the better way to heat

alpha innotec

Brine/Water Heat Pumps

Operating Manual

SW 232H3 – SW 302H3

UK

83057800dUK – Translation of the original operating manual

Table of 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”, page 6 and “Unit sticker”, 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 severe injuries or death.
WARNING	Indicates a potentially dangerous situation, which can result in severe 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 qualified personnel
	Information for the owner/operator
✓	Requirement for 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. a tip on making work easier, information on standards
→	Reference to further information elsewhere in the operating manual or in another document
●	Listing

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.com

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)

► Proper use includes complying with the operating conditions (→ “Technical data / Scope of supply”, from page 20) 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) or VDI 2035 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) or VDI 2035 water only..

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

► Use of pure water in a flat-plate collector or a borehole heat exchanger (vertical collector) is not permitted

► 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

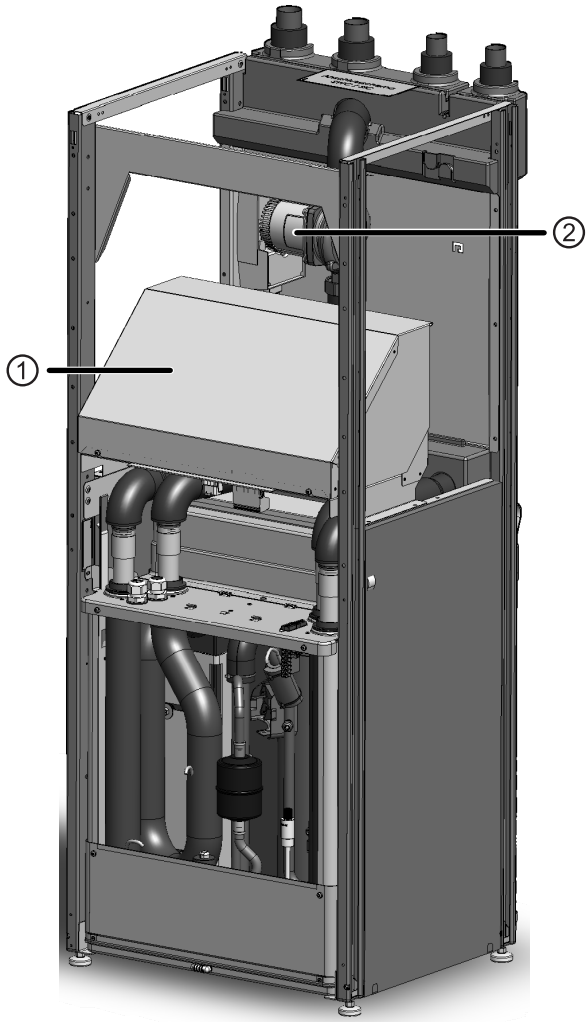
► If using groundwater install an intermediate exchanger.

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 Electrical switchbox
2 Brine circulation pump

The module box is inserted in the bottom of the housing.

Rating plate

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

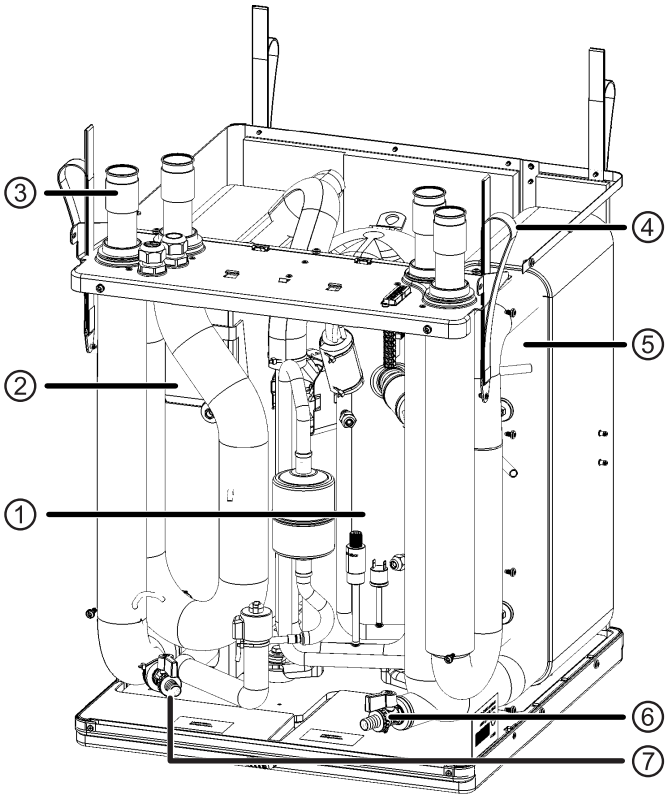
- on the right-hand outer panel, at the top
- on the rear panel, at the top inside

The rating plate contains the following information at the top:

- Unit type, product number
- Serial number, unit index

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

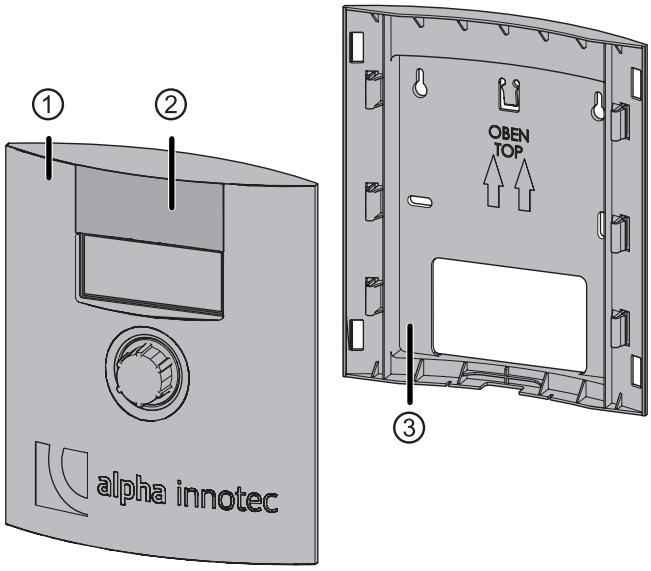
Module box



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

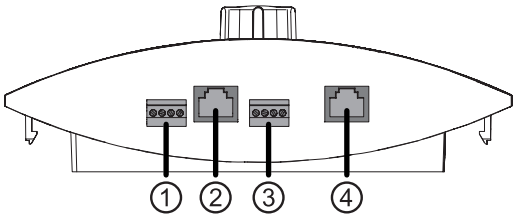
NOTE
The hose connectors are not part of the scope of delivery with all KFE ball valves.

Control unit



1 Control panel
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 the control panel



1 RBE (RS 485)
2 Network cable connection RJ45
3 LIN bus cable connection to the heat pump
4 RJ45 connection 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
- Changeover valve, domestic hot water
- Room thermostat for switching the cooling function (if included)
- Dew point monitor for protecting a system with cooling function at low flow temperatures (if available)
- Expansion board for automatic changeover between heating and cooling mode (if available)
- “Cooling package” for use of the cooling function
- for units without cooling: Pump assemblies for separate storage tank and in-line 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.

The heated heating water can be used for the domestic hot water charging or for the building heating. The temperatures required and use are controlled by the heat pump controller.

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

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
- Outdoor sensor
- Replacement material after dismantling the module box:
  - Insulation hoses (2x)
  - Cable ties (4x)
  - O-rings (8x)

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

NOTE
The module box can be removed for transport (→ “Dismantle the module box”, page 10).

Notes on safe transport

The housing with the unit components and the module box are heavy (→ “Technical data / Scope of supply”, from page 20). 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.

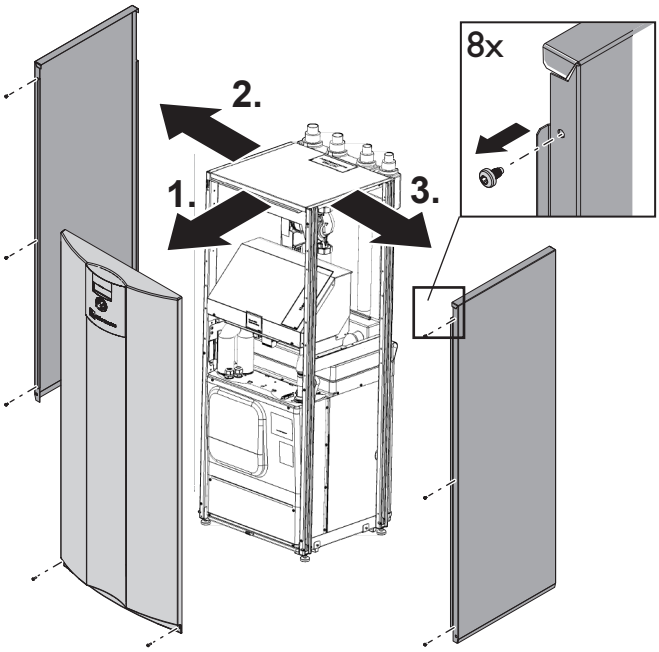
1. Remove plastic films. Ensure that you do not damage the unit.
2. Dispose of the mounting bracket, transport and packaging material in an environmentally friendly way according to local regulations.
3. Remove the film from the plastic element of the front panel in the place of installation.

Dismantle housing panels for transport with handcart or carrying the unit

✓ Unit is unpacked (→ “Unpacking”, page 9).

To avoid damage to the housing panels:

1. Undo 2 screws at the bottom of the front panel. Lift up the front panel and put down in safe place.
2. Undo 3 screws at the right panel. Tilt the panel forwards and push it towards the rear.
3. Undo 3 screws at the left panel. Tilt the panel forwards and push it towards the rear.

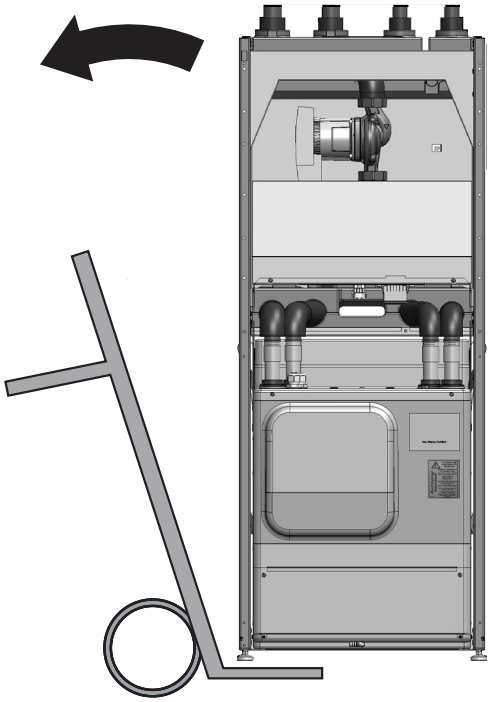


Transport with a handcart

NOTE
- If transporting with a handcart the module box must be pushed in.
- The following 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.

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



Transport unit on the handcart.

Carrying the unit

✓ Housing panels are dismantled.

1. Dismantle module box (→ “Dismantle the module box”, page 10) and carry it by the support lugs to the place of installation.
2. Carry the housing with the unit components separately to the place of installation.

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
R 134a	0,25 kg/m³
R 404A	0,48 kg/m³
R 407C	0,31 kg/m³
R 410A	0,44 kg/m³

→ “Technical data / Scope of supply”, from page 20

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

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”, from page 28).

✓ 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.

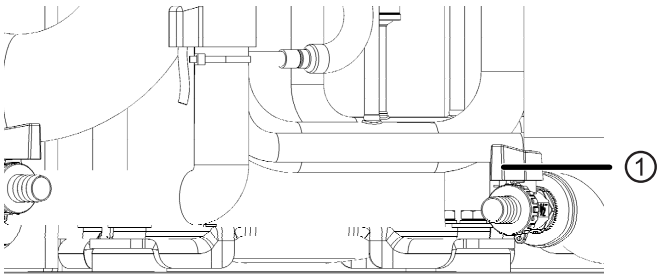
► Do not tilt the module box by more than 45°.

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.

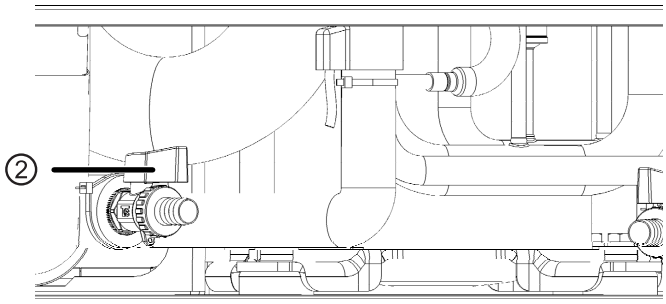
1. Remove the front panel of the module box (→ “7.1 Remove the front panel of the module box”, page 16).
2. Close shut-off valves to the heating circuit.

