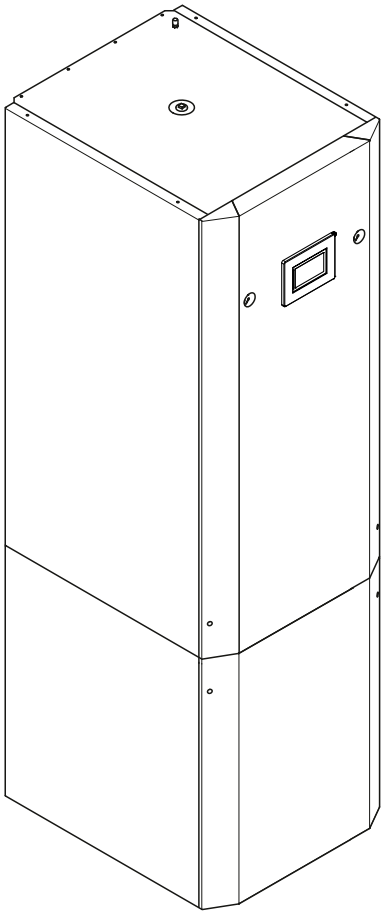
Glen Dimplex Deutschland

Dimplex

SIW 6TES
SIW 8TES
SIW 11TES



Montage- und Gebrauchsanweisung

Sole-Wasser-Wärmepumpe für Innenaufstellung

Installation and Operating Instruction

Brine-to-Water Heat Pump for Indoor Installation

Instuctions d'installation et d'utilisation

Pompe à chaleur eau glycolée-eau pour installation intérieure

Bestell-Nr. | Order no. | No de commande: 452236.66.09a

DE | EN | FR · FD 0201

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1 Safety notes

1.1 Symbols and markings

Particularly important information in these instructions is marked with CAUTION! and NOTE.

⚠ CAUTION!

Immediate danger to life or danger of severe personal injury or significant damage to property.

NOTE

Risk of damage to property or minor personal injury or important information with no further risk of personal injury or damage to property.

1.2 Intended use

This device is only intended for use as specified by the manufacturer. Any other use beyond that intended by the manufacturer is prohibited. This requires the user to abide by the relevant project planning documents. Please refrain from tampering with or altering the device.

1.3 Legal regulations and directives

This heat pump is designed for use in a domestic environment according to Article 1, Paragraph 2 k) of EU directive 2006/42/EC (machinery directive) and is thus subject to the requirements of EU directive 2014/35/EU (low-voltage directive). It is thus also intended for use by non-professionals for heating shops, offices, hotels and other similar working environments, agricultural establishments and hotels, guesthouses and other residential buildings.

This heat pump conforms to all relevant DIN/VDE regulations and EU directives. Refer to the EC Declaration of Conformity in the appendix for details.

The heat pump must be connected to the power supply in compliance with all relevant VDE, EN and IEC standards. Any further connection requirements stipulated by local utility companies must also be observed.

The heat pump is to be connected to the heat source system and the heating system in accordance with all applicable regulations.

This unit can be used by children aged 8 and over and by persons with limited physical, sensory or mental aptitude or lack of experience and/or knowledge, providing they are supervised or have been instructed in the safe use of the unit and understand the associated potential dangers.

Children must not play with the device. Cleaning and user maintenance must not be carried out by children without supervision

⚠ CAUTION!

When operating or maintaining a heat pump, the legal requirements of the country where the heat pump is operated apply. Depending on the refrigerant quantity, the heat pump must be inspected for leaks at regular intervals by a certified technician, and these inspections must be recorded.

More information can be found in the accompanying log book.

1.4 Energy-efficient use of the heat pump

By operating this heat pump you are helping to protect our environment. Both the heating system and the heat source must be properly designed and dimensioned to ensure efficient operation. It is particularly important to keep water flow temperatures as low as possible. All connected energy consumers should therefore be suitable for low flow temperatures. Raising the heating water temperature by 1 K corresponds to an increase in energy consumption of approx. 2.5 %. Low-temperature heating systems with flow temperatures between 30 °C and 50 °C are particularly well-suited for energy-efficient operation.

The domestic hot water temperature should not exceed 45 °C when the heat pump is in operation. This will save you significant amounts of energy.

2 Intended use of the heat pump

2.1 Intended purpose

The high-efficiency compact brine-to-water heat pump with built-in domestic hot water cylinder is intended only for heating water and process water. It can be used in new or existing heating systems. The mixture of water and frost protection (brine) acts as a heat transfer medium in the heat source system. Ground probes, ground heat collectors or similar systems can be used as heat source systems.

2.2 Operating principle

The heat generated by the sun, wind and rain is stored in the ground. This heat stored in the ground is collected at a low temperature by the brine circulating in the ground heat collector, the borehole heat exchanger or a similar system. A circulating pump then conveys the “heated” brine to the evaporator of the heat pump. There the heat is given off to the refrigerant in the refrigerating cycle. This cools the brine so that it can once again absorb thermal energy in the brine circuit.

The refrigerant is drawn in by the electrically driven compressor, compressed and “pumped” to a higher temperature level. The electrical power needed to run the compressor is not lost in this process. Most of it is absorbed by the refrigerant.

The refrigerant subsequently passes through the liquifier where it transfers its thermal energy to the heating water. Depending on the set operating point, the heating water is thus heated up to a max. of 62 °C.

