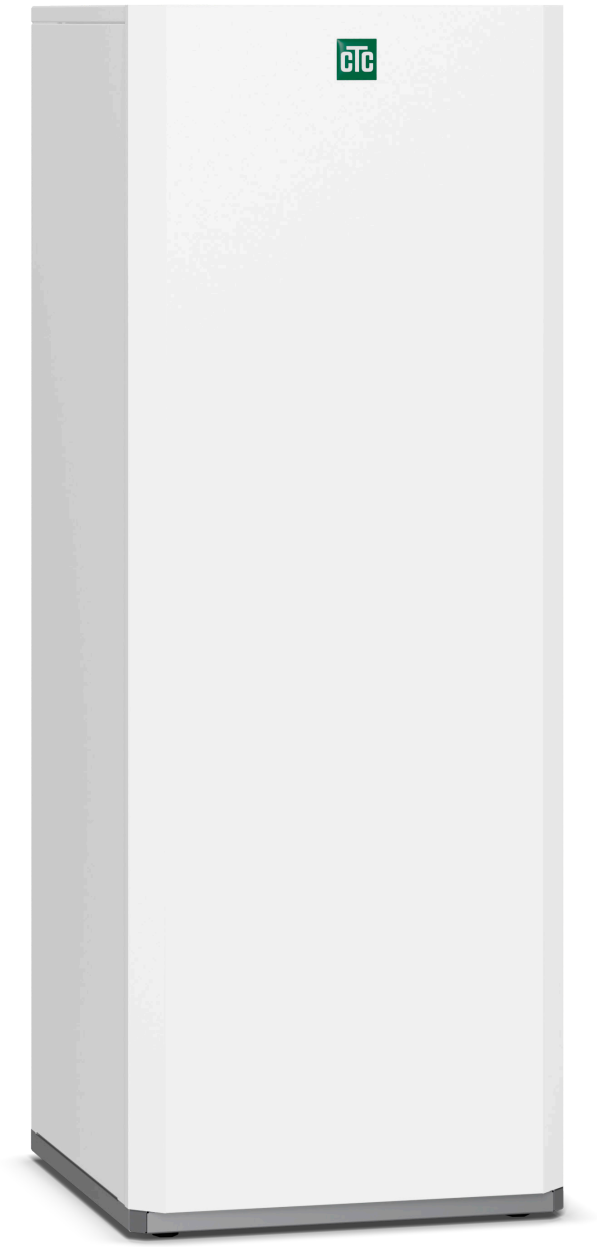
Installer manual

CTC EcoPart 7000

Ground source heat pump with inverter control for heating and cooling

Model 7060

400V 3N~



Translation of the original instructions.
Keep for future use.
Read carefully before use.

162 905 96-1 P93787 2026-10-30

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Important information

Safety information

This manual describes installation and service procedures for implementation by specialists.

The manual must be left with the customer.

For the latest version of the product's documentation, see CTC.se.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

This is an original manual. It may not be translated without the approval of CTC.

Rights to make any design or technical modifications are reserved.

Symbols

Explanation of symbols that may be present in this manual.

WARNING!

This symbol indicates serious danger to person or machine.

CAUTION!

This symbol indicates danger to person or machine.

NOTE!

This symbol indicates important information about what you should consider when installing or servicing the installation.

TIP!

This symbol indicates tips on how to facilitate using the product.

Marking

Explanation of symbols that may be present on the product's label(s).


Fire hazard!


Dangerous voltage.


Danger to person or machine.


Read the operating manual.


Read the Installer Manual.


Disconnect the voltage supply before starting work.

Safety ventilation

CAUTION!

CTC EcoPart 7000 must be connected to a separate ventilation system that vents the refrigerant outdoors in the event of a leak.

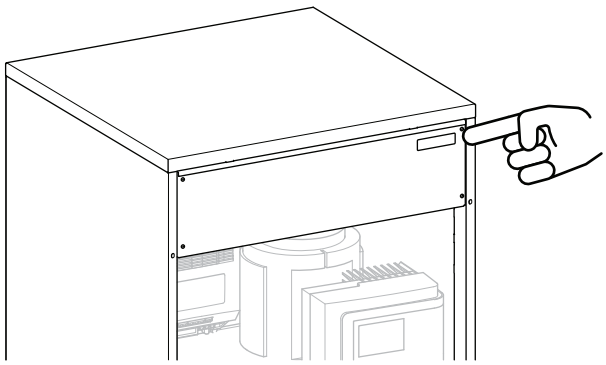
CAUTION!

Automatic vents and similar self-acting venting devices are prohibited throughout the climate system and the brine system unless they are vented outdoors and air vent valve QM20 is closed.

Manual and automatic venting points must be permanently marked with a suitable warning sign indicating the risk of flammable gas being released.

Serial number

The serial number can be found behind the front panel and on the rear of CTC EcoPart 7000, and in the control module's display on the home screen "Product overview".



Inspection of the installation

Current regulations require the heating installation to be inspected before it is commissioned. The inspection must be carried out by a suitably qualified person.

✔	Description	Notes	Signature	Date
Energy source				
	Brine system (sida 15)			
	Ground water system (sida 16)			
	Ventilation recovery (sida 16)			
Climate system (page 16)				
	Heating medium pump set			
Electricity (page 18)				
	Connections			
	Main voltage			
	Phase voltage			
	Fuses heat pump			
	Fuses property			
	Safety breaker			
	Earth circuit-breaker			
Evacuation fan (page 17)				
	Check the duct system for the safety ventilation			

Delivery and handling

Transport

Follow the transport instructions on the packaging.

Ensure that CTC EcoPart 7000 is not damaged during transport.

CTC EcoPart 7000 should be transported and stored vertically in a dry place. When being moved into a building, CTC EcoPart 7000 may be leant back 45 °.

CTC EcoPart 7000 contains the flammable refrigerant R290 (UN number 1978, hazard identification number 23, safety class A3). Special regulations apply to the transport, loading and unloading of CTC EcoPart 7000.

CTC EcoPart 7000 must not be stacked.

Ensure sufficient ventilation during storage and transport.

It is recommended to have a gas detector in the transport vehicle.

To minimise the risk of the pallet load or CTC EcoPart 7000 tipping over, the angle of inclination during transport must not exceed 5–10°.

Strapping bands (PP straps) on cardboard boxes and packaging must not be used as carrying aids.

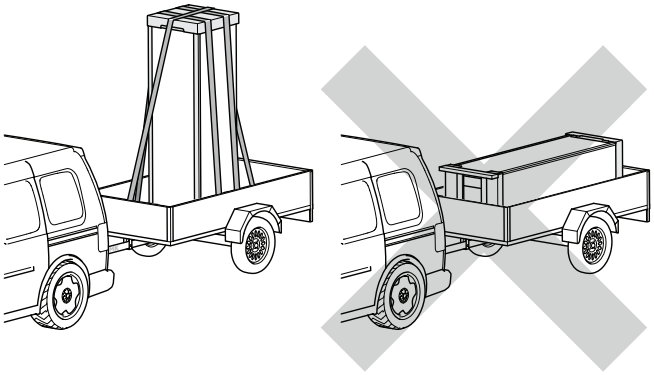
Use personal protective equipment (PPE), e.g. safety shoes and protective gloves.

Select suitable lifting equipment and check that it functions correctly and is safe before it is used.

Ensure that all unauthorised persons have left the work area before the load is lifted.

> ⚠ CAUTION!
>
> Regulations for transport may vary in different markets.

> ⚠ CAUTION!
>
> Ensure that the heat pump cannot fall over during transport.



REMOVAL OF THE COOLING MODULE

To simplify service, the cooling module can be pulled out of the heat pump.

See section "Pulling out the cooling module" for instructions on how to pull out the cooling module.

LIFT FROM THE STREET TO THE SET UP LOCATION

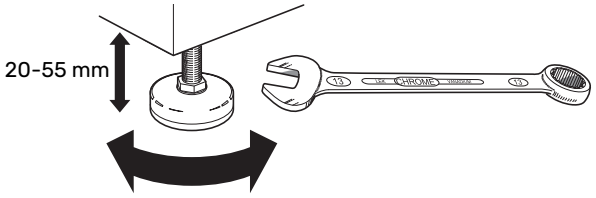
If the base allows, the simplest thing is to use a pallet truck to move the CTC EcoPart 7000 to the set up location.

LIFT FROM THE PALLET TO FINAL POSITIONING

Before lifting, remove the packaging.

Assembly

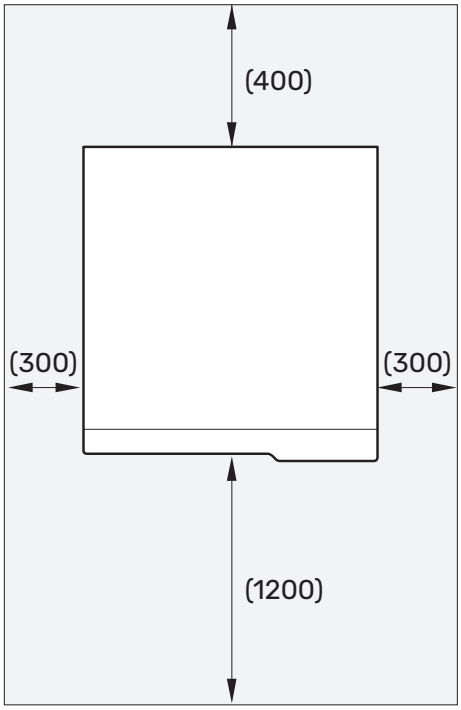
- Position CTC EcoPart 7000 on a solid foundation indoors that withstands water and the weight of the product.
- Use the product's adjustable feet to attain a horizontal and stable set-up.

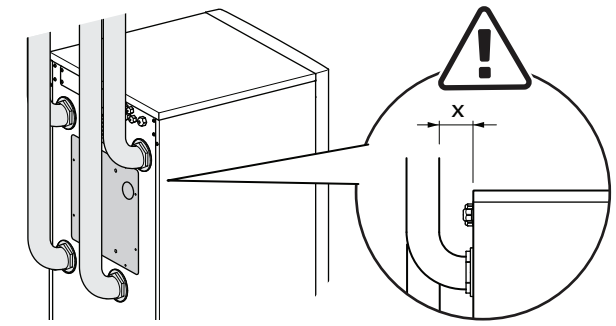


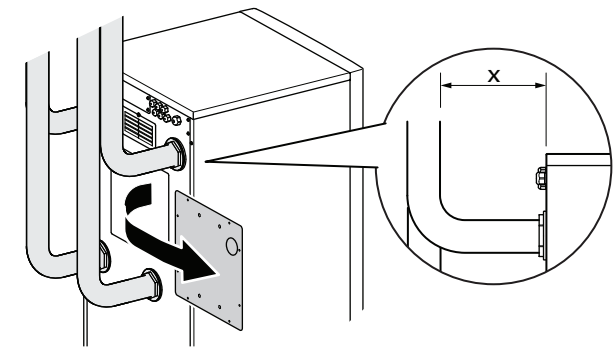
- Since water comes from CTC EcoPart 7000, the area where CTC EcoPart 7000 is located must be equipped with floor drainage.
- Wherever the unit is located, walls to sound sensitive rooms should be fitted with sound insulation.
- The installation area always has to have a temperature of at least 0.5 °C and max. 30 °C.

INSTALLATION AREA

Leave a free space of 1200 mm in front of the product and 400 mm above the product. Normal servicing and maintenance of CTC EcoPart 7000 can be carried out from the front and from above. In exceptional cases, it may be necessary to remove the side panels. 300 mm free space is required on each side to allow the side panels to be removed. It is possible to remove the inverter from the rear of the product. The recommended free space between the product and the wall behind is 400 mm.







Safety zone

Installation must be carried out in accordance with current recommendations.

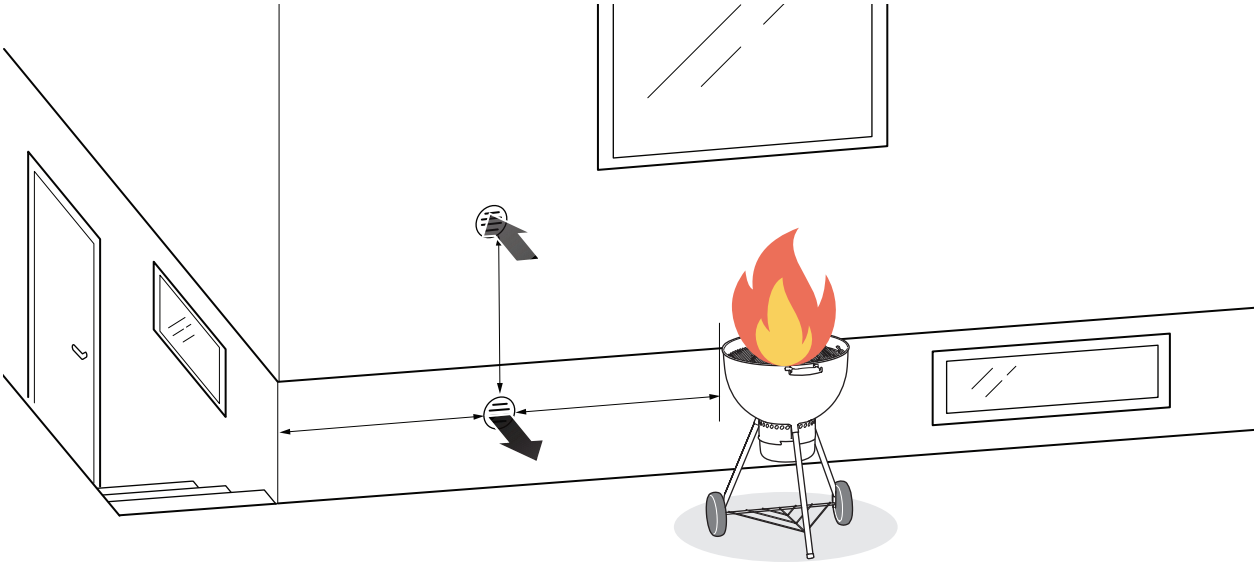
Position the outlet for the safety ventilation at a safe distance from basement stairs and windows below ground level.

Do not position the outlet where refrigerant can accumulate, e.g. in a basement stairwell or under a deck.

Do not position the outlet where there is a risk that vented refrigerant re-enters the property.

Leave free space between the outlet and supply air valves, naked flames or ignition sources.

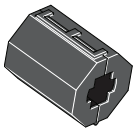
The outlet must be positioned so that it cannot be blocked by snow or leaves.



Supplied components



Special tools
1 x



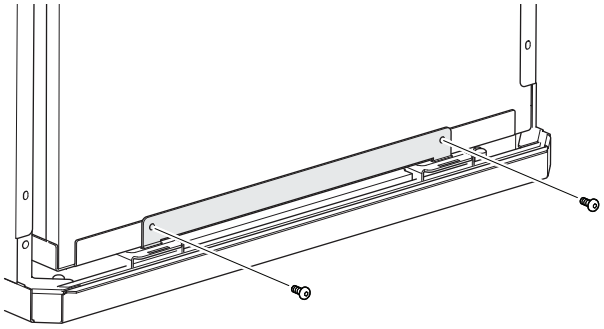
Ferrite (RF5)
3 x

LOCATION
The kit of supplied items is placed in packaging on top of the heat pump.