3. Drain the unit via the filling and drain tap of the heating (1).

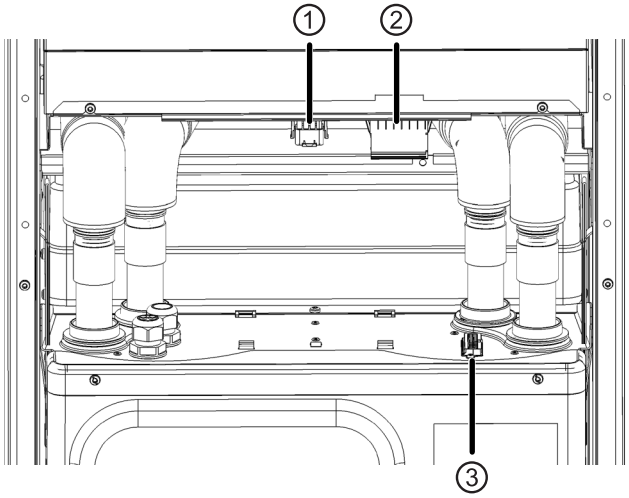


NOTE
The hose connectors are not part of the scope of delivery with all KFE ball valves.

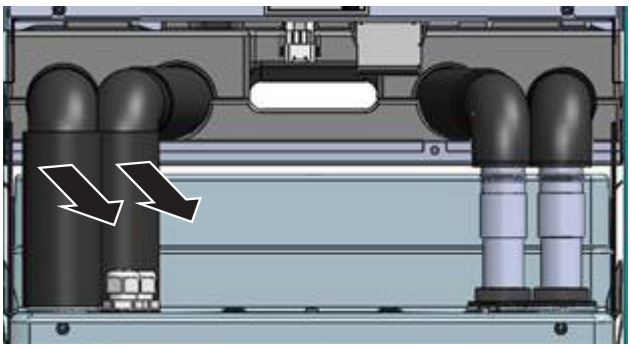
4. Close shut-off valves to the heat source.
5. Drain the unit via the filling and drain tap of the heat source (2).



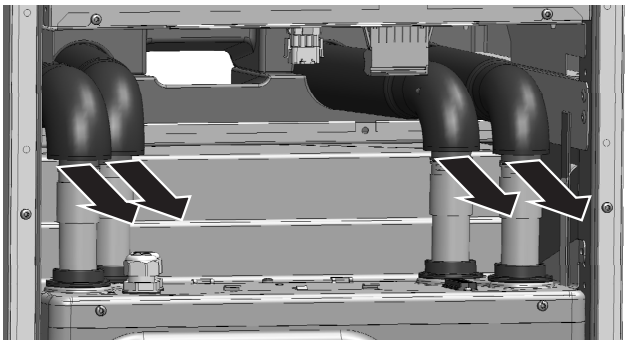
6. Disconnect the electrical connections:
   - Disconnect connector (1) at the bottom of the electrical control cabinet.
   - Disconnect connector (2) at the bottom of the electrical control cabinet. To do this, remove the control cabinet cover and undo the connector from the inside.
   - Pull out the black rectangular connector (3) at the top of the module box.



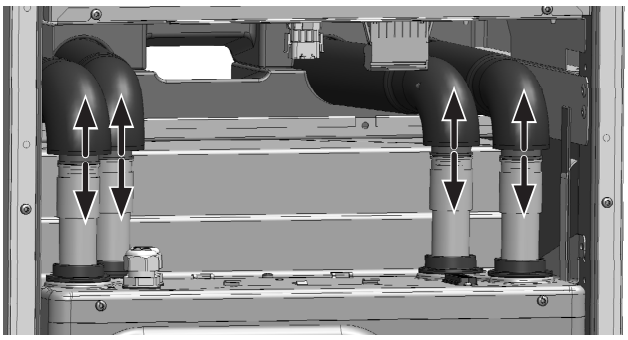
7. Remove the insulation on the hydraulic connections.



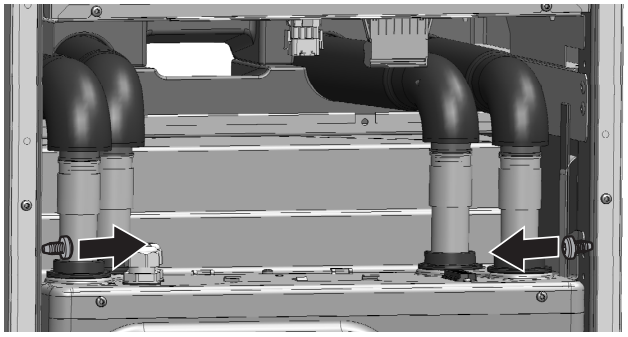
8. Remove 4 clips on the hydraulic connections.



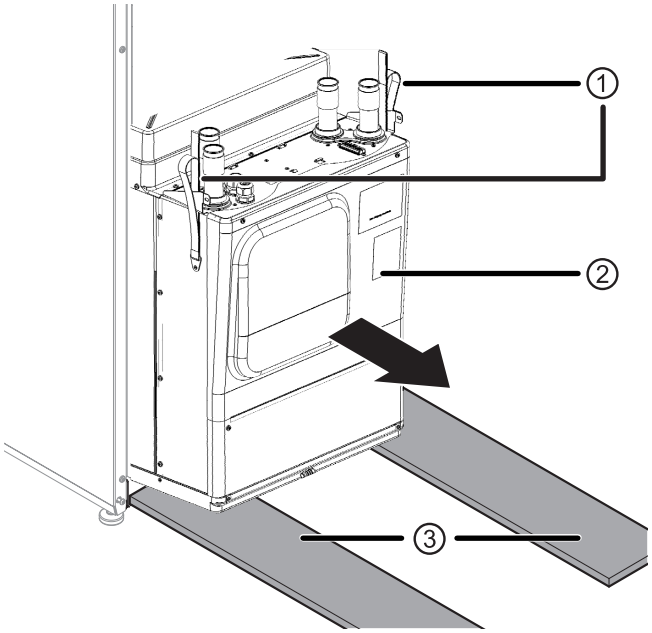
9. Disconnect the hydraulic connections; to do this, push the pipes apart as far as necessary.



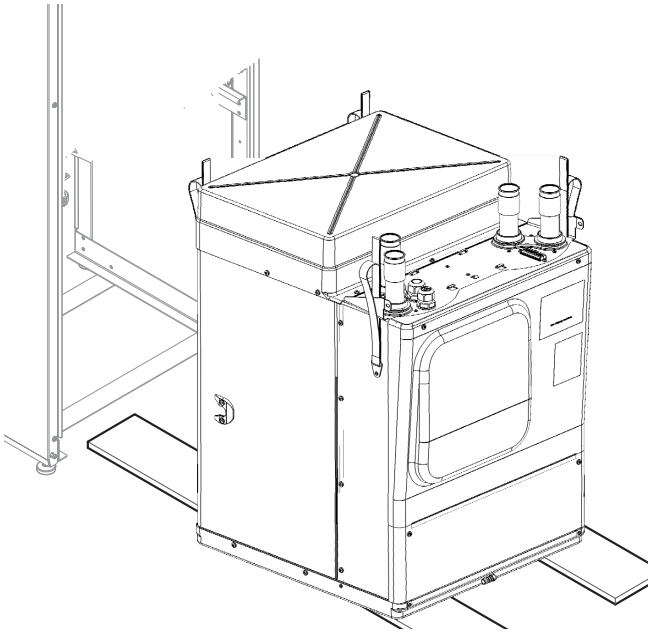
10. Remove the 2 side retaining screws.



11. To protect the floor and move the module box (2) more easily: place boards (3) under it, e.g. from the packaging material.



12. Slowly and carefully pull out the module box by the carrying lugs (1). Ensure that none of the pipes are damaged
13. Pull out the module box completely and place it on the boards.



6.2 Install the module box

1. Place the module box carefully in the bottom of the housing and slowly and carefully push it in.
   - 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.

✓ 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”, from page 20).

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

Connect the unit to the heat source and heating circuit

1. Install shut-off devices at the connections of the heat source and heating circuit.
2. Insert the vent at the highest point of the heat source and the heating circuit.
3. Recommendation: Fit a dirt filter with mesh size 0.9 mm onto the heat source inlet.
4. Ensure that the operating overpressures (→ “Technical data / Scope of supply”, from page 20) are not exceeded.

6.4 Connect the electrical cables

ATTENTION
Irreparable damage to the compressor due to wrong rotating field!

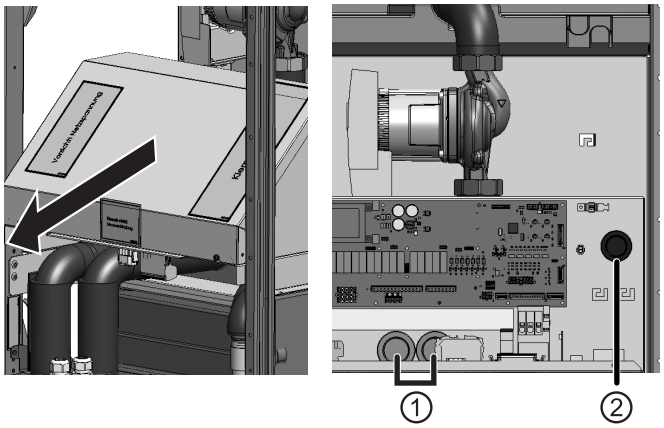
► Ensure that there is a clockwise rotating field for the compressor load infeed.

Basic information on the electrical connection

- The specifications of the local energy 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 (per IEC 60947-2)
- Note the level of the tripping current (→ “Technical data / Scope of supply”, from page 20)
- Comply with the electromagnetic compatibility regulations (EMC regulations)
- Lay unshielded power supply cables and shielded cables (bus cable) sufficiently far apart (> 100 mm).
- Maximum line length: 30 m.
  The LIN-bus cable must be a shielded cable of at least 4 x 0.5 mm²

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. Dismantle the cover of the electrical control box: undo both screws at the front on the switchbox cover, lift off the cover upwards and from the rear.

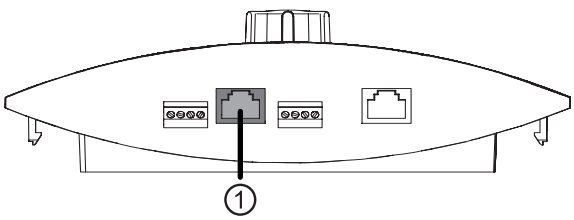


1 Mains voltage and sensor
2 LIN-bus

3. Feed the control/sensor cables and unit supply cable into the housing from the rear.
4. Route cables from the rear through the cable openings in the control box.
5. Connect cables to the respective terminals (→ “Terminal diagram”, page 34).

Operate the controller via a PC /network

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.

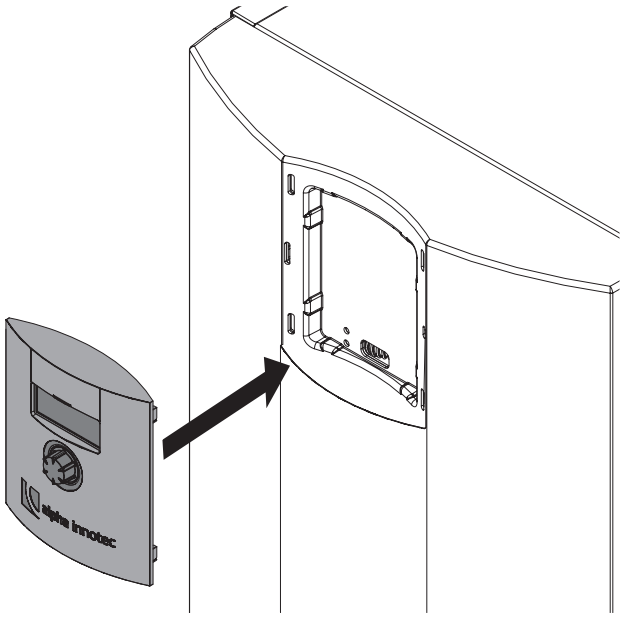
6.5 Installing the control panel

NOTE

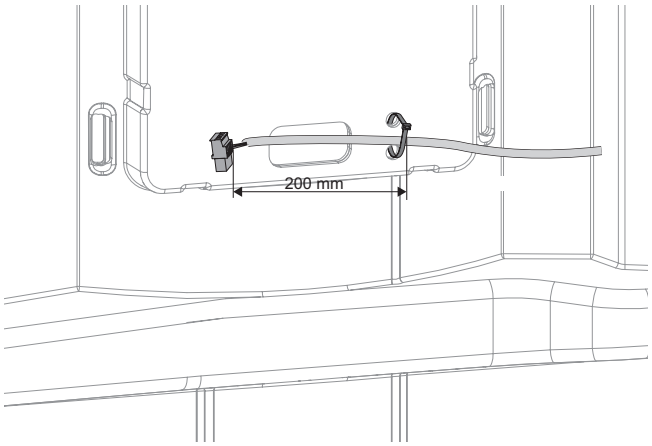
The control can be inserted in a recess in the front panel of the unit or can be installed on the wall.