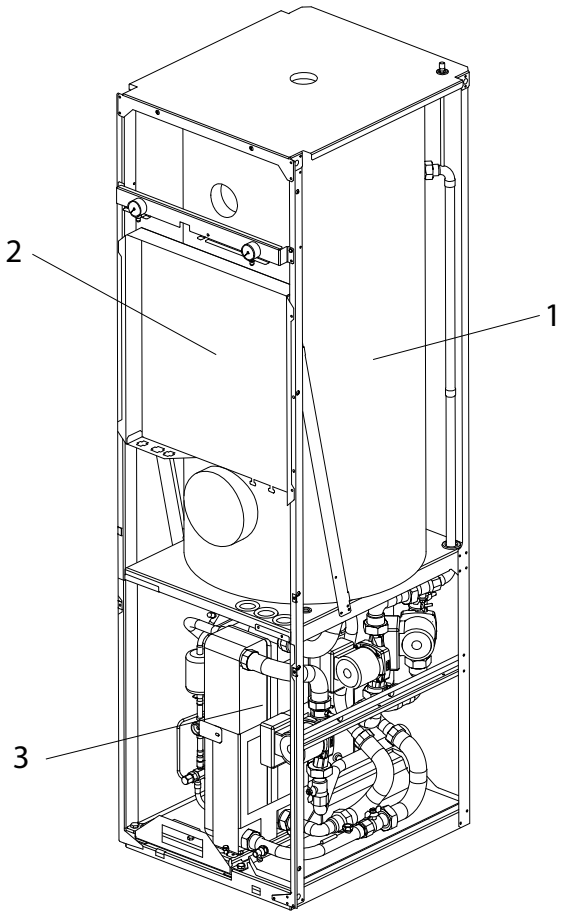
3 Basic device

3.1 General

The basic device consists of a ready-for-use heat pump for indoor installation in a compact design with built-in domestic hot water cylinder.

All components required for the operation of the heat pump are located on the switch box with heat pump manager. An outside temperature sensor including fixing accessories and a dirt trap are supplied with the heat pump. The supply for the load current and the control voltage must be installed by the customer.

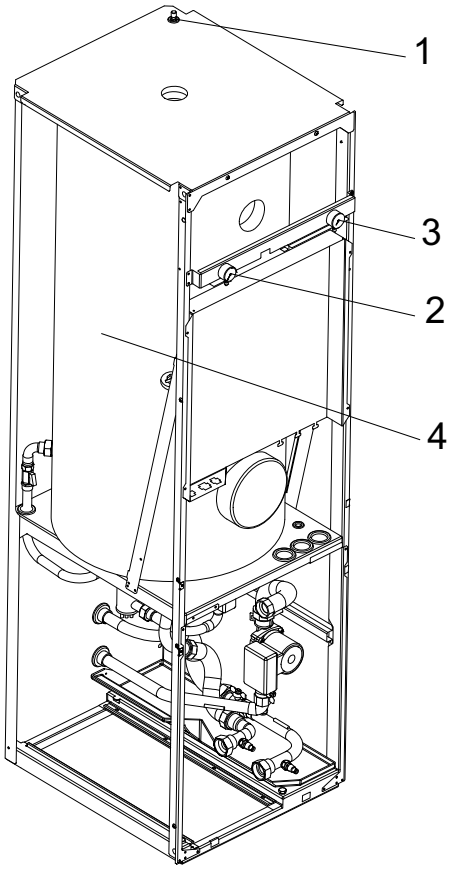
The customer must provide both the heat source system and the brine circuit manifold.

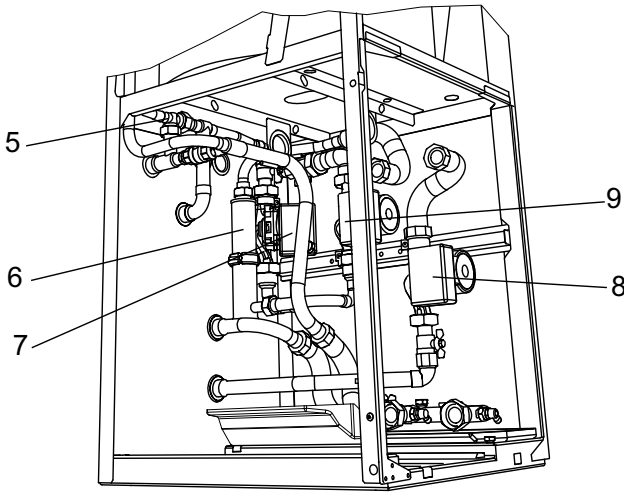


1) Brine-to-water hydraulic module
2) Switch box with heat pump manager
3) Heat pump module

3.2 Brine-to-water hydraulic module

The brine-to-water hydraulic module contains the components of the heating and brine circuit required for connecting the heat pump.



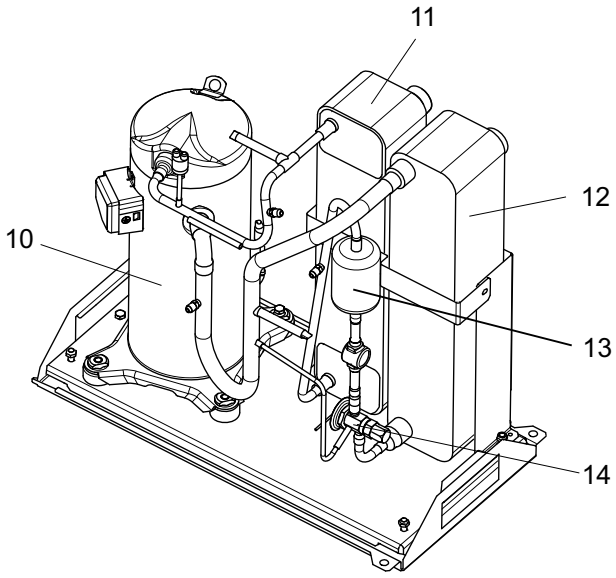


1) De-aeration
2) Heating pressure gauge
3) Brine pressure gauge
4) Domestic hot water cylinders
5) Overflow valve
6) Pipe heater
7) Heat circulating pump
8) Brine circulating pump
9) Domestic hot water circulating pump

3.3 Heat pump module

The refrigeration circuit is "hermetically sealed" and contains the fluorinated refrigerant R410A included in the Kyoto protocol. Information on the GWP value and CO_2 equivalent of the refrigerant can be found in the chapter Device information. The refrigerant is CFC-free, non-ozone depleting and non-combustible.

The heat pump module switch box contains all components required for operating the refrigeration circuit.



10) Compressor
11) Liquefier
12) Evaporator
13) Filter dryer
14) Compensation pipe

4 Accessories

4.1 Brine circuit manifold

The brine circuit manifold combines and connects the individual collector or exchanger loops to create a main line connected to the heat pump. The built-in ball valves can be closed off individually for de-aerating or emptying the brine circuits.

