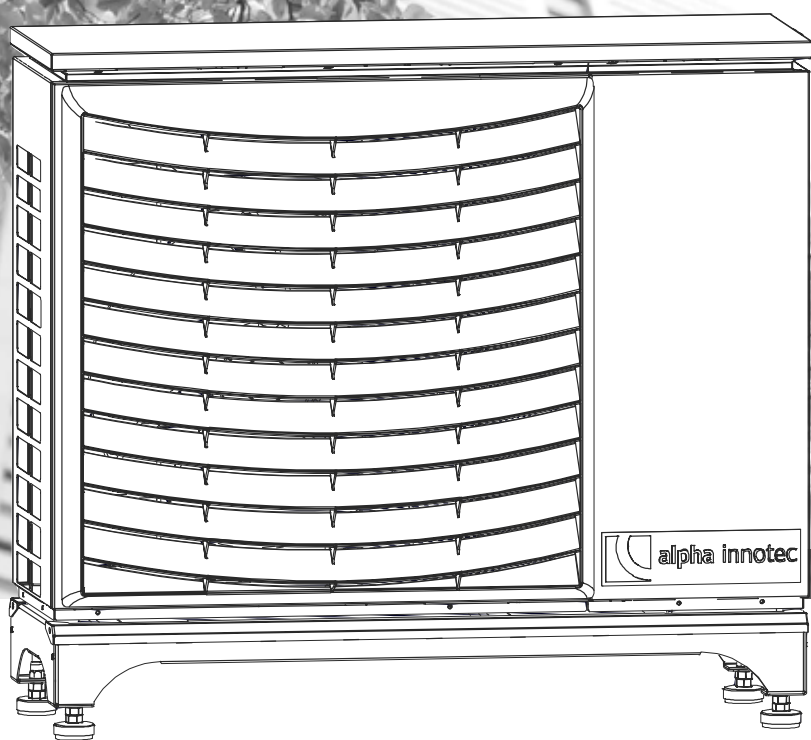


the better way to heat



Air/water heat pumps
Outdoor installation

Operating Manual

Jersey series





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1 About this operating manual

This operating manual is part of the unit.

- ▶ Before working on or with the unit, always 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 by the unit, and give it 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.
- ▶ Observe all reference documents.

1.1 Validity

This operating manual refers solely to the unit identified by the nameplate (→ „Nameplate“, page 7).

1.2 Reference documents

The following documents contain supplementary information for this operating manual:

- Planning & design manual, hydraulic integration
- Hydraulic tower HT7 operating manual
- Heating and heat pump controller HPC operating manual
- If necessary: operating manuals for accessories

Symbols and markings

Identification of warnings

Symbol	Meaning
	Safety information. Risk of physical injury.
DANGER	Indicates imminent danger resulting in severe injuries or death.
WARNING	Indicates a potentially dangerous situation which may result in severe injuries or death.
CAUTION	Indicates a potentially dangerous situation which may result in moderate or minor injuries.
IMPORTANT	Indicates a potentially dangerous situation which may result in damage to property.

Symbols in the document

Symbol	Meaning
	Information for qualified personnel
	Information for the owner/operator
✓	Required action
▶	Procedural instruction: Individual step to take
1., 2., 3., etc.	Procedural instruction: Numbered series of steps, which should be taken in the listed order
	Additional information, e.g. advice for making work easier, information about standards
→	Reference to further information elsewhere in the operating manual or in another document
•	Bullet point
	Secure connections against twisting



1.3 Contact

Up-to-date addresses for purchasing accessories, for customer service or for answers to questions about the unit and this operating manual can be found online at:

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

2 Safety

Do not use the unit if it has any technical defects. Only use it as intended, safely and aware of the hazards, and follow this operating manual.

2.1 Intended use

The unit is designed for household use and is solely intended for the following purposes:

- Heating
- Domestic hot water preparation
- Cooling (flow temperature of down to 18°C)
- Swimming pool heating (accessories)
- Integration of photovoltaic systems (accessories)
- Intended use includes complying with the operating conditions (→ „Technical data / Scope of supply“, page 20) and the operating manual, as well as observing the reference documents.
- ▶ When using the unit, observe the local regulations, laws, standards, guidelines and directives.

Any other use of the unit is considered unintended use.

2.2 Personnel qualifications

The operating manual included in the scope of supply is intended for all users of the product.

The product is intended for use by end customers / operators, and it can be operated (via the heating and heat pump controller HPC) and worked on by persons of any age who understand the tasks and potential consequences, and who are able to carry out these necessary tasks.

Children and adults who are inexperienced with the product and who do not understand the tasks and potential consequences must be briefed and, if necessary, supervised by persons who know how to handle the product and who are responsible for safety.

Children must not play with the product.

The product may only be opened by qualified specialist personnel.

All procedural instructions in this operating manual are solely directed at qualified specialist personnel.

Only qualified specialist personnel are able to carry out work on the unit safely and correctly. Interference by unqualified personnel can cause life-threatening injuries and damage to property.

- ▶ Ensure that the personnel are familiar with the local regulations, especially those on safe and hazard-aware working.
- ▶ Ensure that the personnel are qualified to handle refrigerant.
- ▶ Work on the refrigerating circuit may only be carried out by qualified personnel with appropriate qualifications for refrigeration system installation.
- ▶ Qualified personnel with electrical training are the only people permitted to work on the electrics and electronics.
- ▶ Other work on the system should only be carried out by qualified specialists, such as:
 - Heating engineers
 - Plumbers

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

2.3 Personal protective equipment

During transport and work on the unit, there is a risk of cuts due to the sharp edges of the unit.

- ▶ Wear cut-resistant protective gloves.

During transport and work on the unit, there is a risk of foot injuries.

- ▶ Wear safety shoes.

When working on liquid-conveying lines, there is a risk of injury to the eyes due to leakage of liquids.

- ▶ Wear safety goggles.



2.4 Residual risks

Injuries caused by electric shock

Components in the unit are energised with life-threatening voltage. Before working on the unit:

- ▶ Disconnect unit from power supply.
- ▶ Protect unit against being switched back on again.
- ▶ Wait 2 minutes before opening the unit, due to the residual voltage at the inverter

Existing earthing connections within housings or on mounting plates must not be changed. If this should nonetheless be necessary in the course of repair or installation:

- ▶ Restore earthing connections to their original state once repair or installation is complete.

Injuries caused by moving parts

- ▶ Only switch on the unit once outer panels and fan protective grilles have been fitted.

Injuries caused by high temperatures

- ▶ Before working on the unit, let it cool down.

Injuries and environmental damage due to refrigerant

The unit contains refrigerant that is hazardous to health and the environment. If refrigerant leaks from the unit:

1. Switch off unit.
2. Notify authorised customer service.

Safety labels

- ▶ Observe safety labels on and in the unit.

2.5 Disposal

Environmentally harmful media

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

- ▶ Collect media safely.
- ▶ Dispose of the media in an environmentally-friendly manner according to the local regulations.

2.6 Avoiding damage to property

There must be no corrosive substances in the ambient air at the location where the heat pump is installed, or in the air drawn in as a heat source!

Substances such as

- ammonia
- sulphur
- chlorine
- salt
- sewage gases and flue gases

can cause damage to the heat pump, which may result in complete failure or irreparable damage to the heat pump!

- ▶ Make the outdoor connections and insulation UV-resistant on site.

Frost protection

Do not disconnect the unit from the power supply, unless the unit is being opened.

Decommissioning / Draining heating

If the system / heat pump is taken out of operation or drained after it has already been filled, you must ensure that the condenser and any existing heat exchangers are completely drained in the event of frost. Residual water in heat exchangers and the condenser can lead to damage to the components.

- ▶ Completely drain the system and condenser, and open the vent valves.
- ▶ If necessary, blow out with compressed air.

Improper action

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

- Proper planning, design and commissioning
- Corrosion-resistant system
- Integration of an adequately dimensioned device for maintaining pressure
- Use of demineralised heating water or VDI 2035 equivalent water
- Regular servicing and maintenance



If a system is not planned, designed, started up and operated in accordance with these requirements, there is a risk that the following damage and malfunctions will occur:

- Malfunctions and failure of components, e.g. pumps, valves
 - Internal and external leaks, e.g. from heat exchangers
 - Restrictions and blockages in components, e.g. heat exchanger, pipes, pumps
 - Material fatigue
 - Gas bubbles and gas cushion formation (cavitation)
 - Impaired heat transfer caused by formation of coatings, deposits etc., and associated noises, e.g. boiling noises, flow noises
- Observe the information in this operating manual for all work on and with the unit.

Impact of low-quality filling and top-up water in the heating circuit

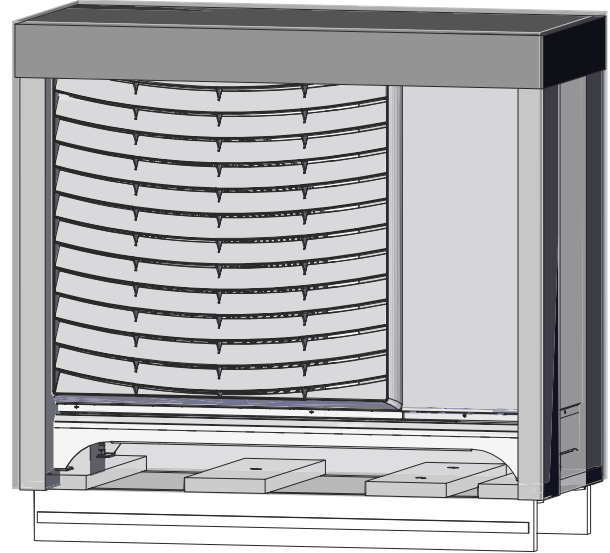
The quality of the heating water is crucial for the efficiency of the system and the service life of the heat generator and the heating components.

If the system is filled with untreated drinking water, calcium deposits form as limescale on the heat transfer surfaces of the heating system. This reduces the unit's efficiency and increases energy costs. In extreme cases, this will damage the heat exchangers.

- Only fill the system with demineralised heating water or with VDI 2035 equivalent water (for low-salt operation of the system).

3 Description

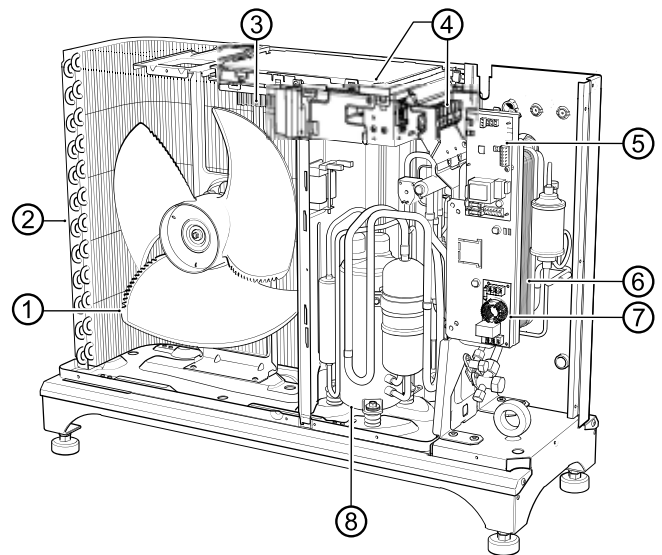
3.1 As-delivered condition



Unit in packaged condition

3.2 Main components

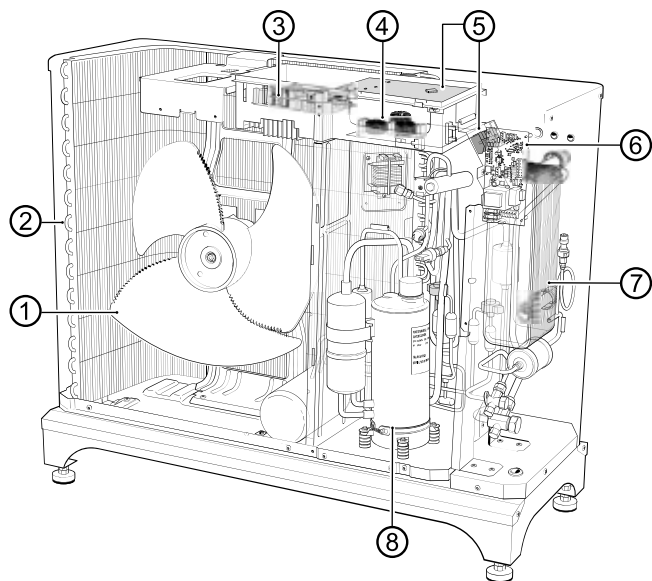
Jersey 5



- | | |
|------------------------------------------------------------|-----------------------------|
| 1 Fan | 5 Communication board |
| 2 Evaporator | 6 Condenser |
| 3 Inverter | 7 Filter board for inverter |
| 4 Control board with connection terminals for power supply | 8 Compressor |



Jersey 7



- | | |
|-----------------------------|------------------------------------------------------------|
| 1 Fan | 5 Control board with connection terminals for power supply |
| 2 Evaporator | 6 Communication board |
| 3 Inverter | 7 Condenser |
| 4 Filter board for inverter | 8 Compressor |

Nameplate

The nameplate is attached to the following place on the unit:

- on the rear

It contains the following information at the top:

- Unit type, item number
- Serial number

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

Required accessories

Only use original accessories made by the manufacturer of the unit.

- Hydraulic tower HT 7

Additional accessories

- Hydraulic connection line CPV (vertical), CPH (horizontal), CPS (standard) or HVLD
- Wall bracket WBU
- Floor bracket FBV
- End cover EDH 32/160
- Insulated condensation water pipe KWS (Split)
- Air / magnetic dirt separator

3.3 How it works

Liquid (primary) refrigerant is evaporated (evaporator). The energy for this process is environmental heat and comes from the outside air. The gaseous refrigerant is compressed (compressor), which increases the pressure and therefore also the temperature. The gaseous refrigerant with high temperature is liquefied (condenser).

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

Once heated, the heating water can be used for the domestic hot water supply or for heating the building. The temperatures required and the use are controlled by the heat pump controller. Reheating, drying out screed or increasing the domestic hot water temperature can be carried out using an electric heating element, which is activated by the heat pump controller as and when necessary.

The vibration isolators (accessories) for the hydraulics prevent structure-borne sound and vibrations from being transmitted to the fixed pipes and therefore to the building.



4 Operation and product care



NOTE

The heat pump is controlled via the control panel of the heating and heat pump controller HPC, which is integrated into the hydraulic tower HT7. The heating and heat pump controller HPC have software version v8320.

► Update the software when the system is commissioned, if necessary.

→ Heating and heat pump controller HPC operating manual

4.1 Energy-conscious and environmentally-conscious operation

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

- Avoid unnecessarily high flow temperatures
- Avoid unnecessarily high domestic hot water temperatures (observe and follow local regulations)
- Do not open windows with just a gap or tilt windows open (continuous ventilation), but instead open windows wide for a short time (shock ventilation).
- Ensure the controller settings are correct.

4.2 Charge pump

The charge pump (not included) is supplied with power and controlled via the hydraulic tower HT7.

At temperatures below +2°C, the charge pump runs intermittently. This prevents the water in the charging circuit from freezing. The function also protects against excessively high temperatures in the charging circuit.

4.3 Product care

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

5 Delivery, storage, transport and installation

IMPORTANT

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

- Do not place any objects on the unit.

5.1 Scope of supply

- Once delivered, check that the product is complete and that there is no visible damage.
- Notify the supplier of any defects immediately.

The separate pack included contains:

- Documents (operating manuals, ERP data and labels)
- Type stickers
- Filter ball valve



NOTE

The outdoor sensor is included in the scope of supply of the hydraulic tower HT7.

5.2 Storage

- If possible, do not unpack the unit until immediately before installation.
- Store the unit upright and protected against:
 - Moisture/damp
 - Frost
 - Dust and dirt

5.3 Transport and unpacking

Safe transportation of the unit

The unit is heavy (→ „Technical data / Scope of supply“, page 20). There is a risk of injuries or damage to property if the unit is dropped or knocked over.

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.

- The unit must be transported by several persons.



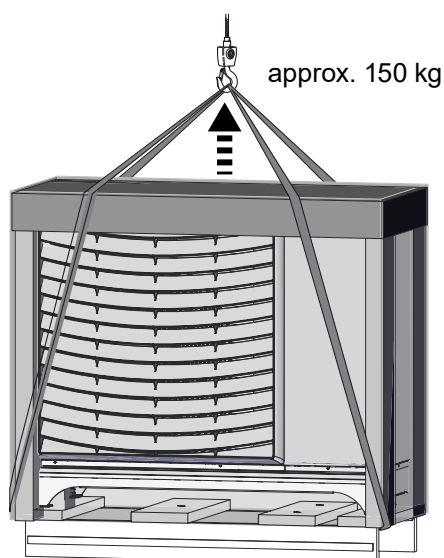
- ▶ Do not lift or transport the unit by the hydraulic connections.

Transport the unit preferably with a pallet truck, or by carrying it.

- ▶ Do not tilt the heat pump by more than 45°.

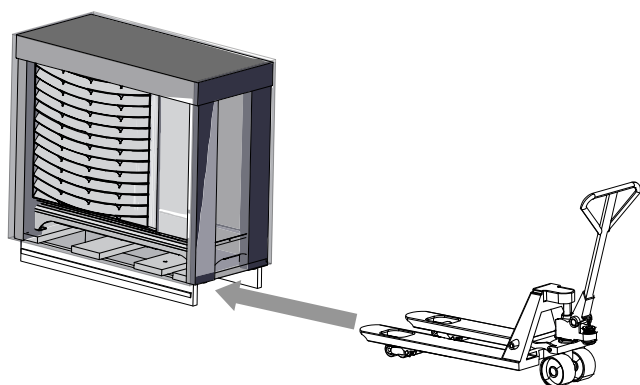
5.3.1 Transport with a crane

- ▶ If the unit needs to be transported on a surface (for example, on a lawn), transport it to the installation site while packaged and secured on a wooden pallet.



5.3.2 Transport with a pallet truck

- ▶ Transport the unit to the installation site while packaged and secured on a wooden pallet.



5.3.3 Unpacking

1. Remove the plastic films. Ensure that you do not damage the unit in the process.
2. Dispose of the transport and packaging material in an environmentally-friendly manner and in accordance with local regulations.

5.3.4 Carrying the unit

- ▶ Transport the unit to the installation site.

5.3.5 Installation

IMPORTANT

The unit must not be installed if there is a risk of frost.

Preparing for installation

In order to connect the heat pump to the hydraulic tower HT 7, a corresponding wall opening must be provided for the hydraulic connection line (accessories CPS) or a wall breakthrough must be created.

- ▶ Route hydraulic connection line CPS through the wall in a cable conduit.



NOTE

Always refer to and follow the installation plan for the respective model. Observe the minimum clearances.

→ „Installation plans“, from page 27



CAUTION

In the air outlet area, the air temperature is approx. 5K below the ambient temperature. In certain climatic conditions, this means a layer of ice may form in the air outlet area. Install the heat pump so that the air is not discharged into pavement areas.



NOTE

The surface in the air outlet area of the heat pump must be permeable to water. If no wall breakthrough is used for the hydraulic connection line, the communication cable must be laid via a different cable conduit, separated from the load cable. The load cable must also be laid on site by means of a reserve conduit.



NOTE

The noise emitted by the heat pumps must be taken into account in the respective installation plans for air/water heat pumps. The respective regional regulations must be observed.

Installation site requirements

- Only install outdoors
- ✓ Clearances must be met.
- ✓ Free air intake and air discharge must be possible without forming an air short-circuit.
- ✓ The surface must be suitable for installation of the unit:
 - Level and horizontal foundation
 - Surface and foundation have load-bearing capacity for the unit's weight
- ✓ The surface in the air outlet area of the heat pump must be permeable to water.
- ✓ The installation site must be protected from the wind.
- ✓ The installation site must be in front of a wall (free-field installation of the heat pump is not permitted).



NOTE

The unit should be installed so that no volumes of water or masses of snow or ice can fall on the unit from building roofs and/or via clogged gutters.

Silent mode

The heat pump can be set to silent mode, which reduces the noise level of the heat pump. This can be useful if the heat pump needs to be installed in noise-sensitive areas.

The function should only be used for limited periods of time, as silent mode increases the energy requirements and the heat pump may not reach its rated power.

5.4 Installation with wall bracket WBU

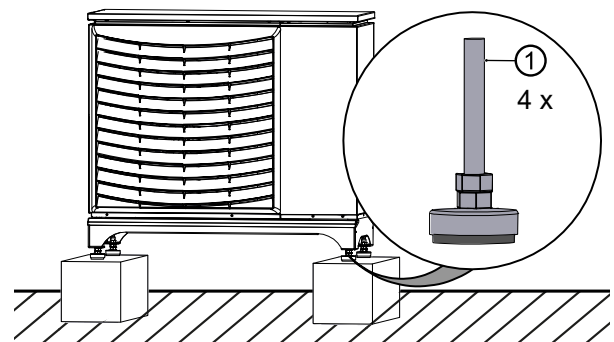
- Installation instructions for wall bracket WBU
- Installation instructions for hydraulic connection line CPS (standard) and, if relevant, HVLD

5.5 Installation on floor bracket FBU

- Installation instructions for floor bracket FBU
- Installation instructions for hydraulic connection line CPV (vertical) or CPH (horizontal) or CPS (standard) and, if relevant, HVLD

5.6 Installation on concrete foundation

- ▶ If the unit is positioned directly on a foundation, use the four adjustable feet to readjust the unit if necessary (①).



- Installation instructions for hydraulic connection line CPV (vertical) or CPH (horizontal) or CPS (standard) and, if relevant, HVLD

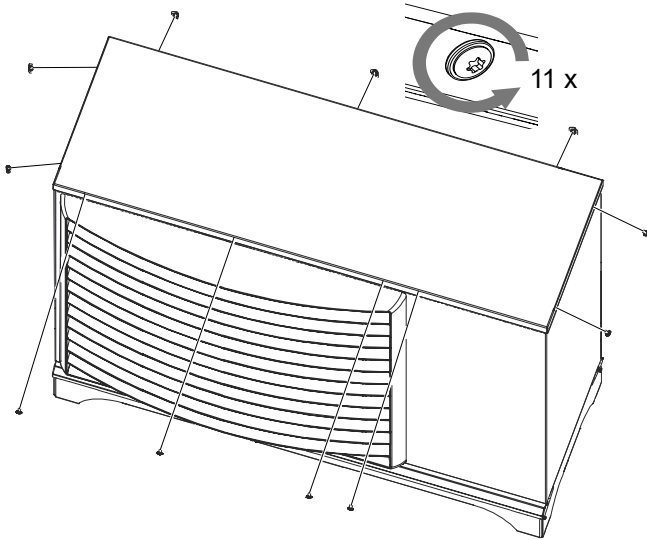
- "Installation plans" from page 27 (Jersey 5) or from page 46 (Jersey 7)
- "Drill-hole patterns" from page 37 (Jersey 5) or from page 56 (Jersey 7)



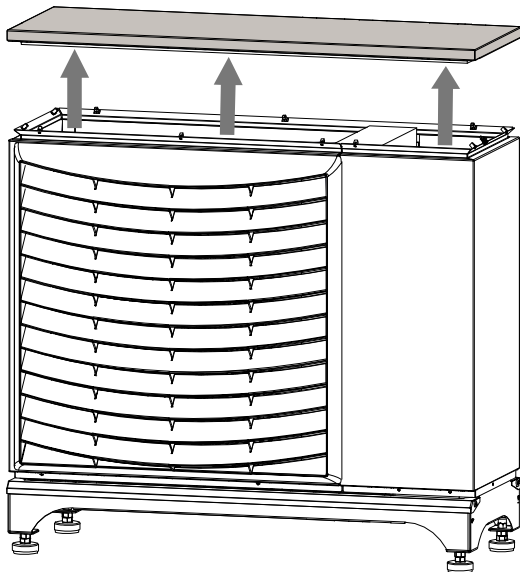
6 Opening the unit

Example: Jersey 5 (analogous to Jersey 7)

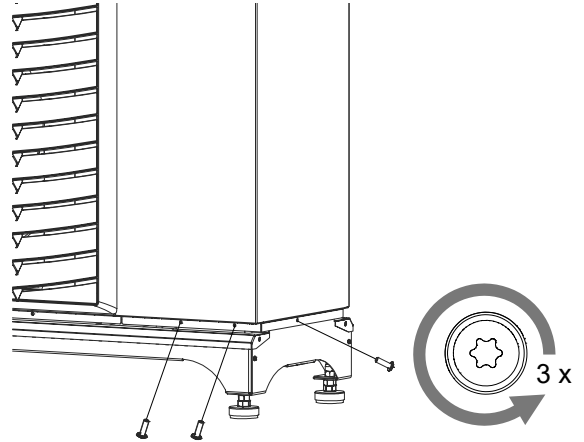
1. Unscrew the mounting screws on the unit cover.



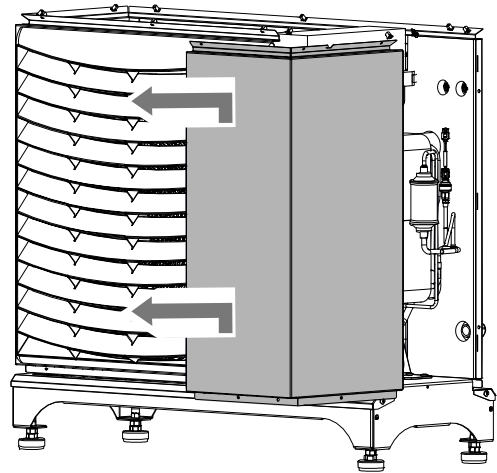
2. Lift off the unit cover and put it down in a safe place.



3. Unscrew the mounting screws on the side façade.



4. Lift off the side façade and put it down in a safe place.





7 Hydraulic assembly

- ▶ Connect the unit to the heating circuit as shown in the hydraulic diagram for the respective unit model.

IMPORTANT

The filter ball valve included in the scope of supply must always be connected to the system.

→ „Hydraulic integration“, from page 66

7.1 Condensate drain

The condensate drip tray inside the unit collects a large part of the condensation water from the air from the heat pump and drains it.

A heated condensation hose must be mounted on the unit for condensation water drainage.



NOTE

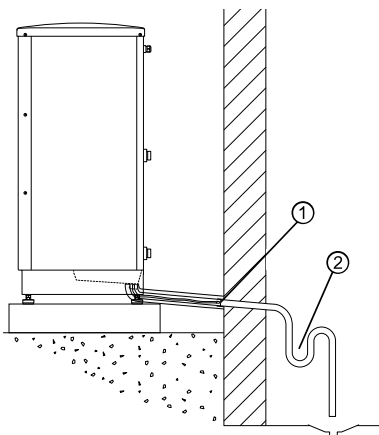
To ensure the condensate drain works correctly, use the “Insulated condensation water pipe KWS (Split)” accessories.

- ▶ Lay the condensation hose on a gradient away from the heat pump:
 - to an indoor drain or
 - in a gravel filling or
 - in a downpipe or
 - to another frost-free collection point

IMPORTANT

The outlet of the condensation water drain must be at a frost-free depth or indoors and be able to collect up to 100 l of condensation water per day.

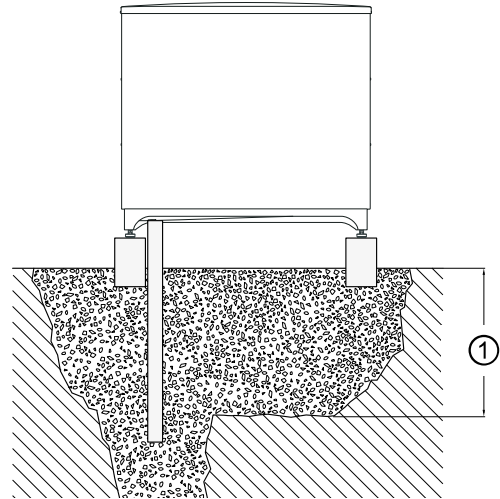
Indoor outlet



- 1 Penetration through the external wall of the building
- 2 Siphon

- ▶ Use a siphon indoors to prevent air circulation and odours.

Outlet in gravel filling



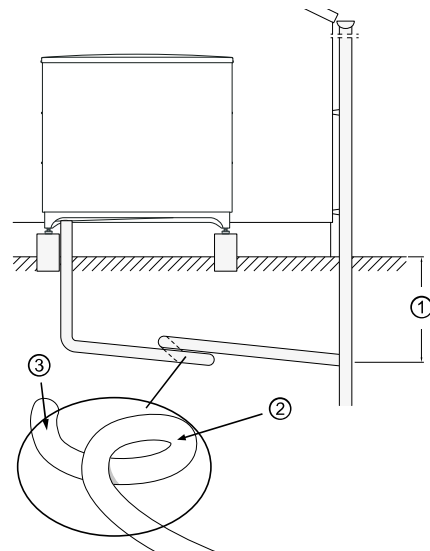
- 1 Frost-free depth

IMPORTANT

If the building has a basement, place gravel filling so that the condensation water cannot cause damage to the building.

The gravel filling can be placed directly under the heat pump.

Outlet in downpipe



- 1 Frost-free depth
- 2 Siphon
- 3 Coming from heat pump

- ▶ Lay the condensation hose as a siphon to prevent air circulation and odours.



7.2 Connection to the heating circuit

IMPORTANT

Dirt and deposits in the hydraulic (existing) system can lead to damage to the unit.

- ▶ Ensure that a dirt separator is installed in the hydraulic system.
 - ▶ Thoroughly rinse the hydraulic system before connecting the unit hydraulic system.
1. If no wall breakthrough is used, lay the fixed piping of the heating circuit outdoors below the frost boundary.

IMPORTANT

Improper loading will damage the copper pipes!

- ▶ Secure all connections against twisting.
 - ✓ Cross-sections and lengths of the pipes for the heating circuit must be adequately dimensioned.
 - ✓ The free compression of the circulation pump must produce at least the minimum throughput required for the unit type (→ „Technical data / Scope of supply“, page 20).
 - ✓ The cables for the heating must be attached to the wall or ceiling via a fixed point.
 - ✓ The vent must be inserted at the highest point of the heating circuit.
2. Connect the unit to the fixed piping of the heating circuit via vibration isolators (stainless steel corrugated pipes) or a hydraulic connection line (accessories) in order to prevent the transfer of structure-borne sound to the fixed piping.



NOTE

If an existing system is replaced, the old vibration isolators must not be reused.

- Installation instructions for vibration isolator
 - Installation instructions for hydraulic connection line
3. Install the hydraulic connections on the back of the unit, first for the flow (XL1, heating water inlet) and then the return (XL2, heating water outlet).
- „Dimensional drawings“, from page 25

7.3 Pressure safety

Equip the heating circuit with a safety valve and expansion vessel in accordance with local standards and guidelines.

Also install filling and draining devices, shut-off devices and non-return valves in the heating circuit.

8 Electrical installation

Basic electrical connection information

IMPORTANT

An incorrect rotating field will cause irreparable damage to the compressor (only applies to units with 400V connection).

- ▶ Ensure that there is a clockwise rotating field for the compressor load in-feed.

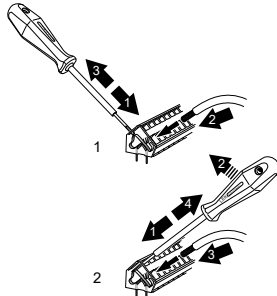
Basic electrical connection information

- The specifications of the local energy supply company may apply to electrical connections.
- Equip the power supply for the heat pump with an all-pole circuit breaker with at least 3 mm contact spacing (according to IEC 60947-2)
- Heat pump equipped with a separate residual current circuit breaker (nominal tripping current max. 30 mA).
- Observe the level of the tripping current (→ „Technical data / Scope of supply“, page 20)
- Comply with the electromagnetic compatibility (EMC) regulations
- Comply with the current EMC regulations for household appliances
- Lay power supply cables and communication cables sufficiently far apart (> 100 mm)
- Cable on site
Permitted type of communication cable:
3x0.75 mm², (LiYY, EKKX or equivalent),
maximum cable length: 20 m



NOTE

Use a suitable tool to detach or attach cables to the connection terminals.

