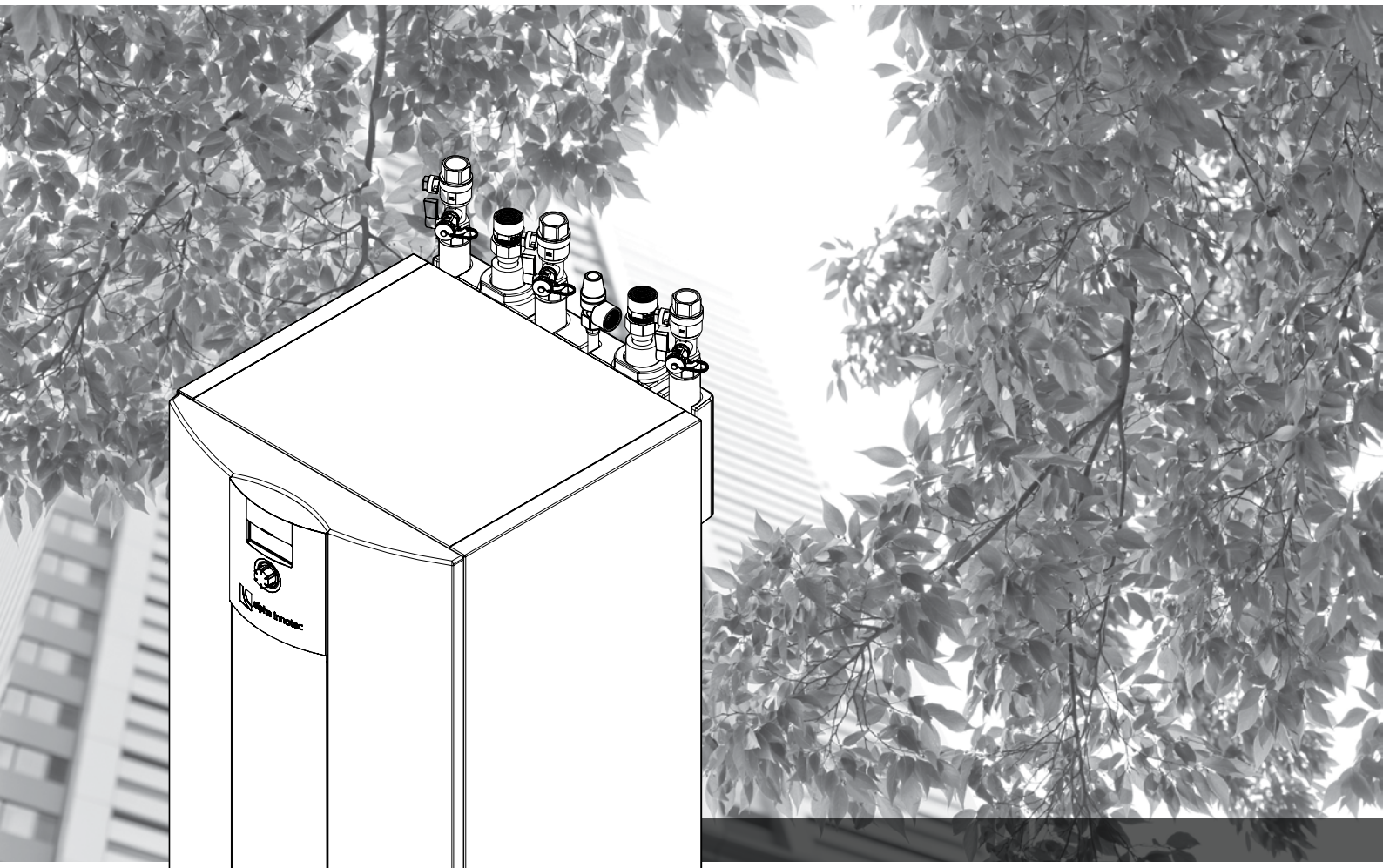
the better way to heat

alpha innotec



Brine/water heat pumps

Operating Manual

SWC series

83056700aUK – Translation into English of the
original German operating manual

UK

Contents

1 About this operating manual

This operating manual is part of the unit.

► Before working on or with the unit read the operating manual carefully and follow it for all activities at all times, especially the warnings and safety instructions.

► Keep the operating manual to hand at the unit and hand over to the new owner if the unit changes hands.

► If you have any questions or anything is unclear, ask the local partner of the manufacturer or the factory's customer service.

► Note and follow all reference documents.

1.1 Validity

This operating manual refers solely to the unit identified by the nameplate and unit sticker (→ “Rating plate” on page 6 and “Unit sticker” on page 3).

1.2 Reference documents

The following documents contain additional information to this operating manual:

- Planning & design manual, hydraulic integration
- Operating manual of the heating and heat pump controller
- Brief description of the heat pump controller
- Operating manual of the expansion board (accessories)
- Logbook, if included with this unit by the manufacturer

Unit sticker

The unit sticker contains important information for contact with the manufacturer or the local partner of the manufacturer.

► Stick on the unit sticker (barcode with serial and product number) here.

1.3 Symbols and identification markings

Identification of warnings

Symbol	Meaning
	Safety-relevant information. Warning of physical injuries.
DANGER	Indicates imminent danger resulting in serious injuries or death.
WARNING	Indicates a potentially dangerous situation, which can result in serious injuries or death.
CAUTION	Indicates a potentially dangerous situation, which can result in moderate or minor injuries.
ATTENTION	Indicates a potentially dangerous situation, which can result in property damage.

Symbols in the document

Symbol	Meaning
	Information for the professional
	Information for the owner/operator
✓	Requirement for an action
▶	Single step action prompt
1., 2., 3. ...	Numbered step within a multi-step action prompt. Keep to the given order.
	Additional information, e.g. note on easier work, information on standards
→	Reference to further information elsewhere in the operating manual or in another document

1.4 Contact

Addresses for purchasing accessories, for service cases or for answers to questions about the unit and this operating manual can be found on the internet at any time and is kept up-to-date:

- Germany: www.alpha-innotec.de
- EU: www.alpha-innotec.eu

2 Safety

Only use the unit if it is in proper technical condition and only use it as intended, safely and aware of the hazards, and follow this operating manual.

2.1 Intended use

The unit is solely intended for the following functions:

- Heating
- Domestic water heating (optional, with accessories)
- Cooling (optional, with accessories or unit type ...K3)

► Proper use includes complying with the operating conditions (→ “Technical data/Scope of supply” on page 26) and the operating manual and noting and following the reference documents.

► When using the local regulations note: laws, standards, guidelines, directives.

All other uses of the unit are not as intended.

2.2 Personnel qualifications

All instructional information in this operating manual is solely directed at qualified, skilled personnel.

Only qualified, skilled personnel is able to carry out the work on the unit safety and correctly. Interference by unqualified personnel can cause life-threatening injuries and damage to property.

► Ensure that the personnel is familiar with the local regulations, especially those on safe and hazard-aware working.

► Only allow qualified personnel with “electrical” training to carry out work on the electrics and electronics.

► Only allow qualified, skilled personnel to do any other work on the system, e.g.

- Heating installer
- Plumbing installer
- Refrigeration system installer (maintenance work)

During the warranty and guarantee period, service work and repairs may only be carried out by personnel authorised by the manufacturer.

2.3 Personal protective equipment

There is a risk of cutting your hands on sharp edges of the unit.

► Wear cut-resistant protective gloves during transport.

2.4 Residual risks

Electric shock

Components in the unit are live with life-threatening voltage. Before opening the unit panelling:

► Disconnect unit from power supply.

► Protect unit against being switched back on again.

Injury due to flammable liquids and potentially explosive atmospheres

Constituents of antifreeze mixtures, e.g. ethanol, methanol, are highly flammable and form an explosive atmosphere:

► mix antifreeze in well-ventilated rooms.

► Note the hazardous substance markings and comply with the relevant safety regulations.

Injuries and environmental damage due to refrigerant

The unit contains harmful and environmentally dangerous refrigerant. If refrigerant leaks from the unit:

1. Switch off unit.
2. Thoroughly ventilate installation room.
3. Notify authorised customer service.

2.5 Disposal

Batteries

Improper disposal of the buffer battery damages the environment.

► Dispose of the buffer battery in an environmentally compatible way according to the local regulations.

Media harmful to the environment

Improper disposal of environmentally harmful media (antifreeze, refrigerant) damages the environment:

► Collect media safely.

► Dispose of the media in an environmentally compatible way according to the local regulations.

2.6 Avoid damage to property

Improper action

Requirements for minimum scale and corrosion damage in hot water heating systems:

- Proper planning, design and start-up
- Closed system with regard to corrosion
- Integration of adequately dimensioned pressure retention
- Use of deionised heating water (VE water)
- Regular servicing and maintenance

If a system is not planned, designed, started up and operated according to the given requirements, there is a risk that the following damage and faults will occur:

- Malfunctions and the failure of components, e.g. pumps, valves
- Internal and external leaks, e.g. from heat exchangers
- Cross-section reduction and blockages in components, e.g. heat exchanger, pipes, pumps
- Material fatigue
- Gas bubbles and gas cushion formation (cavitation)
- Negative effect on heat transfer, e.g. formation of coatings, deposits, and associated noises, e.g. boiling noises, flow noises

► Note and follow the information in this operating manual for all work on and with the unit.

Unsuitable quality of the fill and make-up water in the heating circuit

The efficiency of the system and the life of the heat generator and the heating components depend decisively on the quality of the heating water.

If the system is filled with untreated domestic water, calcium precipitates as scale. Limescale deposits form on the heat transfer surfaces of the heating. The efficiency drops and energy costs rise. In extreme cases the heat exchangers are damaged.

► Fill system with deionised heating water (VE water) only.

Unsuitable quality of the water or the water-antifreeze mixture in the heat source

► For operation of the heat source with water or water-antifreeze mixture, ensure that the water fulfils the quality specifications of the heating water side.

Using groundwater

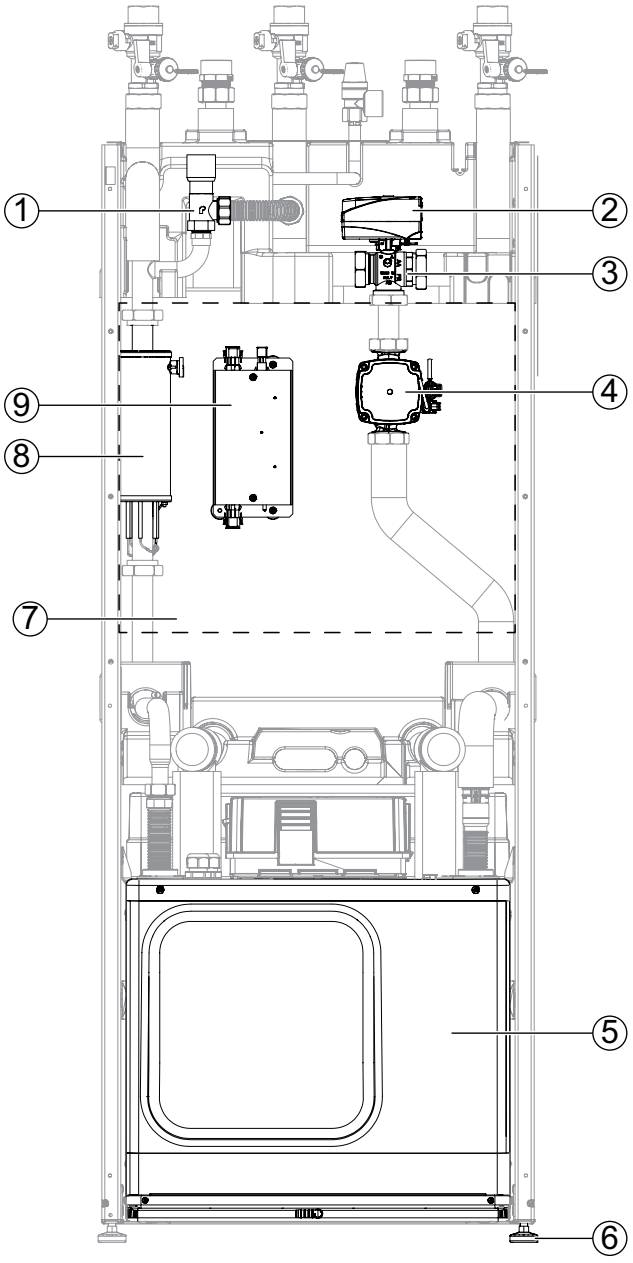
► If using groundwater install an intermediate exchanger.

3 Description

3.1 Layout

NOTE
This section essentially names the components relevant for fulfilling the tasks described in this operating manual.

Housing with unit components



1 Overflow valve
2 Valve motor
3 3-way changeover valve, heating circuit/domestic hot water
4 Heating circuit/hot water circulation pump
5 Module box
6 Height-adjustable foot (4x)
7 Electrical switch cabinet
8 Heating element
9 Manual output control heating element (MLRH), accessories

NOTE
The diagram shows a unit with an output capacity of up to 12 kW.

Rating plate

Rating plates are attached to the following places on the unit:

- top of the right-hand outer panel
- left-hand side, on the module box

The rating plate contains the following information at the top:

- Unit type, product number
- Serial number

The rating plate also contains an overview of the most important technical data.

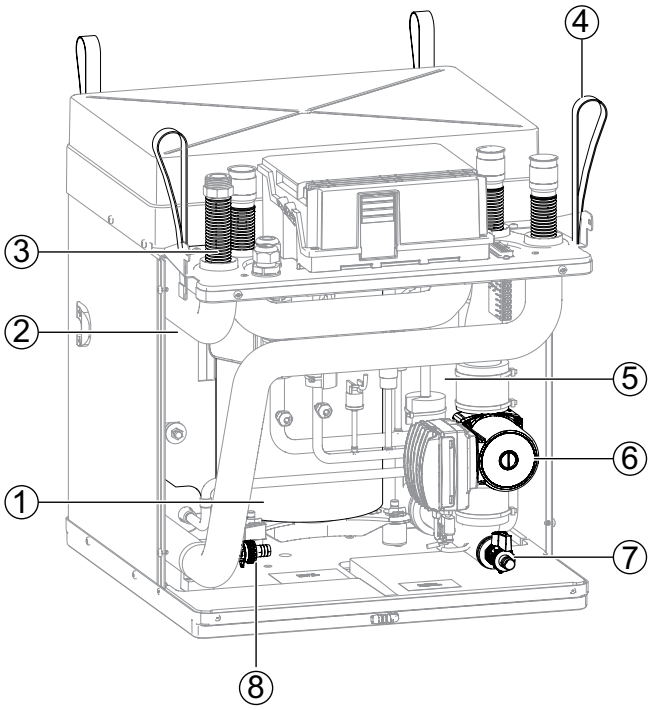
Shut-off valves to the heating circuit and to the heat source

The shut-off valves to the heating circuit are located at the top of the unit. In units with a capacity of 14 kW and higher the shut-off valves to the heat source are also located there.

Cooling for units with 14 kW capacity and higher

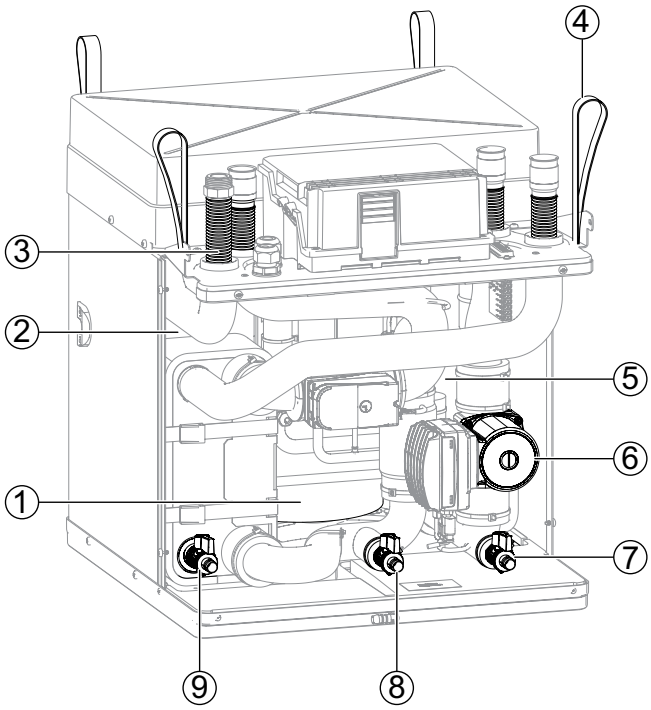
The figures in this documentation show the module box for units with up to 12 kW capacity. In more powerful units the cooling is no longer accommodated in the module box, but instead is in the top part of the unit.

Module box, variant without cooling



1 Compressor
2 Condenser
3 Vibration isolator (4x)
4 Lifting lug (4x)
5 Evaporator
6 Heat source circulation pump
7 Heat source filling and drain tap
8 Heating filling and drain tap

Module box, variant with cooling



1 Compressor
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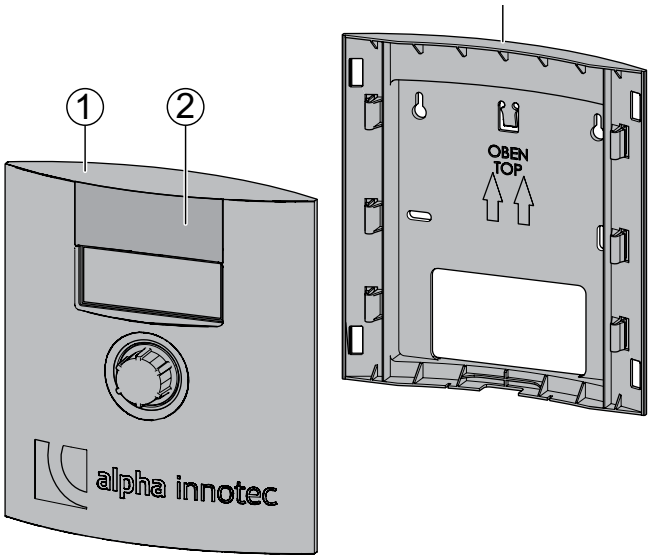
Control unit

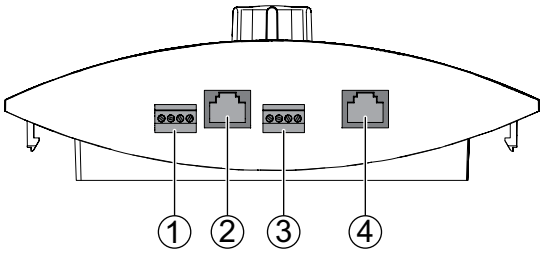


1 Control

2 Push up flap upstream of USB connection (for qualified personnel for software updates and for data logging)

3 Wall-mounted bracket (only necessary for wall-mounted installation)

Underside of control



1 RBE (RS 485)

2 Network cable connection

3 LIN bus cable connection to the heat pump

4 not used

3.2 Accessories

The following accessories are available for the unit through the manufacturer's local partner:

- Additional masking plate for the front cover panel, if the control is mounted on the wall
- Domestic hot water tank
- Room thermostat for switching the cooling function (if included)
- Dew point monitor for protecting a system with cooling function at low flow temperatures
- Expansion board for automatic changeover between heating and cooling mode
- Manual output control heating element (MLRH) for limiting the output of the electric heating element
- “Cooling package” for retrofitting type H units with a cooling function
- for units without cooling: Pump assemblies for separate storage tank integration (heating circuit)
- Heating circuit safety package
- Heat source circuit safety package

3.3 Function

Liquid refrigerant is evaporated (evaporator), the energy for this process is environmental heat and comes from the “ground” heat source (collector, borehole heat exchanger or groundwater via intermediate exchanger). The gaseous refrigerant is compressed (compressor), this causes the pressure to rise and therefore the temperature too. The gaseous refrigerant with high temperature is liquefied (condenser).

Here the high temperature is discharged to the heating water and is used in the heating circuit. The liquid refrigerant with high pressure and high temperature is expanded (expansion valve). The pressure and temperature drop and the process begins again.

Due to the integrated changeover valve and the integrated energy efficiency circulation pump the heated heating water can be used for charging the domestic hot water or for heating the building. The temperatures required and use are controlled by the heat pump controller. Reheating, drying out screed or increasing the domestic hot water temperature can be carried out using the integrated electric heating element, which is activated by the heat pump controller as and when necessary.

An integrated overflow valve ensures that the heat pump does not switch to high-pressure fault if all heating circuits are closed. The integrated vibration isolators for the heating circuit and heat source prevent structure-borne sound and vibrations from being transferred onto the fixed pipes and therefore into the building.

Cooling

Cooling is integrated in type K units. Type H units can be retrofitted with the “Cooling package” accessories. The following options are possible for units with cooling function (→ operating manual of the heating and heat pump controller):

- Passive cooling (without compressor)
- Control of the cooling function via the heating and heat pump controller
- Switching between heating and cooling mode; automatically with expansion board (accessories)

Network connection on the control

The control can be connected to a computer or network via a network cable. The heating and heat pump controller can then be controlled from the computer or from the network.

4 Operation and care

NOTE
The unit is operated via the control of the heating and heat pump controller (→ operating manual of the heating and heat pump controller).

4.1 Energy and environmentally aware operation

The generally accepted requirements for energy-aware and environmentally-aware operation of a heating system also apply to use of a brine/water heat pump. The most important measures include:

- No unnecessarily high flow temperature
- No unnecessarily high domestic hot water temperature (note and follow local regulations)
- Do not open windows with gap /tilt open (continuous ventilation), but instead open wide for a short time (purge ventilation).

4.2 Maintenance

Wipe down the outside of the unit only using a damp cloth or cloth with mild cleaning product (washing-up liquid, neutral cleaning product). Do not use any harsh, abrasive, acid or chlorine-based cleaning products.

5 Delivery, storage, transport and installation

ATTENTION

Damage to the housing and the unit components due to heavy objects.

► Do not place any objects on the unit which are heavier than 30 kg.

5.1 Scope of supply

NOTE
On delivery the accessories are enclosed in two packages on the housing.

► Check delivery immediately after receipt for outwardly visible damage and completeness.

► Notify supplier of any defects immediately.

The separate pack included contains:

- Sticker with the unit number for attaching to page 3 of this manual
- Control unit, consisting of the control, wall bracket and masking plate
- 6-mm anchors with screws (2x each) for wall-mounting the control unit
- Safety valve, outdoor sensor
- for units up to 12 kW capacity: Compression fittings (2x)
- for unit variant K, 14 kW capacity and higher: Insulation material for venting valve on the cold exchanger
- for unit variant K, 14 kW capacity and higher: Handle for cooling drain tap
- Replacement material after dismantling the module box:
  - Insulation hoses (2x)
  - Cable ties (4x)
  - for units up to 12 kW capacity: O-rings (6x), flat seal (1x)
  - for units with 14 kW capacity and higher: O-rings (8x)
- Ball valves with filling and drain device:
  - for units up to 12 kW capacity: 3x
  - for units with 14 kW capacity and higher: 5x

5.2 Storage

► Where possible do not unpack the unit until directly before installation.

► Store unit protected against:

– Moisture/damp
– Frost
– Dust and dirt

5.3 Unpacking and transport

Notes on safe transport

The housing with the unit components and the module box are heavy (→ “Technical data/Scope of supply” on page 26). There is a risk of injuries or damage to property if the housing with the unit components falls or overturns or if the module box falls.

► The housing with the unit components and module box must be transported and installed by several persons.

► Secure the housing with the unit components during transport. Carry the module box by the carrying lugs.

There is a risk of cutting your hands on sharp edges of the unit.

► Wear cut resistant protective gloves.

The hydraulic connections are not designed for mechanical loads.

► Do not lift or transport the unit by the hydraulic connections.

If the module box is tilted by more than 45°, compressor oil runs into the cooling circuit.

► Do not tilt the unit with installed module box by more than 45°.

Transport the unit preferably with a pallet truck, alternatively with a handcart.

Transport with a pallet truck

► Transport the unit to the place of installation packaged and secured on a wooden pallet.

Unpacking

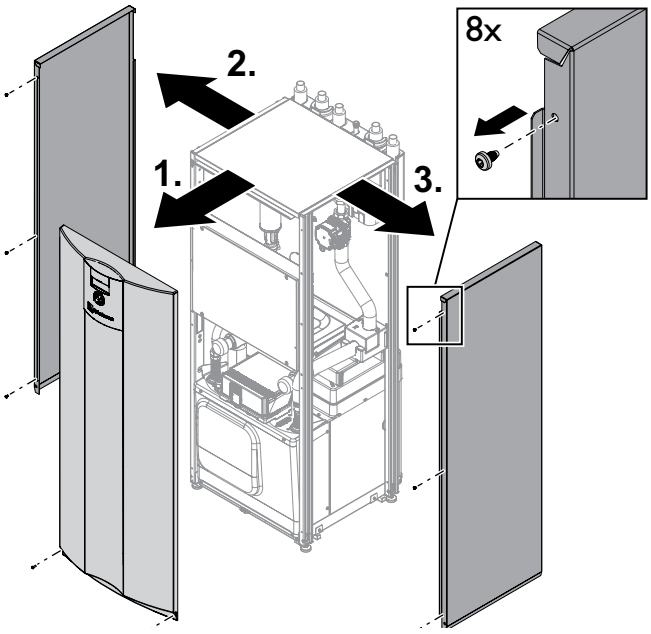
NOTE
If the unit is not transported by a pallet truck: Do not lift off the pallet until after unpacking and dismantling the housing panels.

1. Remove plastic films. Ensure that you do not damage the unit.
2. Dispose of the mounting bracket, transport and packaging material in an environmentally friendly way according to local regulations.
3. Remove the film from the plastic element of the front panel in the place of installation.

Dismantle housing panels for transport with handcart or carrying the unit

✓ Unit is unpacked (→ “Unpacking” on page 10).

1. To avoid damage to the housing panels:
   – Undo 2 screws at the bottom of the front panel.
   – Lift up the front panel and put down in safe place.
   – Undo 3 screws in each side panel.
   – Lift up side panels and put down in safe place.



