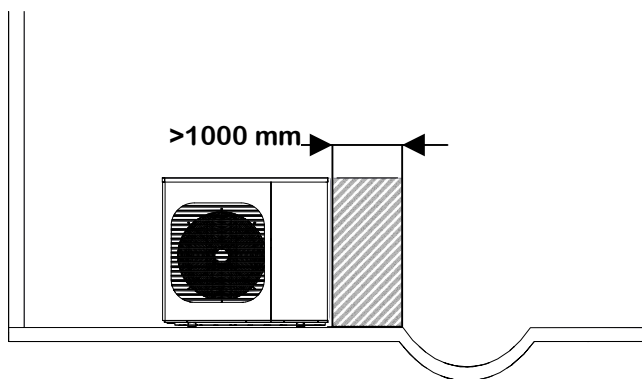


Fig. 2: Top view of installation on a closed wall

Avoid installation near sinks where the refrigerant could collect (also outside the protected area).



R290 (propane) is heavier than air and can collect near the ground and in depressions.

4.3 Roof installation

CAUTION

In the case of a roof installation, the same requirements must be observed as for outdoor installations close to the ground.

CAUTION

In addition, no roof vents and roof drainage systems may be located within the protected area.

Prior to installation, the approval of an appropriate specialist (roofer, carpenter, etc.) must be obtained.



During all work on the heat pump in roof installation, observe the specific, applicable health and safety regulations (e.g. regarding fall edges, secured floor openings, protection against falling over and falling down, safe traffic routes, safe scaffolding; personal protective equipment, etc.).

4.4 Wall mounting

CAUTION

Static requirements for wall mounting

Prior to installation, the approval of an appropriate specialist (master builder, etc.) must be obtained.

Observe the regional regulations!

Accessibility in case of maintenance

In the case of maintenance work, the heat pump must be freely accessible and problem-free performance of the work must be ensured.



Safety area: There must be no windows or openings directly under the heat pump.

5 Product Description

The heat pumps transfer heat from the ambient air to the heating water. The heat pump is often used for heating houses and hot water.

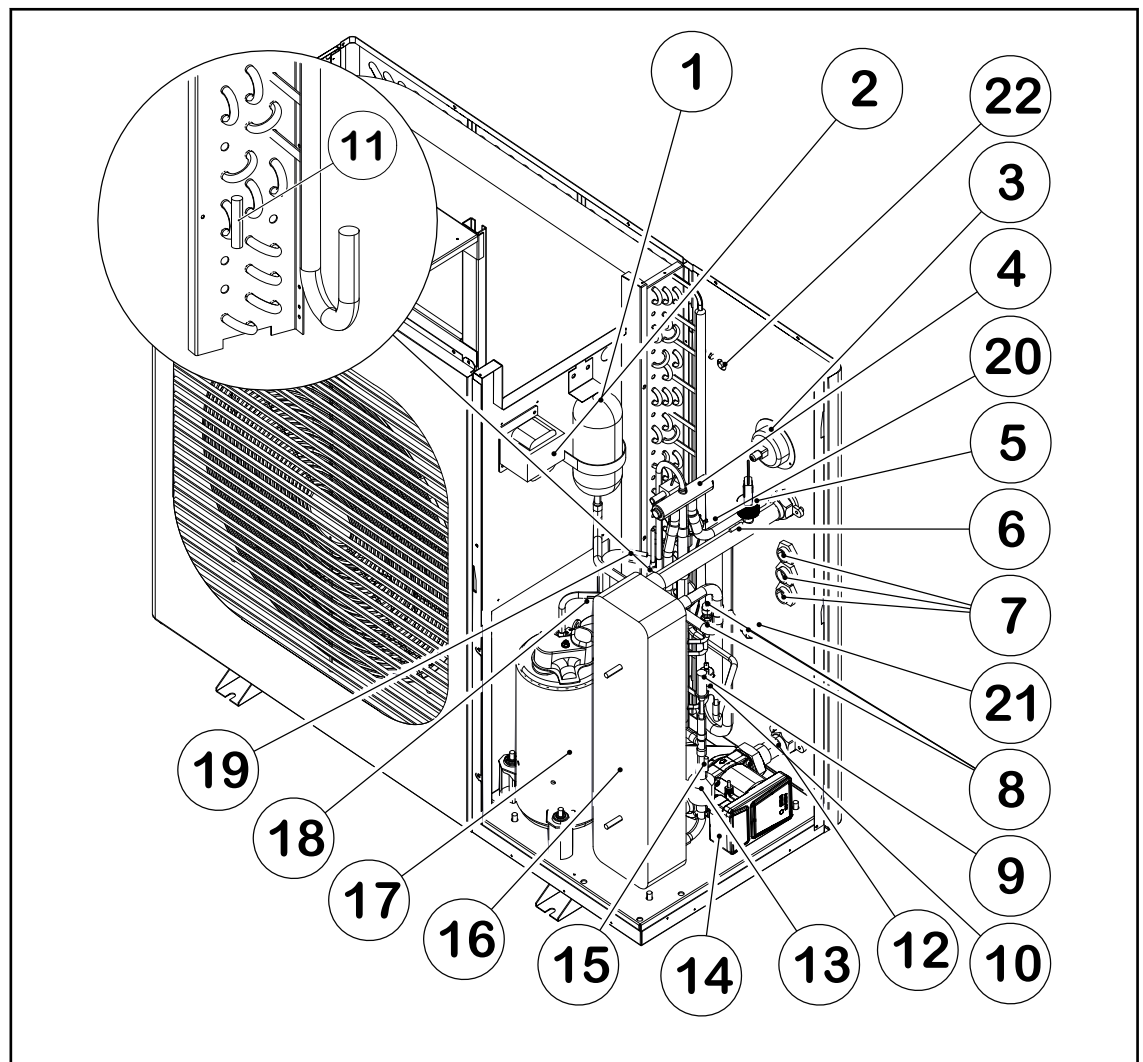
It can also be used to cool the walls and ceilings in summer, as well as being connected to fan coils. Be aware to avoid pipe condensation during cooling operation.

General features:

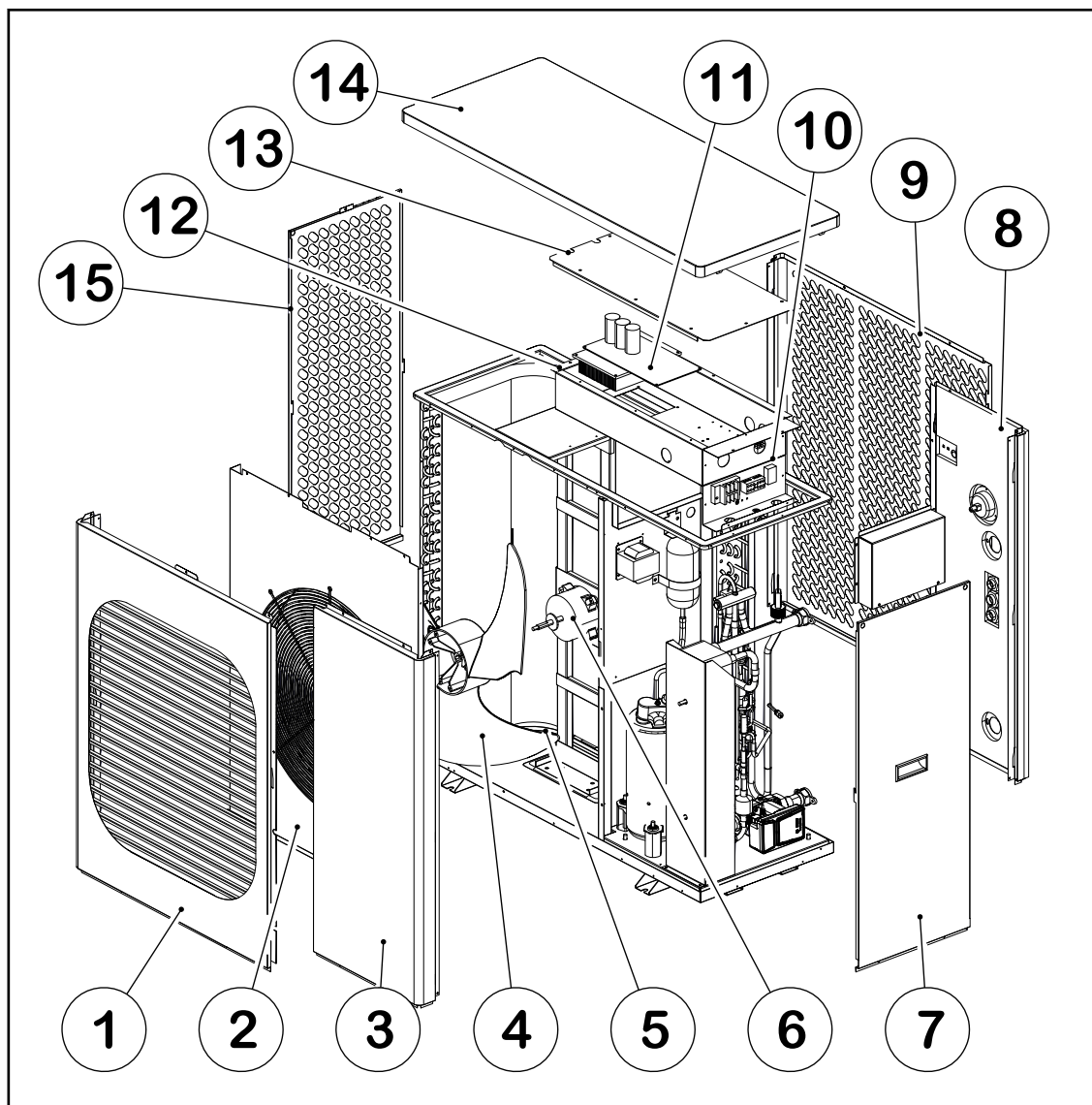
1. Low operating costs and high efficiency
2. Low investment costs
3. High comfort level
4. Digital control panel for temperature control.
5. Durable and corrosion-resistant composite housing that can withstand harsh weather conditions.
6. The high-quality compressor ensures high performance, maximum energy efficiency, durability and quiet operation.
7. The control panel monitors the operation of the heat pump to ensure safe operation.
8. User friendly digital touch control panel.
9. Insulated terminal compartment prevents internal corrosion and extends the service life of the heat pump.
10. The heat pump can be used down to an outside air temperature of -20° C.

5.1 Exploded views

Heat pump EPA09

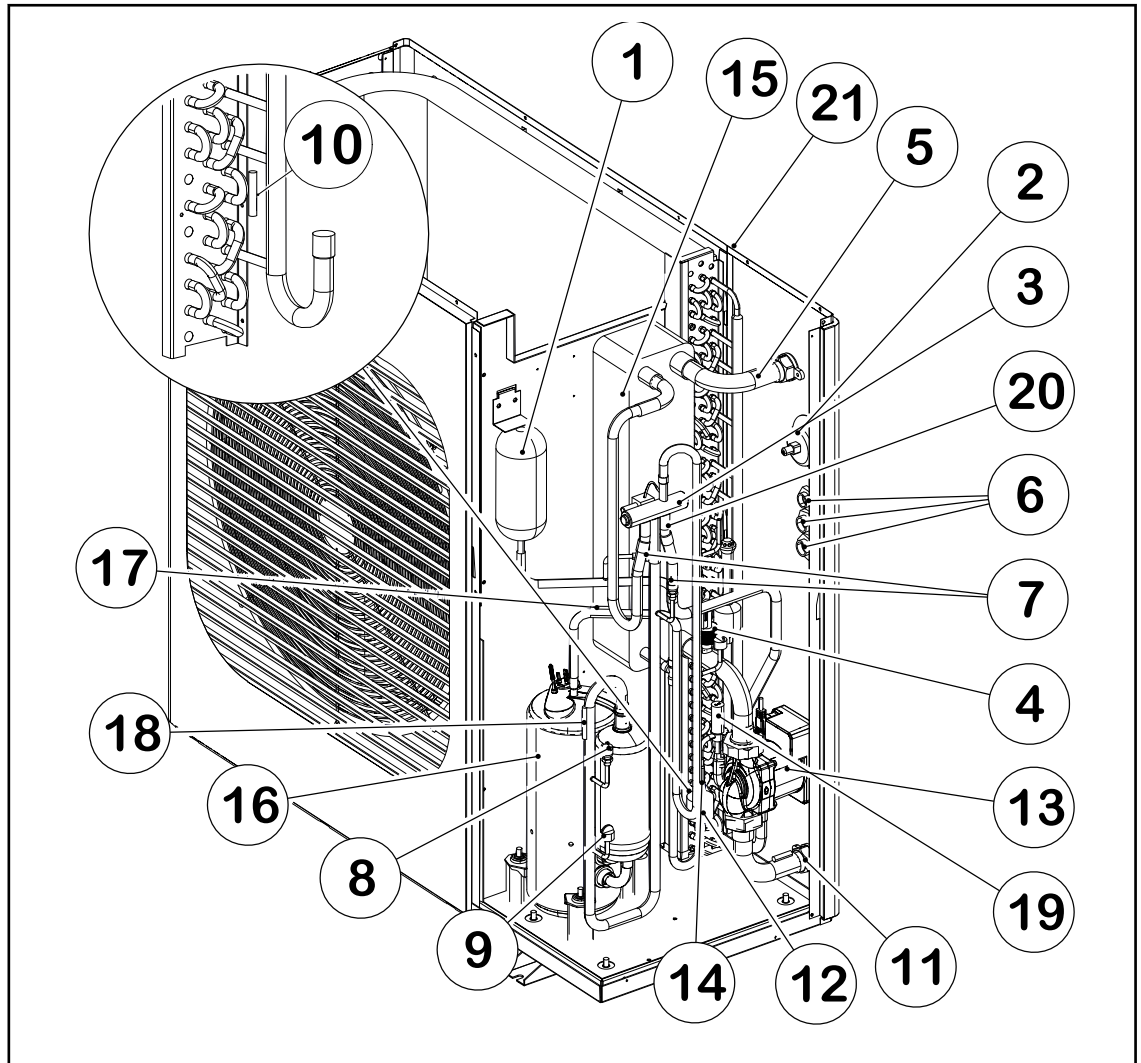


1	Liquid storage tank	12	Water inlet temperature sensor/T3
2	Reactance coil	13	Filter
3	Pressure gauge	14	Circulation pump
4	4-way valve	15	Condenser temperature sensor/T6
5	Flow switch	16	Plate heat exchanger
6	Water outlet temperature sensor/T8	17	Compressor high pressure
7	Waterproof cable gland	18	High pressure temperature sensor/T4
8	Needle valve	19	Low pressure temperature sensor/T5
9	Electronic expansion valve	20	High pressure switch
10	Low pressure switch	21	Pressure sensor
11	Evaporator temperature sensor/T1	22	Outdoor temperature sensor/T7