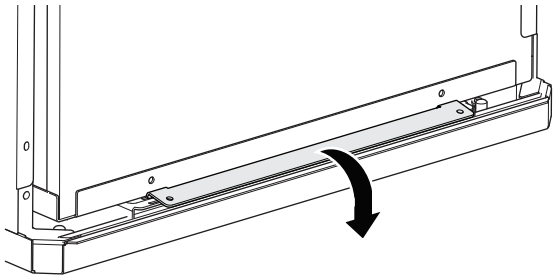
Handling panels

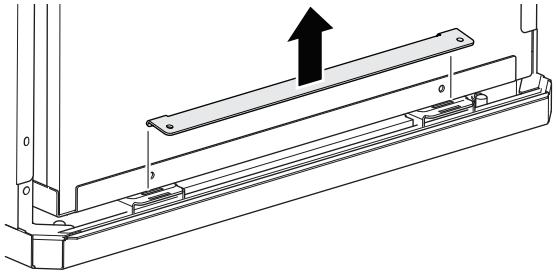
REMOVE THE FRONT HATCH OF THE COOLING MODULE

1. Release the locking plate.

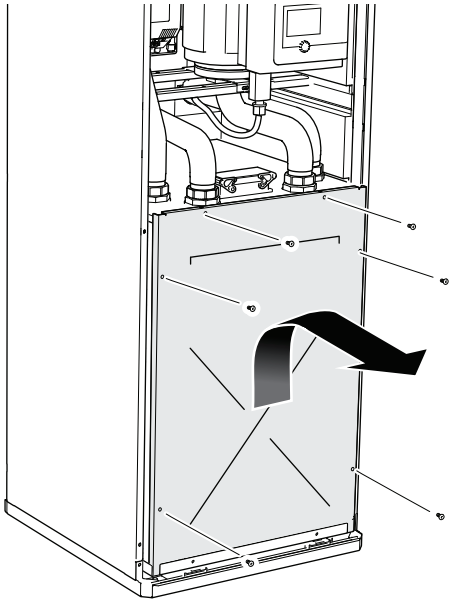


2. Remove the locking plate by folding it forwards and lifting it upwards.





3. Remove the screws on the front of the cooling module and lift the front up and forwards.

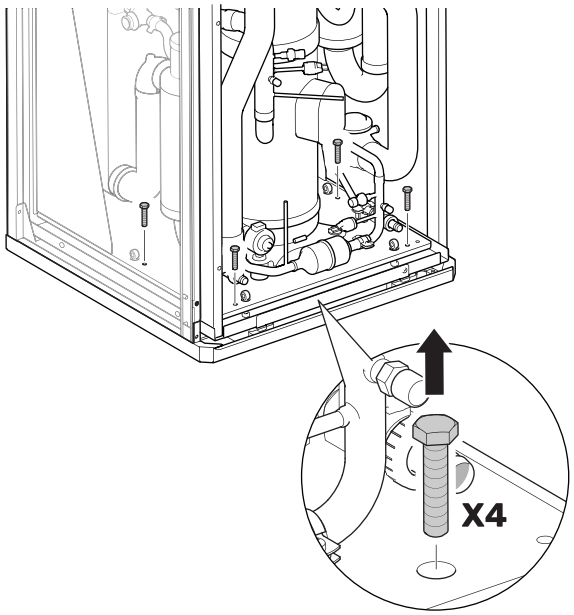


4. Remove the right and left side panels of the cooling module to access the internal transport locks.

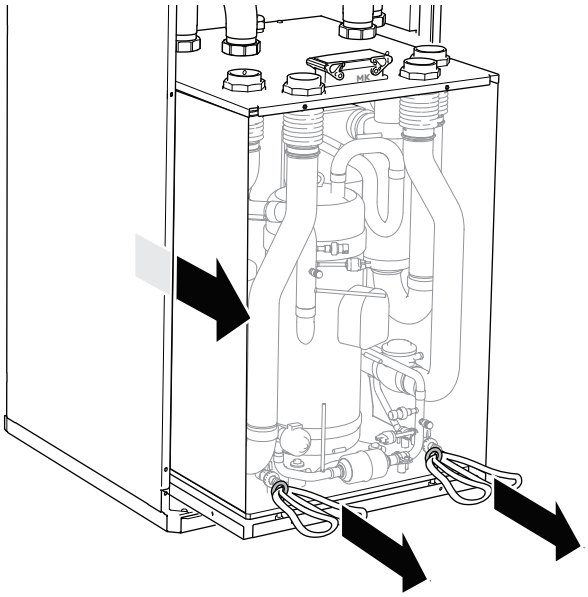
REMOVE THE TRANSPORT LOCKS

To avoid noise problems, the transport locks must be removed from CTC EcoPart 7000.

1. Remove 8 transport locks by unscrewing them. Keep these for future servicing.

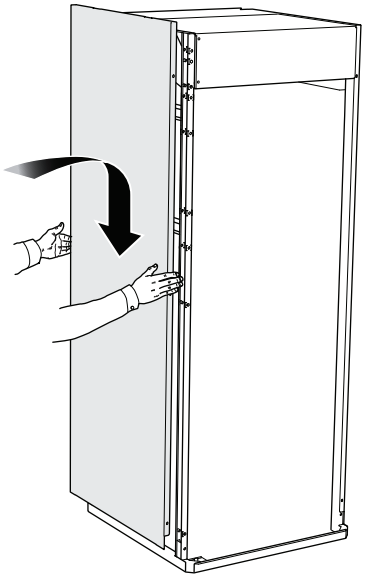


2. Fit the transport locks in the outer holes. The transport locks now become pulling eyes and are used if the cooling module needs to be pulled out.

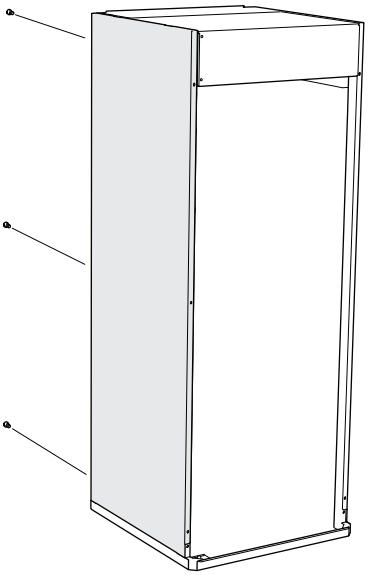


FIT THE SIDE PANELS

1. Hook the side panels into place at the top edge. Then press the panel in.



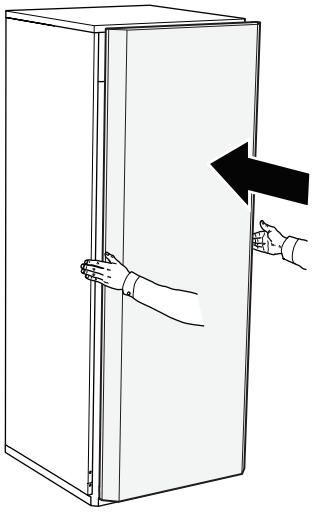
2. Fit the screws at the upper and lower edges.



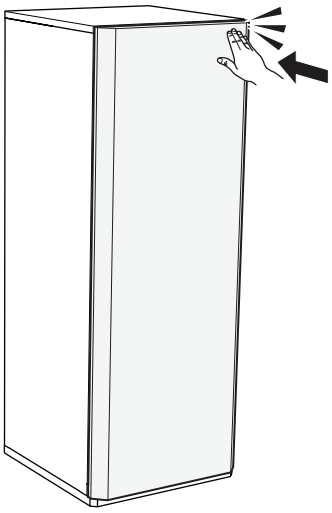
3. Removal is performed in the reverse order.

FIT THE FRONT HATCH

1. Hook one bottom corner of the front onto the frame.

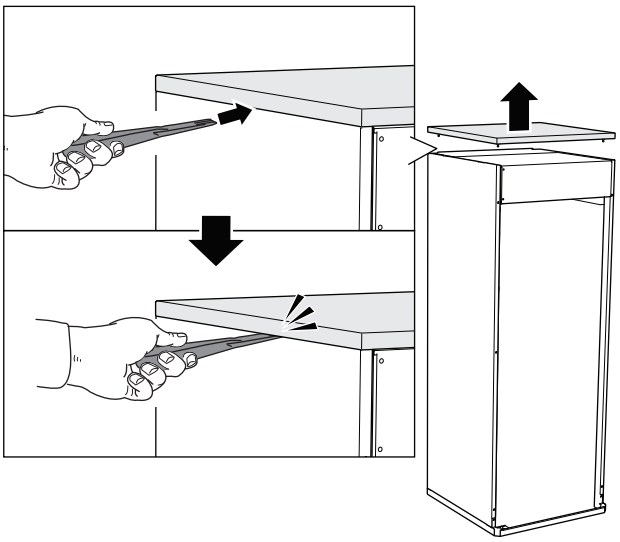


2. Press the front's top section against the frame.



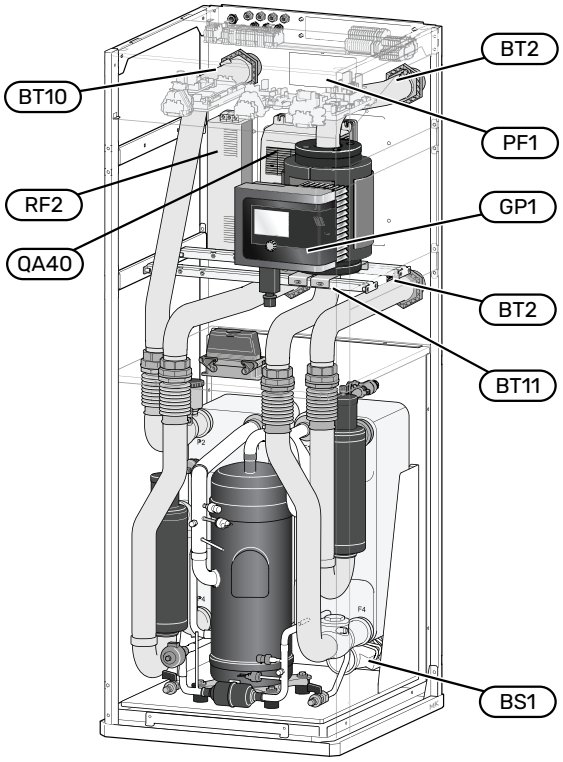
REMOVE TOP PANEL

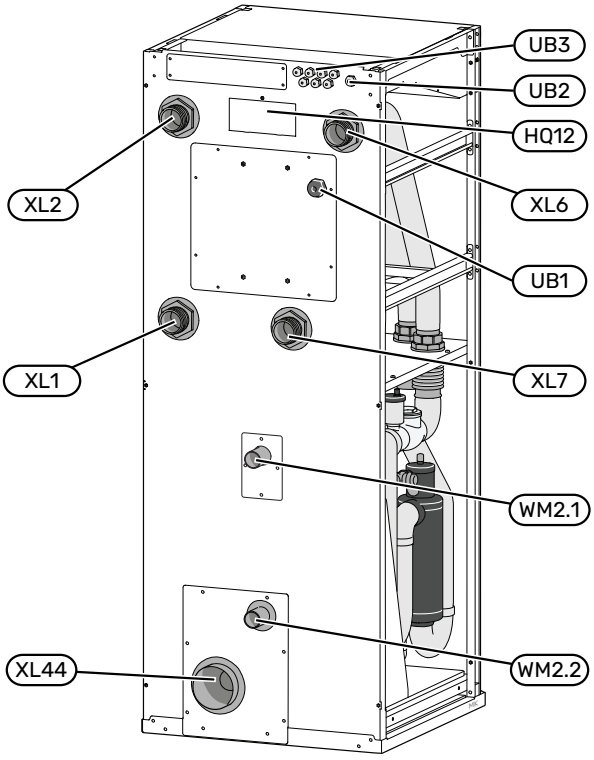
Use the special tool to remove the top panel.



The heat pump design

General





PIPE CONNECTIONS

XL1	Heating medium connection, supply
XL2	Heating medium connection, return
XL6	Connection, brine in
XL7	Connection, brine out
XL44	Connection, outgoing air

HVAC COMPONENTS

GP1	Circulation pump
WM2.1	Overflow water discharge for heating medium
WM2.2	Overflow water discharge for brine

SENSORS ETC.

BS1	Air speed sensor
BT2	Temperature sensors, heating medium flow
BT3	Temperature sensors, heating medium return
BT10	Brine sensor, supply line
BT11	Brine sensor, return line

ELECTRICAL COMPONENTS

PF1	Signal lamp
QA40	Inverter
RF2	EMC-filter

VENTILATION

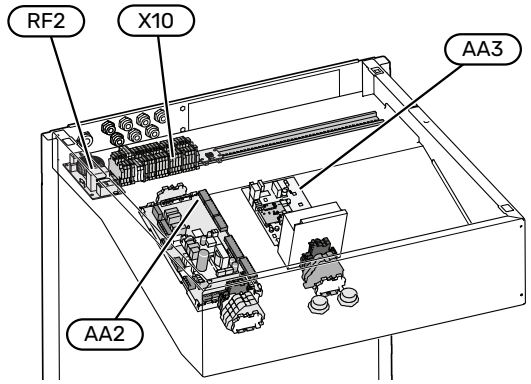
HQ12	Air filter

MISCELLANEOUS

UB1-UB3 Cable gland

Designations according to standard EN 81346-2.

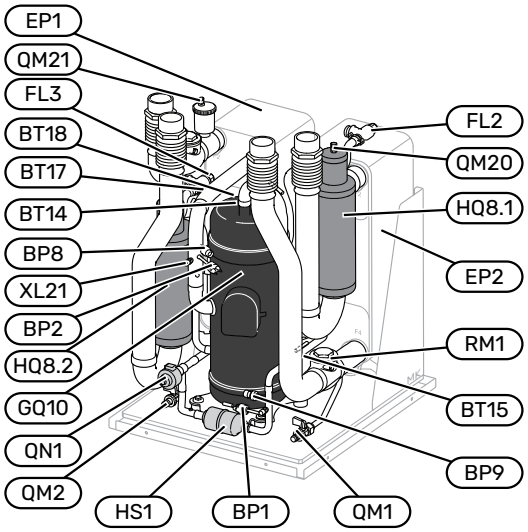
Electrical cabinet



ELECTRICAL COMPONENTS

AA2	Base card
AA3	Input circuit board
RF2	EMC-filter
X10	Electrical connection for temperature sensors and circulation pumps

Cooling module



PIPE CONNECTIONS

XL21	Service connection, low pressure

HVAC COMPONENTS

FL2	Safety valve, climate system (2.5 bar)
FL3	Safety valve, brine system (2.5 bar)
HQ8	Gas separator
QM1	Draining valve, heating medium
QM2	Draining, brine side
QM20	Vent valve, heating medium
QM21	Vent valve, brine
RM1	Non-return valve

SENSORS ETC.

BP1	High pressure switch
BP2	Low pressure pressostat
BP8	Low-pressure sensor
BP9	High pressure sensor
BT10	Brine sensor, supply line
BT11	Brine sensor, return line
BT14	Temperature sensor, hot gas
BT15	Temperature sensor, fluid pipe
BT17	Temperature sensor, suction gas
BT18	Compressor sensor

ELECTRICAL COMPONENTS

RF2	EMC-filter

COOLING COMPONENTS

EP1	Evaporator
EP2	Condenser
GQ10	Compressor
HS1	Drying filter
QN1	Expansion valve

Pipe and air connections

General

Pipe installation must be carried out in accordance with current standards and directives. CTC EcoPart 7000 can operate with a return temperature of up to 65°C and an outgoing temperature of 70 °C.

The pipe connections are on the rear of the heat pump.

> **CAUTION!**
>
> The pipe installation has to be flushed clean before the product is connected, to prevent any contaminants from damaging the components. If there is a risk that magnetite may be present, a magnetite filter should be installed.

SAFETY VALVES

CTC EcoPart 7000 has internal safety valves for the brine and climate systems (for opening pressure, see section "HVAC components").

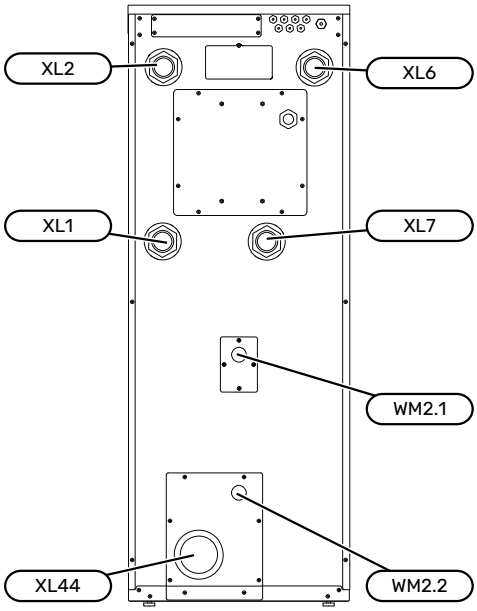
In an installation with externally fitted safety valves with a higher opening pressure, the internal valve(s) may need to be replaced. The opening pressure of the internal safety valves must be 0.5 bar lower than the externally fitted ones.

> **CAUTION!**
>
> Water may drip from the safety valve's overflow pipe. The overflow pipe must be routed to a suitable drain, to prevent hot water splashes from causing harm. The overflow pipe must be inclined along its entire length to prevent pockets where water can accumulate, and must be frost-proof. The overflow pipe must be at least the same size as the safety valve. The overflow pipe must be visible and its mouth must be open and not placed close to electrical components.