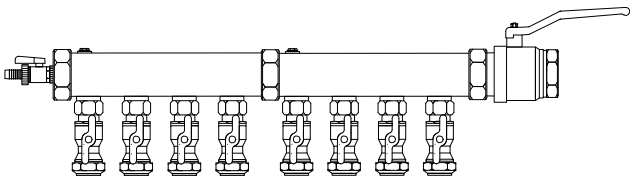
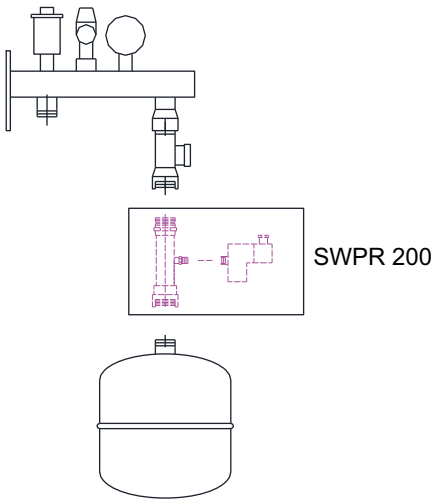


Fig. 4.1: Set-up of the brine circuit manifold or collector

The collector or heat exchanger pipes must be inserted into the manifold from below in a bend (without tension), so that it is possible to compensate any length differences occurring between the summer and winter months (tension cracks).

4.2 Brine controller

If required by the authorities, the brine controller must be incorporated in the heat source main line (brine accessories package) as follows.



4.3 Remote control

A remote control adds convenience and is available as a special accessory. Operation and menu navigation are identical to those of the heat pump manager. Connection takes place via an interface (special accessories) with RJ 12 Western plug.

NOTE

In the case of heating controllers with a removable operating element, this can also be used directly as a remote control.

4.4 Building management technology

The heat pump manager can be connected to a building management system network via supplementation of the relevant extension. The supplementary installation instructions of the extension must be consulted regarding the exact connection and parameterisation of the interface.

The following connections can be made on the heat pump manager:

- Modbus
- EIB, KNX
- Ethernet

⚠ CAUTION!

If the heat pump or circulating pumps are controlled externally, an flow rate switch is required to prevent the compressor from being switched on when there is no volume flow.

4.5 Smart RTC

The Smart RTC is a room temperature controller with a display, which is used both to display the current room temperature and to set the desired room temperature. It is available in a surface-mounted version (RT Econ A) and a flush-mounted version (RT Econ U). Temperature sensors for measuring the room temperature are already integrated into both versions.

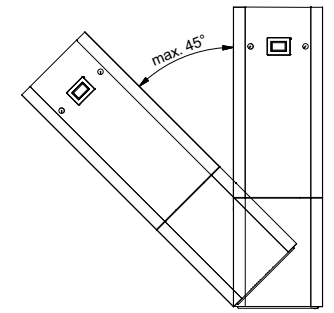
The supplementary installation instructions of the Smart RTC must be consulted regarding its installation and operation.

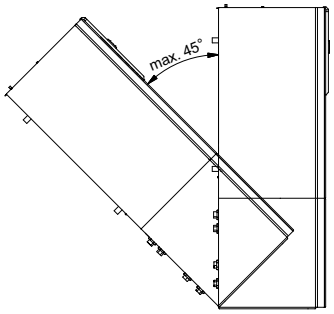


5 Transport

5.1 General

A lift truck is suited for transporting the unit on a level surface. Carrying straps may be used if the heat pump needs to be transported on an uneven surface or carried up or down stairs. These straps can be passed directly underneath the pallet.





⚠ CAUTION!

In installed and dismantled state, the heat pump module may only be tilted by a maximum of 45° (in each direction) (see Cap. 5.3 on pag. 7).

5.2 Removing the casing panels

All panelling can be removed to allow accessing the inside of the device.