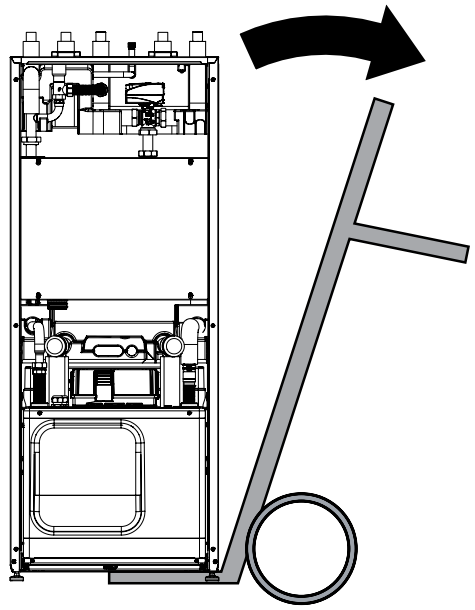
Transport with a handcart

NOTE

- If transporting with a handcart the module box must be pushed in.
- This figure with the handcart shows transporting the unit on its left-hand side; it can also be transported on its right-hand side.

✓ Housing panels are dismantled.

1. To avoid damage: On a handcart, load the unit on its side only.



2. Transport unit on the handcart.

Carrying the unit

✓ Housing panels are dismantled.

1. Dismantle module box and carry it by the support lugs to the place of installation.
2. Carry the unit horizontally wherever possible.

5.4 Installation

Installation room and space requirements

NOTE

Note and follow the local regulations and standards regarding the installation room and space requirements. The table shows the regulations as per EN 378-1 relevant in Germany.

Refrigerant	Limit value [kg/m³]
R 134a	0.25
R 404A	0.48
R 407C	0.31
R 410A	0.44

(→ “Technical data/Scope of supply” on page 26).

$$\text{Minimum room volume} = \frac{\text{Refrigerant capacity [kg]}}{\text{Limit value [kg/m³]}}$$

NOTE

If several heat pumps of the same type are installed only one heat pump need to be taken into account. If several heat pumps of different types are installed, only the heat pump with the largest refrigerant volume needs to be taken into account.

✓ Minimum volume corresponds to the requirements for the refrigerant used.

✓ Installation inside the building only.

✓ Installation room is dry and frost-free.

✓ Clearance dimensions are met (→ “Installation plans” on page 41).

✓ The surface/floor is suitable for installation of the unit:

- level and horizontal
- load-bearing capacity for the unit's weight

Aligning the unit

► Align the unit horizontally and stably in the installation site using the height-adjustable feet and a spanner size SW 13. Adjustment range: 25 mm.

6 Installation and connection

6.1 Dismantle the module box

ATTENTION

If the module box is tilted by more than 45°, compressor oil runs into the cooling circuit.

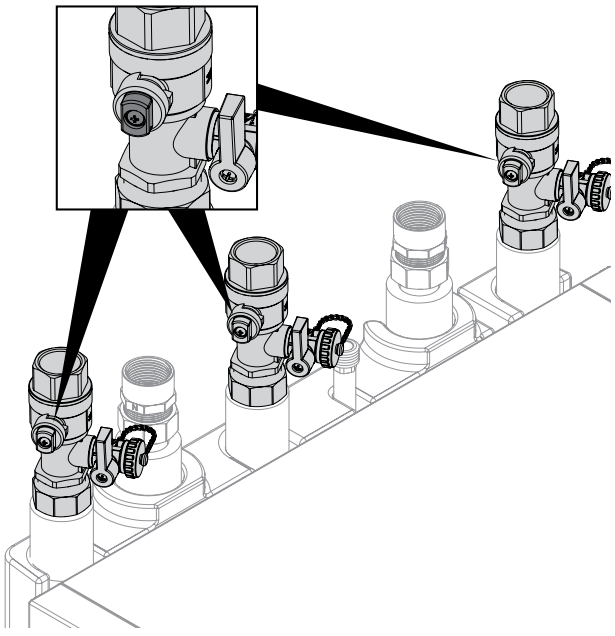
► Do not tilt the module box by more than 45°.

NOTE

- If necessary the module box can be dismantled for easier transport of the unit or for service reasons.
- Steps 1 to 5 are only required if the module box is connected and filled.

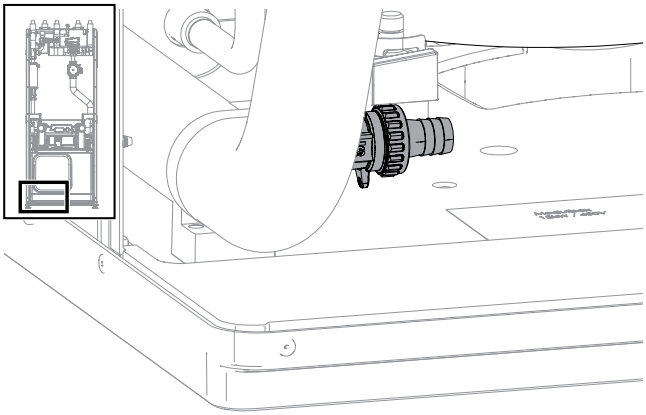
✓ Unit is safely disconnected from the power supply and protected against being switched back on again.

1. Remove the front panel of the module box (→ "7.1 Remove the front panel of the module box" on page 19).
2. Close shut-off valves to the heating circuit.

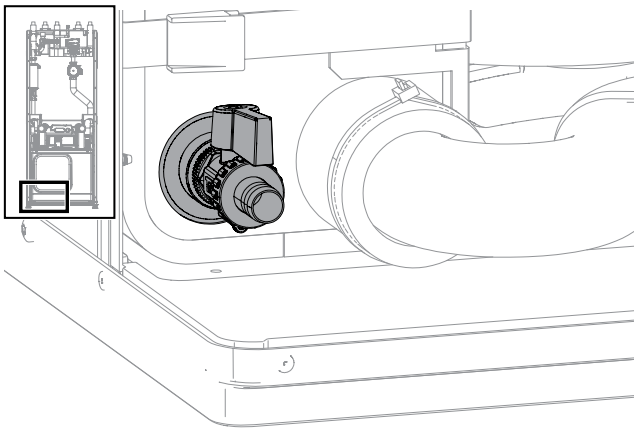


3. Drain the unit via the filling and drain tap of the heating.

► Unit **without** cooling:



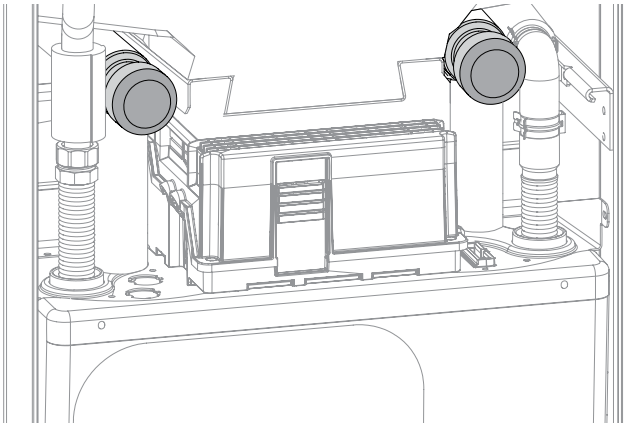
► Unit **with** cooling:



NOTE

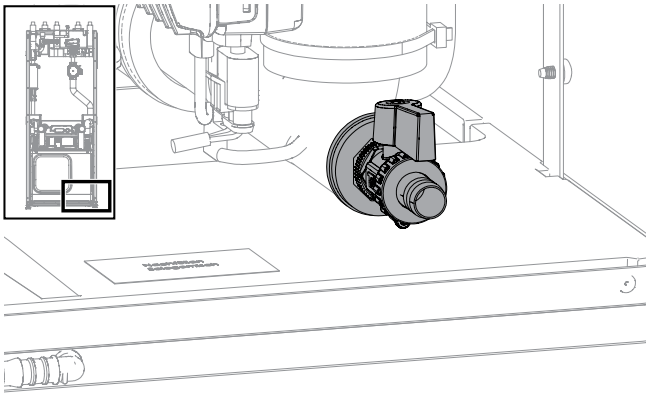
In units with capacity 14 kW and higher the shut-off valves to the heat source are located at the top of the unit next to the shut-off valves to the heating circuit.

4. Use a spanner to close the shut-off valves of the heat source (behind the covers).

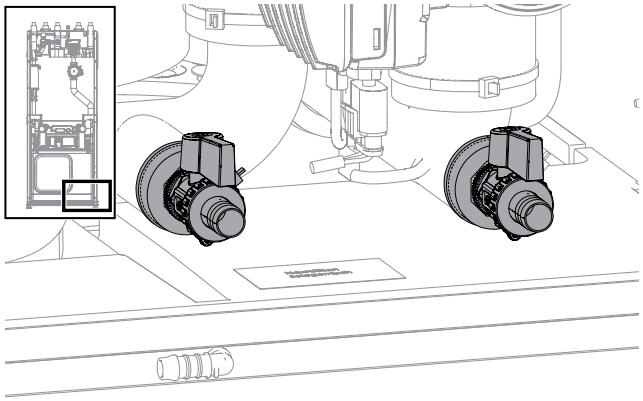


5. Drain the unit via the filling and drain tap of the heat source.

► Unit **with** cooling, 14 kW capacity and higher or **without** cooling:



► Unit **with** cooling up to 12 kW capacity:

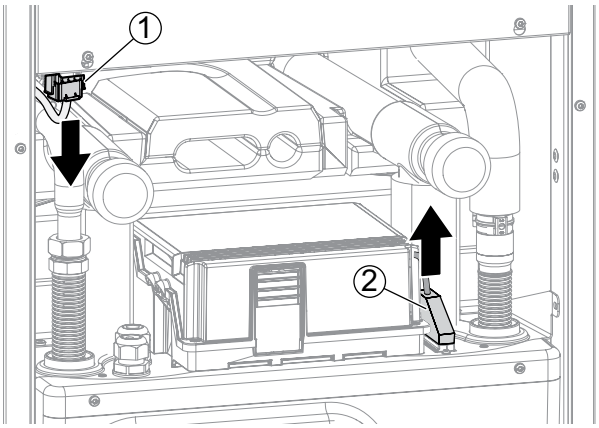


6. Disconnect the electrical connections:

► Unit **up to 12 kW** capacity:

– Disconnect 2 white connectors (1) at the bottom of the electrical control cabinet. To do this, release the lugs by pressing on the sides of the connectors.

– Pull out the black rectangular connector (2) at the top of the module box.

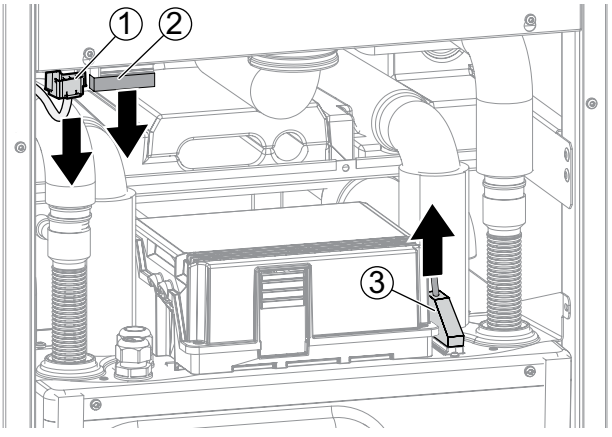


► Unit with **14 kW** capacity **and higher**:

– Disconnect connector (1) at the bottom of the electrical control cabinet.

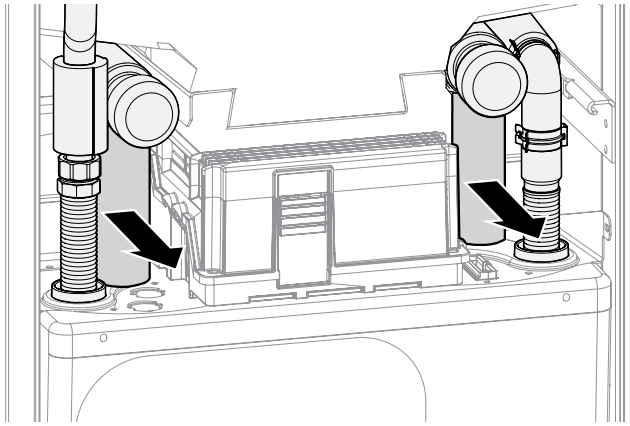
– Disconnect connector (2) at the bottom of the electrical control cabinet. To do this, remove the control cabinet cover and undo the connector from the inside.

– Pull out the black rectangular connector (3) at the top of the module box.

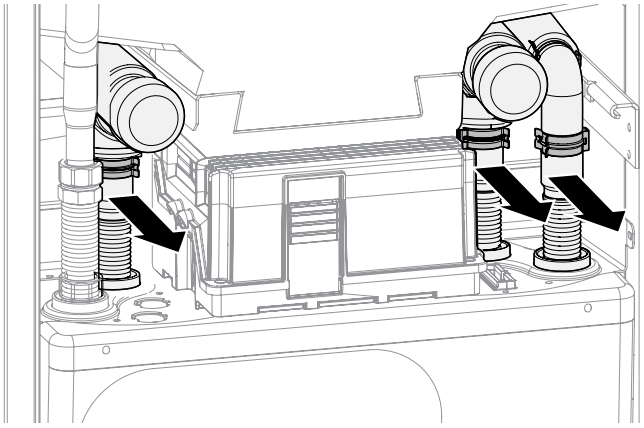


NOTE
The following diagrams show the connections of units with up to 12 kW capacity. In units with 14 kW capacity and higher all connections are installed with clips and without valves.

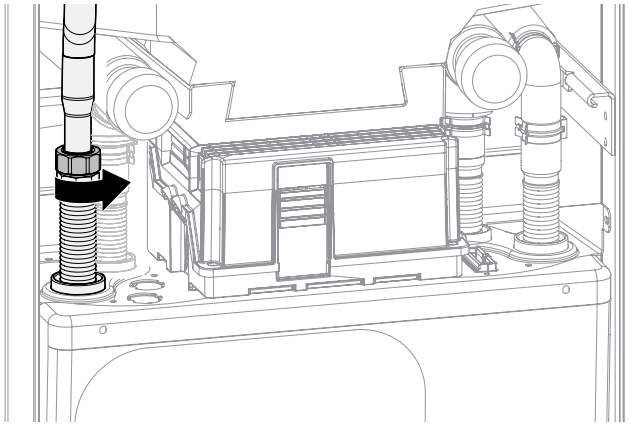
7. Remove the insulation on the hydraulic connections.



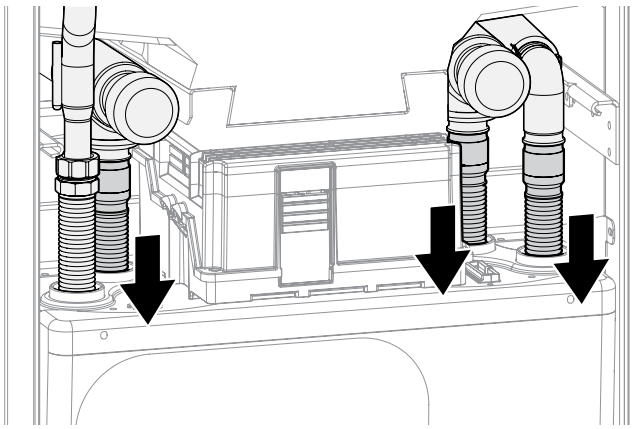
8. Remove 3 clips on the hydraulic connections.



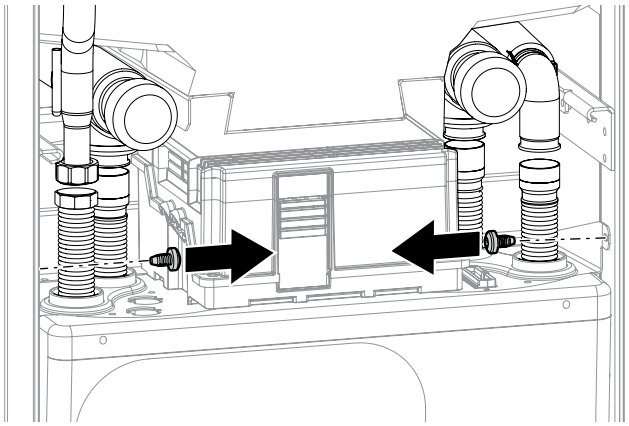
9. Use spanner size SW 37 to unscrew the heating flow.



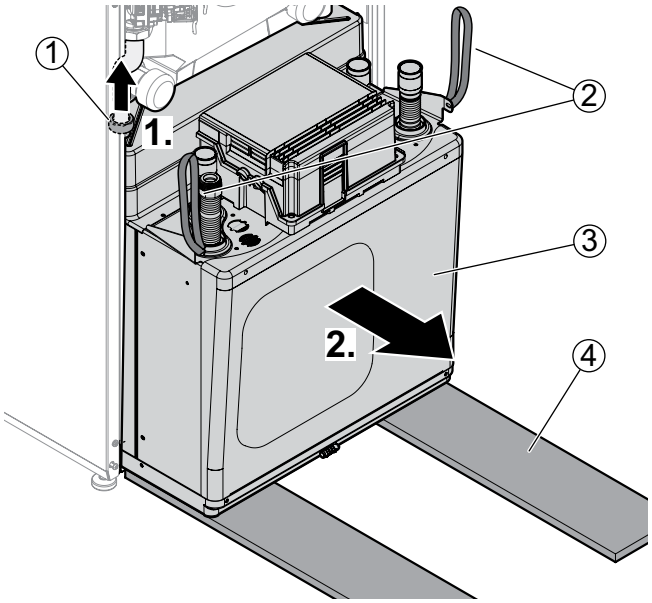
10. Disconnect the hydraulic connections; to do this, push the pipes apart as far as necessary.



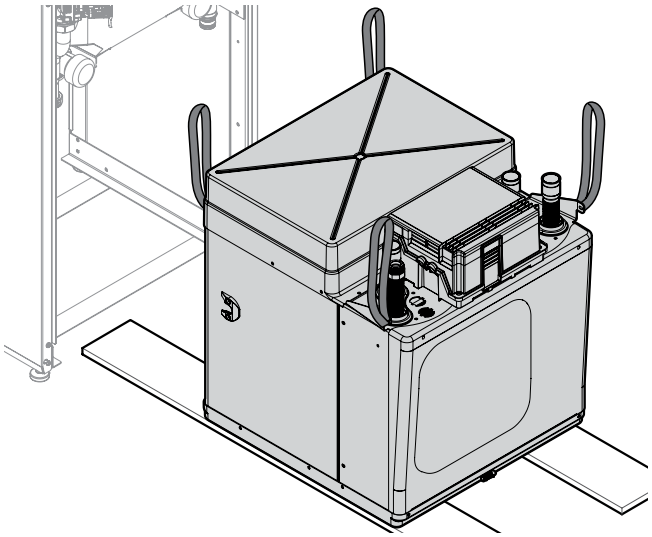
11. Remove the 2 side retaining screws.



12. To protect the floor and move the module box (3) more easily: place boards“(4) under it, e.g. from the packaging material.
13. Lift and hold nut (1) on the heating flow.
14. Slowly and carefully pull out the module box by the carrying lugs“(2). Ensure that none of the pipes are damaged



15. Pull out the module box completely and place it on the boards.



6.2 Installing the module box

1. Place the module box carefully in the bottom of the housing and slowly and carefully push it in.
   – For units up to 12 kW capacity: Lift and hold nut on the heating flow.
   – Lift up pipes so that they do not get damaged.
2. Attach the two side retaining screws.
3. Connect the hydraulic connections. At the same time, replace O-rings on the heat pump connections (→ separate pack included).
4. Perform pressure test and insulate pipes with the enclosed insulation hoses (→ separate pack).
5. Connect the electrical cables:
   – Plug both connectors into the electrical control cabinet. Ensure that the connectors move easily and the lugs latch into position.
   – Plug in the black rectangular connector at the top of the module box.

6.3 Install the hydraulic connections

ATTENTION

Damage to the copper pipes due to unacceptable loading!

► Secure all connections against twisting.

NOTE
The heat source can be connected from the top, right or left.

✓ The heat source system has been installed in accordance with the specifications (→ planning & design manual, dimensioned diagrams, installation plans).

✓ Cross-sections and lengths of the pipes for the heating circuit and heat source are dimensioned adequately.

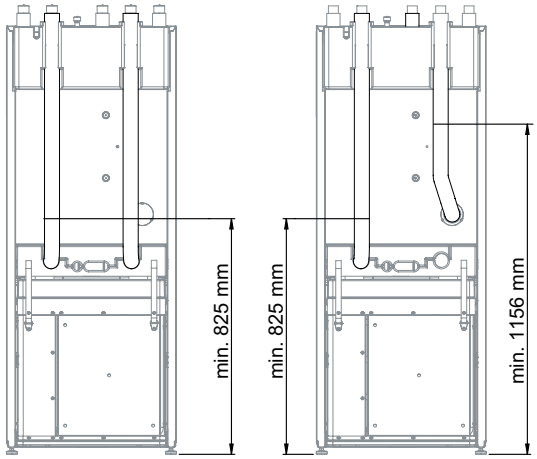
✓ The free pressure of the circulation pumps produces at least the minimum throughput required for the unit type (→ “Technical data/ Scope of supply” on page 26).

✓ The cables for the heat source and the heating are fixed to the wall or ceiling via a fixed point.

Cut off the lines to the heat source

NOTE
This step is only required for units with 14 kW capacity and higher and connection of the heat source from the right or left.

► Cut off the cables as shown in the drawing.
  – left-hand side: Unit **without** cooling
  – right-hand side: Unit **with** cooling



Install the compression fittings and ball valves

NOTE
This section is only relevant for units with up to 12 kW capacity.

ATTENTION

Leaks or fracture of the union nut due to excessive force!

► Tighten the union nut only as far as described here.

1. Check pipe ends for scratches, dirt and deformation.
2. Check proper position of the clamping ring on the fitting.
3. Push the pipe through the clamping ring up to the limit stop in the fitting.
4. Tighten the union nut hand-tight and attach waterproof marking.
5. Tighten union nut with 3/4 rotation.
6. Check connection for leaks.

If the connection leaks:

1. Undo connection and check pipe for damage.
2. Tighten the union nut hand-tight and retighten with the open-ended spanner with 1/8 to 1/4 turn, as the clamping ring is already in a clamping position.

Connect the unit to the heat source and heating circuit

1. Install shut-off devices in the heating circuit.
2. For units with 14 kW capacity and higher: Install the shut-off devices at the heat source.
3. Insert the vent at the highest point of the heat source and the heating circuit.
4. Recommendation: Fit a dirt filter with mesh size 0.9 mm onto the heat source inlet.
5. Ensure that the operating overpressures (→ “Technical data/Scope of supply” on page 26) are not exceeded.

6.4 Connect the electrical cables

ATTENTION

Irreparable damage to the compressor due to wrong rotating field!

► Ensure that there is a clockwise rotating field for the compressor load infeed.

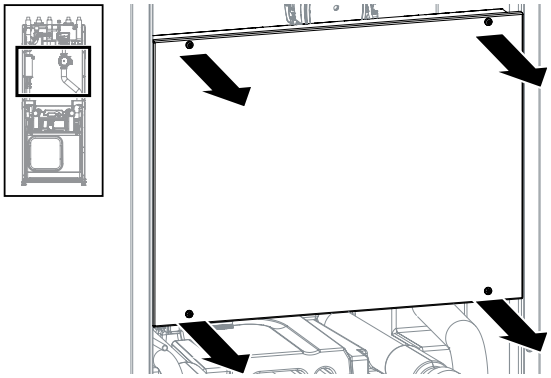
Basic information on the electrical connection

NOTE
Ensure that the unit is supplied with electricity at all times. After working inside the unit and attaching the unit panelling, switch the power supply back on immediately.

- The specifications of the local power supply company may apply to electrical connections.
- Fit the power supply for the heat pump with an all-pole miniature circuit-breaker with at least 3 mm contact spacing (IEC 60947-2).
- Note the level of the tripping current (→ “Technical data/Scope of supply” on page 26).
- Comply with the electromagnetic compatibility regulations (EMC regulations).
  - Lay the control/sensor cables and unit supply cable sufficiently far apart (> 100 mm).
  - Lay unshielded power supply cables and shielded cables (LIN bus cable) sufficiently far apart.
- Do not lengthen the patch cable and LIN bus cable. LIN bus cables up to 30 m long can be used if the quality of the cable is the same as that of the original cable.

Pull in the cables and conductors and make the connections

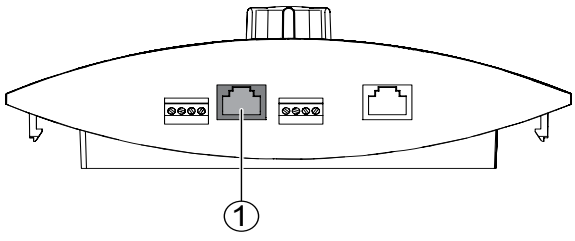
1. Strip the sheathing of all cables to the external loads before laying in the cable duct of the control box.
2. Open electrical switchbox:
   - Undo 4 screws in the cover panel of the electrical control box.
   - Remove the cover panel.



3. Feed the control/sensor cables and unit supply cable into the housing from the rear.
4. Route cables from underneath through the cable openings in the control box.
5. Connect cables to the respective terminals (→ “Terminal diagram” on page 48).

Control the controller via a PC

1. During installation lay a shielded network cable (category 6) through the unit.
2. Plug the RJ-45 connector of the network cable into the socket of the control unit (1).



NOTE

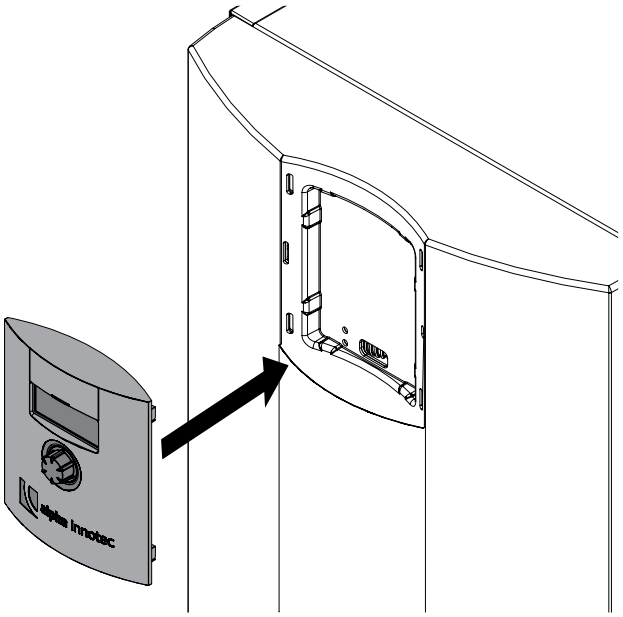
The network cable can be retrofitted at any time.