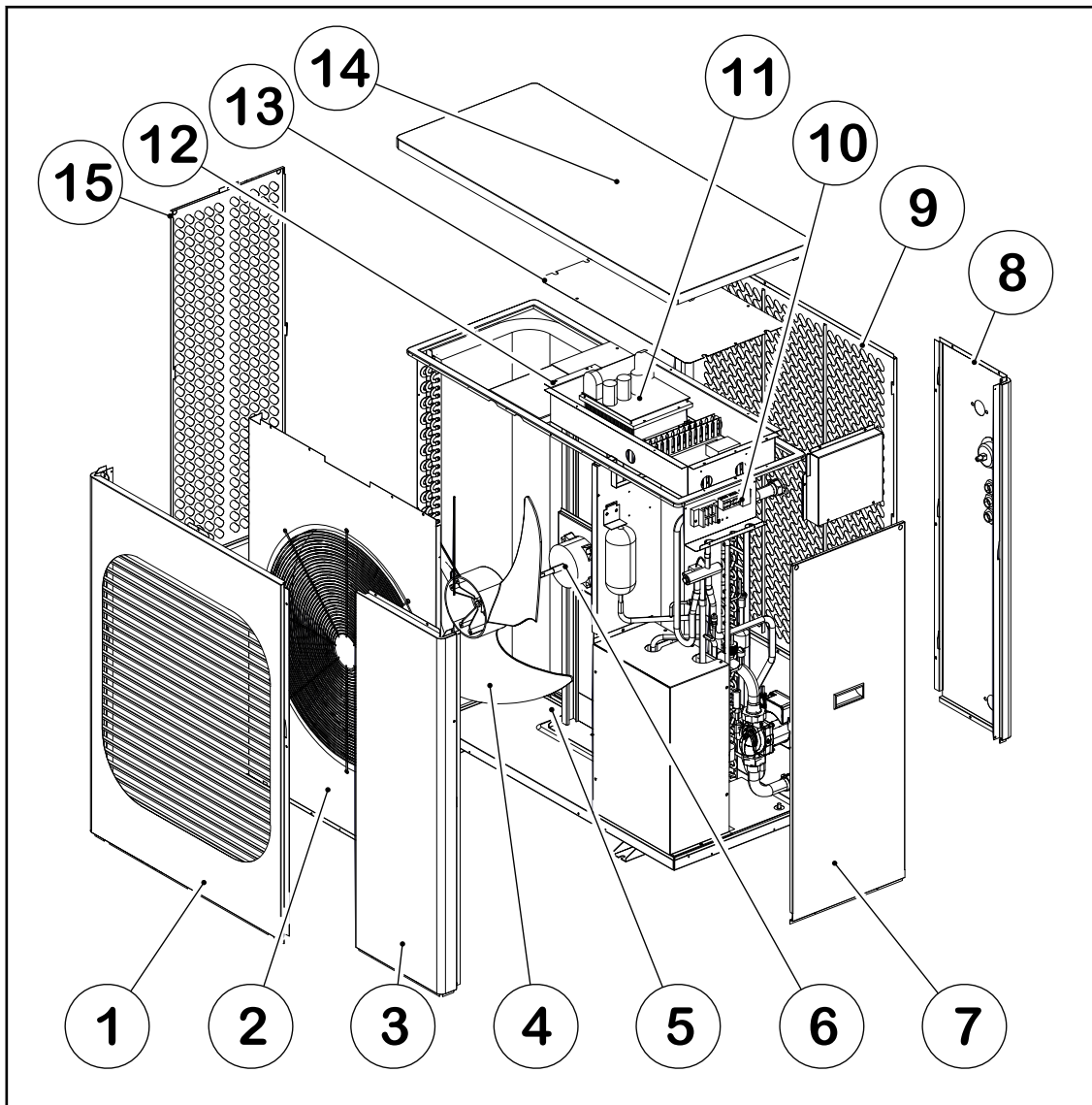


1	Front panel (fan grill)	9	Air inlet panel
2	Air outlet panel	10	Terminal block
3	Front right panel	11	Circuit boards
4	Fan blade	12	Electronic box
5	Chassis heater	13	Electronic box cover
6	Motor for Fan	14	Top cover
7	Right panel	15	Left side panel
8	Rear right panel		

Heat pump EPA12 | EPA12T



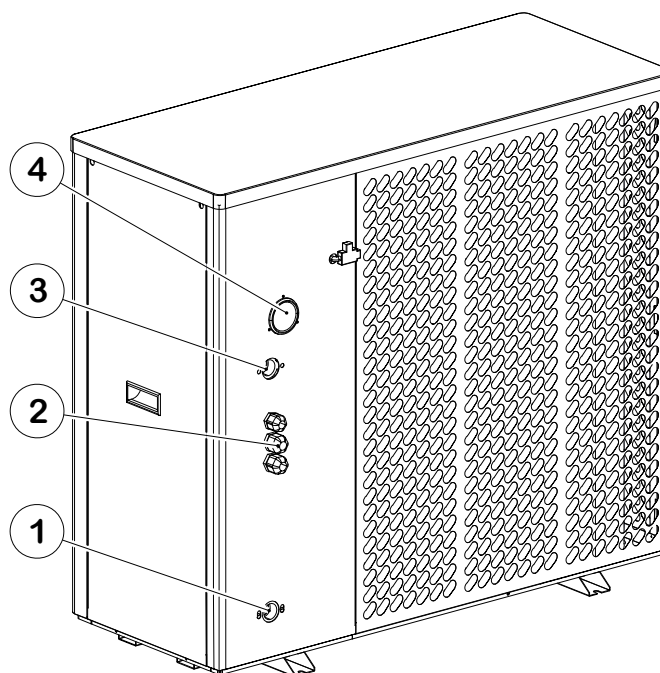
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9	Low pressure switch	20	High pressure switch
10	Evaporator temperature sensor/T1	21	Outdoor temperature sensor/T7
11	Water inlet temperature sensor/T3		



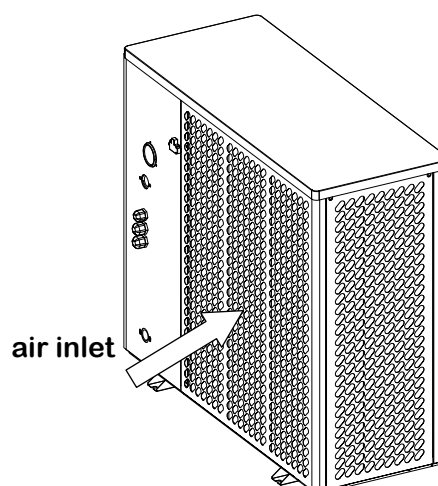
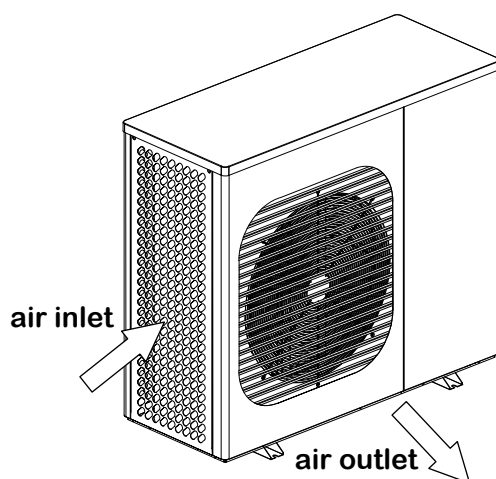
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7	Right panel	15	Left side panel
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5.2 Connecting up the hydraulics

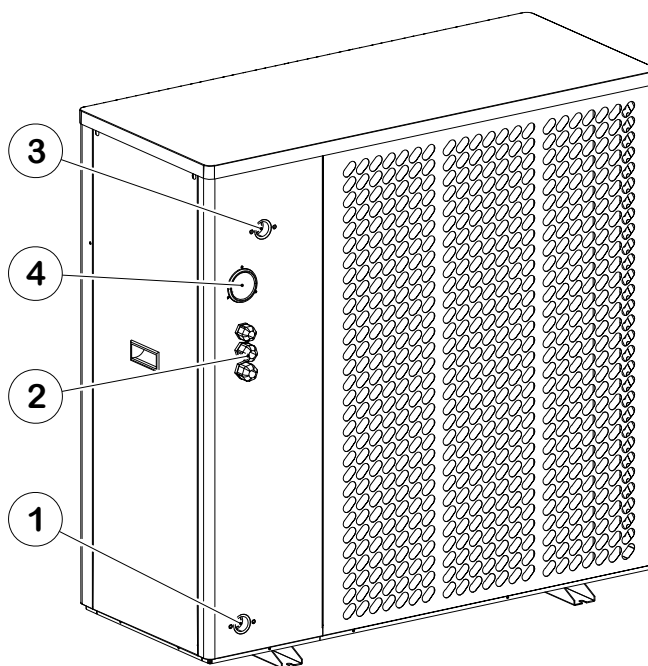
Heat pump EPA09



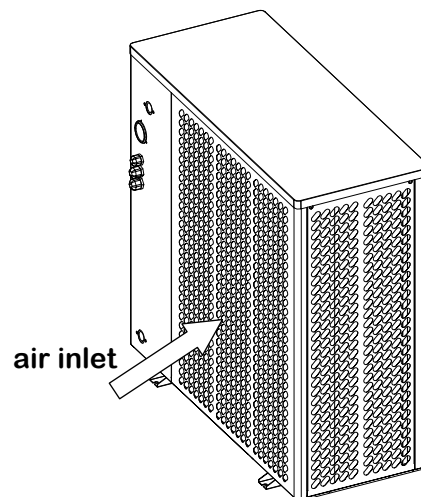
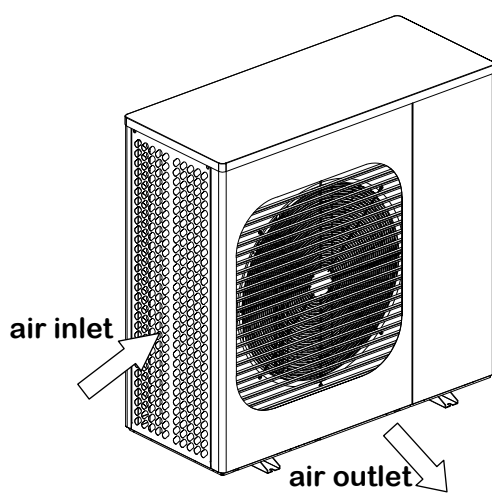
1	Water return
2	Cable bushing
3	Water flow
4	Operating pressure gauge



Heat pump EPA12 | EPA12T

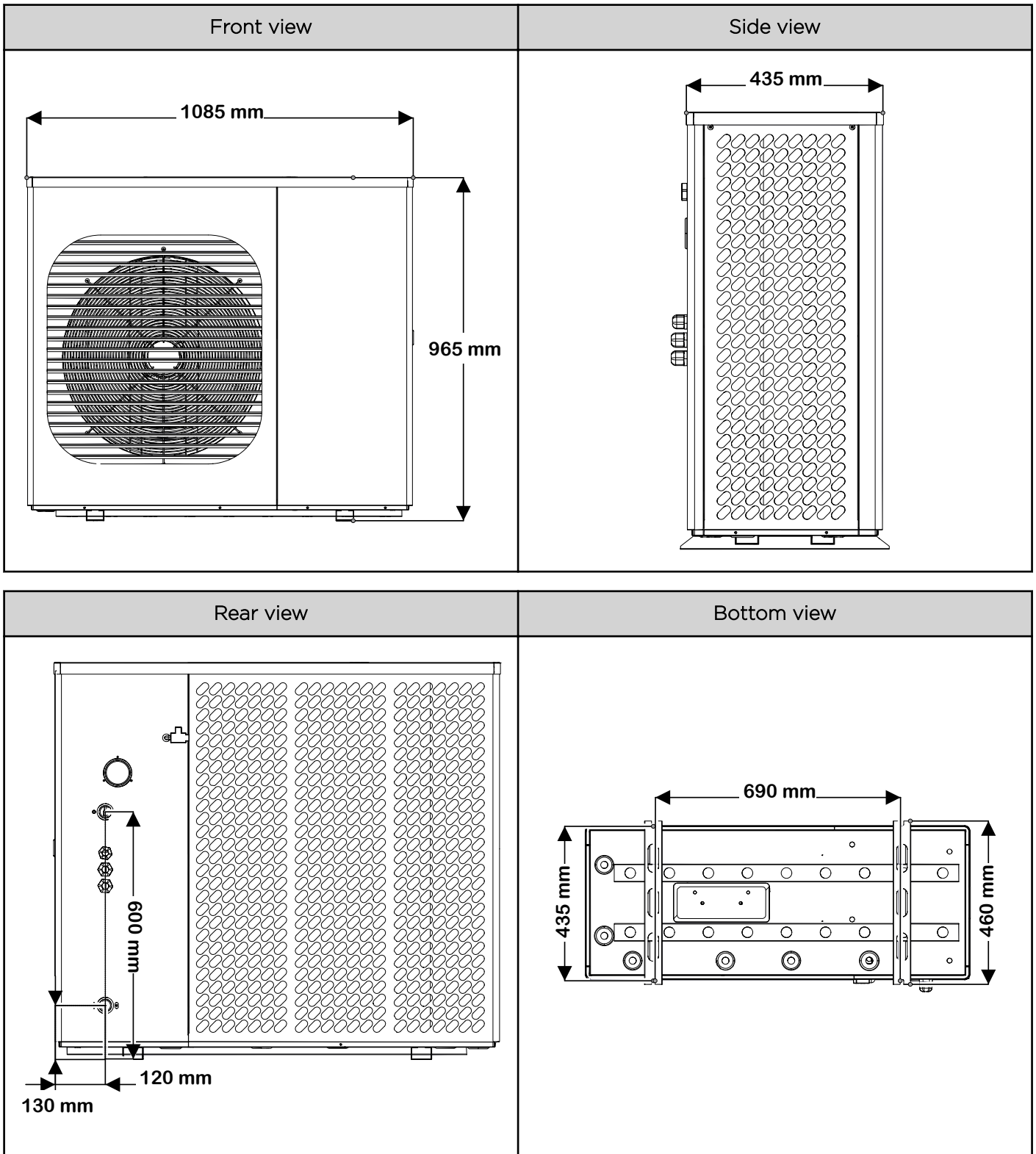


1	Water return
2	Cable bushing
3	Water flow
4	Operating pressure gauge

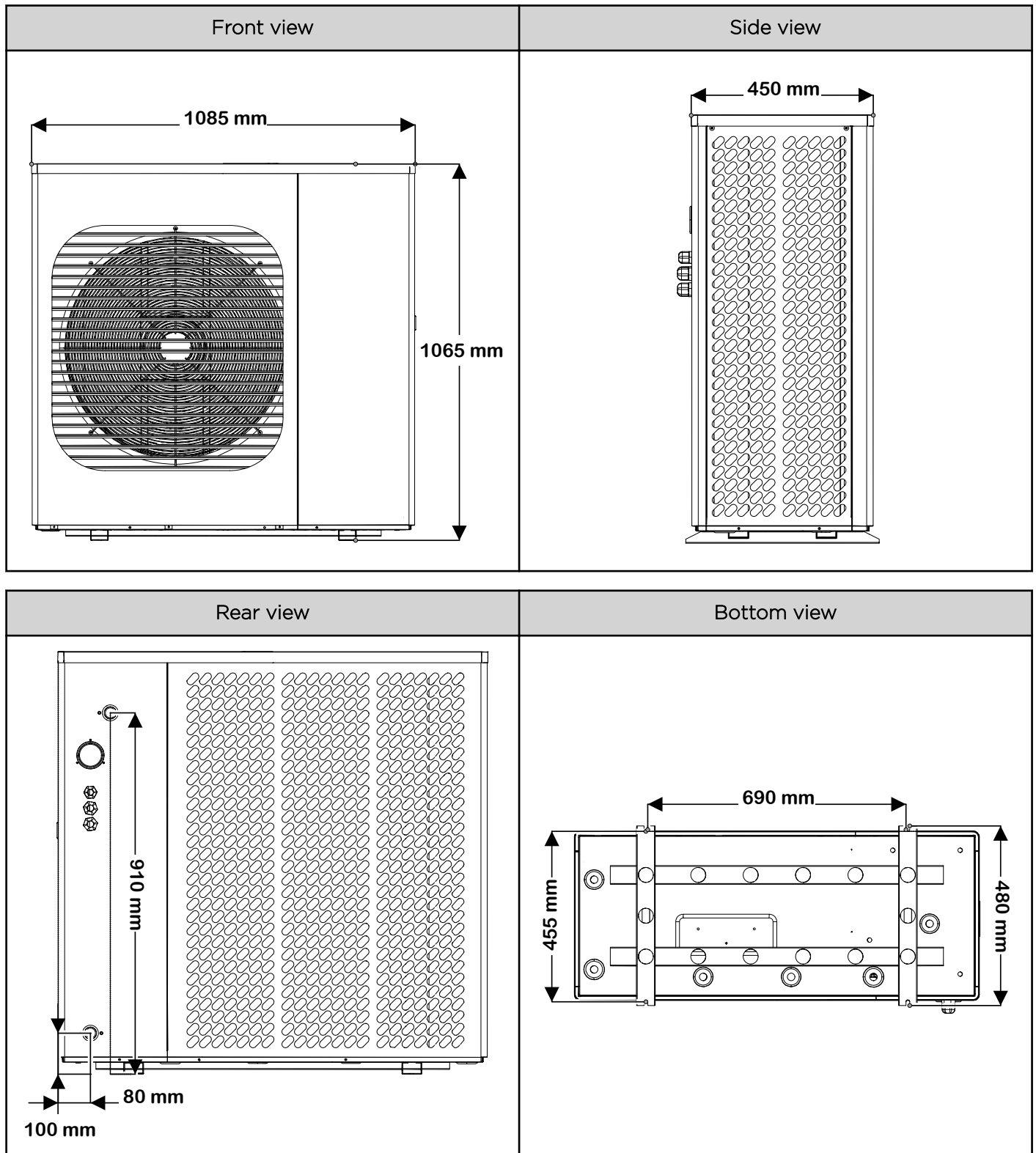


6 Dimensions

Heat pump EPA09



Heat pump EPA12 | EPA12T



7 Installation

The following general information describes the installation of the heat pump.



Read and follow all warnings and instructions before installing this product.

7.1 Installation Requirements

The following components are required and must be provided by the installer:

- Sanitary fittings
- Level substrate for sufficient drainage
- Ensure that a suitable electrical supply line is available, see type plate of the heat pump for electrical specifications. Please observe the specified rated current.
- No junction box is required on the heat pump; the connections are made inside the heat pump.
- The pipes can be attached directly to the jacket of the heat pump.
- It is recommended to use PVC pipes for laying the electrical supply line according to local electrical regulations.
- The water pipes should be insulated due to heat loss and frost protection.