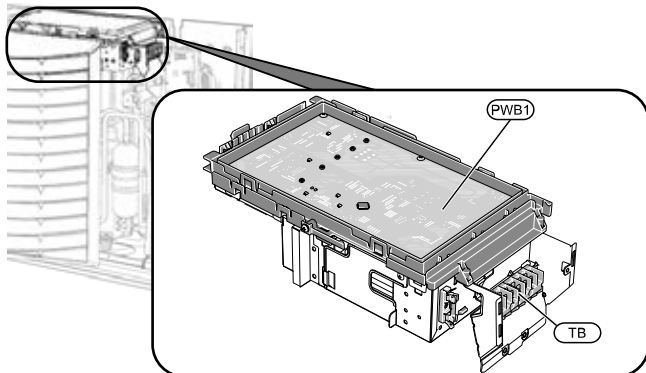


8.1 Cable bushings

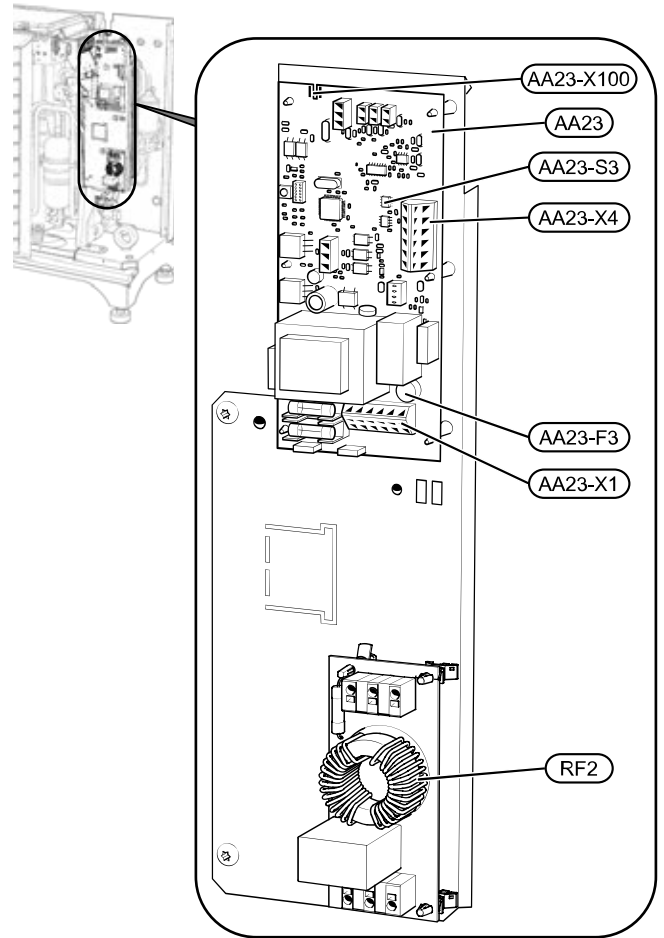
→ „Dimensional drawings“, from page 25

8.2 Electrical components

8.2.1 Jersey 5



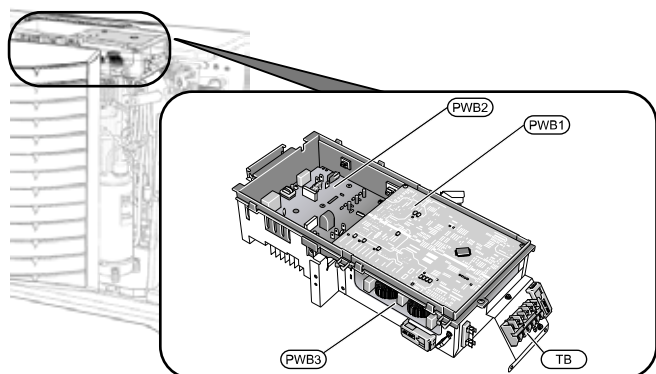
- PWB1 Control board
- TB Connection terminal for power supply and communication with communication board AA23



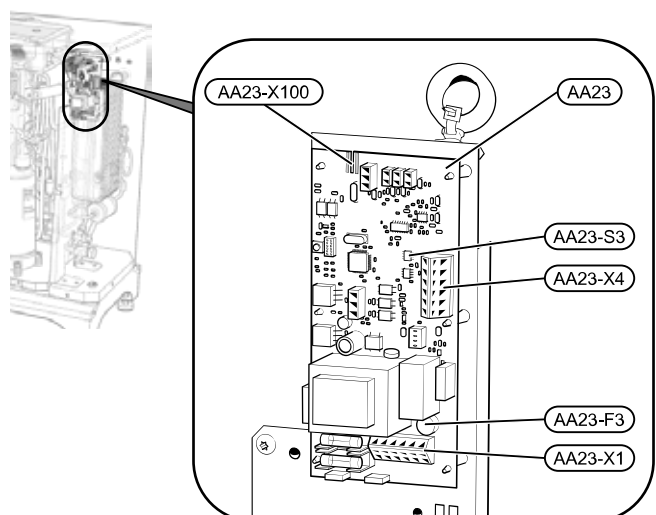
- AA23-X100 Communication with TB on control board
- AA23 Communication board
- AA23-S3 DIP switch for addressing the heat pump
- AA23-X4 Connection terminal communication cable from the hydraulic unit
- AA23-F3 Fuse for external heating cable (250 mA), max. 45 W
- AA23-X1 Connection terminal for heating cable of the condensation water pipe KWS (accessories)
- RF2 EMC filter board for inverter



8.2.2 Jersey 7



- PWB1 Control board
- PWB3 EMC filter board for inverter
- PWB2 Inverter
- TB Connection terminal for power supply and communication with communication board AA23



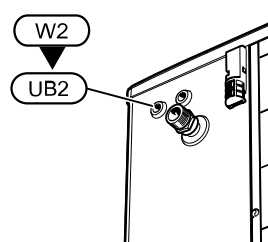
- AA23-X100 Communication with TB on control board
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- AA23-X4 Connection terminal for communication cable from the hydraulic unit
- AA23-F3 Fuse for external heating cable (250 mA), max. 45 W
- AA23-X1 Connection terminal for heating cable of the condensation water pipe KWS (accessories)

8.3 Making electrical connections

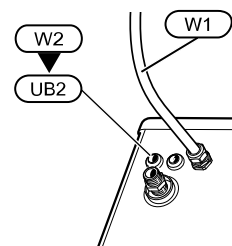
1. Extend the pre-installed power cable of the heat pump (W1, approx. length 1.8 m) with a 3-core power cable (3G 2.5 mm²)
Alternatively: Uninstall the pre-installed power cable of the heat pump and replace it with a 3-core power cable (3G 2.5 mm²) of the required length. Strip the sheathing off the new power cable and wrap it around the ferrite core in the same manner as the original cable was wrapped around the ferrite core.

2. Route the power cable into the building to the hydraulic tower HT 7.
3. Route the communication cable (W2) through the cable bushing (UB2) from outside into the heat pump.

Jersey 5

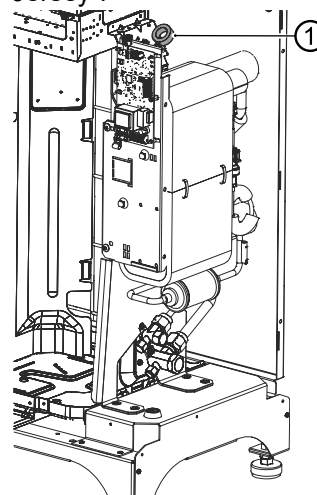


Jersey 7



4. Only for Jersey 7:
Route the communication cable (W2) in the heat pump through the ferrite ring (1) on the communication board.

Jersey 7

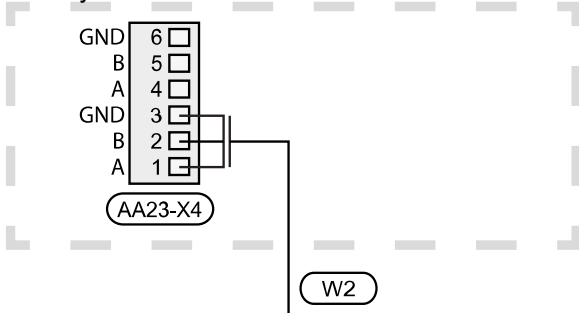


5. Strip the communication cable (W2). Stripping length of the individual wires: 6 mm each.
6. Route the communication cable (W2) to the connection terminal AA23-X4 on the communication board.

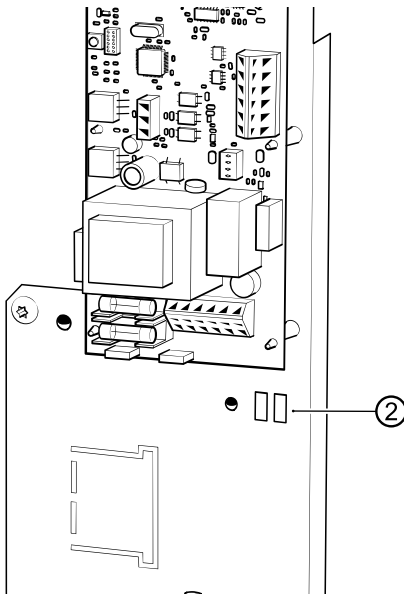


- Connect the communication cable (W2) to the connection terminal AA23-X4-1 (A), AA23-X4-2 (B), AA23-X4-3 (GND).

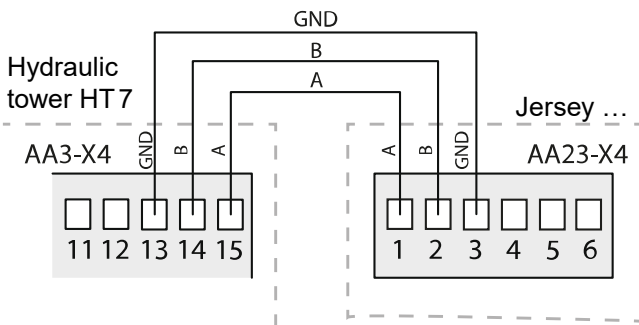
Jersey ...



- Fix the communication cable (W2) at the openings (2) in the board installation plate with 2 cable ties (strain relief).



- Lay the communication cable (W2) in the building and route it to the electrical switch box of the hydraulic tower HT 7.
- Connect the communication cable (W2) to the connection terminal AA3-X4-15 (A), AA3-X4-14 (B), AA3-X4-13 (GND) in the hydraulic tower HT 7.



- Connect the power cable of the heat pump to the connection terminal in the hydraulik tower HT 7.
 - Terminal diagram in the hydraulic tower HT7 operating manual
- Once the electrical connections have been made, install façades on the heat pump and close the electrical switch box of the hydraulic tower HT 7.

9 Flushing, filling and venting

9.1 Heating water quality

NOTE

- For detailed information, see also 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
- ▶ Only fill the system with demineralised heating water or with VDI 2035 equivalent water (for low-salt operation of the system).

Advantages of low-salt operation:

- Minimal corrosion
 - No formation of mineral scale
 - Ideal for closed heating circuits
 - Ideal pH value due to self-alkalisation after filling the system
- ▶ If the required water quality is not achieved, consult a company that specialises in treatment of heating water.
- ▶ It is advisable to keep a system log for hot water heating systems containing the relevant planning & design data (VDI 2035).

Anti-freeze in the heating circuit

It is not permitted to fill an antifreeze or a water/antifreeze mixture into the heating circuit. The heat pump have safety devices that prevent the water from freezing, even when the heating is switched off. A prerequisite is that the heat pump remains switched on and is not disconnected from the mains. Should there be a risk of frost, the circulation pumps are activated.



10 Insulating hydraulic connections

Insulate hydraulic lines in accordance with local regulations.

1. Open shut-off devices.
2. Perform a pressure test and check for leaks.
3. Insulate external piping on site.
4. Insulate all connections, fittings and pipes.
5. Insulate the condensate drain to ensure protection against frost.
6. Enclose the unit completely to ensure protection against rodents.
7. Protect hydraulic and electrical cables on site against rodents.

IMPORTANT

When using the accessories CPS, make the hydraulic insulation UV-resistant on site.

IMPORTANT

When using the accessories HVLVD, seal the transition to the KG pipe with the end cover EDH 32/160 (accessories).

11 Overflow valve

→ Hydraulic tower HT7 operating manual

12 Commissioning



WARNING

The unit may only be put into operation with mounted façades and fan protective grilles.

- ✓ Relevant planning & design data of the system must be documented in full
- ✓ The relevant energy supplier must be notified that the heat pump system is in operation
- ✓ The system must be air-free
- ✓ An installation check using the general checklist must be completed successfully
- ✓ The right-hand (clockwise) rotating load infeed field must be available at the compressor (only applies to units with 400V connection)
- ✓ The system must be set up and installed according to this operating manual.
- ✓ The electrical installation must be carried out properly according to this operating manual and local regulations
- ✓ The power supply for the heat pump must be equipped with an all-pole circuit breaker with at least 3 mm contact spacing (IEC 60947-2)
- ✓ The level of the tripping current must be maintained
- ✓ The heating circuit must be flushed and vented
- ✓ All shut-off devices in the heating circuit must be open
- ✓ The pipe systems and components of the system must be leak-tight
- ✓ The heat pump must be addressed as "Slave 1" in the heating and heat pump controller.

Commissioning Jersey 5

1. Supply Jersey 5 and hydraulic tower HT7 with power.
 2. Follow the instructions for commissioning in the heating and heat pump controller HPC operating manual.
- Heating and heat pump controller HPC operating manual



Commissioning Jersey 7

Jersey 7 has a compressor heater which increases the compressor temperature before startup and when the compressor is cold.

The compressor heater must be switched on 6-8 hours before the initial startup.

1. Disconnect the communication cable (W2) from the communication board in Jersey 7.
 2. Supply Jersey 7 with power.
 3. After 6-8 hours, reconnect the communication cable (W2) to the connection terminal AA23-X4 of the communication board in Jersey.
 4. Supply hydraulic tower HT7 with power.
 5. Follow the instructions for commissioning in the heating and heat pump controller HPC operating manual.
- Heating and heat pump controller HPC operating manual, "Commissioning and setting" section
- 5.1. If the heat pump connected via the communication cable is not detected by the heat pump and heating controller, check whether the heat pump is supplied with voltage.
 - 5.2. Check the connections of the communication cable.
 - 5.3. If the connections have been made correctly, check whether the communication cable is intact.
 6. Make the settings in menu 5.11.1.1 – heat pump EB101.

Cooling permitted Switch on/off the cooling function of the heat pump
Silent mode permitted Switch on/off silent mode of the heat pump
Current limiting When this function is activated, the maximum current value can be limited Adjustment range: 6-32 A Factory setting: 32 A
Stop temperature compressor Minimum outside temperature for heat pump operation Adjustment range: -20°C to -2°C Factory setting: -20°C
blockFreq 1 Frequency range in which the heat pump is not allowed to operate.
blockFreq 2 Another frequency range in which the heat pump is not allowed to operate.

NOTE
The heat pump starts 30 minutes after it has been supplied with power and the communication cable (W2) has been connected, and when there is a need for it.

7. Fill out and sign the notice of completion for heat pump systems.
8. In Germany: Send notice of completion for heat pump systems and general checklist to the manufacturer's factory customer service department. In other countries: Send notice of completion for heat pump systems and general checklist to the manufacturer's local partner.
9. Pay for the heat pump system to be commissioned by customer service personnel authorised by the manufacturer.

13 Maintenance

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

NOTE
Extreme weather conditions, or water accumulations in, on and under the unit caused by condensation which do not flow away via the condensate drain, are normal and are not a malfunction or defect in the heat pump.

13.1 Basic principles

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

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

- ▶ Ensure the specific heat pump system complies with local regulations.

13.2 Maintenance as required

- Check and clean the components of the heating circuit, e.g. valves, expansion vessels, circulation pumps, filters, dirt traps
- Check the safety valve for the heating circuit works correctly



- The air intake opening and blow out opening must always be free of obstructions and accessible, so regularly check that the air infeed is unimpeded. Constrictions or even blockages which, for example, can be caused by
 - installing house insulation with polystyrene balls
 - packaging material (films, cardboard, etc.)
 - foliage, snow, icing or similar weather-related deposits
 - vegetation (bushes, tall grass, etc.)
 - air shaft covers (fly protection screens, etc.)must be avoided and/or removed immediately if they occur.
- Check regularly to ensure that the condensate can drain out of the unit freely without any obstructions. To this end, regularly check the condensate pan in the unit for dirt / blockages and clean as necessary. Also check all sides of the evaporator.



NOTE

Icing on the intake and exhaust openings is caused by the weather and is normal. Do not thermally remove icing.

- ▶ Wear protective gloves and carefully remove icing with your hands.

13.3 Cleaning and flushing the condenser

1. Clean and flush the condenser according to the manufacturer's instructions.
2. After flushing the condenser with chemical cleaning product, neutralise any residues and flush the condenser thoroughly with water.

13.4 Annual maintenance

- ▶ Analyse the quality of the heating water. If it does not meet the required specifications, take suitable steps immediately.

14 Malfunctions

1. Identify the cause of the malfunction via the control panel of the heating and heat pump controller HPC and follow the instructions in the "Comfort malfunction" section.
 - Heating and heat pump controller HPC operating manual, "Comfort malfunction" section
2. If necessary, contact the manufacturer's local partner or the factory's customer service. Have the malfunction message and unit number to hand.

15 Dismantling and disposal

15.1 Dismantling

- ✓ Specialist personnel must be qualified to work on the refrigerating circuit and have the appropriate certification.
- ✓ Specialist personnel must be qualified to handle refrigerant.
- ✓ Disposal units must be suitable for refrigerants.
 - ▶ Observe regional regulations for handling refrigerants.
 - ▶ Collect all media safely.
 - ▶ Separate components by their materials.

15.2 Disposal and recycling

- ▶ Dispose of environmentally hazardous media (e.g. (primary) refrigerant, compressor oil) according to local regulations.
- ▶ Recycle unit components and packaging materials in accordance with local regulations, or ensure they are disposed of properly.

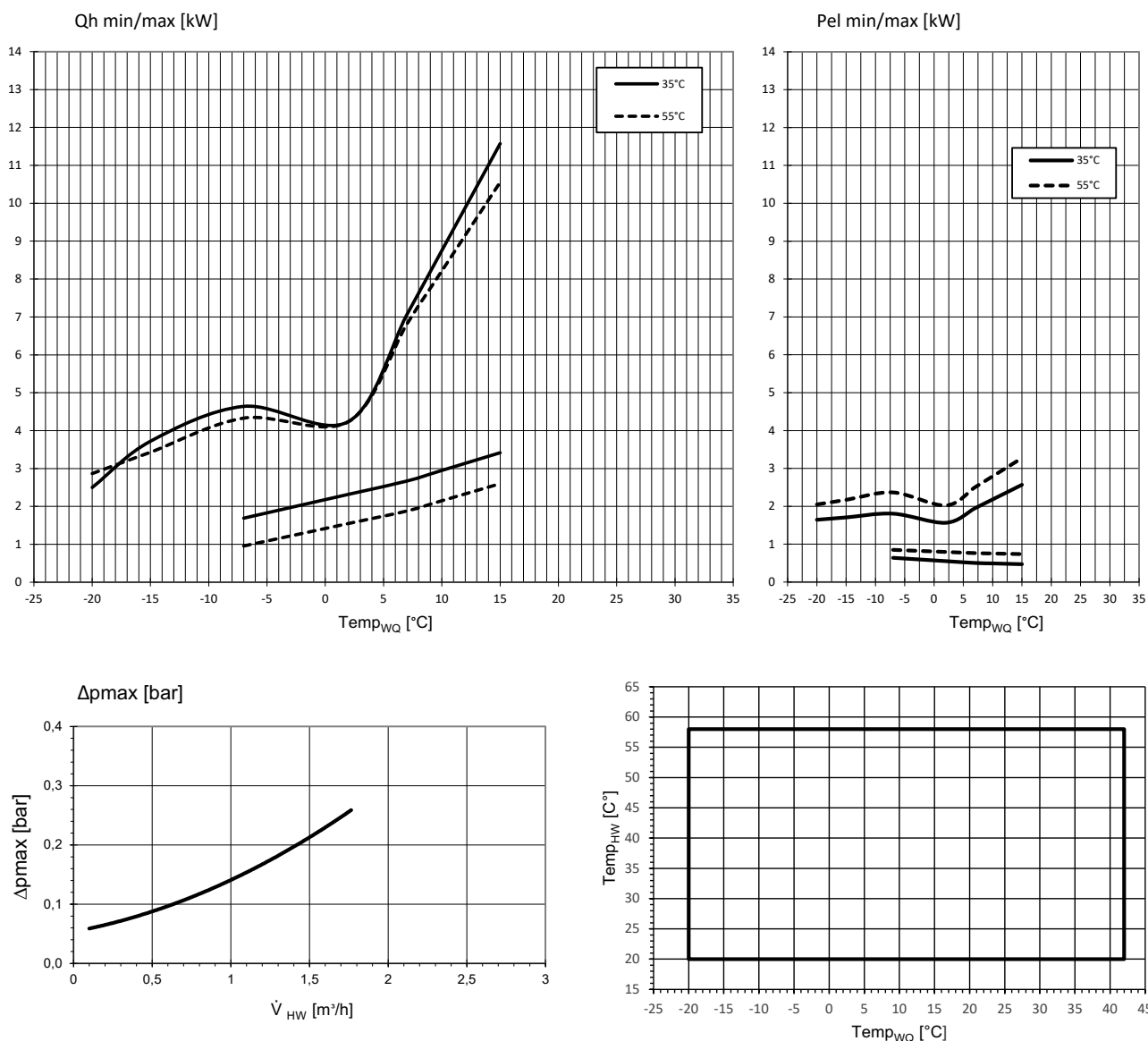


Performance data		Values in brackets: (1 Compressor)		Jersey 5	Jersey 7
Heating capacity COP	for A10/W35 acc. to DIN EN 14511-x	Partial load operation	kW COP	2.95 6.00	4.49 5.34
	for A7/W35 acc. to DIN EN 14511-x	Partial load operation	kW COP	2.61 5.03	3.92 4.61
	for A7/W55 acc. to DIN EN 14511-x	Partial load operation	kW COP	2.39 2.71	3.22 2.66
	for A2/W35 acc. to DIN EN 14511-x	Partial load operation	kW COP	2.32 4.20	5.11 3.76
	for A-7/W35 acc. to DIN EN 14511-x	Full load operation	kW COP	4.64 2.57	7.21 2.68
	for A-7/W55 acc. to DIN EN 14511-x	Full load operation	kW COP	4.33 1.83	6.68 2.00
Heating capacity	for A10/W35	min. max.	kW kW	2.95 8.75	4.49 10.57
	for A7/W35	min. max.	kW kW	2.67 7.06	3.85 8.87
	for A7/W55	min. max.	kW kW	1.88 6.81	3.50 8.21
	for A2/W35	min. max.	kW kW	2.32 4.24	2.60 6.60
	for A-7/W35	min. max.	kW kW	1.69 4.64	2.10 7.21
	for A-7/W55	min. max.	kW kW	0.96 2.87	1.90 6.68
Cooling capacity EER	for A35/W18	Partial load operation	kW EER	3.56 5.36	5.30 5.33
	for A35/W7	Partial load operation	kW EER	- -	- -
Cooling capacity	for A35/W18	min. max.	kW kW	3.56 7.16	5.30 10.44
	for A35/W7	min. max.	kW kW	- -	- -
Heating capacity domestic hot water preparation			kW	-	-
Operating limits					
Heating circuit return min. Heating circuit flow max. Heating		within heat source min./max.		°C	20 55
Heat source, heating		min. max.		°C	-20 40
Additional operating points			...	-	-
Installation location (only valid for indoor installation)					
Room temperature		min. max.		°C	- -
Relative humidity maximum (non-condensing)				%	-
Sound					
Sound power level inside		min. Night max.		dB(A)	- - -
Sound power level outside ¹⁾		min. Night max.		dB(A)	48 48 62
Sound power level acc. to DIN EN 12102-1		inside outside		dB(A)	- 51
Tonality Low-frequency			dB(A) • yes – no	0 -	0 -
Heat source					
Air flow rate at maximum external pressing Maximum external pressure			m ³ /h Pa	2530 0	3000 -
Heating circuit					
Flow rate (pipe dimensioning) Min. volume buffer tank in series Min. volume separation buffer tank			l/h l l	1044 20 20	1368 20 20
Free pressing Pressure loss Flow rate			bar bar l/h	0.381 0.152 1044	0.408 0.176 1368
Max. allowable operating pressure			bar	3	3
Circulation pump control range			min. max.	l/h	100 1800
General unit data					
Data of the standards according to version		EN14511-x DIN EN 12102-1		2019 2018	2019 2018
Total weight			kg	82.00	103.00
Weight of heat pump module Compact module Fan module			kg kg kg	82 - -	103 - -
Refrigerant type Refrigerant capacity			... kg	R410A 1.5	R410A 2.55
Electrics					
Voltage code all-pole fuse protection for heat pump ^{*)}		... A		1-N/PE/230V/50Hz B16	1-N/PE/230V/50Hz B16
Voltage code Control voltage fuse protection ^{**)}		... A		-	-
Voltage code Electric heating element fuse protection ^{**)}		1 phase		- -	- -
Voltage code Electric heating element fuse protection ^{**)}		3 phases		- -	- -
HP ^{*)} : effect. power consumption A7/W35 (partial load operation) DIN EN 14511-x Electric consumption cosφ			kW A ...	0.50 2.3 0.97	0.87 3.8 0.97
HP ^{*)} : effective power consumption A7/W35 acc. to DIN EN 14511-x: min. max.			kW kW	0.50 1.95	0.82 2.00
HP ^{*)} : max. machine current max. power consumption within the operating limits			A kW	15 3.35	16 3.5
Starting current: direct with soft starter			A A	< 5 -	< 5 -
Degree of protection			IP	24	24
Zmax					
Residual current circuit breaker			if required	type	B
Electric heating element output			3 2 1 phase	kW kW kW	- - -
Circulation pump power consumption, heating circuit			min. max.	W	- -
Other unit information					
Safety valve heating circuit Response pressure		included in scope of supply: • yes – no bar		- -	- -
Buffer tank Volume		included in scope of supply: • yes – no l		- 0	- 0
Heating circuit expansion vessel Volume Prepressure		incl. in scope of supply: • yes – no l bar		- - -	- - -
Overflow valve Changeover valve, heating - domestic hot water		integrated: • yes – no		- -	- -
Heating circuit vibration decoupling		incl. in scope of supply or integrated: • yes – no		•	•
Controller Heat quantity recording Extension board		incl. in scope of supply or integrated: • yes – no		• • -	• • -
*) compressor only, **) note local regulations				813640	813641
1) Indoor and outdoor installation. The performance data and the operating limits apply to clean heat exchangers Index: k					



Performance curves heating

Jersey 5



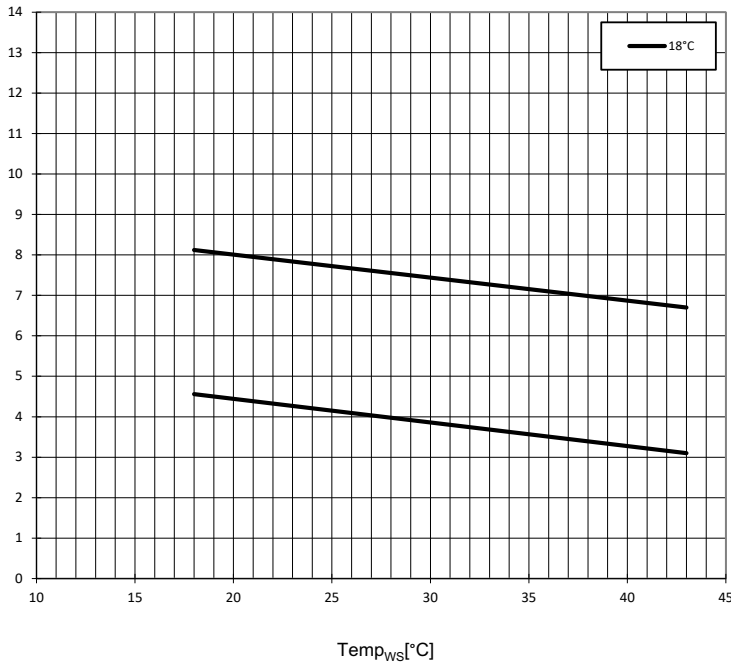
Key:	UK823322
\dot{V}_{HW}	Heating water flow rate
Temp _{WQ}	Heat source temperature
Qh min/max	Minimum/maximum heating load
Pe min/max	Minimum/maximum power consumption
Δpmax	Maximum pressure loss



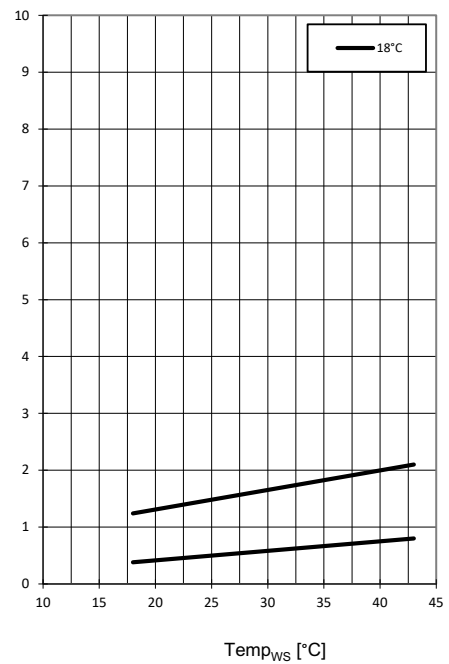
Jersey 5

Performance curves cooling

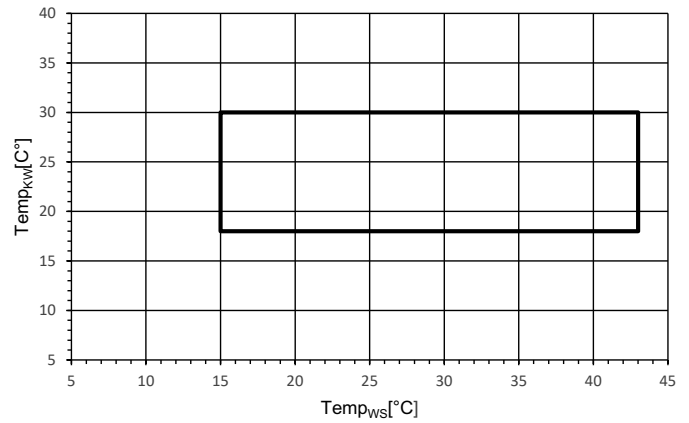
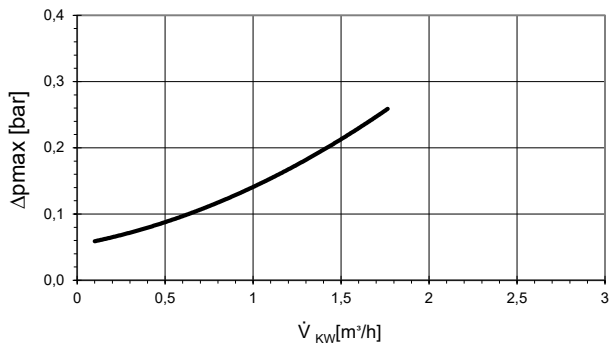
Q0 min/max [kW]



PeI min/max [kW]



Δp_{max} [bar]