6.5 Installing the control

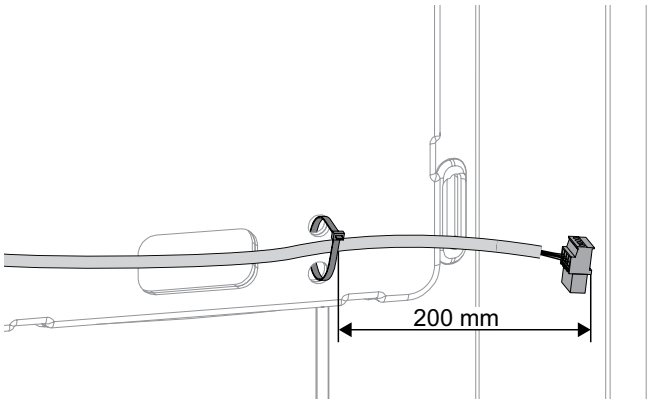
NOTE
The control can be inserted in a recess in the front panel of the unit or can be installed on the wall.

Insert the control in the unit and connect

1. If required: Remove masking plate from the slot. To do this, dismantle the front panel (→ “Dismantle housing panels for transport with handcart or carrying the unit” on page 10), press the lugs together and push out of the openings.
2. Remove film from the plastic element of the front panel.
3. Position the control in the recess in the front unit panel.



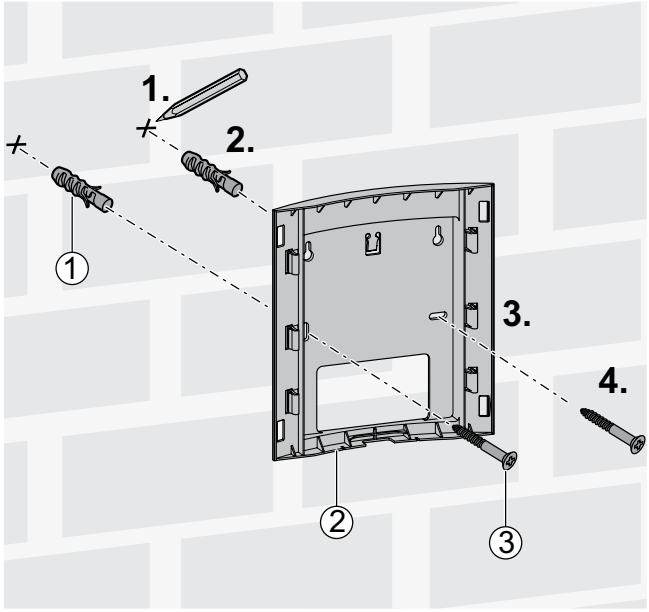
4. Cut the cable to length generously so that the front panel can be removed and placed to the side of the unit. Do not cut the cable ties for strain relief of the LIN bus cable at the electric control box.
   - LIN bus cable approx. 1.1 m from the fixing of the strain relief at the electrical control box
   - All other cables approx. 1.2 m
5. Use cable ties (→ separate pack) to fix the LIN bus cable to a web of the masking plate around 20 cm in front of the connector (strain relief).



6. Push the cable through the opening in the front panel of the unit from below and into the control.
7. Press the lugs of the control into the openings in the front panel of the unit.

Mount the control on the wall and connect

1. Release the rear bracket from the control.
2. If visually unattractive: Cut off the lugs on the rear of the control (are only needed to insert in the front panel).
3. Mark 2 drillholes (→ “Dimensioned drawing of control, wall-mounted bracket” on page 40).
4. If cables are fed in from underneath: Break out the web at the bottom in the middle of the wall bracket. Use side-cutters if necessary.
5. Fix the wall-mounted bracket“ (2) with 2 wall plugs (1) and 2 screws“ (3).

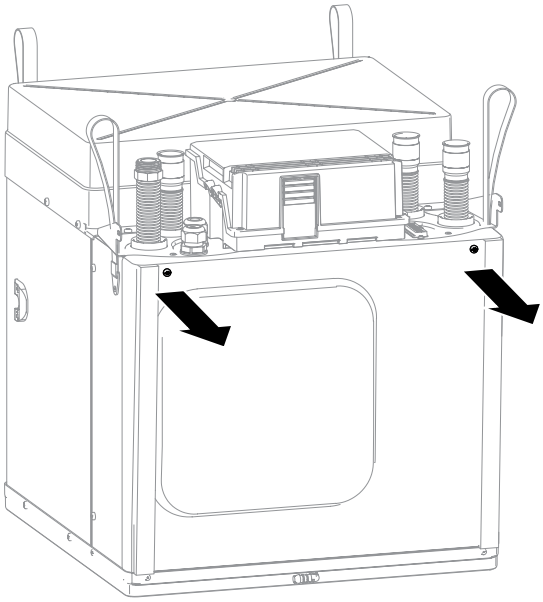


6. Feed in the cables from the wall (e.g. in-wall box) or from below.
7. Route the LIN bus cable from the top right-hand side at the rear from the heat pump and plug into the control at the bottom.
8. Push the control onto the wall-mounted bracket.
9. Put on the masking plate if applicable (accessories).

7 Flushing, filling and venting

7.1 Remove the front panel of the module box

► Unscrew the front panel of the module box.



7.2 Heating water quality

NOTE

- For detailed information refer, among other things, to the VDI Guidelines 2035 “Vermeidung von Schäden in Warmwasserheizanlagen” (preventing damage in hot water heating systems).
- Required pH value: 8,2 ... 10
- for aluminium materials: pH value: 8,2 ... 8.5

► Fill the system with deionised heating water (VE water) only (low-salt operation of the system).

Advantages of low-salt operation:

- Low corrosion-promoting properties
- No formation of mineral scale
- Ideal for closed heating circuits
- ideal pH value due to self-alkalinisation after filling the system
- If necessary, simple alkalinisation to pH value 8.2 by adding chemicals

7.3 Fill, flush and vent heat source

Water and the following antifreeze products are approved for filling the brine circuit:

- Monopropylene glycol
- Monoethylene glycol
- Ethanol
- Methanol

► For operation of the heat source with water or water-antifreeze mixture, ensure that the water fulfils the quality specifications of the heating water side.

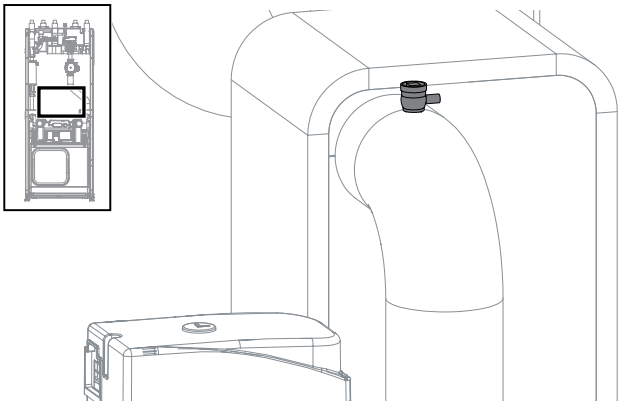
► Check that frost protection to –13 °C is ensured.

► Ensure that the antifreeze is compatible with the pipe, seal and other component materials used on site.

✓ Drain pipe of the safety valve is connected.

✓ Room is ventilated.

1. Mix antifreeze with water thoroughly with the required ratio, before adding to the heat source.
2. Check the concentration of the water-antifreeze mixture. Frost protection: -13 °C
3. Fill the heat source with the water-antifreeze mixture.
4. Flush heat source system.
5. Flush until the system is air-free.
6. Vent unit with cooling and 14 kW capacity and higher via the venting valve on the cold exchanger.

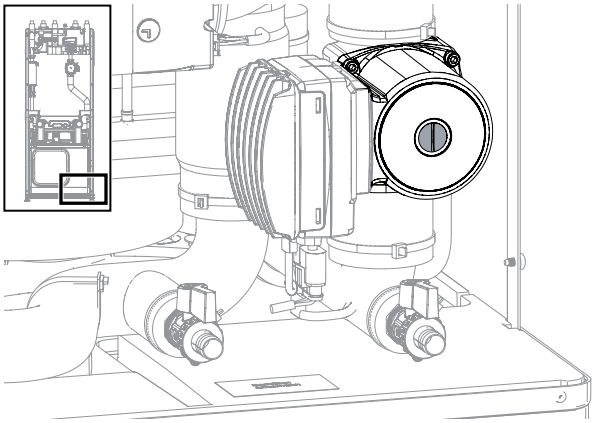


7. Fill the unit via the ball valves in the module box.

7.4 Vent the circulation pump of the heat source

NOTE
The diagram shows the unit variant with cooling. In the unit variant without cooling the circulation pump is located in the same place.

1. Place vessel for collecting discharging liquid under the outlet.
2. Undo screw-on cap in the middle of the circulation pump.



3. Wait until liquid is discharged uniformly.
4. Screw the cap back on tightly.
5. Dispose of collected liquid according to the local regulations.
6. Set system pressure to 1 bar.

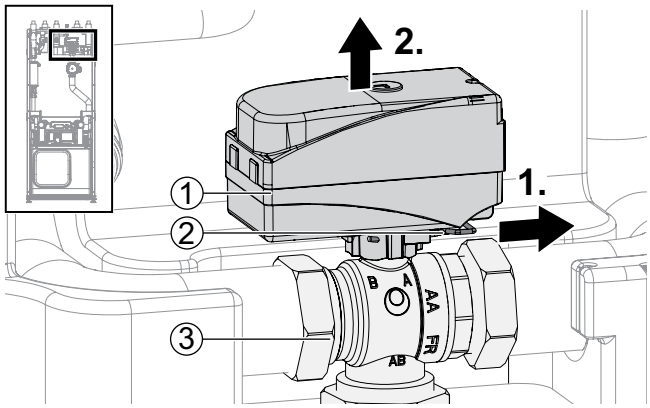
7.5 Flush and fill the heating and domestic hot water charging circuit

✓ Drain pipe of the safety valve is connected.

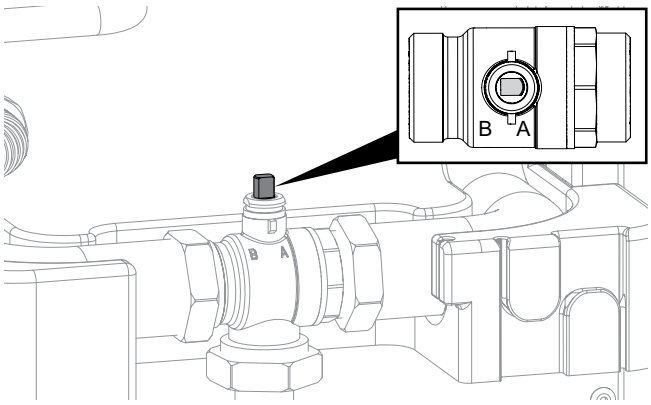
✓ The front panel of the module box is unscrewed.

► Ensure that the set pressure of the safety valve is not exceeded.

1. Pull the U-clip (2) off the floor of the valve motor (1).
2. Pull the valve motor carefully upwards and off the 3-way changeover valve (3).

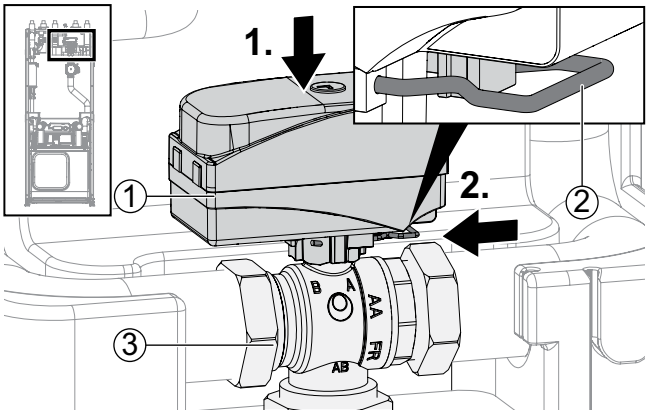


3. Turn the spindle of the 3-way changeover valve so that the rounded side of the spindle points in the direction of marking A of the connections of the 3-way changeover valve.



4. Flush the domestic hot water charging circuit for approx. 1 minute.
5. Turn the spindle so that the rounded side of the spindle points in the direction of marking B of the connections of the 3-way changeover valve.
6. Flush heating circuit thoroughly, until no more air is discharged.

7. Position the valve motor (1) on the 3-way changeover valve (3).
8. Insert the U-clip (2) into the floor of the valve motor.



9. Ensure that the U-clip has latched into position correctly:
   - Valve motor sits securely on the 3-way changeover valve.
   - Both prongs of the U-clip sit on the lug.
   - The tips of the U-clip are visible by approx. 2 mm (not significantly more!).
10. Unscrew the front panel of the module box.

8 Insulate hydraulic connections

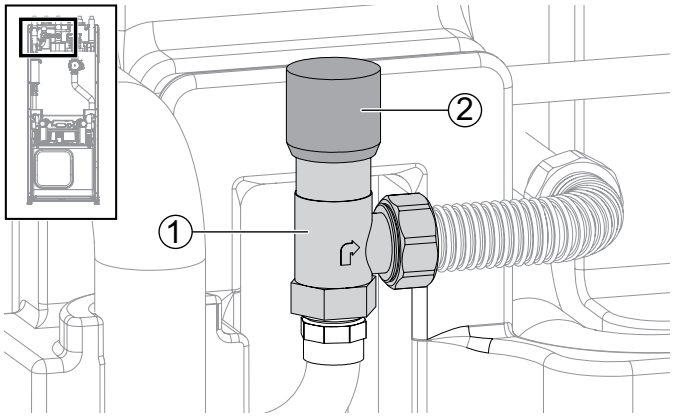
1. Insulate heating circuit and heat source according to the local regulations.
2. Open shut-off devices.
3. Perform a pressure test and check for leaks.
4. Insulate the internal piping of the module box with the insulation material from the separate pack included.
5. Insulate external piping on site.
6. Insulate all connections, fittings and pipes.
7. Insulate heat source so that it is vapour-diffusion tight.
8. Insulate the heating circuit of units with cooling vapour-diffusion tight too.
9. In units with cooling and capacity 14 kW and higher, insulate the venting valve at the cold heat exchanger too so that it is vapour-tight. To do this, glue the insulation strips on top of each other (→ separate pack).

9 Set the overflow valve

NOTE
- The activities in this section are only necessary for in-line tank integration.
- Complete the worksteps quickly, otherwise the maximum return temperature can be exceeded and the heat pump switches to high-pressure fault.
- Turn the adjusting knob at the overflow valve to the right to increase the temperature difference (the temperature drop), turn it to the left to reduce it.

✓ System is running in heating mode (ideally in cold condition).

1. In case of low heating curve: Set the system to “Forced heating” (→ operating manual of the heating and heat pump controller).
2. Shut off valves to the heating circuit.
3. Ensure that the total flow is routed via the overflow valve.
4. Read out the flow and return temperature at the heating and heat pump controller (→ operating manual of the heating and heat pump controller).
5. Turn the adjusting knob (2) of the overflow valve (1) until the temperature drop between the flow and return temperature is set as follows:
   - at heat source temperature 0 °C: 8 K
   - at heat source temperature 10 °C: 10 K



6. Open valves to heating circuit.
7. Reset the heating and heat pump controller.

10 Commissioning

- ✓ Relevant planning & design data of the system is documented in full.
- ✓ The competent energy supplier has been notified of operation of the heat pump system.
- ✓ System is air-free.
- ✓ Installation check using the general checklist has been completed successfully.

1. Ensure that the following points are fulfilled completely:
   - Right-hand (clockwise) rotating load infeed field is available at the compressor.
   - Housing with the unit components is installed and mounted according to this operating manual.
   - The electrical installation has been carried out properly according to this operating manual and local regulations.
   - The power supply for the heat pump is equipped with an all-pole miniature circuit-breaker with at least 3 mm contact spacing (IEC 60947-2).
   - The level of the tripping current is compliant.
   - The heating circuit and heat source are flushed and vented.
   - The frost protection of the heat source liquid is at –13 °C.
   - All shut-off devices of the heating circuit are open.
   - All shut-off devices of the heat source are open.
   - The pipe systems and components of the system are leaktight.
2. Fill out carefully and sign the completion report for heat pump systems.
3. In Germany and Austria: Send completion report for heat pump systems and general checklist to the manufacturer's factory customer service department.
   In other countries: Send completion report for heat pump systems and general checklist to the manufacturer's local partner.
4. Arrange for the heat pump system to be started up by customer service personnel authorised by the manufacturer; this is a chargeable service.

11 Maintenance

NOTE
We recommend that you sign a maintenance agreement with an accredited heating company.

11.1 Basic principles

The cooling circuit of the heat pump requires no regular maintenance.

Local regulations – e.g. EU Regulation (EC) 517/2014 – among other things, require leak checks beforehand and/or for a logbook to be kept for certain heat pumps.

► Ensure compliance with local regulations with regard to the specific heat pump system.

11.2 Maintenance as required

- Yearly, more frequently if necessary:
  - Checking and cleaning the components of the heating circuit and the heat source, e.g. valves, expansion vessels, circulation pumps, filters, dirt traps.
  - Test the function of the safety valve for the heating circuit.

11.3 Yearly maintenance

► Record the quality of the heating water analytically. In case of deviations from the specifications, take suitable measures without delay.

11.4 Clean and flush the evaporator und condenser

► Clean and flush the evaporator/condenser strictly according to the manufacturer's regulations.

► After flushing the evaporator/condenser with chemical cleaning product: neutralise any residues and flush the evaporator/condenser thoroughly with water.

12 Faults

NOTE
If the safety temperature limiter on the electric heating element has tripped, no fault is displayed.

► Read out the cause of the fault via the diagnostics program of the heating and heat pump controller.

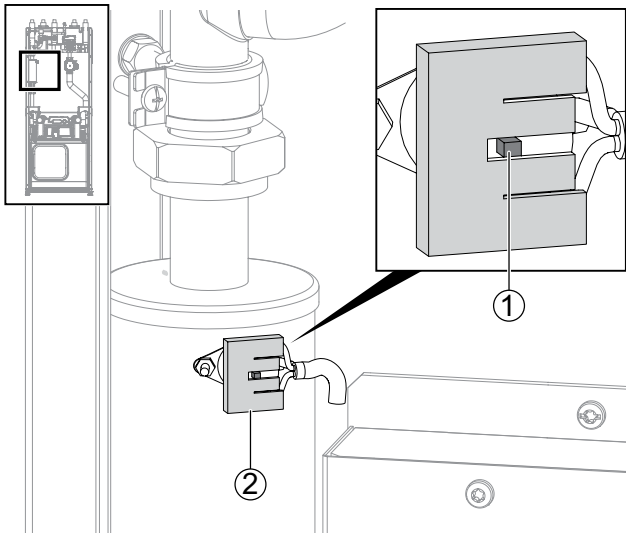
► Contact the local partner of the manufacturer or the factory's customer service. Have the fault message and unit number (→ “Unit sticker” on page 3) to hand.

12.1 Unlock the safety temperature limiter

A safety temperature limiter is installed in the electric heating element. If the heat pump fails or there is air in the system:

► Check whether the Reset button (1) of the safety temperature limiter (2) has jumped out (by approx. 2 mm).

► Press the reset button back in again.



► If the safety temperature limiter trips again, contact the local partner of the manufacturer or the factory's customer service.

13 Dismantling and Disposal

13.1 Dismantling

✓ Unit is safely disconnected from the power supply and protected against being switched back on again.

► Collect all media safely.

► Separate components by their materials.

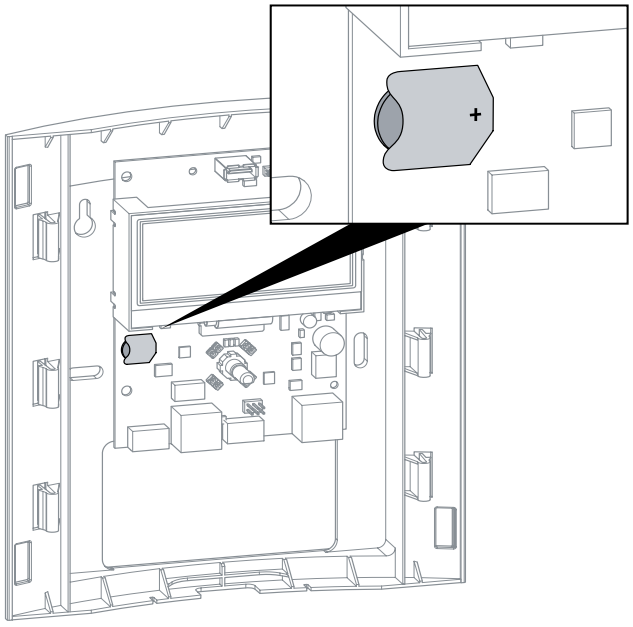
13.2 Disposal and Recycling

► Dispose of media harmful to the environment according to local regulations, e.g. antifreeze mixture, refrigerant.

► Recycle or ensure proper disposal of unit components and packaging materials according to local regulations.

Buffer (standby) battery

1. Use a screwdriver to push out the buffer battery on the processor board of the control



2. Dispose of the buffer battery according to local regulations.

Technical data/Scope of supply SWC 42(H)(K)3 – SWC 122(H)(K)3

Heat pump type	Brine/Water ı Air/Water ı Water/Water	• applicable ı — not applicable
Installation location	Indoor ı Outdoor	• applicable ı — not applicable
Conformity		CE
Performance data	Heating capacity ı COP for B0/W35, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B0/W45, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B0/W55, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B7/W35, flows analogous to B0W35	kW ı ...
Limits of use	Heating circuit return min. ı Heating circuit flow max.	°C
	Heat source	°C
	Additional operating points	...
Sound	Sound pressure level at 1 m distance from the edge of the unit	dB(A)
	Sound power level as per EN12102	dB
Heat source	Volume flow: minimum throughput ı nominal throughput analogous to B0W35 ı maximum throughput	l/h
	Free heat pump pressure Δp (with cooling ΔpK) with monoethylene glycol (25 %) ı Volume flow	bar (bar) ı l/h
	Approved anti-freeze	
	Frostproof to	°C
	Maximum operating pressure	bar
Heating circuit	Volume flow: minimum throughput ı nominal throughput analogous to B0W35 ı maximum throughput	l/h
	Free heat pump pressure Δp (with cooling ΔpK) ı Volume flow	bar (bar) ı l/h
	Pressure losses, heat pump Δp (with cooling ΔpK) ı Flow rate	bar (bar) ı l/h
	Maximum operating pressure	bar
General unit data	Total weight (with cooling)	kg (kg)
	Box weight (with cooling) ı Tower weight (with cooling)	kg (kg) ı kg (kg)
	Refrigerant type ı Refrigerant capacity	... ı kg
Domestic hot water tank	Net volume	l
	Impressed current anode	integrated:
	Domestic hot water temperature in heat pump mode	up to °C
	Domestic hot water temperature with electric heating element	up to °C
	Delivery rate as per EN 16147 (at 40 °C, withdrawal of 10 l/min)	l
	Standby heat loss as per EN 12897 (at 65 °C)	W
	Maximum pressure	bar
Electrics	Fusing for connection via a joint supply cable	
	Voltage code ı all-pole fusing	... ı A
	Fusing for connection via 3 separate supply cables	
	Voltage code ı all-pole heat pump fusing *)	... ı A
	Voltage code ı Control voltage fusing *)	... ı A
	Voltage code ı Electric heating element fusing *)	... ı A
Heat pump	Effective power consumption at standard point B0/W35 as per EN14511: Power consumption ı Current input ı cosφ	kW ı A ı ...
	Maximum machine current ı Maximum power consumption within the limits of use	A ı kW
	Starting current: direct ı with soft starter	A ı A
	Degree of protection	IP
	Electric heating element output	kW
Components	Heating circuit circulation pump at nominal throughput: Power consumption ı Current input	kW ı A
	Heat source circulation pump at nominal throughput: Power consumption ı Current input	kW ı A
Passive cooling function	Figures apply to units with identifier K only: Cooling capacity at nominal volume flows (15 °C heat source, 25 °C heating water)	kW
Safety equipment	Safety assembly, heating circuit ı Safety assembly, heat source	included in scope of supply: • yes — no
Heating and heat pump controller		included in scope of supply: • yes — no
Electronic soft starter		integrated: • yes — no
Expansion vessels	Heat source: Scope of supply ı Volume ı Initial pressure	• yes — no ı l ı bar
	Heating circuit: Scope of supply ı Volume ı Initial pressure	• yes — no ı l ı bar
Overflow valve		integrated: • yes — no
Vibration isolators	Heating circuit ı Heat source	integrated: • yes — no