The installation of shut-off valves at the water inlets and outlets is recommended!
The installation of a drain valve at the water return (lowest point) is recommended.



Use a booster pump if the water pressure is low.
A filter is required on the water supply

7.2 Installation location

- DO NOT install the heat pump near hazardous materials or locations.
- Do NOT install the heat pump under low-pitched roofs without gutters.
- Take care to avoid excessive water ingress during heavy rainfall.
- Place the heat pump on a flat, slightly inclined surface, such as a concrete slab or a prefabricated slab. This will allow proper drainage of condensation and rainwater from the bottom of the appliance. If possible, the slab should be placed at the same height or slightly higher than the infiltration system.

Details of the installation

All points mentioned in the following sections refer to minimum distances. However, any installation must take into account local conditions such as the proximity and height of walls and proximity to publicly accessible areas. The heat pump must be installed in such a way that it has free space on all sides for maintenance and inspection.

1. The installation room of the heat pump must be well ventilated and the air inlets and outlets must not be blocked.
2. The installation site must have good drainage and be built on a solid foundation.
3. Do not install the appliance in areas where there are harmful substances such as aggressive gases (e.g. chlorine), dust, sand and leaves, etc.
4. For easier maintenance and troubleshooting, there should be no obstacles within 1 m of the appliance. There must be a distance of 2 m above the heat pump for ventilation.
5. The heat pump must be installed with shock-resistant rubber buffers to prevent vibrations and/or imbalance.
6. The control panel must be installed indoors and should be protected from direct sunlight and high temperatures.
7. The pipes must be installed in such a way that they are fastened sufficiently often to prevent possible damage.
8. The pressure of the flowing water should be kept above 196kpa. Otherwise, a booster pump must be installed.
The permissible operating voltage should be within $\pm 10\%$ of the nominal voltage. The heat pump unit must be earthed for safety reasons.
9. Install an expansion vessel, safety relief valve, magnetic filter, anti-vibration flexible connections and use the correct pipe diameter.
10. Use a two/four pole circuit breaker with the indicated max current and type (C)
11. Ensure to avoid freezing of the heating water when the electricity is cut off, by installing a manual ball or antifreezing valve. When using glycol, calculate the minimum temperature and ensure that the maximum mixing quantity of 50% for a temperature of -50°C is not exceeded.

7.3 Requirements on the installation site

The EASYPELL heat pump is designed for outdoor installation. The housing is made of weather-resistant materials.

- The heat pump must be installed outdoors on a level and stable surface.
- The installation site must have sufficient load-bearing capacity.
- If it is installed in an open area where it may be exposed to the main wind direction, we recommend installing wind protection devices.
The wind can influence the fan speed.
- The air blown out can cause ice to form, so it must not flow onto sidewalks, terraces, etc.
- The distance to the neighboring properties, houses and gardens should be taken into account according to the notes on noise development. Any suitable noise reduction measures should be installed.
- Do not install the heat pump at an angle to the building. This can prevent air circulation.
At the same time, the noise level is greatly increased by the sound reflection from the walls.
- The noise level should be taken into account when installing next to windows and doors.
- Installation in depressions or between walls can lead to an air short circuit (cold air re-circulation).
- The air flow (supply and exhaust air) must not be obstructed under any circumstances.
- The condensation water from the evaporator must be able to drain properly.
- The heating water supply pipe should be as short as possible and must be professionally protected above ground from the risk of frost by appropriate insulation.
- Ensure good accessibility for maintenance and service purposes during installation.
- Observe the specified minimum distances.

7.4 Drainage and condensation water

During operation, condensate forms on the evaporator, which runs off evenly depending on the ambient temperature and humidity.

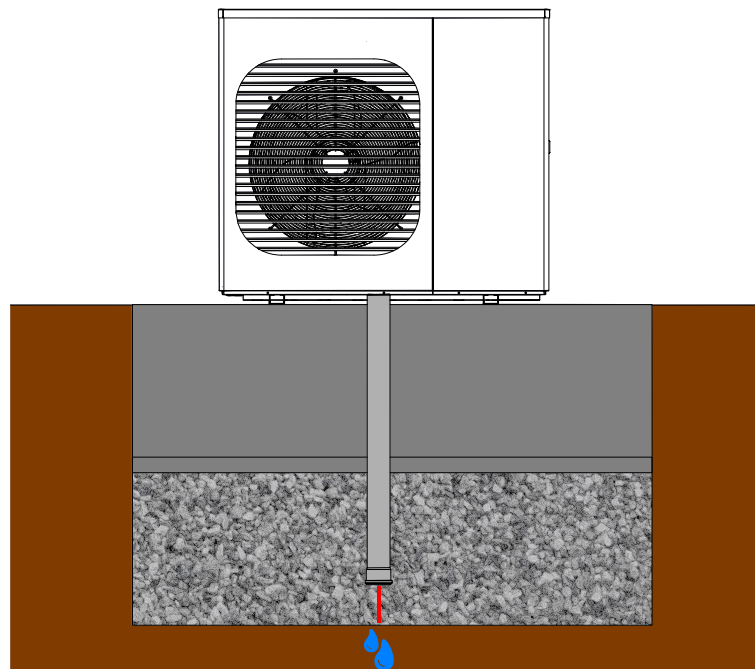
The more humid the ambient conditions are, the more condensation occurs. The base of the appliance serves as a drip tray for rainwater and condensation. Always keep the drainage openings on the base tray of the appliance free of dirt.

Condensate is produced during the necessary defrosting and defrosting of the evaporator. As up to 10 l/h of condensate can be produced daily during the defrosting process, it is necessary to drain this safely into the waste water system.

- The condensate pipe must have a diameter of at least 50 mm.
- The condensate must either be discharged frost-free via a suitable waste water pipe or by seepage into a coarse gravel fill.
- Discharge into the sewer system is only permitted via an accessible siphon, which should be accessible at all times for maintenance purposes.
- The condensate drain hose must be laid with a constant gradient out of the heat pump.



In the event of permafrost, excessive ice formation and blockage of the condensate drain must be prevented. An auxiliary heater could also be used here.



7.5 Water connection

Water connections at the heat pump

Shut-off valves must be used at the water inlets and outlets.

It is recommended to use stainless steel or PPR pipes for the heat pump piping.



Ensure that the flow requirements and flow rates can be met by installing suitable pipe cross-sections, flow limiters and hydraulic balancing.

Minimum pipe diameter [mm]		
EPA 09	EPA 12	EPA 12T
DN 28	DN 32	



Please note that when installing longer pipelines, bends, or other hydraulic elements, the pipe diameter must be increased accordingly to ensure efficient performance of the heat pump.



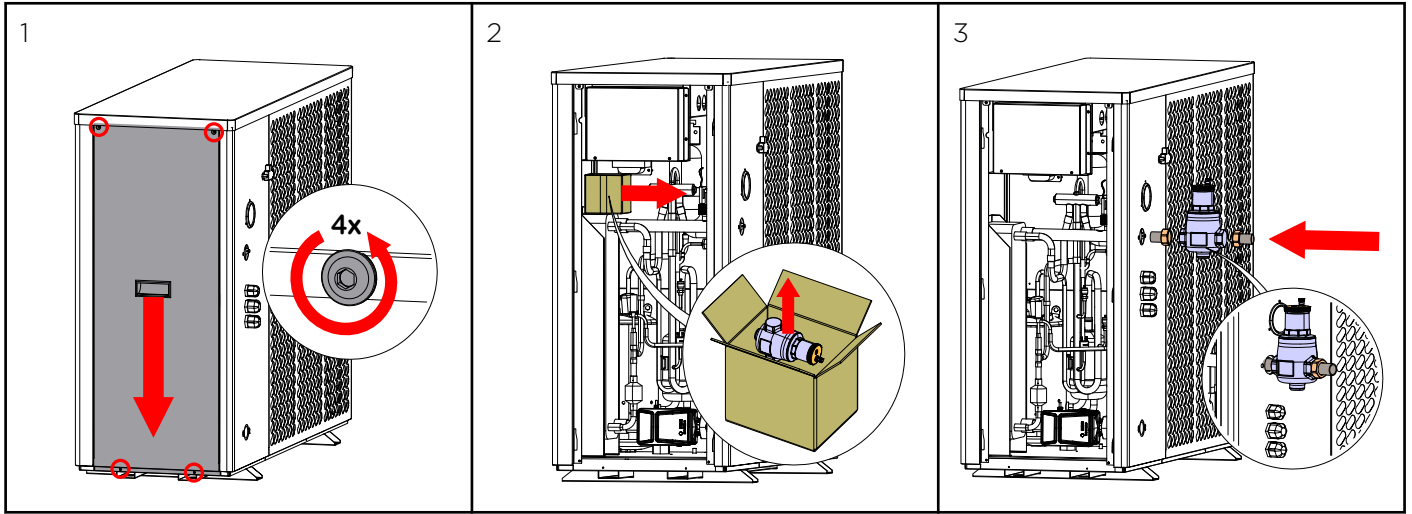
Note that for smaller pipe diameters, an additional circulation pump must be installed to achieve the specified performance values.

7.6 Requirements for the hydraulics

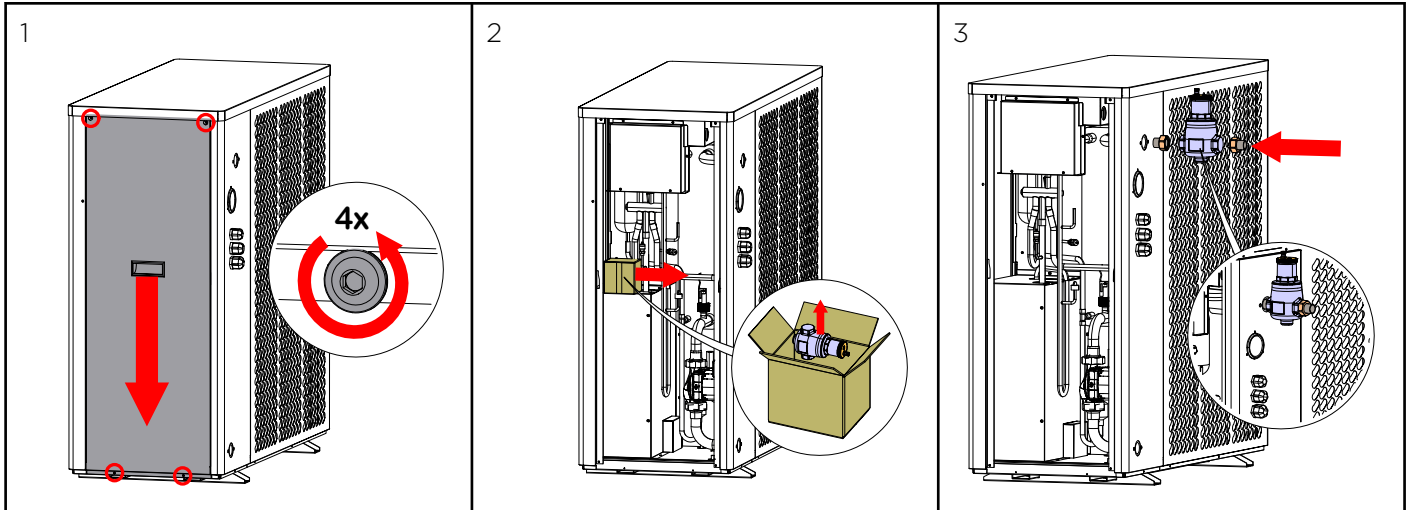
1. The system water pressure should be in a range of 1,3 to 3 bar.
2. Each part that is connected to the heat pump must be loosely connected and fitted with an intermediate valve.
3. Make sure that all pipes have been laid correctly and carry out a leakage and pressure test.
4. Ensure that all pipes and fittings are insulated (to prevent heat loss) and avoid possible frost damage.
5. Install a drain valve at the lowest point of the system. This makes it possible to drain the system, especially if there is a risk of frost.
6. Install a non-return valve on the water outlet connection to prevent suck-back as soon as the heat pump is deactivated.
7. To reduce the back pressure, the pipes should not have a long vertical fall line before entering to the heatpump.
8. If a higher flow rate is required, a bypass valve must be installed.
9. Ensure that only correctly treated water is filled into the heating circuit.

7.7 Fitting the air separator

EPA 09



EPA 12 | EPA12T



7.8 Electrical connection

⚠ CAUTION

Risk of electric shock or electrocution.

Make sure that all electrical circuits are switched off before installing the heat pump.

⚠ CAUTION

Wiring faults can lead to improper and dangerous operation.

Label all cables before disconnecting cables from the heat pump.

- ▶ Check for proper operation after maintenance.
-

Power supply

1. A supply voltage that is too low or too high can cause damage and/or lead to unstable operation.
2. The operating voltage range should be within $\pm 10\%$ of the rated voltage, install a voltage regulator if your grid supply value is different.
3. Ensure that the cable specifications meet the requirements of the respective installation. The distance between the installation location and the power supply affects the cross-section of the cables.
4. In case of 3-phase unit the phase sequence does not interfere with the rotating direction.

NOTICE

Minimum cross-section of the connection cable

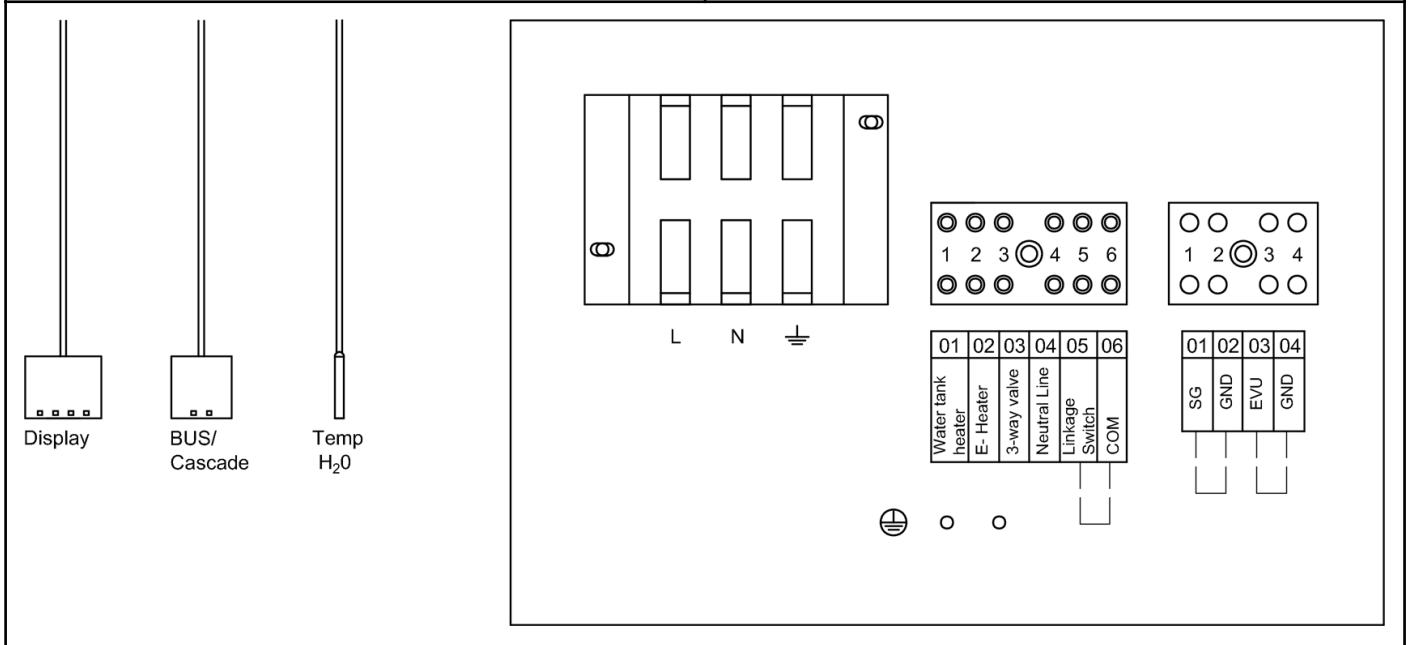
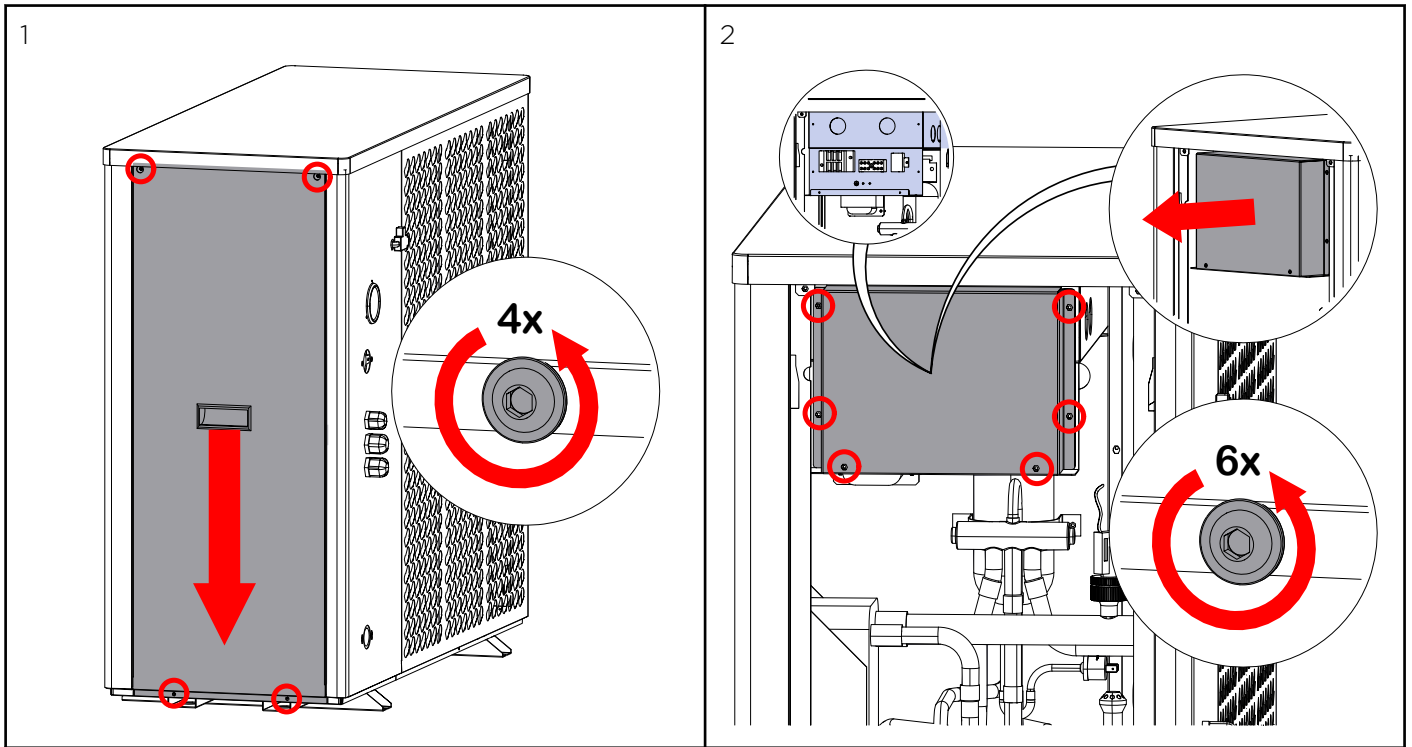
For a connection cable length of $< 10\text{m}$, the minimum cross-section is 4mm^2 (EPA 9, EPA 12) or 2.5mm^2 (EPA 12T).