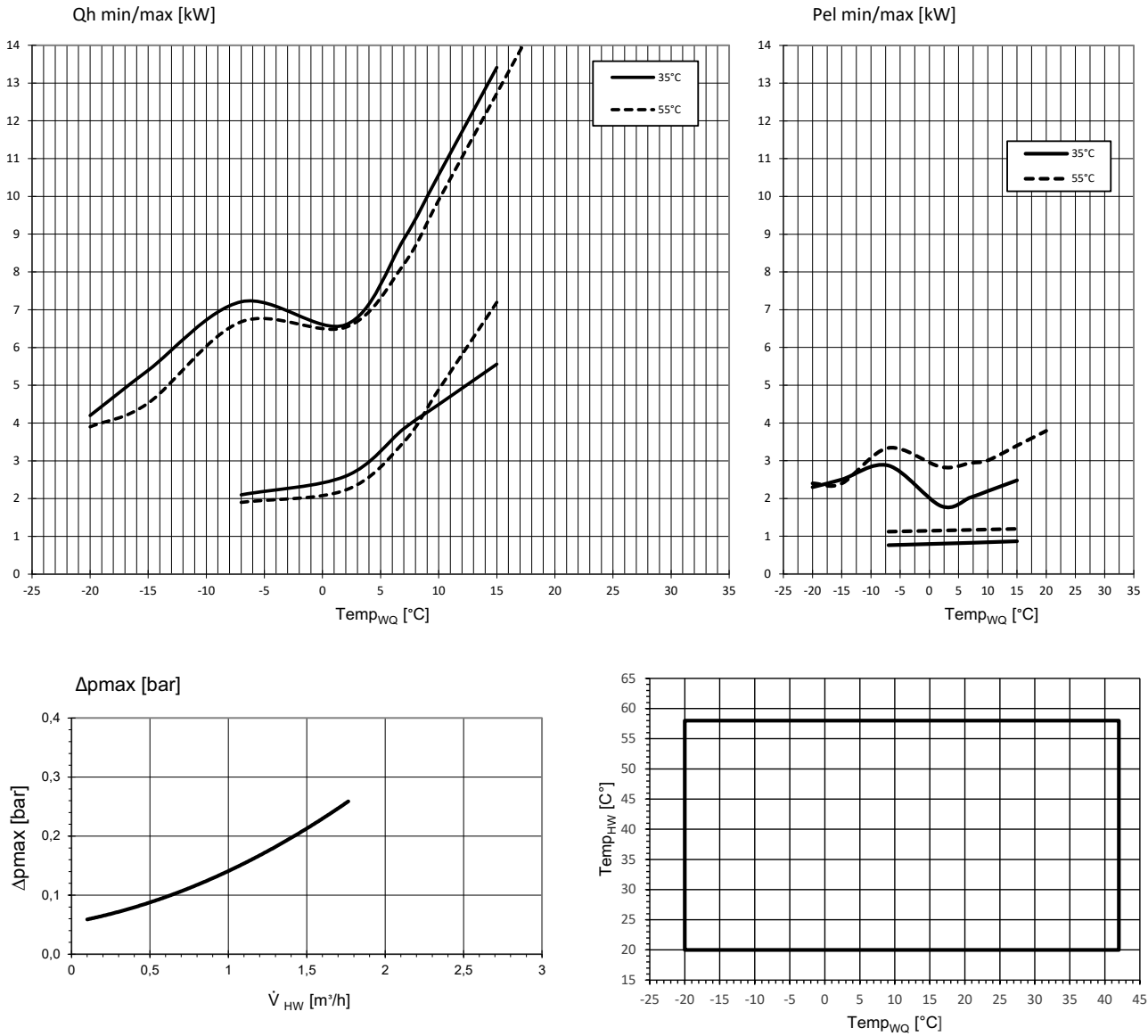


- Key: UK823322
- \dot{V}_{KW} Volume flow rate cooling water
 - Temp_ws Heat sink temperature
 - Qh min/max Minimum/maximum cooling capacity
 - Pe min/max Minimum/maximum power consumption
 - Δp_{max} Maximum pressure loss



Performance curves heating

Jersey 7



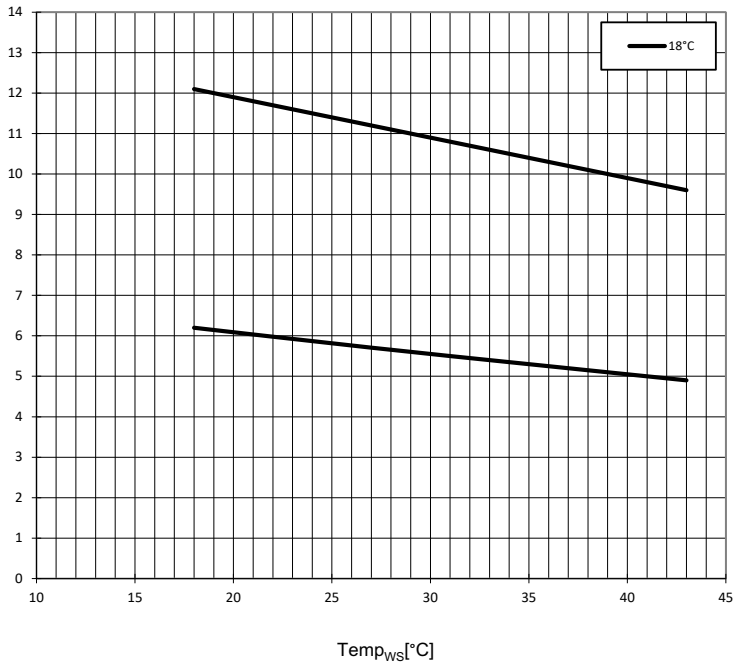
Key:	UK823323
\dot{V}_{HW}	Heating water flow rate
Temp _{WQ}	Heat source temperature
Qh min/max	Minimum/maximum heating load
Pe min/max	Minimum/maximum power consumption
Δpmax	Maximum pressure loss



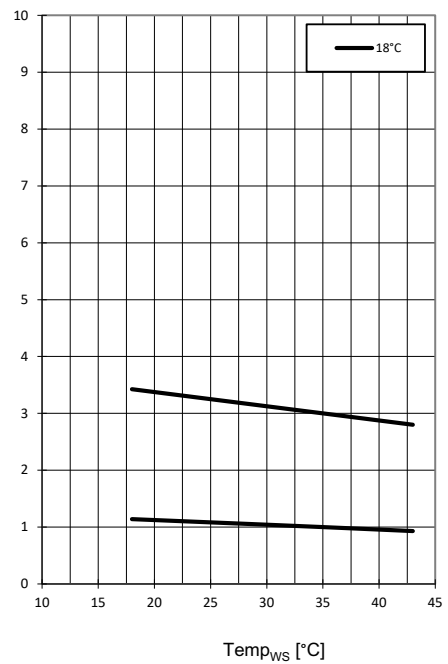
Jersey 7

Performance curves cooling

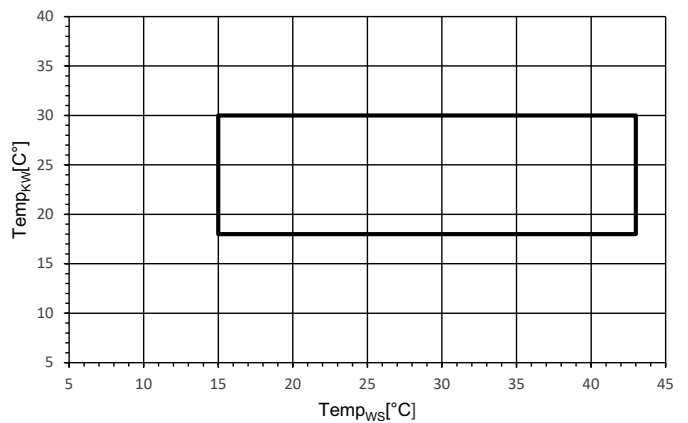
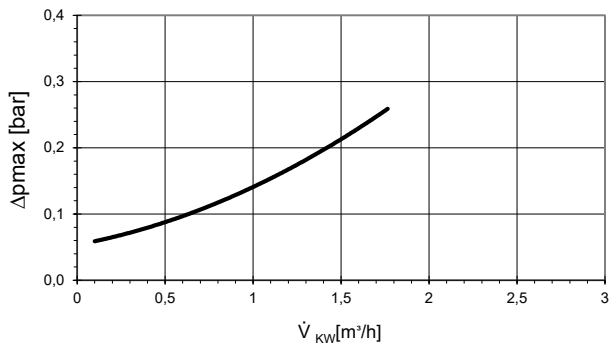
Q0 min/max [kW]



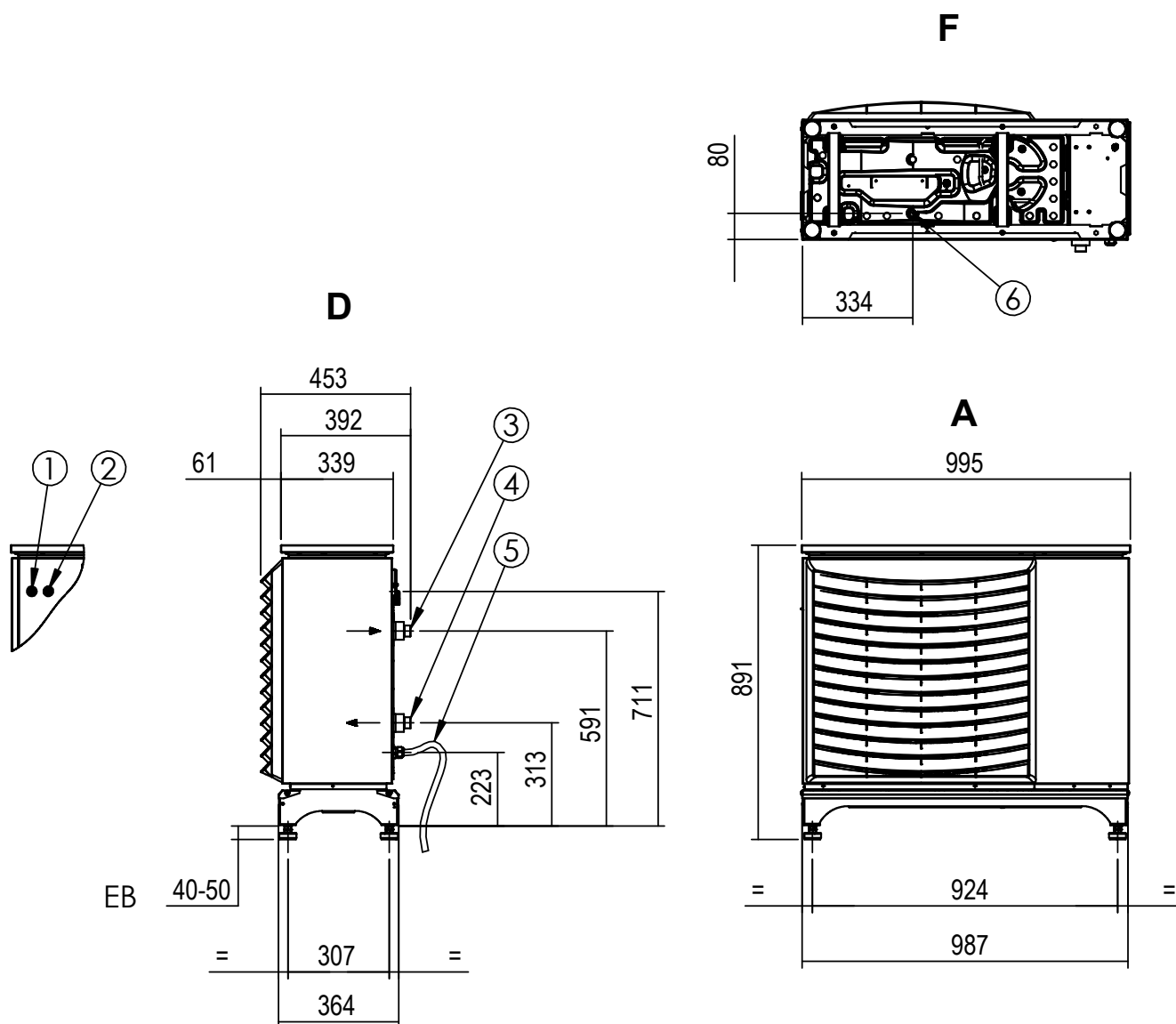
PeI min/max [kW]



Δpmax [bar]



- Key: UK823323
- \dot{V}_{KW} Volume flow rate cooling water
 - Temp_{WS} Heat sink temperature
 - Qh min/max Minimum/maximum cooling capacity
 - Pe min/max Minimum/maximum power consumption
 - Δpmax Maximum pressure loss



Key: UK819527

All dimensions in mm.

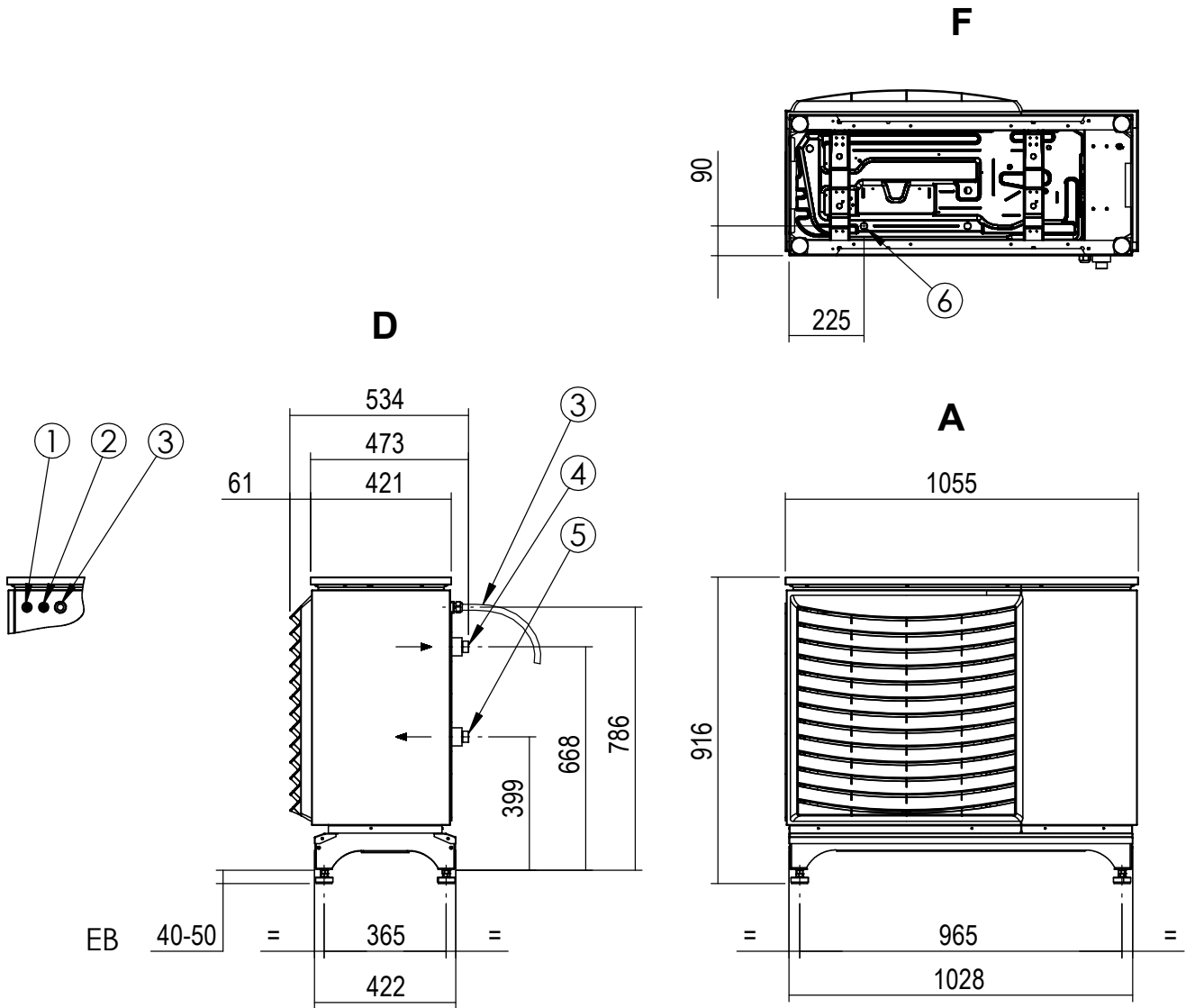
Item	Name
A	Front view
D	Side view from the right
F	View from bottom
EB	Adjustment range

Item	Name
1	Cable bushing, communication (W2 / UB2)
2	Cable bushing (not used)
3	Heating water outlet / supply G 1" external thread
4	Heating water inlet / return G 1" external thread
5	Cable pre-installed, power supply (W1)
6	Condensate connection [accessories KWS (Split)]



Jersey 7

Dimensional drawings



Key: UK819528

All dimensions in mm.

Item	Name
A	Front view
D	Side view from the right
F	View from bottom
EB	Adjustment range

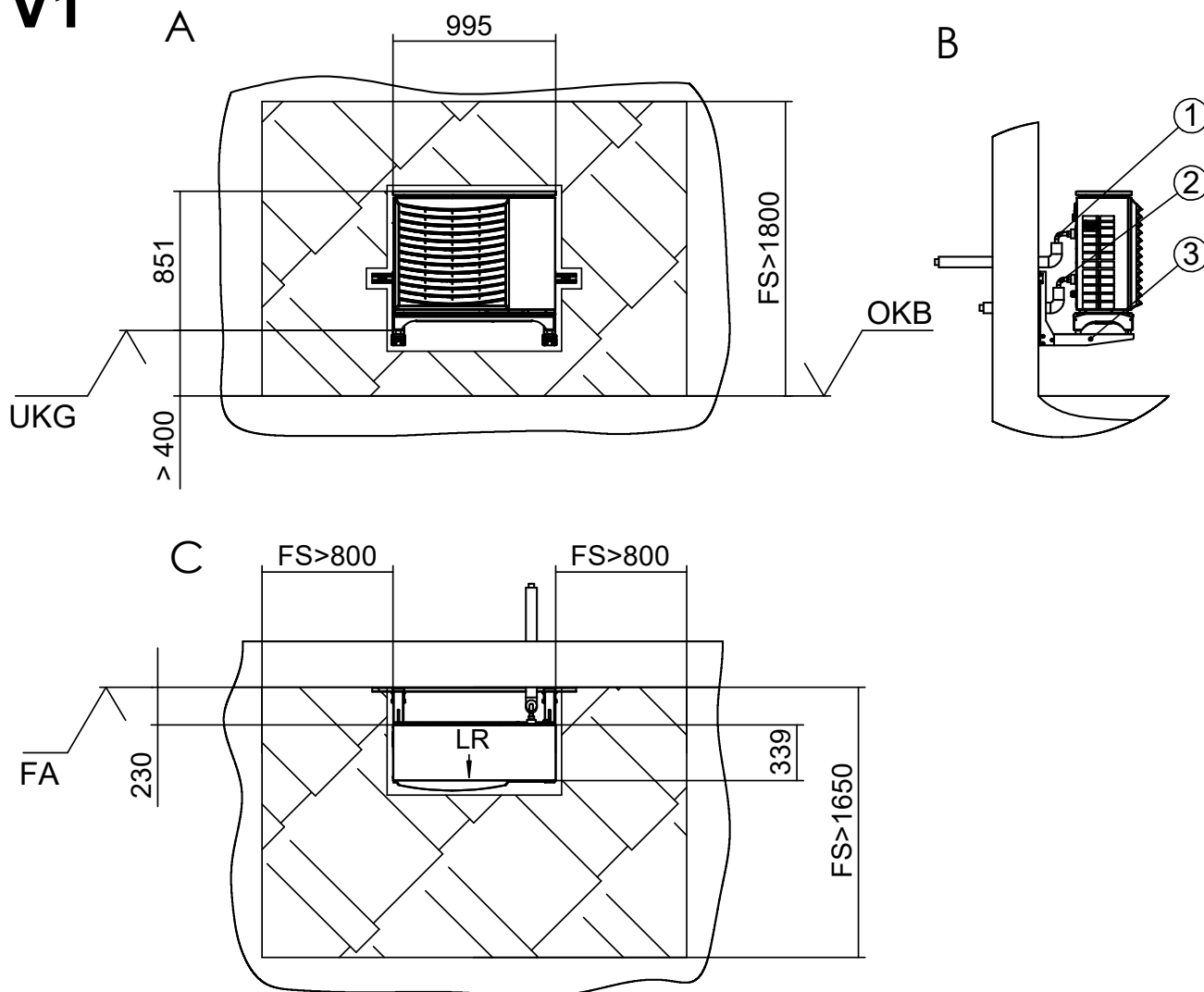
Item	Name
1	Cable bushing, communication (W2 / UB2) (W2 / UB2)
2	Cable bushing (not used)
3	Cable pre-installed, power supply (W1)
4	Heating water outlet / supply G 1" external thread
5	Heating water inlet / return G 1" external thread
6	Condensate connection [accessories KWS (Split)]



Hydraulic connection line CPS with wall bracket WBU

Jersey 5

V1



Key: UK819529b-1

All dimensions in mm.

Item	Name
V1	Version 1
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
3	Wall bracket WBU (accessories) Wall bracket is not suitable for façades with composite heating systems.

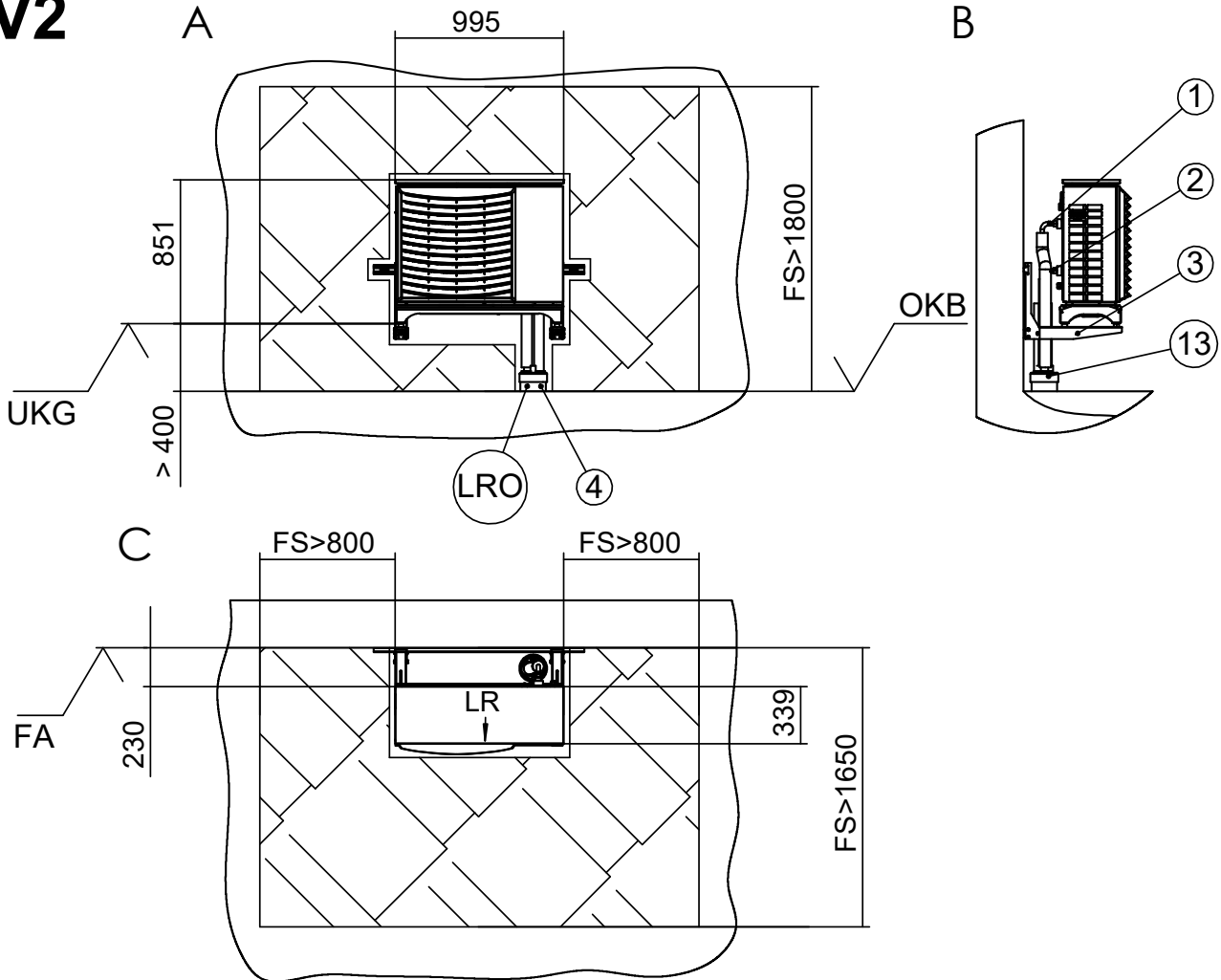
→ Drill-hole pattern „BB1 to V1“, page 37



Jersey 5

Hydraulic connection lines CPS with wall bracket WBU and hydraulic connection line HVLD

V2



Key: UK819529b-2

All dimensions in mm.

Item	Name
V2	Version 2
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
3	Wall bracket WBU (accessories) Wall bracket WBU is not suitable for façades with composite heating systems.
4	Hydraulic connection line (accessories HVLD)
13	End cover EDH 32/160 (accessories)

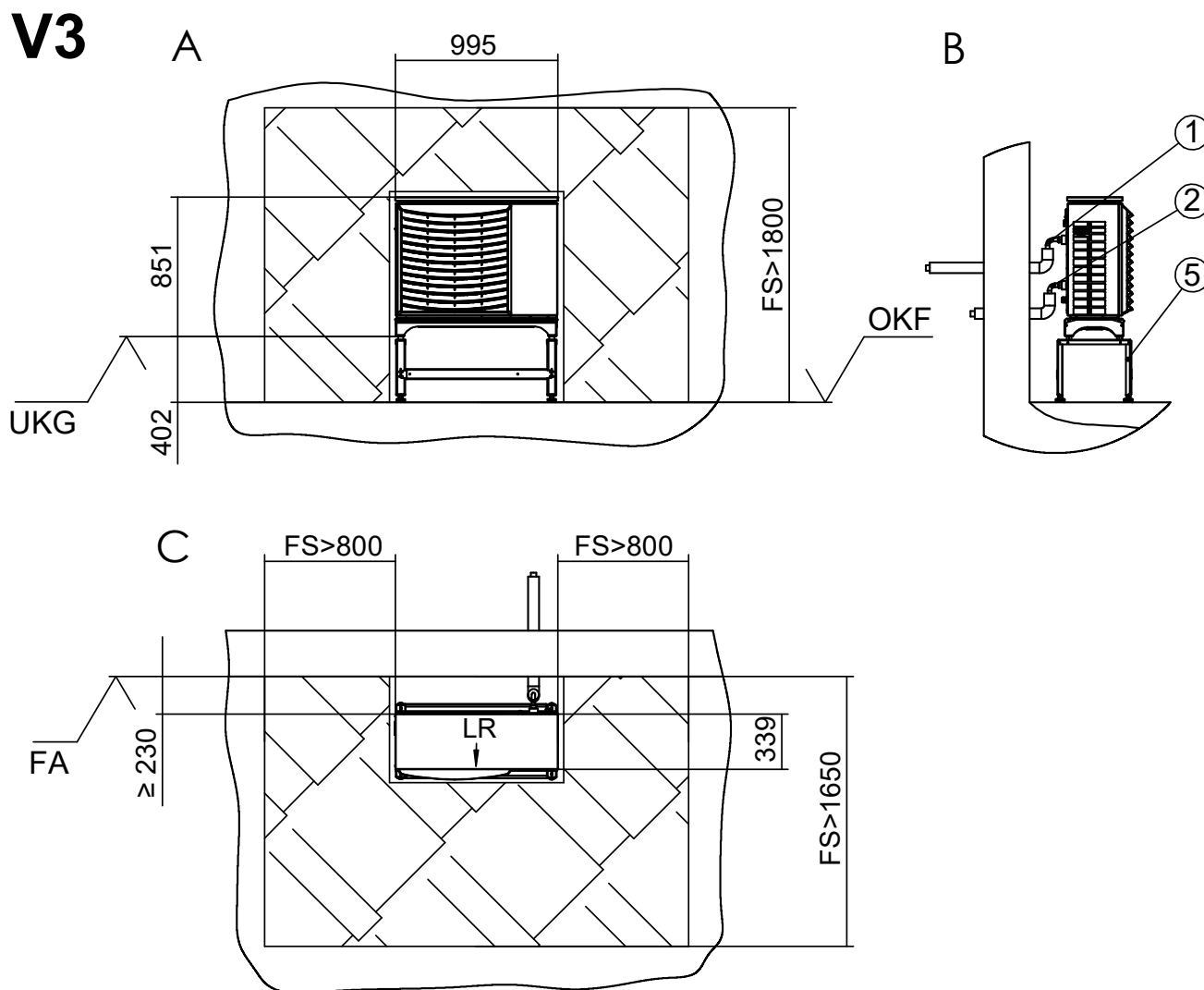
→ Drill-hole pattern „BB2 to V2“, page 37

→ Drill-hole pattern „BB hyd. 1 to V2“, page 40



Hydraulic connection line CPS with floor bracket FBU

Jersey 5



Key: UK819529b-3

All dimensions in mm.

Item	Name
V3	Version 3
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LR	Air direction
FS	Free space for service purposes

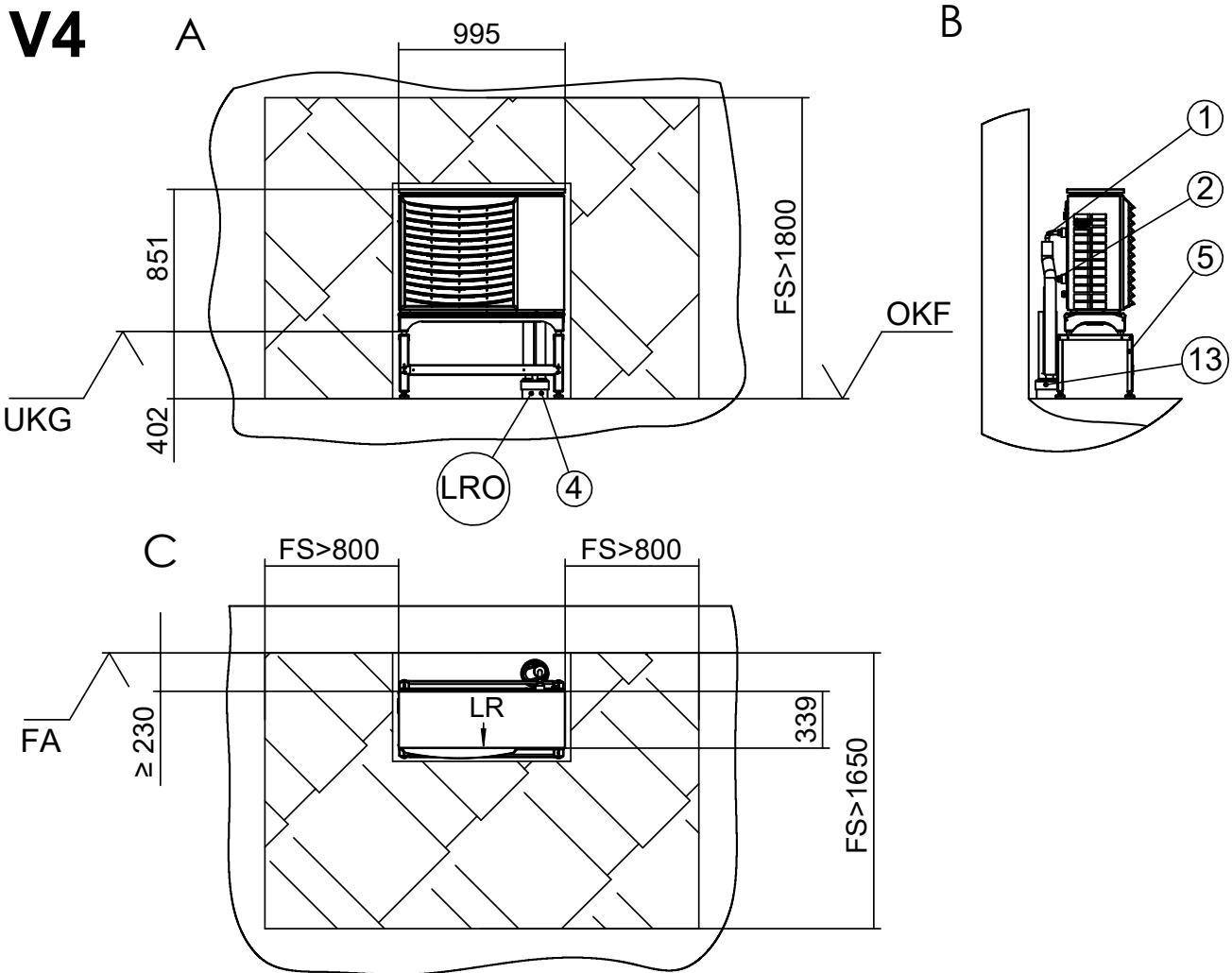
Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
5	Floor bracket FBU (accessories)

→ Drill-hole pattern „BB3 to V3“, page 38



Jersey 5

Hydraulic connection line CPS with floor bracket FBU and hydraulic connection line HVLD



Key: UK819529b-4
All dimensions in mm.