*) note and follow local regulations n.n. = undetectable

	SWC 42(H)(K)3	SWC 62(H)(K)3	SWC 82(H)(K)3	SWC 102(H)(K)3	SWC 122(H)(K)3
	• ı — ı —	• ı — ı —	• ı — ı —	• ı — ı —	• ı — ı —
	• ı —	• ı —	• ı —	• ı —	• ı —
	•	•	•	•	•
	4.70 ı 4.70	6.00 ı 4.80	7.70 ı 4.90	9.50 ı 5.09	12.18 ı 5.00
	4.42 ı 3.42	5.08 ı 3.60	6.84 ı 3.61	8.55 ı 3.73	11.24 ı 3.76
	4.16 ı 2.58	4.37 ı 2.82	6.49 ı 2.91	8.17 ı 2.93	10.63 ı 2.97
	5.83 ı 5.70	7.18 ı 5.61	9.20 ı 5.96	11.19 ı 6.30	14.55 ı 6.06
	20 ı 60	20 ı 60	20 ı 60	20 ı 60	20 ı 60
	-5 – 25	-5 – 25	-5 – 25	-5 – 25	-5 – 25
	B0W65	B0W65	B0W65	B0W65	B0W65
	31	31	31	31	31
	43	43	43	43	43
	700 ı 1050 ı 1575	900 ı 1350 ı 2000	1200 ı 1750 ı 2600	1500 ı 2200 ı 3300	1900 ı 2800 ı 4200
	0.72 (0.70) ı 1050	0.68 (0.66) ı 1350	0.76 (0.70) ı 1750	0.93 (0.86) ı 2200	0.7 (0.6) ı 2800
	• ı • ı • ı •	• ı • ı • ı •	• ı • ı • ı •	• ı • ı • ı •	• ı • ı • ı •
	-13	-13	-13	-13	-13
	3	3	3	3	3
	450 ı 850 ı 1300	500 ı 1000 ı 1250	650 ı 1300 ı 1600	800 ı 1600 ı 2000	1050 ı 2050 ı 2600
	0.71 (0.69) ı 850	0.7 (0.68) ı 1000	0.57 (0.54) ı 1300	0.52 (0.48) ı 1600	0.48 (0.31) ı 2050
	— (—) ı —	— (—) ı —	— (—) ı —	— (—) ı —	— (—) ı —
	3	3	3	3	3
	155 (163)	160 (168)	175 (183)	180 (188)	185 (193)
	90 (98) ı 65 (65)	95 (103) ı 65 (65)	110 (118) ı 65 (65)	115 (123) ı 65 (65)	120 (128) ı 65 (65)
	R410A ı 1.05	R410A ı 1.37	R410A ı 1.72	R410A ı 1.98	R410A ı 2.25
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
	—	—	—	—	—
	— ı —	— ı —	— ı —	— ı —	— ı —
	3~N/PE/400V/50Hz ı C10	3~N/PE/400V/50Hz ı C10	3~N/PE/400V/50Hz ı C10	3~N/PE/400V/50Hz ı C10	3~N/PE/400V/50Hz ı C10
	1~/N/PE/230V/50Hz ı B10	1~/N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10
	3~/N/PE/400V/50Hz ı B16	3~/N/PE/400V/50Hz ı B16	3~N/PE/400V/50Hz ı B16	3~N/PE/400V/50Hz ı B16	3~N/PE/400V/50Hz ı B16
	1.00 ı 2.44 ı 0.59	1.25 ı 2.5 ı 0.72	1.57 ı 3.02 ı 0.75	1.87 ı 3.73 ı 0.72	2.44 ı 4.70 ı 0.75
	4.8 ı 2.3	5.0 ı 2.5	6.01 ı 3.10	7.63 ı 4.00	9.44 ı 4.80
	22.0 ı —	23.0 ı —	30.0 ı —	— ı 22.0	— ı 26.0
	20	20	20	20	20
	9 ı 6 ı 3	9 ı 6 ı 3	9 ı 6 ı 3	9 ı 6 ı 3	9 ı 6 ı 3
	0.06 ı n.n.	0.06 ı n.n.	0.06 ı n.n.	0.06 ı n.n.	0.06 ı n.n.
	0.09 ı n.n.	0.09 ı n.n.	0.14 ı n.n.	0.18 ı n.n.	0.18 ı n.n.
	4.3	5.4	7.0	8.6	10.8
	— ı —	— ı —	— ı —	— ı —	— ı —
	•	•	•	•	•
	—	—	—	•	•
	— ı — ı —	— ı — ı —	— ı — ı —	— ı — ı —	— ı — ı —
	— ı — ı —	— ı — ı —	— ı — ı —	— ı — ı —	— ı — ı —
	•	•	•	•	•
	• ı •	• ı •	• ı •	• ı •	• ı •
	813465	813466	813467	813468	813469

Technical data/Scope of supply SWC 142(H)(K)3 – SWC 192(H)(K)3

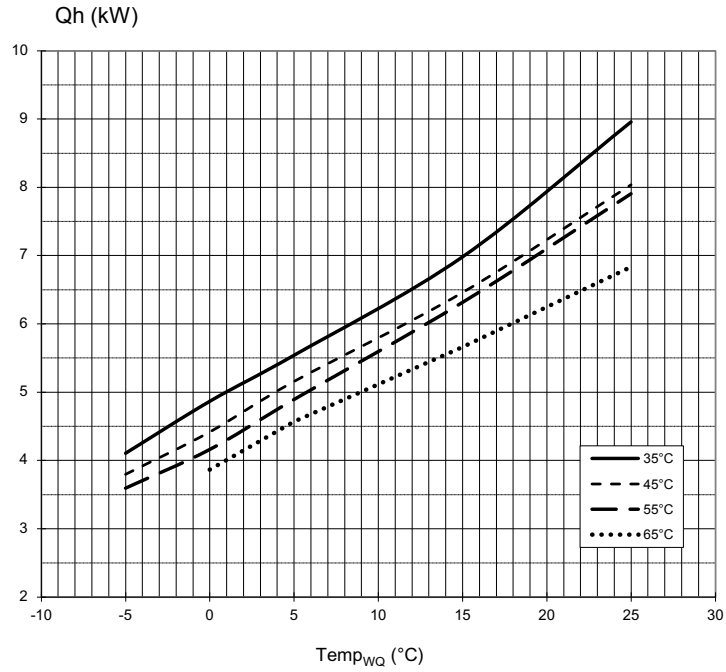
Heat pump type	Brine/Water ı Air/Water ı Water/Water	• applicable ı — not applicable
Installation location	Indoor ı Outdoor	• applicable ı — not applicable
Conformity		CE
Performance data	Heating capacity ı COP for B0/W35, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B0/W45, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B0/W55, standard nominal operating point as per EN14511	kW ı ...
	Heating capacity ı COP for B7/W35, flows analogous to B0W35	kW ı ...
Limits of use	Heating circuit return min. ı Heating circuit flow max.	°C
	Heat source	°C
	Additional operating points	...
Sound	Sound pressure level at 1 m distance from the edge of the unit	dB(A)
	Sound power level as per EN12102	dB
Heat source	Volume flow: minimum throughput ı nominal throughput analogous to B0W35 ı maximum throughput	l/h
	Free heat pump pressure Δp (with cooling ΔpK) with monoethylene glycol (25 %) ı Volume flow	bar (bar) ı l/h
	Approved anti-freeze	
	Frostproof to	°C
	Maximum operating pressure	bar
Heating circuit	Volume flow: minimum throughput ı nominal throughput analogous to B0W35 ı maximum throughput	l/h
	Free heat pump pressure Δp (with cooling ΔpK) ı Volume flow	bar (bar) ı l/h
	Pressure losses, heat pump Δp (with cooling ΔpK) ı Flow rate	bar (bar) ı l/h
	Maximum operating pressure	bar
General unit data	Total weight (with cooling)	kg (kg)
	Box weight (with cooling) ı Tower weight (with cooling)	kg (kg) ı kg (kg)
	Refrigerant type ı Refrigerant capacity	... ı kg
Domestic hot water tank	Net volume	l
	Impressed current anode	integrated:
	Domestic hot water temperature in heat pump mode	up to °C
	Domestic hot water temperature with electric heating element	up to °C
	Delivery rate as per EN 16147 (at 40 °C, withdrawal of 10 l/min)	l
	Standby heat loss as per EN 12897 (at 65 °C)	W
	Maximum pressure	bar
Electrics	Fusing for connection via a joint supply cable	
	Voltage code ı all-pole fusing	... ı A
	Fusing for connection via 3 separate supply cables	
	Voltage code ı all-pole heat pump fusing *)	... ı A
	Voltage code ı Control voltage fusing *)	... ı A
	Voltage code ı Electric heating element fusing *)	... ı A
Heat pump	Effective power consumption at standard point B0/W35 as per EN14511: Power consumption ı Current input ı cosφ	kW ı A ı ...
	Maximum machine current ı Maximum power consumption within the limits of use	A ı kW
	Starting current: direct ı with soft starter	A ı A
	Degree of protection	IP
	Electric heating element output	kW
Components	Heating circuit circulation pump at nominal throughput: Power consumption ı Current input	kW ı A
	Heat source circulation pump at nominal throughput: Power consumption ı Current input	kW ı A
Passive cooling function	Figures apply to units with identifier K only: Cooling capacity at nominal volume flows (15 °C heat source, 25 °C heating water)	kW
Safety equipment	Safety assembly, heating circuit ı Safety assembly, heat source	included in scope of supply: • yes — no
Heating and heat pump controller		included in scope of supply: • yes — no
Electronic soft starter		integrated: • yes — no
Expansion vessels	Heat source: Scope of supply ı Volume ı Initial pressure	• yes — no ı l ı bar
	Heating circuit: Scope of supply ı Volume ı Initial pressure	• yes — no ı l ı bar
Overflow valve		integrated: • yes — no
Vibration isolators	Heating circuit ı Heat source	integrated: • yes — no

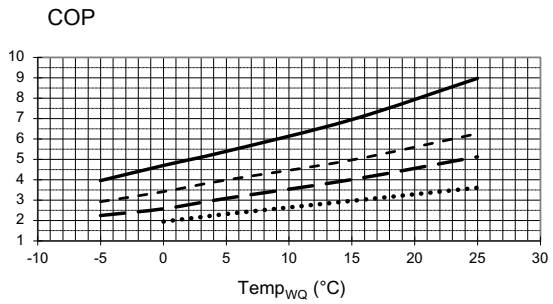
*) note and follow local regulations n.n. = undetectable

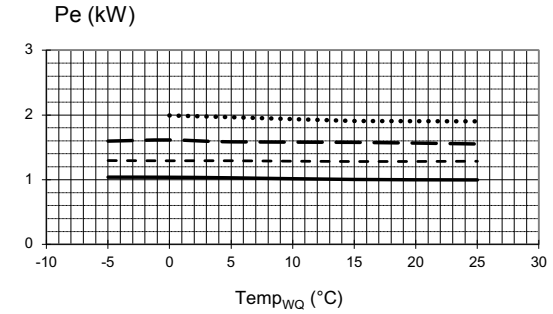
	SWC 142(H)(K)	SWC 172(H)(K)3	SWC 192(H)(K)3
	• ı — ı —	• ı — ı —	• ı — ı —
	• ı —	• ı —	• ı —
	•	•	•
	13.50 ı 5.08	16.57 ı 4.95	18.60 ı 4.87
	12.29 ı 3.76	15.57 ı 3.75	17.08 ı 3.73
	11.76 ı 2.94	15.13 ı 3.01	16.36 ı 2.88
	16.07 ı 6.31	19.80 ı 5.88	21.80 ı 5.84
	20 ı 60	20 ı 60	20 ı 60
	-5 – 25	-5 – 25	-5 – 25
	B0W65	B0W65	B0W65
	35	35	37
	48	48	50
	2100 ı 3150 ı 4750	2700 ı 4000 ı 6000	3000 ı 4400 ı 6600
	0.76 (0.7) ı 3150	0.50 (0.46) ı 4000	0.40 (0.34) ı 4400
	• ı • ı • ı •	• ı • ı • ı •	• ı • ı • ı •
	-13	-13	-13
	3	3	3
	1150 ı 2300 ı 2900	1450 ı 2850 ı 3600	1600 ı 3200 ı 4000
	0.50 (0.41) ı 2300	0.39 (0.25) ı 2850	0.62 (0.47) ı 3200
	— (—) ı —	— (—) ı —	— (—) ı —
	3	3	3
	200 (212)	205 (217)	210 (222)
	130 (130) ı 70 (82)	135 (135) ı 70 (82)	140 (140) ı 70 (82)
	R410A ı 2.38	R410A ı 2.65	R410A ı 2.78
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	— ı —	— ı —	— ı —
	3~N/PE/400V/50Hz ı C10	3~PE/400V/50Hz ı C16	3~PE/400V/50Hz ı C16
	1~N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10
	3~N/PE/400V/50Hz ı B16	3~N/PE/400V/50Hz ı B16	3~N/PE/400V/50Hz ı B16
	2.66 ı 4.84 ı 0.79	3.35 ı 7.90 ı 0.61	3.82 ı 8.71 ı 0.63
	10.62 ı 5.60	19.0 ı 6.90	18.0 ı 7.50
	— ı 27.0	— ı 30.0	— ı 33.0
	20	20	20
	9 ı 6 ı 3	9 ı 6 ı 3	9 ı 6 ı 3
	0.09 ı n.n.	0.09 ı n.n.	0.14 ı n.n.
	0.18 ı n.n.	0.18 ı n.n.	0.18 ı n.n.
	12.5	14.9	16.6
	— ı —	— ı —	— ı —
	•	•	•
	•	•	•
	— ı — ı —	— ı — ı —	— ı — ı —
	— ı — ı —	— ı — ı —	— ı — ı —
	•	•	•
	• ı •	• ı •	• ı •
	813470	813471	813472

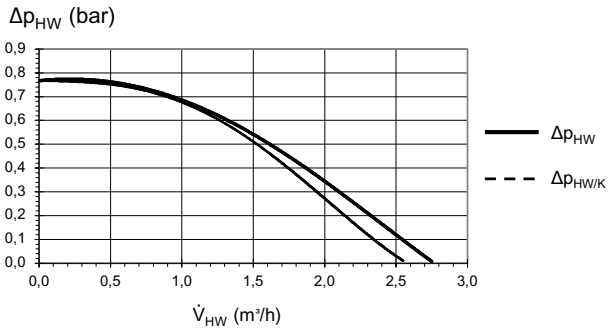
Performance curves

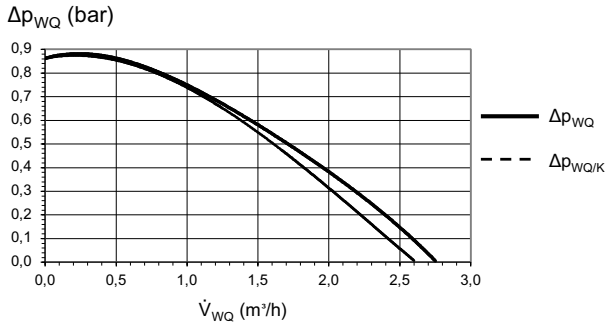
SWC 42(H)(K)3





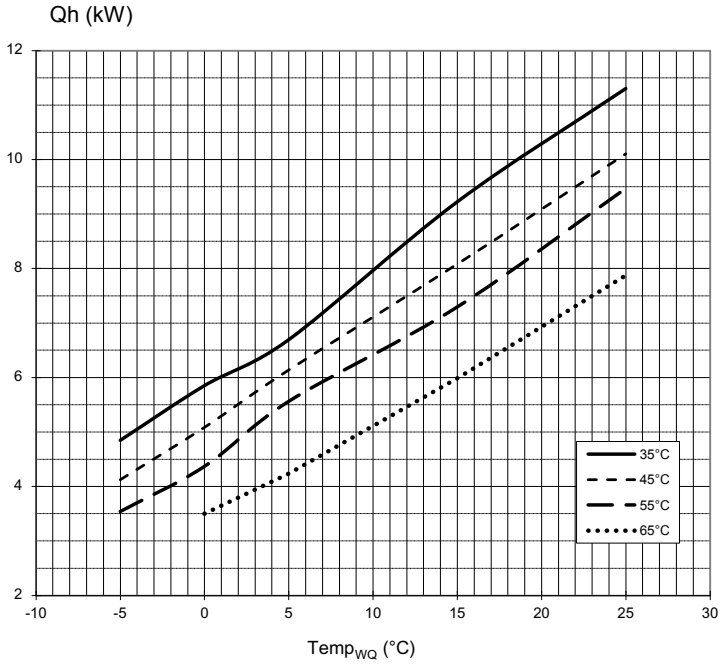


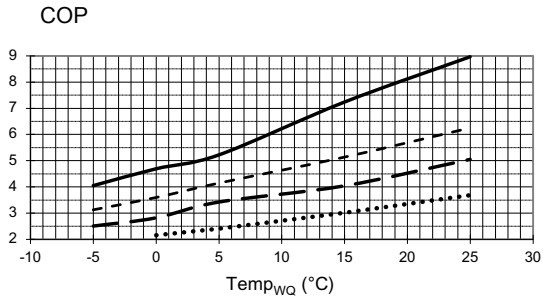


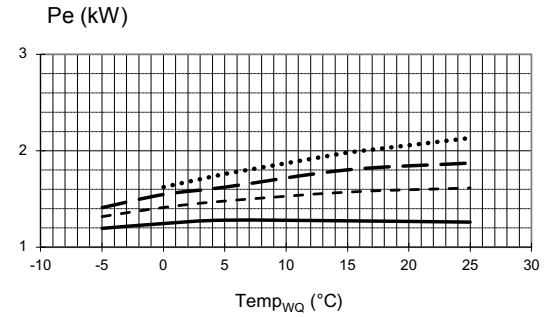


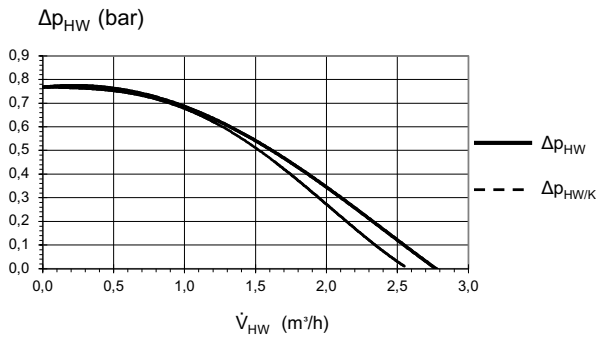
823239

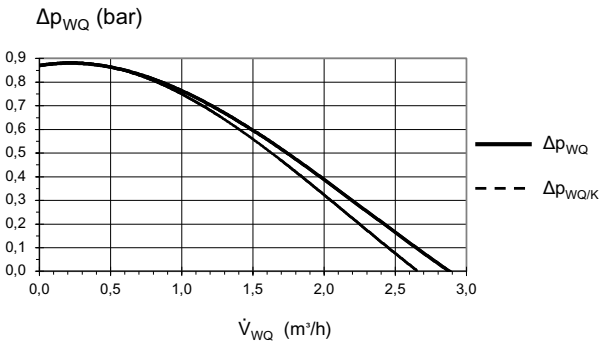
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure









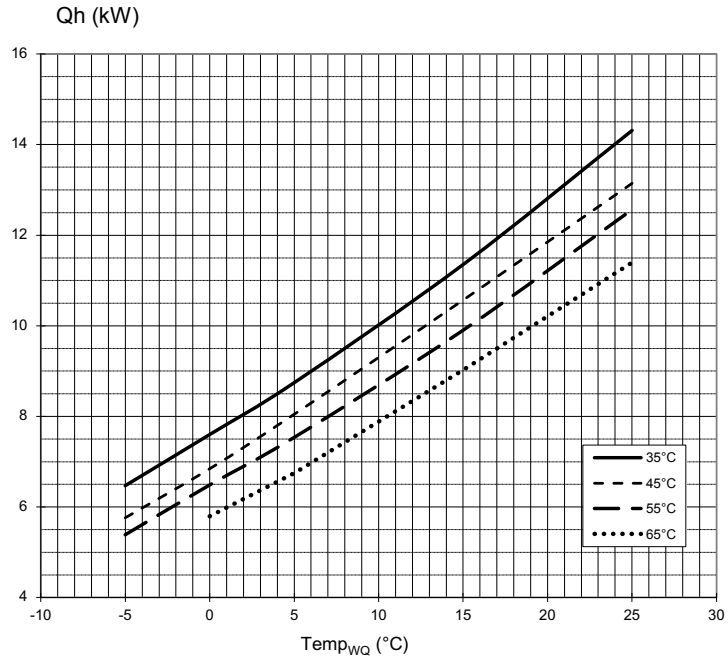


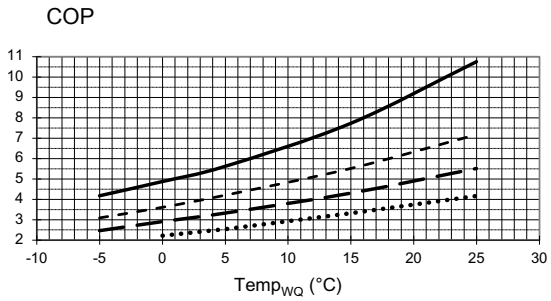
823240

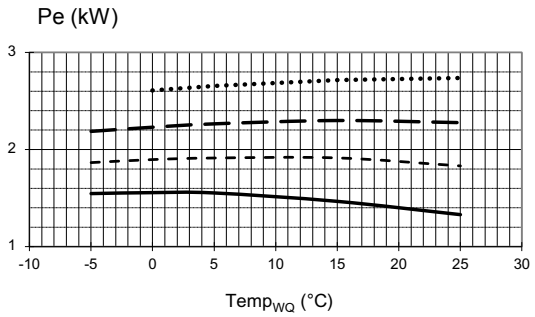
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
V̇"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

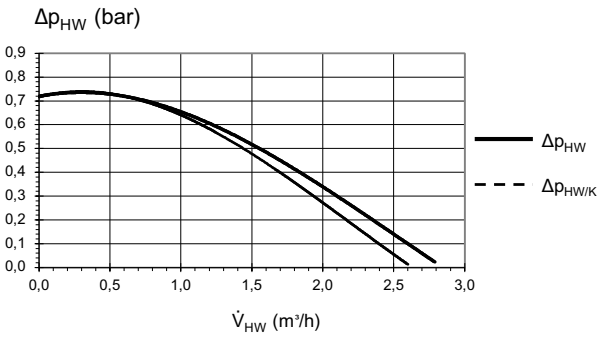
Performance curves

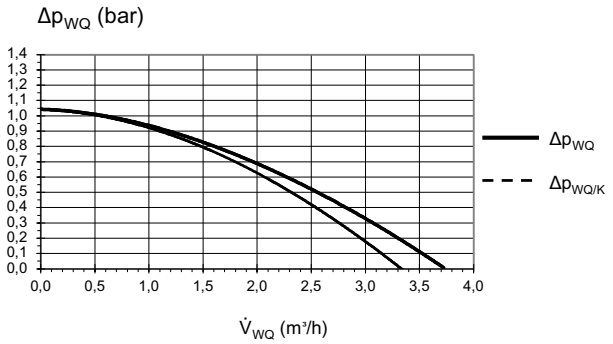
SWC 82(H)(K)3







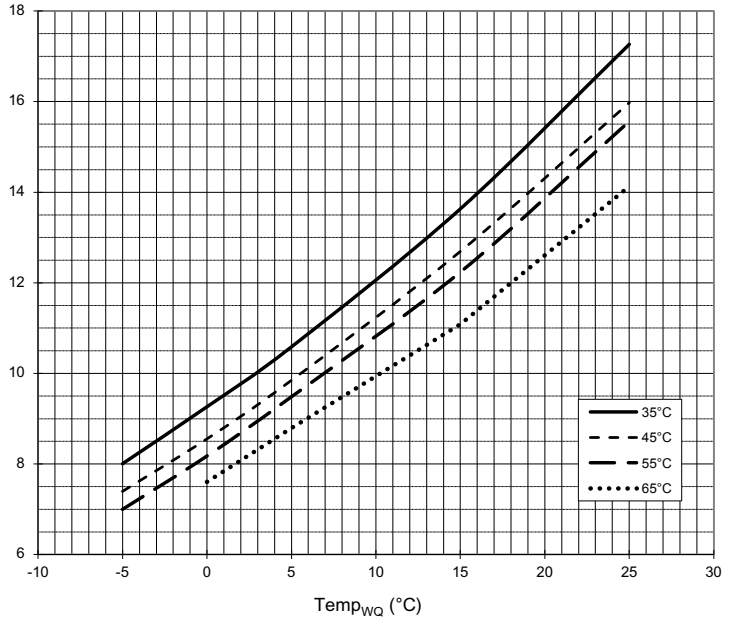




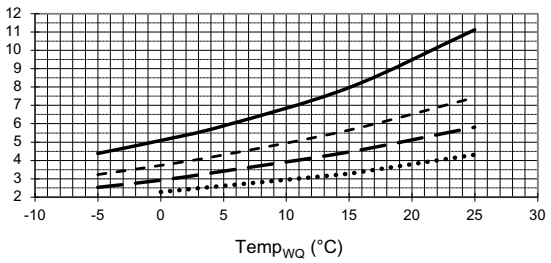
823241

Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

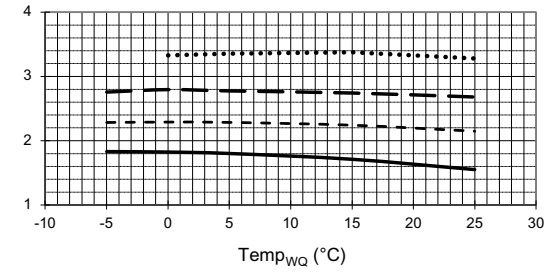
Qh (kW)



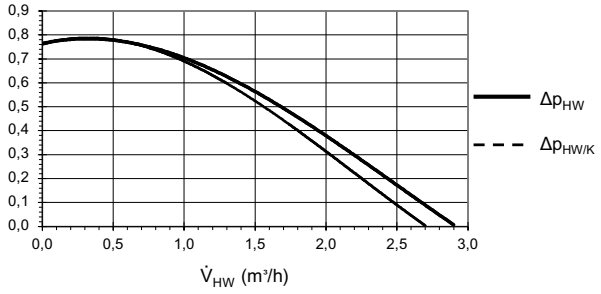
COP



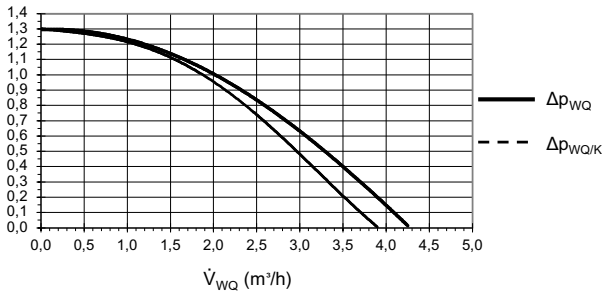
Pe (kW)



Δp_{HW} (bar)



Δp_{WQ} (bar)