Grounding and overcurrent protection

To avoid electric shock to the appliance in the event of a fault, install the heat pump in accordance with local electrical standards.

1. Do not interrupt the power supply to the heat pump frequently, as this can lead to a shorter service life.
2. When installing the overcurrent protection, ensure that the correct amperage for this purpose is maintained.
3. If an additional auxiliary heater is to be controlled by the heat pump controller, a suitable relay must control the auxiliary heater.

Wiring diagram EPA 09



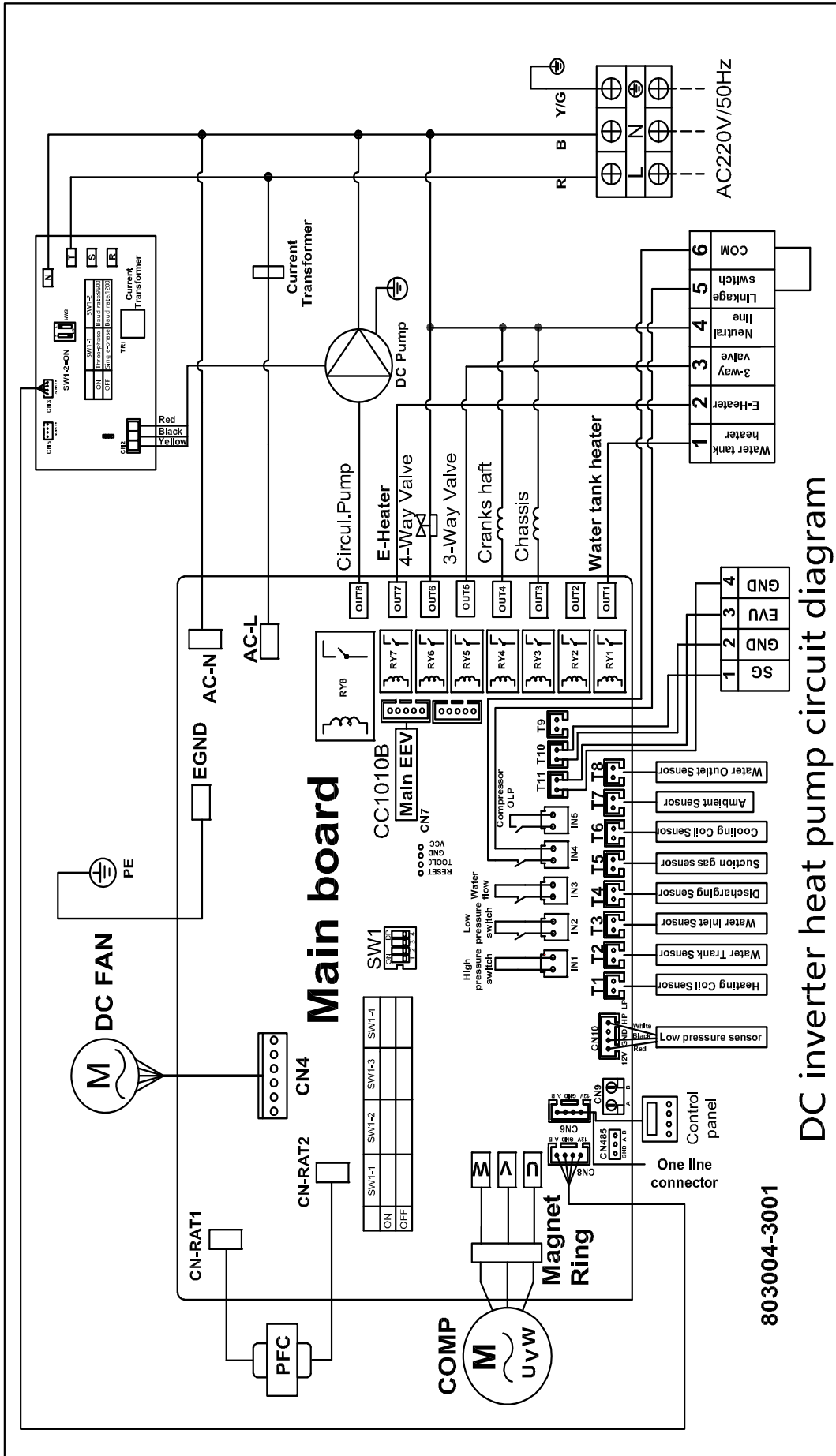
01 - Water tank heating element output for relay 230V AC 3A max
 02 - Circuit heating element output for relay 230V AC 3A max
 03 - 3-way valve output for DHW direct 230V AC
 04 - Neutral
 05 - Demand contact for heating/cooling
 06 - Dry contact GND

01 - SG/PV contact
 02 - Dry contact GND
 03 - EVU contact
 04 - Dry contact GND



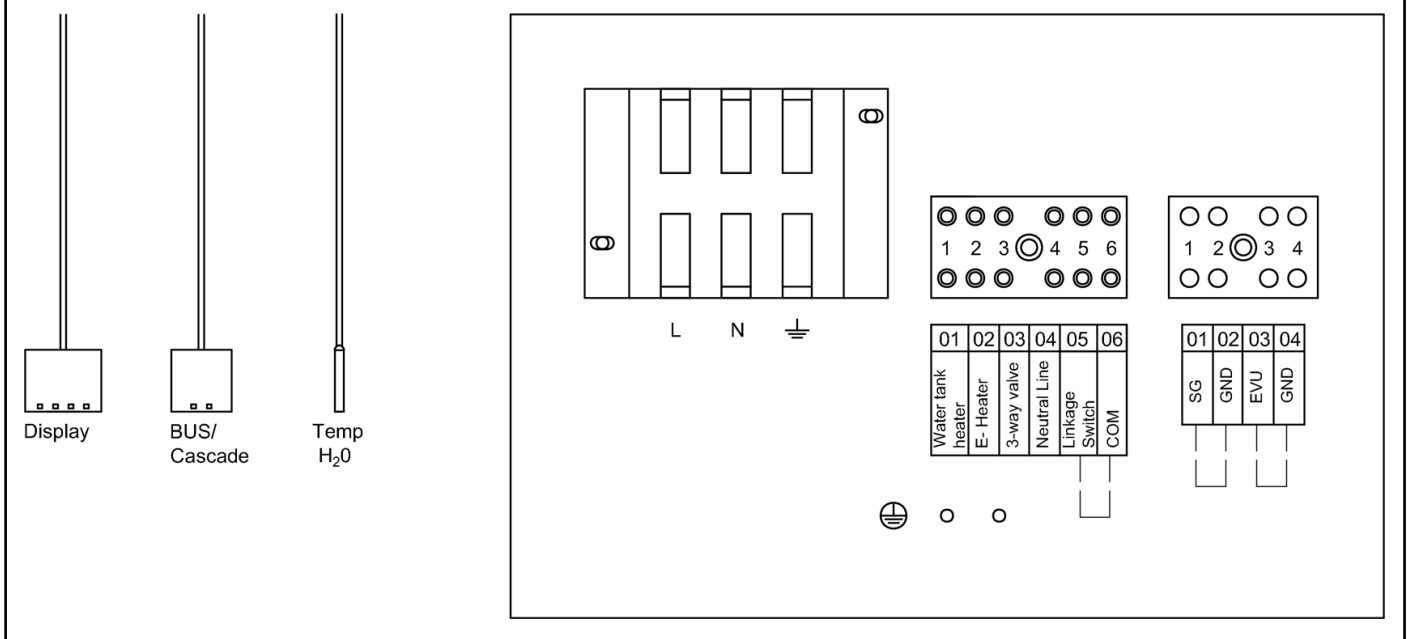
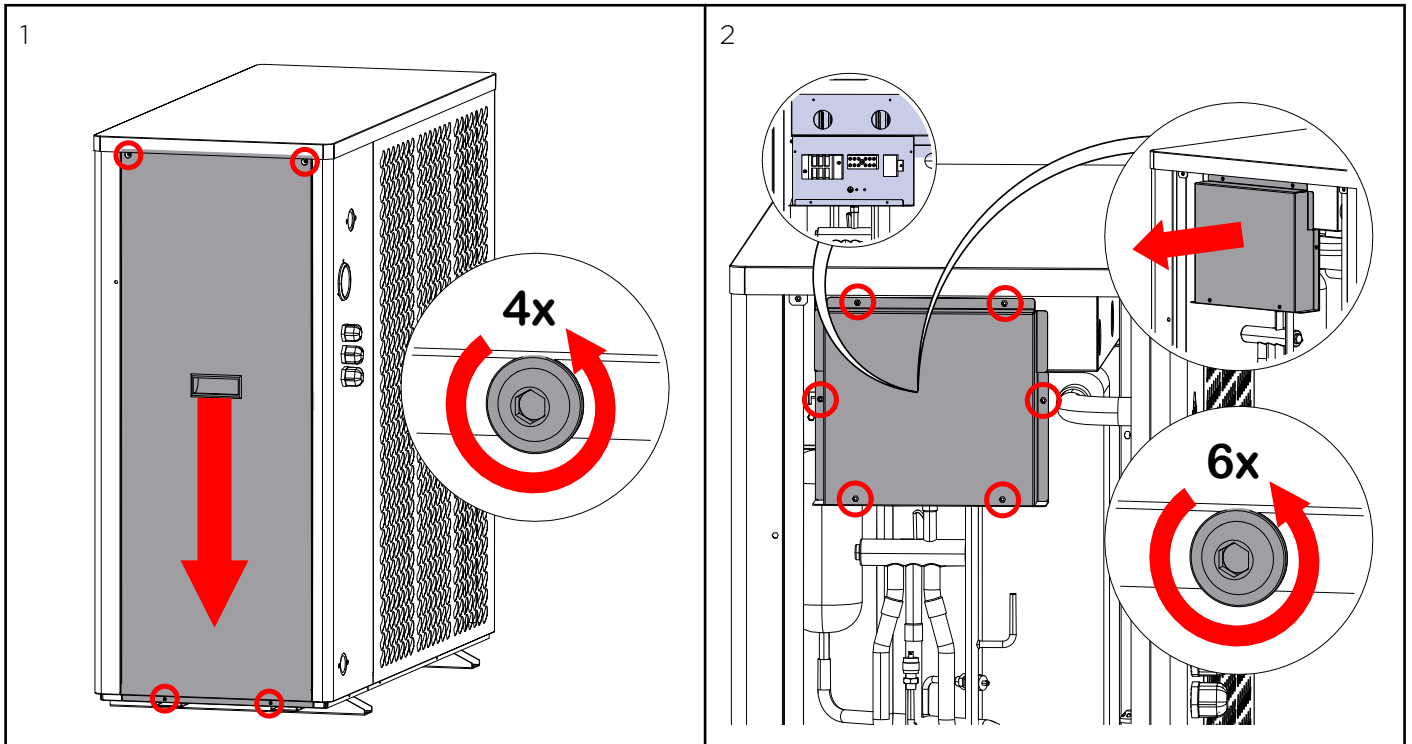
Hot water sensor cable can be extended up to max. 30 m. Please note the possible change in measured values due to the cable resistance.