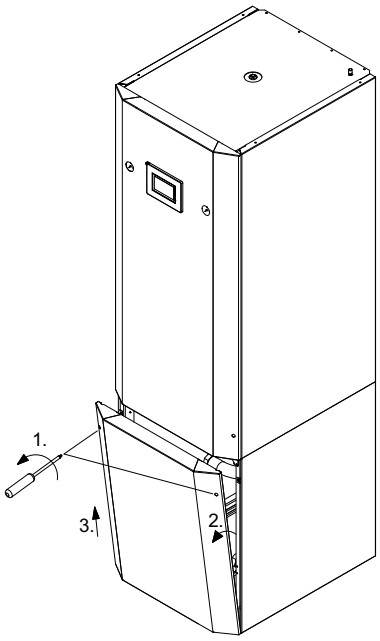


Fig. 5.1: open front plate bottom

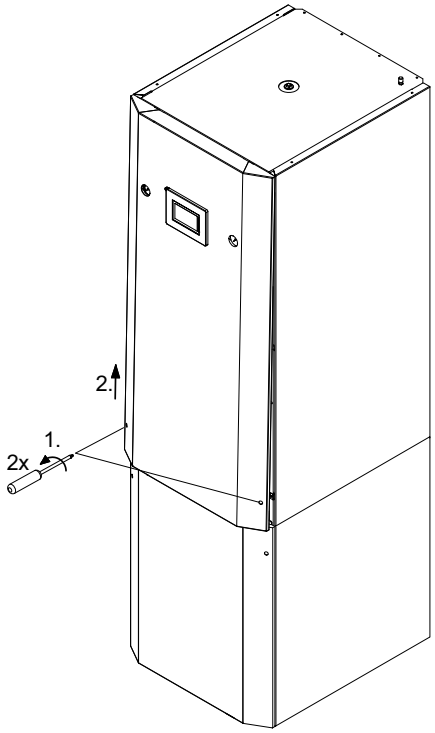


Fig. 5.2: open front plate top

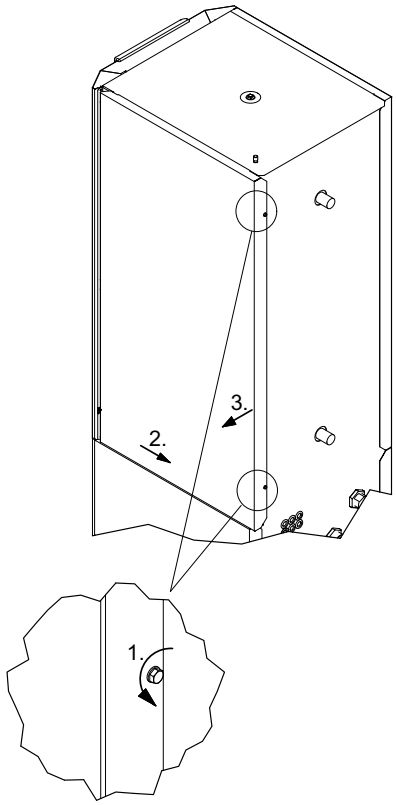
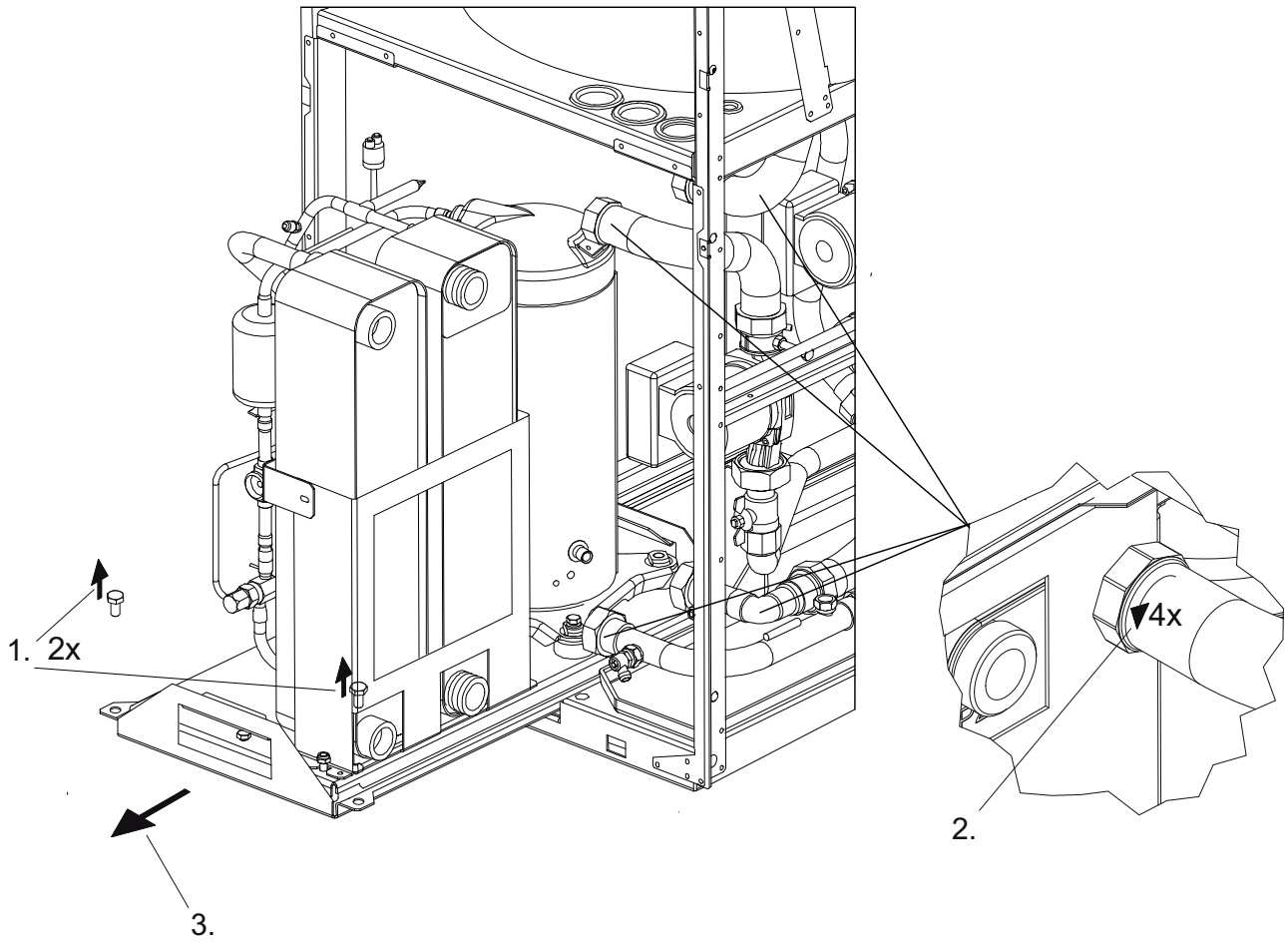
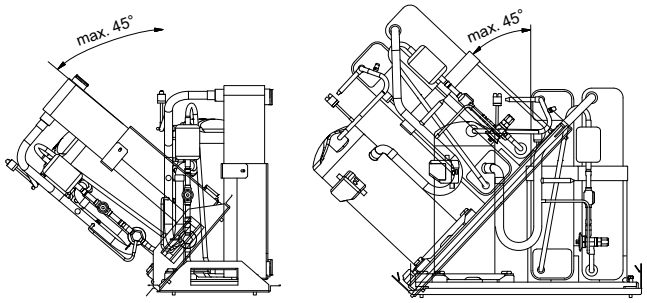


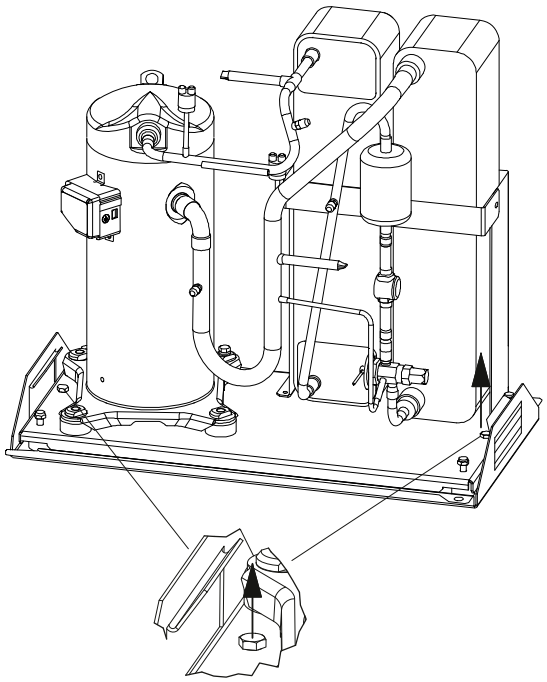
Fig. 5.3: open side plates

5.3 Removing the heat pump module

Removing the heat pump module enables to heat pump to be transported easily in a horizontal position and the heat pump module to be transported separately.