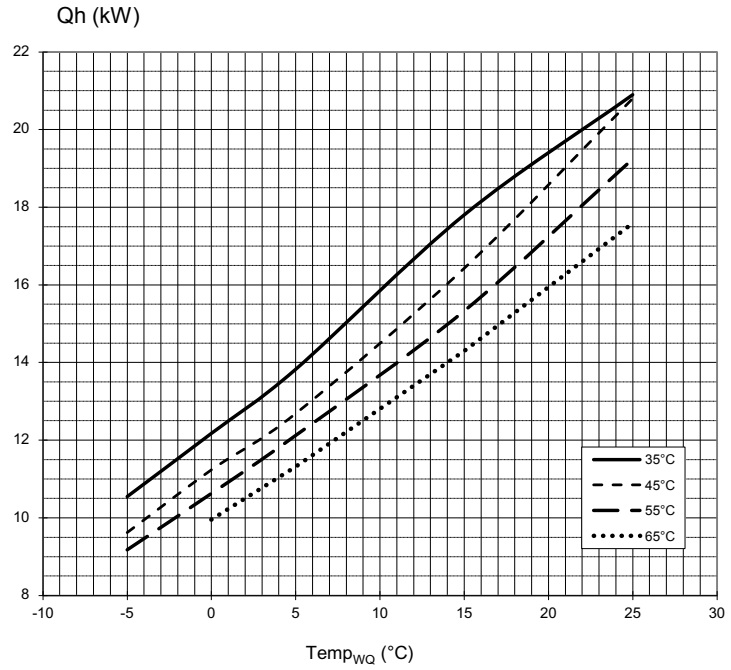


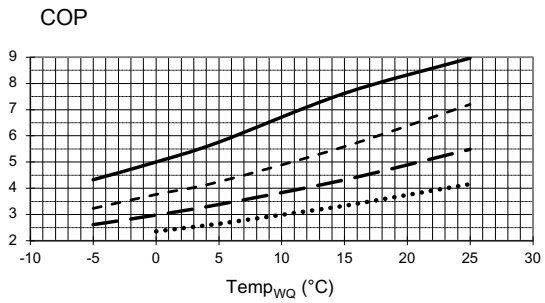
823242

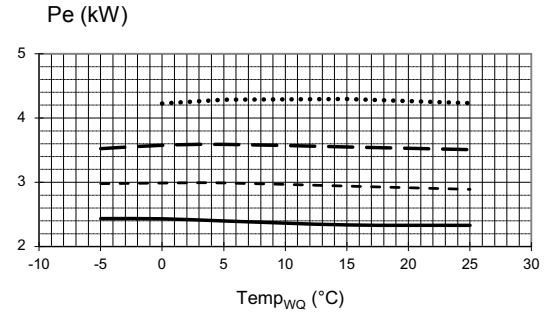
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

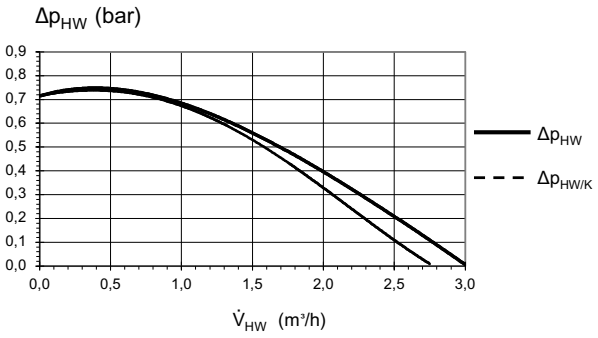
Performance curves

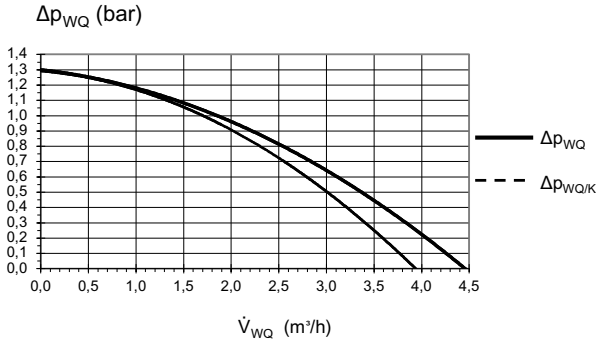
SWC 122(H)(K)3





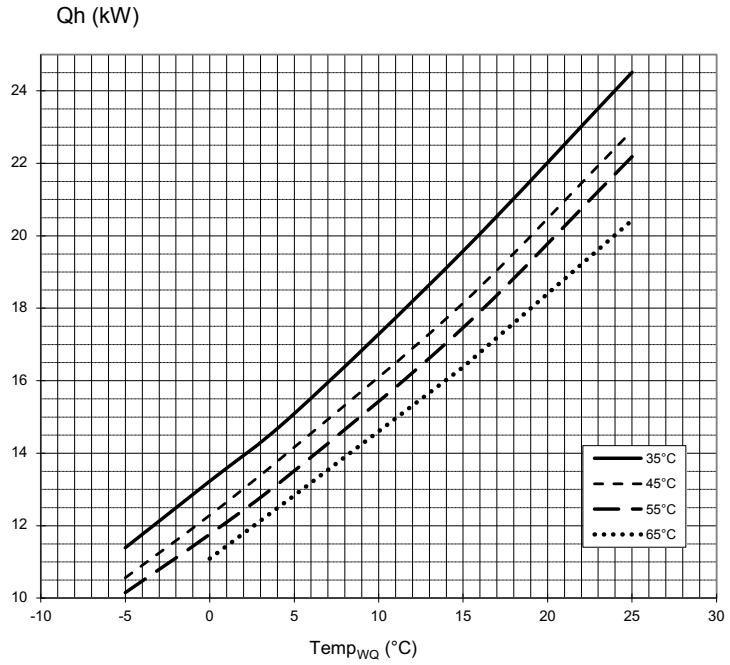


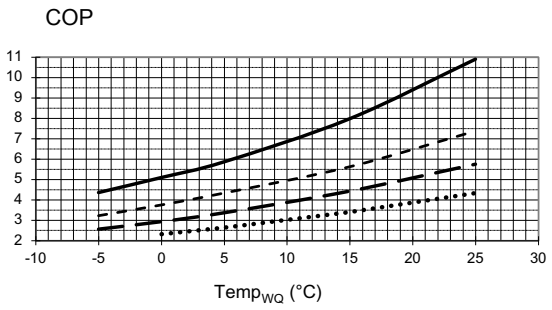


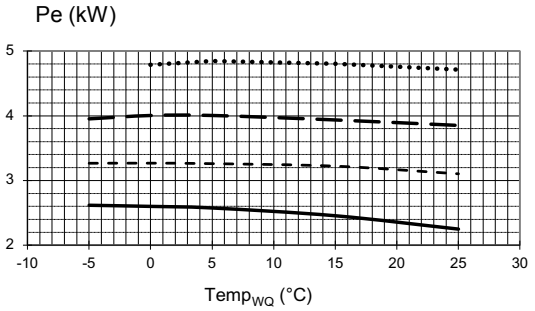


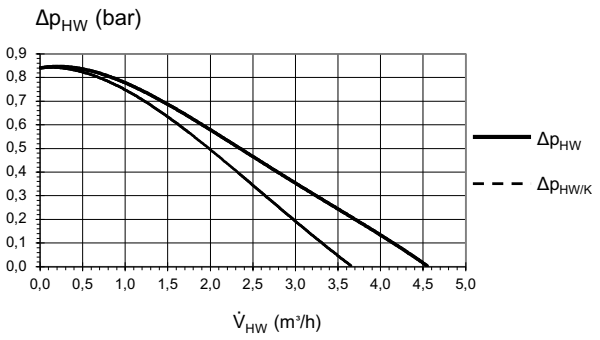
823243

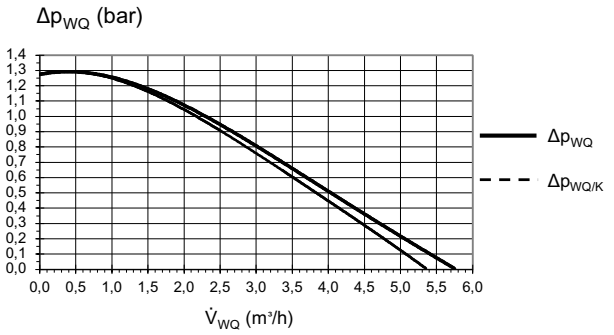
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure









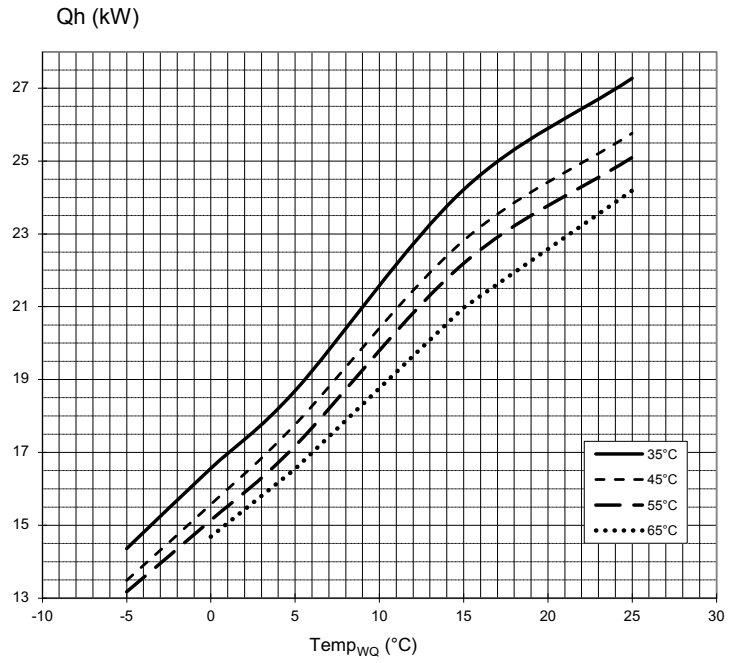


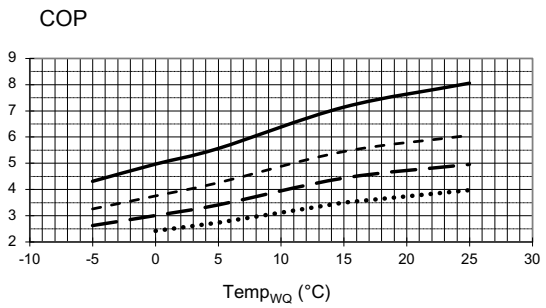
823244

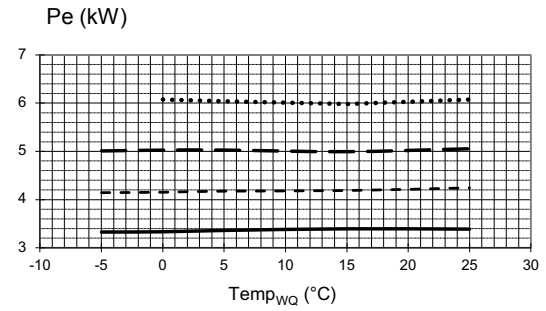
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

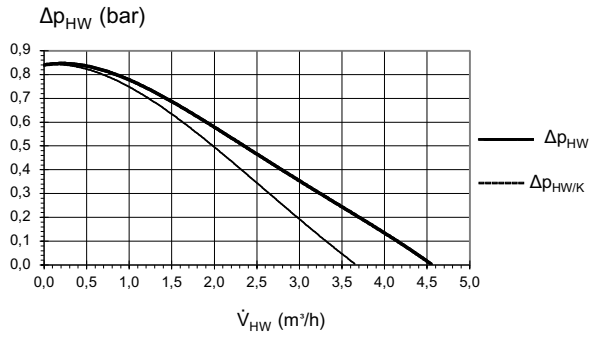
Performance curves

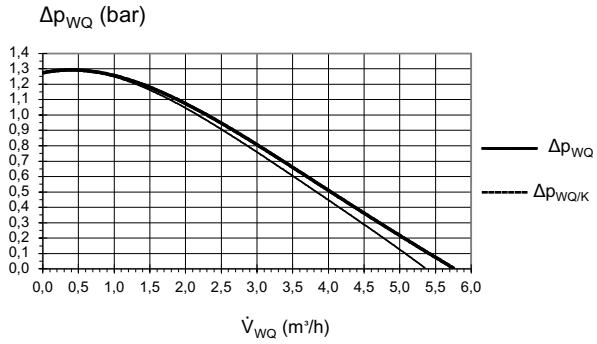
SWC 172(H)(K)3







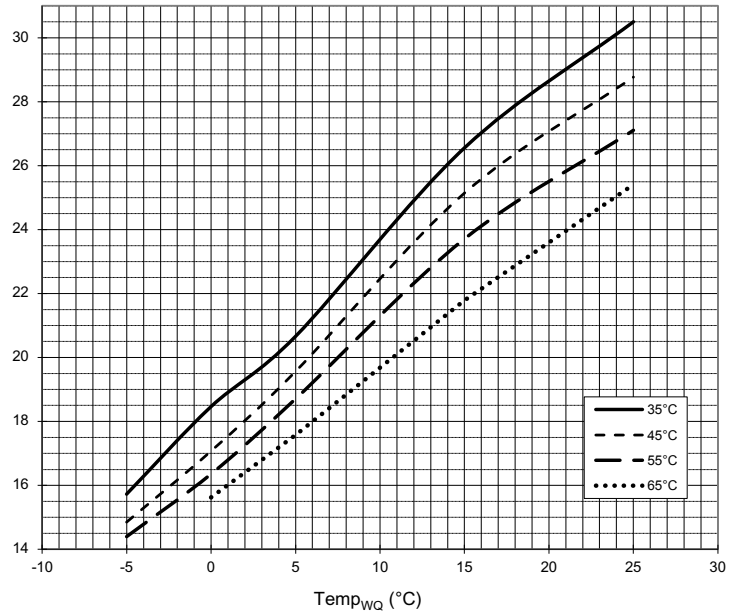




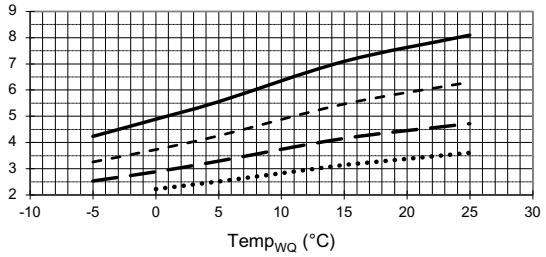
823245

Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

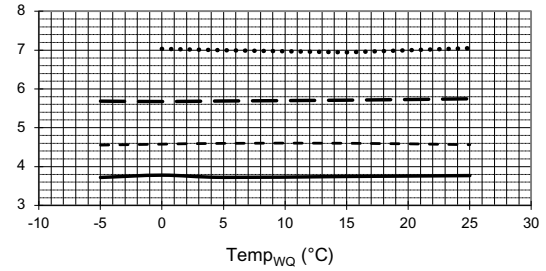
Qh (kW)



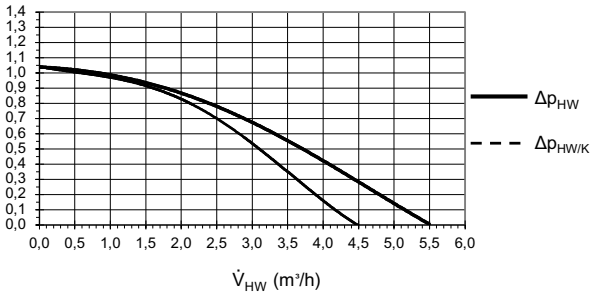
COP



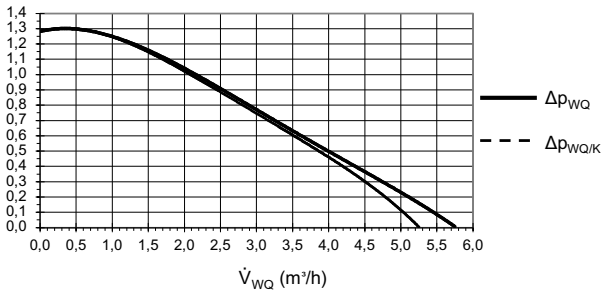
Pe (kW)



Δp_{HW} (bar)



Δp_{WQ} (bar)

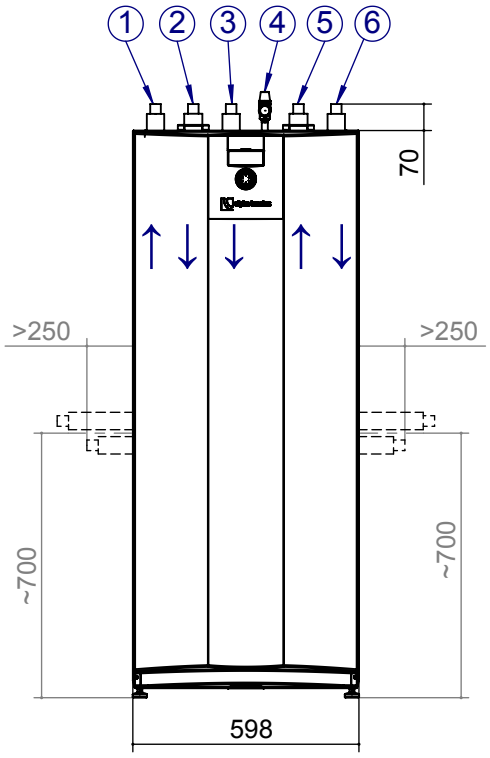


823246

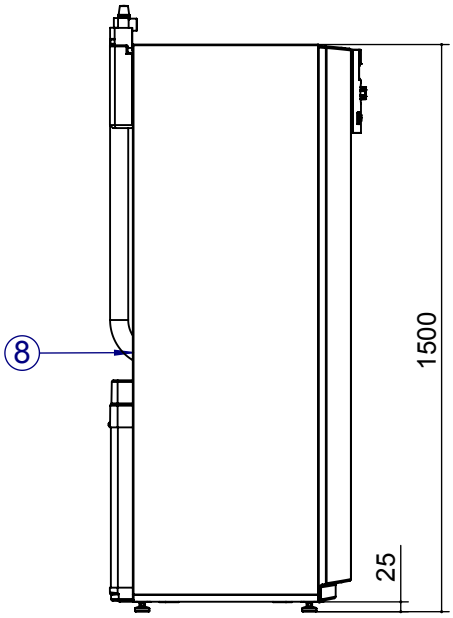
Key:	DE823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}$"	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

V1

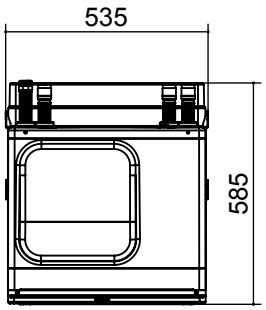
A



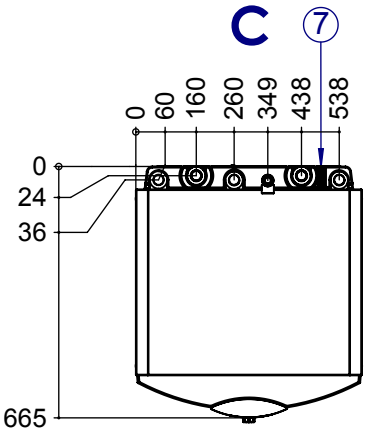
B



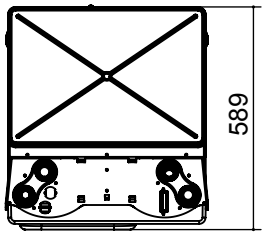
A1



C



C1



Item	Name	Dim.
1	Heating water outlet (flow)	Ø28 Outside diameter
2	Heat source inlet (in heat pump) optionally at the top, on the right or left	Ø28 Outside diameter
3	Heating water inlet (return)	Ø28 Outside diameter
4	Heating circuit safety valve (in the separate package)	Rp 3/4” internal thread
5	Heat source outlet (from heat pump) optionally at top, right or left	Ø28 Outside diameter
6	Domestic hot water charging circuit inlet (Return)	Ø28 Outside diameter
7	Cable entry, LIN bus cable	----
8	Cable entry, connection cable	----

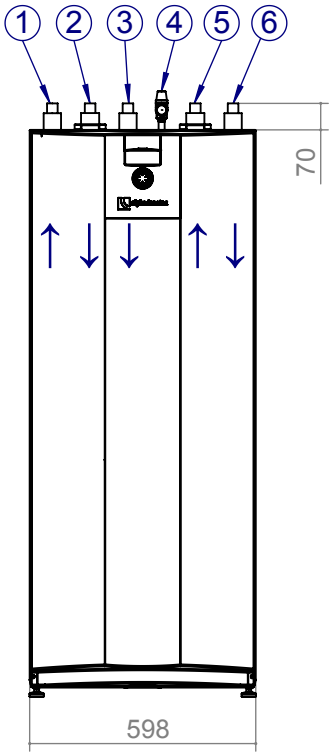
Key: D819451

All dimensions in mm.

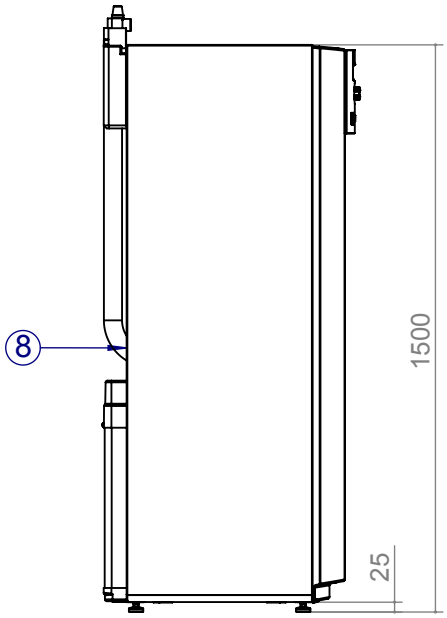
A Front view
B Side view from left
C Plan view
A1 Front view of module box
C1 Top view of module box

V2

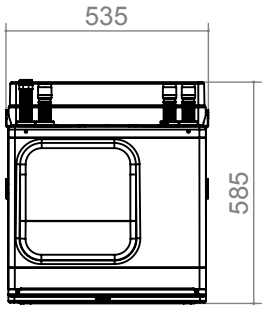
A



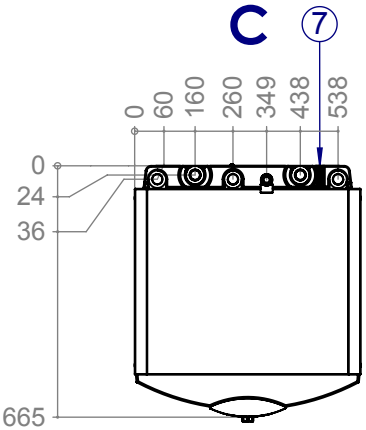
B



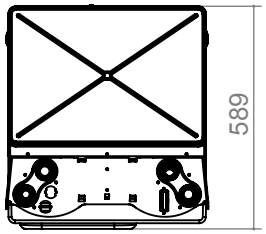
A1



C



C1



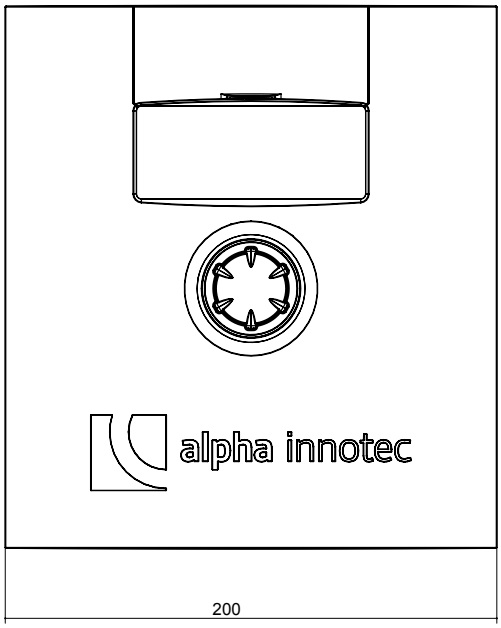
Key: D819451

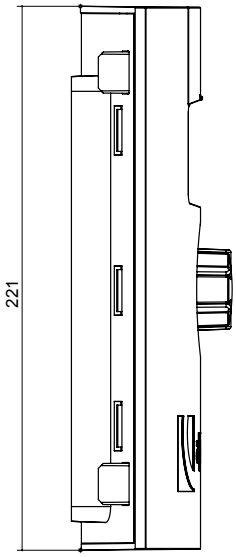
All dimensions in mm.