Mainboard EPA 09



DC inverter heat pump circuit diagram

Wiring diagram EPA 12



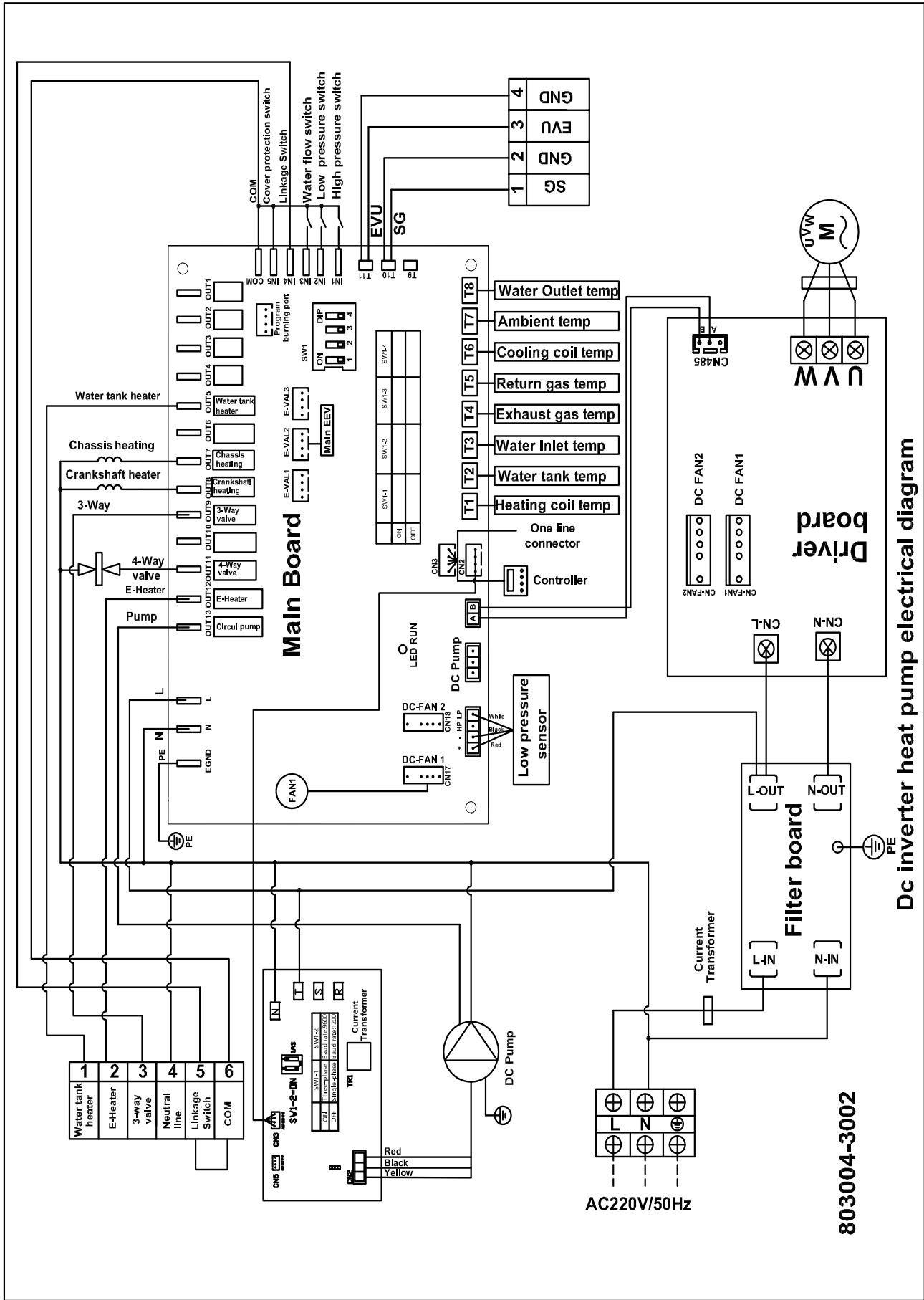
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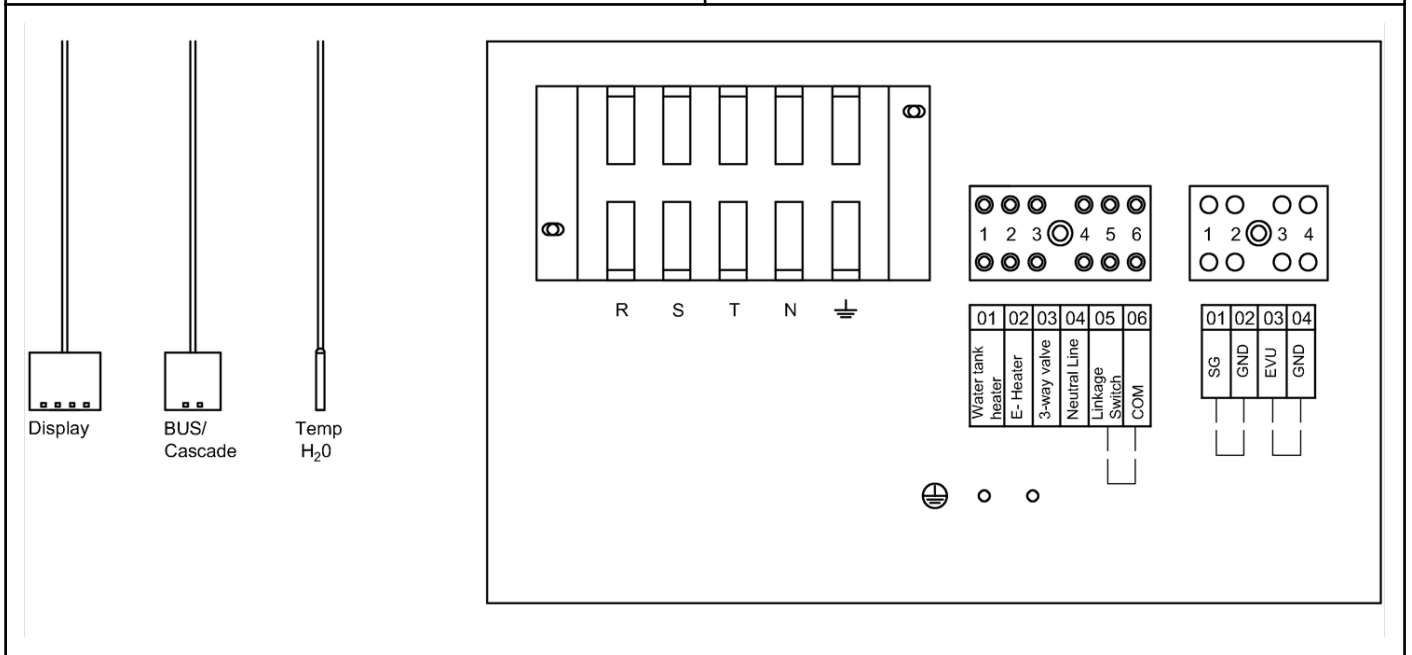
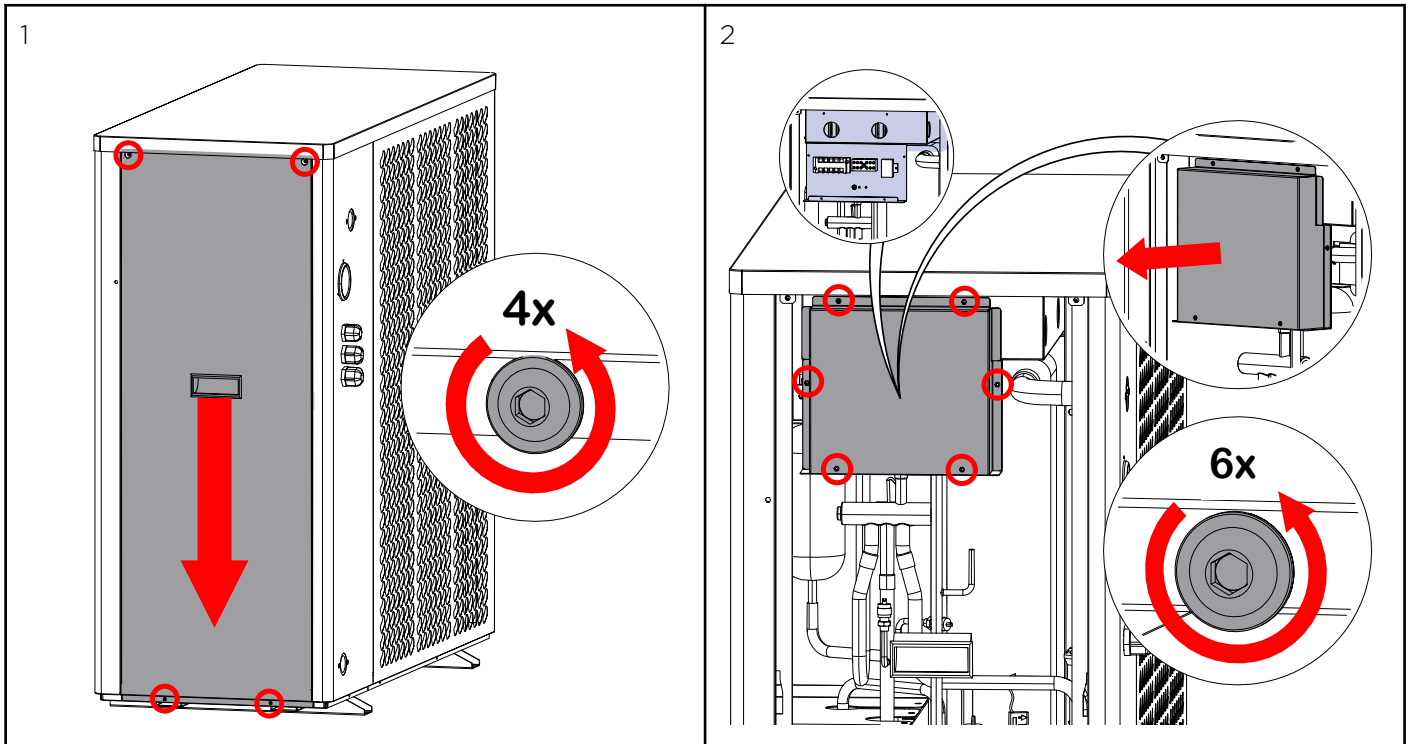


Hot water sensor cable can be extended up to max. 30 m. Please note the possible change in measured values due to the cable resistance.

Mainboard EPA 12



Wiring diagram EPA 12T



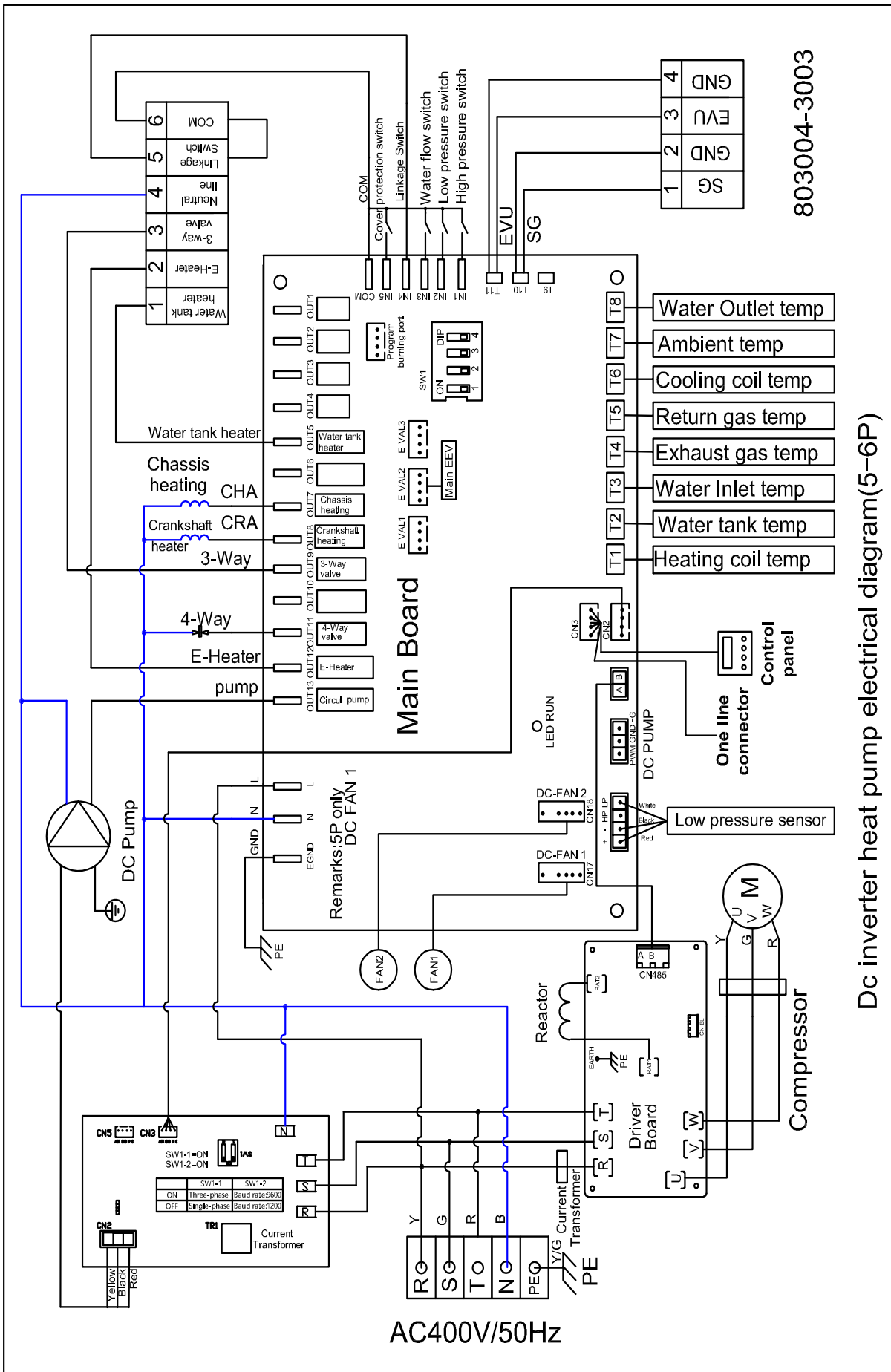
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- 01 - SG/PV contact
- 02 - Dry contact GND
- 03 - EVU contact
- 04 - Dry contact GND



Hot water sensor cable can be extended up to max. 30 m. Please note the possible change in measured values due to the cable resistance.

Mainboard EPA 12T



803004-3003

Dc inverter heat pump electrical diagram(5-6P)

7.8.1 Operating Device with Touch screen

The operating device is located in a cardboard box next to the electrical connection box. Remove the control panel from the packaging and install it securely inside in a dry and dust-protected location. It should not be exposed to direct sunlight. Ensure that the 4pin cable connection is properly sealed to the wall and the heat pump.

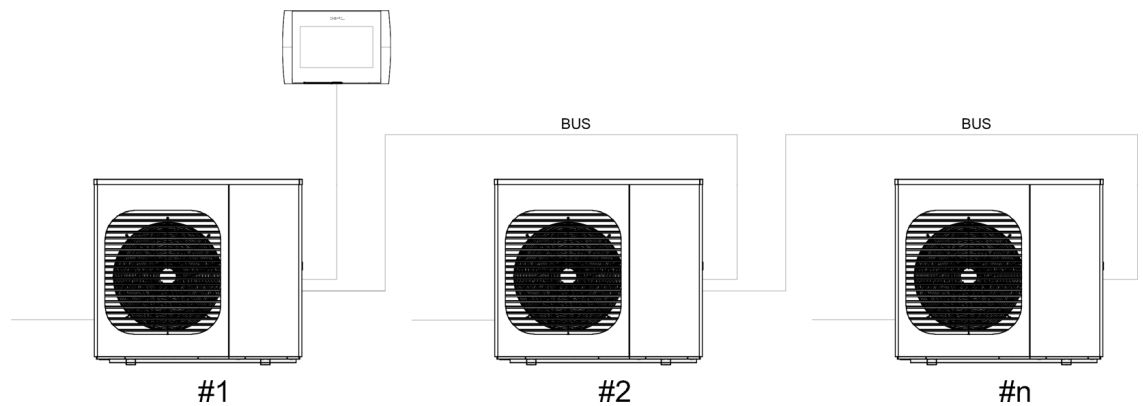


The cable has a length of 10 m and the distance can be extended to a maximum of 30 m.

7.8.2 Cascade

If several heat pumps are to be cascaded, the respective number must be defined on the control unit.

Up to 8 heat pumps can be controlled.



Overview of the correct settings of microswitch on main board:

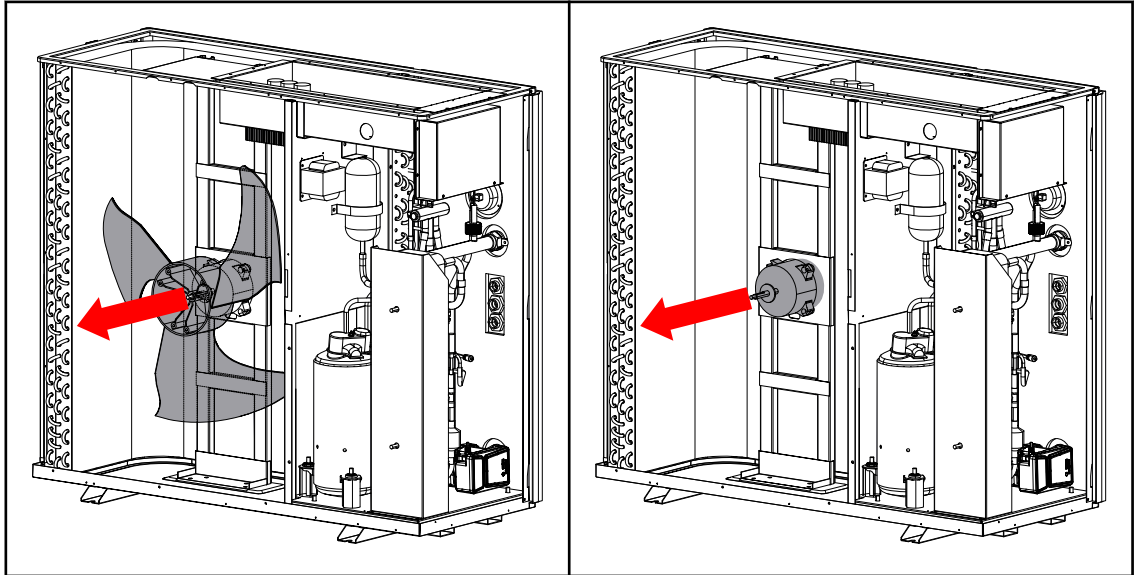
Heat pump	SW 2	SW 3	SW 4
#1	OFF	OFF	OFF
#2	OFF	OFF	ON
#3	OFF	ON	OFF
#4	OFF	ON	ON
#5	ON	OFF	OFF
#6	ON	OFF	ON
#7	ON	ON	OFF
#8	ON	ON	ON



SW 1 always remains OFF!