SYMBOL KEY

Symbol	Meaning
	Unit box
	Shut-off valve
	Non-return valve
	Circulation pump
	Expansion vessel
	Pressure gauge
	Particle filter
	Safety valve
	Heat exchanger
	Overflow valve
	Control module
	Heat pump
	Bore hole
	Ground collector
	Heating system

Pipe connections



PIPE DIMENSIONS

Connection	
(WM2.1) Overflow water discharge, brine	40 mm
(WM2.2) Overflow water discharge, heating medium	40 mm
(XL1) Heating medium supply	external thread G2
(XL2) Heating medium return	external thread G2
(XL6) Brine in	external thread G2
(XL7) Brine out	external thread G2
(XL44) Connection, outgoing air	100 mm

Brine side

COLLECTOR

NOTE!

The length of the collector hose varies depending on the rock/soil conditions, climate zone and on the climate system (radiators or underfloor heating) and the heating requirement of the building Each installation must be sized individually.

In those cases where it is necessary to have several collectors, these should be connected in parallel with the possibility for adjusting the flow of the relevant coil.

For surface soil heat, the hose should be buried at a depth determined by local conditions and the distance between the hoses should be at least 1 metre.

For several bore holes, the distance between the holes must be determined according to local conditions.

Ensure the collector hose rises constantly towards the heat pump to avoid air pockets.

If the temperature of the brine system may fall below 0 °C, it must be protected against freezing down to -15 °C. When making the volume calculation, 1 litres of ready mixed brine per metre of collector hose (applies when using PEM-hose 40x2.4 PN 6.3) is used as a guide value.

CONNECTING THE BRINE SIDE

Insulate all indoor brine pipes against condensation.

Mark the brine system with the antifreeze that is used.

Install as follows:

- expansion vessel

  CAUTION!

  Condensation may drip from the expansion vessel. Position the vessel so that this does not harm other equipment.

- pressure gauge
- brine pump

  If the installation does not have externally available flow, a brine pump is fitted.

- shut-off valves

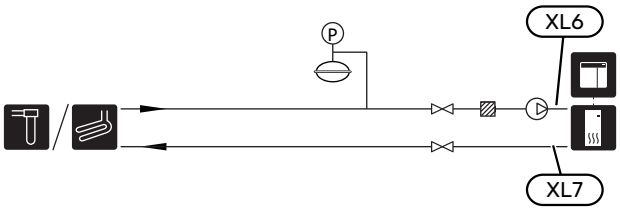
  Install the shut-off valves as close to CTC EcoPart 7000 as possible.

- particle filter

  Install the particle filter as close to CTC EcoPart 7000 as possible.

- vent valve

  When necessary you should install venting valves in the brine system.



EXPANSION VESSEL

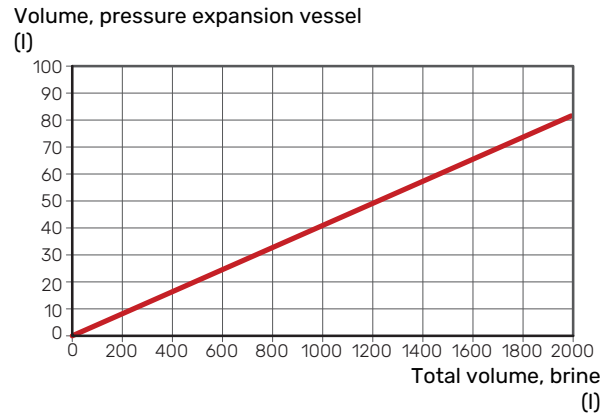
The brine circuit must be supplied with a pressure expansion vessel.

The brine side must be pressurised to at least 0.05 MPa (0.5 bar).

Dimension the pressure expansion vessel in accordance with the following diagram to prevent malfunctions. The diagrams cover the temperature range from -10 °C to +20 °C at pre-pressure 0.05 MPa (0.5 bar) and the safety valve's opening pressure of 0.25 MPa (2.5 bar).

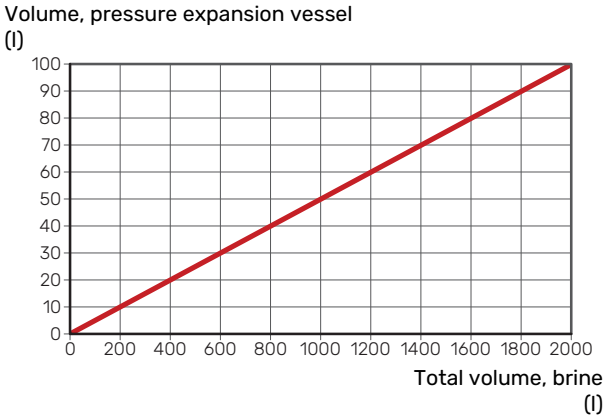
Ethanol 28% (volume percent)

In installations with ethanol (28% volume percent) as the brine the pressure expansion vessel must be dimensioned according to the following diagram.



Ethylene glycol 40% (volume percent)

In installations with ethylene glycol (40% volume percent) as the brine the pressure expansion vessel must be dimensioned according to the following diagram.



Climate system

A climate system is a system that regulates the indoor temperature with the help of the control module and the heating medium circuit's radiators, under floor heating, under floor cooling, fan coils, etc.

CONNECTING THE CLIMATE SYSTEM

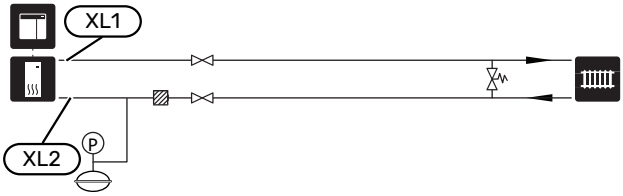
Install as follows:

- expansion vessel
- pressure gauge
- particle filter

  Install the particle filter as close to CTC EcoPart 7000 as possible.
- shut-off valves

  Install the shut-off valves as close to CTC EcoPart 7000 as possible.
- vent valve

  When necessary you should install vent valves in the climate system.
- When connecting to a system with thermostats, a bypass valve must be fitted to ensure there is sufficient flow and heat emission.



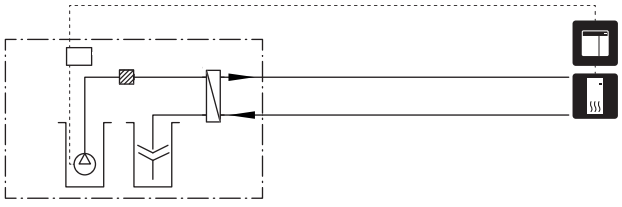
Installation alternative

CTC EcoPart 7000 can be connected in several different ways.

GROUND WATER SYSTEM

An intermediate heat exchanger is used to protect the heat pump's exchanger from dirt. The water is released into a buried infiltration unit or a drilled well. The circuit between the heat pump and the intermediate heat exchanger must be mixed with antifreeze.

If the cooling circuit between CTC EcoPart 7000 and the intermediate heat exchanger is not mixed with antifreeze, the setting in the display menu must be adjusted to prevent the heat exchanger freezing. See the control unit's Installer Manual.

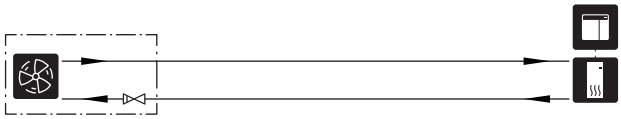


VENTILATION AS A HEAT SOURCE

For installations with ventilation as a heat source.

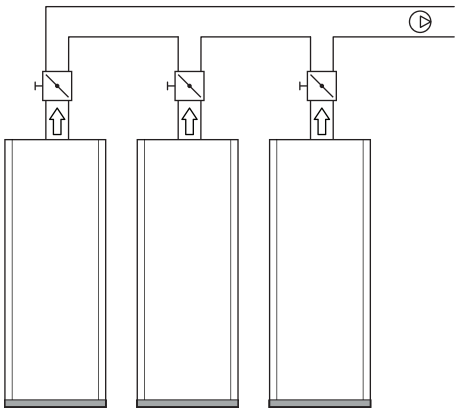
Ventilation recovery means that the heat from the exhaust air is utilised and supplied to the installation.

To prevent the recovery coil freezing, the necessary settings must be made. See the control unit's Installer Manual.



Safety ventilation

- See section "Accessories" for details of which fans are compatible with CTC EcoPart 7000.
- The air duct system must have a minimum air tightness class of B (EN 12237).
- Ensure sufficient air supply to the installation room.
- Dimension the length and the number of bends for the outgoing air duct according to the fan's data sheet.
- Because the heat pump contains a flammable refrigerant, the air ducting system must be electrically conductive and earthed. This is done by connecting earth cables to the air ducts, with a good electrical connection.
- The evacuation fan is fitted in the outgoing air duct, as close to the outer wall as possible.
- The outgoing air must be able to be discharged outdoors.
- In an installation with more than one CTC EcoPart 7000, an adjustment damper is fitted for each CTC EcoPart 7000. The adjustment dampers must balance the ventilation flow across the heat pumps.



- A duct in a masonry chimney stack must not be used for safety ventilation. However, the duct in the masonry chimney stack may be used to route a separate plastic duct.

Airflows

The evacuation fan (GQ4) must run continuously. If the required air flow is not achieved, CTC EcoPart 7000 will trigger an alarm. For min. air flow, see technical specifications.

In an installation with one CTC EcoPart 7000, the fan speed is regulated automatically. In an installation with more than one CTC EcoPart 7000, the fan speed is set manually.

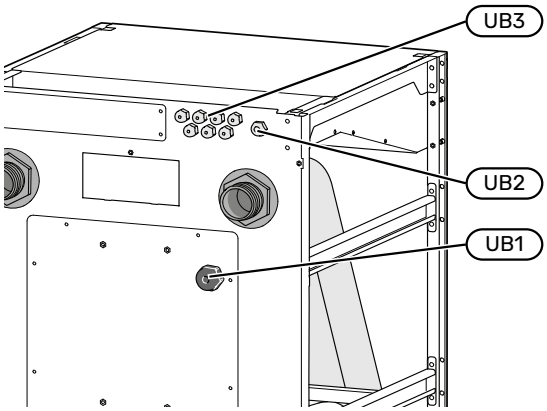
For manual setting of the ventilation flow, see the control unit's Installer Manual.

If the control signal to the evacuation fan (GQ4) is lost, it will run at full speed.

Electrical connections

General

- Electrical installation and wiring must be carried out in accordance with national provisions.
- Disconnect CTC EcoPart 7000 before insulation testing the house wiring.
- CTC EcoPart 7000 must be fitted with a RCD (residual current device). A separate residual current device is recommended.
- The residual current device (RCD) must have a nominal tripping current of no more than 30 mA. For the type of RCD, see section "Technical specifications".
- CTC EcoPart 7000 must be installed via an isolator switch. The cable area has to be dimensioned based on the fuse rating used.
- If a miniature circuit breaker is used, this must have at least triggering characteristic "C". See section "Technical specifications" for fuse size.
- To prevent interference, communication cables to external connections must not be laid in the vicinity of high voltage cables.
- The minimum area of communication and sensor cables to external connections must be 0.5 mm^2 up to 50 m, for example EKKX, LiYY or equivalent.
- For an electrical wiring diagram for CTC EcoPart 7000, see the "Technical specifications" section.
- When cable routing into CTC EcoPart 7000, cable grommet (UB3) must be used.



CAUTION!

Electrical installation and any servicing must be carried out under the supervision of a qualified electrician. Turn off the power with the circuit breaker before servicing.

CAUTION!

Check the connections, main voltage and phase voltage before the product is started, to prevent damage to the heat pump electronics.

CAUTION!

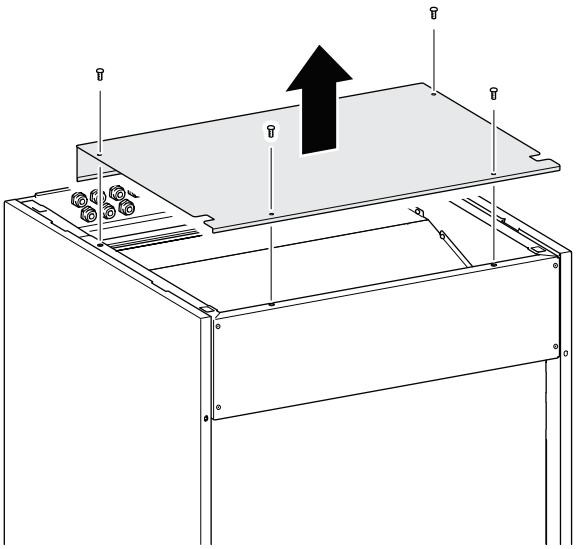
Do not start the system before filling up with water. Components in the system could be damaged.

CAUTION!

The connector to the internal heating medium pump is not connected on delivery.

ACCESSIBILITY, ELECTRICAL CONNECTION

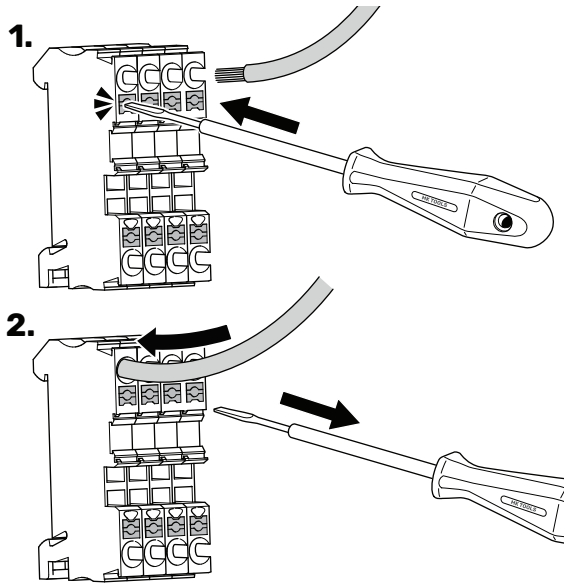
Undo the screws on the top of the panel.



CABLE LOCK

Use a suitable tool to release/lock cables in the heat pump terminal blocks.

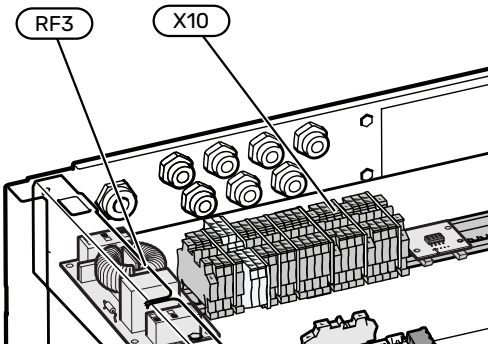
Terminal block



Connections

TERMINAL BLOCKS

The following components are used for connection etc.



POWER CONNECTION

Supply voltage

The enclosed cables for incoming supply electricity are connected to EMC filter (RF2) for the supply to the compressor and EMC filter (RF3) for the control system and circulation pump (GP1).

TARIFF CONTROL

If voltage to the compressor is lost for a certain period, "Tariff blocking" must be selected at the same time via the selectable inputs in the control module.

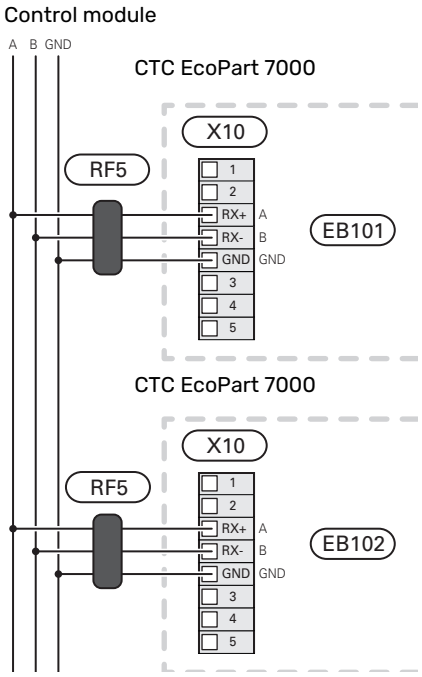
Communication

CONNECTION TO CONTROL MODULE

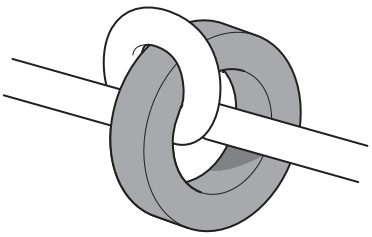
CTC EcoPart 7000 contains a terminal block (X10) which is connected to the control module.

If several heat pumps are to be connected, or are already installed, they are connected in parallel.

Because there can be different connections for heat pumps, you should always read the instructions in the manual for the heat pump that is to be installed.