Item	Name
V4	Version 4
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
4	Hydraulic connection line (accessories HVLD)
5	Floor bracket FBU (accessories)
13	End cover EDH 32/160 (accessories)

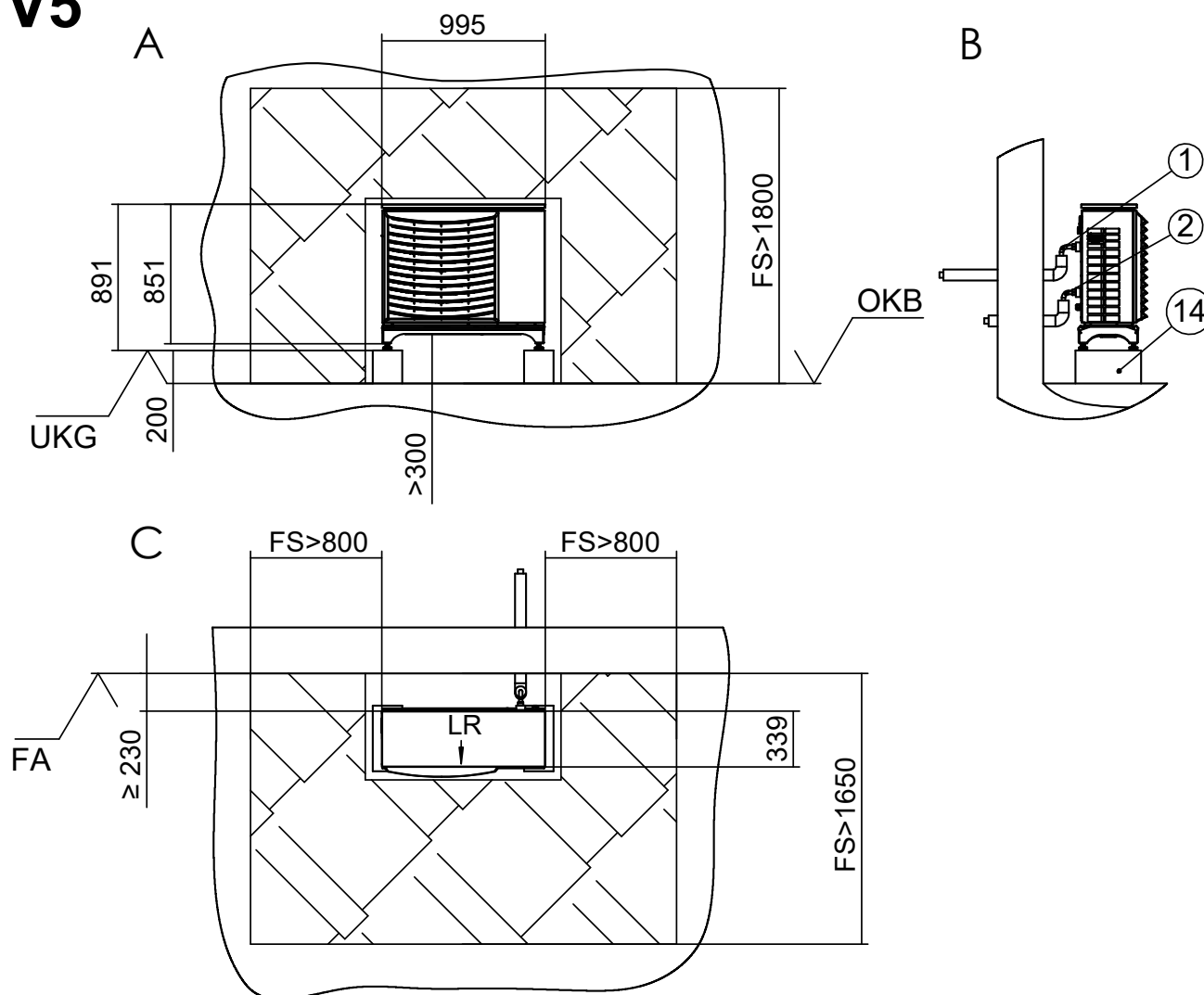
→ Drill-hole pattern „BB hyd. 2 to V4“, page 41



Hydraulic connection line CPS with concrete foundation

Jersey 5

V5



Key: UK819529b-5

All dimensions in mm.

Item	Name
V5	Version 5
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

→ Drill-hole pattern „BB5 to V5“, page 38

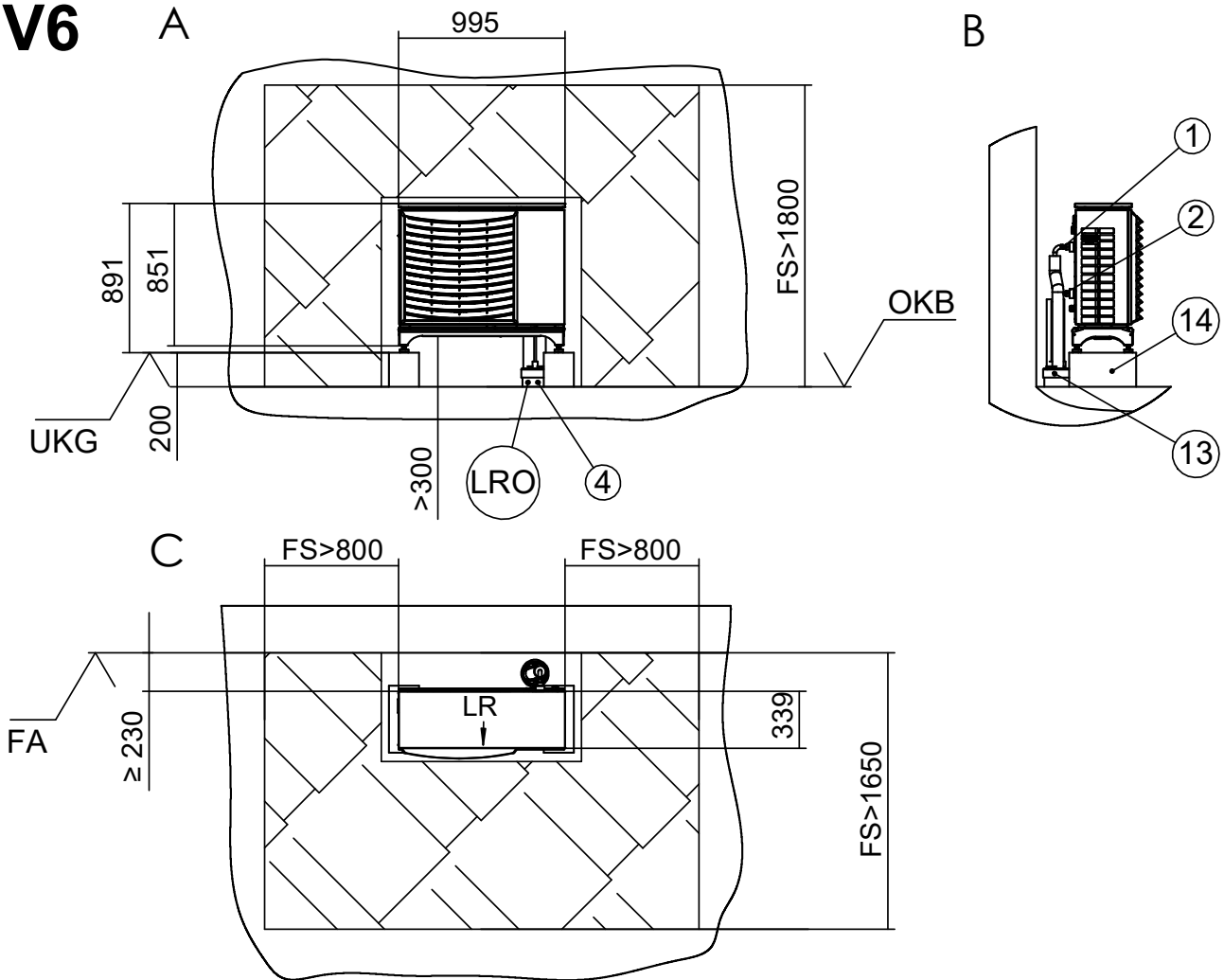
→ „Foundation plan“, page 45



Jersey 5

Hydraulic connection line CPS with concrete foundation and hydraulic connection line HVLD

V6



Key: UK819529b-6

All dimensions in mm.

Item	Name
V6	Version 6
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
4	Hydraulic connection line (accessories HVLD)
13	End cover EDH 32/160 (accessories)
14	Hydraulic connection line (accessories HVLD)

The foundation must not have any structure-borne sound contact with the building.

→ Drill-hole pattern „BB hyd. 3 to V6“, page 42

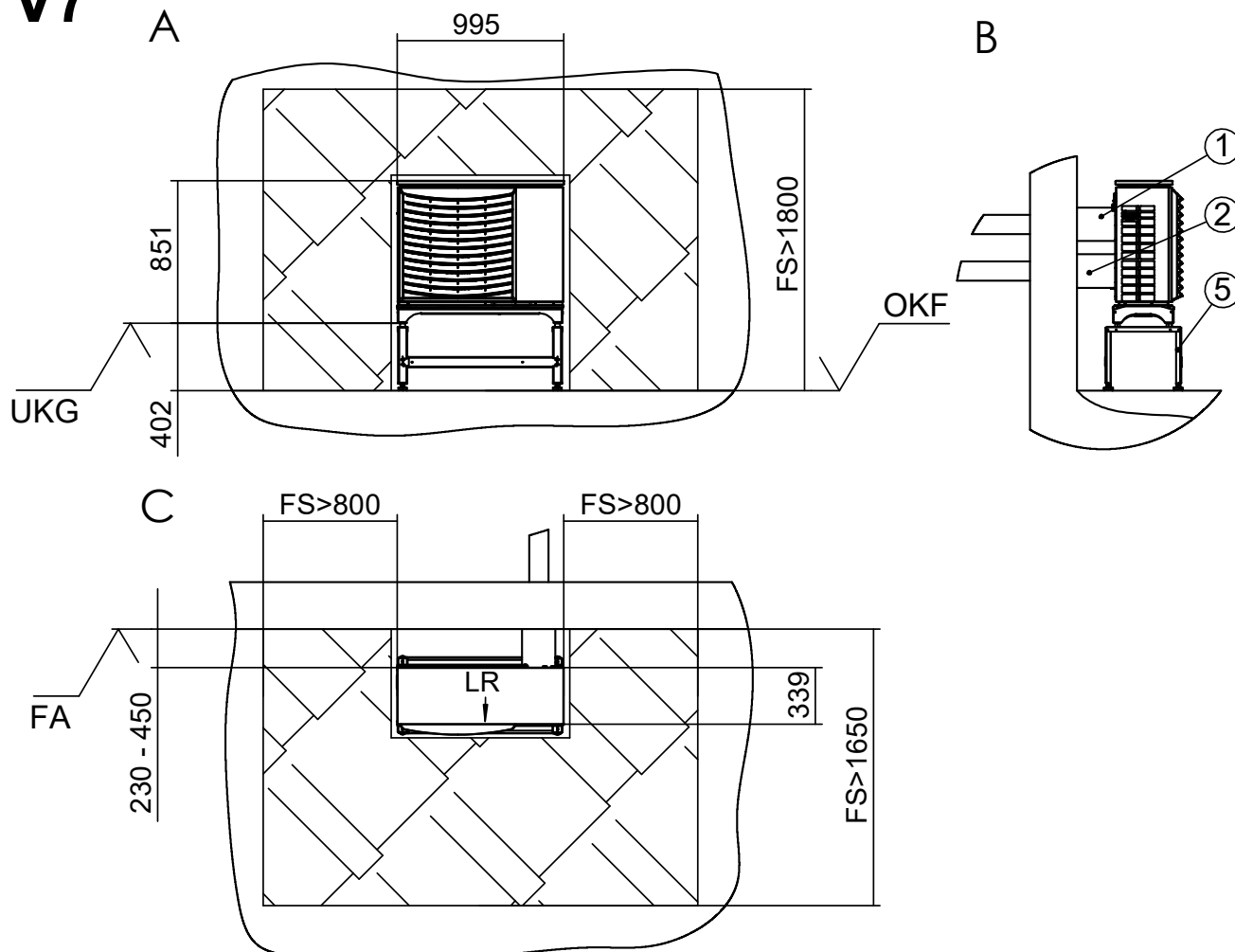
→ „Foundation plan“, page 45



Hydraulic connection line CPH with floor bracket FBU

Jersey 5

V7



Key: UK819529b-7

All dimensions in mm.

Item	Name
V7	Version 7
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPH) G1" external thread
2	Heating water inlet / return (accessories CPH) G1" external thread
5	Floor bracket FBU (accessories)

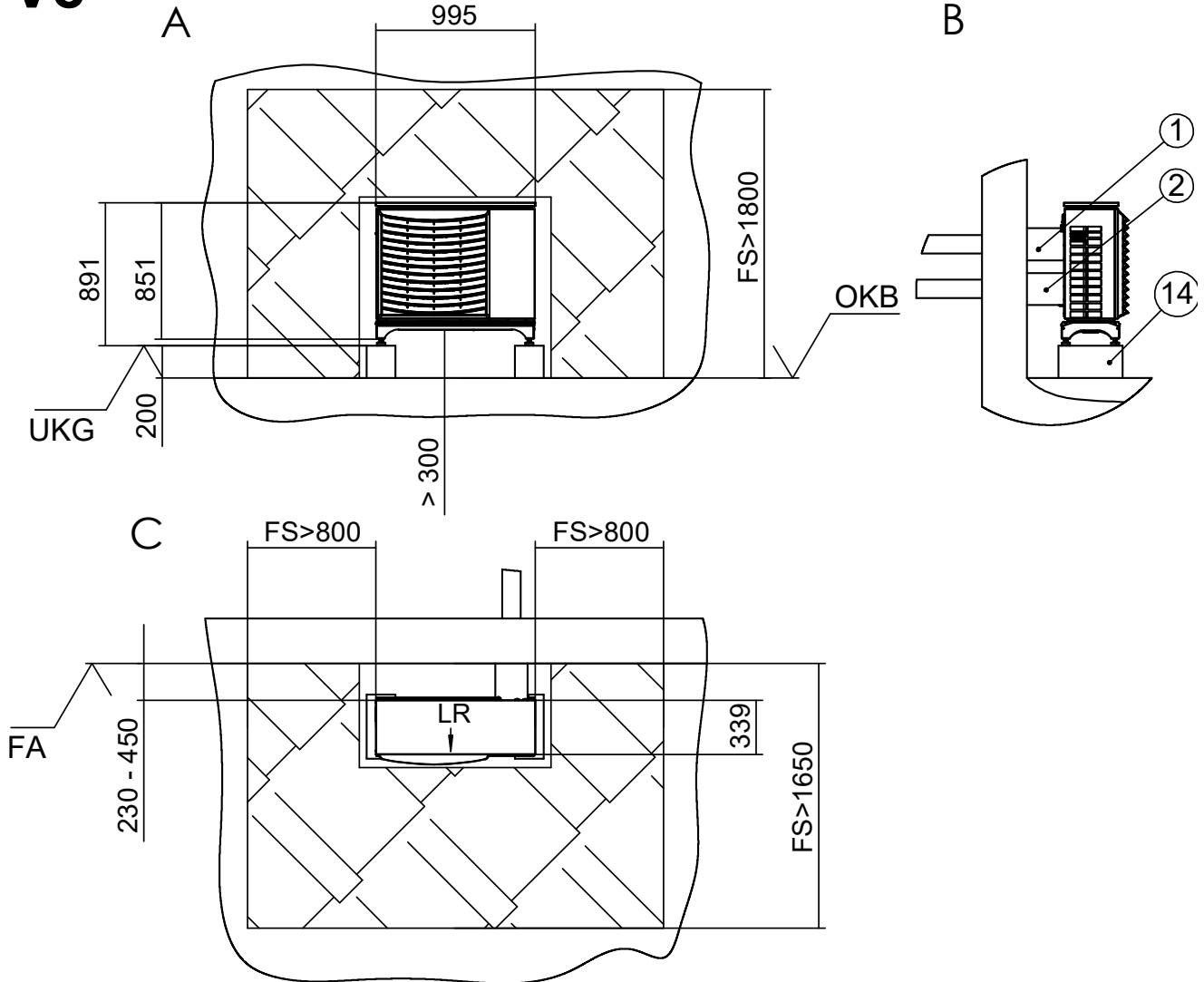
→ Drill-hole pattern „BB4 to V7“, page 39



Jersey 5

Hydraulic connection line CPH with concrete foundation

V8



Key: UK819529b-8
All dimensions in mm.

Item	Name
V8	Version 8
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPH) G1" external thread
2	Heating water inlet / return (accessories CPH) G1" external thread
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

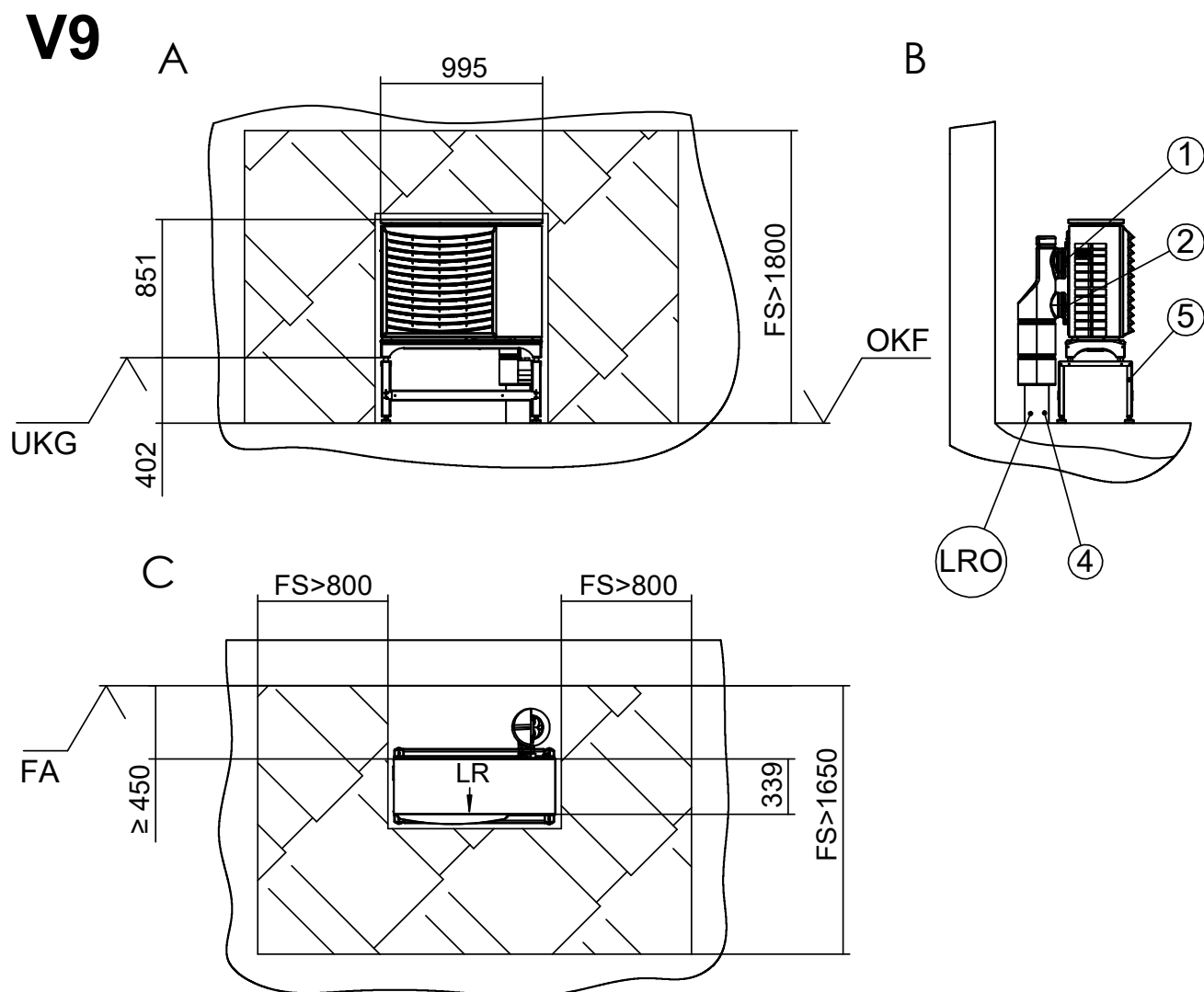
→ Drill-hole pattern „BB6 to V8“, page 39

→ „Foundation plan“, page 45



Hydraulic connection line CPV with floor bracket FBU and hydraulic connection line HVLD

Jersey 5



Key: UK819529b-9

All dimensions in mm.

Item	Name
V9	Version 9
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPV) G1" external thread
2	Heating water inlet / return (accessories CPV) G1" external thread
4	Hydraulic connection line (accessories HVLD)
5	Floor bracket FBU (accessories)

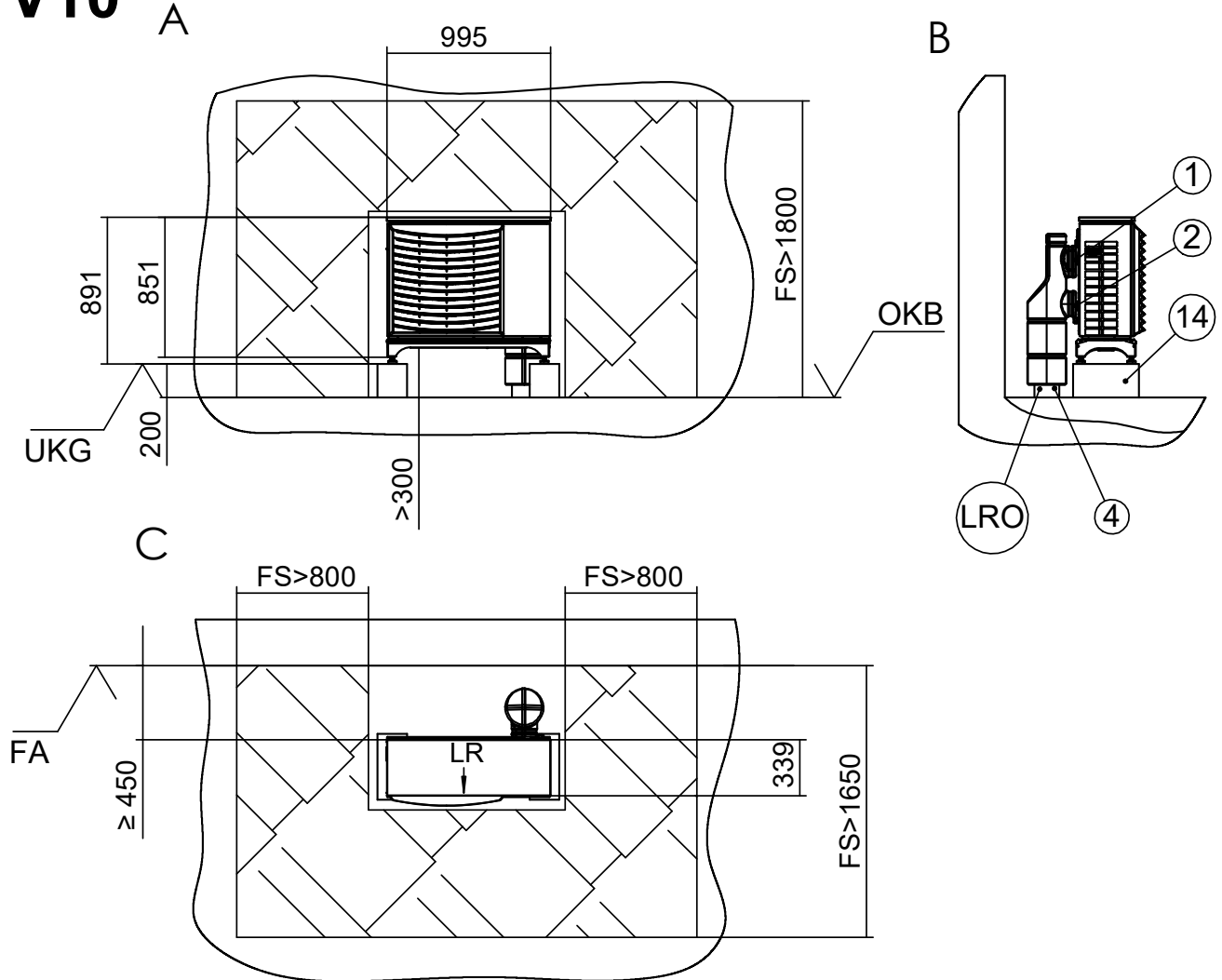
→ Drill-hole pattern „BB hyd. 4 to V9“, page 43



Jersey 5

Hydraulic connection line CPV with concrete foundation and hydraulic connection line HVLD

V10



Key: UK819529b-10

All dimensions in mm.

Item	Name
V10	Version 10
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPV) G1" external thread
2	Heating water inlet / return (accessories CPV) G1" external thread
4	Hydraulic connection line (accessories HVLD)
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

→ Drill-hole pattern „BB hyd. 5 to V10“, page 44

→ „Foundation plan“, page 45

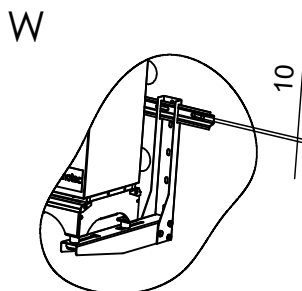
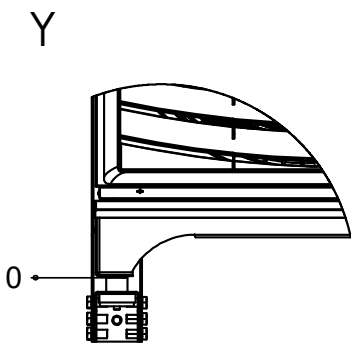
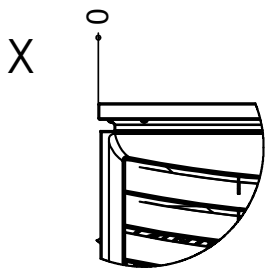
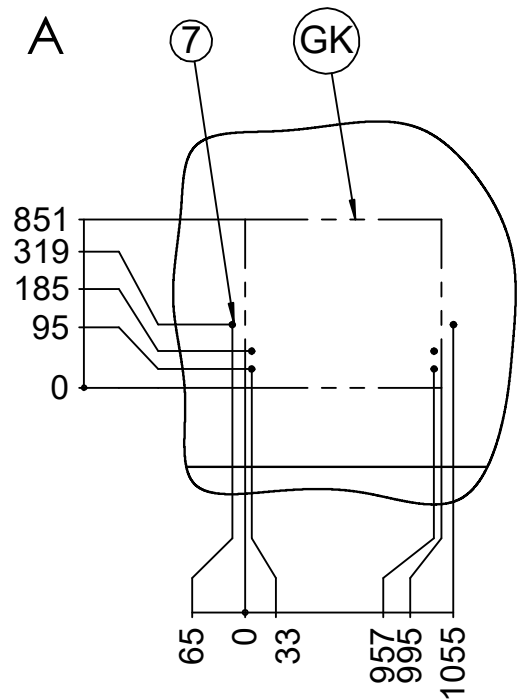
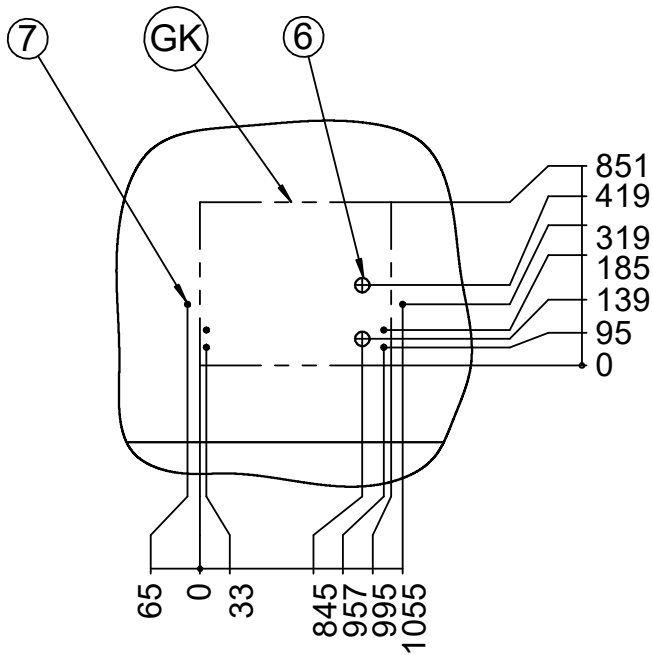


Drill-hole patterns for hydraulic connection line CPS with wall bracket WBU

Jersey 5

BB1 to V1

BB2 to V2



Key: UK819529b-11 / -12

All dimensions in mm.

Item	Name
BB1	Drill-hole pattern for V1, page 27
BB2	Drill-hole pattern for V2, page 28
A	Front view
W	Detailed view of wall mounting
X	Detailed view
Y	Detailed view
GK	Unit contour
6	Drill hole for reserve conduit DN 75 (on site)
7	Mounting holes for wall bracket WBU (accessories)

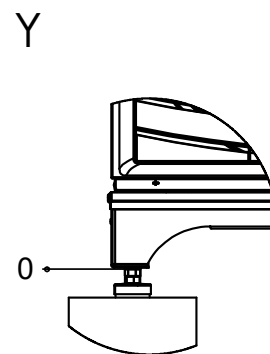
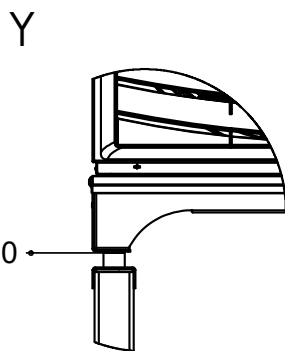
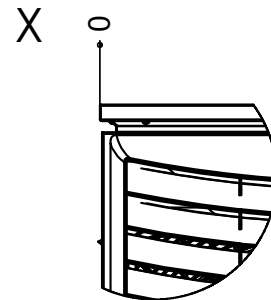
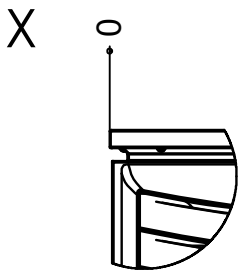
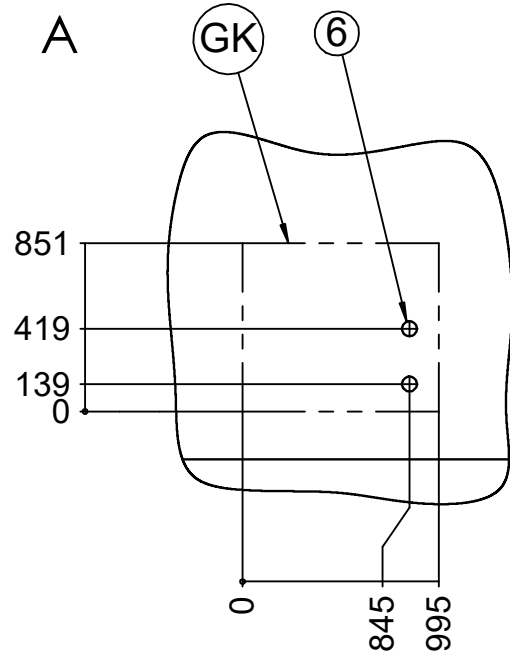
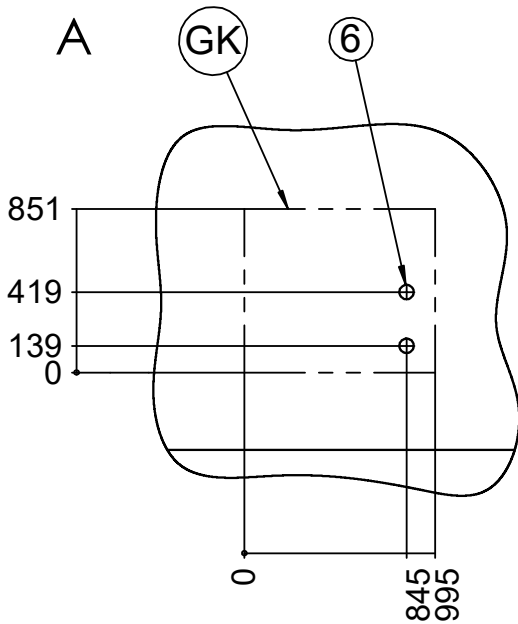


Jersey 5

Drill-hole patterns for hydraulic connection line CPS with floor bracket FBU or concrete foundation

BB3 to V3

BB5 to V5



Key: UK819529b-13 / -15

All dimensions in mm.