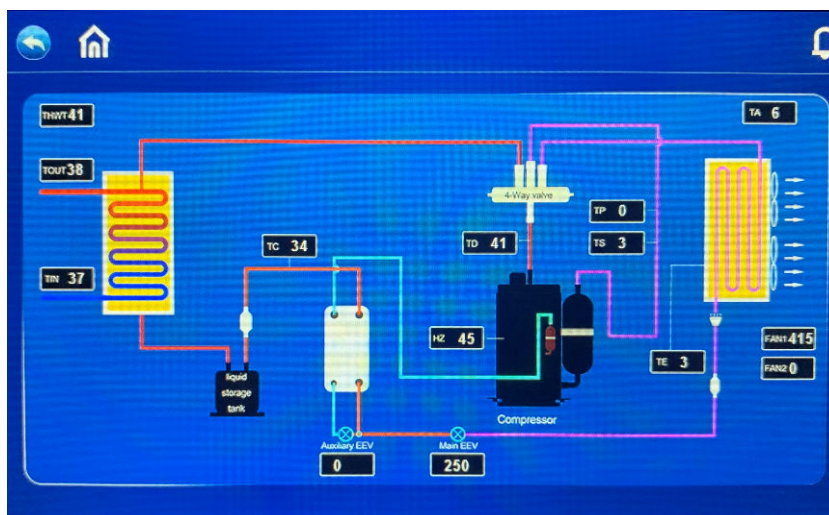
Use hot water sensor and valve from heat pump #1.

7.9 Removing the fan

























8 Operating the heat pump

8.1 User controls and their function








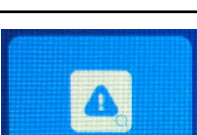
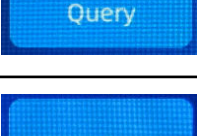





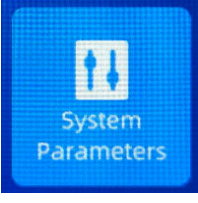
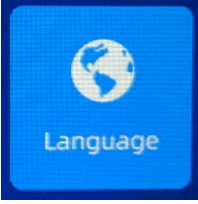
Click on the Home button to display the system measured values of the heat pump.

Symbol	Bedeutung
	Heating mode
	Hot water mode
	Cooling mode
	Heating and hot water mode (hot water function has priority)
	Cooling and hot water mode (hot water function has priority)
	Smart mode
	Performance mode
	Night mode
	Vacation mode
	Compressor active
	Water pump active
	Fan active
	Electric heating active
	Defrost
	Freeze protection

Symbol	Bedeutung
	Hot water preparation
	Heating
	Home screen or system display
	Back
	Current alarm
	Fault history
	Delete

8.2 Description of the buttons

Button	Description	Function
	On/Off	Switching the heat pump on or off
	Mode	Setting the operating mode
	Time program	Time program settings
	Settings	Check and set system parameters, error code records, WLAN connection, etc.
	Temperature setting 1	Temperature setting for heating and cooling mode
	Temperature setting 2	Temperature setting for heating/cooling and hot water
	Status	Checking the operating parameters of the heat pump or all devices in a cascade connection
	Defect	Recording of the error codes
	WLAN	WLAN settings for APP configuration

Button	Description	Function
	User parameters	Checking and setting the user parameters
	Factory settings	Loading the factory settings (only for technical customer service with access code)
	Power curve	View the performance curves of the heat pump graphically.
	System parameters	Check the software version of the controller
	Language	Language selection

8.3 Activation of the heat pump

In the start menu, press and hold the ON / OFF button for 1 second to confirm the pop-up window that appears.



8.4 Setting the target water temperature

In individual mode (cooling only, heating only, hot water only), click on "+" or "-" to set the desired temperature.

The flow and return temperatures are displayed in the menu and only one temperature setting is visible.

In dual mode, click on "+" and "-" in the start menu (heating + hot water, cooling and hot water mode) to set the desired heating and cooling temperature and the desired hot water temperature.



8.5 Setting the operating mode

In the start menu, press and hold the "MODE button" for 1 second to switch to the mode selection and set the desired operating mode and the function mode of the device in vacation mode.



- Click "MODE" on the settings interface to open the operating mode selection interface
- Description of the operating mode: In function mode, the heat pump has the Smart, Power and Night mode functions to choose from. In Power mode, the compressor runs at full power, in smart mode it modulates, and in night mode the compressor power is limited to reduce the noise level. We recommend the Smart mode setting for everyday use.
- Description of vacation mode: When this mode is activated, the heat pump runs in heating mode and the setback temperature can be set separately.

8.6 Date and time settings

- Press Time and date in the start menu to set these.
- Set the date (year/month/day) or the time (hour:minute).
- Confirm the entry to save and exit or select CANCEL to exit without saving.

8.7 Timer setting

Select the Timer function in the Start menu.

In the WEEK menu item, you can select the days of the week on which the time program should be activated.

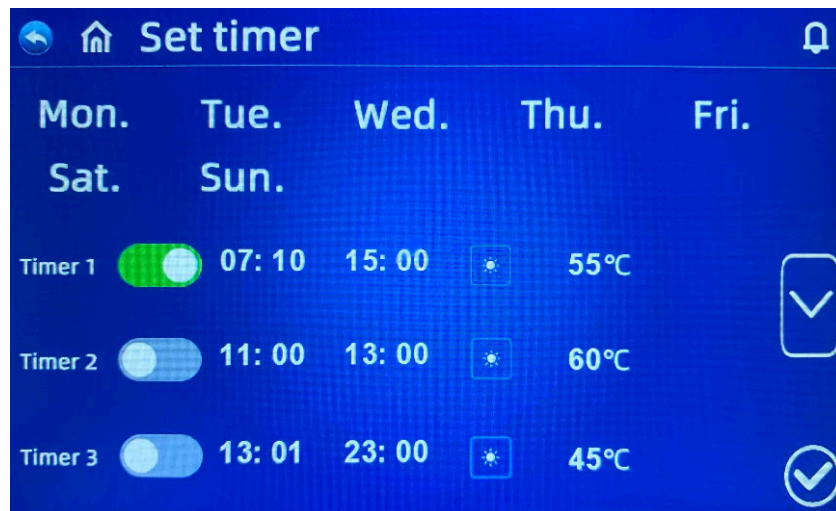
The time program is executed on days marked in white.

The time program is not executed on days marked in grey.

You can set a maximum of 3 time programs on the display. Additional times can be set via the APP function.

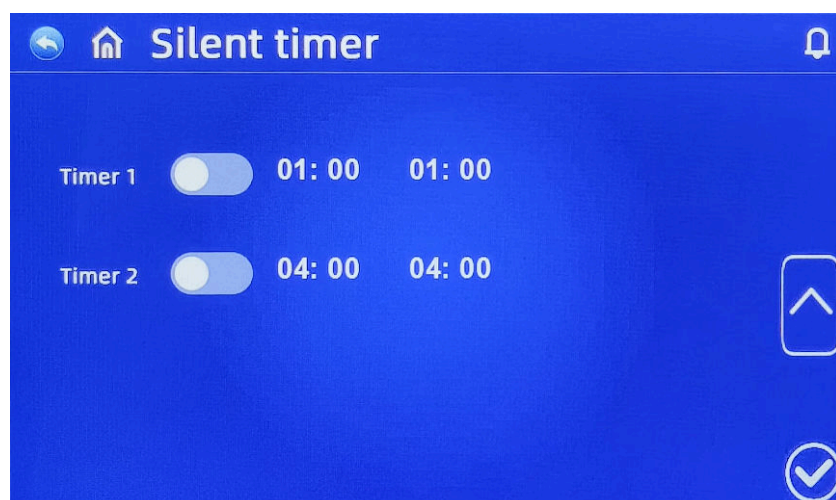
The start and end time, operating mode and temperature can be selected.

The time program function is invalid if the switch-on time is the same as the switch-off time.



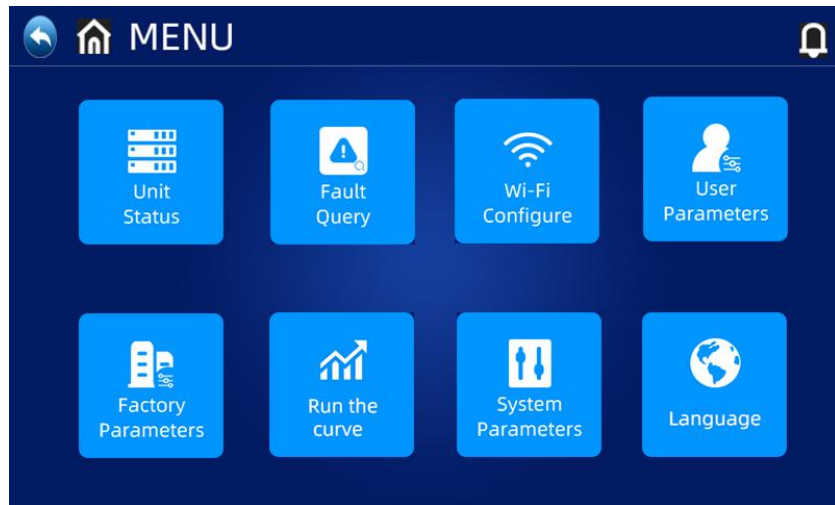
8.7.1 Night mode

In the Timer settings menu, select During the set time, the heat pump runs daily in night mode.



8.8 Main Menu

Select the "SETTINGS" function in the start menu to call up the main menu.



8.8.1 Device status

Select "STATUS" to call up the interface to the device list. Select the relevant device to call up the "Status query" and check the operating status of the heat pump.

The status table is as follows:

<p>Status</p> <table border="1"> <tbody> <tr> <td>01 Water return temperature</td> <td>26.6°C</td> <td>05 Return gas temperature</td> <td>1.0°C</td> </tr> <tr> <td>02 Water flow temperature</td> <td>31.9°C</td> <td>06 Evaporator temperature</td> <td>-2.5°C</td> </tr> <tr> <td>03 Outside temperature</td> <td>6.5°C</td> <td>07 Inlet temperature of economizer</td> <td>0.0°C</td> </tr> <tr> <td>04 Flow Gas Temperature</td> <td>56.0°C</td> <td>08 Outlet temperature of economizer</td> <td>0.0°C</td> </tr> </tbody> </table>	01 Water return temperature	26.6°C	05 Return gas temperature	1.0°C	02 Water flow temperature	31.9°C	06 Evaporator temperature	-2.5°C	03 Outside temperature	6.5°C	07 Inlet temperature of economizer	0.0°C	04 Flow Gas Temperature	56.0°C	08 Outlet temperature of economizer	0.0°C	<p>Status</p> <table border="1"> <tbody> <tr> <td>09 Heatexchanger liquid temp</td> <td>25.0°C</td> <td>13 Compressor current</td> <td>8 A</td> </tr> <tr> <td>10 DHW temperature</td> <td>18.7°C</td> <td>14 Board heat sink temp</td> <td>40.0°C</td> </tr> <tr> <td>11 Opening main expansion valve</td> <td>158 P</td> <td>15 Target compressor frequency</td> <td>75 Hz</td> </tr> <tr> <td>12 Opening assistant expansion valve</td> <td>0 P</td> <td>16 Actual compressor frequency</td> <td>74 Hz</td> </tr> </tbody> </table>	09 Heatexchanger liquid temp	25.0°C	13 Compressor current	8 A	10 DHW temperature	18.7°C	14 Board heat sink temp	40.0°C	11 Opening main expansion valve	158 P	15 Target compressor frequency	75 Hz	12 Opening assistant expansion valve	0 P	16 Actual compressor frequency	74 Hz
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28 Voltage of the entire machine	246 V	32 Actual water pump speed	35.4%																														

Code	Description	Remark
01	Water return temperature	-30 ~ 99° C
02	Water flow temperature	-30 ~ 99° C
03	Outside temperature	-30 ~ 99° C
04	Flow Gas Temperature	0 ~ 125° C
05	Return gas temperature	-30 ~ 99° C
06	Evaporator temperature	-30 ~ 99° C
07	Inlet temperature of economizer	-30 ~ 99° C
08	Outlet temperature of economizer	-30 ~ 99° C
09	Heatexchanger liquid temp	-30 ~ 99° C
10	DHW temperature	-30 ~ 99° C
11	Opening main expansion valve	
12	Opening assistant expansion valve	
13	Compressor current	
14	Board heat sink temp	
15	Target compress or frequency	
16	Actual compress or frequency	
17	Low pressure sensor value	Real-time data
18	Low pressure value conversion temp	
19	Speed fan 1	
20	Speed fan 2	
21	EVU signal	
22	Smart Grid/PV Signal	
24	DC bus voltage	
25	Heating capacity/Cooling capacity	
26	Actual water flow rate	
27	Current device	
28	Voltage of the entire machine	
29	Electrical power	
30	COP (EER)	
31	Target water pump speed	
32	Actual water pump speed	

8.8.1.1 Forced defrost

Forced defrost: Press Settings in the start menu, and then press and hold the corresponding device number in the device selection interface of the query status to enter the forced defrost selection interface of the corresponding device. Select YES to defrost the heat pump.

8.8.2 User parameter settings

Press "USER PARAMETERS" in the main menu to enter the parameter query and settings.

The following list shows the code, description, adjustable range and default value.

Display of the operating parameters:

<p>User parameters</p> <table border="1"> <tr> <td>P01 Hysteresis (+/- return)cooling/heating target temp</td> <td>2°C</td> <td>P05 Heating setting temperature</td> <td>55°C</td> </tr> <tr> <td>P02 Hysteresis (+/- return) DHW target temp</td> <td>5°C</td> <td>P06 Setting temp of flow gas too high protection (TP4)</td> <td>120°C</td> </tr> <tr> <td>P03 Domestic hot water set temp.</td> <td>28°C</td> <td>P07 Setting temp of flow gas too high recovery (TP0)</td> <td>93°C</td> </tr> <tr> <td>P04 Cooling setting temperature</td> <td>12°C</td> <td>P08 Water temp. sensor compensation</td> <td>1°C</td> </tr> </table>	P01 Hysteresis (+/- return)cooling/heating target temp	2°C	P05 Heating setting temperature	55°C	P02 Hysteresis (+/- return) DHW target temp	5°C	P06 Setting temp of flow gas too high protection (TP4)	120°C	P03 Domestic hot water set temp.	28°C	P07 Setting temp of flow gas too high recovery (TP0)	93°C	P04 Cooling setting temperature	12°C	P08 Water temp. sensor compensation	1°C	<p>User parameters</p> <table border="1"> <tr> <td>P09 Defrosting compressor frequ.</td> <td>70Hz</td> <td>P13 Defrost exit temperature</td> <td>15°C</td> </tr> <tr> <td>P10 Min period between defrosting</td> <td>45min</td> <td>P14 Outside and evaporator coil temperature difference defrosting 1</td> <td>5°C</td> </tr> <tr> <td>P11 Defrosting start evaporator temp.</td> <td>-3°C</td> <td>P15 Outside and evaporator coil temperature difference defrosting 2</td> <td>5°C</td> </tr> <tr> <td>P12 Defrosting time</td> <td>8min</td> <td>P16 Outside temperature for defrosting</td> <td>17°C</td> </tr> </table>	P09 Defrosting compressor frequ.	70Hz	P13 Defrost exit temperature	15°C	P10 Min period between defrosting	45min	P14 Outside and evaporator coil temperature difference defrosting 1	5°C	P11 Defrosting start evaporator temp.	-3°C	P15 Outside and evaporator coil temperature difference defrosting 2	5°C	P12 Defrosting time	8min	P16 Outside temperature for defrosting	17°C
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<p>User parameters</p> <table border="1"> <tr> <td>F05 Circulation pump adjustment cycle</td> <td>60S</td> <td>P29 Control address</td> <td>1</td> </tr> <tr> <td>F06 Circulation pump manual speed</td> <td>50%</td> <td>S01 Smart grid/PV enable</td> <td>0</td> </tr> <tr> <td>F08 Circulation pump min speed</td> <td>60%</td> <td>S02 SG/PV operating time</td> <td>180 min</td> </tr> <tr> <td>P28 Number of on-line units</td> <td>1</td> <td></td> <td></td> </tr> </table>	F05 Circulation pump adjustment cycle	60S	P29 Control address	1	F06 Circulation pump manual speed	50%	S01 Smart grid/PV enable	0	F08 Circulation pump min speed	60%	S02 SG/PV operating time	180 min	P28 Number of on-line units	1																			
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F08 Circulation pump min speed	60%	S02 SG/PV operating time	180 min																														
P28 Number of on-line units	1																																

Code	Description	Adjustable range	Default value
P01	Hysteresis (+/- return) cooling/heating target temp	2° C to + 18° C	2° C
P02	Hysteresis (+/- return) DHW target temp	2° C to + 18° C	5° C
P03	Domestic hot water set temp.	28° C to + 70° C	50° C
P04	Cooling setting temperature	7° C to + 30° C	12° C
P05	Heating setting temperature	15° C to + 70° C	35° C
P06	Setting temp of flow gas too high protection (TP4)	50° C to + 125° C	120° C
P07	Setting temp of flow gas too high recover (TP0)	50° C to + 125° C	95° C
P08	Water temp. sensor compensation	-5° C to + 15° C	-1° C
P09	Defrosting compressor frequ.	30 - 120 Hz	60 Hz
P10	Min period between defrosting	20 - 90 min	45 min
P11	Defrosting start evaporator temp.	-15° C to -1° C	-3° C
P12	Defrosting time	5 - 20 min	10 min
P13	Defrost exit temperature	1° C to + 40° C	20° C
P14	Outside and evaporator coil temperature difference defrosting 1	0° C to + 15° C	5° C
P15	Outside and evaporator coil temperature difference defrosting 2	0° C to + 15° C	5° C
P16	Outside temperature for defrosting	0° C to + 20° C	17° C
P17	Days Legionella protection	0 -30 days If 0 is selected, no disinfection function is performed.	7
P18	Start time Legionella protection	0 - 23:00	23
P19	Duration Legionella protection	0 - 90 min	30
P20	Temperature Legionella protection	0 to + 90° C	70° C
P21	Heat pump's setting temperature for Legionella protection	40 to + 70° C	53° C
	Fahrenheit/Celsius	0° C	0
P22	Heating target Temp. automatic adjustment enable	0 - 1 0= inactive 1= active	0
P23	Basepoint Heatcurve	0 - 40	20

Code	Description	Adjustable range	Default value
P24	Heatcurve coefficient	1 - 30 1 corresponds to real0,1	1
P25	Frequ. modulating mode after reaching temperature	0= Reduction in frequency after constant temperature 1= No decrease in frequency after constant temperature	0
P26	Outside temperature for starting electric heating	-20° C to + 20° C	0
P27	Start time for electric heating of DHW tank	0 - 60 min	30
F01	Heat Pump Function	1= Heating 2= Heating + cooling 3= Heating + hot water 4= Heating + cooling + hot water	4
F02	Circulation pump status after reaching target Temp.	0= Interval 1= permanent 2= Constant pump stop	1
F03	Circ. pump OFF cycle time after reaching set temp.	1 - 120 min ON always 3 min.	30 (On= 3 min)
F04	Circulation pump mode	0=No start 1= Automatic 2= Manual	1
F05	Circulation pump adjustment cycle	10-100 sek	60
F06	Circulation pump manual speed	10 - 100%	50
F08	Circulation pump min speed	10 - 100%	40
P28	Numbers of online units	1 - 8	1
P29	Control address	1 - 255	1
S01	SmartGrid/PV enable	no, yes	no
S02	SG/PV operating time	0 - 600 min	180 min

8.9 Factory Settings

A security code is required to access the factory settings. If necessary, this can be requested via the EASYPELL factory customer service.