Install the enclosed ferrite beads (RF5) on the incoming and outgoing communication cables, as close as possible to CTC EcoPart 7000. The cable is threaded through the ferrite bead 2 times.

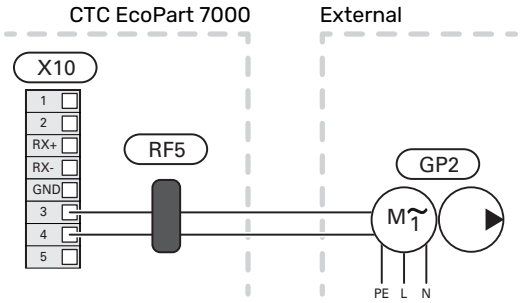


External connections

External connections are made on terminal block X10.

BRINE PUMP (GP2)

1. Connect the brine pump's control signal to X10:3 (signal) and X10:4 (GND).
2. The brine pump's power supply is connected externally.
3. Install the enclosed ferrite bead (RF5) on the communication cables, as close as possible to CTC EcoPart 7000. The cable is threaded through the ferrite bead 2 times.



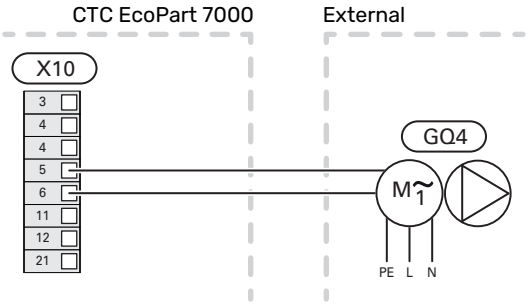
EVACUATION FAN (GQ4)

In an installation with CTC EcoPart 7000, an evacuation fan is required.

In an installation with only one CTC EcoPart 7000, the fan's control signal must be connected in the heat pump. In an installation with several CTC EcoPart 7000, the control signal is connected in the control module; for connection, see the control module's Installer Manual.

For connection in CTC EcoPart 7000:

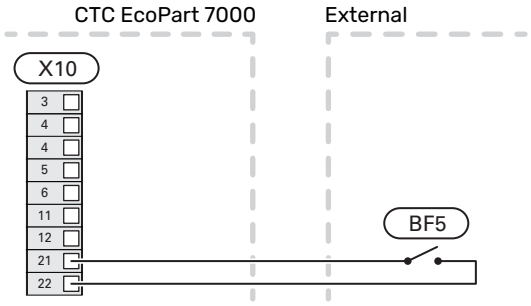
1. Connect the fan's control signal to terminal block X10:5 (signal) and X10:6 (GND).
2. The fan's power supply is connected externally.



FLOW SENSOR (BF5)

A potential-free contact (NO) can be connected to CTC EcoPart 7000. The contact closes when the flow is correct.

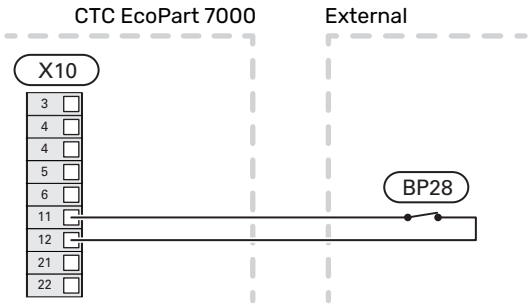
1. Remove the jumper fitted on X10:21-22.
2. Connect the flow sensor to X10:21-22.



HEAT SOURCE PRESSURE SWITCH (BP28)

A potential-free contact (NC) can be connected to CTC EcoPart 7000. The contact opens at incorrect pressure.

1. Remove the jumper fitted on X10:11-12.
2. Connect the heat source pressure switch to X10:11-12.



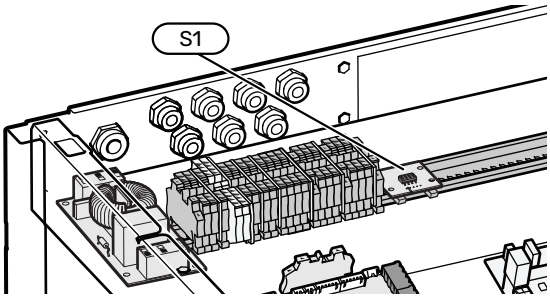
Settings

DIP SWITCH



CTC EcoPart 7000 is fitted with a DIP switch (S1).

CTC EcoPart 7000 is supplied with the DIP switches set to position OFF and they must always remain in this position.



CAUTION!

The DIP switch setting must not be changed.

Commissioning and adjusting

Filling and venting

> **CAUTION!**
> Any automatic vents in CTC EcoPart 7000 must be closed after commissioning and venting of CTC EcoPart 7000.

Filling the climate system

1. Open the filling valve (external, not included in the product). Fill the climate system with water.
2. Open any externally fitted vent valves.
3. When the water that exits any external vent valves is not mixed with air, close the valves. After a while, the pressure starts to rise.
4. Close the filling valve when the correct pressure is obtained.

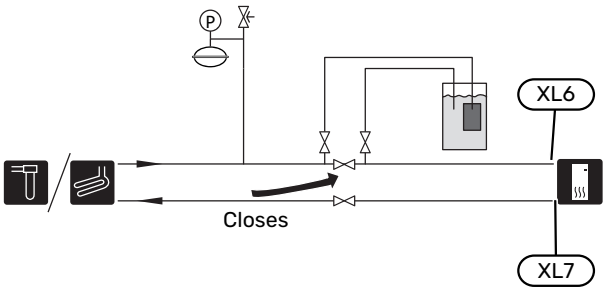
Venting the climate system

1. The heat pump is vented automatically using the vent valve (QM20). The vent valve closes automatically when the valve housing has been vented and filled with liquid.
2. Vent the rest of the climate system via its vent valves.
3. Keep topping up and venting until all air has been removed and the pressure is correct.

FILLING THE BRINE SYSTEM

When filling the brine system, mix the water with antifreeze in an open container. The mixture should be protected against freezing down to about -15 °C. The brine is filled by connecting a filling pump.

1. Check the brine system for leakage.
2. Connect the filling pump and return line to the brine system's service connections.
3. Close the shut-off valve between the service connections.
4. Open the service connections.
5. Start the filling pump.
6. Fill and bleed the brine system until clear, air-free liquid enters the return pipe.
7. Close the service connections.
8. Open the shut-off valve between the service connections.



VENTING THE BRINE SYSTEM

1. The heat pump is vented automatically using the vent valve (QM21). The vent valve closes automatically when the valve housing has been vented and filled with liquid.
2. The rest of the brine system is vented via its vent valves, if any are installed.
3. Repeat filling and venting until all air has been removed and the correct pressure has been obtained.

Service

Service actions

> **CAUTION!**
> Servicing should only be carried out by persons with the necessary expertise.
>
> When replacing components on CTC EcoPart 7000 only replacement parts from CTC may be used.

> **CAUTION!**
> The evacuation fan (GQ4) must be running during servicing.
>
> If the control signal to the evacuation fan (GQ4) is lost, it will run at full speed.

DRAINING THE CLIMATE SYSTEM IN THE HEAT PUMP

> **CAUTION!**
> There may be some hot water, risk of scalding.

To be able to service the components in the heat pump belonging to the climate system, it is often easiest to empty the heat pump first.

1. Close externally mounted shut-off valves.
2. Connect a hose to the drain valve (QM1) and open the valve. Some liquid will run out.
3. Air must get into the system for the remaining liquid to run out. To let in air, slacken off the connection slightly at the heating medium connection return (XL2).

DRAINING THE BRINE SYSTEM IN THE HEAT PUMP

To be able to service the components in the heat pump belonging to the brine system, it is often easiest to empty the heat pump first.

1. Close externally mounted shut-off valves.
2. Connect a hose to the drain valve (QM2), place the other opening of the hose in a vessel and open the valve. A small amount of brine will flow into the vessel.
3. Air must get into the system for the remaining brine to run out. To let in air, slacken off the connection slightly at the brine connection out (XL7).

TEMPERATURE SENSOR DATA

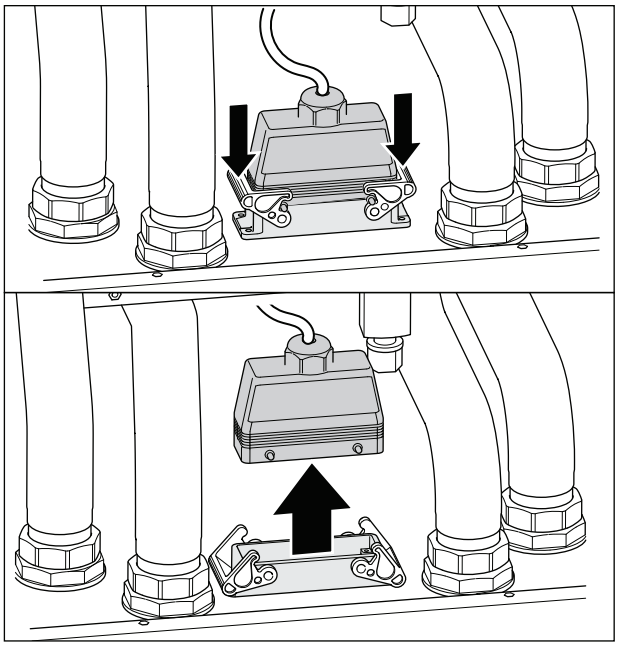
Temperature (°C)	Resistance (kOhm)	Voltage (VDC)
-10	43.52	3.047
0	27.83	2.889
10	18.25	2.673
20	12.24	2.399
30	8.41	2.083
40	5.92	1.752
50	4.24	1.426
60	3.09	1.136
70	2.28	0.891
80	1.72	0.691

PULLING OUT THE COOLING MODULE

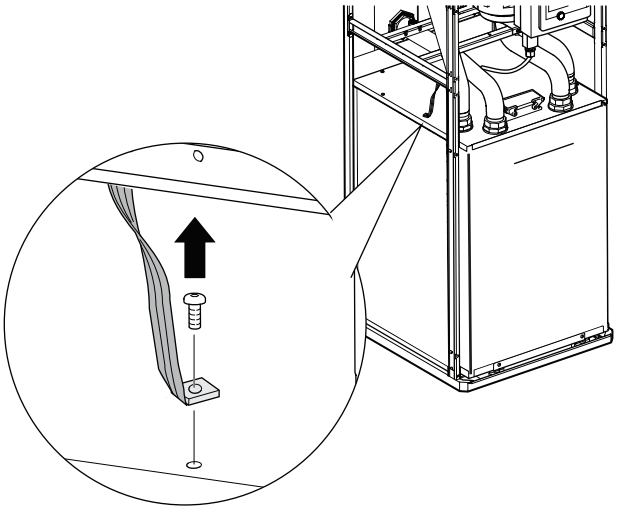
The cooling module is fitted with pulling eyes and can be pulled out to facilitate service and transport.

> **CAUTION!**
> Switch off the heat pump and cut the power with the safety switches.

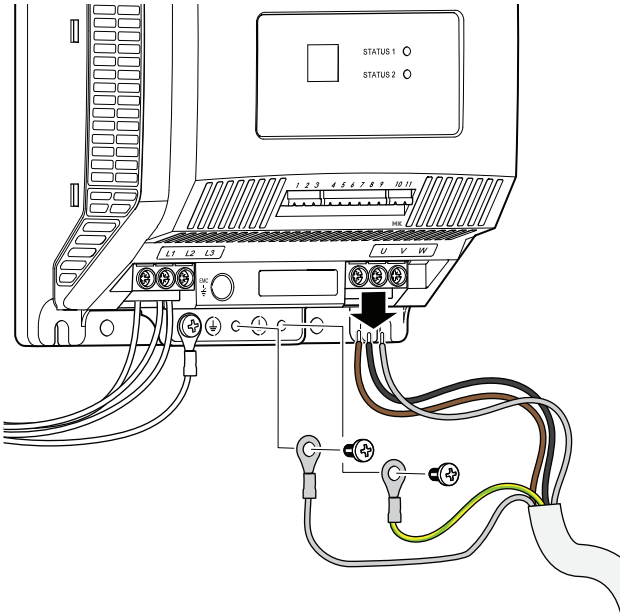
1. Remove the cooling module's connector (X50).



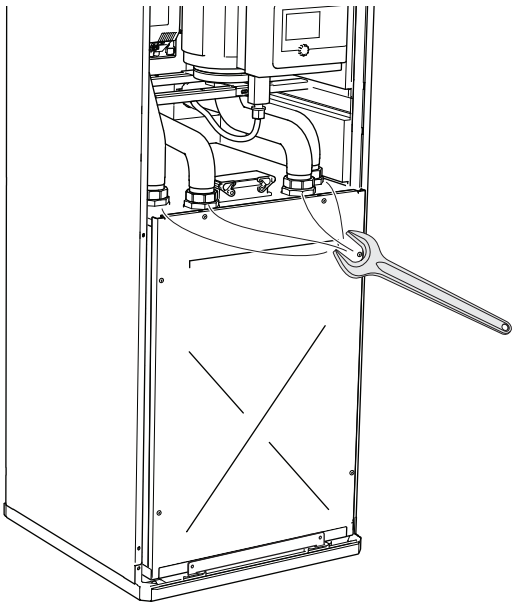
2. Undo the cooling module's two earth straps.



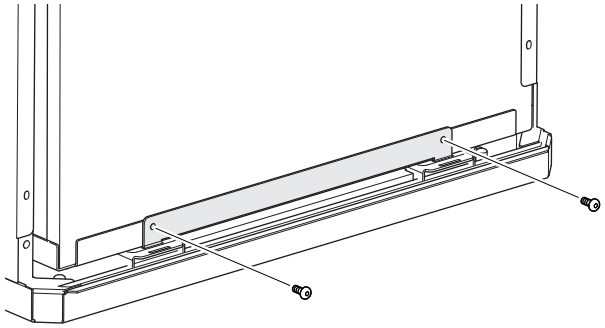
3. Disconnect the cables from the inverter (QA40).



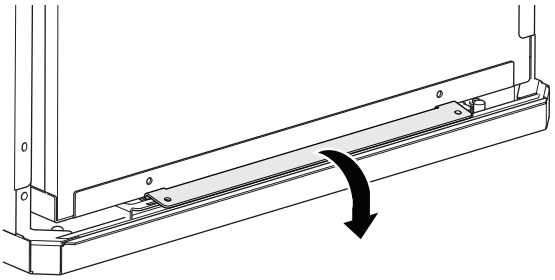
4. Disconnect the connections to the cooling module.

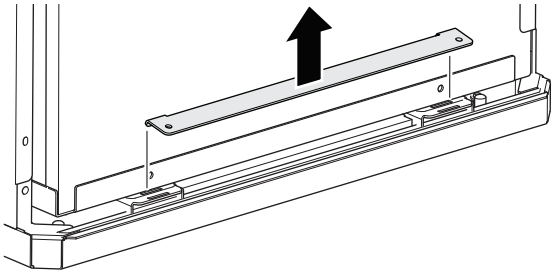


5. Release the locking plate.



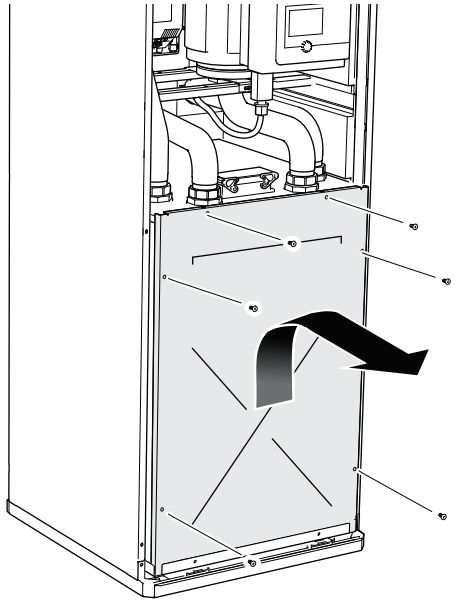
6. Remove the locking plate by folding it forwards and lifting it upwards.