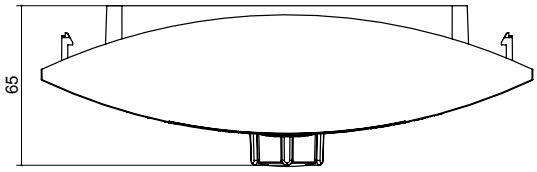
A Front view
B Side view from left
C Plan view
A1 Front view of module box
C1 Top view of module box

Item	Name	Dim.
1	Heating water outlet (flow)	Ø35 Outside diameter
2	Heat source inlet (in heat pump). Connection possible right or left, see Hydraulic Connections chapter!	Ø35 Outside diameter
3	Heating water inlet (return)	Ø35 Outside diameter
4	Heating circuit safety valve (in the separate package)	Rp 3/4” internal thread
5	Heat source outlet (from heat pump). Connection possible right or left, see Hydraulic Connections chapter!	Ø35 Outside diameter
6	Domestic hot water charging circuit inlet (Return)	Ø35 Outside diameter
7	Cable entry, LIN bus cable	----
8	Cable entry, connection cable	----

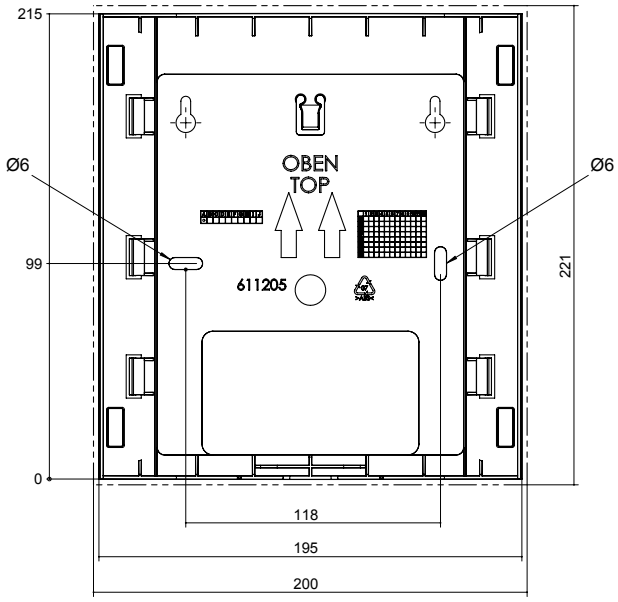
Dimensioned drawing of control, wall-mounted bracket



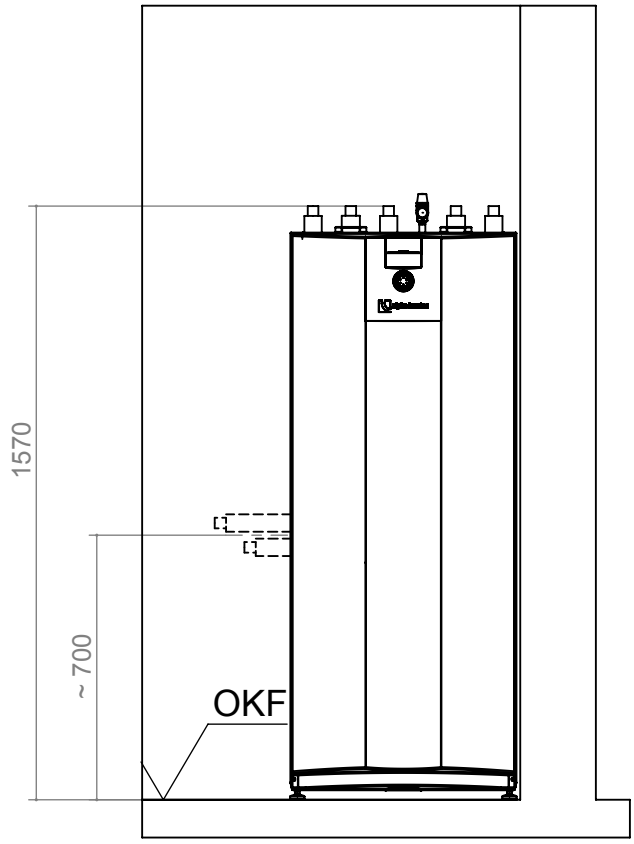


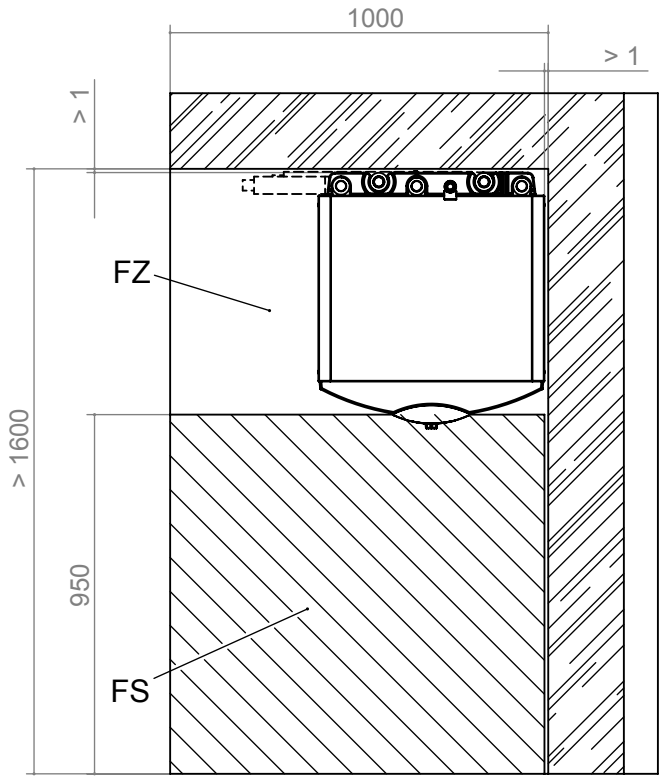


Wall mounted



V1





Key: DE819452

V1 Version 1

FS Free space for service purposes

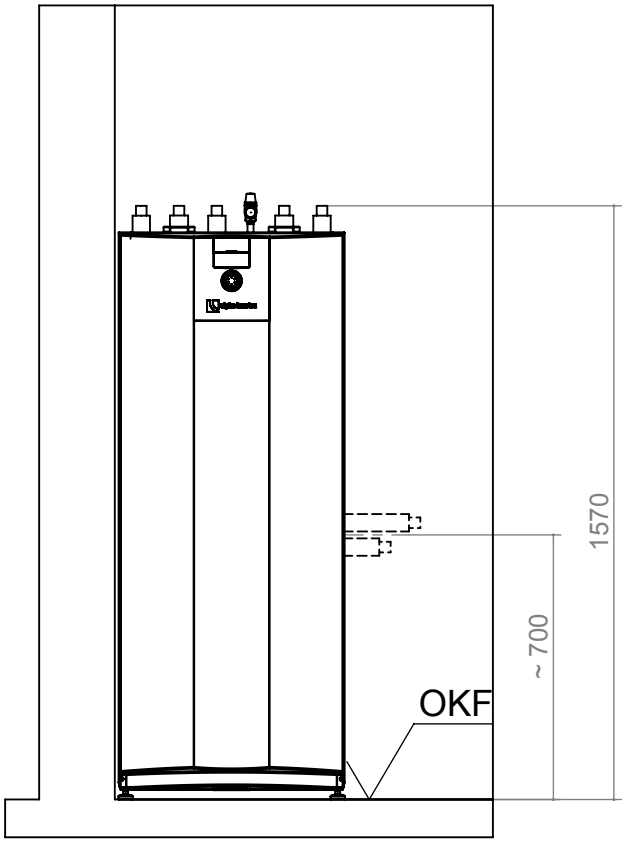
FZ Free space for functionally necessary accessories

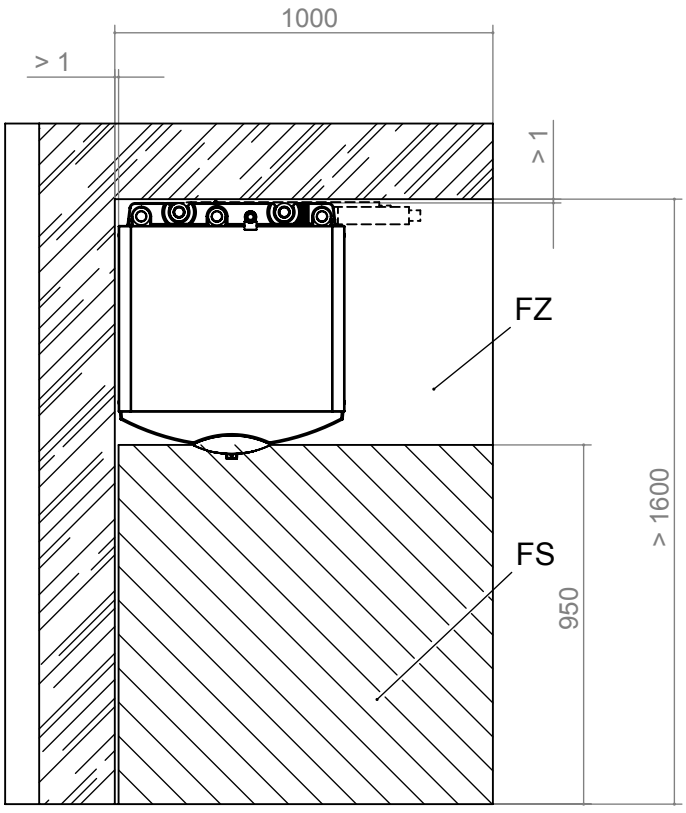
OKF Finished floor level

All dimensions in mm.

Installation plans

V2



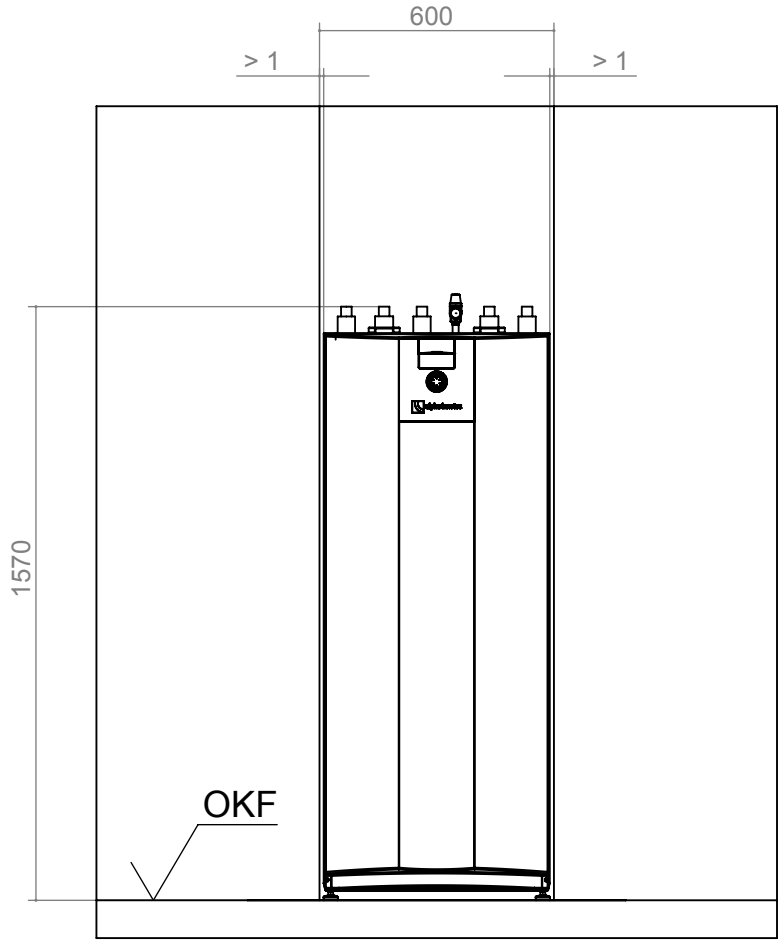


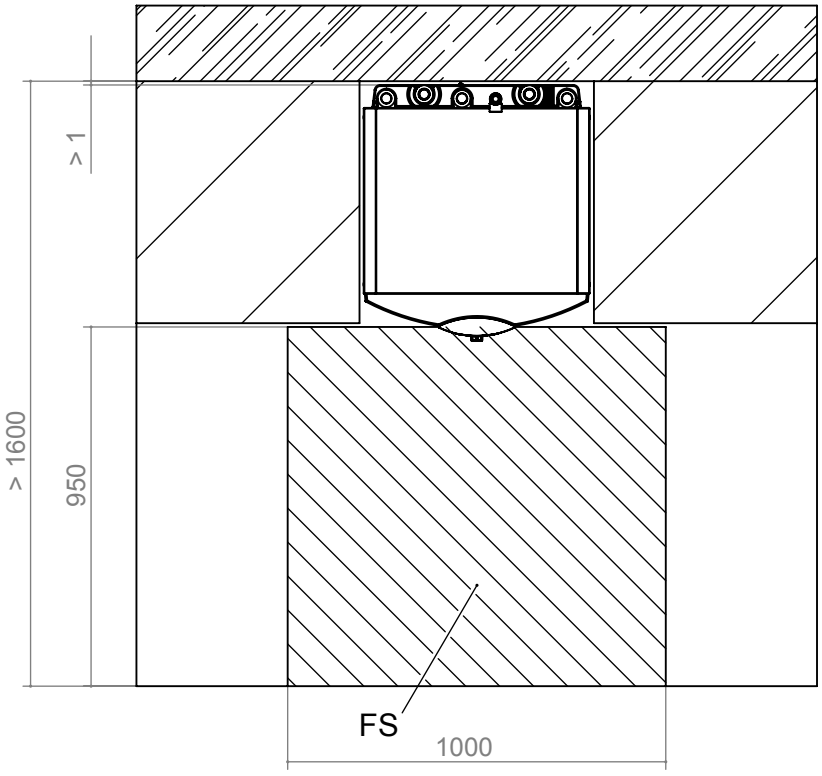
Key: DE819452

V2 Version 2
FS Free space for service purposes
FZ Free space for functionally necessary accessories
OKF Finished floor level

All dimensions in mm.

V3



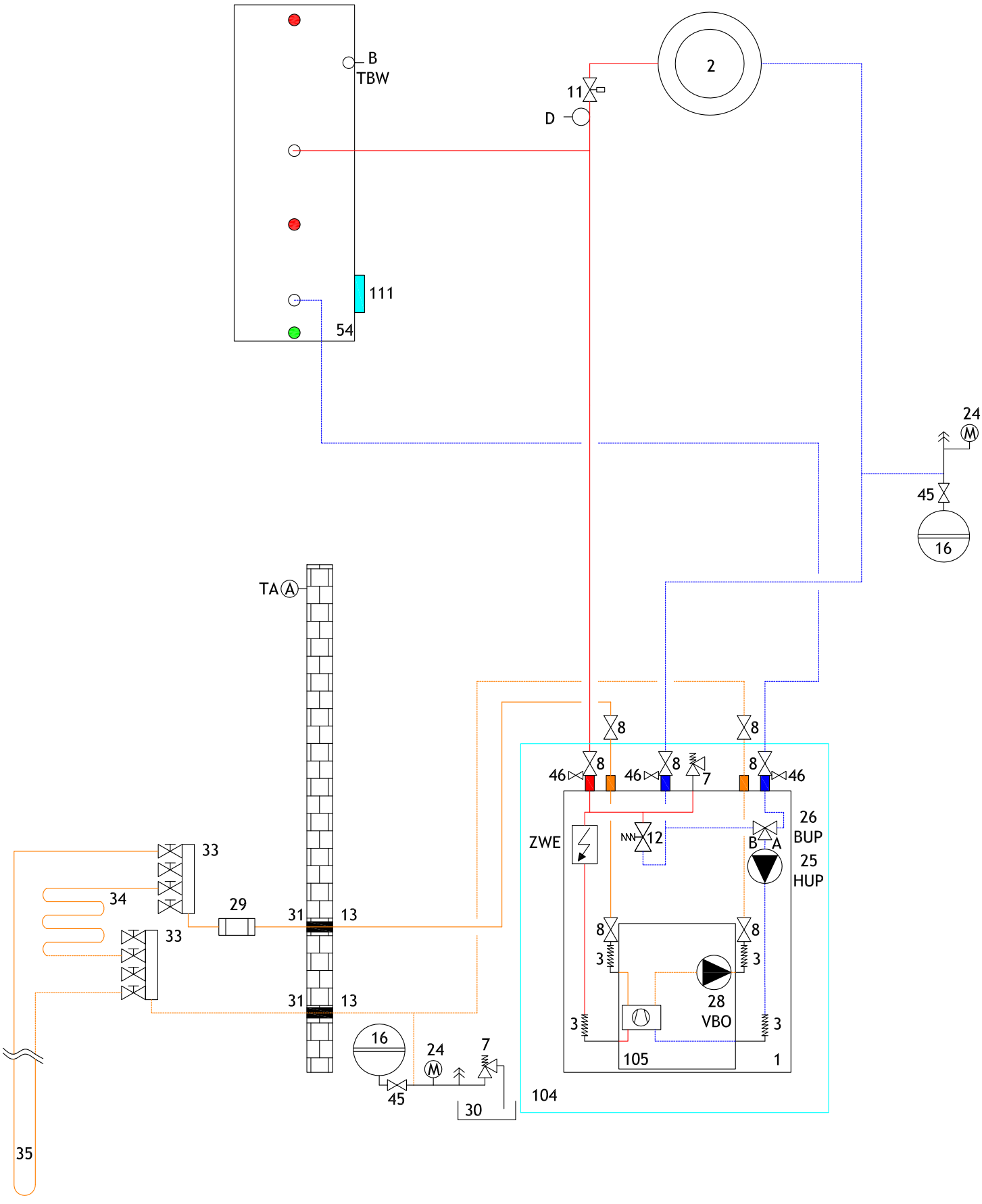


Key: DE819452

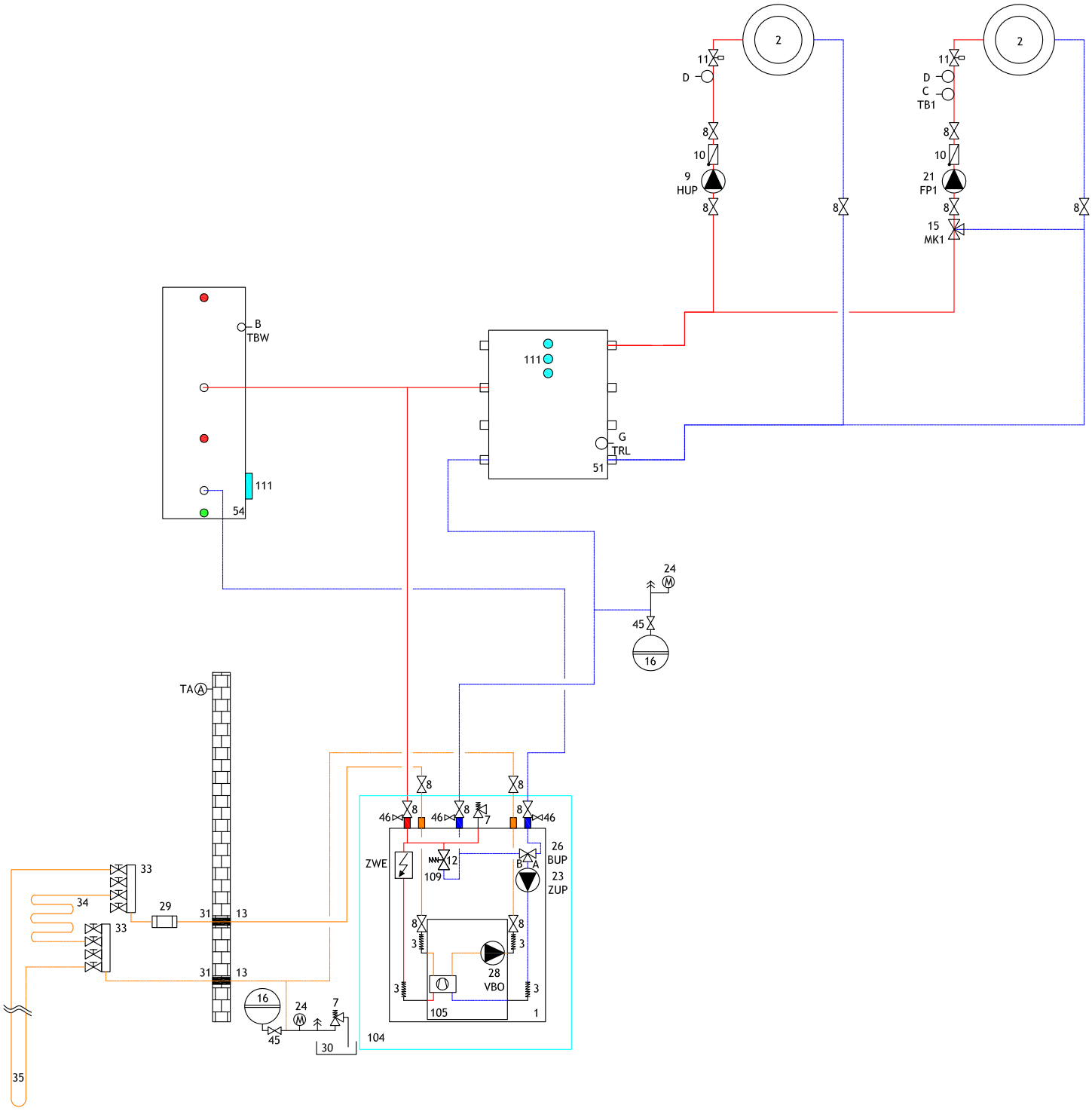
V3 Version 3
FS Free space for service purposes
OKF Finished floor level

All dimensions in mm.

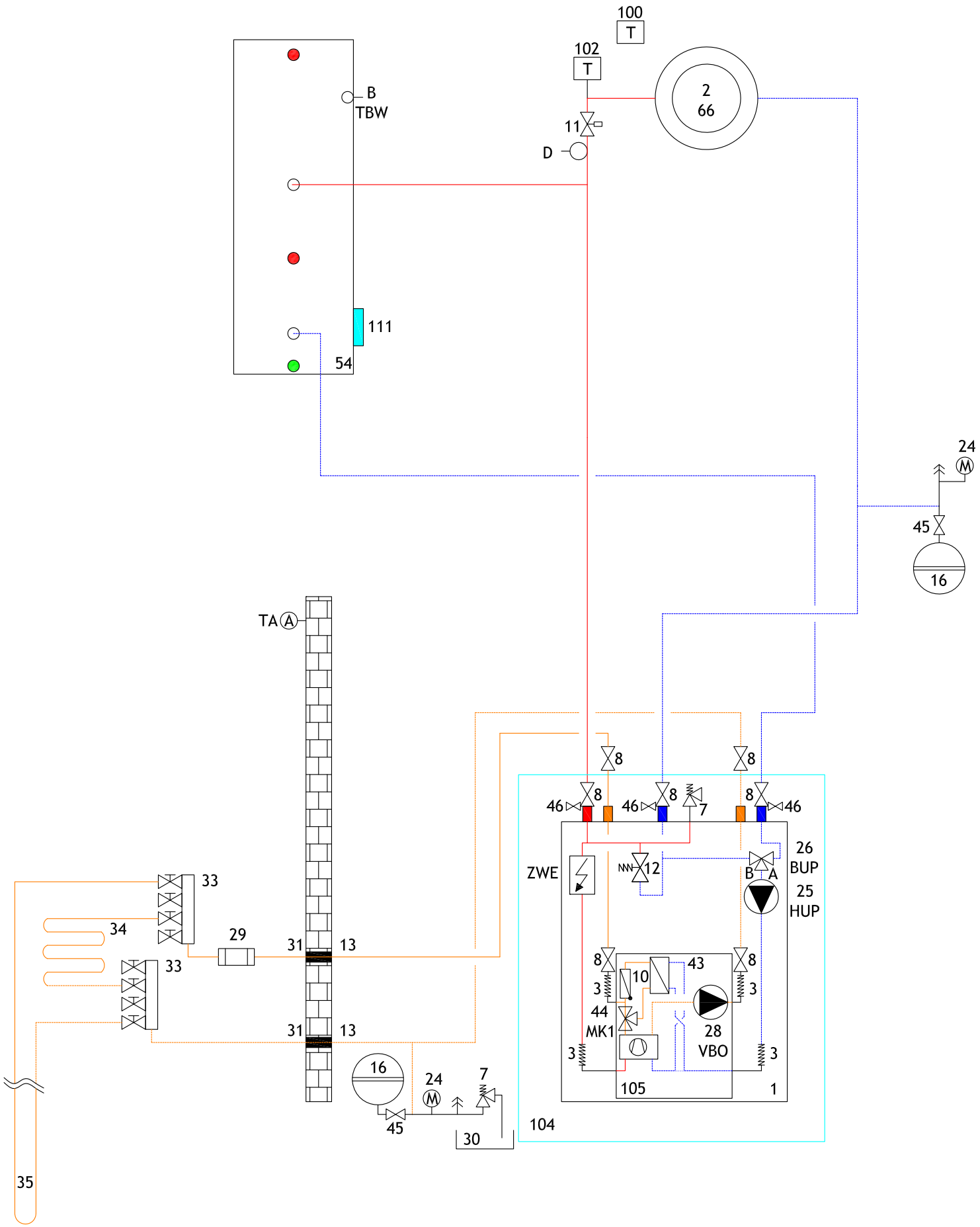
Hydraulic integration, unit variant H (heating)



Hydraulic integration, separate buffer tank, unit variant H (heating)



Hydraulic integration, unit variant K (cooling)



Hydraulics key

1	Heat pump
2	Underfloor heating / radiators
3	Vibration isolator
4	Unit underlay, Sylomer strips
5	Shut-off valve with drain outlet
6	Expansion vessel included in scope of supply
7	Safety valve
8	Shut-off valve
9	Heating circulation pump (HUP)
10	Check valve
11	Individual room control
12	Overflow valve
13	Vapour-tight insulation
14	Domestic hot water circulation pump (BUP)
15	Mixing circuit, three-way mixer (MK1 discharging)
16	Expansion vessel on site
18	Heating element, heating (ZWE)
19	Mixing circuit, four-way mixer (MK1 charging)
20	Heating element, domestic hot water (ZWE)
21	Mixing circuit, circulation pump (FP1)
23	Feeder, circulation pump (ZUP) (change over Compact unit connecti
24	Pressure gauge
25	Heating + domestic hot water circulation pump (HUP)
26	Changeover valve, domestic hot water (BUP)(B = normally open)
27	Heating element, heating + domestic hot water (ZWE)
28	Brine circulation pump (VBO)
29	Dirt trap (max. 0.6 mm screen size)
30	Collection container for brine mixture
31	Wall penetration
32	Supply pipe
33	Brine distributor
34	Horizontal ground collector
35	Borehole heat exchanger (vertical collector)
36	Groundwater well pump
37	Wall bracket
38	Flow switch
39	Supply well
40	Discharge well
41	Flushing fitting, heating circuit
42	Circulation, circulation pump (ZIP)
43	Brine/water heat exchanger (cooling function)
44	Three-way mixer (cooling function MK1)
45	Cap valve
46	Fill and drain valve
48	Domestic hot water charging circulation pump (BLP)
49	Groundwater flow direction
50	Buffer tank, heating
51	Separate storage tank
52	Gas or oil-fired boiler
53	Wood-fired boiler
54	Domestic hot water tank
55	Brine pressure monitor
56	Swimming pool heat exchanger
57	Ground source heat exchanger
58	Ventilation in the house
59	Plate heat exchanger
61	Cooling storage tank (???)
65	Compact distributor
66	Fan coils
67	Solar domestic hot water tank
68	Separate solar storage tank
69	Multifunctional storage tank
71	Dual hydraulic module
72	Wall-mounted buffer tank
73	Pipe penetration
74	Ventower
75	Scope of supply, Dual hydraulic tower
76	Drinking water station
77	Accessories, water/water booster
78	Scope of supply, water/water booster, optional
100	Room thermostat, cooling accessories, optional
101	Control on site
102	Dew point monitor, optional accessories
103	Room thermostat, cooling, included in scope of supply
104	Heat pump scope of supply
105	Cooling circuit module box, removable
106	Specific glycol mixture
107	Scalding protection / thermal mixing valve
108	Solar pump group
109	Overflow valve must be closed
110	Hydraulic tower scope of supply
111	Holder for additional heating element
112	Minimum distance for thermal decoupling of the mixing valve
TA/A	Outdoor sensor
TBW/B	Domestic hot water sensor
TB1/C	Flow sensor, mixing circuit 1
D	Floor temperature limiter
TRL/G	Sensor, external return (separate storage tank)
STA	Branch control valve
TRL/H	Return sensor (Dual hydraulic module)
79	Motor valve
80	Mixing valve
81	Heat pump outdoor unit, split, scope of supply
82	Hydraulic indoor unit, split, scope of supply
83	Circulation pump
84	Changeover valve
113	Connection, additional heat generator
BT1	Outdoor sensor
BT2	Flow sensor
BT3	Return sensor
BT6	Domestic hot water sensor
BT12	Flow sensor, condenser
BT19	Sensor, electric heating cartridge
BT24	Sensor, additional heat generator