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”, page 9), 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).

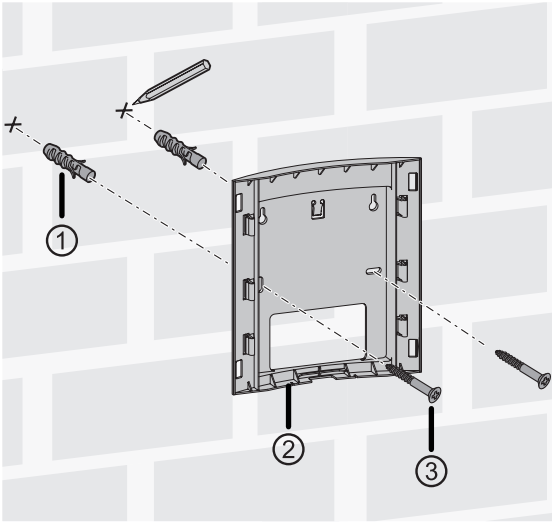


6. Push the cable through the opening in the front panel of the unit from below and into the control.
7. Press the lugs of the control into the openings in the front panel of the unit.

Mount the control on the wall and connect

ATTENTION
Mount the wall bracket with control panel **only vertically** on a wall!

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 (→ Dimensional drawing “Wall-mounted bracket”, page 27).
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).

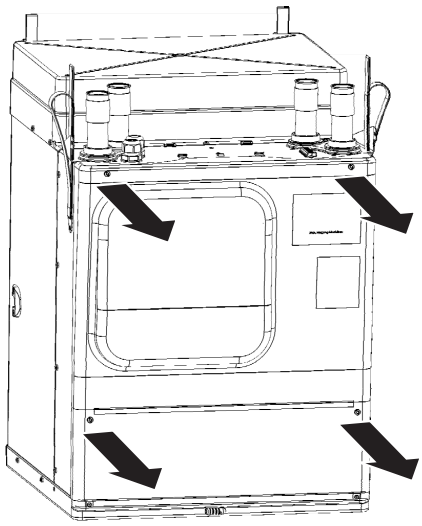


6. Feed in the cables from the wall (e.g. in-wall box) or from below.
7. Route the LIN bus cable from the top right-hand side at the rear from the heat pump and plug into the control at the bottom.
8. Push the control onto the wall-mounted bracket.
9. Put on the masking plate if applicable (accessories).

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) or VDI 2035 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

The following antifreezes mixed with water are approved for 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 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.
3. Fill the heat source with the water-antifreeze mixture.
4. Flush heat source system.
5. Flush until the system is air-free.
6. Fill the unit via the ball valves in the module box.

7.4 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. If installed: Flush the domestic hot water charging circuit for approx. 1 minute.
2. Flush heating circuit thoroughly, until no more air is discharged.
3. 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 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 rough checklist has been completed successfully.

1. Ensure that the following points are fulfilled completely:

- Clockwise rotating load infeed field is present at the compressor
- The system is installed and mounted in accordance with this operating manual
- The electrical installation has been carried out properly in accordance with this operating manual and local regulations
- The power supply for the heat pump is equipped with an all-pole circuit-breaker with at least 3 mm contact spacing (IEC 60947-2)
- The level of the tripping current is compliant
- Heating circuit is flushed and vented
- Frost protection of the heat source meets the requirements
  → “Technical data / Scope of supply“, from page 20
- All shut-off devices of the heating circuit are open
- The pipe systems and components of the system are leak-tight

2. Fill out carefully and sign the notice of completion for heat pump systems.
3. In Germany: Send notice of completion for heat pump systems and rough checklist to the manufacturer’s factory customer service department.
   In other countries: Send notice of completion for heat pump systems and rough checklist to the manufacturer’s local partner.
4. Arrange for the heat pump system to be commissioned by after-sales service authorised by the manufacturer; this is a chargeable service.

10 Maintenance

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

10.1 Basic principles

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

Local regulations – e.g. EU Regulation (EC) 842/2006 – among other things, require leak checks beforehand and/or for a logbook to be kept for certain heat pumps.

The hermetic tightness and refrigerant fill quantity are criteria for whether a logbook has to be kept and leak tests performed or not, and at what time intervals.

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

10.2 Maintenance as required

- 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.

10.3 Clean and flush the evaporator and 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.

10.4 Yearly maintenance

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

11 Faults

► 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”, page 3) to hand.

12 Dismantling and Disposal

12.1 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.

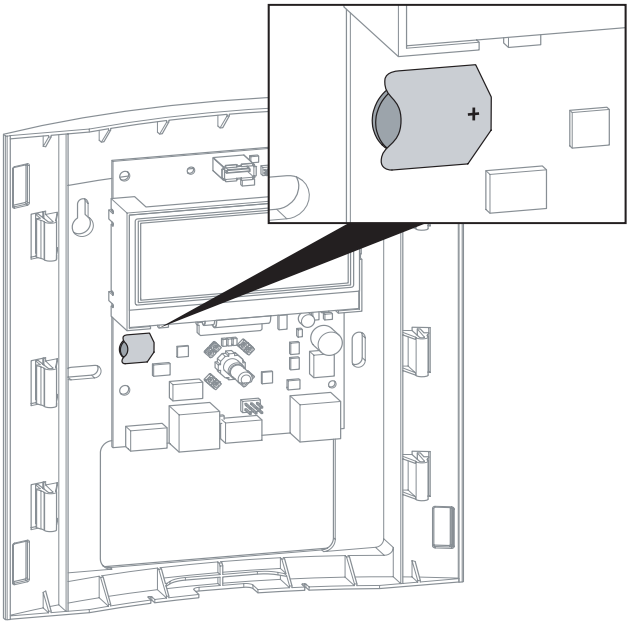
12.2 Disposal and Recycling

► 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.

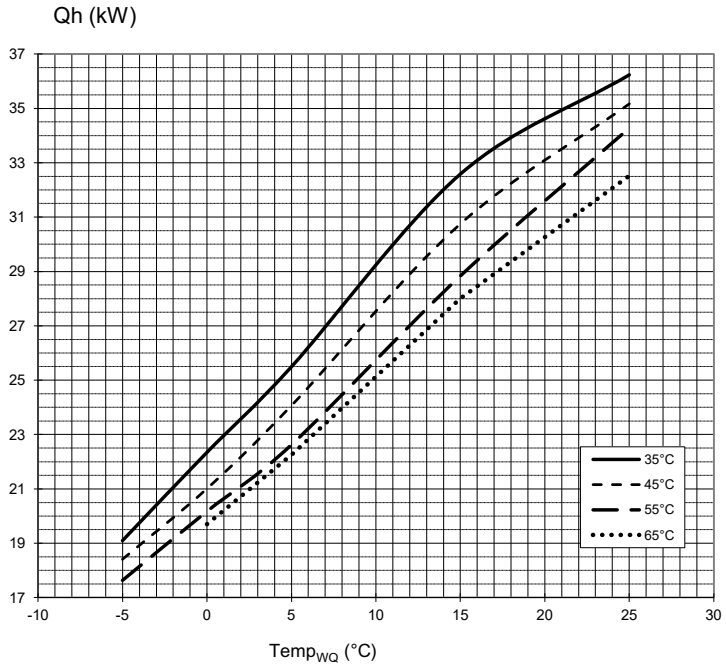
Technical data / Scope of supply SW 232H3 – SW 262H3

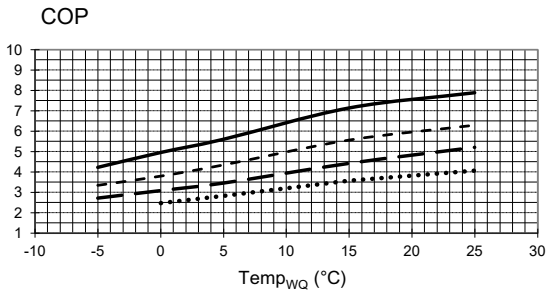
			SW 232H3	SW 262H3
Performance data: Heating output / COP				
Heating capacity ı COP	at B0/W35 operating point to EN14511	kW ı COP	22,35 ı 4,95	25,60 ı 4,92
	at B0/W45 operating point to EN14511	kW ı COP	21,00 ı 3,79	23,90 ı 3,63
	at B0/W55 operating point to EN14511	kW ı COP	20,16 ı 3,08	23,65 ı 2,95
	at B7/W35 flows analogous to B0/W35	kW ı COP	26,70 ı 5,86	30,65 ı 5,70
Cooling capacity at max. flow rate (B15/W25), units with passive cooling: Identifier K:		kW	—	—
Limits of use				
Heating circuit return min. ı Heating circuit flow max.		°C	20 ı 65	20 ı 65
Heat source return		min. ı max. °C	-5 ı 25	-5 ı 25
additional operating points		...	—	—
Sound				
Sound pressure level at 1m distance from edge of unit		dB(A)	37	37
Sound power level to EN12102		dB(A)	50	50
Heat source				
Flow rate: minimum ı **nominal analogous to B0/W35** ı maximum		l/h	3500 ı 5300 ı 8000	4100 ı 6100 ı 9100
Max. free heat pump pressure Δp (with cooling ΔpK) ***) ı Flow rate		bar (bar) ı l/h	0,80 (—) ı 5300	0,68 (—) ı 6100
Approved anti-freeze	Monoethylene glycol ı Propylene glycol ı Methanol ı Ethanol		• ı • ı • ı •	• ı • ı • ı •
Anti-freeze concentration: Minimum frost protection down to		°C	-13	-13
max. allowable operating pressure		bar	3	3
Heating circuit				
Flow rate: minimum ı **nominal analogous to B0W35 (50Hz)** ı maximum		l/h	2000 ı 3900 ı 5000	2200 ı 4400 ı 5600
Max. free heat pump pressure Δp (with cooling ΔpK) ı Volume flow		bar ı bar ı l/h	— (—) ı —	— (—) ı —
Pressure losses, heat pump Δp ı Volume flow		bar ı l/h	0,19 (—) ı 3900	0,20 (—) ı 4400
max. allowable operating pressure		bar	3	3
General unit data				
Total weight (with cooling)		kg (kg)	207 (—)	212 (—)
Box weight (with cooling) ı Tower weight (with cooling)		kg (kg) ı kg (kg)	142 (—) ı 65 (—)	147 (—) ı 65 (—)
Refrigerant type ı Refrigerant capacity		... ı kg	R410A ı 2,9	R410A ı 3,1
Domestic hot water tank				
Net volume		l	—	—
Impressed current anode		integrated: • yes — no	—	—
Domestic hot water temperature, heating pump mode I Electric heating element		up to °C ı up to °C	— ı —	— ı —
Mixed water quantity according to ErP: 2009/125/EC (at 40°C, draw-off of 10 l/min)		l	—	—
Standing loss according to ErP: 2009/125/EC (at 65°C)		W	—	—
Maximum pressure		bar	—	—
Electrics				
Voltage code ı all-pole heat pump fusing *)**)		... ı A	3~PE/400V/50Hz ı C20	3~PE/400V/50Hz ı C20
Voltage code ı Control voltage fusing **)		... ı A	1~N/PE/230V/50Hz ı B10	1~N/PE/230V/50Hz ı B10
Voltage code ı Electric heating element fusing **)		... ı A	—	—
Voltage code ı all-pole fusing for connection via a joint supply cable*)**)		... ı A	—	—
WP*): effect. Power input at B0/W35 to EN14511 I Current input I cosϕ		kW ı A ı ...	4,51 ı 10,10 ı 0,65	5,20 ı 11,1 ı 0,68
WP*): Max. machine current I Max. power input within the limits of use		A ı kW	15,7 ı 9,1	17,7 ı 10,6
Starting current: direct ı with soft starter		A ı A	— ı 30	— ı 30
Degree of protection		IP	20	20
Electric heating element output		kW	—	—
Circulation pump power consumption, heating circuit I heat source		min. — max. W ı W	— ı 16 – 310	— ı 16 – 310
Other unit information				
Safety valve, heating circuit I Heat source		included in scope of supply: • yes — no	— ı —	— ı —
Expansion vessel, heating circuit I Heat source		included in scope of supply: • yes — no	— ı —	— ı —
Overflow valve I Changeover valve, heating -Domestic hot water		integrated: • yes — no	— ı —	— ı —
Vibration isolators, heating circuit I Heat source		integrated: • yes — no	• ı •	• ı •
*) Only compressor, **) Follow local regulations, ***) Figures for 25% mono-ethylene glycol			813572a	813573a