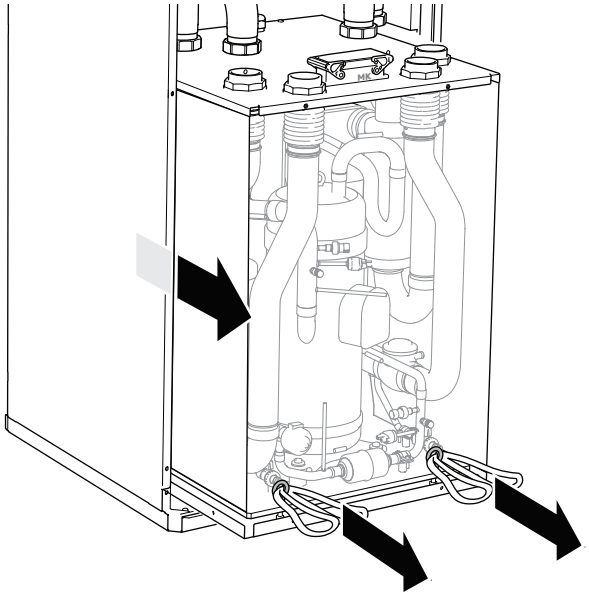
7. To remove the cooling module, the wiring to the EEV, which is connected to the circuit board in the junction box, must be disconnected.

8. Remove the screws on the front of the cooling module and lift the front up and forwards.



9. Check that the pulling eyes are fitted, see section "Remove the transport locks".
10. Carefully pull out the cooling module by attaching straps to the pulling eyes.

> **CAUTION!**
>
> The cooling module is heavy and there is a risk of crushing.



11. Protect the connections (including the fan's) so that no dirt enters the cooling module.
12. The cooling module is installed in reverse order.

> **NOTE!**
>
> If the cooling module is to be transported away for servicing, 8 transport locks must be refitted.

Malfunctions

In most cases, the control module detects a malfunction and indicates this with alarms and instructions for action in the display.

Troubleshooting

If the operational interference is not shown in the display the following tips can be used:

BASIC ACTIONS

Start by checking the following items:

- Group and main fuses of the building.
- The building's earth circuit breaker.
- The heat pump's RCD.
- That the main product is running and that the supply cable to CTC EcoPart 7000 is connected.

LOW HOT WATER TEMPERATURE OR A LACK OF HOT WATER

This part of the troubleshooting chapter only applies if a heat pump heater is installed in the system.

- Closed or throttled externally mounted filling valve for the hot water.
  - Open the valve.
- Mixing valve (if there is one installed) set too low.
  - Adjust the mixer valve.

LOW ROOM TEMPERATURE

- External switch for changing room temperature activated.
  - Check any external switches.
- Air in the climate system.
  - Vent the climate system.
- Closed valves to the climate system.
  - Open the valves.

HIGH ROOM TEMPERATURE

- External switch for changing room temperature activated.
  - Check any external switches.

UNEVEN ROOM TEMPERATURE.

- Uneven flow over the radiators.
  - Adjust the flow distribution over the radiators.

LOW SYSTEM PRESSURE

- Not enough water in the climate system.
  - Fill the climate system with water and check for leaks (see chapter "Filling and venting").

THE COMPRESSOR DOES NOT START

- There is no heating or hot water demand, nor cooling demand (accessory is required for cooling).
  - The main product does not call on heating, hot water or cooling (accessory is required for cooling).
- Compressor blocked due to the temperature conditions.
  - Wait until the temperature is within the product's working range.
- Minimum time between compressor starts has not been reached.
  - Wait for at least 30 minutes and then check if the compressor has started.
- The bridge for the heat source pressure switch is incorrectly fitted.
  - Check that connector X10:11-12 is correctly fitted.

WHINING NOISE IN THE RADIATORS

- Uneven flow over the radiators.
  - Adjust the flow distribution between the radiators.

Signal lamp (PF1)

The integrated control shows information via the signal lamp and can be used during servicing.

Signal lamp	Status	Explanation	Action
-	The signal lamp is not lit	CTC EcoPart 7000 has no power	Connect power
Red	Constant light from the signal lamp	CTC EcoPart 7000 has an alarm	Check the control module
White	Constant light from the signal lamp	CTC EcoPart 7000 is working as it should	No action is required

Accessories

Detailed information about the accessories and complete accessories list available at CTC.se.

CTC EVACUATION FAN 170 W

Mandatory accessory used with the ground-source heat pump for safety ventilation.

Part no. 592141301

CTC INSTALLATION KIT 7000

Installation kit for CTC EcoPart 7000.

Part no. 592123301

CTC BRINE PUMP 50/16-340

Brine pump for CTC EcoPart 7000.

Part no. 591121301

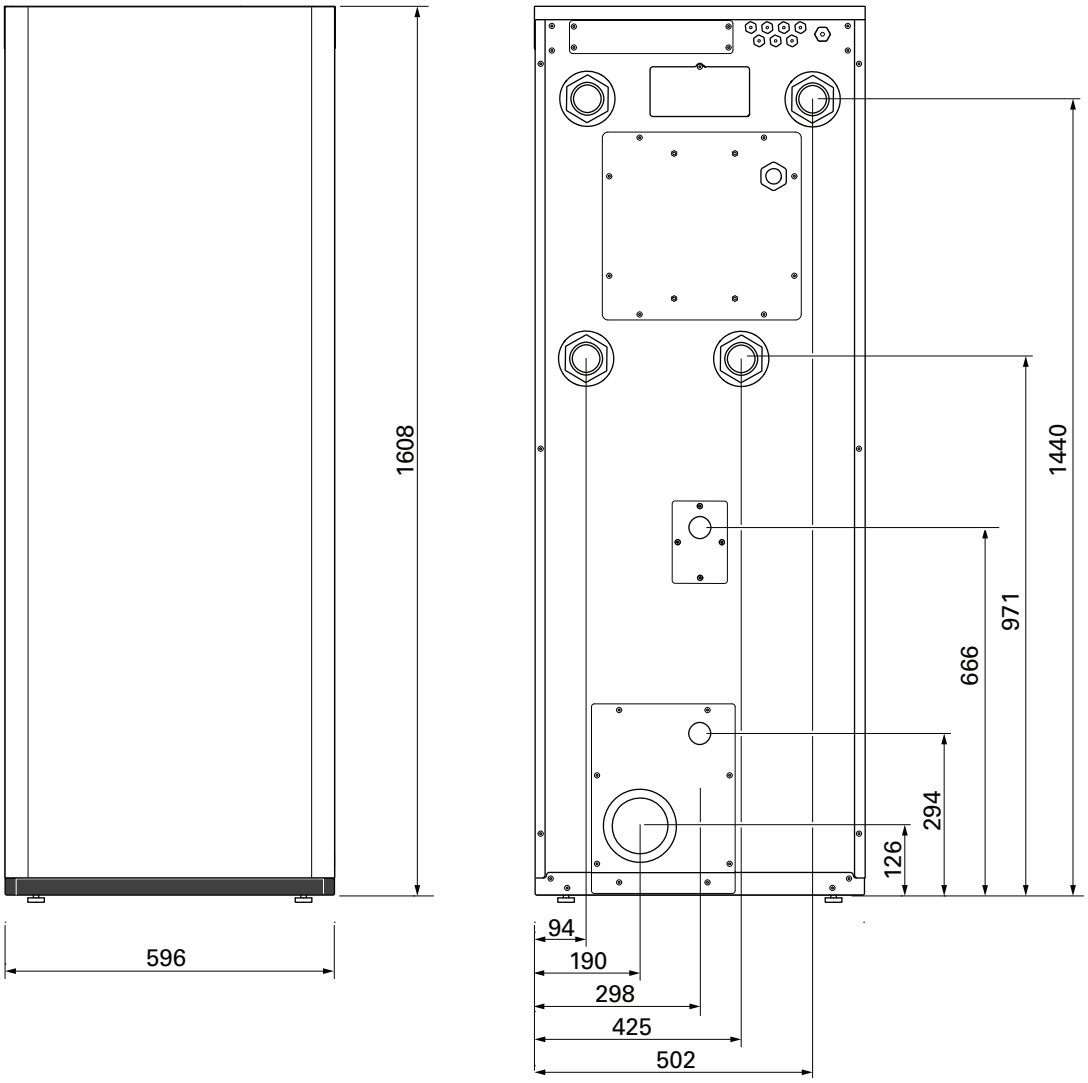
CTC SAFETY VALVE KIT 5,5 BAR

Safety valves with quick coupling. Used if any of the internal safety valves need to be replaced.

Part no. 592212301

Technical data

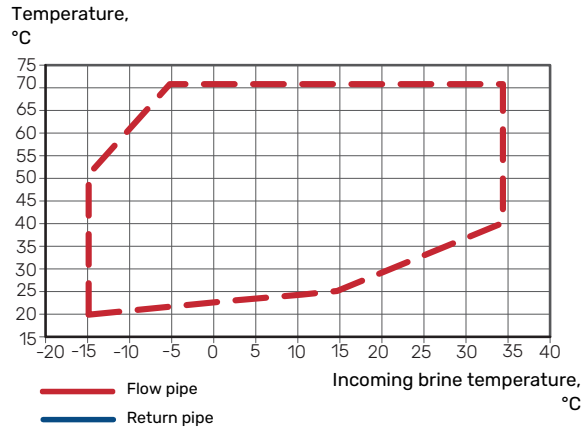
Dimensions



Technical specifications

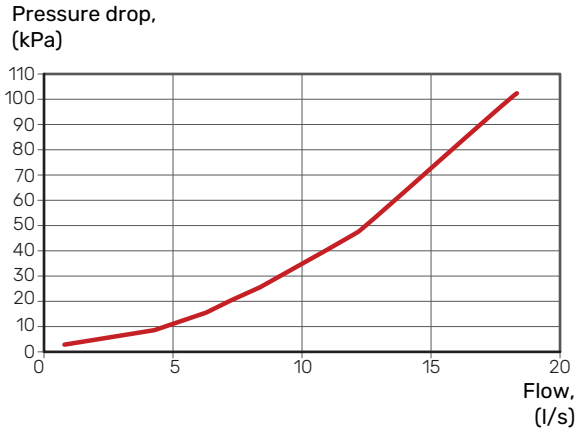
WORKING RANGE HEAT PUMP, COMPRESSOR OPERATION

The compressor provides a supply temperature up to 70 °C.



INTERNAL PRESSURE DROP

Diagram for sizing the brine pump.



CTC EcoPart 7000		7060
Output data according to EN 14511		
		Minimum / Medium / Maximum
-5/35		
Heating capacity (P_H)	kW	11,42 / 24,76 / 50,80
Supplied power (P_E)	kW	2,92 / 5,93 / 14,10
COP	-	3,92 / 4,18 / 3,60
0/35		
Heating capacity (P_H)	kW	14,30 / 28,59 / 57,90
Supplied power (P_E)	kW	2,93 / 6,01 / 14,70
COP	-	4,88 / 4,76 / 4,00
5/35		
Heating capacity (P_H)	kW	16,11 / 32,88 / 65,70
Supplied power (P_E)	kW	2,93 / 6,10 / 15,40
COP	-	5,50 / 5,39 / 4,30
10/35		
Heating capacity (P_H)	kW	18,52 / 37,92 / 74,31
Supplied power (P_E)	kW	5,87 / 6,20 / 16,15
COP	-	6,45 / 6,12 / 4,60
20/35		
Heating capacity (P_H)	kW	24,08 / 49,52 / 86,16
Supplied power (P_E)	kW	2,64 / 6,31 / 16,59
COP	-	9,12 / 7,85 / 5,19
-5/45		
Heating capacity (P_H)	kW	10,78 / 23,93 / 48,90
Supplied power (P_E)	kW	3,54 / 7,04 / 16,00
COP	-	3,04 / 3,40 / 3,10
0/45		
Heating capacity (P_H)	kW	12,62 / 27,25 / 55,50
Supplied power (P_E)	kW	3,61 / 7,15 / 16,70
COP	-	3,51 / 3,81 / 3,30
5/45		
Heating capacity (P_H)	kW	15,51 / 31,43 / 61,90
Supplied power (P_E)	kW	3,63 / 7,30 / 17,50
COP	-	4,28 / 4,31 / 3,60
10/45		
Heating capacity (P_H)	kW	17,76 / 36,09 / 69,61
Supplied power (P_E)	kW	3,65 / 7,45 / 18,29
COP	-	4,87 / 4,84 / 3,81
20/45		
Heating capacity (P_H)	kW	23,01 / 46,99 / 84,85
Supplied power (P_E)	kW	3,57 / 7,80 / 19,28
COP	-	6,44 / 6,03 / 4,40
-5/55		
Heating capacity (P_H)	kW	10,72 / 23,62 / 48,00
Supplied power (P_E)	kW	4,26 / 8,26 / 18,10
COP	-	2,52 / 2,86 / 2,70
0/55		
Heating capacity (P_H)	kW	12,57 / 26,80 / 54,10
Supplied power (P_E)	kW	4,35 / 8,41 / 18,80
COP	-	2,89 / 3,19 / 2,90
5/55		
Heating capacity (P_H)	kW	15,11 / 30,54 / 60,10
Supplied power (P_E)	kW	4,38 / 8,50 / 19,20
COP	-	3,45 / 3,60 / 3,10
10/55		
Heating capacity (P_H)	kW	17,21 / 34,88 / 66,43
Supplied power (P_E)	kW	4,40 / 8,66 / 20,00
COP	-	3,91 / 4,03 / 3,32
20/55		
Heating capacity (P_H)	kW	22,27 / 45,23 / 83,49
Supplied power (P_E)	kW	4,48 / 9,17 / 21,39

CTC EcoPart 7000		7060
COP	-	4,97 / 4,94 / 3,90
-5/65		
Heating capacity (P_H)	kW	10,42 / 23,26 / 47,20
Supplied power (P_E)	kW	5,03 / 9,52 / 20,30
COP	-	2,07 / 2,45 / 2,30
0/65		
Heating capacity (P_H)	kW	12,50 / 26,26 / 52,70
Supplied power (P_E)	kW	5,11 / 9,76 / 21,10
COP	-	2,45 / 2,69 / 2,50
5/65		
Heating capacity (P_H)	kW	14,66 / 29,68 / 57,30
Supplied power (P_E)	kW	5,20 / 9,97 / 21,70
COP	-	2,82 / 2,98 / 2,60
10/65		
Heating capacity (P_H)	kW	16,71 / 33,64 / 62,69
Supplied power (P_E)	kW	5,30 / 10,15 / 22,48
COP	-	3,16 / 3,32 / 2,79
20/65		
Heating capacity (P_H)	kW	21,47 / 43,34 / 78,24
Supplied power (P_E)	kW	5,45 / 10,73 / 24,22
COP	-	3,94 / 4,04 / 3,23
-5/70		
Heating capacity (P_H)	kW	10,54 / 22,91 / 46,50
Supplied power (P_E)	kW	5,52 / 10,28 / 21,80
COP	-	1,91 / 2,23 / 2,13
0/70		
Heating capacity (P_H)	kW	13,32 / 25,82 / 51,61
Supplied power (P_E)	kW	5,57 / 10,55 / 22,48
COP	-	2,21 / 2,45 / 2,30
5/70		
Heating capacity (P_H)	kW	14,33 / 29,14 / 56,29
Supplied power (P_E)	kW	5,73 / 10,78 / 23,21
COP	-	2,50 / 2,70 / 2,43
10/70		
Heating capacity (P_H)	kW	16,38 / 32,83 / 61,08
Supplied power (P_E)	kW	5,85 / 11,05 / 23,93
COP	-	2,80 / 2,97 / 2,55
20/70		
Heating capacity (P_H)	kW	20,93 / 41,97 / 73,60
Supplied power (P_E)	kW	6,02 / 11,59 / 25,05
COP	-	3,48 / 3,62 / 2,94

CTC EcoPart 7000		60
SCOP according to EN 14825		
Rated heat output ($P_{designh}$), 35 °C / 55 °C (brine/water)	kW	48 / 44
SCOP cold climate, 35 °C / 55 °C (brine/water)	-	5.83 / 4.40
SCOP average climate, 35 °C / 55 °C (brine/water)	-	5.66 / 4.28
Rated heat output ($P_{designh}$), 35 °C / 55 °C (water/water)	kW	62 / 55
SCOP cold climate, 35 °C / 55 °C (water/water)	-	8,30 / 6,03
SCOP average climate, 35 °C / 55 °C (water/water)	-	7,88 / 5,78
Energy rating, average climate		
The product's room heating efficiency class 35 °C / 55 °C [1]	-	A+++ / A+++
The system's room heating efficiency class 35 °C / 55 °C [2]	-	A+++ / A+++
Electrical data		
Rated voltage, compressor/inverter	-	400V 3N ~ 50Hz
Rated voltage, control system	-	230V 1N ~ 50Hz
Max. operating current, compressor/inverter (Recommended fuse rating)	A	40 (C50)
Max. operating current, control system (Recommended fuse rating)	A	2,5 (B10)
Maximum starting current	A_{rms}	40
Short circuit power (Ssc) [3]	MVA	6,2
Cos φ [4]	-	0,82 /0,94
Rated power, heating medium pump	W	560
Enclosure class	-	IP 21
Residual current device (RCD), type	-	F / B (compressor), A (control)
Cable length, compressor/inverter supply cable	m	2.5
Cable length, control system supply cable	m	2.5
Refrigerant circuit		
Type of refrigerant	-	R290
GWP refrigerant	-	0.02
Filling amount	kg	2.0
CO_2-equivalent (The cooling circuit is hermetically sealed.)	kg	0,004
Cut-out value pressure switch HP / LP	MPa (bar)	3.1 (31) / 0.07 (0.7)
Difference pressure switch HP / LP	MPa (bar)	2.4 (24) / 0.1 (1.0)
Brine circuit		
Min/max system pressure brine	MPa (bar)	0.05 (0.5) / 0.6 (6)
Flow at $P_{designh}$	l/s	3,8
Min/Max incoming Brine temp	°C	see diagram
Min. outgoing brine temp.	°C	-15
Heating medium circuit		
Min/Max system pressure heating medium	MPa (bar)	0.05 (0.5) /0.6 (6)
Flow at $P_{designh}$	l/s	2,30
External available pressure at $P_{designh}$	kPa	83
Min/max HM-temp	°C	see diagram
Safety ventilation		
Min. airflow	l/s	18
Noise		
Sound power level (L_{WA}) according to EN 12102 at 0/35	dB(A)	48
Sound pressure level (L_{pA}) calculated values according to EN ISO 11203 at 0/55 and a distance of 1 m	dB(A)	43
Pipe connections		
Brine ext diam	inches	G2
Heating medium ext diam	inches	G2
Compressor oil		
Oil type	-	POE
Volume	l	2.2
Dimensions and weight		
Width	mm	596

CTC EcoPart 7000		60
Depth	mm	620
Height	mm	1,610
Weight complete heat pump	kg	401
Weight only cooling module	kg	216
Part No.	-	065 907

1 Scale for the product's efficiency class room heating: A+++ to D.

2 Scale for the system's efficiency class room heating: A+++ to G. Reported efficiency for the system takes the product's temperature regulator into account.