Additional circuit board:

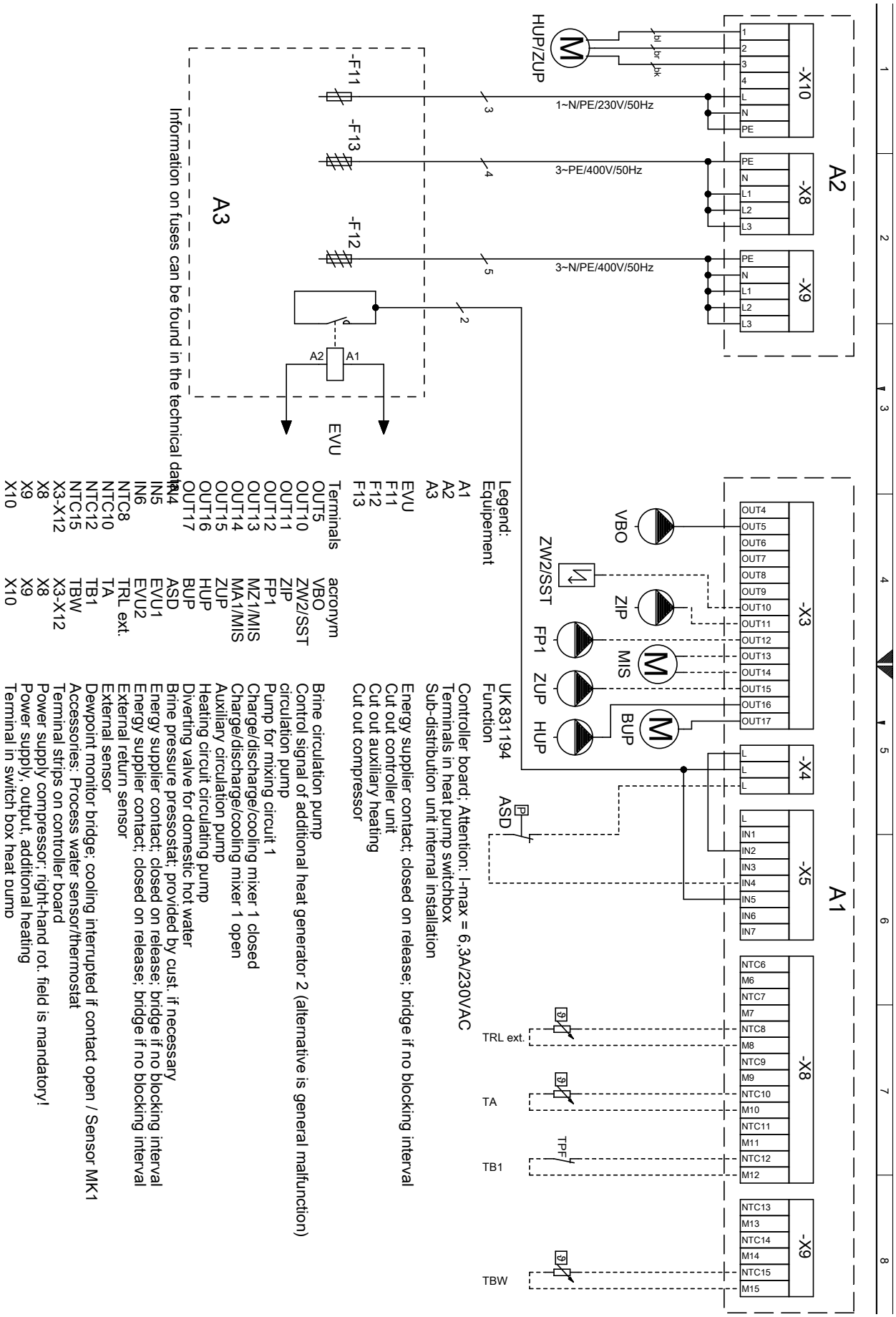
15	Mixing circuit, three-way mixer (MK2-3 discharging)
17	Temperature difference control (SLP)
19	Mixing circuit, four-way mixer (MK2 charging)
21	Mixing circuit circulation pump (FP2-3)
22	Swimming pool circulation pump (SUP)
44	Three-way mixer (cooling function MK2)
47	Changeover valve, swimming pool heating (SUP)(B = normally open)
60	Changeover valve, cooling mode (B = normally open)
62	Heat meter
63	Changeover valve, solar circuit (B = normally open)
64	Cooling circulation pump
70	Separate solar station
TB2-3/C	Flow sensor, mixing circuit 2-3
TSS/E	Sensor, temperature difference control (low temperature)
TSK/E	Sensor, temperature difference control (high temperature)
TEE/F	Sensor, external energy source

Important note!

These hydraulic diagrams are schematic representations and are designed to help you! They do not release you from the need to carry out your own planning & design! Shut-off devices, vent valves and safety measures are not drawn in full in these diagrams! The local country-specific standards, laws and regulations must be followed! The pipes must be dimensioned according to the nominal volume flow rate of the heat pump or the free pressure of the integrated circulation pump! For detailed information and advice please contact the sales partner responsible for your area!

Terminal diagram

SWC 42(H)(K)3 – SWC 192(H)(K)3



Legend:
Equipement

A1
A2
A3
EVU
F11
F12
F13

Terminals
OUT5
OUT10
OUT11
OUT12
OUT13
OUT14
OUT15
OUT16
OUT17
IN4
IN5
IN6
NTC8
NTC10
NTC12
NTC15
X3-X12
X8
X9
X10

acronym
VBO
ZW2/SST
ZIP
FP1
MZ1/MIS
MA1/MIS
ZUP
HUP
BUP
ASD
EVU1
EVU2
TRL ext.
TA
TB1
TBW
X3-X12
X8
X9
X10

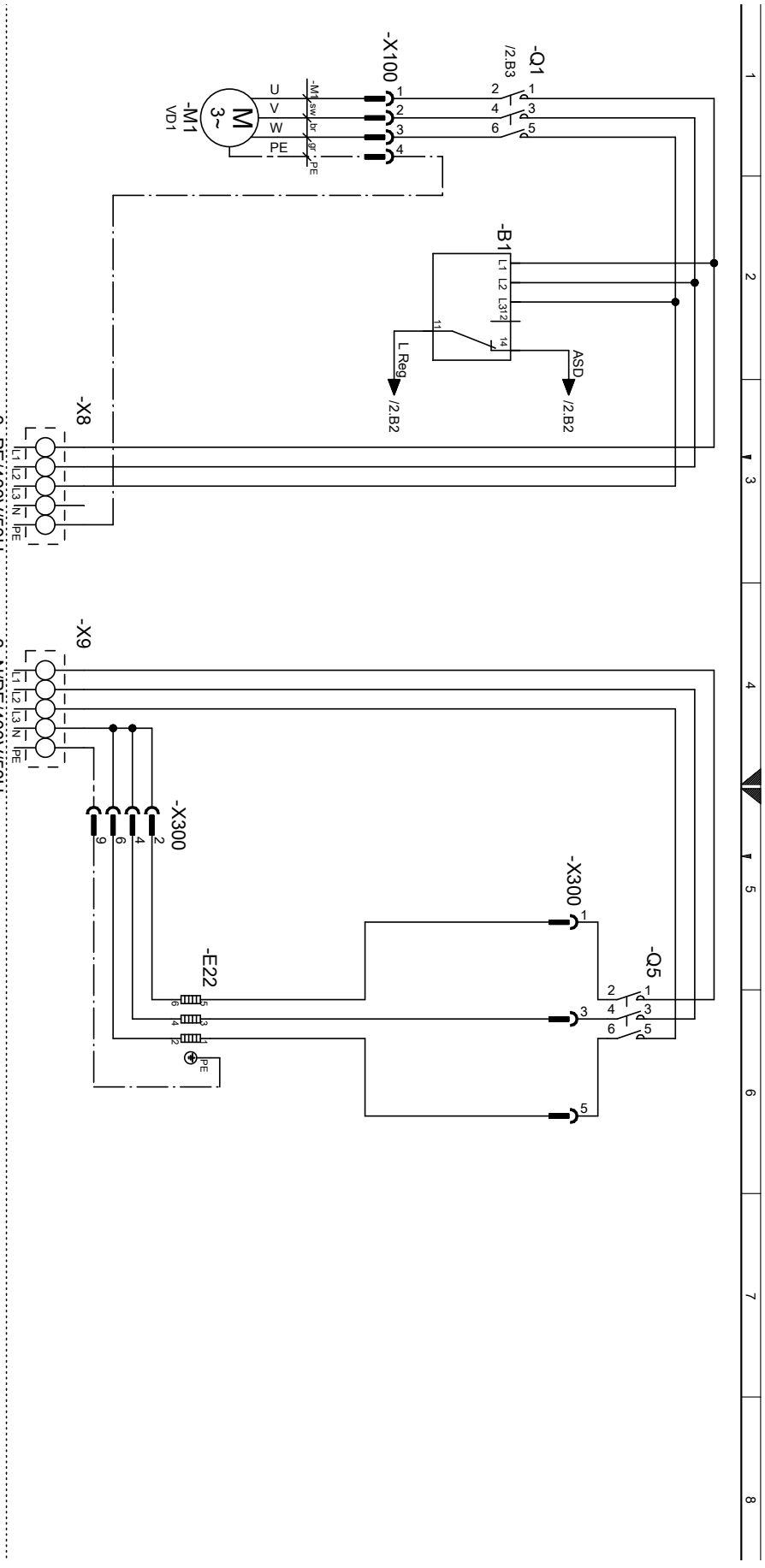
UK 831194
Function

Controller board; Attention: I-max = 6,3A/230VAC
Terminals in heat pump switchbox
Sub-distribution unit internal installation

Energy supplier contact; closed on release; bridge if no blocking interval
Cut out controller unit
Cut out auxiliary heating
Cut out compressor

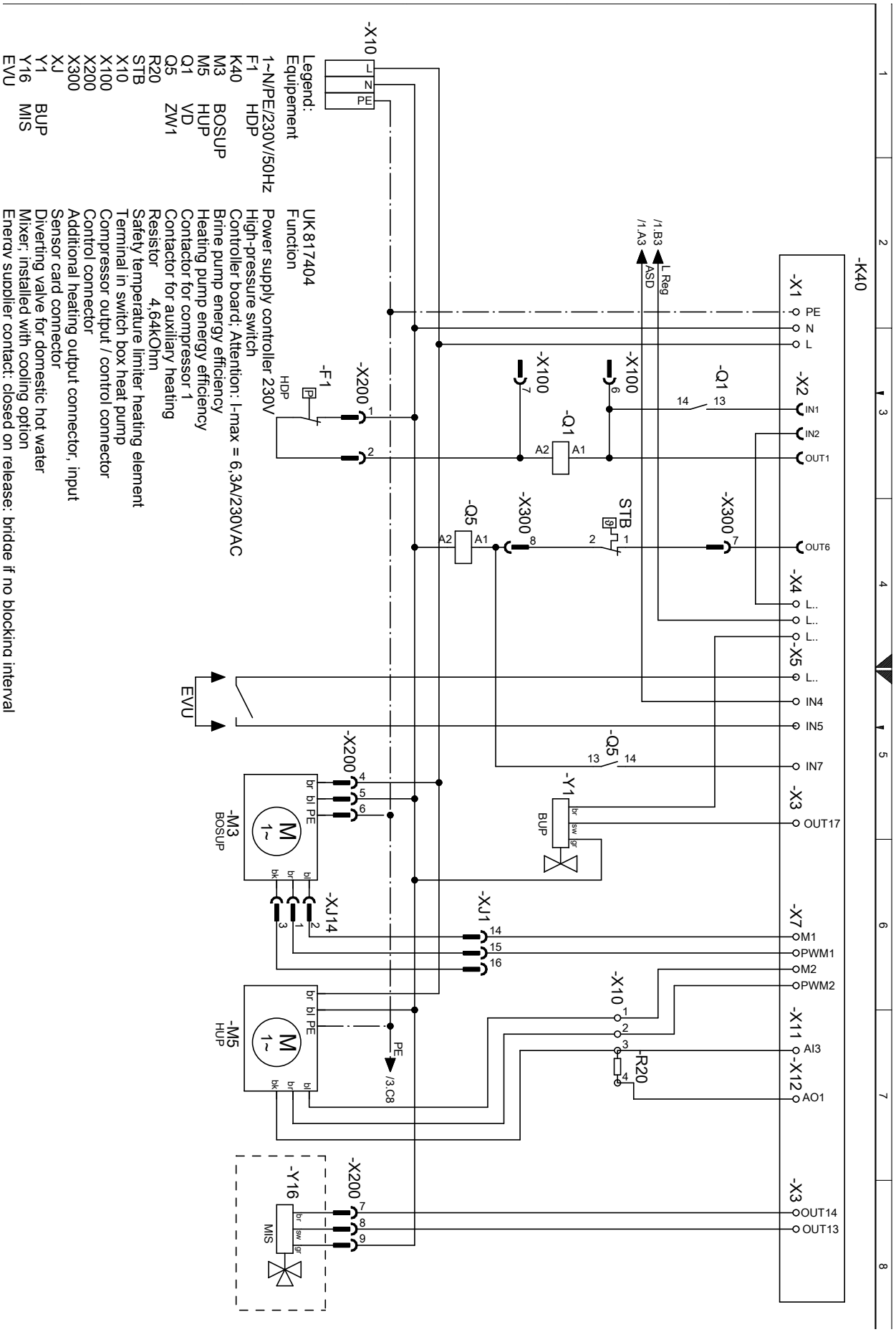
Brine circulation pump
Control signal of additional heat generator 2 (alternative is general malfunction)
circulation pump
Pump for mixing circuit 1
Charge/discharge/cooling mixer 1 closed
Charge/discharge/cooling mixer 1 open
Auxiliary circulation pump
Heating circuit circulating pump
Diverting valve for domestic hot water
Brine pressure pressostat; provided by cust. if necessary
Energy supplier contact; closed on release; bridge if no blocking interval
Energy supplier contact; closed on release; bridge if no blocking interval
External return sensor
External sensor
Dewpoint monitor bridge; cooling interrupted if contact open / Sensor MK1
Accessories: Process water sensor/thermostat
Terminal strips on controller board
Power supply compressor; right-hand rot. field is mandatory!
Power supply, output, additional heating
Terminal in switch box heat pump

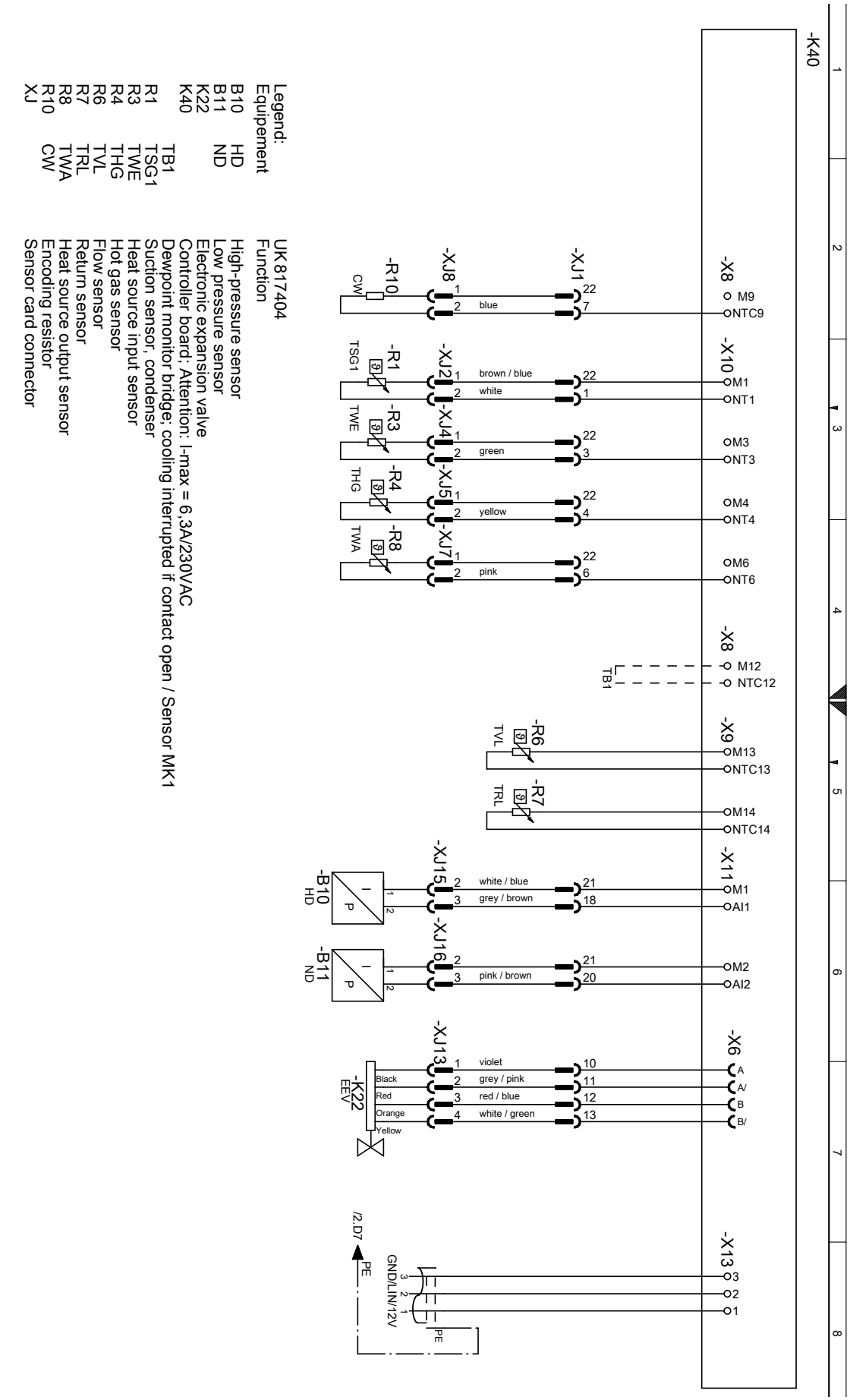
Circuit diagram 1/3



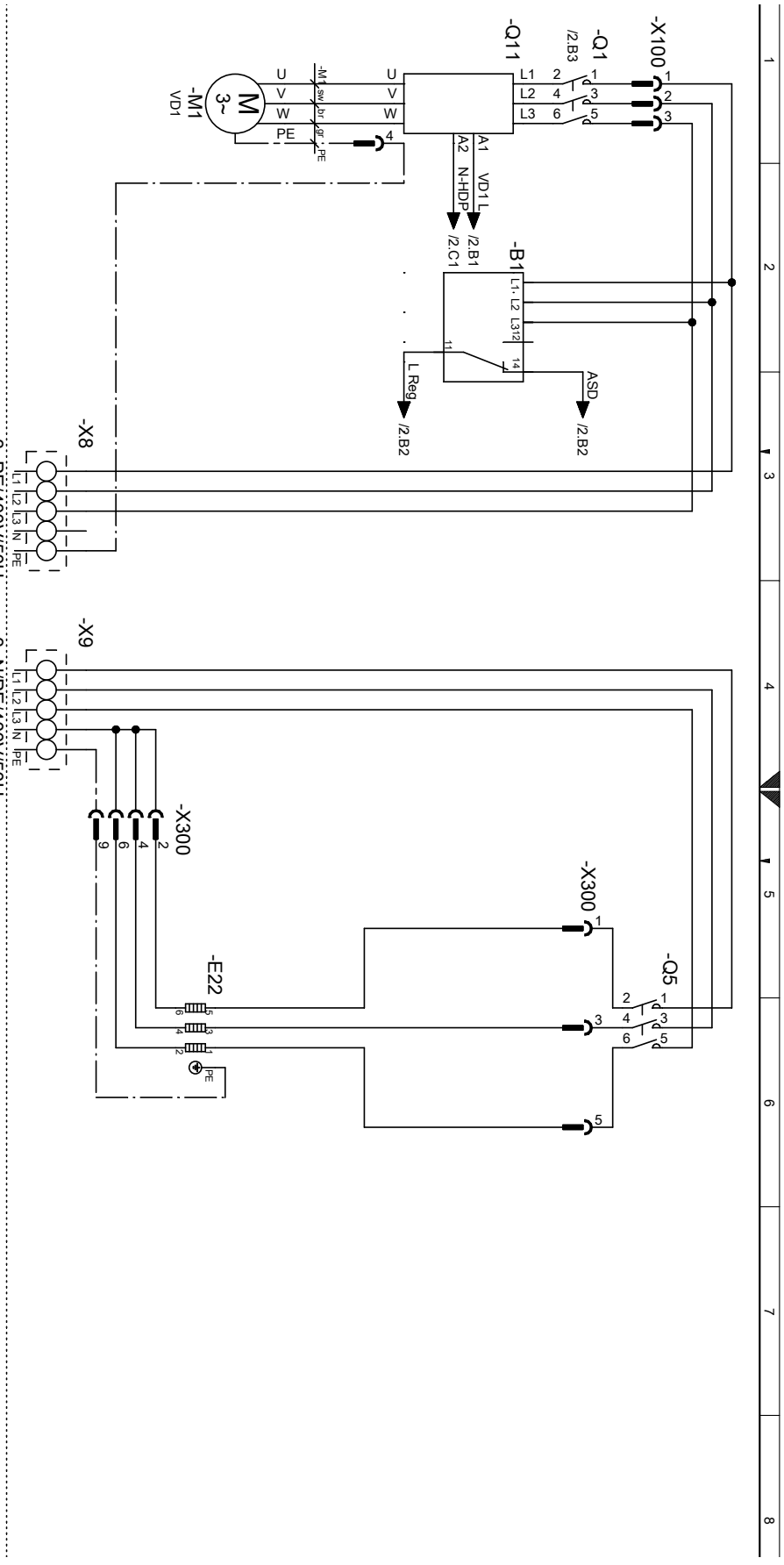
Legend:

Equipement	UK817404
	Function
3~PE/400V/50Hz	L1,L2,L3,PE; power supply, output, compressor; clockwise rotary field is absolutely necessary!
B1	Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
E22 ZW1	Auxiliary heating
M1 VD1	Compressor
Q1	Contactor for compressor 1
X8	Power supply compressor; right-hand rot. field is mandatory!
X9	Power supply aux. heating
X100	Compressor output / control connector
X300	Additional heating output connector, input


Legend:
Equipement
1~N/PE/230V/50Hz
F1 HDP
K40
M3 BOSUP
M5 HUP
Q1 VD
Q5 ZW1
R20
STB
X10
X100
X200
X300
XJ
Y1 BUP
Y16 MIS
EVU
UK 817404
Function
Power supply controller 230V
High-pressure switch
Controller board; Attention: I-max = 6,3A/230VAC
Brine pump energy efficiency
Heating pump energy efficiency
Contactor for compressor 1
Contactor for auxiliary heating
Resistor 4,64kOhm
Safety temperature limiter heating element
Terminal in switch box heat pump
Compressor output / control connector
Control connector
Additional heating output connector, input
Sensor card connector
Diverting valve for domestic hot water
Mixer; installed with cooling option
Energy supplier contact: closed on release; bridge if no blocking interval
-K40
-X1
PE
N
L
/1.B3
/1.A3
L Reg
ASD
-F1
HDP
-X200
-X100
-Q1
-X2
IN1
IN2
OUT1
-Q5
-X300
STB
OUT6
-X4
L..
-X5
IN4
IN5
IN7
EVU
-Y1
BUP
-X3
OUT17
-M3
BOSUP
-XJ14
-XJ1
-X7
M1
PWM1
M2
PWM2
-X10
-X11
AI3
R20
-X12
AO1
-M5
HUP
PE
/3.C8
-Y16
MIS
OUT14
OUT13