Item	Name
BB3	Drill-hole pattern for V3, page 29
BB5	Drill-hole pattern for V5, page 31
A	Front view
GK	Unit contour
6	Drill hole for reserve conduit DN 75 (on site)

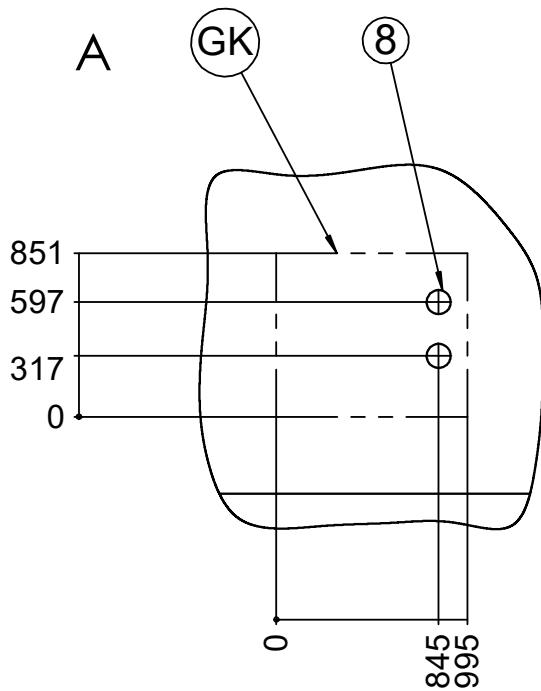
Item	Name
X	Detailed view
Y	Detailed view



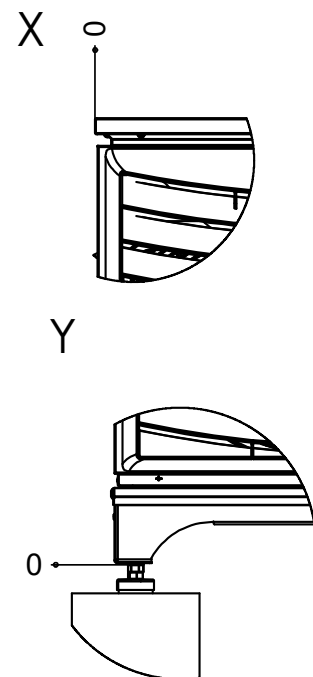
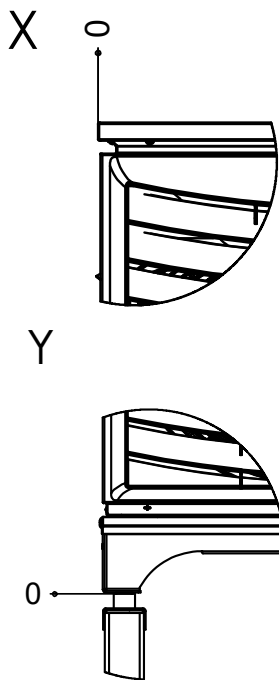
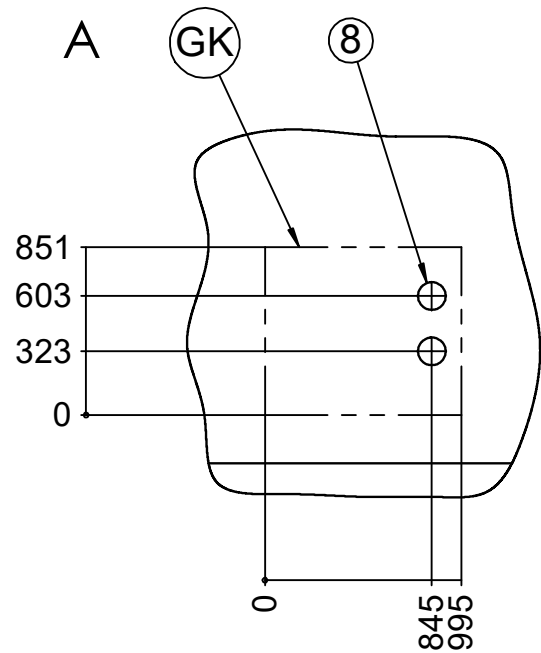
Drill-hole patterns for hydraulic connection line CPH with floor bracket FBU or concrete foundation

Jersey 5

BB4 to V7



BB6 to V8



Key: UK819529b-14 / -16

All dimensions in mm.

Item	Name
BB4	Drill-hole pattern for V7, page 33
BB6	Drill-hole pattern for V8, page 34
A	Front view
GK	Unit contour
8	Drill hole for reserve conduit DN 125 (on site)

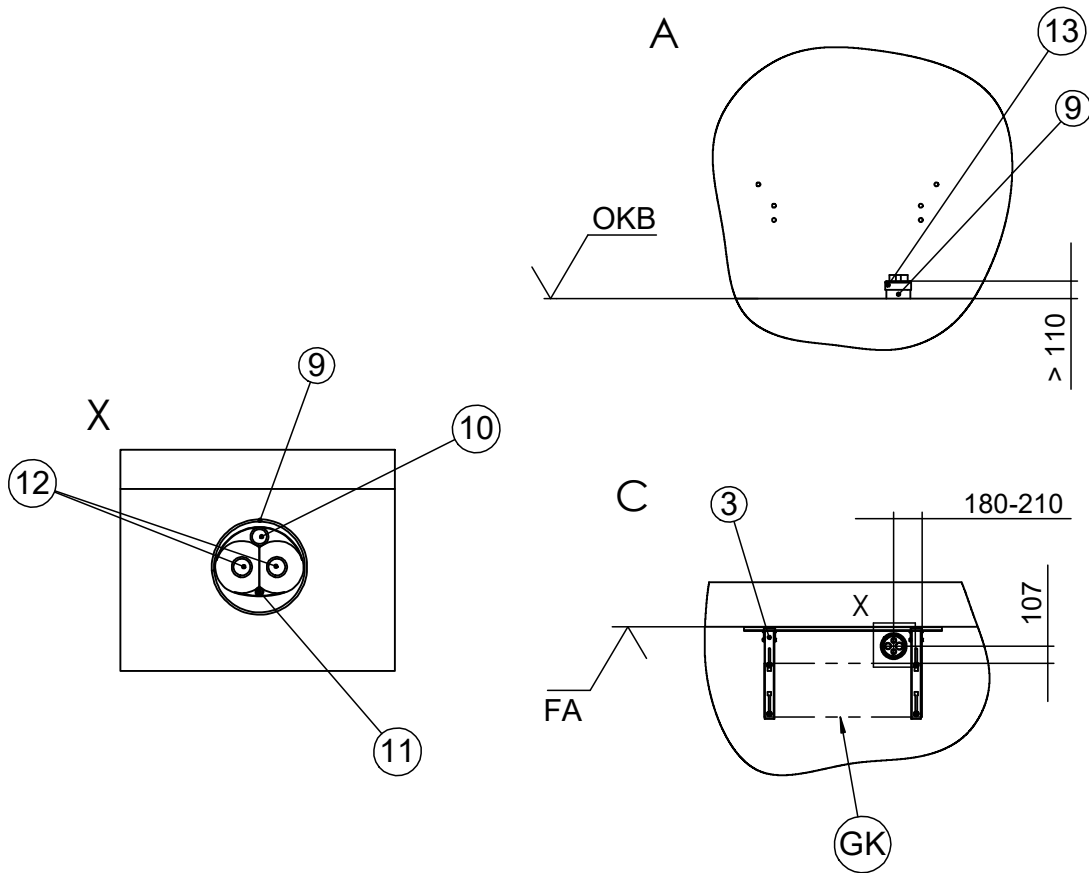
Item	Name
X	Detailed view
Y	Detailed view



Jersey 5

Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and wall bracket WBU

BB hyd. 1 to V2



Key: UK819529b-17

All dimensions in mm.

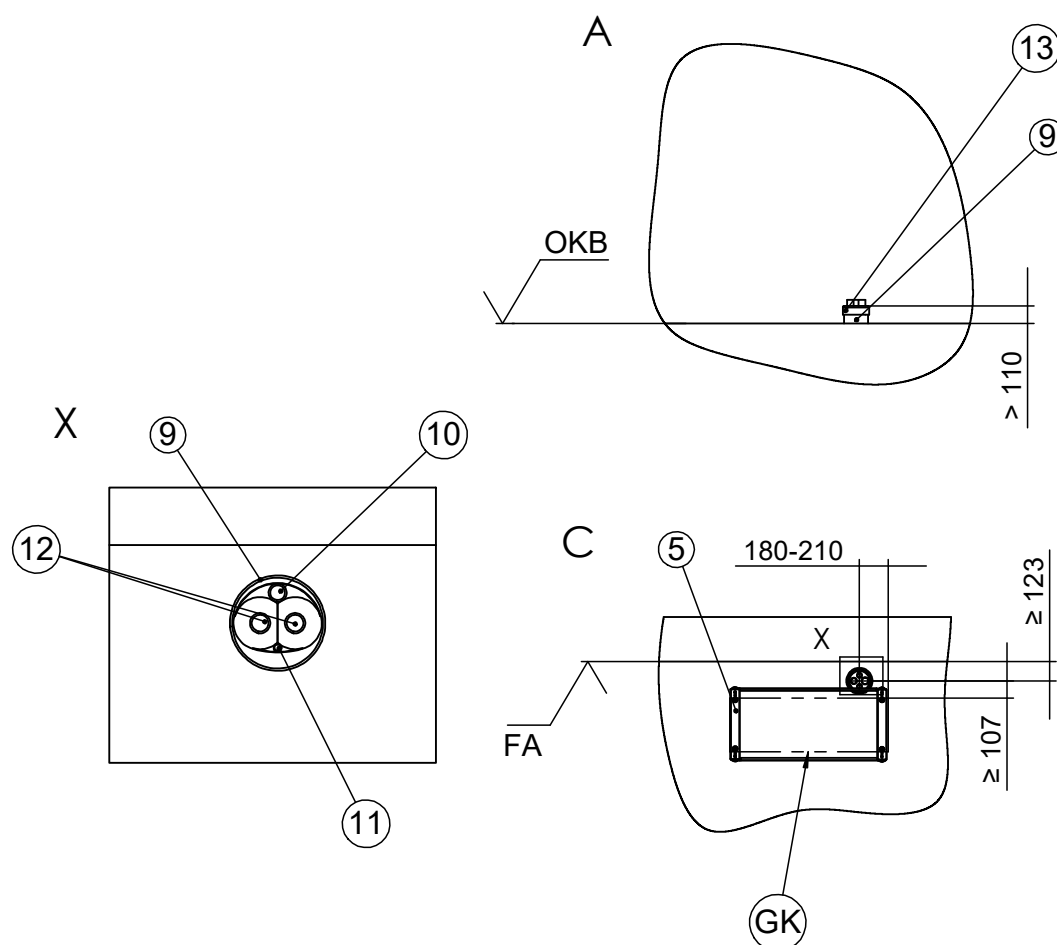
Item	Name
BB hyd. 1	Drill-hole pattern for V2, page 28
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
3	Wall bracket WBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and floor bracket FBU

Jersey 5

BB hyd. 2 to V4



Key: UK819529b-18

All dimensions in mm.

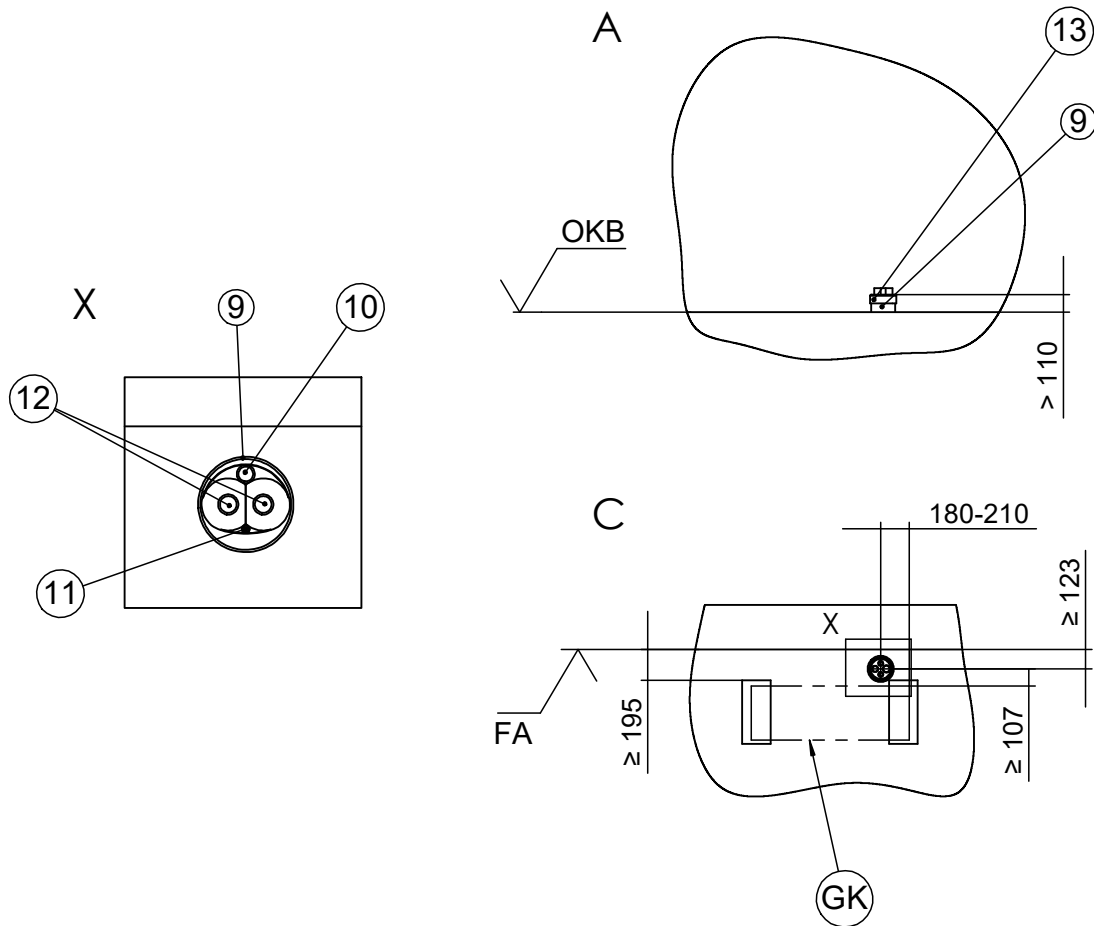
Item	Name
BB hyd. 2	Drill-hole pattern for V4, page 30
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
5	Floor bracket FBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Jersey 5

Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and concrete foundation

BB hyd. 3 to V6



Key: UK819529b-19

All dimensions in mm.

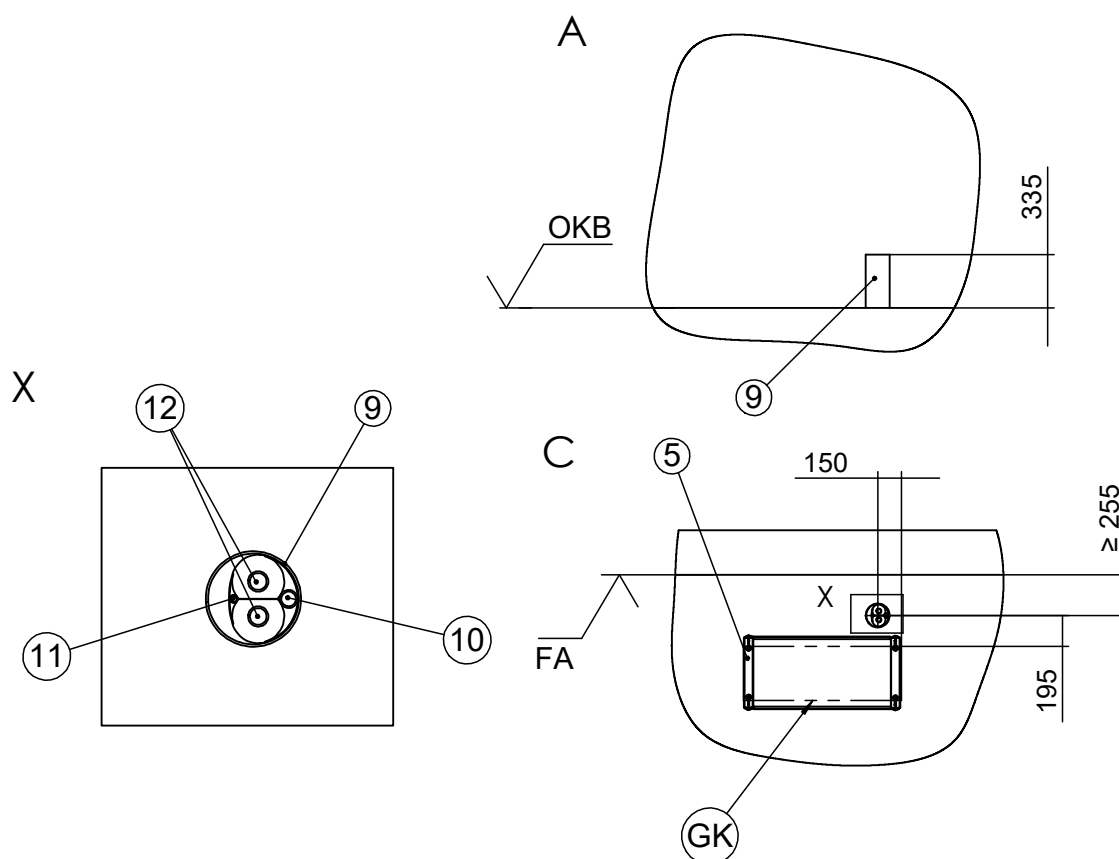
Item	Name
BB hyd. 3	Drill-hole pattern for V6, page 32
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPV and floor bracket FBU

Jersey 5

BB hyd. 4 to V9



Key: UK819529b-20

All dimensions in mm.

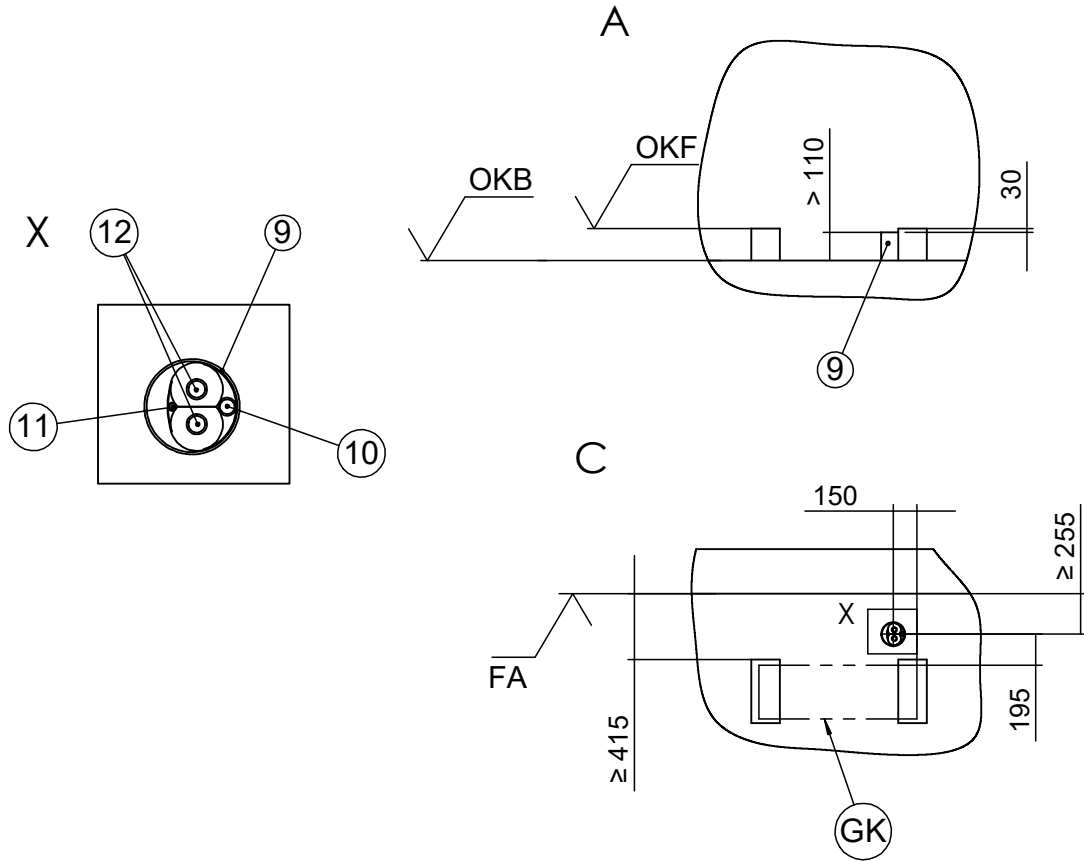
Item	Name
BB hyd. 4	Drill-hole pattern for V9, page 35
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
5	Floor bracket FBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Jersey 5

Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPV and concrete foundation

BB hyd. 5 to V10



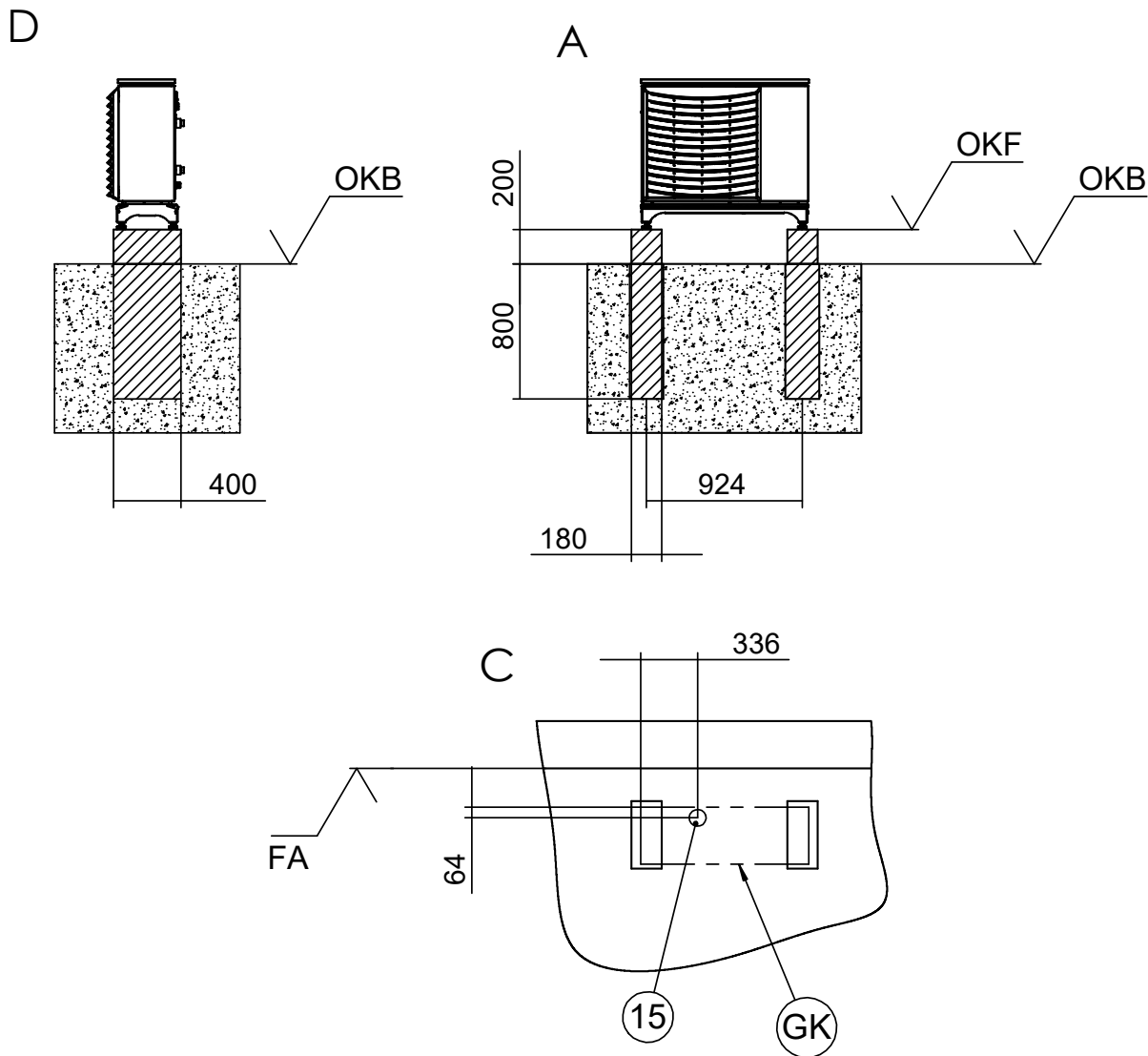
Key: UK819529b-21

All dimensions in mm.

Item	Name
BB hyd. 5	Drill-hole pattern for V10, page 36
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
OKF	Top edge of concrete foundation
X	Detailed view of hydraulic connection line HVLD (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



FU



Key: UK819529b-22
 All dimensions in mm.

Item	Name
FU	Foundation plan for V5, page 31, V6, page 32, V8, page 34, and V10, page 36
A	Front view
C	Plan view
D	Side view from right
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
OKF	Top edge of concrete foundation
15	Empty conduit KG DN 100 (on site) for condensate drain pipe

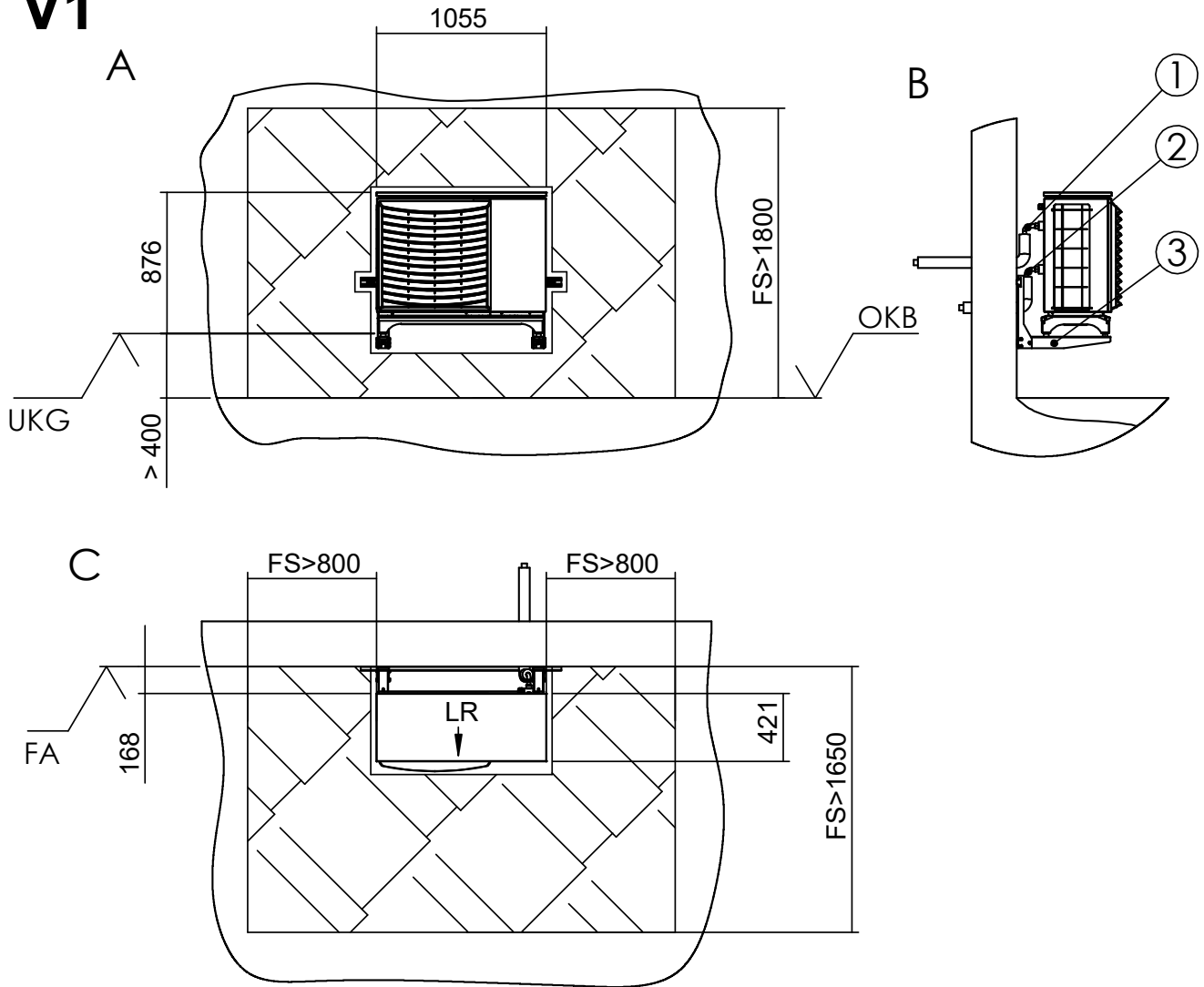
The foundation must not have any structure-borne sound contact with the building.



Jersey 7

Hydraulic connection line CPS with wall bracket WBU

V1



Key: UK819530b-1

All dimensions in mm.