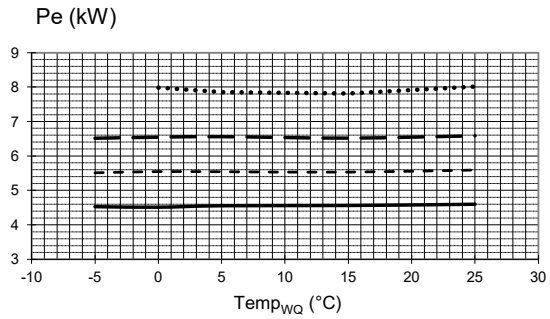
Technical data / Scope of supply

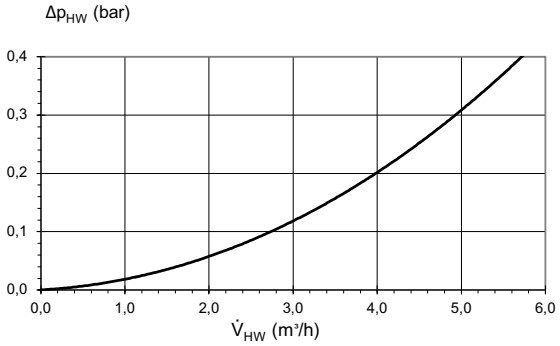
SW 302H3

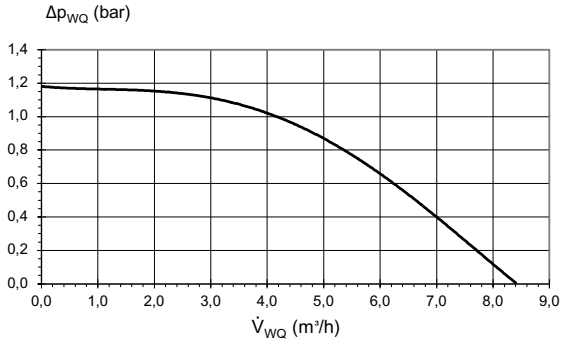
Performance data: Heating output / COP			**SW 302H3**
Heating capacity ı COP	at B0/W35 operating point to EN14511	kW ı COP	29,60 ı 4,88
	at B0/W45 operating point to EN14511	kW ı COP	27,30 ı 3,72
	at B0/W55 operating point to EN14511	kW ı COP	26,55 ı 3,01
	at B7/W35 flows analogous to B0/W35	kW ı COP	35,05 ı 5,77
Cooling capacity at max. flow rate (B15/W25), units with passive cooling: Identifier K:		kW	—
Limits of use			
Heating circuit return min. ı Heating circuit flow max.		°C	20 ı 65
Heat source return	min. ı max.	°C	-5 ı 25
additional operating points		...	—
Sound			
Sound pressure level at 1m distance from edge of unit		dB(A)	37
Sound power level to EN12102		dB(A)	50
Heat source			
Flow rate: minimum ı **nominal analogous to B0/W35** ı maximum		l/h	4700 ı **7100** ı 10600
Max. free heat pump pressure Δp (with cooling ΔpK) ***) ı Flow rate		bar (bar) ı l/h	0,58 (—) ı 7100
Approved anti-freeze	Monoethylene glycol ı Propylene glycol ı Methanol ı Ethanol		• ı • ı • ı •
Anti-freeze concentration: Minimum frost protection down to		°C	-13
max. allowable operating pressure		bar	3
Heating circuit			
Flow rate: minimum ı **nominal analogous to B0W35 (50Hz)** ı maximum		l/h	2500 ı **5100** ı 6400
Max. free heat pump pressure Δp (with cooling ΔpK) ı Volume flow		bar ı bar ı l/h	— (—) ı —
Pressure losses, heat pump Δp ı Volume flow		bar ı l/h	0,23 (—) ı 5100
max. allowable operating pressure		bar	3
General unit data			
Total weight (with cooling)		kg (kg)	219 (—)
Box weight (with cooling) ı Tower weight (with cooling)		kg (kg) ı kg (kg)	154 (—) ı 65 (—)
Refrigerant type ı Refrigerant capacity		... ı kg	R410A ı 3,5
Domestic hot water tank			
Net volume		l	—
Impressed current anode	integrated: • yes — no		—
Domestic hot water temperature, heating pump mode I Electric heating element		up to °C ı up to °C	— ı —
Mixed water quantity according to ErP: 2009/125/EC (at 40°C, draw-off of 10 l/min)		l	—
Standing loss according to ErP: 2009/125/EC (at 65°C)		W	—
Maximum pressure		bar	—
Electrics			
Voltage code ı all-pole heat pump fusing *)**)		... ı A	3~PE/400V/50Hz ı C25
Voltage code ı Control voltage fusing **)		... ı A	1~N/PE/230V/50Hz ı B10
Voltage code ı Electric heating element fusing **)		... ı A	—
Voltage code ı all-pole fusing for connection via a joint supply cable*)**)		... ı A	—
WP*): effect. Power input at B0/W35 to EN14511 I Current input I cosϕ		kW ı A ı ...	6,06 ı 12,36 ı 0,71
WP*): Max. machine current I Max. power input within the limits of use		A ı kW	19,6 ı 12,1
Starting current: direct ı with soft starter		A ı A	— ı 30
Degree of protection		IP	20
Electric heating element output		kW	—
Circulation pump power consumption, heating circuit I heat source	min. — max.	W ı W	— ı 16 – 310
Other unit information			
Safety valve, heating circuit I Heat source	included in scope of supply: • yes — no		— ı —
Expansion vessel, heating circuit I Heat source	included in scope of supply: • yes — no		— ı —
Overflow valve I Changeover valve, heating -Domestic hot water	integrated: • yes — no		— ı —
Vibration isolators, heating circuit I Heat source	integrated: • yes — no		• ı •
*) Only compressor, **) Follow local regulations, ***) Figures for 25% mono-ethylene glycol			813574c









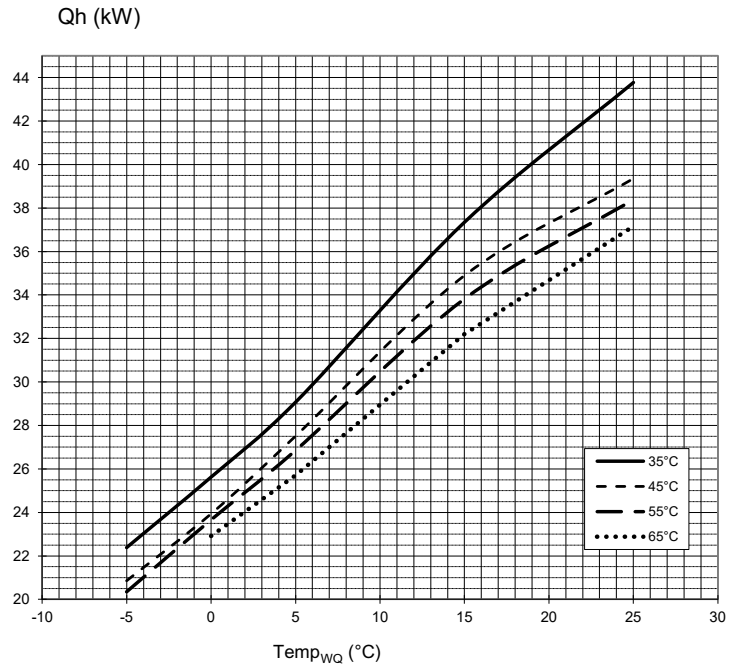


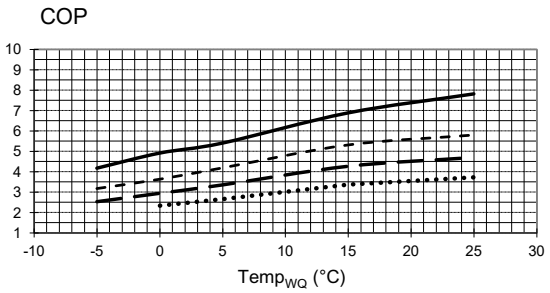
823269

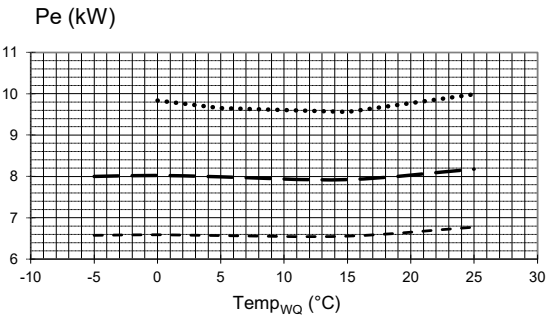
Keys:	UK823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}_{WQ}$	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure

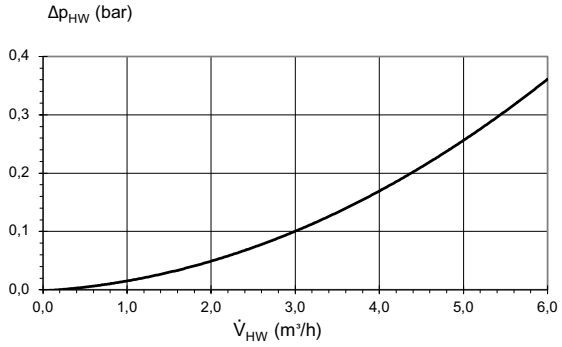
Performance curves

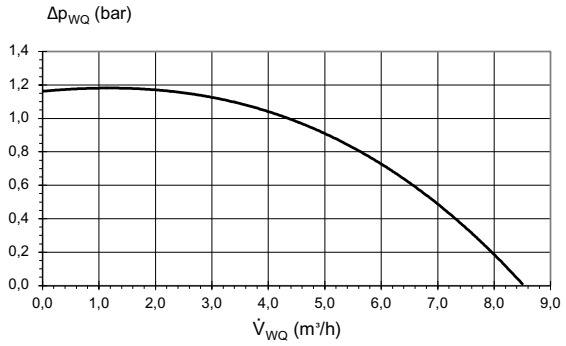
SW 262H3





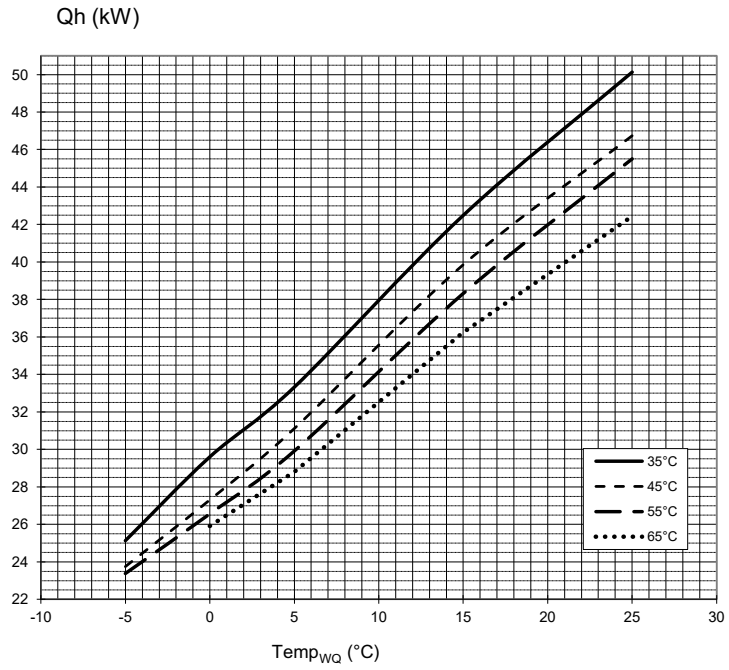


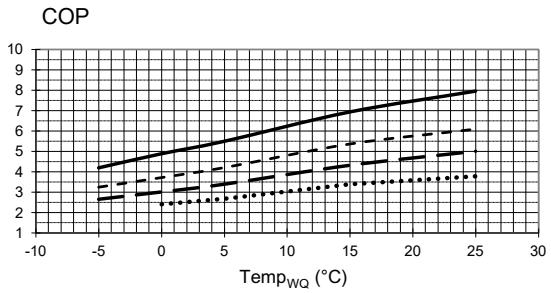


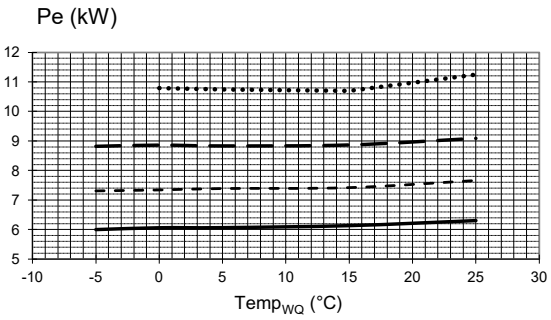


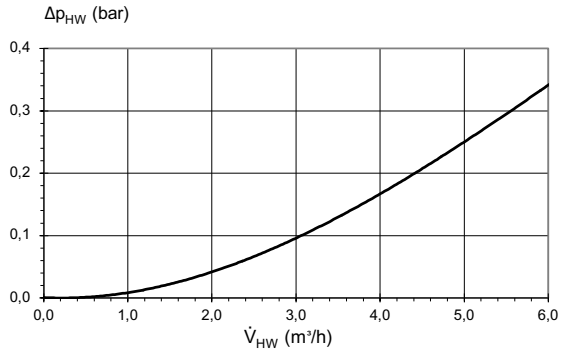
823270

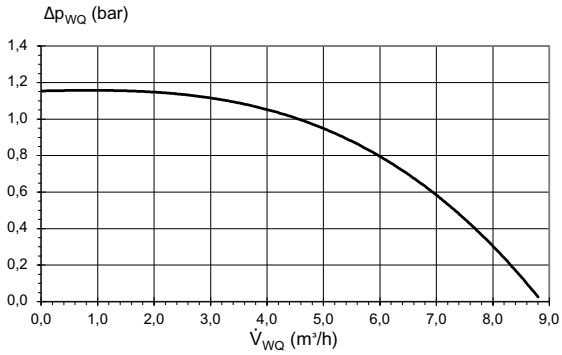
Keys:	UK823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}_{WQ}$	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure





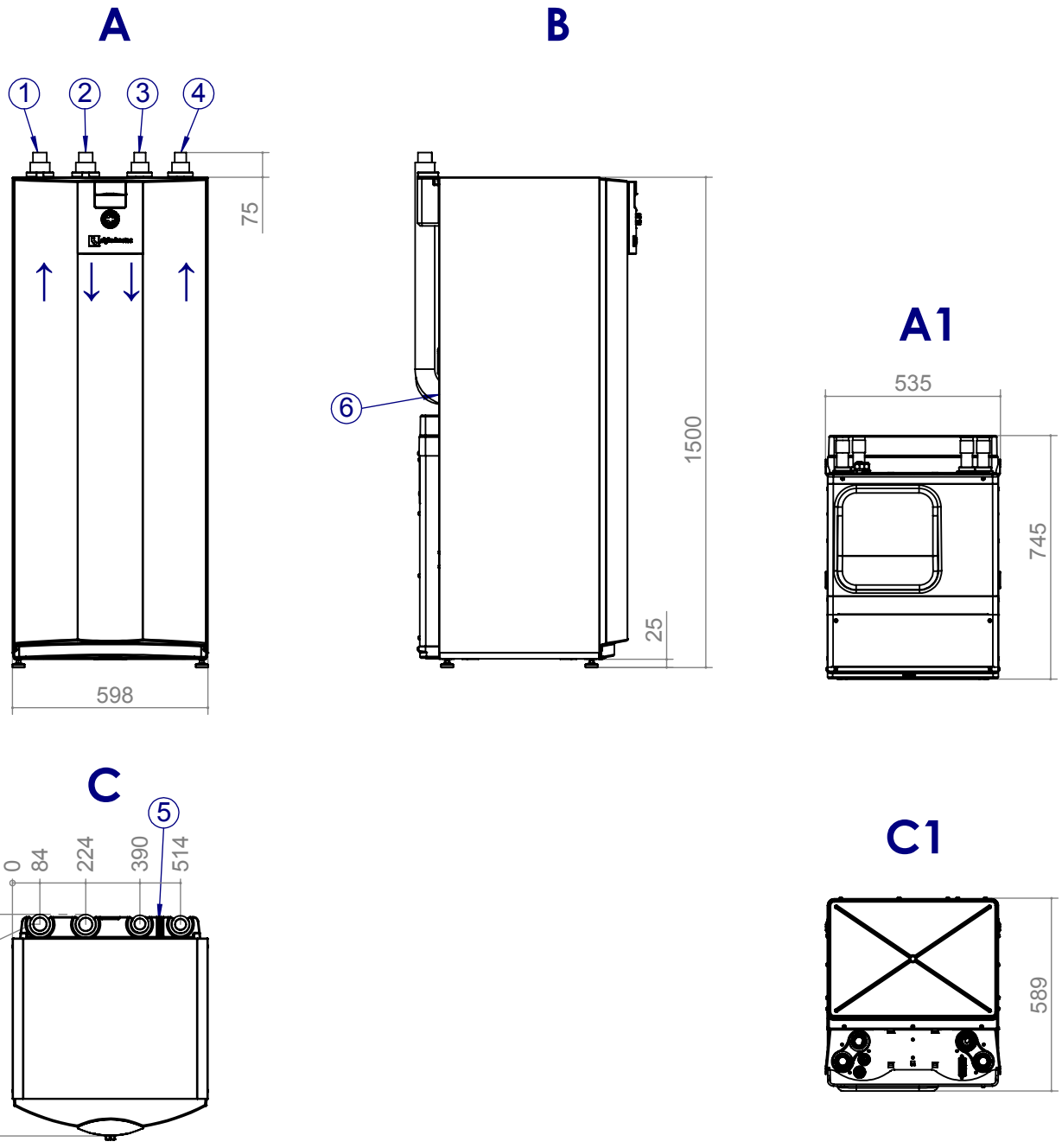






823271

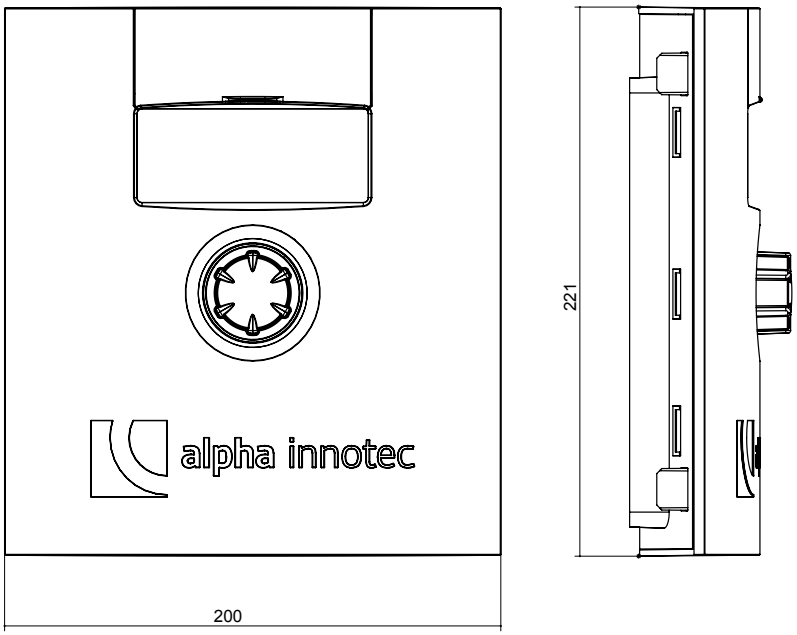
Keys:	UK823000L/170408
$\dot{V}_{HW}$	Heating water volume flow rate
$\dot{V}_{WQ}$	Heat source volume flow rate
$Temp_{WQ}$	Heat source temperature
Qh	Heating capacity
Pe	Power consumption
COP	Coefficient of performance
Δp_{HW} / $\Delta p_{HW/K}$	Heating circuit free pressure / Heating circuit with cooling free pressure
Δp_{WQ} / $\Delta p_{WQ/K}$	Heat source free pressure / Heat source with cooling free pressure



Keys: UK819462		Pos.	Name	outside diameter
All dimensions in mm.		1	Heat source outlet (from heat pump)	Ø42
A	Front view	2	Heat source inlet (in heat pump)	Ø42
B	Side view from left	3	Heating water inlet (return)	Ø35
C	Plan view	4	Heating water outlet (flow)	Ø35
A1	Front view of module box	5	Cable entry LIN bus cable	–
C1	Top view of module box	6	Cable entry	–

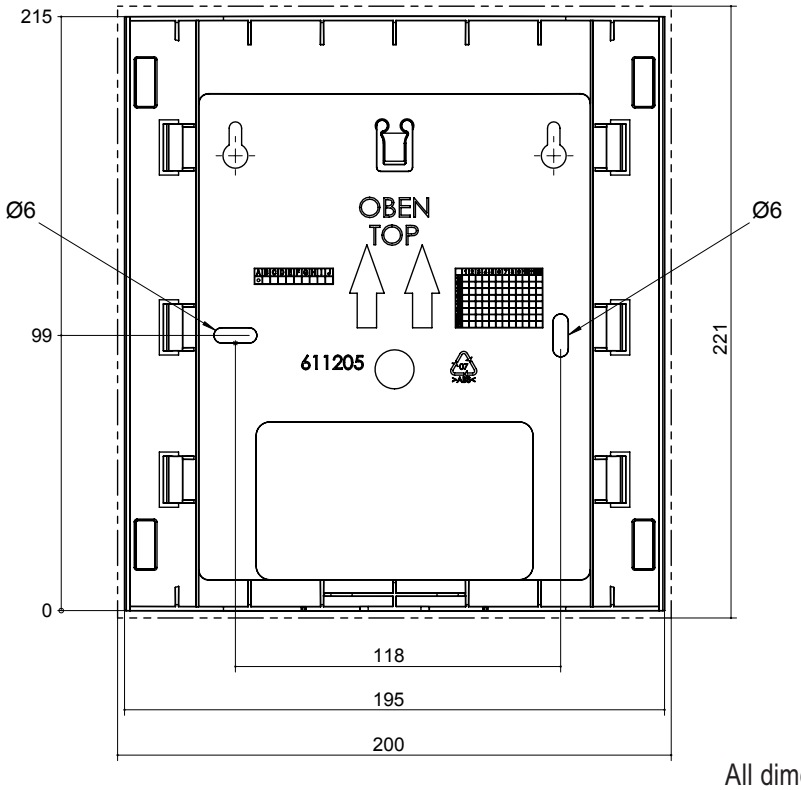
Dimensional drawings

Control unit



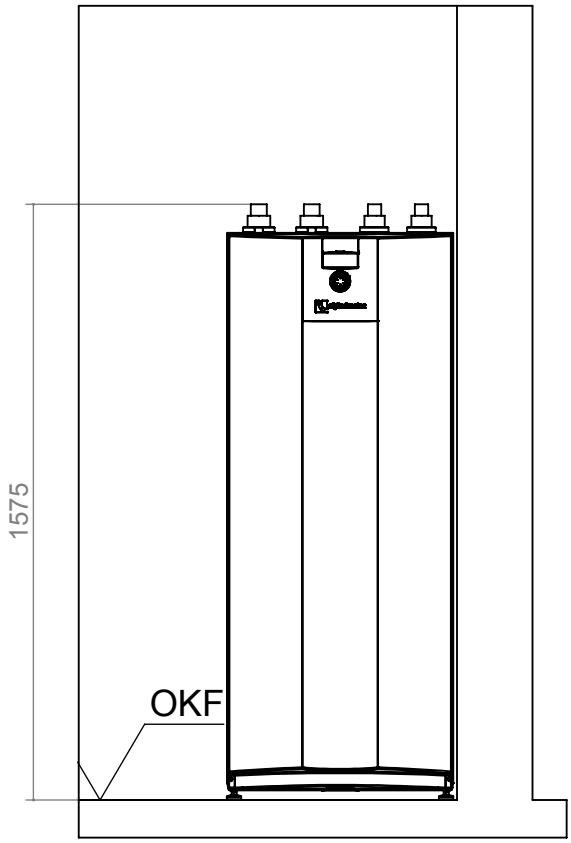
All dimensions in mm.