3 This equipment complies with IEC 61000-3-12, on the condition that the short circuit power Ssc is greater than or equal to 6.2 MVA at the connection point between the customer installation's electrical supply and the mains network. It is the responsibility of the installer or user of the equipment to ensure, through consultation with the distribution network operator if required, that the equipment is only connected to a supply with a short circuit power Ssc equal to or greater than 6.2 MVA.

4 The operational point 0/35 for max. and 30 rps respectively.

Energy labelling

INFORMATION SHEET

Supplier		CTC
Model		**CTC EcoPart 7000-7060**
Model hot water heater		-
Temperature application	°C	55 / 35
Declared load profile for water heating		-
Seasonal space heating energy efficiency class, average climate		A+++ / A+++
Water heating energy efficiency class, average climate		-
Rated heat output ($P_{designh}$), average climate	kW	44 / 48
Annual energy consumption space heating, average climate	kWh	21 268 / 17 459
Annual energy consumption water heating, average climate	kWh	-
Seasonal space heating energy efficiency, average climate	%	163 / 218
Water heating energy efficiency, average climate	%	-
Sound power level L_{WA} indoors	dB	48
Rated heat output ($P_{designh}$), cold climate	kW	44 / 48
Rated heat output ($P_{designh}$), warm climate	kW	44 / 48
Annual energy consumption space heating, cold climate	kWh	24 690 / 20 194
Annual energy consumption water heating, cold climate	kWh	-
Annual energy consumption space heating, warm climate	kWh	13 538 / 11 522
Annual energy consumption water heating, warm climate	kWh	-
Seasonal space heating energy efficiency, cold climate	%	-
Water heating energy efficiency, cold climate	%	-
Seasonal space heating energy efficiency, warm climate	%	-
Water heating energy efficiency, warm climate	%	-
Sound power level L_{WA} outdoors	dB	-

DATA FOR ENERGY EFFICIENCY OF THE PACKAGE

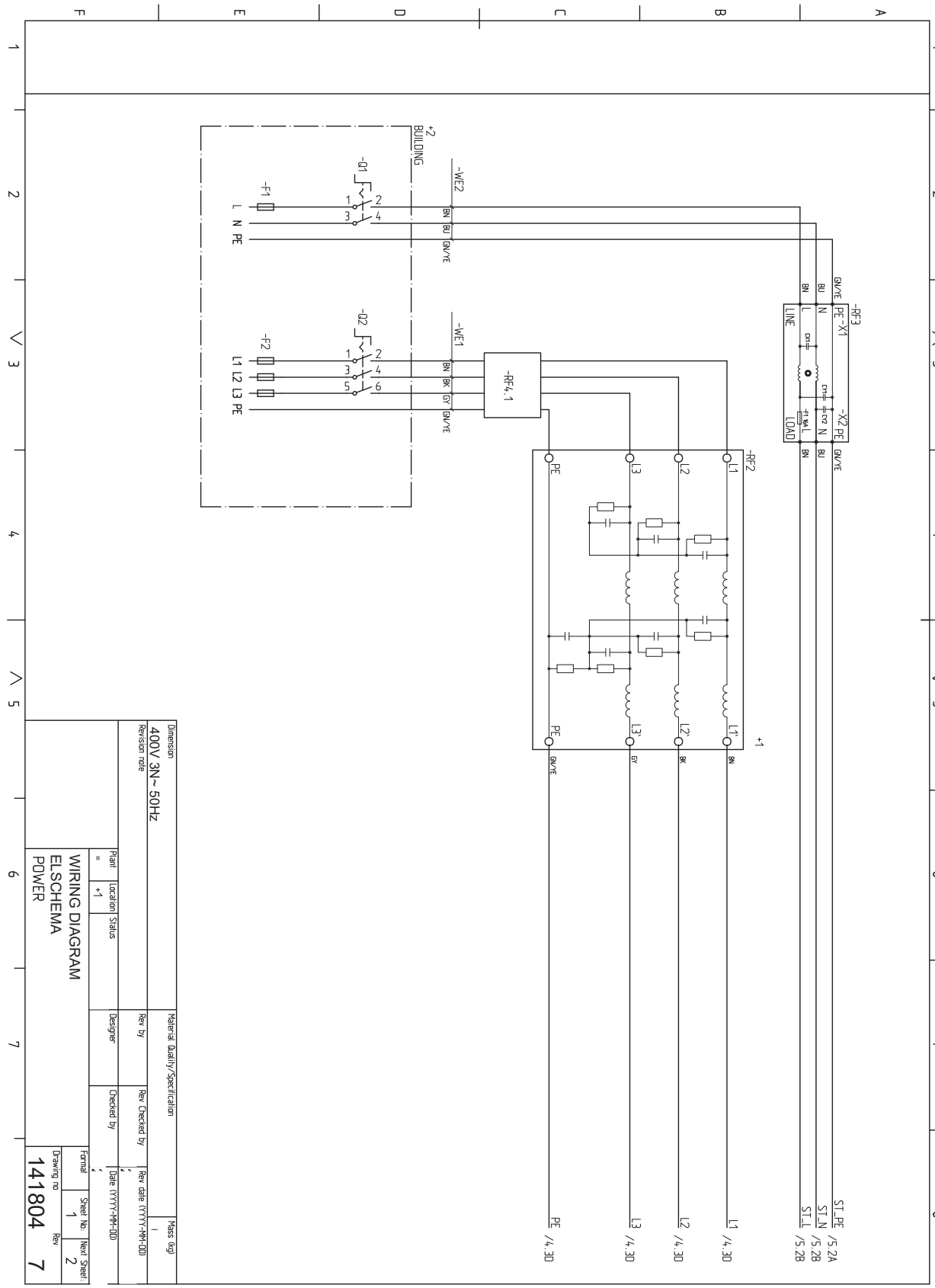
Model		CTC EcoPart 7000-7060
Model hot water heater		**-**
Temperature application	°C	55 / 35
Controller, class		II
Controller, contribution to efficiency	%	2
Seasonal space heating energy efficiency of the package, average climate	%	163 / 218
Seasonal space heating energy efficiency class of the package, average climate		**A+++ / A+++**
Seasonal space heating energy efficiency of the package, cold climate	%	168 / 225
Seasonal space heating energy efficiency of the package, warm climate	%	166 / 214

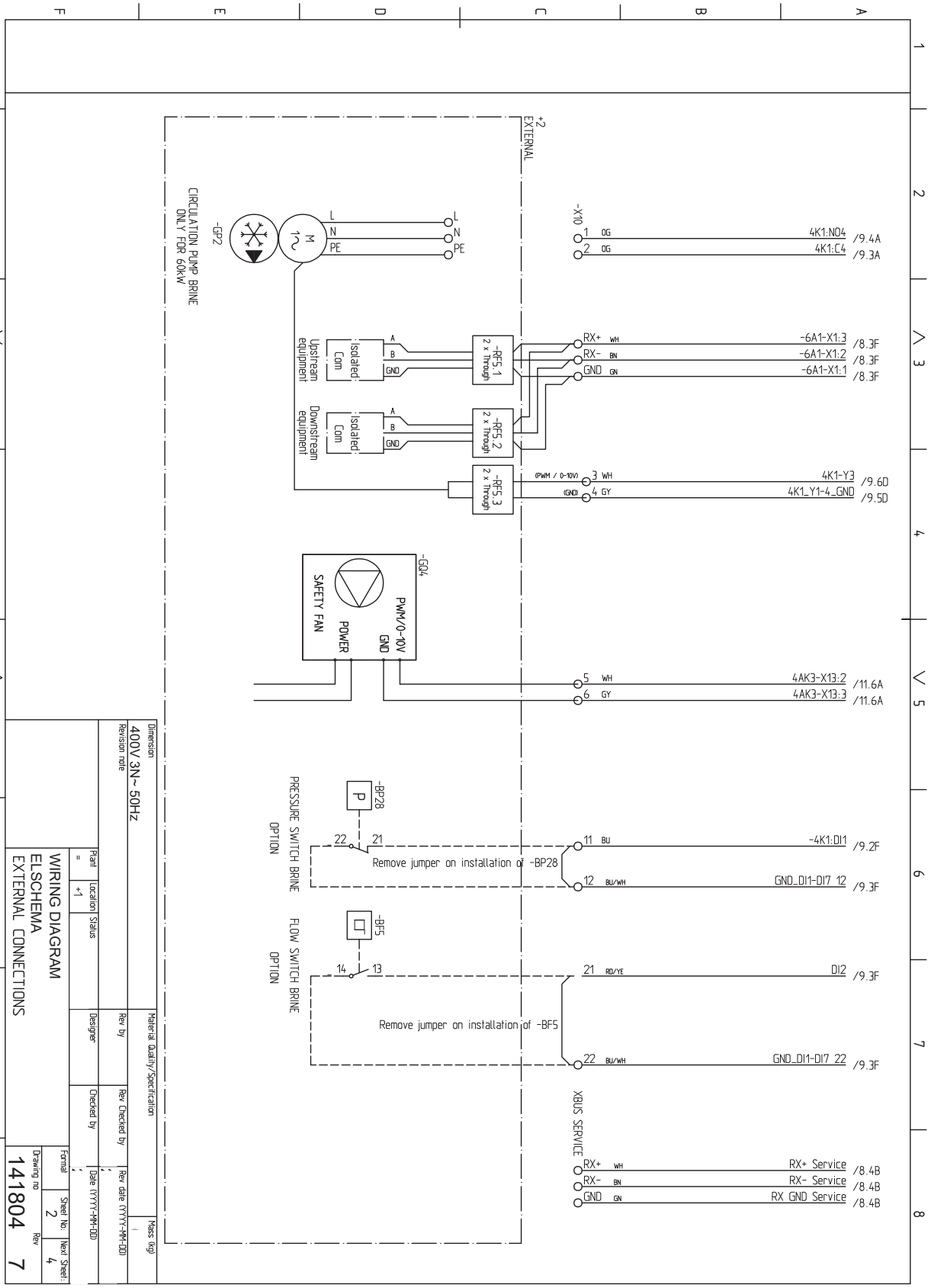
Reported efficiency for the system also takes the temperature regulator into account. If the system is supplemented with external additional heat or solar heating, the total efficiency of the system must be recalculated.