Item	Name
V1	Version 1
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

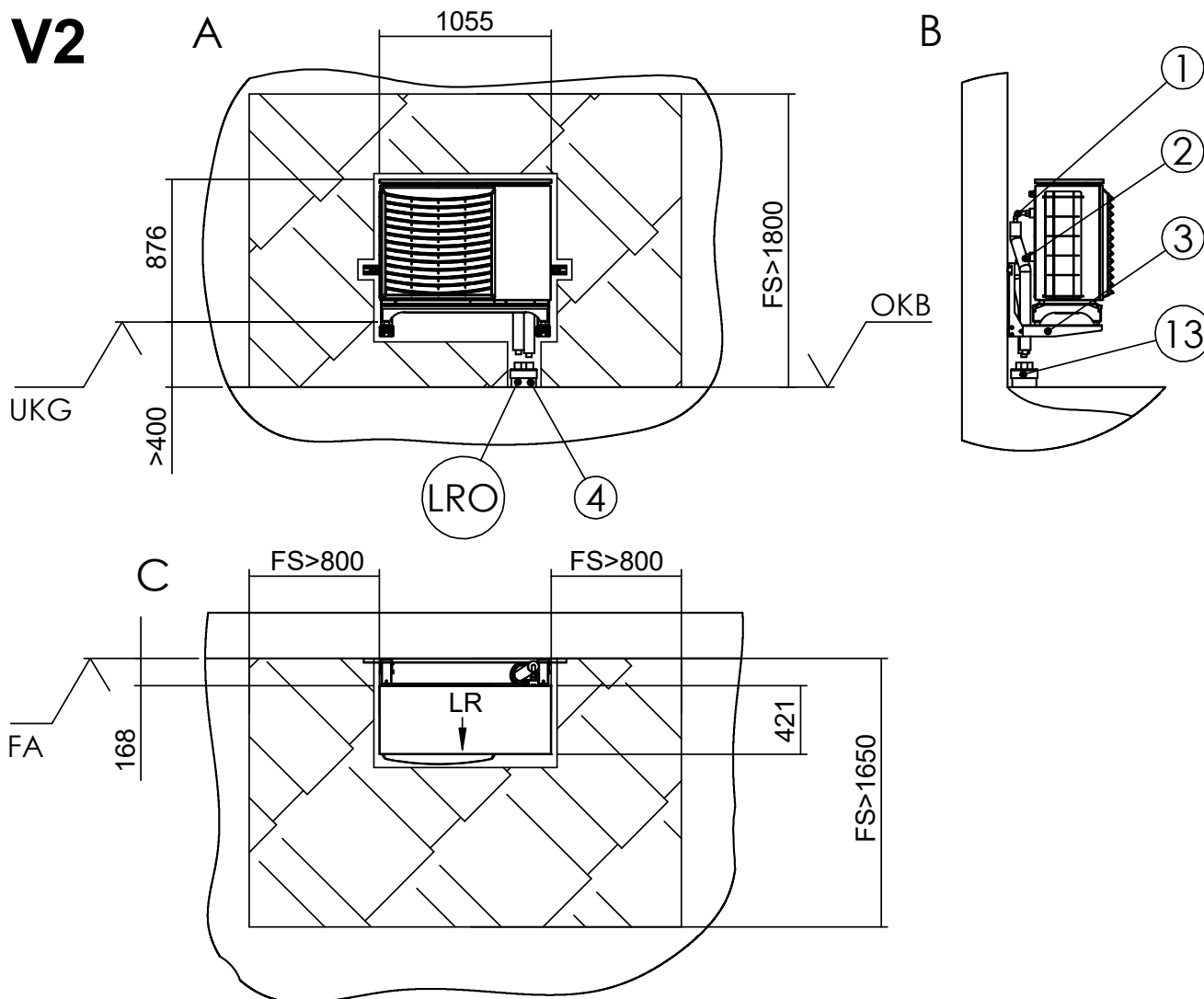
Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
3	Wall bracket WBU (accessories) Wall bracket WBU is not suitable for façades with composite heating systems.

→ Drill-hole pattern „BB1 to V1“, page 56



Hydraulic connection lines CPS with wall bracket WBU and hydraulic connection line HVLD

Jersey 7



Key: UK819530b-2

All dimensions in mm.

Item	Name
V2	Version 2
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

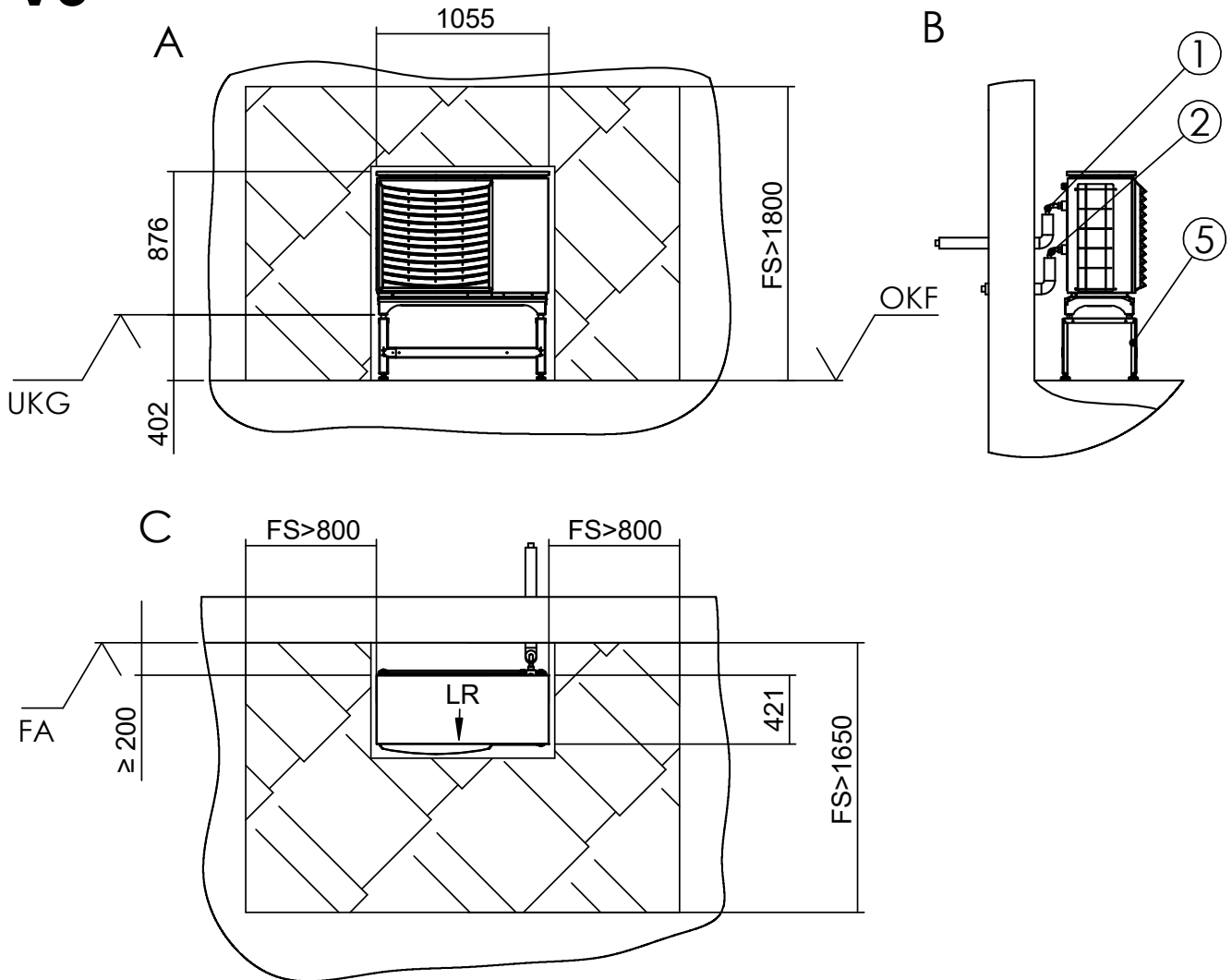
Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
3	Wall bracket WBU (accessories) Wall bracket WBU is not suitable for façades with composite heating systems.
4	Hydraulic connection line (accessories HVLD)
13	End cover EDH 32/160 (accessories)
→	Drill-hole pattern „BB2 to V2“, page 56
→	Drill-hole pattern „BB hyd. 1 to V2“, page 59



Jersey 7

Hydraulic connection line CPS with floor bracket FBU

V3



Key: UK819530b-3

All dimensions in mm.

Item	Name
V3	Version 3
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
5	Floor bracket FBU (accessories)

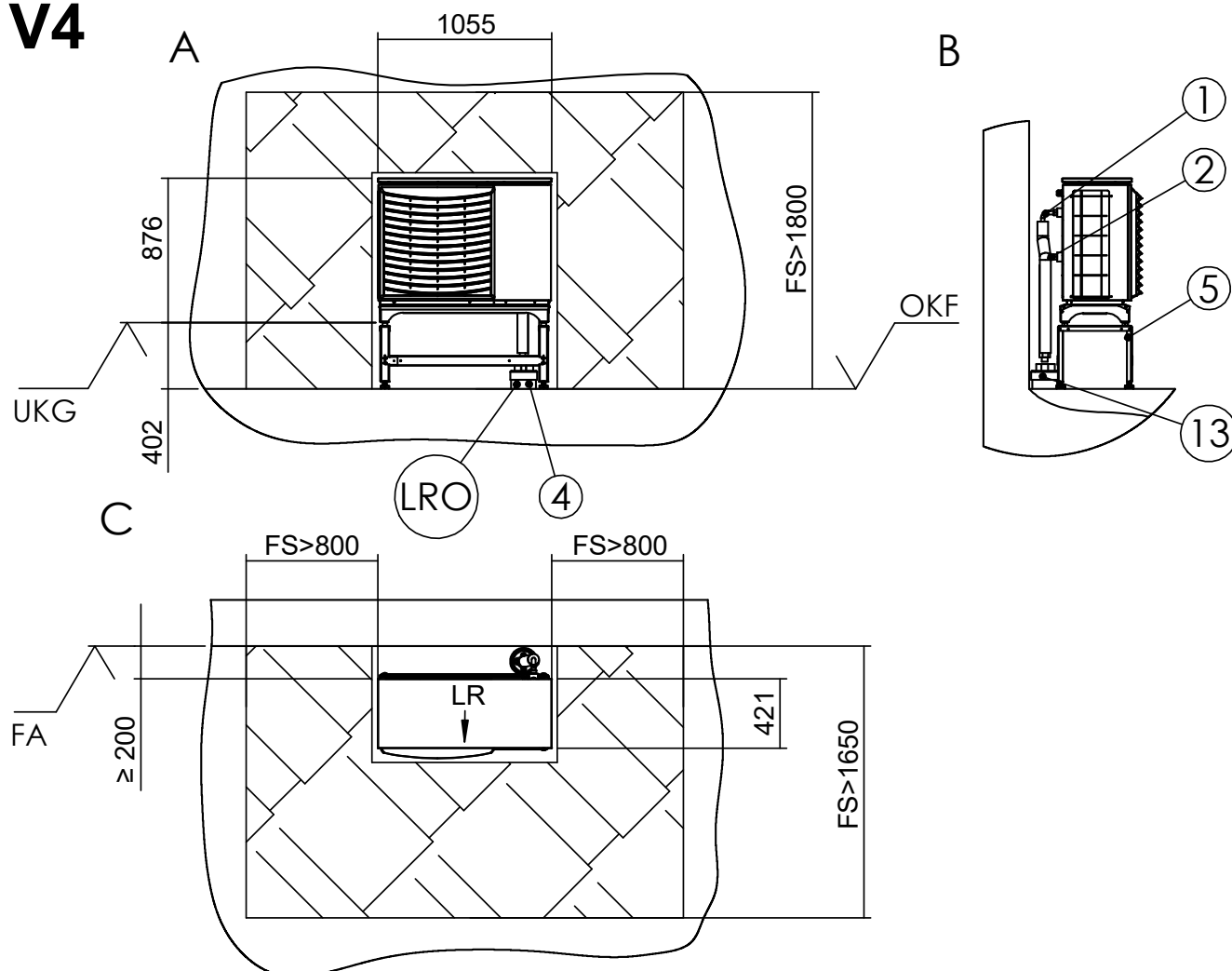
→ Drill-hole pattern „BB3 to V3“, page 57



Hydraulic connection line CPS with floor bracket FBU and hydraulic connection line HVLD

Jersey 7

V4



Key: UK819530b-4

All dimensions in mm.

Item	Name
V4	Version 4
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
4	Hydraulic connection line (accessories HVLD)
5	Floor bracket FBU (accessories)
13	End cover EDH 32/160 (accessories)

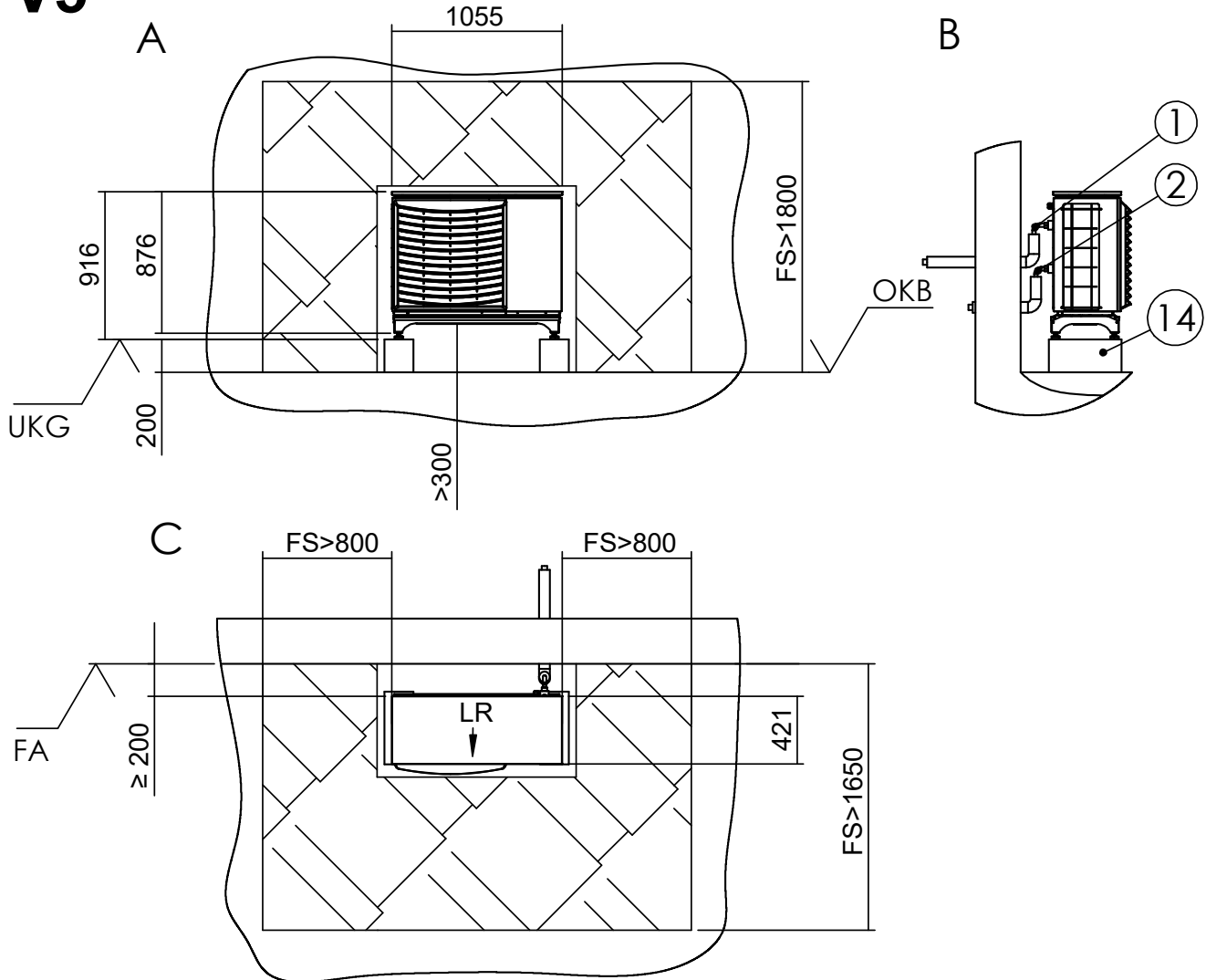
→ Drill-hole pattern „BB hyd. 2 to V4“, page 60



Jersey 7

Hydraulic connection line CPS with concrete foundation

V5



Key: UK819530b-5
All dimensions in mm.

Item	Name
V5	Version 5
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

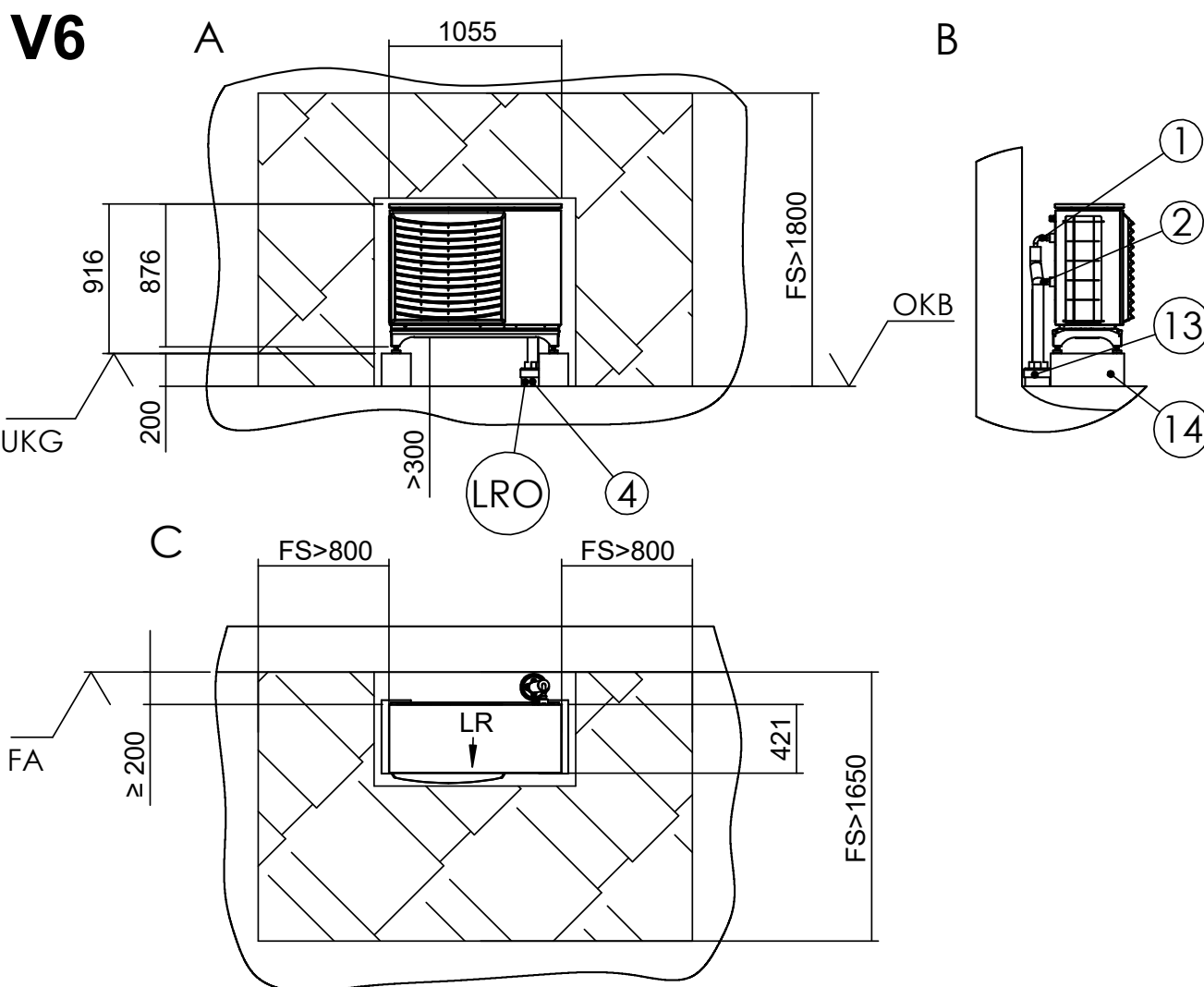
→ Drill-hole pattern „BB5 to V5“, page 57

→ „Foundation plan“, page 64



Hydraulic connection line CPS with concrete foundation and hydraulic connection line HVLD

Jersey 7



Key: UK819530b-6

All dimensions in mm.

Item	Name
V6	Version 6
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPS) G1" external thread
2	Heating water inlet / return (accessories CPS) G1" external thread
4	Hydraulic connection line (accessories HVLD)
13	End cover EDH 32/160 (accessories)
14	Hydraulic connection line (accessories HVLD)

The foundation must not have any structure-borne sound contact with the building.

→ Drill-hole pattern „BB hyd. 3 to V6“, page 61

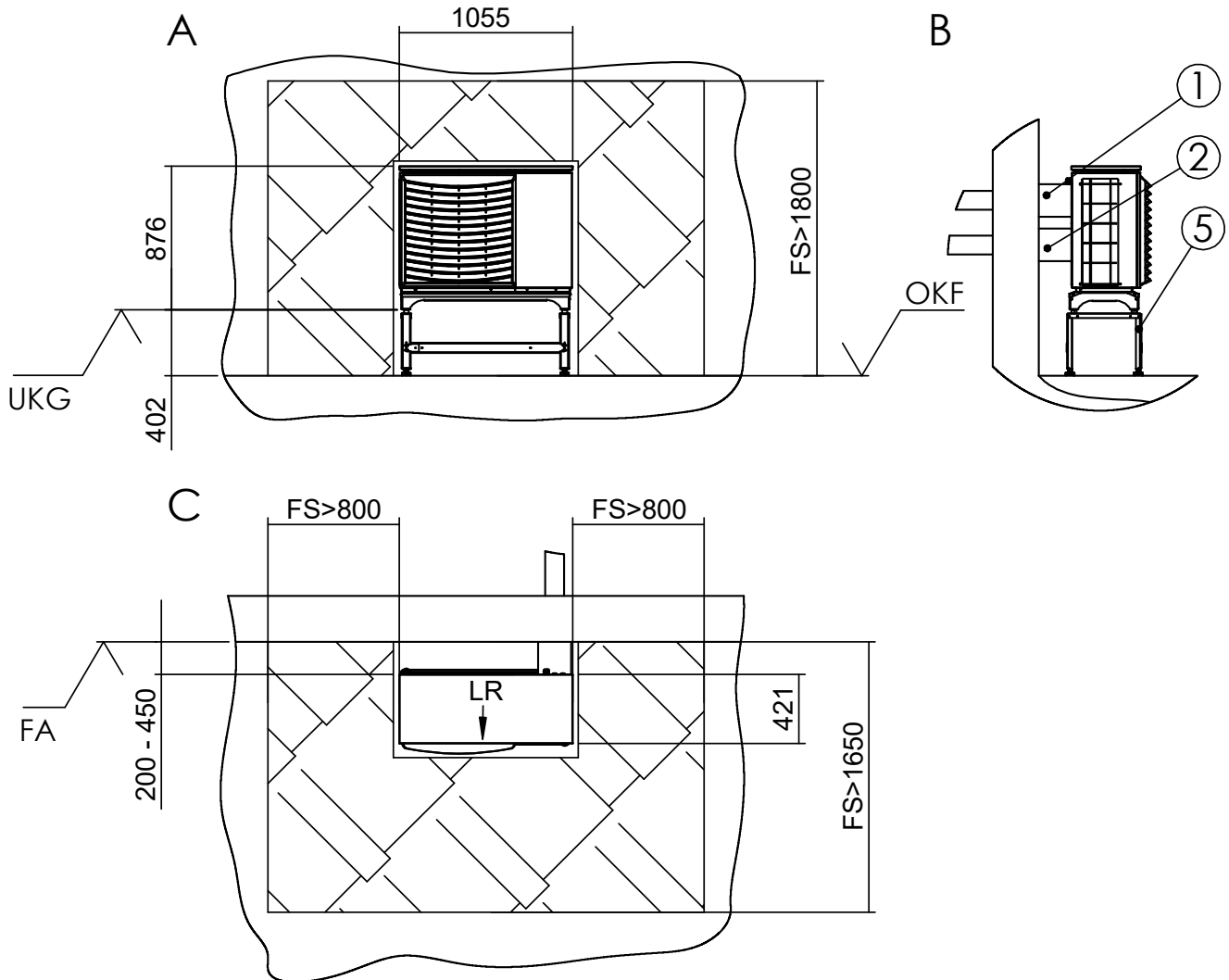
→ „Foundation plan“, page 64



Jersey 7

Hydraulic connection line CPH with floor bracket FBU

V7



Key: UK819530b-7

All dimensions in mm.

Item	Name
V7	Version 7
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPH) G1" external thread
2	Heating water inlet / return (accessories CPH) G1" external thread
5	Floor bracket FBU (accessories)

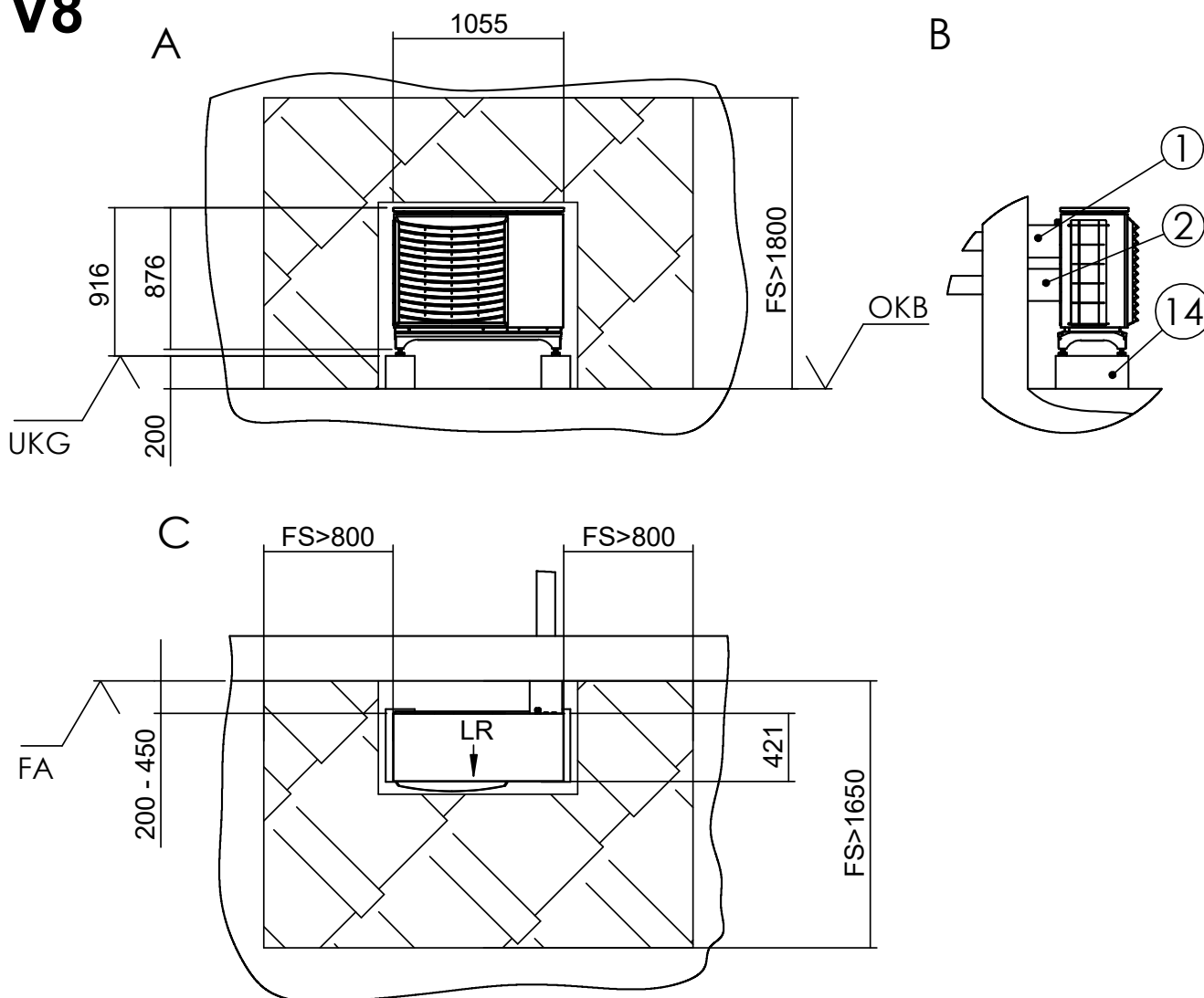
→ Drill-hole pattern „BB4 to V7“, page 58



Hydraulic connection line CPH with concrete foundation

Jersey 7

V8



Key: UK819530b-8

All dimensions in mm.

Item	Name
V8	Version 8
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKB	Top edge of floor
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPH) G1" external thread
2	Heating water inlet / return (accessories CPH) G1" external thread
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

→ Drill-hole pattern „BB6 to V8“, page 58

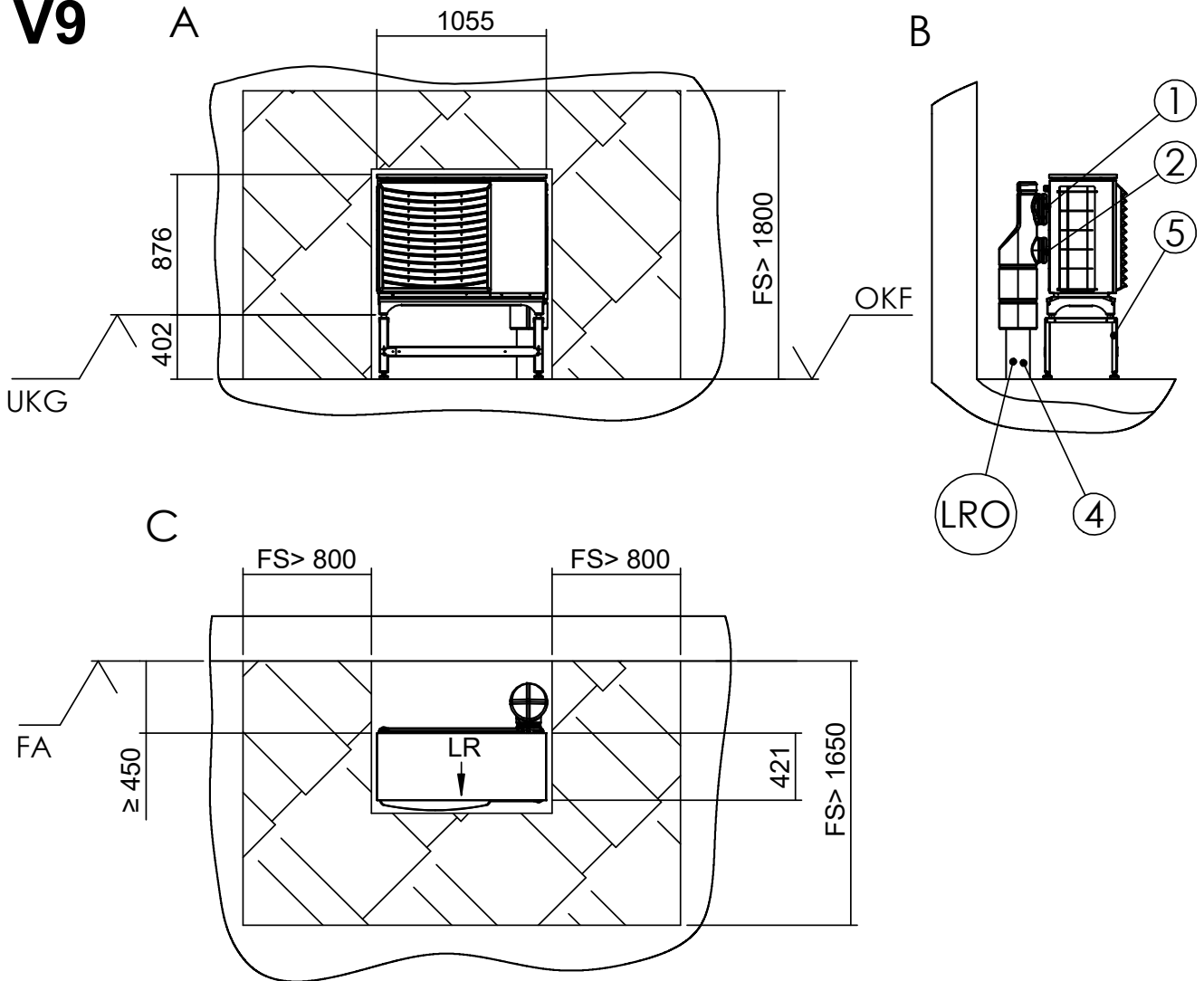
→ „Foundation plan“, page 64



Jersey 7

Hydraulic connection line CPV with floor bracket FBU and hydraulic connection line HVLD

V9



Key: UK819530b-9

All dimensions in mm.