⚠ CAUTION!

In installed and dismantled state, the heat pump module may only be tilted by a maximum of 45° (in each direction).

After transportation, the transport fastening on the heat pump module is to be removed from both sides.

⚠ CAUTION!

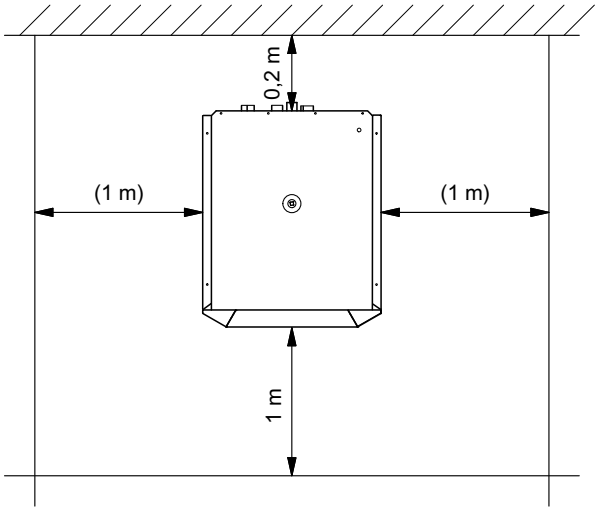
Before start-up, the transport fastening must be removed.

6 Installation

6.1 General Information

The compact brine-to-water heat pump must be installed in a frost-free, dry room on an even, smooth and horizontal surface. The entire base of the frame should lie directly on the floor to ensure an adequate soundproof seal. The surface must have sufficient load bearing capacity for the weight of the heat pump and the domestic hot water quantity. If supporting feet are used, the heat pump must be installed horizontally. In this case, the specified sound level can be up to 3 dB(A) higher, and additional sound insulation measures may be necessary.

The heat pump must be installed so that maintenance work can be carried out without hindrance. This can be ensured by maintaining a clearance of approx. 1 m in front of and, where necessary, at the sides of the heat pump. If the heat pump is accessed from the front (e.g. installed in a recess etc.), the heat pump module can be removed for after-sales service (see Chapter 5).



NOTE

The heat pump is not intended for use over 2000 metres above sea level.

Neither frost nor temperatures higher than 35 °C must occur in the installation location at any time of the year.

6.2 Acoustic Emissions

The heat pump operates silently due to efficient sound insulation. Internal insulation measures should be carried out to prevent vibrations from being transmitted to the foundation or to the heating system.

7 Installation

7.1 General

The following connections need to be established on the heat pump:

- Flow and return of the brine (heat source system)
- Flow and return of the heating system
- Domestic hot water outlet
- Cold water inlet
- Voltage supply
- Temperature sensor

7.2 Connection on heating side

⚠ CAUTION!

Flush the heating system prior to connecting the heat pump.

Before connecting the heating water system to the heat pump, the heating system must be flushed to remove any impurities, residue from sealants, etc. Any accumulation of deposits in the liquefier may cause the heat pump to completely break down.

Once the heat pump has been connected to the heating system, it must be filled, de-aerated and pressure-tested.

⚠ CAUTION!

The maximum test pressure in the heating circuit and the brine circuit is 4.0 bar.
This value must not be exceeded.

The following points must be observed when filling the system:

- Untreated filling water and make-up water must be of drinking water quality.
  (colourless, clear, free of sediments)
- Filling water and make-up water must be pre-filtered (max. pore size 5 µm).

Scale formation in domestic hot water heating systems cannot be avoided, but in systems with flow temperatures below 60 °C, the problem can be disregarded. With high-temperature heat pumps and in particular with bivalent systems in the higher performance range (heat pump + boiler combination), flow temperatures of 60 °C and more can be achieved. The following standard values should therefore be adhered to with regard to the filling and make-up water according to VDI 2035, sheet 1: The total hardness values can be found in the table.

Total heat output in kW	Total alkaline earths in mol/m³ and/or mmol/l	Specific system volume (VDI 2035) in l/kW		
		< 20	≥ 20 < 50	≥ 50
		Total hardness in °dH		
< 50	≤ 2,0	≤ 16,8	≤ 11,2	< 0,11[1]
50 - 200	≤ 2,0	≤ 11,2	≤ 8,4	
200 - 600	≤ 1,5	≤ 8,4	< 0,11[1]	
> 600	< 0,02	< 0,11[1]		

1. This value lies outside the permissible value for heat exchangers in heat pumps.

Fig. 7.1:Guideline values for filling and make-up water in accordance with VDI 2035

For systems with an above-average specific system volume of 50 l/kW, VDI 2035 recommends using fully demineralized water and a pH stabiliser to minimize the risk of corrosion in the heat pump and the heating system.

⚠ CAUTION!

With fully demineralized water, it is important to ensure that the minimum permissible pH value of 7.5 (minimum permissible value for copper) is complied with. Failure to comply with this value can result in the heat pump being destroyed.

Minimum heating water flow

The minimum heating water flow through the heat pump must be assured in all operating states of the heating system.

This can be achieved using a heating circuit which is continuously open, e.g. in a reference room which is regulated using a room temperature controller (available as a special accessory).

(see integration diagram Cap. 4.1 on pag. XIV)

NOTE

System faults may result if this is not observed.

The frost protection function of the heat pump manager is active whenever the heat pump manager and the heat circulating pumps are ready for operation. The system must be drained if the heat pump is taken out of service or in the event of a power failure. If heat pump systems are implemented in buildings where a power failure cannot be detected (holiday homes etc.), the heating circuit should be operated with suitable frost protection.

The domestic hot water volume should be checked by the heating system technician. An additional expansion vessel and a safety valve must be installed by the customer (according to DIN 4751, Part 1). The tables listed in the manufacturers' catalogues simplify dimensioning the system on the basis of the water content.

7.3 Heat source connection

The following procedure must be observed when making the connection:

Connect the brine pipe to the heat pump flow and return.

An additional expansion vessel and a safety valve must be installed by the customer (according to DIN 4751, Part 1).

The hydraulic integration diagram must be adhered to.