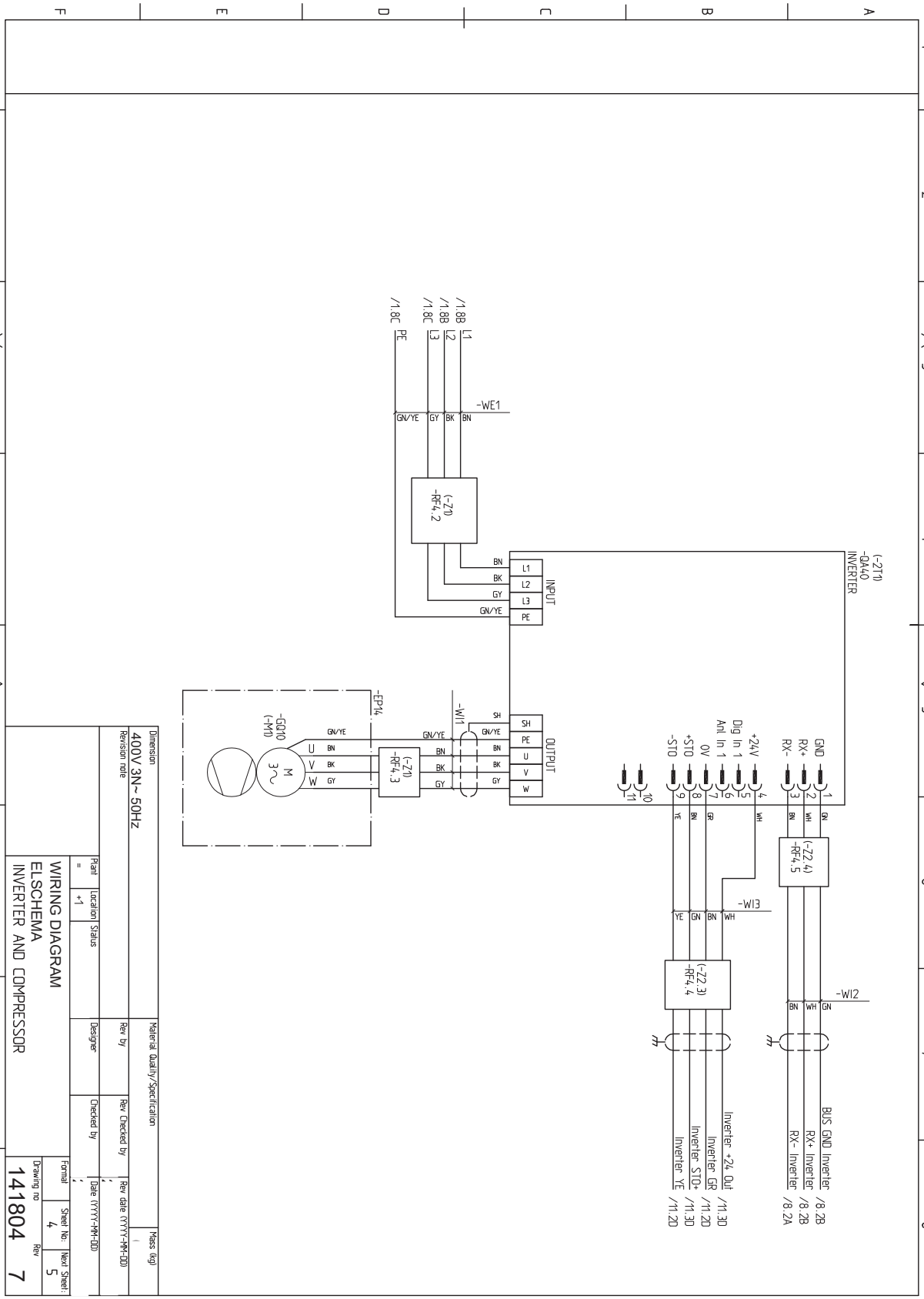
TECHNICAL DOCUMENTATION

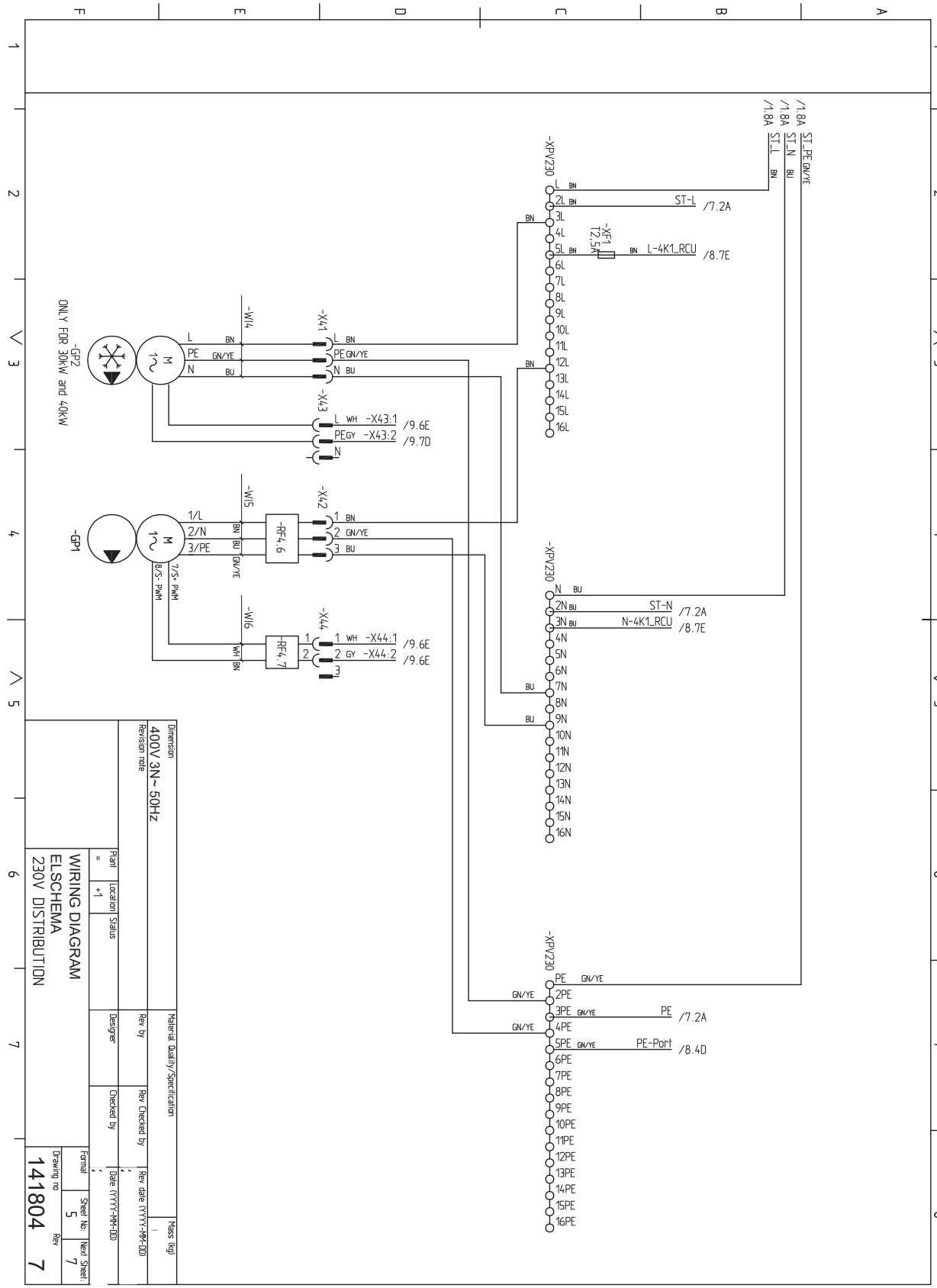
Model		CTC EcoPart 7000-7060					
Type of heat pump		☐ Air-water ☐ Exhaust-water ☒ Brine-water ☐ Water-water					
Low-temperature heat pump		☐ Yes ☒ No					
Integrated immersion heater for additional heat		☐ Yes ☒ No					
Heat pump combination heater		☐ Yes ☒ No					
Climate		☒ Average ☐ Cold ☐ Warm					
Temperature application		☒ Medium (55°C) ☐ Low (35°C)					
Applied standards		EN-14825 & EN-12102-1					
Rated heat output	Prated	44	kW	*Seasonal space heating energy efficiency*	η_s	166	%
Declared capacity for space heating at part load and at outdoor temperature Tj				*Declared coefficient of performance for space heating at part load and at outdoor temperature Tj*			
Tj = -7 °C	Pdh		kW	Tj = -7 °C	COPd		-
Tj = +2 °C	Pdh	44.1	kW	Tj = +2 °C	COPd	3.06	-
Tj = +7 °C	Pdh	28.3	kW	Tj = +7 °C	COPd	3.88	-
Tj = +12 °C	Pdh	14.9	kW	Tj = +12 °C	COPd	5.11	-
Tj = biv	Pdh	44.1	kW	Tj = biv	COPd	3.06	-
Tj = TOL	Pdh	44.1	kW	Tj = TOL	COPd	3.06	-
Tj = -15 °C (if TOL < -20 °C)	Pdh		kW	Tj = -15 °C (if TOL < -20 °C)	COPd		-
Bivalent temperature	T_{biv}	2	°C	Min. outdoor air temperature	TOL		°C
Cycling interval capacity	Pcych		kW	Cycling interval efficiency	COPcyc		-
Degradation coefficient	Cdh	1.0	-	Max supply temperature	WTOL	70	°C
Power consumption in modes other than active mode				*Additional heat*			
Off mode	P_{OFF}	0.017	kW	Rated heat output	Psup	0.0	kW
Thermostat-off mode	P_{TO}	0.017	kW				
Standby mode	P_{SB}	0.020	kW	Type of energy input	Electric		
Crankcase heater mode	P_{CK}	0.000	kW				
Other items							
Capacity control	Variable			Rated airflow (air-water)			m^3/h
Sound power level, indoors/outdoors	L_{WA}	48 / -	dB	Nominal heating medium flow			m^3/h
Annual energy consumption	Q_{HE}	13	kWh	Brine flow brine-water or water-water heat pumps		9	m^3/h
Contact information	CTC AB, P.O Box 309, SE-34126 Ljungby, Sweden						