Item	Name
V9	Version 9
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

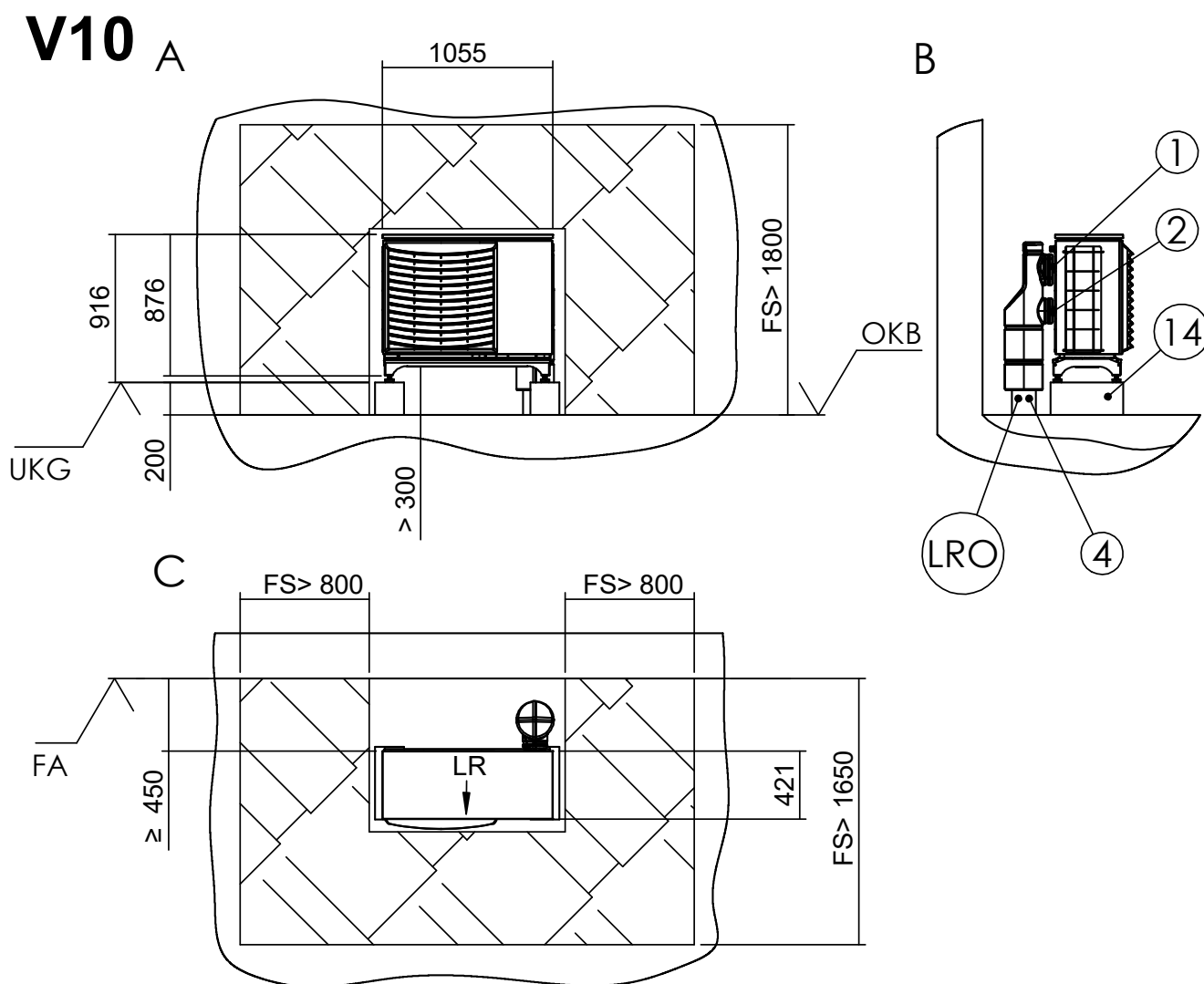
Item	Name
1	Heating water outlet / supply (accessories CPV) G1" external thread
2	Heating water inlet / return (accessories CPV) G1" external thread
4	Hydraulic connection line (accessories HVLD)
5	Floor bracket FBU (accessories)

→ Drill-hole pattern „BB hyd. 4 to V9“, page 62



Hydraulic connection line CPV with concrete foundation and hydraulic connection line HVLD

Jersey 7



Key: UK819530b-10
All dimensions in mm.

Item	Name
V10	Version 10
A	Front view
B	Side view from the left
C	Plan view
FA	Complete external façade
UKG	Bottom edge of unit
OKF	Top edge of concrete foundation
LRO	Reserve conduit KG DN 150 (on site)
LR	Air direction
FS	Free space for service purposes

Item	Name
1	Heating water outlet / supply (accessories CPV) G1" external thread
2	Heating water inlet / return (accessories CPV) G1" external thread
4	Hydraulic connection line (accessories HVLD)
14	Concrete foundation

The foundation must not have any structure-borne sound contact with the building.

- Drill-hole pattern „BB hyd. 5 to V10“, page 63
- „Foundation plan“, page 64

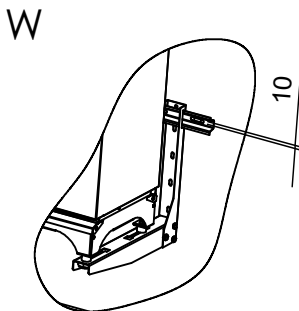
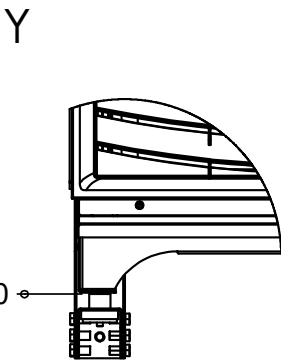
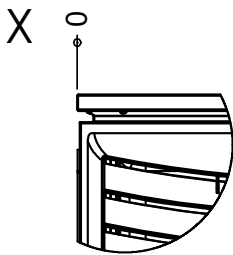
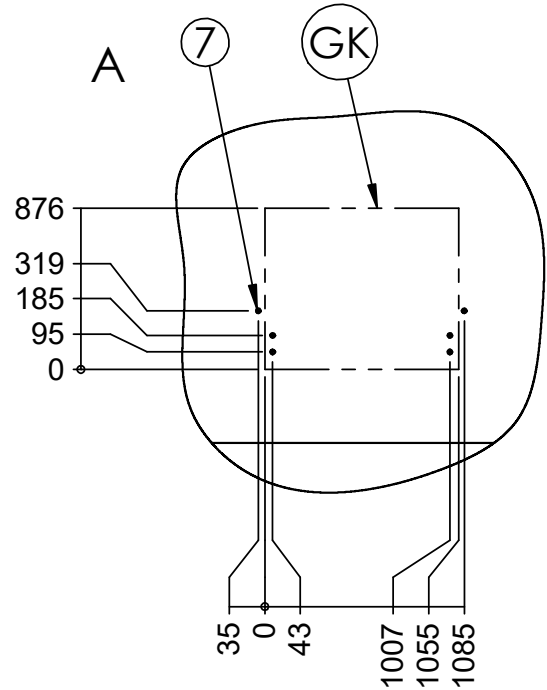
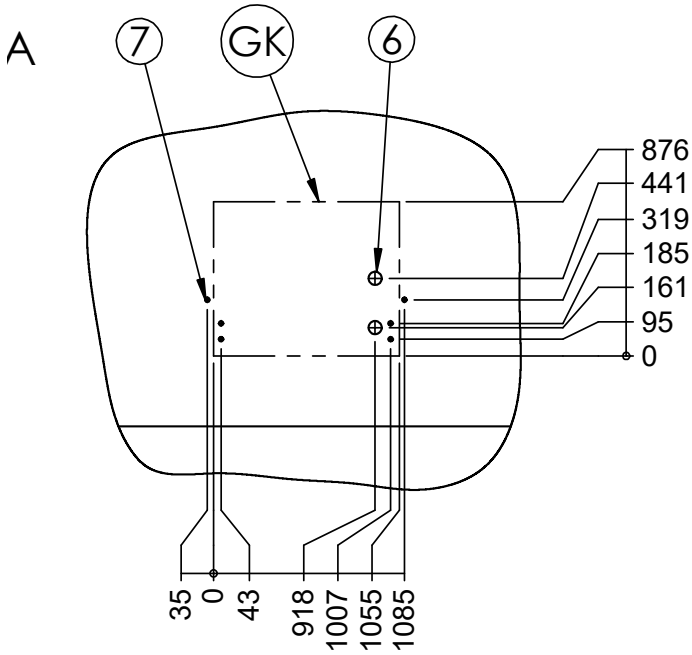


Jersey 7

Drill-hole patterns for hydraulic connection line CPS with wall bracket WBU

BB1 to V1

BB2 to V2



Key: UK819530b-11 / -12
All dimensions in mm.

Item	Name
BB1	Drill-hole pattern for V1, page 46
BB2	Drill-hole pattern for V2, page 47
A	Front view
W	Detailed view of wall mounting
X	Detailed view
Y	Detailed view
GK	Unit contour
6	Drill hole for reserve conduit DN 75 (on site)
7	Mounting holes for wall bracket WBU (accessories)

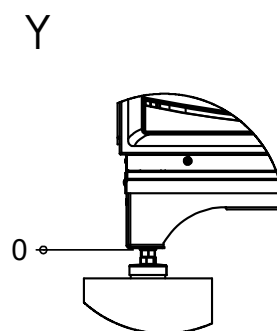
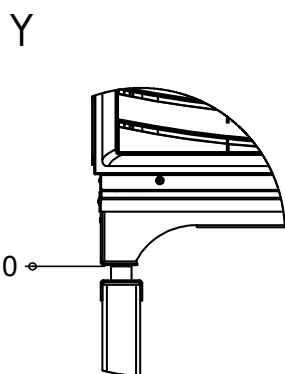
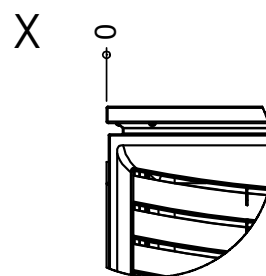
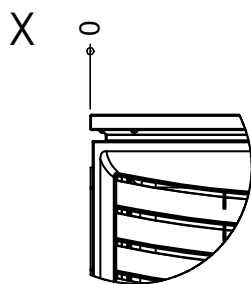
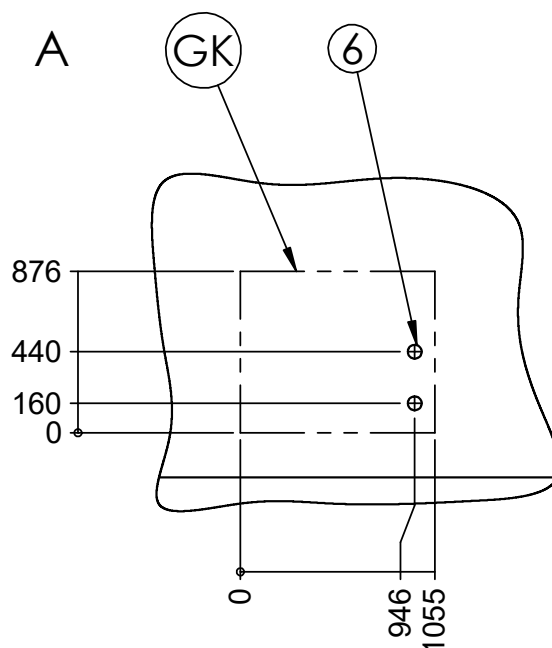
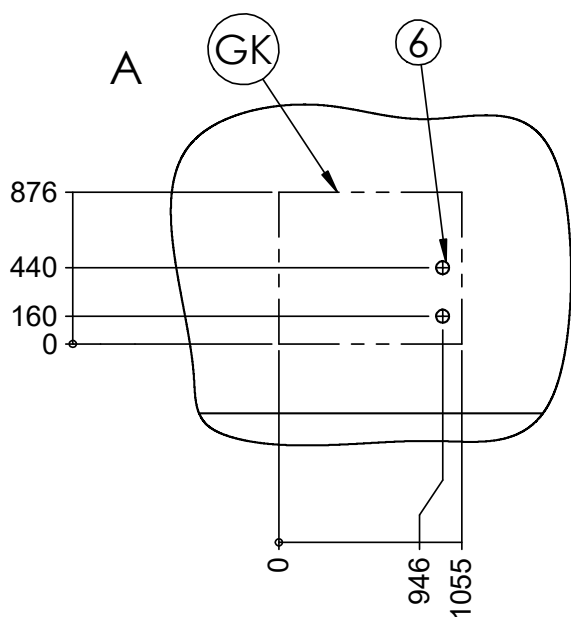


Drill-hole patterns for hydraulic connection line CPS with floor bracket FBU or concrete foundation

Jersey 7

BB3 to V3

BB5 to V5



Key: UK819530b-13 / -15

All dimensions in mm.

Item	Name
BB3	Drill-hole pattern for V3, page 48
BB5	Drill-hole pattern for V5, page 50
A	Front view
GK	Unit contour
6	Drill hole for reserve conduit DN 75 (on site)

Item	Name
X	Detailed view
Y	Detailed view

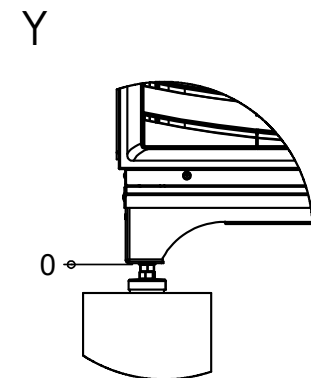
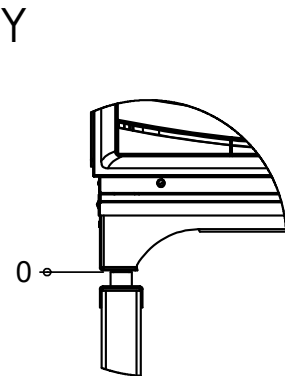
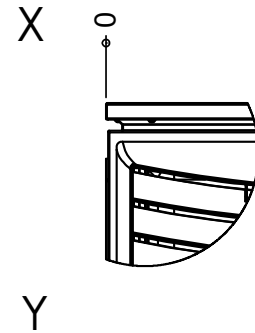
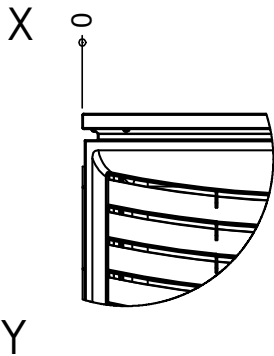
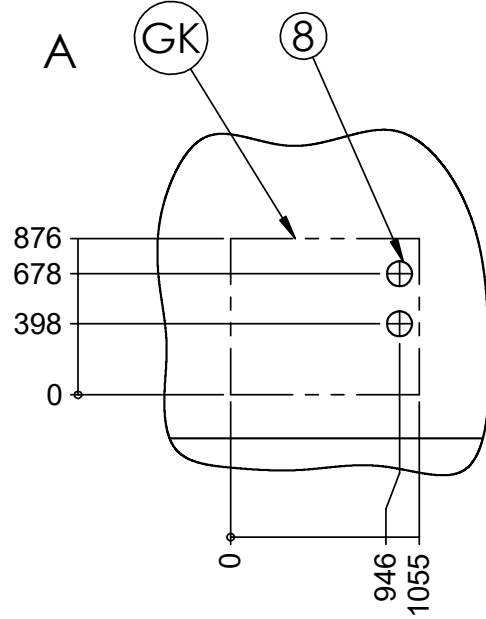
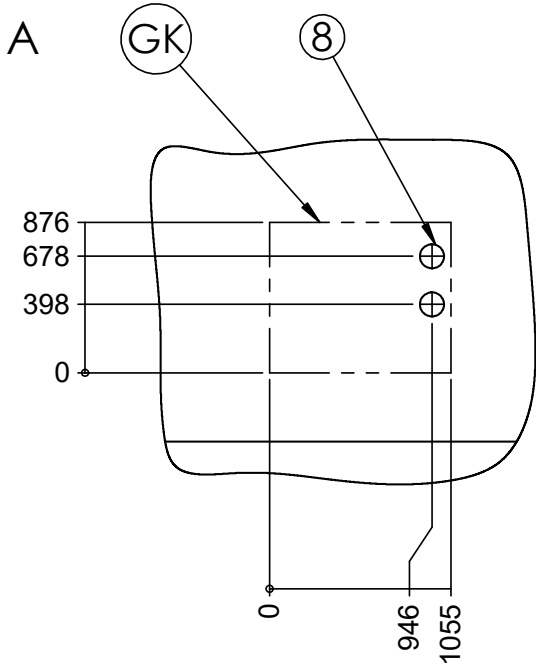


Jersey 7

Drill-hole patterns for hydraulic connection line CPH with floor bracket FBU or concrete foundation

BB4 to V7

BB6 to V8



Key: UK819530b-14 / -16

All dimensions in mm.

Item	Name
BB4	Drill-hole pattern for V7, page 52
BB6	Drill-hole pattern for V8, page 53
A	Front view
GK	Unit contour
8	Drill hole for reserve conduit DN 125 (on site)

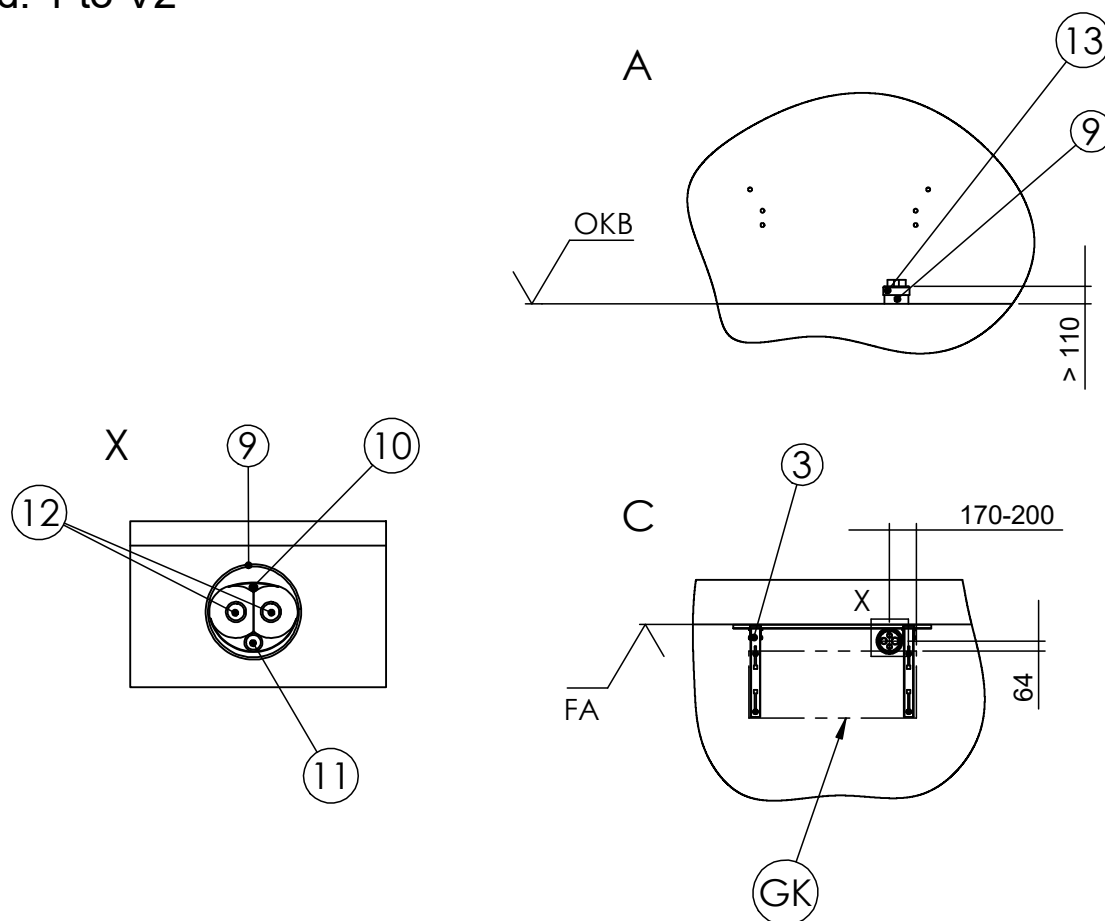
Item	Name
X	Detailed view
Y	Detailed view



Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and wall bracket WBU

Jersey 7

BB hyd. 1 to V2



Key: UK819530b-17

All dimensions in mm.

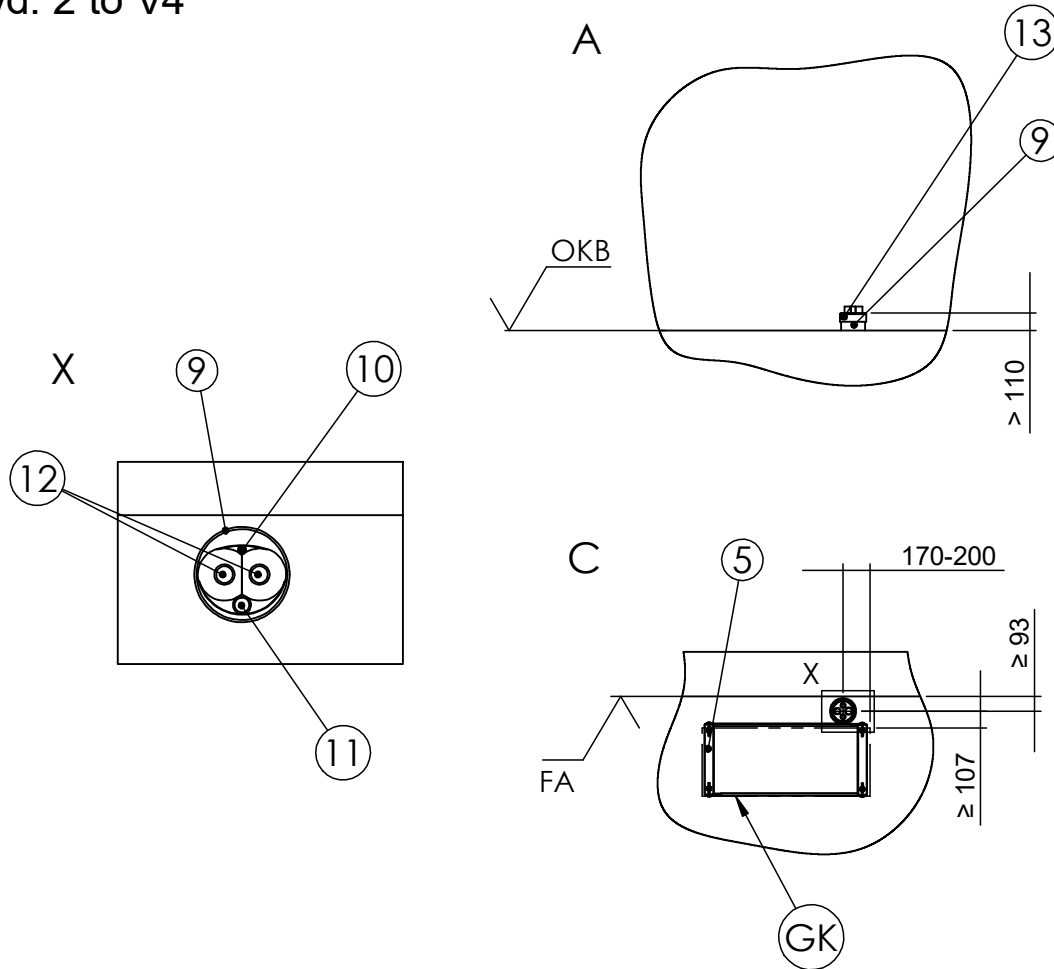
Item	Name
BB hyd. 1	Drill-hole pattern for V2, page 47
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
3	Wall bracket WBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Jersey 7

Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and floor bracket FBU

BB hyd. 2 to V4



Key: UK819530b-18

All dimensions in mm.

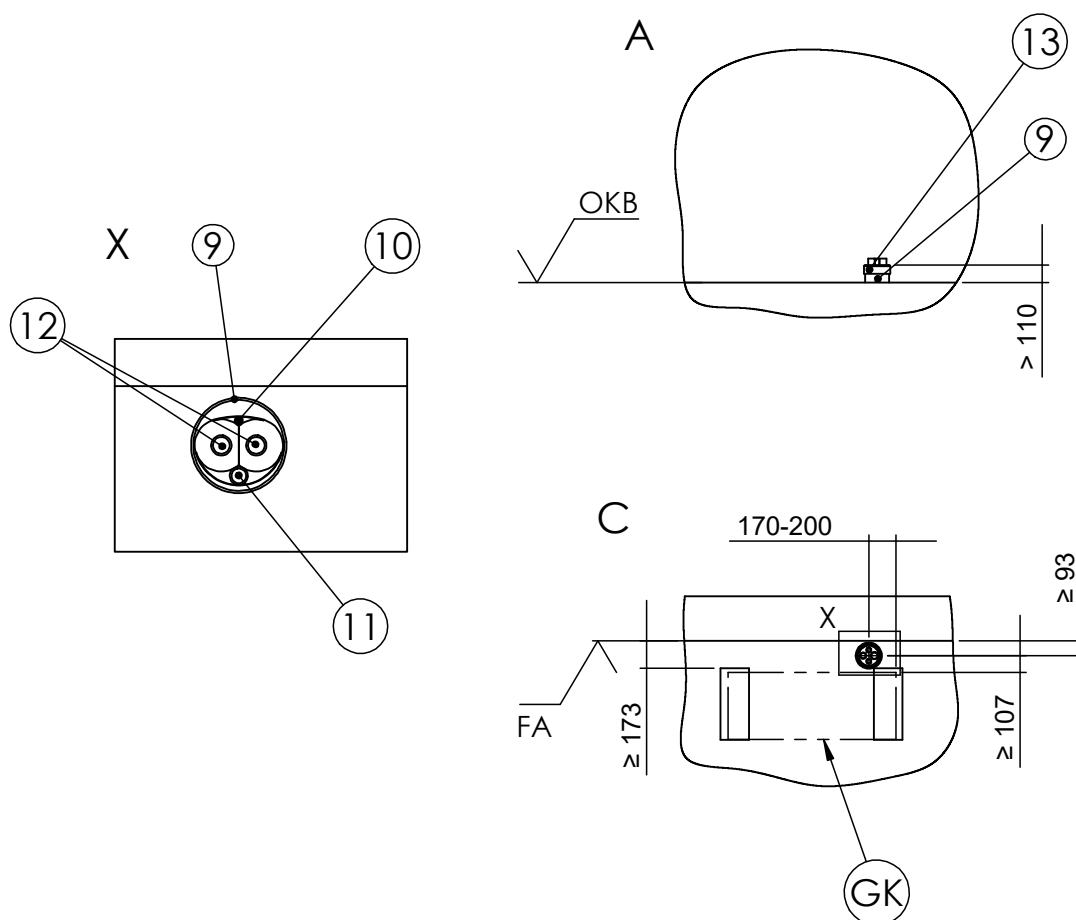
Item	Name
BB hyd. 2	Drill-hole pattern for V4, page 49
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
5	Floor bracket FBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPS and concrete foundation

Jersey 7

BB hyd. 3 to V6



Key: UK819530b-19

All dimensions in mm.

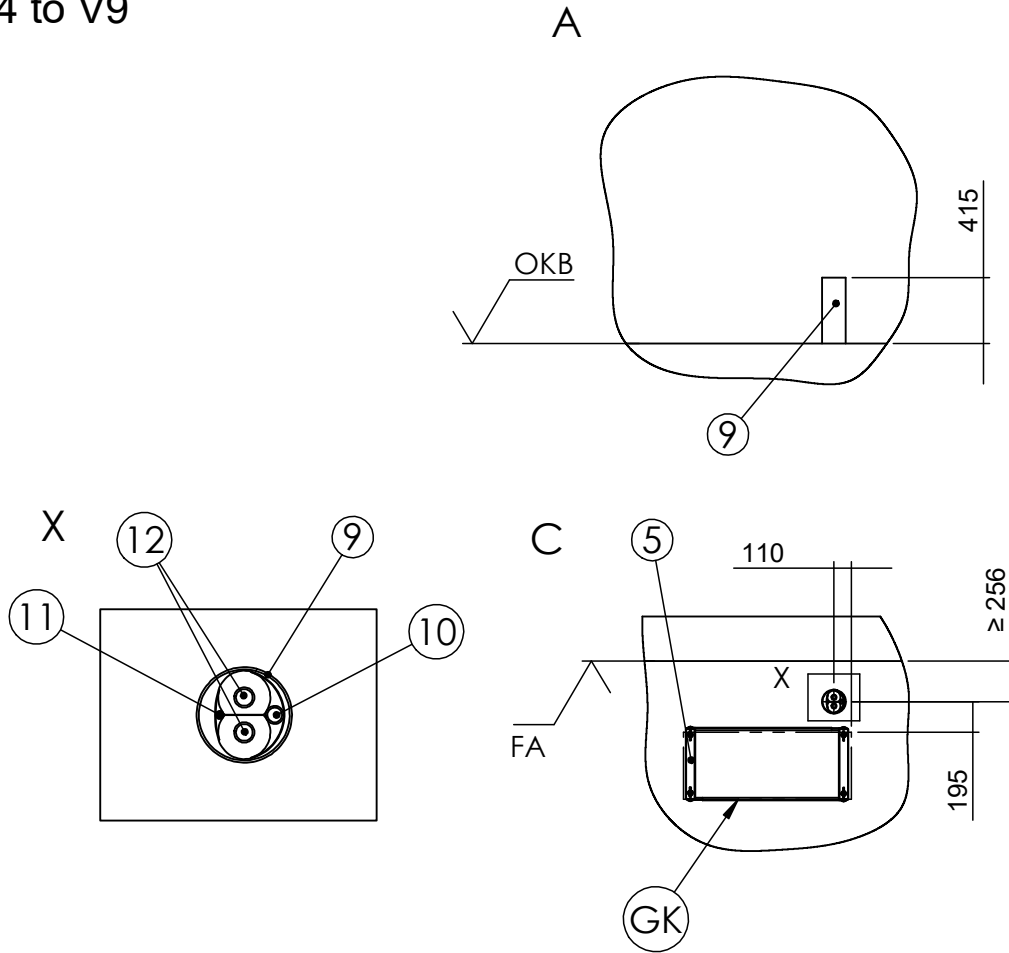
Item	Name
BB hyd. 3	Drill-hole pattern for V6, page 51
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Jersey 7

Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPV and floor bracket FBU

BB hyd. 4 to V9



Key: UK819530b-20

All dimensions in mm.