The button for loading the factory settings is located in the top right-hand corner of the Factory settings menu.

Press this button to restore the factory default values.

8.10 Legionella protection function

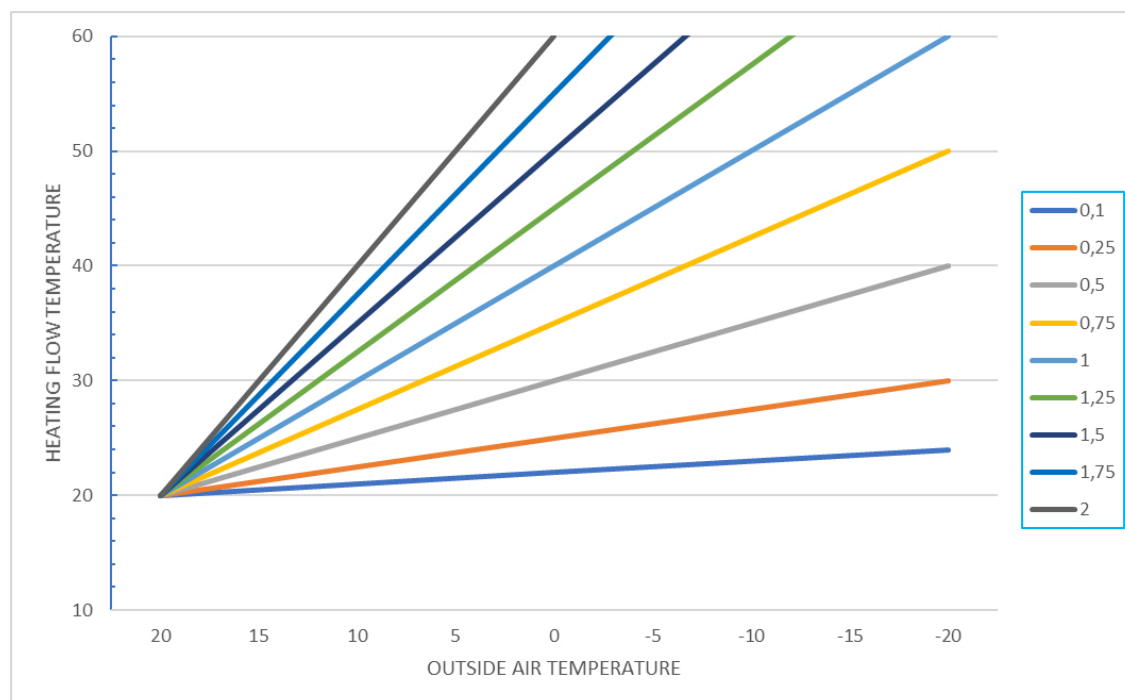
- The high-temperature legionella protection cycle is set with P17 and P18.
- The electric heating of the hot water tank is activated when the high temperature legionella protection is reached (P17).
- If the temperature of the hot water tank is 70°C during the high temperature legionella protection cycle, the compressor will not only start the electric heater. If the hot water tank temperature is ≤ 70 °C, both the compressor and the electric heater are started
- When the hot water tank temperature and time are reached, the high temperature legionella protection cycle is deactivated.
- If the temperature of the hot water tank does not reach the desired temperature after 1 hour, the cycle is terminated.

8.11 Automatic adjustment of the heating setpoint temperature

- The setpoint temperature in heating mode can be automatically adjusted to the outside temperature (heating curve).
- **Access conditions:** Activate the automatic setting mode for the heating setpoint temperature if parameter P22 = 1
- Calculation formula for the heating setpoint temperature: Pset heating setpoint temperature = $20 + (P24/10) * (P23 - \text{current ambient temperature})$

The different curves represent different values of P24.

The actual value is 0.1 if P24 = 1, the base point can be set from 20-40°C with P23



8.12 Hot water tank booster heater

The starting conditions must fulfill all of the following conditions at the same time:

1. Hot water mode activated.
2. Compressor runtime (P27 - 30min) is reached.
3. Hot water tank target temperature is not reached.
4. Heat pump running

8.13 Electric auxiliary heating for room heating

Conditions:

Heating mode activated:

- Ambient temperature is below the set value P26 (0°C).
- If the return temperature is < heating temperature (P05) - switch-on hysteresis (P01) when heating is requested.
- The electric heating is switched on when the above conditions are met

8.14 Smart-PV/Grid

You activate the smart grid function under parameter S01 (=1).

Smart-Grid		
Operating status	Smart-Grid	EVU
Increased operation	ON	ON
	OFF	ON
Normal operation	ON	OFF
Reduced operation	OFF	OFF

1. Smart grid and hot water mode are activated: The heat pump is primarily operated in hot water mode. The hot water temperature is changed to 70° C (hot water tank temp.) < 69° C. The hot water tank heating is switched on (hot water tank temp.) ≥ 70 and the hot water tank heating is switched off.
2. Smart grid is deactivated and the EVU signal is activated: If the hot water mode is set as valid and the mode is switched on, the heat pump is primarily operated in hot water mode (hot water tank temp.) < P03-P02, the hot water tank heating is switched on, (hot water tank temp.) ≥ P03+2, the hot water tank heating is switched off.
3. Smart grid is activated and the utility signal is deactivated: The heat pump is operated normally.
4. Smart Grid and hot water mode are deactivated: The appliance is not operated in hot water mode and the hot water tank heating and the disinfection function are inactive. The appliance switches off after the set switch-off time S02.

8.15 Pump function when temperature is reached

Once the switch-off temperature has been reached, the mode of operation can be defined under the set value F02.

At 0, the pump stands for time-out F03 and switches on for 3 minutes. At 1, the pump continues to run normally, at 2 it switches off until restart after the return temperature falls below the set temperature.

9 Precautions for initial commissioning

Commissioning and operating status check

1. Ensure that the output of the heat pump matches the output specified on the product rating plate.
2. Electrical connections of the appliance: Check the route of the power supply cable and the connection of the protective earth conductor.
3. Pipes and water pipes: Pipes and water lines must be cleaned two to three times to ensure that they are clean and free of contamination.
4. Check the water system: Is the water sufficient and free of air? Make sure that there is no leakage. Only fill the system with water that has been correctly treated for heating systems in order to avoid corrosion, algae formation and possible ice formation. Observe ÖNORM 5195-1 or VDI 2035.
5. First start or restarting after longer power cut off: Make sure that the appliance is switched on in advance and warmed up for at least 2 hours before starting.
6. Operational check Check whether the device is working properly based on the following data.
 - a) Water temperature inputs and outputs
 - b) Correctly circulating water flow
 - c) Operating current of the compressor fan
 - d) High and low pressure values in heating mode

CAUTION

Do not operate the heat pump if any electrical components are in contact with water. Call an authorised service technician to check the heat pump.

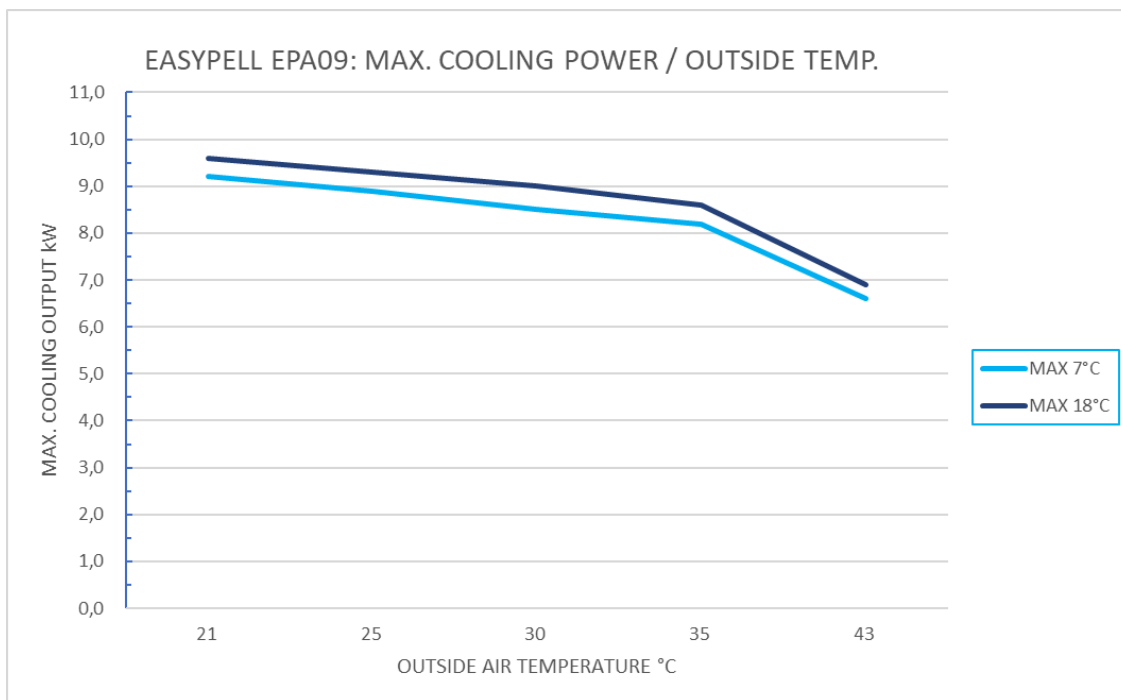
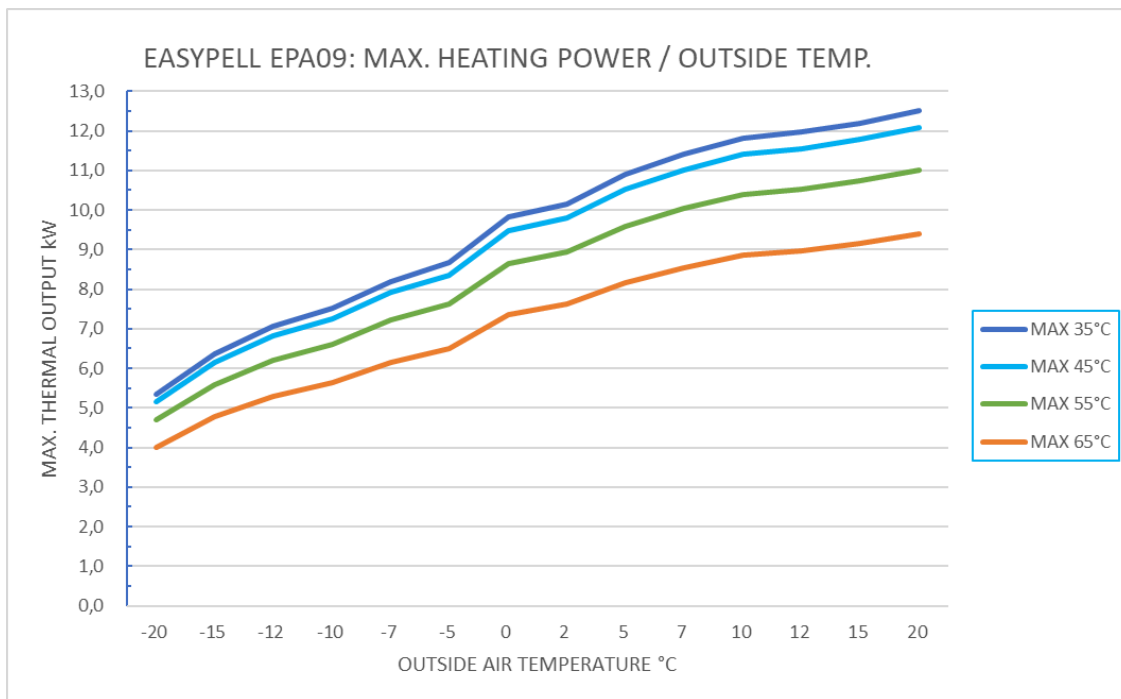
CAUTION

Keep all objects away from the heat pump.

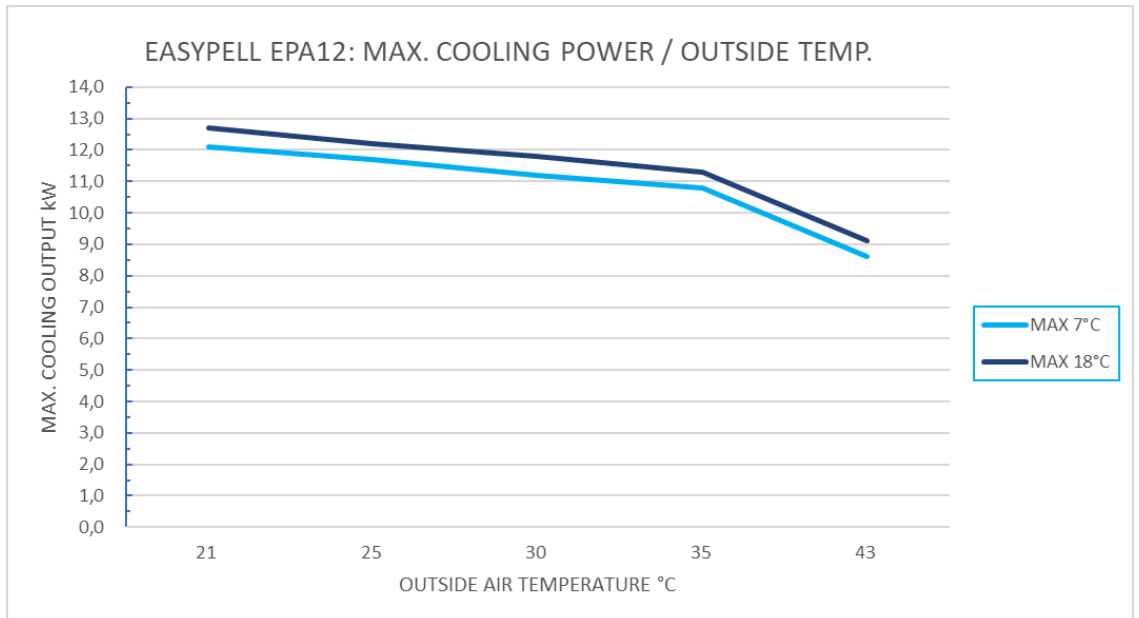
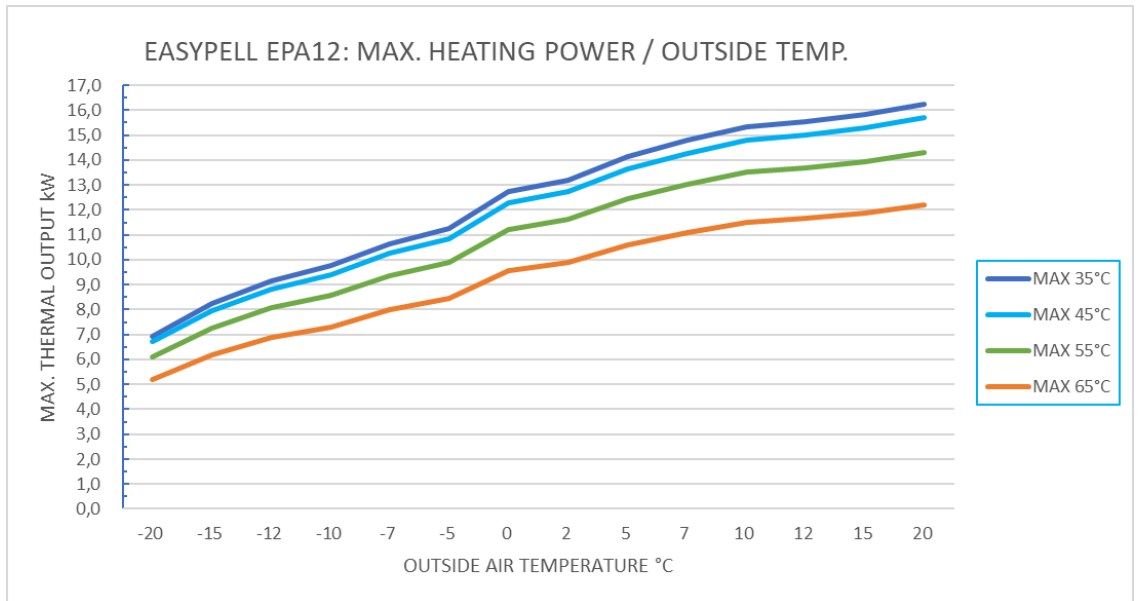
Blocking the air flow could damage the appliance and may invalidate the warranty.