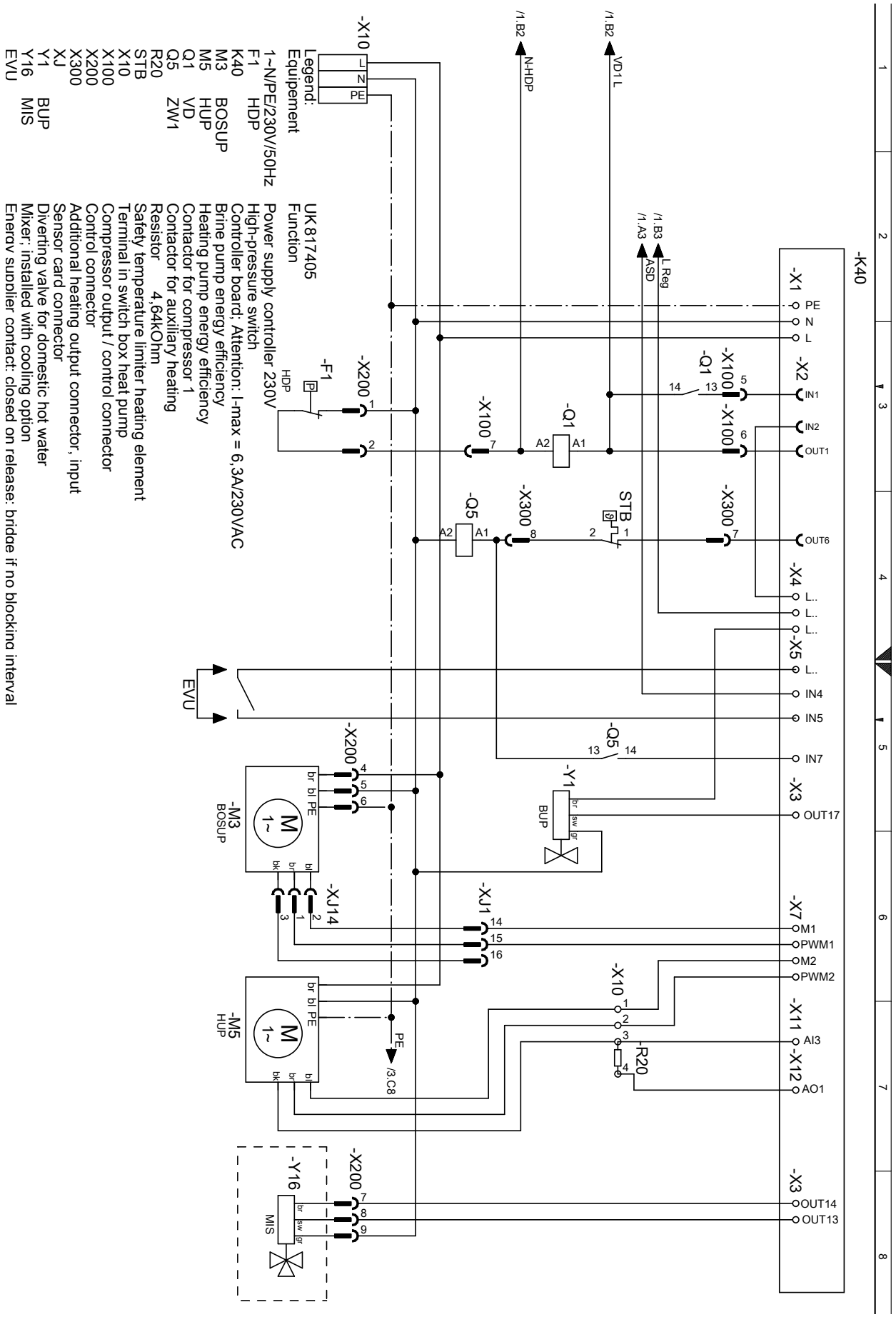

Legend:
Equipement
B10 HD
B11 ND
K22
K40
TB1
R1 TSG1
R3 TWE
R4 THG
R6 TVL
R7 TRL
R8 TWA
R10 CW
XJ
UK 817404
Function
High-pressure sensor
Low pressure sensor
Electronic expansion valve
Controller board; Attention: I-max = 6,3A/230VAC
Dewpoint monitor bridge; cooling interrupted if contact open / Sensor MK1
Suction sensor, condenser
Heat source input sensor
Hot gas sensor
Flow sensor
Return sensor
Heat source output sensor
Encoding resistor
Sensor card connector
-K40
-X8
M9
NTC9
-X10
M1
NT1
M3
NT3
M4
NT4
M6
NT6
M12
NTC12
TB1
-X9
M13
NTC13
M14
NTC14
-X11
M1
AI1
M2
AI2
-X6
A
A/
B
B/
-X13
3
2
1
-R10
CW
-R1
TSG1
-R3
TWE
-R4
THG
-R8
TWA
-R6
TVL
-R7
TRL
-XJ8
-XJ1
-XJ2
-XJ4
-XJ5
-XJ7
-XJ15
-XJ16
-XJ13
blue
brown / blue
white
green
yellow
pink
white / blue
grey / brown
pink / brown
violet
grey / pink
red / blue
white / green
-B10 HD
-B11 ND
-K22 EEV
Black
Red
Orange
Yellow
/2.D7
PE
GND/LIN/12V

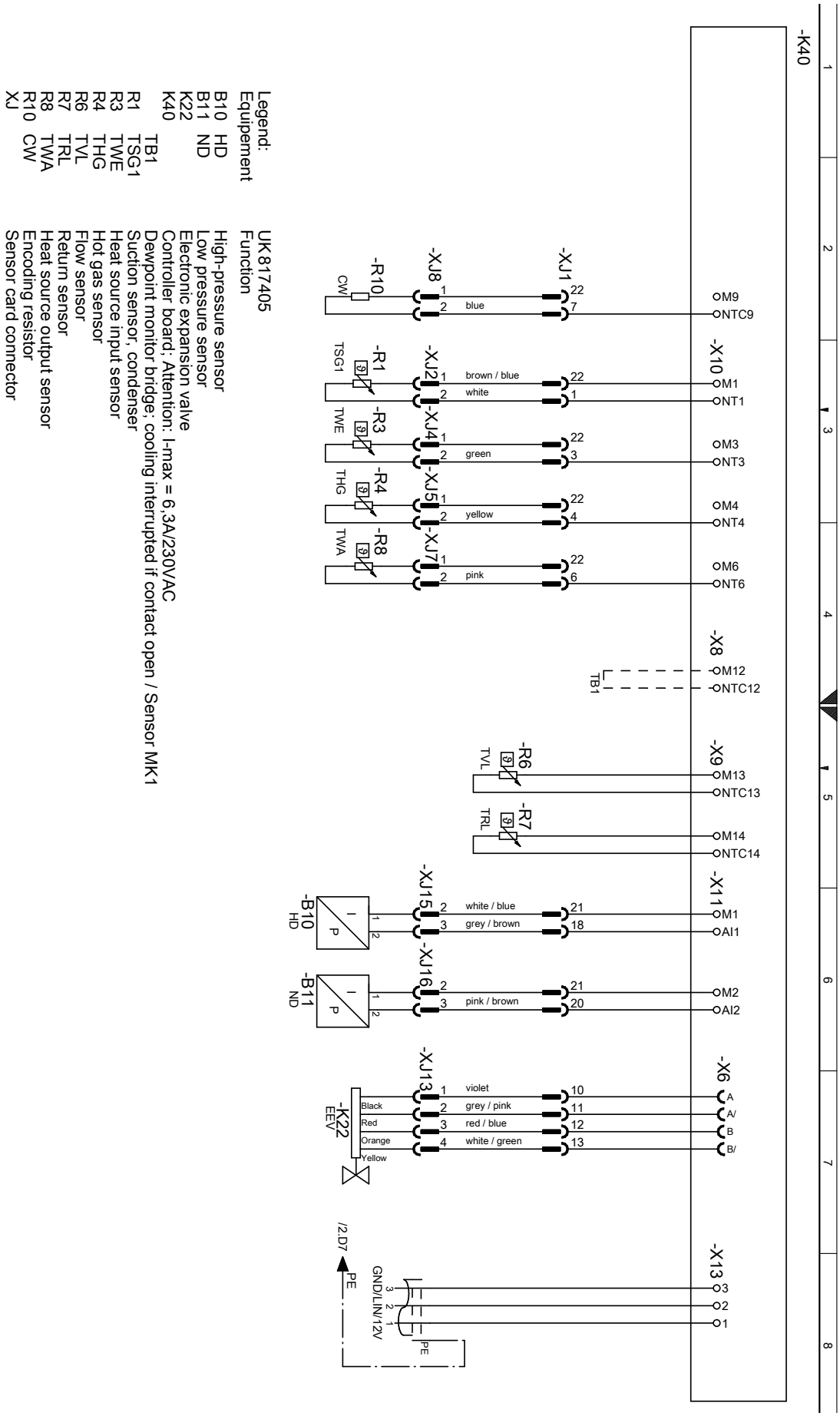
Circuit diagram 1/3

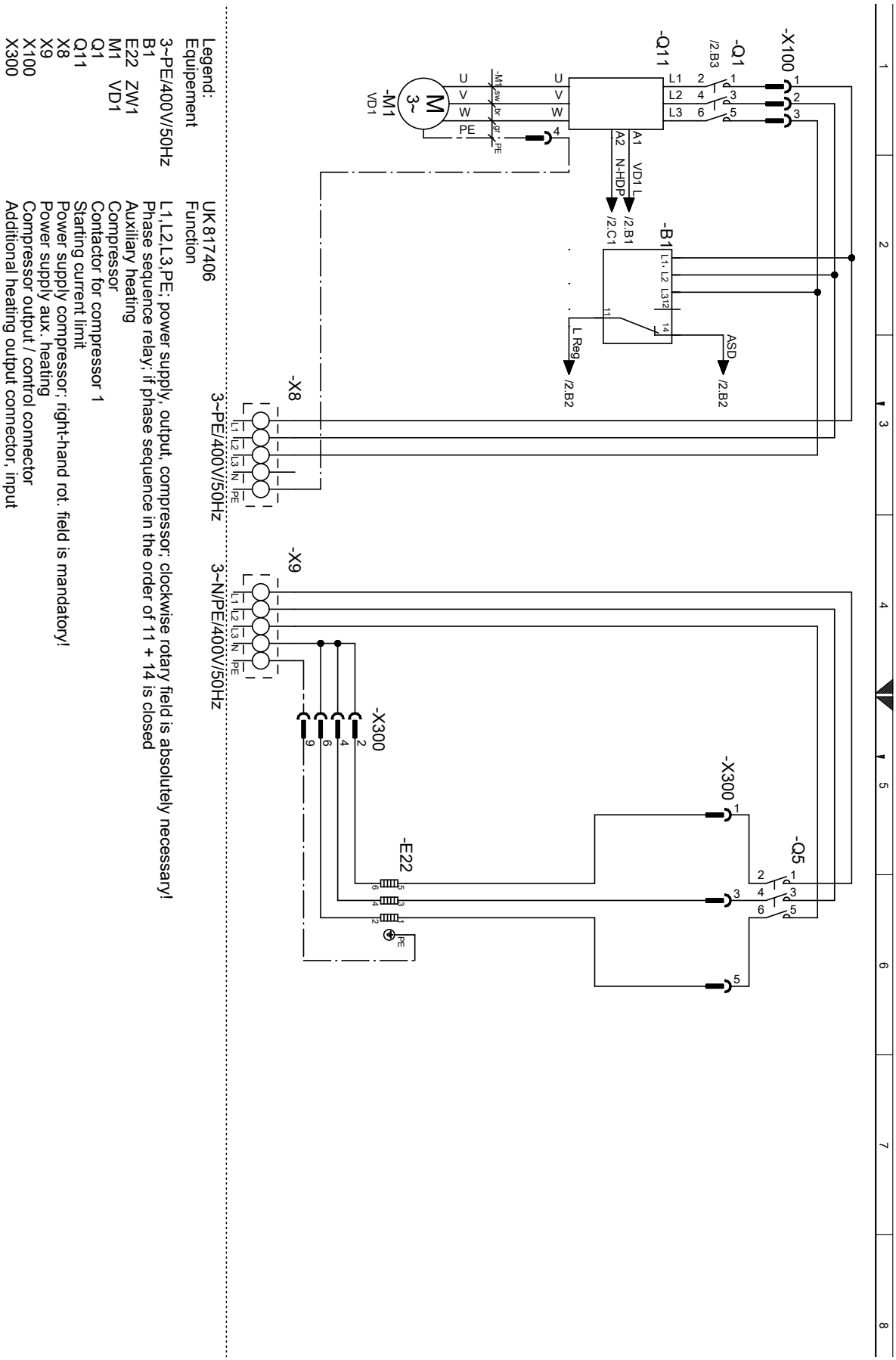


Legend:

Equipement	UK 817405
3~PE/400V/50Hz	Function
B1	L1,L2,L3,PE; power supply, output, compressor; clockwise rotary field is absolutely necessary!
E22 ZW1	Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
M1 VD1	Auxiliary heating
Q1	Compressor
Q11	Contactor for compressor 1
X8	Starting current limit
X9	Power supply compressor; right-hand rot. field is mandatory!
X100	Power supply aux. heating
X300	Compressor output / control connector
	Additional heating output connector, input


Legend:
Equipement
1~N/PE/230V/50Hz
F1 HDP
K40
M3 BOSUP
M5 HUP
Q1 VD
Q5 ZW1
R20
STB
X10
X100
X200
X300
XJ
Y1 BUP
Y16 MIS
EVU
UK 817405
Function
Power supply controller 230V
High-pressure switch
Controller board: Attention: I-max = 6,3A/230VAC
Brine pump energy efficiency
Heating pump energy efficiency
Contactor for compressor 1
Contactor for auxiliary heating
Resistor 4,64kOhm
Safety temperature limiter heating element
Terminal in switch box heat pump
Compressor output / control connector
Control connector
Additional heating output connector, input
Sensor card connector
Diverting valve for domestic hot water
Mixer; installed with cooling option
Energy supplier contact: closed on release: bridge if no blocking interval
-K40
-X1 PE N L
-X2 IN1 IN2 OUT1
-X3 OUT17 OUT14 OUT13
-X4 L.. L.. L..
-X5 L.. IN4 IN5 IN7
-X7 M1 PWM1 M2 PWM2
-X10
-X11 AI3
-X12 AO1
-X100
-X200
-X300
-Q1
-Q5
-F1
-Y1 BUP
-Y16 MIS
-M3 BOSUP
-M5 HUP
-XJ1
-XJ14
-R20
STB
EVU
/1.B2 N-HDP
/1.B2 VD1 L
/1.B3 /1.A3 L Reg ASD
/3.C8


Legend:
Equipement
B10 HD
B11 ND
K22
K40
R1 TB1
R3 TSG1
R4 TWE
R6 THG
R7 TVL
R8 TRL
R10 TWA
XJ CW
UK 817405
Function
High-pressure sensor
Low pressure sensor
Electronic expansion valve
Controller board; Attention: I-max = 6,3A/230VAC
Dewpoint monitor bridge; cooling interrupted if contact open / Sensor MK1
Suction sensor, condenser
Heat source input sensor
Hot gas sensor
Flow sensor
Return sensor
Heat source output sensor
Encoding resistor
Sensor card connector
-K40
-R10
CW
-XJ8
-XJ1
blue
-X10
M9
NTC9
-R1
TSG1
-XJ2
brown / blue
white
M1
NT1
-R3
TWE
-XJ4
green
M3
NT3
-R4
THG
-XJ5
yellow
M4
NT4
-R8
TWA
-XJ7
pink
M6
NT6
-X8
M12
TB1
NTC12
-R6
TVL
-X9
M13
NTC13
-R7
TRL
M14
NTC14
-B10
HD
-XJ15
white / blue
grey / brown
-X11
M1
AI1
-B11
ND
-XJ16
pink / brown
M2
AI2
-K22
EEV
-XJ13
violet
Black
grey / pink
Red
red / blue
Orange
white / green
Yellow
-X6
A
A/
B
B/
/2:D7
PE
GND/LIN/12V
-X13
3
2
1

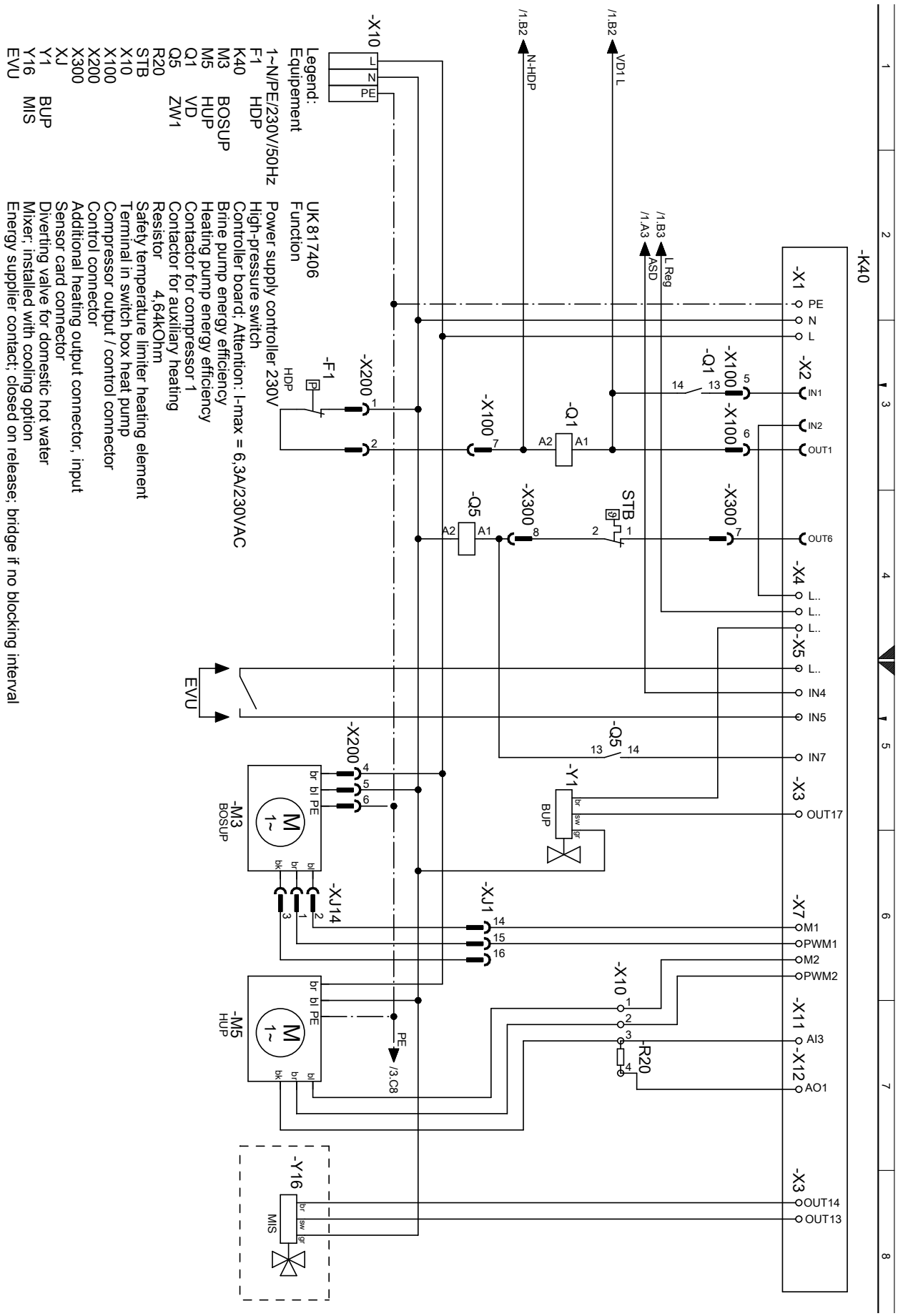


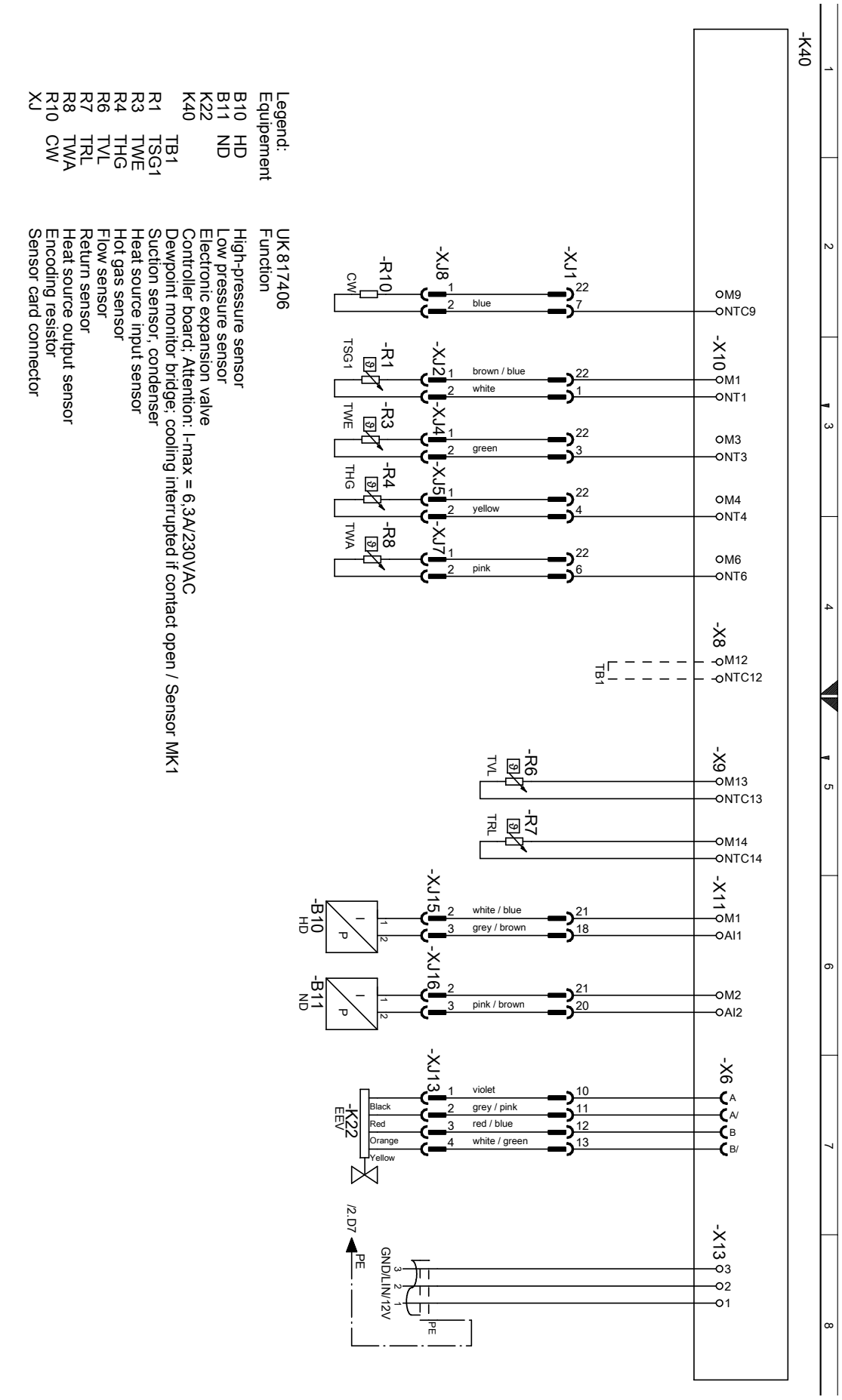
Legend:

Equipement	UK 817406 Function
3~PE/400V/50Hz	L1,L2,L3,PE; power supply, output, compressor; clockwise rotary field is absolutely necessary!
B1	Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
E22 ZW1	Auxiliary heating
M1 VD1	Compressor
Q1	Contactor for compressor 1
Q11	Starting current limit
X8	Power supply compressor; right-hand rot. field is mandatory!
X9	Power supply aux. heating
X100	Compressor output / control connector
X300	Additional heating output connector, input

Circuit diagram 2/3

SWC 142(H)(K)3 – SWC 192(H)(K)3




Legend:
Equipement
B10 HD
B11 ND
K22
K40
TB1
R1 TSG1
R3 TWE
R4 THG
R6 TVL
R7 TRL
R8 TWA
R10 CW
XJ
UK817406
Function
High-pressure sensor
Low pressure sensor
Electronic expansion valve
Controller board; Attention: I-max = 6,3A/230VAC
Dewpoint monitor bridge; cooling interrupted if contact open / Sensor MK1
Suction sensor, condenser
Heat source input sensor
Hot gas sensor
Flow sensor
Return sensor
Heat source output sensor
Encoding resistor
Sensor card connector
-K40
-R10
-XJ8
-XJ1
-X10
-R1
-XJ2
-XJ4
-R3
-XJ5
-R4
-XJ7
-R8
-X8
-R6
-X9
-R7
-XJ15
-B10
-X11
-XJ16
-B11
-XJ13
-X6
-K22
-X13
/2.D7
PE
GND/LIN/12V
CW
TSG1
TWE
THG
TWA
TVL
TRL
HD
ND
EEV
blue
brown / blue
white
green
yellow
pink
white / blue
grey / brown
pink / brown
violet
grey / pink
red / blue
white / green
Black
Red
Orange
Yellow
M9
NTC9
M1
NT1
M3
NT3
M4
NT4
M6
NT6
M12
NTC12
TB1
M13
NTC13
M14
NTC14
M1
AI1
M2
AI2
A
A/
B
B/

EC Declaration of Conformity in accordance with the EC Machinery Directive 2006/42/EC, Annex IIA

The undersigned
confirms that the following designated device(s) as designed and marketed by us fulfill the standardized EC directives, the EC safety standards and the product-specific EC standards.
In the event of modification of the device(s) without our approval, this declaration shall become invalid.

Designation of the device(s)

Heat Pump alpha innotec

Unit model	Number	Unit model	Number
SWC 42H3	10068041	SWC 42K3	10069041
SWC 62H3	10068141	SWC 62K3	10069141
SWC 82H3	10068241	SWC 82K3	10069241
SWC 102H3	10068342	SWC 102K3	10069342
SWC 122H3	10068442	SWC 122K3	10069442
SWC 142H3	10068542	SWC 142K3	10069542
SWC 172H3	10068642	SWC 172K3	10069642
SWC 192H3	10068742	SWC 192K3	10069742
SWCV 62H3	10071541	SWC 42H1	10073042
SWCV 162H3	10071641	SWC 62H1	10073142
SWCV 62K3	10071741	SWC 82H1	10073242
SWCV 162K3	10071841	SWC 102H1	10073342
SWCV 62H1	10071941	SWC 132H1	10073442

EC Directives
2006/42/EG
2006/95/EG
2004/108/EG
*97/23/EG
2011/65/EG
*** Pressure equipment component**
Category II
Module A1
Designated position:
TÜV-SÜD
Industrie Service GmbH (Nr.:0036)

Standardized EN

EN 378	EN 349
EN 60529	EN 60335-1/-2-40
EN ISO 12100-1/2	EN 55014-1/-2
EN ISO 13857	EN 61000-3-2/-3-3

Company:
ait-deutschland GmbH
Industrie Str. 3
93359 Kasendorf
Germany

Place, date: Kasendorf, 20.03.2015

Signature:

Jesper Stannow
Head of Heating Development

UK818172a

UK

ait-deutschland GmbH
Industriestraße 3
D-95359 Kasendorf

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W www.alpha-innotec.de

alpha innotec – an ait-deutschland GmbH brand