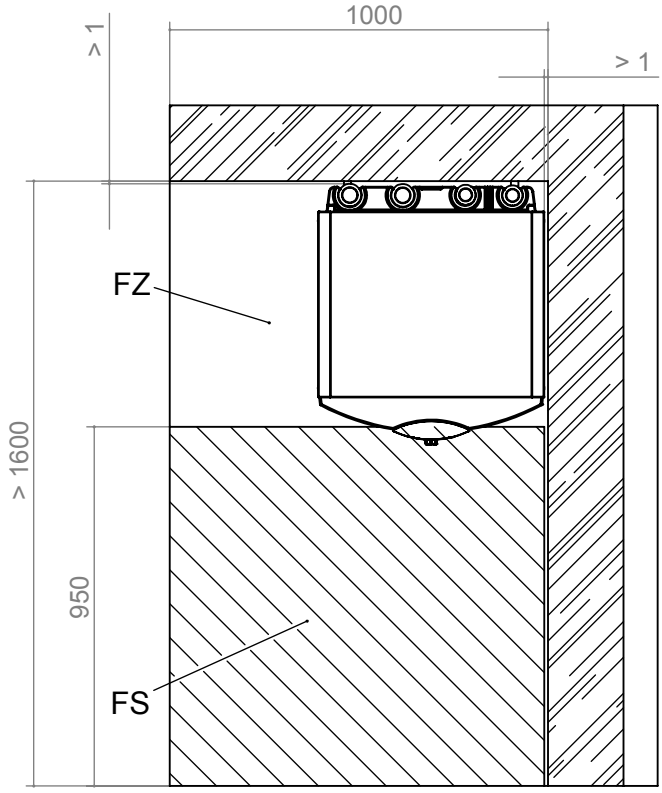
Wall-mounted bracket



All dimensions in mm.

V1

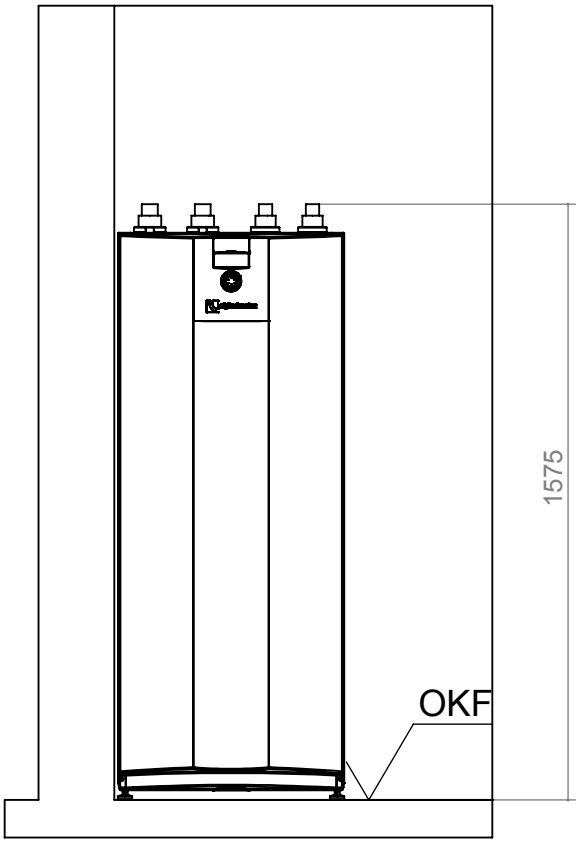


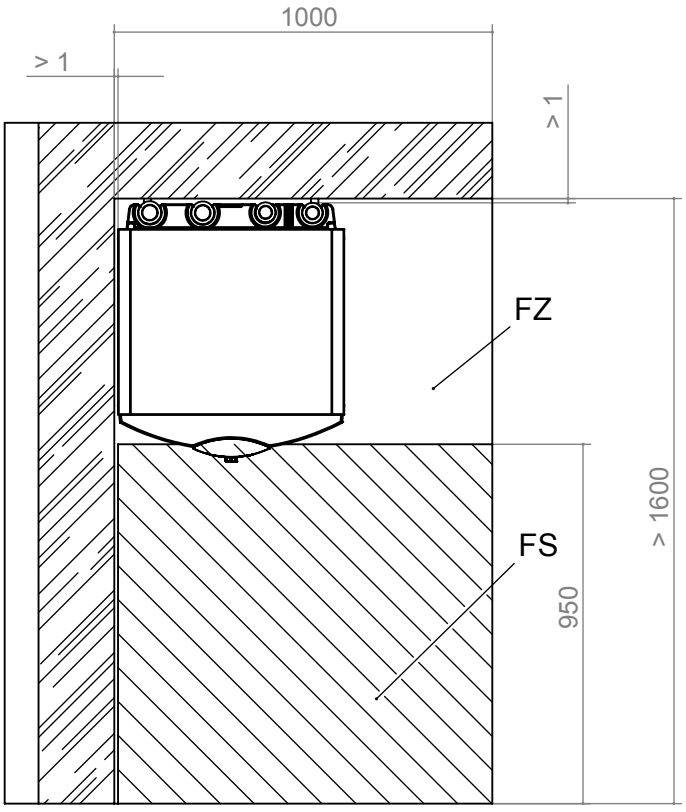


Keys: UK819463
All dimensions in mm.

V1	Version 1	FS	Free space for service purposes
OKF	Finished floor level	FZ	Free space for functionally necessary accessories

V2

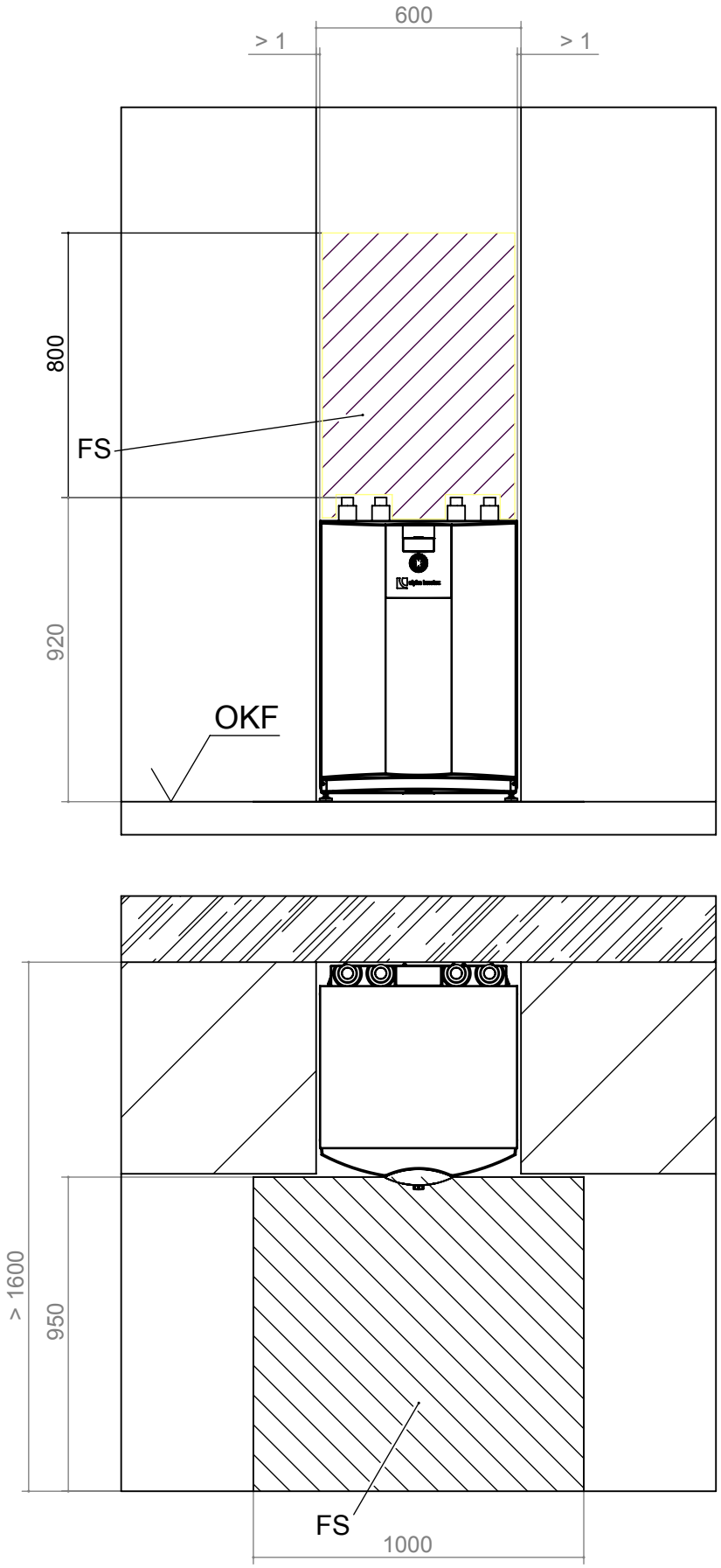




Keys: UK819463
All dimensions in mm.