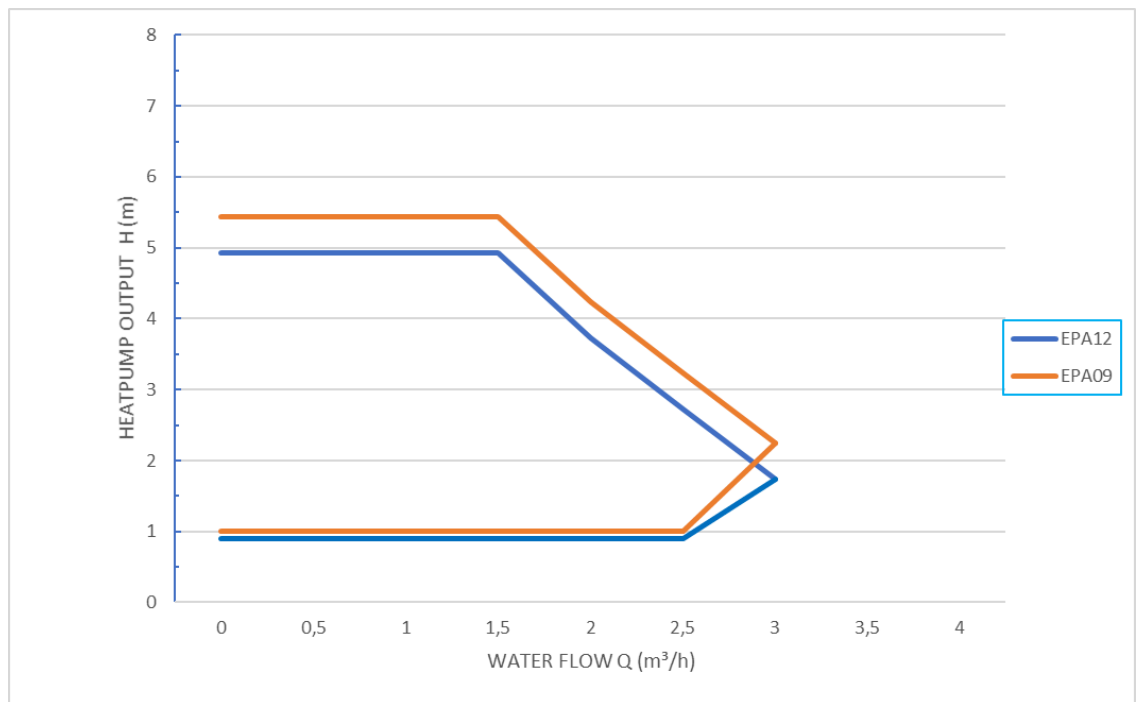
10 Power curves (maximum)

Power curves EPA 09



Power curves EPA 12

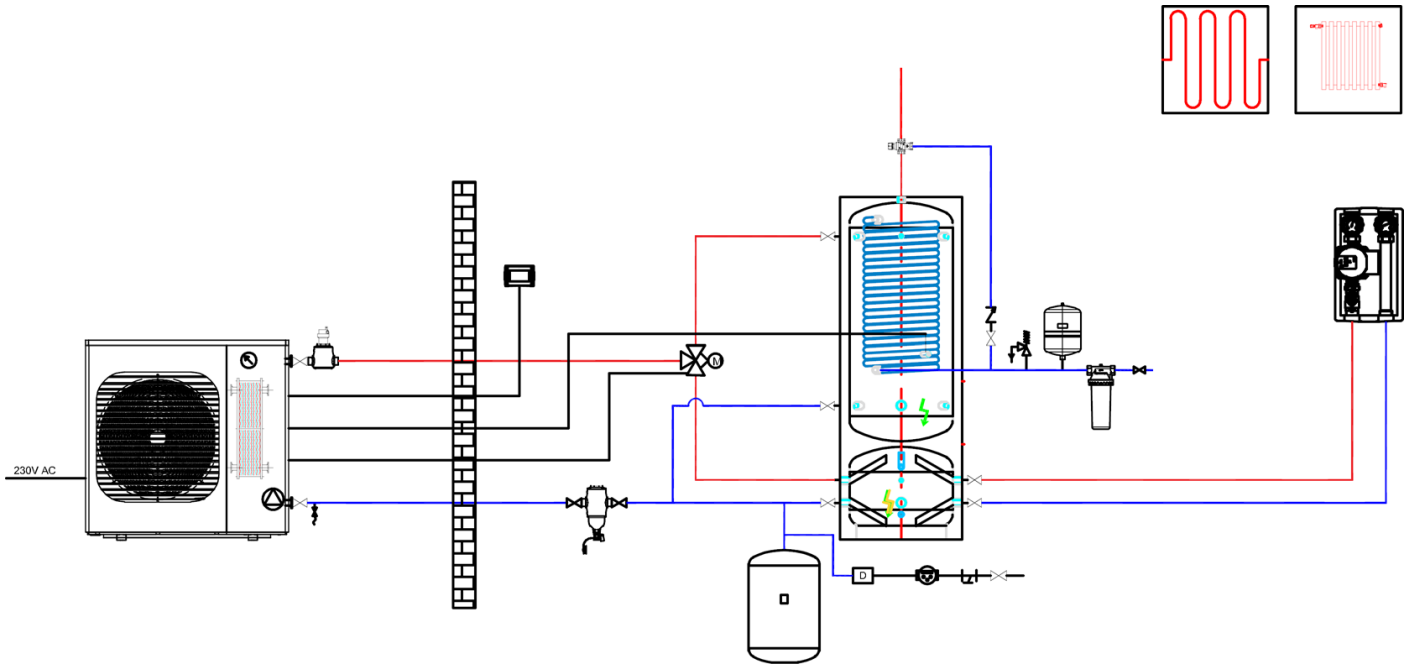


Pump curve

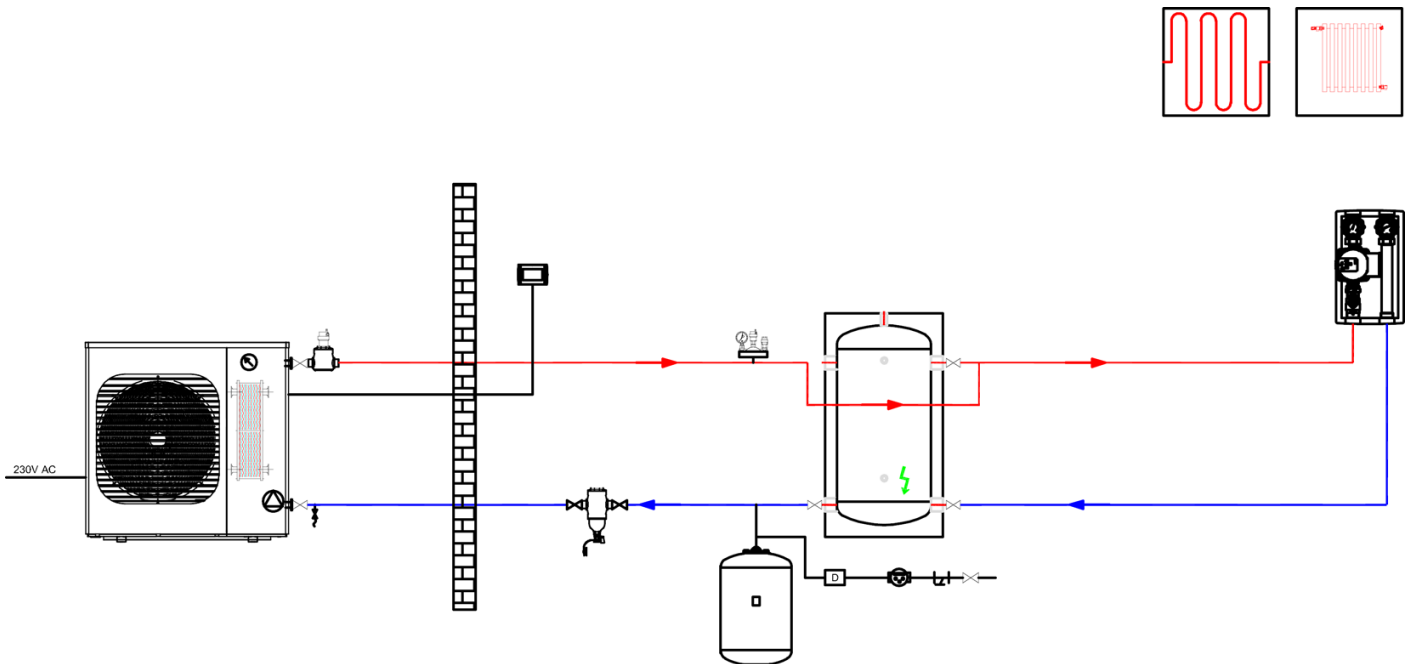
Available pressure and residual head in the heating circuit of the heat pump:
Please select the correct pipe cross-sections to ensure that the required amount of water is transferred.

11 Hydraulic diagrams

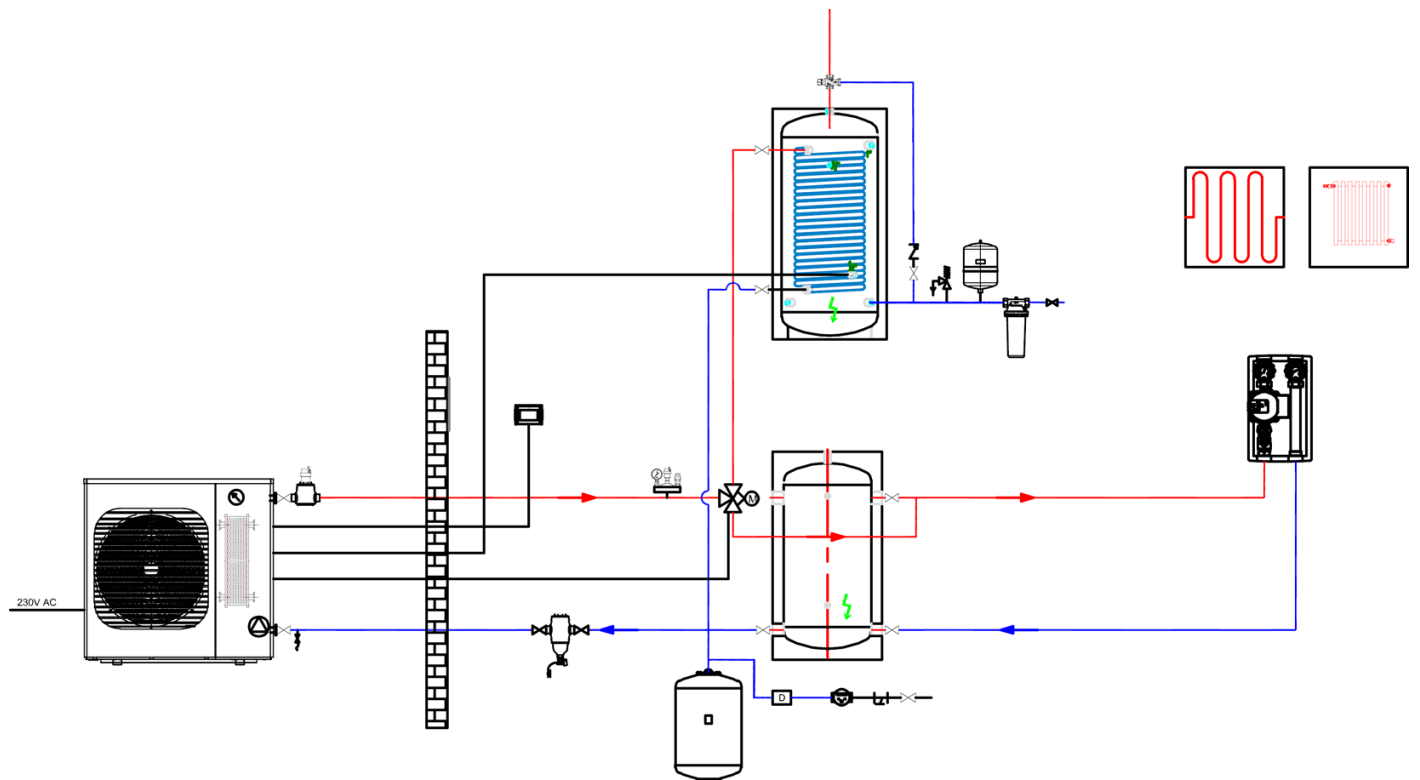
11.1 Hydraulic scheme 1



11.2 Hydraulic scheme 2



11.3 Hydraulic scheme 3



12 Technical data

	EPA 09	EPA 12	EPA 12T
Heating conditions Ambient temperature DB/WB 7/6°C Water temperature On / Off 30/35°C			
Heat output range A7 / W35 [kW]	4,5 - 11,4	5,9 - 14,8	
Heat output range A-2 / W35 [kW]	3,7 - 9,3	4,9 - 12,0	
Heat output range A-7 / W35 [kW]	3,4 - 8,2	4,5 - 10,6	
Heat output range A7 / W55 [kW]	5,2 - 10,2	6,6 - 13,2	
Heat output range A-2 / W55 [kW]	3,5 - 8,6	4,5 - 11,2	
Heat output range A-7 / W55 [kW]	3,1 - 7,6	4,1 - 9,8	
Area of application COP A7 / W35	4,2 - 5,3		
Area of application COP A7 / W55	3,1 - 3,8		
Cooling capacity range A35 / W18 [kW]	3,6 - 8,6	4,7 - 11,3	
EER	3,2 - 3,6		
ErP-Level (35°C / 55°C)	A+++ / A++		
η_s (35°C / 55°C)	181 / 137	183 / 132	
Refrigerant	R290		
Amount of refrigerant [kg]	0,95	1,15	
Power supply	230V /1- /50Hz		400V /3- /50Hz
Maximum power consumption [kW]	4,1	5,2	
Maximum power Power consumption [A]	18,8	23,8	9,8
Electrical fuse protection [A, Typ C]	20	25	12
Water connection [mm]	DN 25		
Minimum pipe diameter [mm]	DN 28	DN 32	
Residual delivery head [m]	4,2	2,3	
Maximum pressure loss [kPA]	35	40	
Water flow [m ³ /h]	2,0	2,6	
Sound power level [dB(A)]	57	59	

	EPA 09	EPA 12	EPA 12T
Sound pressure level at 3m distance [dB(A)]	33	35	34
Net weight [kg]	120	138	
Dimensions	1085 × 460 × 965	1085 × 480 × 1065	
Connection height flow [mm]	600	910	
Return connection height [mm]	130	105	
Operating ambient temperature [° C]	-25 - 43		
Operating water temperature [° C]	20 - 65 Hot water		
Operating water temperature [° C]	20 - 70 Heating		
Operating water temperature [° C]	7 - 35 Cooling		



The above values are subject to change without notice.
For detailed specifications of the appliance, please refer to the rating plate on the appliance.

The heat pump must be installed correctly to ensure safe operation.