The dirt trap included in the scope of supply must be inserted in the brine inlet of the heat pump by the customer.

The brine liquid must be produced prior to charging the system. The liquid must have a brine concentration of at least 25 % to ensure frost protection down to -14 °C.

Only monoethylene glycol or propylene glycol-based antifreeze may be used.

The heat source system must be de-aerated and checked for leaks.

⚠ CAUTION!

The brine solution must contain at least a 25 % concentration of a monoethylene glycol or propylene glycol-based antifreeze, which must be mixed before filling.

NOTE

A suitable de-aerator (micro bubble air separator) must be installed in the heat source circuit by the customer.

7.4 Domestic hot water connection

7.4.1 General

Installation and commissioning must be performed by an authorised specialist company. The entire system, including all factory-assembled components, should be inspected to ensure that everything is working properly and that there is no leakage. The enamelled steel complying in accordance with DIN 4753 is suitable for normal drinking water.

The following materials can be used in the consumer's domestic hot water system:

- Copper
- Stainless steel
- Brass
- Plastic

Depending on the materials used in the domestic hot water system (customer installation), material incompatibility may lead to corrosion damage. This especially applies to zinc-plated materials and materials containing aluminium. If there is a risk of water contamination during operation, it may be necessary to install a filter.

The maximum permissible operating overpressure indicated on the type plate must not be exceeded. It may be necessary to mount a pressure reducer.

NOTE

To compensate for pressure fluctuations or water shocks in the cold water network and to prevent unnecessary pressure loss, a closed expansion vessel with flow fitting must be mounted.

7.4.2 Commissioning

Ensure that the water supply is turned on and the cylinder is filled before start-up.

The domestic hot water cylinder must be equipped with a certified, spring-loaded membrane safety valve by the customer. A shut-off device must not be installed between the cylinder and the safety valve. The operational reliability of the valve must be checked at regular intervals. We recommend having an annual service inspection carried out by a qualified specialist company.

7.5 Temperature sensor

The following temperature sensors are already installed or must be installed additionally:

- External temperature sensor (R1) supplied (NTC-2)
- Return temperature heating circuit (R2) installed (NTC-10)
- Return temperature primary circuit (R24) installed (NTC-10)
- Flow temperature heating circuit (R9) installed (NTC-10)
- Return temperature primary circuit (R6) installed (NTC-10)
- Domestic hot water temperature (R3) installed (NTC-10)

7.5.1 Sensor characteristic curves

Temperature in °C			-20	-15	-10	-5	0	5	10
NTC-2 in kΩ			14,6	11,4	8,9	7,1	5,6	4,5	3,7
NTC-10 in kΩ			67,7	53,4	42,3	33,9	27,3	22,1	18,0
15	**20**	**25**	**30**	**35**	**40**	**45**	**50**	**55**	**60**
2,9	2,4	2,0	1,7	1,4	1,1	1,0	0,8	0,7	0,6
14,9	12,1	10,0	8,4	7,0	5,9	5,0	4,2	3,6	3,1

The temperature sensors to be connected to the heat pump manager must correspond to the sensor characteristic curve illustrated in Fig.7.2 on pag. 10. The only exception is the external temperature sensor included in the scope of supply of the heat pump (see Fig.7.3 on pag. 10)

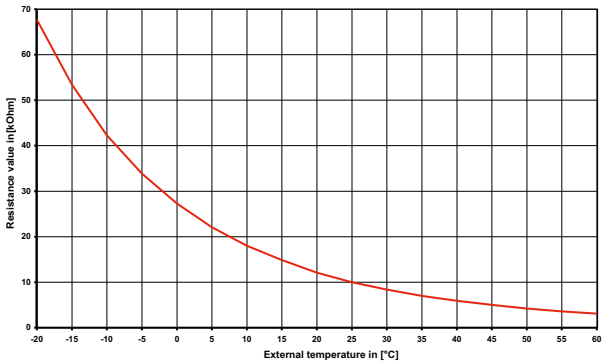


Fig. 7.2: Sensor characteristic curve NTC-10

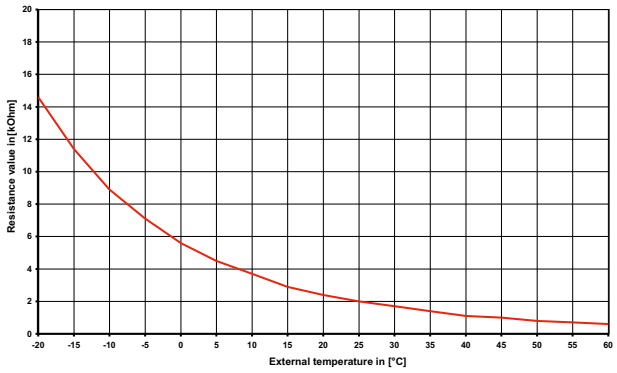


Fig. 7.3: Sensor characteristic curve NTC-2 according to DIN 44574 Outdoor temperature sensor

7.5.2 Mounting the external temperature sensor

The temperature sensor must be mounted in such a way that all weather conditions are taken into consideration and the measured value is not falsified.

- Mount on the external wall on the north or north-west side where possible
- Do not install in a “sheltered position” (e.g. in a wall niche or under a balcony)
- Not in the vicinity of windows, doors, exhaust air vents, external lighting or heat pumps
- Not to be exposed to direct sunlight at any time of year

Dimensioning parameter sensor lead	
Conductor material	Cu
Cable-length	50 m
Ambient temperature	35 °C
Laying system	B2 (DIN VDE 0298-4 / IEC 60364-5-52)
External diameter	4-8 mm

7.6 Electrical connection

7.6.1 General

All electrical connection work must be carried out by a trained electrician or a specialist for the specified tasks in accordance with the

- installation and operating instructions,
- country-specific installation regulations (e.g. VDE 0100),
- technical connection conditions of the energy suppliers and supply grid operators (e.g. TAB) and
- local conditions.

To ensure that the frost protection function of the heat pump works properly, the heat pump manager must remain connected to the power supply and the flow must be maintained through the heat pump at all times.

The switching contacts of the output relay are interference-suppressed. Therefore, depending on the internal resistance of the measuring instrument, a voltage can also be measured when the contacts are open. However, this will be much lower than the line voltage.