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

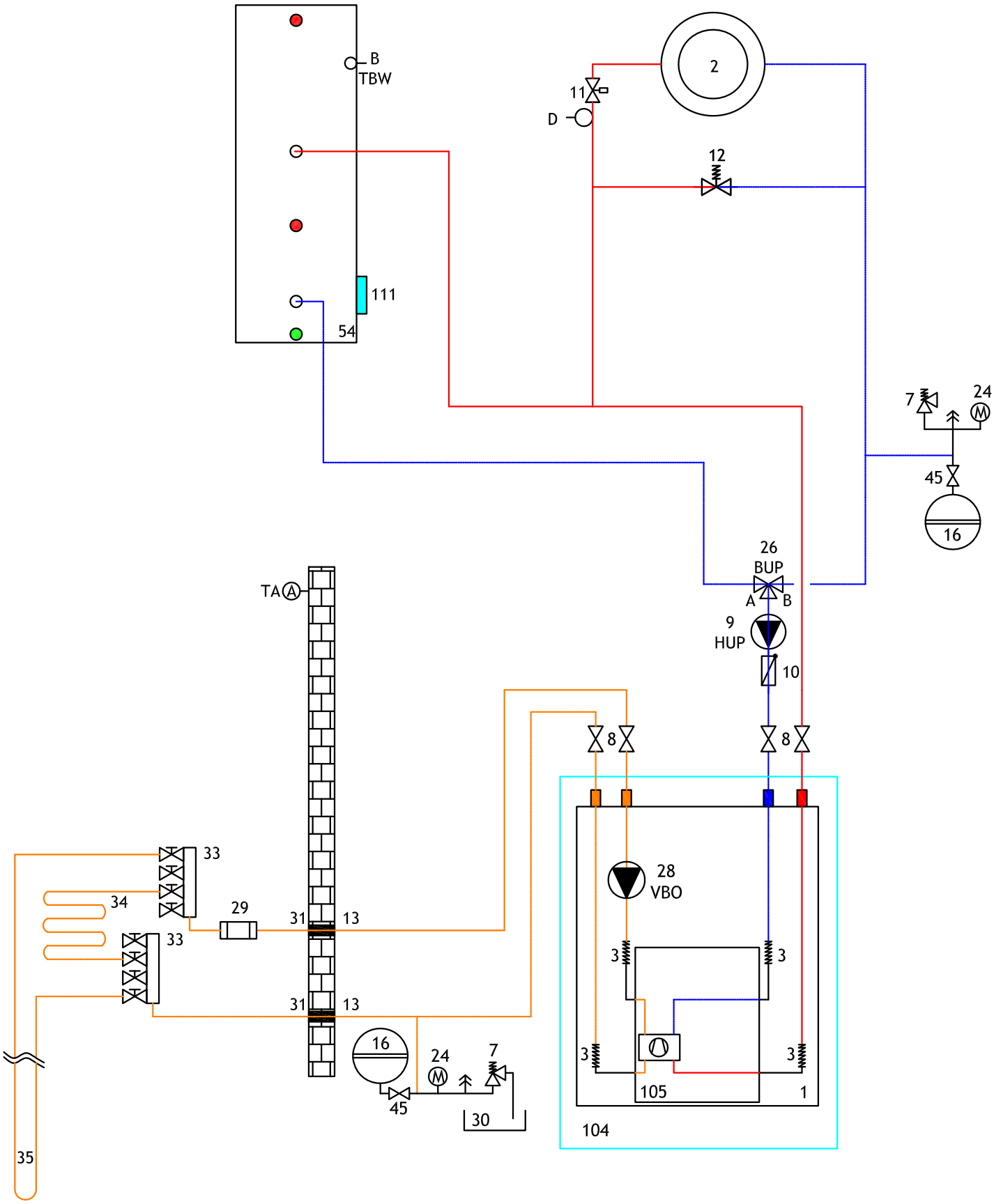
V3

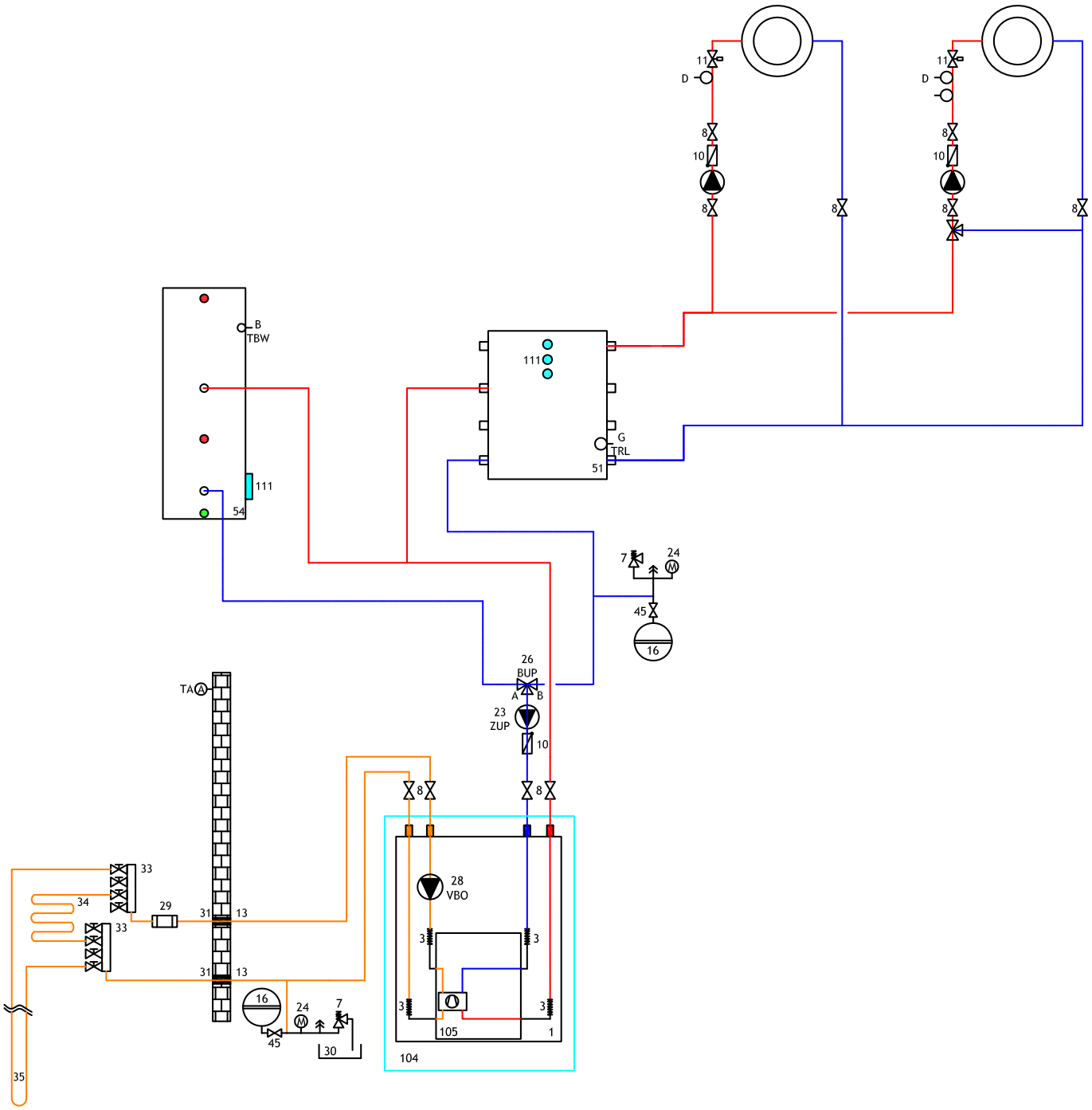


Keys: UK819463

All dimensions in mm.

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


B
TBW
111
54
2
11
D
12
7
24
45
16
26
BUP
A
B
9
HUP
10
TA
8
8
33
34
29
33
31
13
31
13
16
24
7
45
30
35
28
VBO
3
3
3
3
105
1
104


11
D
8
10
8
8
11
D
8
10
8
8
B
TBW
111
54
111
G
TRL
51
7
24
45
16
26
BUP
A
B
23
ZUP
10
8
8
TA
33
34
33
29
31
13
31
13
16
24
7
45
30
35
28
VBO
3
3
3
3
105
1
104

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, optiona
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

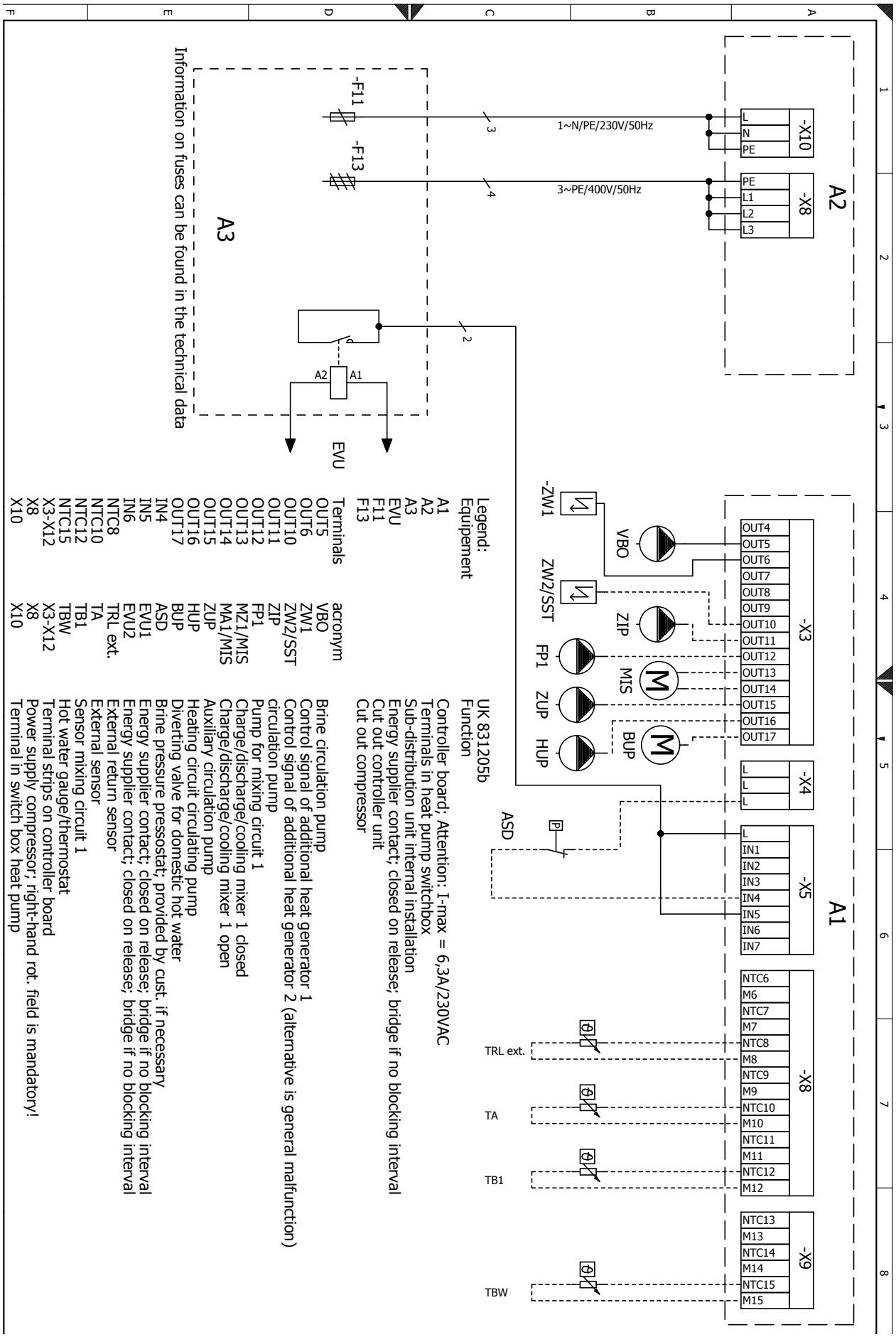
TA/A	Outdoor sensor
TBW/B	Domestic hot water sensor
TB1/C	Flow sensor, mixing circuit 1
D	Floor temperature limiter
TRL/G	Sensor, external return (separate storage tank)
STA	Branch control valve
TRL/H	Return sensor (Dual hydraulic module)
79	Motor valve
80	Mixing valve
81	Heat pump outdoor unit, split, 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!