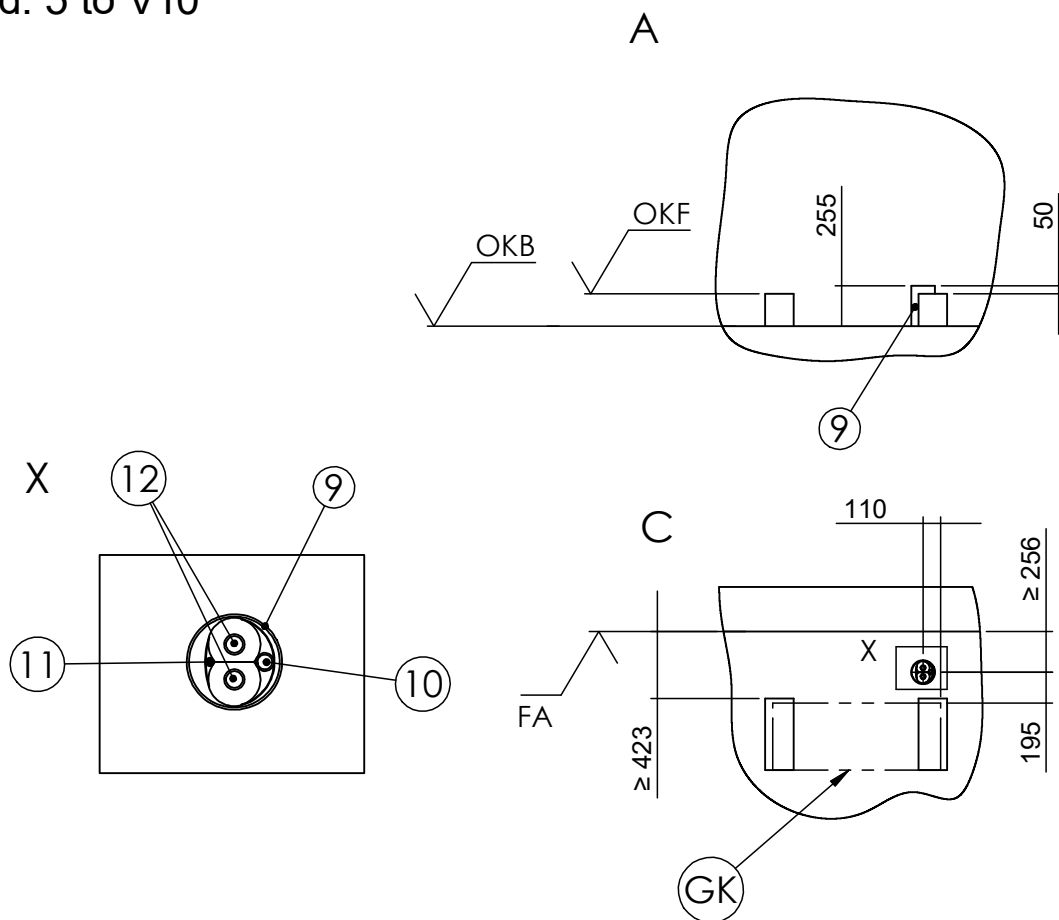
Item	Name
BB hyd. 4	Drill-hole pattern for V9, page 54
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
X	Detailed view of hydraulic connection line HVLD (accessories)
5	Floor bracket FBU (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



Drill-hole patterns for hydraulic connection line HVLD with hydraulic connection line CPV and concrete foundation

Jersey 7

BB hyd. 5 to V10



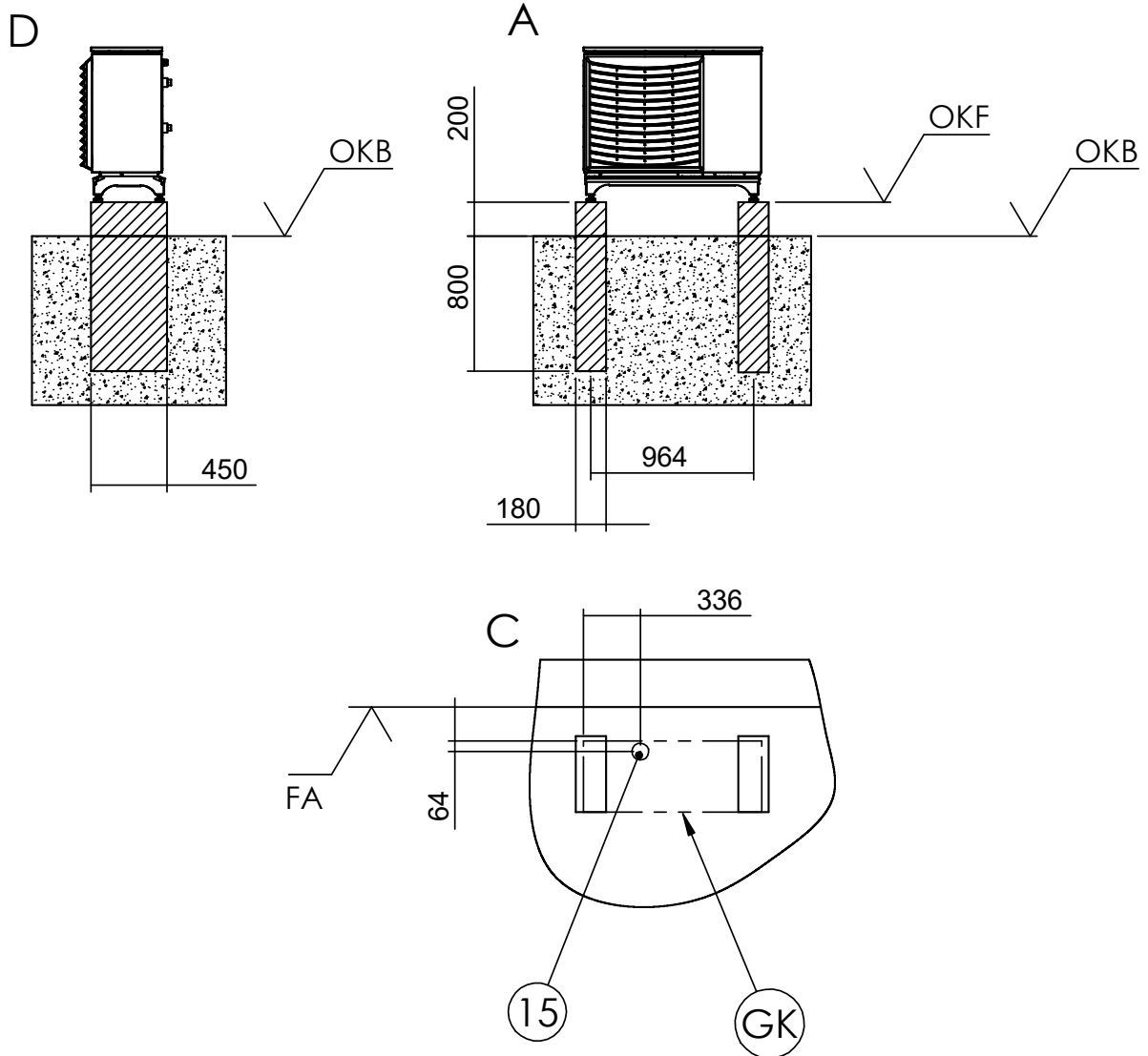
Key: UK819530b-21

All dimensions in mm.

Item	Name
BB hyd. 5	Drill-hole pattern for V10, page 55
A	Front view
C	Plan view
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
OKF	Top edge of concrete foundation
X	Detailed view of hydraulic connection line HVLD (accessories)
9	Reserve conduit KG DN 150 (on site)
10	Reserve conduit for communication cable (inside Ø 9.80)
11	Reserve conduit for electrical cable (inside Ø 23.10)
12	Hot water supply and return pipe (inside Ø 26.20)
13	End cover EDH 32/160 (accessories)



FU



Key: UK819530b-22
 All dimensions in mm.

Item	Name
FU	Foundation plan for V5, page 50, V6, page 51, V8, page 53, and V10, page 55
A	Front view
C	Plan view
D	Side view from right
FA	Complete external façade
GK	Unit contour
OKB	Top edge of floor
OKF	Top edge of concrete foundation
15	Empty conduit KG DN 100 (on site) for condensate drain pipe

The foundation must not have any structure-borne sound contact with the building.

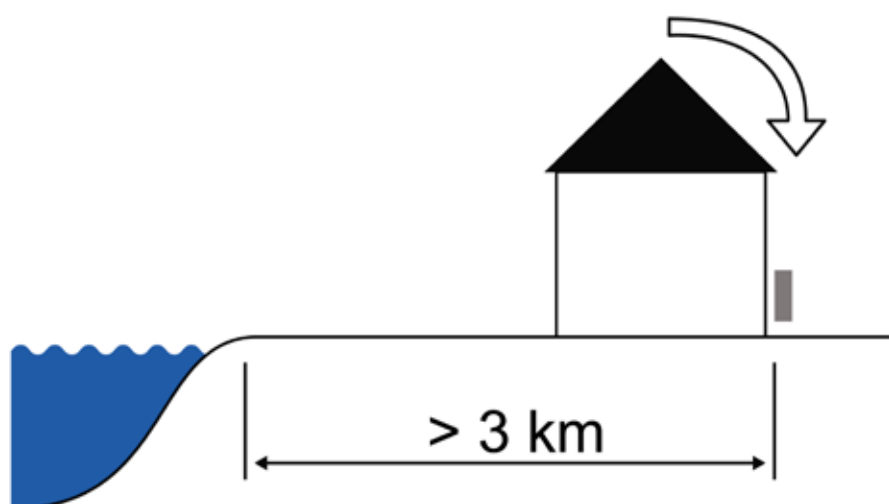


IMPORTANT

The minimum distances necessary for correct and safe operation and for servicing must be observed.

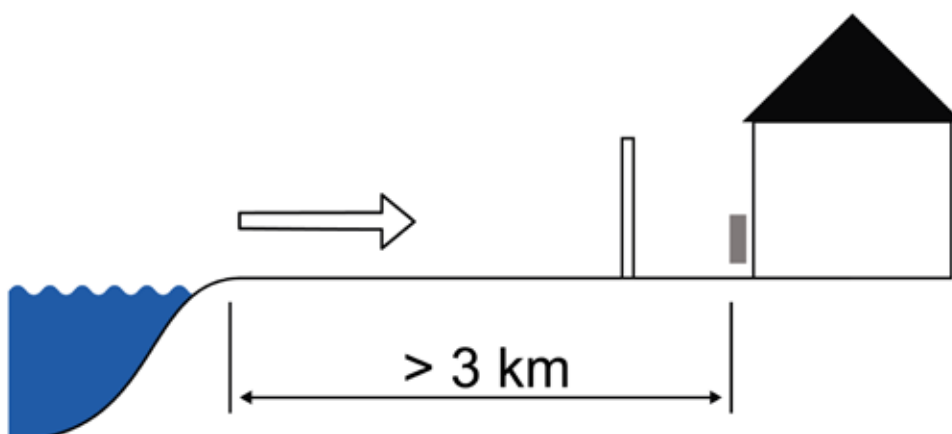
- Facing away from the coast / prevailing wind direction

- ✓ In a sheltered area near a wall
- ✓ Not in open areas
- ✓ Not in sandy surroundings (to avoid the influx of sand)



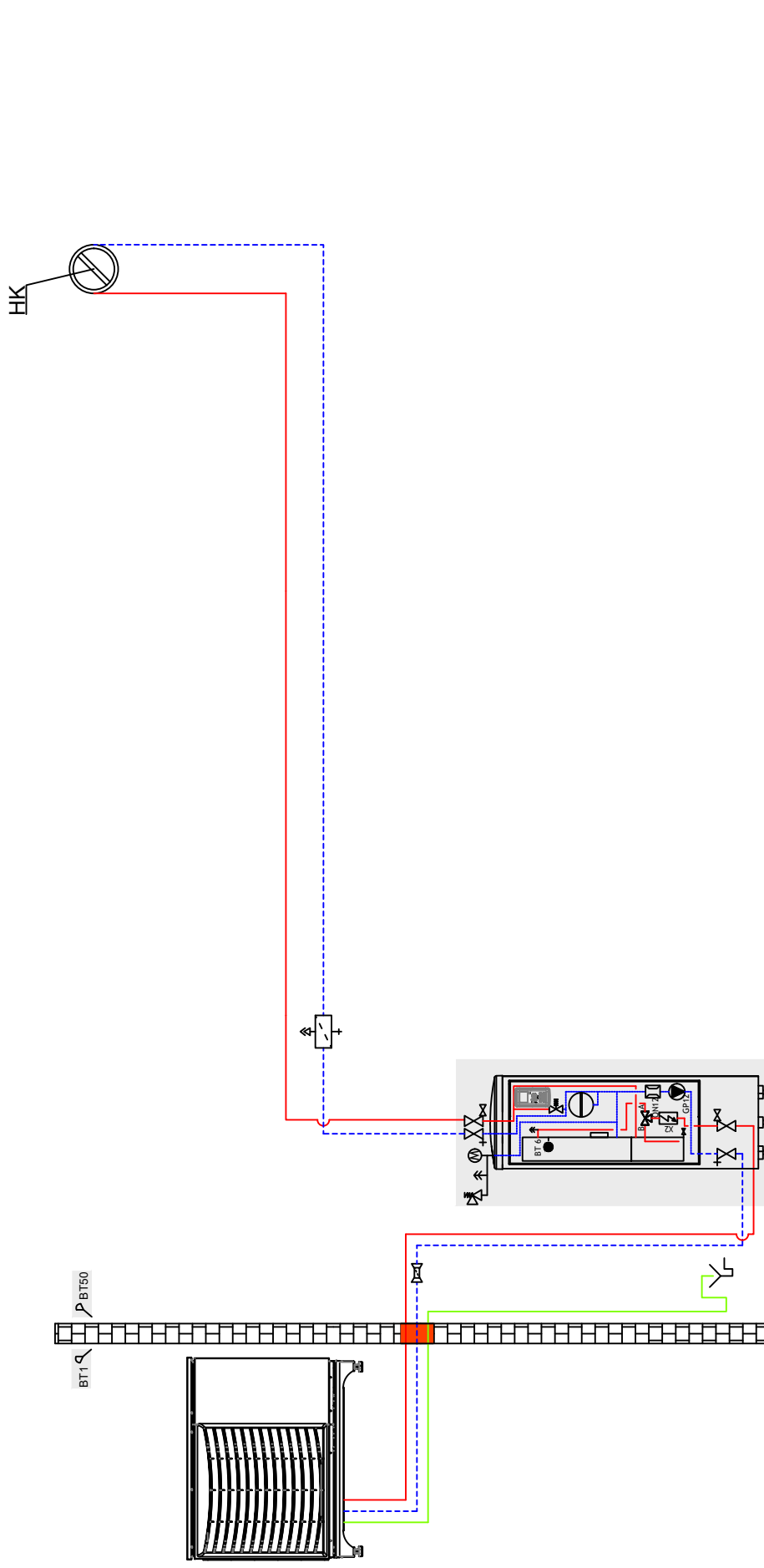
- On the seaward side

- ✓ In an area near a wall
- ✓ An impermeable windbreak resistant to onshore winds must be installed
- ✓ The height and width of the windbreak must be $\geq 150\%$ of the unit dimensions
- ✓ Not in sandy surroundings (to avoid the influx of sand)





Jersey with buffer tank in series and hydraulic tower HT7 (heating)



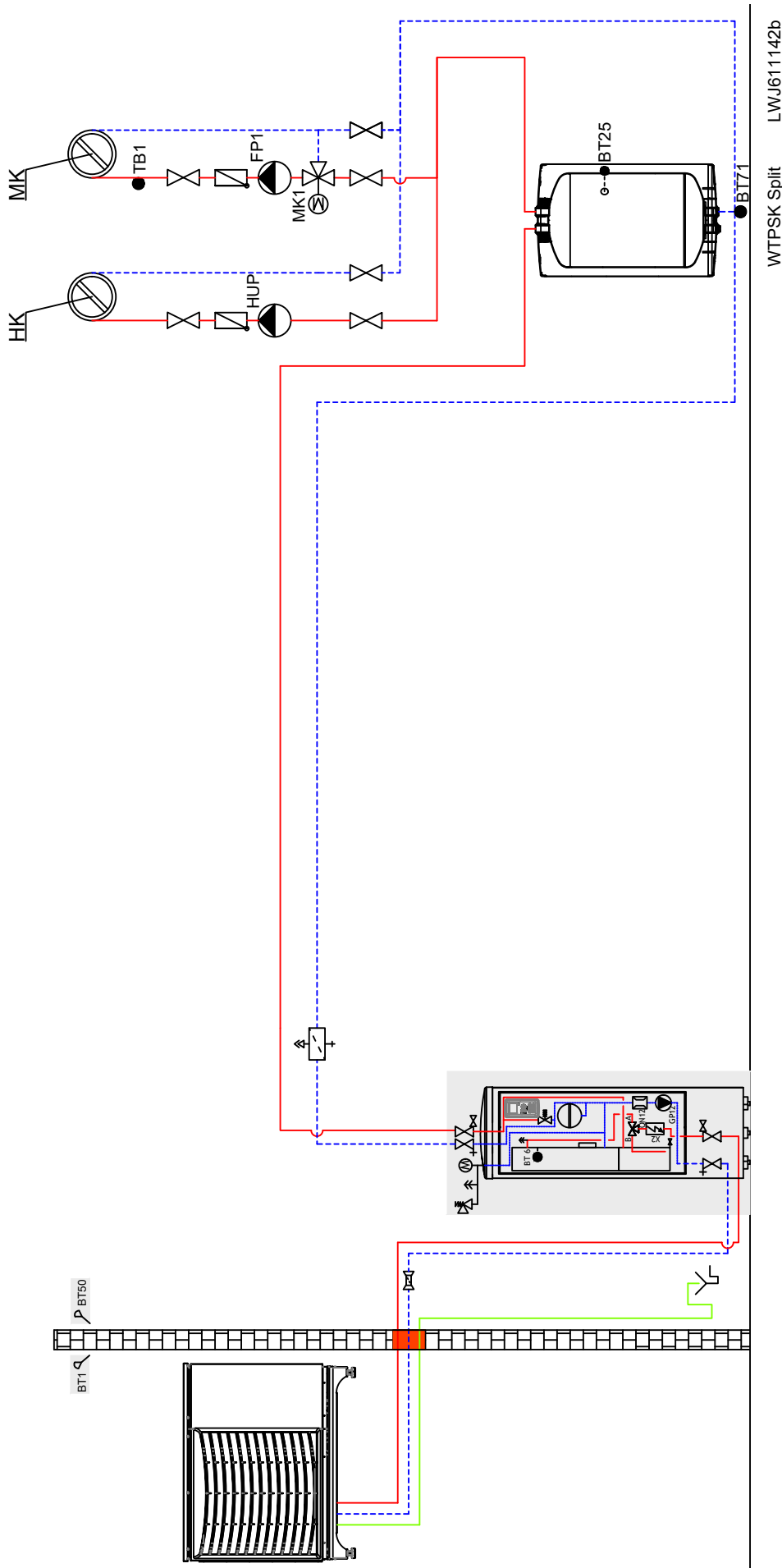
LWJ611342b

NOTE

This schematic diagram is an example of a system without shut-off and safety devices, and it does not replace the technical planning and design on site. All regional standards, laws and regulations must be observed. The pipe dimensions must be carefully planned and designed.



Jersey with separation buffer tank and hydraulic tower HT 7 (heating)

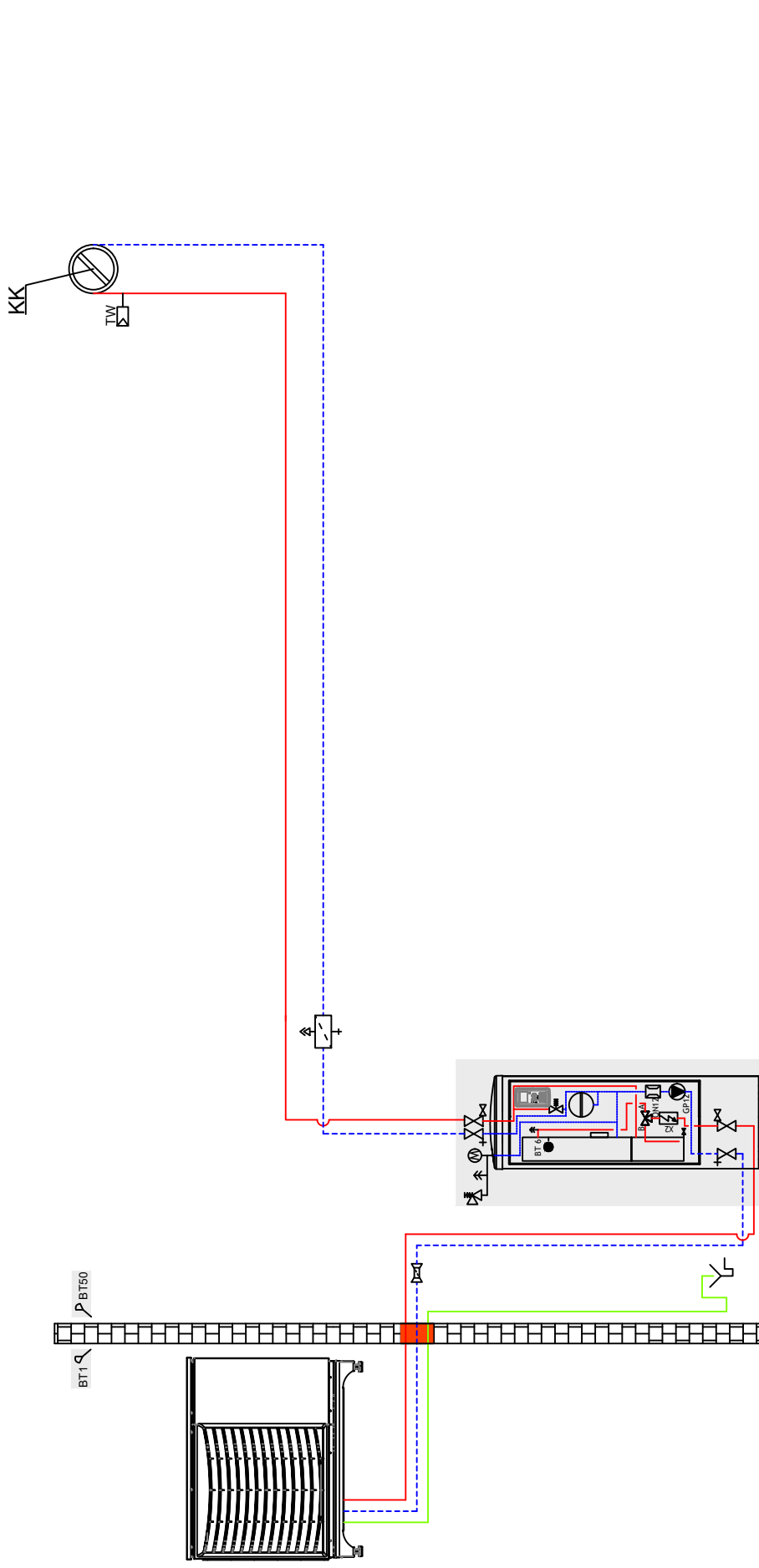


NOTE This schematic diagram is an example of a system without shut-off and safety devices, and it does not replace the technical planning and design on site. All regional standards, laws and regulations must be observed. The pipe dimensions must be carefully planned and designed.





Jersey with buffer tank in series and hydraulic tower HT 7 (cooling)



LWJ611362b



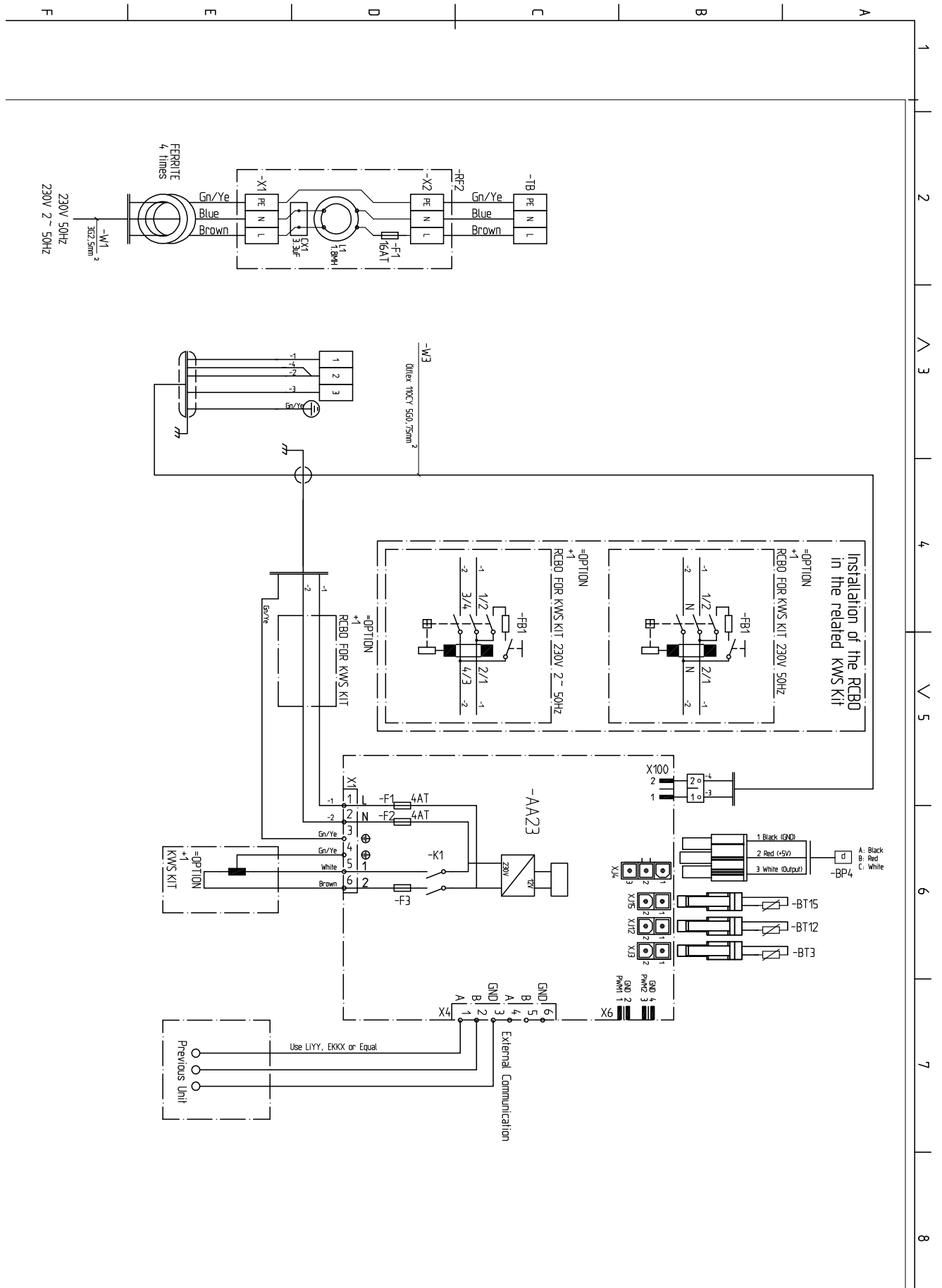
NOTE

This schematic diagram is an example of a system without shut-off and safety devices, and it does not replace the technical planning and design on site. All regional standards, laws and regulations must be observed. The pipe dimensions must be carefully planned and designed.



Jersey 5

Terminal diagram / Circuit diagram 1/2





Terminal diagram / Circuit diagram 2/2

Jersey 7

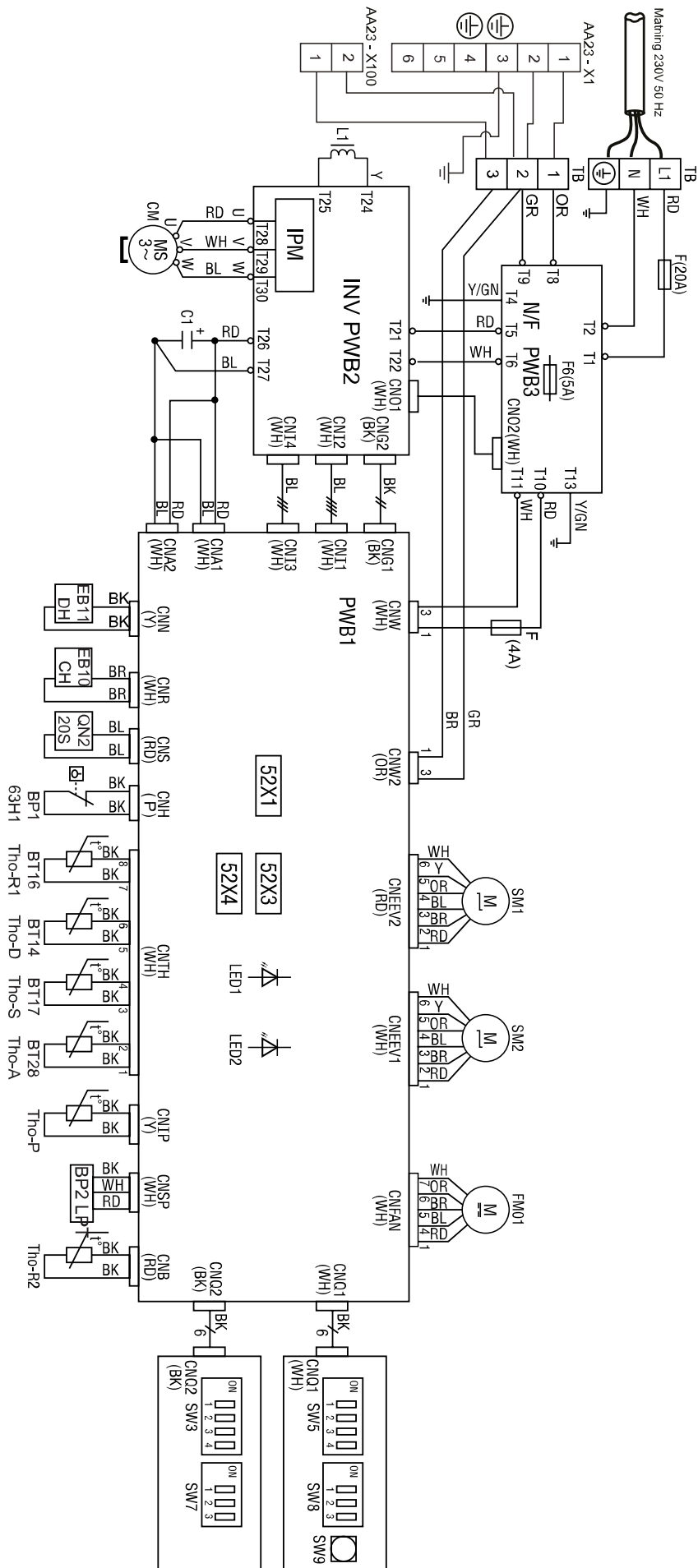




Table for terminal diagrams / circuit diagrams

Original	
2 times	
4 times	
4-way valve	
Alarm	
Ambience temp	
Assy	
Black	
Blue	
Brown	
Communication input	
Compressor	
Control	
Cooling	
Crank case heater	
Defrost	
Diode stack	
Drip tray heater	
Earth wire	
Evaporator temp.	
External communication	
External heater (Ext. heater)	
Fan	
Fan high speed	
Fan low speed	
Ferrite	
Fluid line temp.	
gn/ye (green/yellow)	
Heat / Heating	
High pressure pressostat	
KWR Kit	
Low pressure pressostat	
Matning	
Next unit	
Noise filter	
Main supply	
On/Off	
Option	



Original	
Outdoor unit	
PAM circuit	
Power source	
Power transistor	
Power wires	
Previous unit	
RCBO (Residual current circuit-breaker with overcurrent protection)	
Red	
related KVR Kit	
Return line temp.	
Signal wire	
Supply line temp.	
Supply voltage	
Switching power circuit	
Temperature sensor, Hot gas	
Temperature sensor, Suction gas	
Terminal block	
To indoor unit	
Two fan unit only	
Use LiYY, EKKX or Equal	
White	
Wiring Diagram	



Component abbreviations

Pipe connections	
QM36	Shut-off liquid valve
QM37	Shut-off gas valve
XL1	Heat source outlet
XL2	Heat source inlet
Sensors, etc.	
BE1 (CT)	Current sensor
BP1 (63H1)	High pressure pressostat
BP2 (LPT)	Low pressure sensor
BP4	High pressure transducer
BT12	Flow temperature sensor condenser
BT14 (Tho-D)	Hot gas sensor
BT15	Liquid line sensor
BT16 (Tho-R1)	Heat exchanger 1 sensor
BT17 (Tho-S)	Suction gas sensor
BT28 (Tho-A)	Environment sensor
BT3	Heating circuit return sensor
Tho-R2	Heat exchanger 2 sensor
Electrical components	
AA23	Communication board
AA23-F3	Fuse for external heating cable (250 mA), max. 45 W
AA23-S3	DIP switch for addressing the heat pump
AA23-X1	Connection terminal KWS
AA23-X100	Communication with TB
AA23-X4	Connection terminal, communication cable (W2) of hydraulic tower HT 7
EB10 (CH)	Compressor heater
EB11 (DH)	Condensate pan heater
F	Main fuse of compressor unit
GQ1 (FM01)	Fan
GQ2 (FM02)	Fan
(PWB1)	Control board
(PWB2)	Inverter board
(PWB3)	Filter board
RF2	EMC filter for inverter
RF3	EMC filter for power supply
(TB)	Connection terminal for power supply and communication with board AA23

Heating / Cooling components	
GQ10 (CM)	Compressor
QN1 (EEV)	Expansion valve
QN1 (SM2)	Expansion valve for heat
QN2 (20S)	4-way valve
QN3 (SM1)	Expansion valve, cooling
EP1	Evaporator
EP2	Condenser
HS1	Dry filter
Other components	
EB14	Electrical heating cable (accessories)
KWS	Condensation water pipe (accessories)
UB2	Bushing for communication cable
UB3	Bushing for electrical heating cable
W1	Power supply cable for heat pump
W2	Communication cable for heat pump ↔ hydraulic tower HT 7









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