Extra-low voltage is connected to controller terminals N1-J1 to N1-J11; N1-J19; N1-J20; N1-J23; N1-J24 and the terminal strips X3. If, due to a wiring error, the line voltage is mistakenly connected to these terminals, the heat pump manager will be destroyed.

7.6.2 Electrical Installation

1) The five-core electrical supply cable for the output section of the heat pump is fed from the heat pump meter via the utility company blocking contactor (if required) into the heat pump.
   The mains cable is connected at the heat pump switch box using terminals X1: L1/L2/L3/N/PE.
   The enclosed mini-grip bag contains four links that have to be connected to terminal X1 (L1-L10, L2-L20, L30-L3, N-N0) as shown in the circuit diagram (see appendix). There is no need for these links if two separate five-core supply cables are used (see appendix).
   An all-pole disconnecting device with a contact gap of at least 3 mm (e.g. utility company blocking contactor or power contactor) as well as an all-pole circuit breaker with common tripping for all external conductors must be installed in the power supply (tripping current and characteristic in compliance with the device information).

⚠ CAUTION!

Only applies to the SIW 6TES:
Ensure the rotary field is clockwise when connecting the mains cables (if the rotary field is not clockwise, the heat pump will not work properly, is very loud and may cause damage to the compressor).
Only applies to the SIW 8TES and SIW 11TES:
Ensure that there is a clockwise rotating field: With incorrect wiring the starting of the heat pump is prevented. A corresponding warning is indicated on the display of the heat pump manager (adjust wiring).

2) The three-core electric supply cable for the heat pump manager (heating controller N1) is fed into the heat pump.
   Connection of the control line to the switch box of the heat pump via terminals X2: L/N/PE.
   Details on the power consumption of the heat pump are listed on both the product information sheet and the type plate.
   The (L/N/PE ~230 V, 50 Hz) supply cable for the heat pump manager must have a constant voltage. For this reason, it should be tapped upstream from the utility blocking contactor or be connected to the household current, as important protection functions could otherwise be lost during a utility block.
3) The utility blocking contactor (K22) with 3 main contacts (1/3/5 // 2/4/6) and an auxiliary contact (NO contact 13/14) should be dimensioned according to the heat pump output and must be supplied by the customer.
   The NO contact of the utility blocking contactor (13/14) is looped from terminal strip X3/G to terminal X3/A1. **CAUTION! Extra-low voltage!** The contactor is installed in the electrical distribution system. Mains cables for the installed heaters must be laid and secured in accordance with the valid standards and regulations.
4) All installed electric cables must have permanent wiring.
5) The external sensor (R1) is connected to terminals X3/GND (ground) and X3/R1.

7.6.3 Connecting an electronically regulated circulating pump

Electronically regulated circulating pumps have high starting currents, which may shorten the service life of the heat pump manager. A coupling relay is therefore installed or must be installed between the output of the heat pump manager and the electronically regulated circulating pump. This is not necessary if the maximum permissible operating current of the heat pump manager of 2 A and the maximum permissible starting current of the heat pump manager of 12 A are not exceeded by the electronically regulated circulating pump or a relevant approval has been issued by the pump manufacturer.

⚠ CAUTION!

It is not permitted to connect more than one electronically regulated circulating pump via a relay output.

8 Commissioning

8.1 General

To ensure that start-up is performed correctly, it should only be carried out by an after-sales service technician authorised by the manufacturer. These measures can also include an additional warranty under certain conditions (see Warranty).

8.2 Preparation

The following items must be checked prior to start-up:

- All of the heat pump connections must be installed as described in chapter 7.
- The heat source system and the heating circuit must have been filled and checked.
- Dirt traps and breathers must be inserted in the brine inlet of the heat pump.
- All valves that could impair proper flow in the brine and heating circuits must be open.
- The heat pump manager must have been parametered for the relevant hydraulics in accordance with its operating instructions.

8.3 Start-up procedure

The heat pump is started up via the heat pump manager.

⚠ CAUTION!

The heat pump must be started up in accordance with the installation and operating instructions of the heat pump manager.

The overflow valve must be adjusted to the requirements of the respective heating system. Incorrect adjustment can lead to faulty operation and increased energy consumption. We recommend carrying out the following procedure to set the overflow valve correctly:

Close all of the heating circuits that may also be closed during operation so that the most unfavourable operating state - with respect to the water flow - is achieved. This normally means the heating circuits of the rooms on the south and west sides of the building. At least one heating circuit must remain open (e.g. bathroom).

The overflow valve should be opened far enough to produce the maximum temperature spread between the heat flow and heat return flow listed in the following table for the current heat source temperature. The temperature spread should be measured as close as possible to the heat pump. The heating element of mono energy systems should be disconnected during start-up.

Heat source temperature		Max. temperature spread between heating flow and return flow
of	to	
-5 °C	0 °C	10 K
1 °C	5 °C	11 K
6 °C	9 °C	12 K
10 °C	14 °C	13 K
15 °C	20 °C	14 K
21 °C	25 °C	15 K

9 Cleaning / maintenance

9.1 Maintenance

To prevent faults due to sediment in the heat exchangers, care must be taken to ensure that no impurities can enter either the heat source system or the heating system. In the event that operating malfunctions due to contamination occur nevertheless, the system should be cleaned as described below.

9.2 Cleaning the heating system

The ingress of oxygen into the heating water circuit may result in the formation of oxidation products (rust), particularly if steel components are used. These enter the heating system via the valves, the circulating pumps and/or plastic pipes. It is therefore essential - in particular with respect to the piping of underfloor heating systems - that only diffusion-proof materials are used.

NOTE

We recommend the installation of a suitable corrosion protection system to prevent the formation of deposits (e.g. rust) in the condenser of the heat pump. We recommend equipping diffusion-open heating systems with an electrophysical anti-corrosion system (e.g. ELYSATOR system).

Residue from lubricants and sealants may also contaminate the heating water.

In the event of severe contamination leading to a reduction in the performance of the liquefier in the heat pump, the system must be cleaned by a heating technician.

Based on current knowledge, we recommend carrying out the cleaning with a 5 % phosphor acid or, if more frequent cleaning is required, with a 5 % formic acid.

In both cases, the cleaning fluid should be at room temperature. We recommend flushing the heat exchanger in the direction opposite to the normal flow direction.