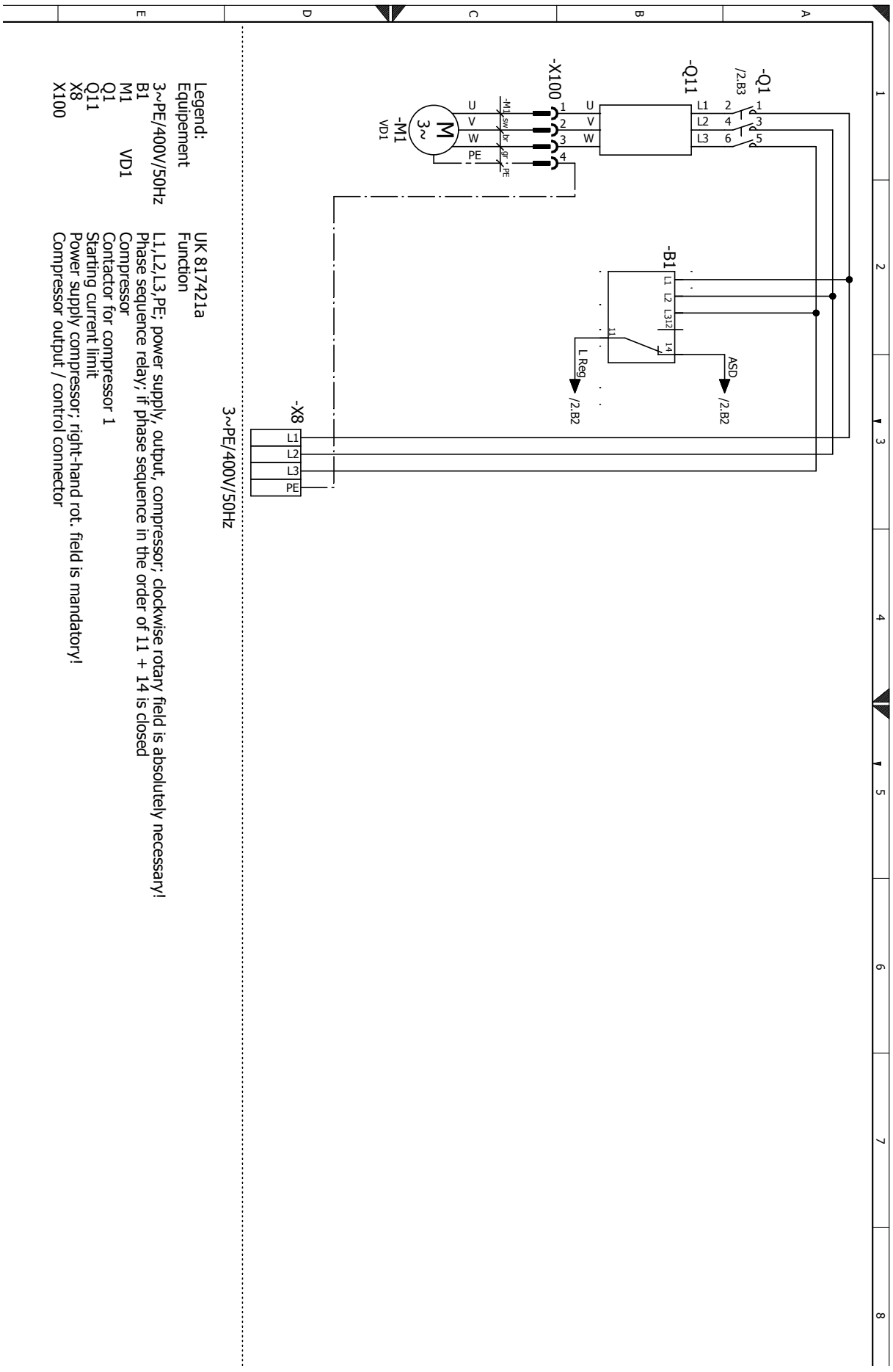


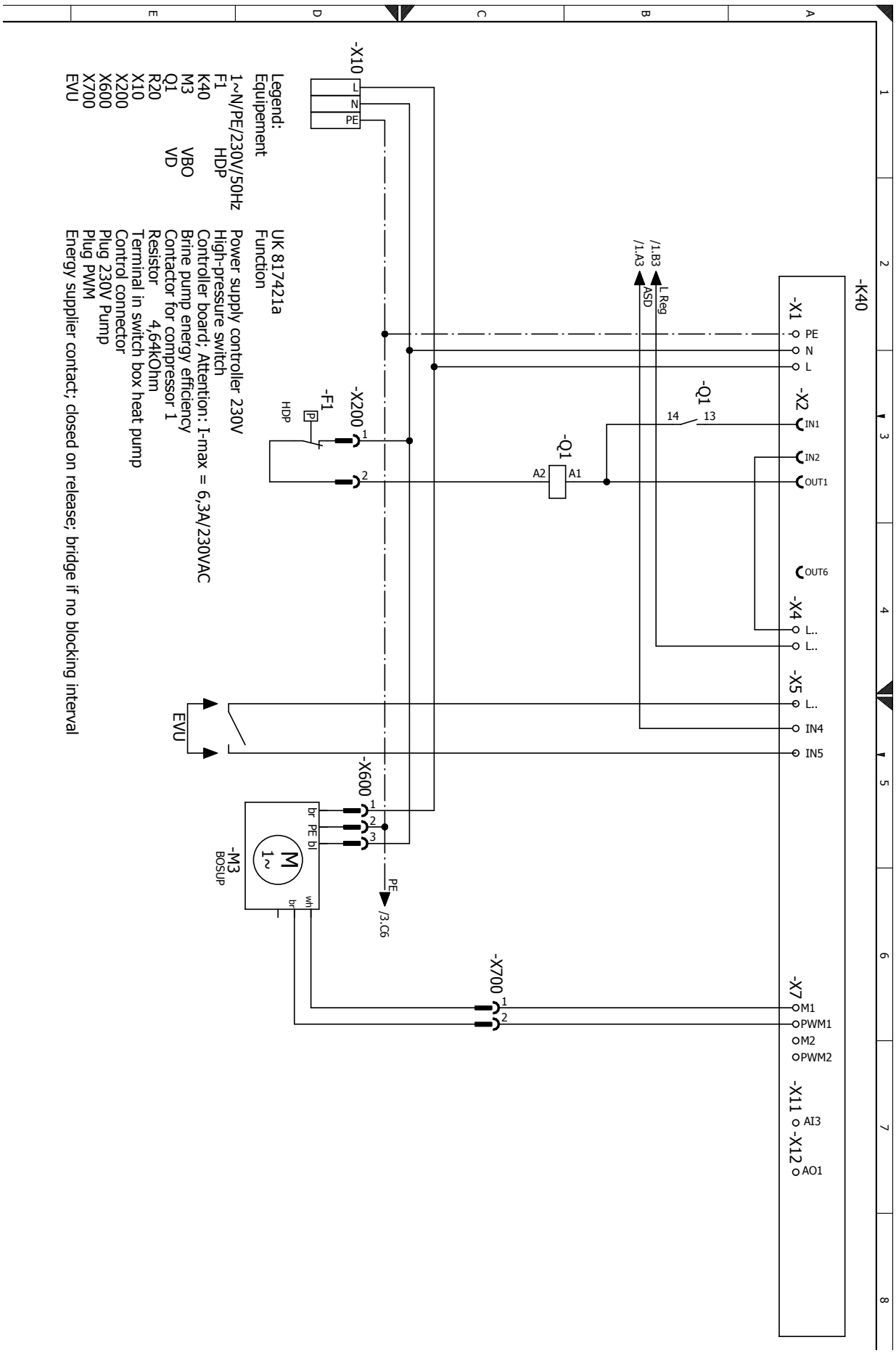
Legend:
Equipement

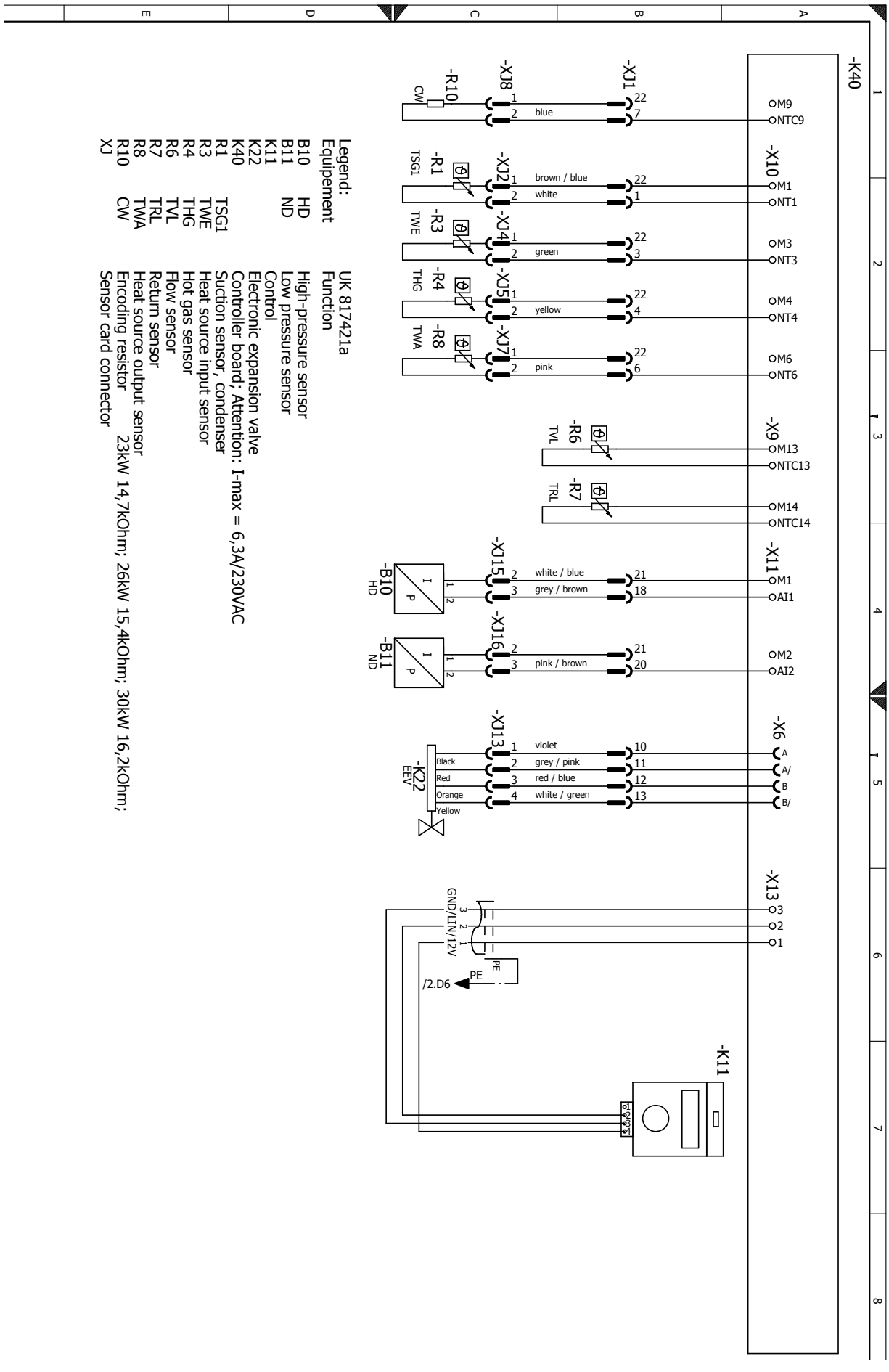
A1 Controller board; Attention: I-max = 6,3A/230VAC
A2 Terminals in heat pump switchbox
A3 Sub-distribution unit internal installation
EVU Energy supplier contact; closed on release; bridge if no blocking interval
F11 Cut out controller unit
F13 Cut out compressor

Terminals UK 831205b Function

OUT5 acronym VBO Brine circulation pump
OUT6 ZW1 Control signal of additional heat generator 1
OUT10 ZW2/SST Control signal of additional heat generator 2 (alternative is general malfunction)
OUT11 ZIP circulation pump
OUT12 FP1 Pump for mixing circuit 1
OUT13 MZ1/MIS Charge/discharge/cooling mixer 1 closed
OUT14 MA1/MIS Charge/discharge/cooling mixer 1 open
OUT15 ZUP Auxiliary circulation pump
OUT16 HUP Heating circuit circulating pump
OUT17 BUP Diverting valve for domestic hot water
IN4 ASD Brine pressure pressostat; provided by cust. if necessary
IN5 EVU1 Energy supplier contact; closed on release; bridge if no blocking interval
IN6 EVU2 Energy supplier contact; closed on release; bridge if no blocking interval
NTC8 TRL ext. External return sensor
NTC10 TA External sensor
NTC12 TB1 Sensor mixing circuit 1
NTC15 TBW Hot water gauge/thermostat
X3-X12 X3-X12 Terminal strips on controller board
X8 X8 Power supply compressor; right-hand rot. field is mandatory!
X10 X10 Terminal in switch box heat pump


-Q1
/2.B3
-Q11
-X100
-M1
VD1
-B1
-X8
L Reg
/2.B2
ASD
/2.B2
3~PE/400V/50Hz
Legend:
Equipement
3~PE/400V/50Hz
B1
M1
VD1
Q1
Q11
X8
X100
UK 817421a
Function
L1,L2,L3,PE; power supply, output, compressor; clockwise rotary field is absolutely necessary!
Phase sequence relay; if phase sequence in the order of 11 + 14 is closed
Compressor
Contactor for compressor 1
Starting current limit
Power supply compressor; right-hand rot. field is mandatory!
Compressor output / control connector


Legend:
Equipement
1~N/PE/230V/50Hz
F1
K40
M3
Q1
R20
X10
X200
X600
X700
EVU
HDP
VBO
VD
UK 817421a
Function
Power supply controller 230V
High-pressure switch
Controller board; Attention: I-max = 6,3A/230VAC
Brine pump energy efficiency
Contactor for compressor 1
Resistor 4,64kOhm
Terminal in switch box heat pump
Control connector
Plug 230V Pump
Plug PWM
Energy supplier contact; closed on release; bridge if no blocking interval
-X10
L
N
PE
-F1
HDP
-X200
-Q1
A2
A1
14
13
/1.B3
/1.A3
L Reg
ASD
-K40
-X1
PE
N
L
-X2
IN1
IN2
OUT1
OUT6
-X4
L..
L..
-X5
L..
IN4
IN5
EVU
-X600
br
PE
bl
-M3
BOSUP
M
1~
wh
br
PE
/3.C6
-X700
-X7
M1
PWM1
M2
PWM2
-X11
AI3
-X12
AO1


Legend:
Equipement
B10 HD
B11 ND
K11
K22
K40
R1 TSG1
R3 TWE
R4 THG
R6 TVL
R7 TRL
R8 TWA
R10 CW
XJ
UK 817421a
Function
High-pressure sensor
Low pressure sensor
Control
Electronic expansion valve
Controller board; Attention: I-max = 6,3A/230VAC
Suction sensor, condenser
Heat source input sensor
Hot gas sensor
Flow sensor
Return sensor
Heat source output sensor
Encoding resistor 23kW 14,7kOhm; 26kW 15,4kOhm; 30kW 16,2kOhm;
Sensor card connector
-K40
-X10
-X11
-X6
-X13
-K11
-K22 EEV
-B10 HD
-B11 ND
-R1 TSG1
-R3 TWE
-R4 THG
-R8 TWA
-R6 TVL
-R7 TRL
-X9
-X2
-X3
-X4
-X5
-X7
-X8
-X15
-X16
-R10 CW
M9
NTC9
M1
NT1
M3
NT3
M4
NT4
M6
NT6
M13
NTC13
M14
NTC14
M1
AI1
M2
AI2
A
A/
B
B/
3
2
1
GND/LIN/12V
PE
/2.D6
brown / blue
white
green
yellow
pink
white / blue
grey / brown
pink / brown
violet
grey / pink
red / blue
white / green
Black
Red
Orange
Yellow
blue

EC Declaration of Conformity

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
SW 42H3	10070041	SW 42H1	10074042
SW 82H3	10070241	SW 62H1	10074142
SW 102H3	10070342	SW 82H1	10074242
SW 122H3	10070442	SW 102H1	10074342
SW 142H3	10070542	SW 132H1	10074442
SW 172H3	10070642		
SW 192H3	10070742	WWB 21	10062901
SW 232H3	10074642		
SW 262H3	10074742		
SW 302H3	10074842		

EC Directives
2014/35/EU 813/2013
2014/30/EU
2011/65/EG
*2014/68/EU

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
EN 14825

*** Pressure equipment component**
Category II
Module A1
Designated position:
TÜV-SÜD
Industrie Service GmbH (Nr.:0036)

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

Place, date: Kasendorf, 27.05.2019

Signature:

Jesper Stannow
Head of Heating Development

UK818173d

UK

ait-deutschland GmbH
Industriestraße 3
D-95359 Kasendorf, Germany

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