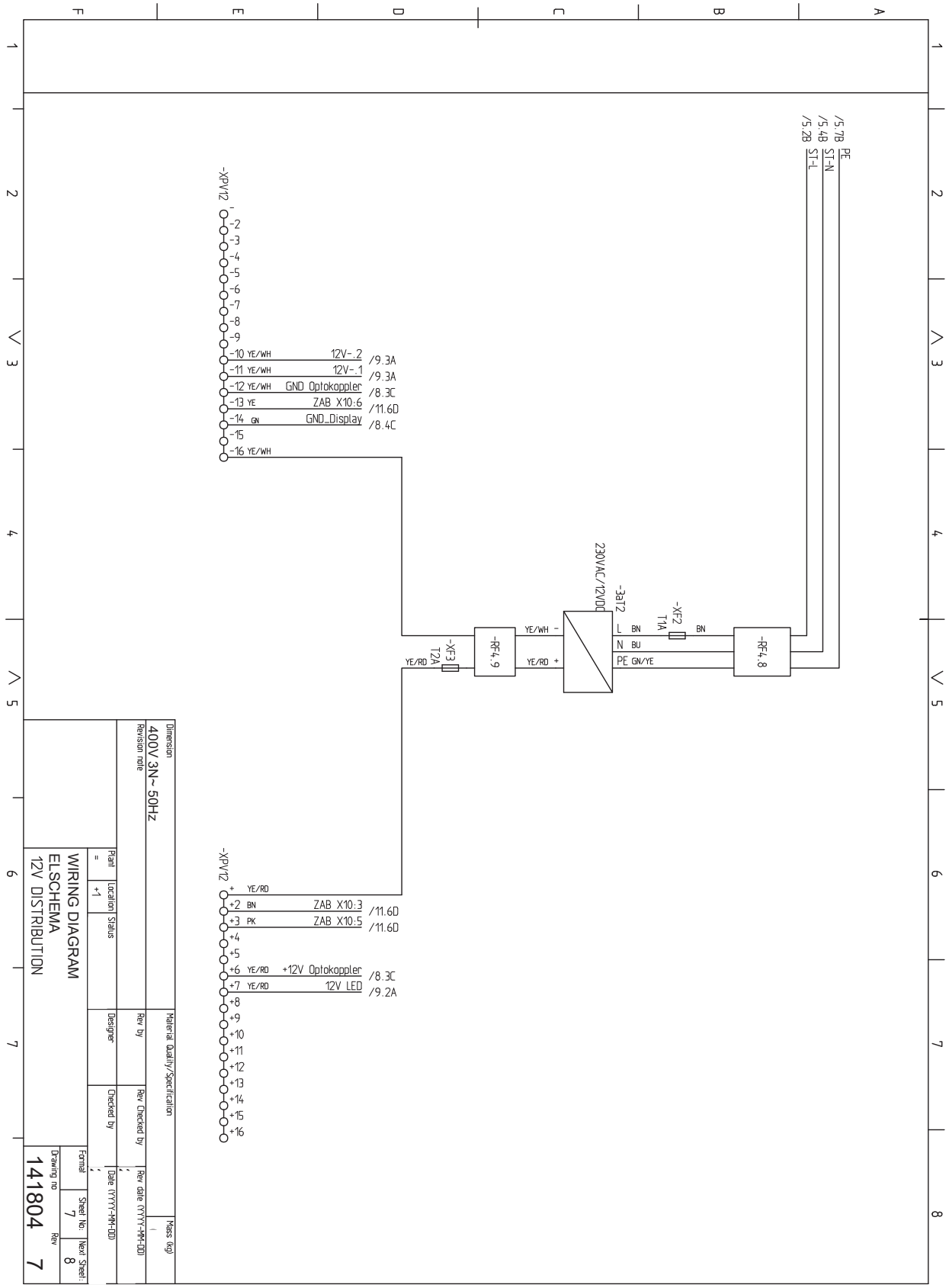
Electrical circuit diagram

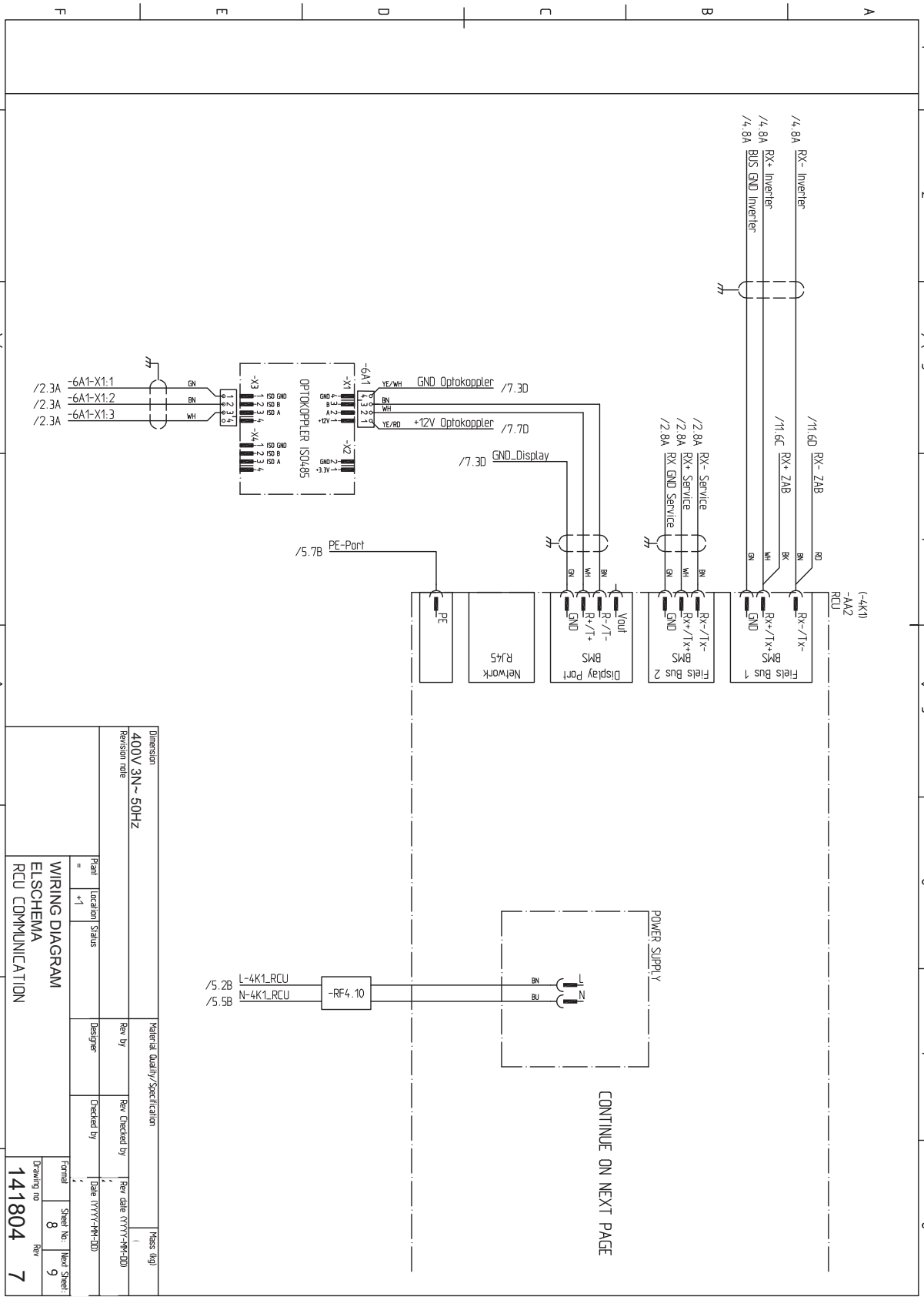


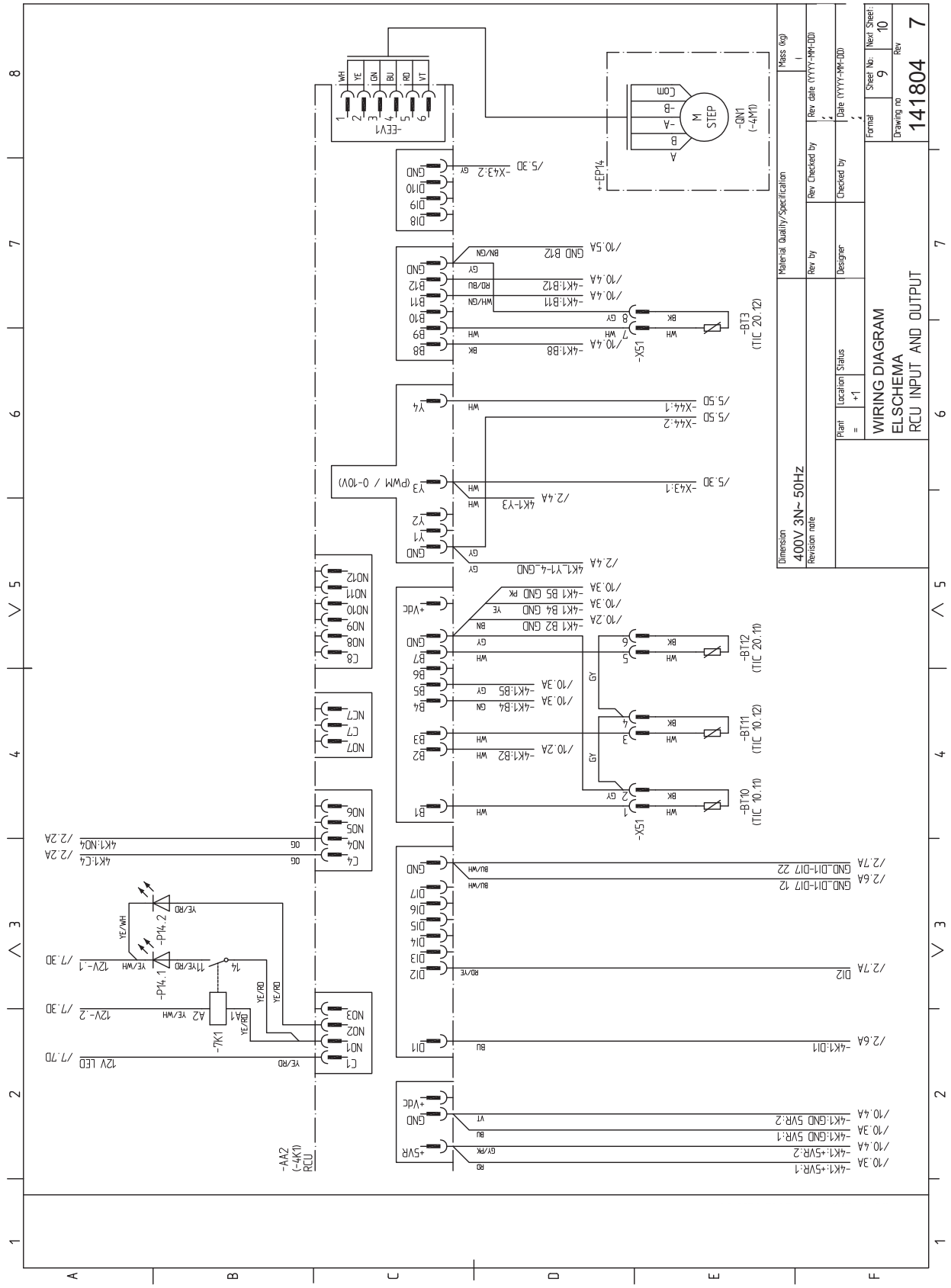

+2
EXTERNAL
CIRCULATION PUMP BRINE
ONLY FOR 60kW
-GP2
L
N
PE
-X10
1 OG
2 OG
4K1:NO4 /9.4A
4K1:C4 /9.3A
-RF5.1
-RF5.2
-RF5.3
2 x Through
Upstream equipment
Downstream equipment
Isolated Com
A
B
GND
RX+ WH
RX- BN
GND GN
-6A1-X1:3 /8.3F
-6A1-X1:2 /8.3F
-6A1-X1:1 /8.3F
(PWM / 0-10V)
(GND)
3 WH
4 GY
4K1-Y3 /9.6D
4K1_Y1-4_GND /9.5D
-GQ4
SAFETY FAN
POWER
PWM/0-10V
GND
5 WH
6 GY
4AK3-X13:2 /11.6A
4AK3-X13:3 /11.6A
-BP28
PRESSURE SWITCH BRINE
OPTION
22
21
Remove jumper on installation of -BP28
11 BU
12 BU/WH
-4K1:DI1 /9.2F
GND_DI1-DI7 12 /9.3F
-BF5
FLOW SWITCH BRINE
OPTION
14
13
Remove jumper on installation of -BF5
21 RD/YE
22 BU/WH
DI2 /9.3F
GND_DI1-DI7 22 /9.3F
XBUS SERVICE
RX+ WH
RX- BN
GND GN
RX+ Service /8.4B
RX- Service /8.4B
RX GND Service /8.4B
Dimension
400V 3N~ 50Hz
Revision note
Material Quality/Specification
Mass (kg)
Plant
=
Location
+1
Status
Designer
Rev by
Rev Checked by
Rev date (YYYY-MM-DD)
Checked by
Date (YYYY-MM-DD)
WIRING DIAGRAM
ELSCHEMA
EXTERNAL CONNECTIONS
Format
Drawing no
141804
Rev
7
Sheet No:
2
Next Sheet
4

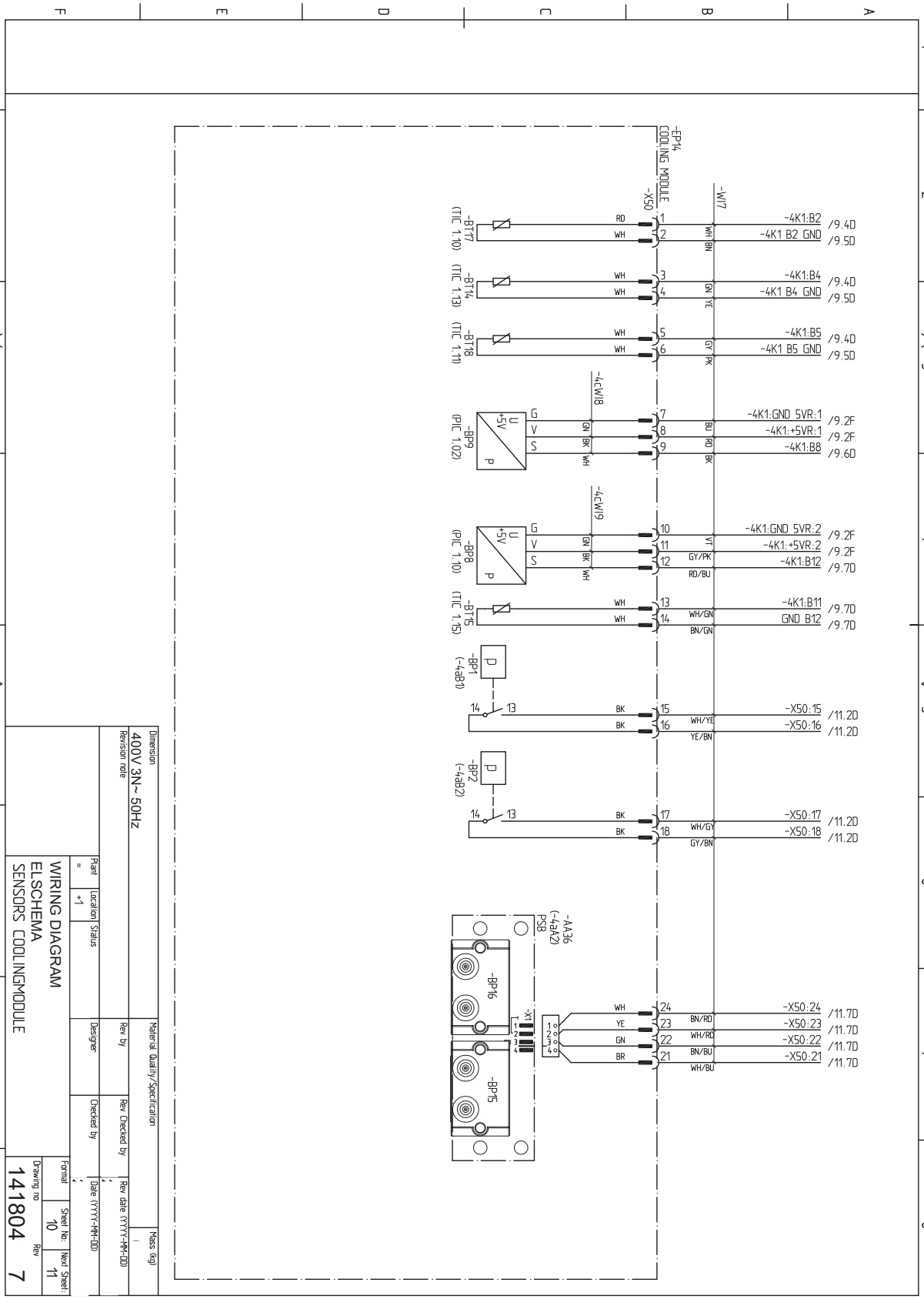

(-271)
-QA40
INVERTER
INPUT
OUTPUT
L1
L2
L3
PE
SH
U
V
W
GND
RX+
RX-
+24V
Dig In 1
Anl In 1
0V
+STO
-STO
-WE1
-WI1
-WI3
-WI2
-RF4.2
-RF4.3
-RF4.4
-RF4.5
-EP14
-EG10
(-M1)
BUS GND Inverter /8.2B
RX+ Inverter /8.2B
RX- Inverter /8.2A
Inverter +24 Out /11.3D
Inverter GR /11.2D
Inverter STO+ /11.3D
Inverter YE /11.2D
Dimension
400V 3N~ 50Hz
Revision note
Material Quality/Specification
Mass (kg)
Plant
=
Location
+1
Status
Designer
Rev. by
Rev. Checked by
Checked by
Rev. date (YYYY-MM-DD)
Date (YYYY-MM-DD)
Format
Sheet No:
4
Next Sheet:
5
Drawing no
141804
Rev.
7
WIRING DIAGRAM
ELSCHEMA
INVERTER AND COMPRESSOR

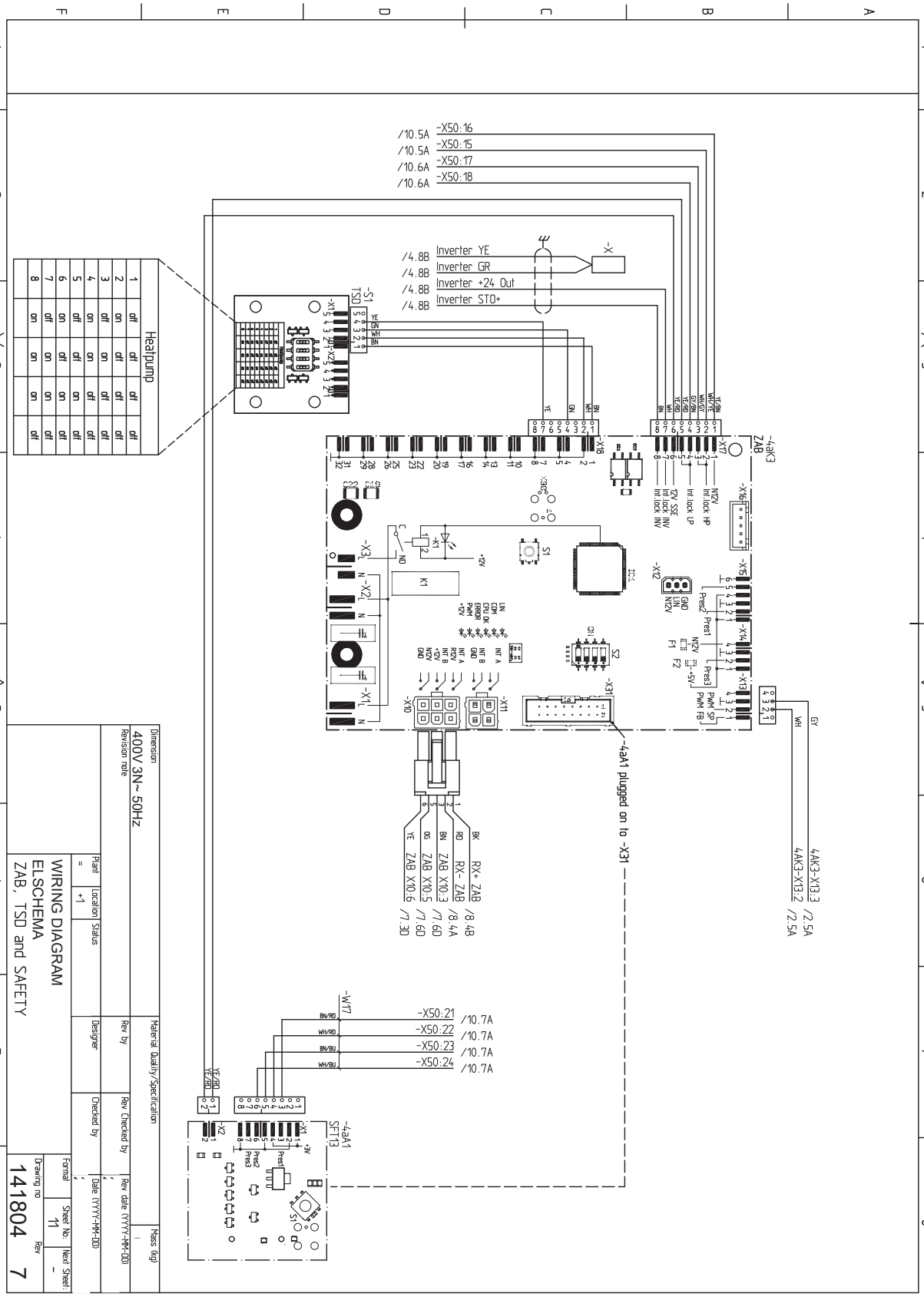

WIRING DIAGRAM
ELSCHEMA
230V DISTRIBUTION
400V 3N~ 50Hz
141804
-XPV230
-GP1
-GP2
ONLY FOR 30kW and 40kW
-XF1
T2.5A
-RF4.6
-RF4.7
ST-L
ST-N
N-4K1_RCU
L-4K1_RCU
PE-Port
-X43:1
-X43:2
-X44:1
-X44:2
/7.2A
/8.7E
/9.6E
/9.7D
/8.4D


-XPV12
-10 YE/WH 12V-.2 /9.3A
-11 YE/WH 12V-.1 /9.3A
-12 YE/WH GND Optokoppler /8.3C
-13 YE ZAB X10:6 /11.6D
-14 GN GND_Display /8.4C
-16 YE/WH
-XF3 T2A
YE/RD
-RF4.9
YE/WH -
YE/RD +
230VAC/12VDC
-3aT2
-XF2 T1A
BN
BN
N BU
PE GN/YE
-RF4.8
/5.7B PE
/5.4B ST-N
/5.2B ST-L
-XPV12
+ YE/RD
+2 BN ZAB X10:3 /11.6D
+3 PK ZAB X10:5 /11.6D
+6 YE/RD +12V Optokoppler /8.3C
+7 YE/RD 12V LED /9.2A
Dimension
400V 3N~ 50Hz
Revision note
Material Quality/Specification
Mass (kg)
Rev by
Rev Checked by
Rev date (YYYY-MM-DD)
Plant
=
Location
+1
Status
Designer
Checked by
Date (YYYY-MM-DD)
WIRING DIAGRAM
ELSCHEMA
12V DISTRIBUTION
Format
Sheet No:
7
Next Sheet
8
Drawing no
141804
Rev.
7


/4.8A RX- Inverter
/4.8A RX+ Inverter
/4.8A BUS GND Inverter
/11.6D RX- ZAB
/11.6C RX+ ZAB
/2.8A RX- Service
/2.8A RX+ Service
/2.8A RX GND Service
/2.3A -6A1-X1:1 GN
/2.3A -6A1-X1:2 BN
/2.3A -6A1-X1:3 WH
OPTOKOPPLER ISO485
YE/WH GND Optokoppler /7.3D
+12V Optokoppler /7.7D
/7.3D GND_Display
/5.7B PE-Port
PE
Network RJ45
Display Port BMS
Field Bus 2 BMS
Field Bus 1 BMS
(-4K1) -AA2 RCU
POWER SUPPLY
/5.2B L-4K1_RCU
/5.5B N-4K1_RCU
-RF4.10
CONTINUE ON NEXT PAGE
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ELSCHEMA
RCU COMMUNICATION
400V 3N~ 50Hz
141804


WIRING DIAGRAM
ELSCHEMA
RCU INPUT AND OUTPUT
141804 7
400V 3N~ 50Hz
-AA2
(-4K1)
RCU
-EEV1
-QN1
(-4M1)
-BT3
(TIC 20.12)
-BT12
(TIC 20.11)
-BT11
(TIC 10.12)
-BT10
(TIC 10.11)
-4K1
-7K1
-P14.1
-P14.2
12V LED
12V-.1
12V-.2
(PWM / 0-10V)


-EP14
COOLING MODULE
-X50
-1W17
-BT17 (TIC 1.10)
-BT14 (TIC 1.13)
-BT18 (TIC 1.11)
-4CW18
-BP9 (PIC 1.02)
-4CW19
-BP8 (PIC 1.10)
-BT15 (TIC 1.15)
-BP1 (-4aB1)
-BP2 (-4aB2)
-AA36 (-4aA2) PCB
-BP16
-BP15
-X1
-4K1:B2
-4K1 B2 GND
-4K1:B4
-4K1 B4 GND
-4K1:B5
-4K1 B5 GND
-4K1:GND 5VR:1
-4K1:+5VR:1
-4K1:B8
-4K1:GND 5VR:2
-4K1:+5VR:2
-4K1:B12
-4K1:B11
GND B12
-X50:15
-X50:16
-X50:17
-X50:18
-X50:24
-X50:23
-X50:22
-X50:21
/9.4D
/9.5D
/9.2F
/9.6D
/9.7D
/11.2D
/11.7D
400V 3N~ 50Hz
WIRING DIAGRAM
ELSCHEMA
SENSORS COOLINGMODULE
141804
7


WIRING DIAGRAM
ELSCHEMA
ZAB, TSD and SAFETY
400V 3N~ 50Hz
Heatpump
-4aK3 ZAB
-4aA1 plugged on to -X31
-4aA1 SFT13
-S1 TSD
-X50:16
-X50:15
-X50:17
-X50:18
Inverter YE
Inverter GR
Inverter +24 Out
Inverter STO+
-X50:21
-X50:22
-X50:23
-X50:24
4AK3-X13.3 /2.5A
4AK3-X13.2 /2.5A
RX+ ZAB /8.4B
RX- ZAB /8.4A
ZAB X10.3 /7.6D
ZAB X10.5 /7.6D
ZAB X10.6 /7.3D

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