To prevent acidic cleaning agents from entering the heating system circuit, we recommend connecting the flushing device directly to the flow and return of the liquifier. It is then important that the system be thoroughly flushed using appropriate neutralising agents to prevent any damage from being caused by cleaning agent residue remaining in the system.

Acids must be used with care and the regulations of the employers' liability insurance associations must be adhered to.

The manufacturer's instructions regarding cleaning agent must be complied with at all times.

9.3 Cleaning the heat source system

⚠ CAUTION!

The supplied dirt trap must be inserted in the heat source inlet of the heat pump to protect the evaporator against the ingress of impurities.

The filter sieve of the dirt trap should be cleaned one day after start-up. Further checks must be set according to the level of dirt. If no more signs of contamination are evident, the filter can be removed to reduce pressure drops.

10 Faults / troubleshooting

This heat pump is a quality product and is designed for trouble-free operation. In the event that a fault should occur, it will be indicated on the heat pump manager display. In this case, consult the "Faults and troubleshooting" page in the operating instructions of the heat pump manager.

If you cannot correct the fault yourself, please contact your after-sales service technician.

⚠ CAUTION!

Before opening the device, ensure that all circuits are disconnected from the power supply!

After disconnecting the power supply, always wait for at least 5 minutes to allow stored electric charges to dissipate.

⚠ CAUTION!

Work on the heat pump must only be performed by authorised and qualified after-sales service technicians!

11 Decommissioning / disposal

Before removing the heat pump, disconnect it from the power source and close all valves. The heat pump must be installed by trained personnel. Observe all environmental requirements regarding the recovery, recycling and disposal of materials and components in accordance with all applicable standards. Particular attention should be paid to the proper disposal of refrigerants and refrigerant oils.

12 Device information

				SIW 6TES	SIW 8TES	SIW 11TES
1	**Type and order code**					
2	**Design**					
	Heat source			Brine	Brine	Brine
2.1	**Model**			Compact	Compact	Compact
2.2	**Contr.**			Integrated	Integrated	Integrated
2.3	**Thermal energy meter**			Integrated	Integrated	Integrated
2.4	**Installation location**			Indoors	Indoors	Indoors
2.5	**Performance levels**			1	1	1
3	**Operating limits**					
3.1	**Heating water flow**		**°C**	20 to 62 ± 2	20 to 62 ± 2	20 to 62 ± 2
3.2	**Brine (heat source)**		**°C**	-5 to 25	-5 to 25	-5 to 25
3.3	**Antifreeze**			Monoethylene glycol	Monoethylene glycol	Monoethylene glycol
3.4	**Minimum brine concentration (-13 °C freezing temperature)**			25%	25%	25%
4	**Flow / sound**					
4.1	**Heating water flow / free compression**					
	Nominal flow in accordance with EN 14511	**at B0 / W35...30**	**m³/h / Pa**	1,0 / 68000	1,4 / 52000	1,8 / 36000
		at B0 / W45...40	**m³/h / Pa**	1,0 / 68000	1,3 / 52500	1,7 / 42000
		at B0 / W55...47	**m³/h / Pa**	0,6 / 73000	0,8 / 72000	1,0 / 49000
	Minimum heating water flow		**m³/h / Pa**	0,6 / 73000	0,8 / 72000	1,0 / 49000
4.2	**Brine flow rate / free compression**					
	Nominal flow in accordance with EN 14511	**at B0 / W35...30**	**m³/h / Pa**	1,5 / 54000	2,1 / 37500	2,7 / 79500
		at B0 / W45...40	**m³/h / Pa**	1,3 / 59000	1,7 / 48000	2,4 / 87000
		at B0 / W55...47	**m³/h / Pa**	1,3 / 59000	1,5 / 57000	2,0 / 95000
	Minimum brine flow rate		**m³/h / Pa**	1,3 / 59000	1,5 / 57000	2,0 / 95000
4.3	**Sound power level according to EN 12102**		**dB(A)**	42	42	43
4.4	**Sound pressure level at a distance of 1m[1]**		**dB(A)**	30	30	31
5	**Dimensions, connections and weight**					
5.1	**Device dimensions [2]**		**H x W x D mm**	1994 × 590 x 710	1994 × 590 x 710	1994 × 590 x 710
5.2	**Weight of the transportable unit(s) incl. Packaging/filled**		**kg**	265 / 422	280 / 438	287 / 445
5.3	**Device connections for heating system**		**Inches**	Thread 1¼" external	Thread 1¼" external	Thread 1¼" external
5.4	**Device connections for heat source**		**Inches**	Thread 1¼" external	Thread 1¼" external	Thread 1¼" external
5.5	**Refrigerant; total filling weight**		**type/kg**	R410A/1,2	R410A/1,6	R410A/1,9
5.6	**GWP value / CO_2 equivalent**		**--- / t**	2088 / 3	2088 / 3	2088 / 4
5.7	**Refrigeration circuit hermetically sealed**			yes	yes	yes
5.8	**Lubricant; total filling quantity**		**type/litres**	Polyolester (POE)/0.7	Polyolester (POE)/1.2	Polyolester (POE)/1.2
5.9	**Volume of heating water in device**		**Litres**	2,8	3,2	3,7
5.10	**Volume of heat transfer medium in device**		**Litres**	2,9	3,4	3,9
6	**Electrical connection**					
6.1	**Supply voltage / fuse protection (combined infeed HP and HG2)**			3~/N/PE 400 V (50 Hz) / C16A	3~/N/PE 400 V (50 Hz) / C16A	3~/N/PE 400 V (50 Hz) / C20A
6.2	**Fuse protection for separate infeed: HP / HG2**			C10A / B10A	C10A / B10A	C10A / B10A
6.3	**Control voltage / fuse protection**			1~/N/PE 230 V (50 Hz) / C13A	1~/N/PE 230 V (50 Hz) / C13A	1~/N/PE 230 V (50 Hz) / C13A
6.4	**Degree of protection according to EN 60 529**			IP 21	IP 21	IP 21
6.5	**Starting current with soft starter**		**A**	28 (without SS)	17	20

6.6	Nominal power consumption B0 / W35 / max. power consumption[3]	kW	1,26 / 2,7	1,61 / 3,3	2,12 / 4,3
6.7	Nominal current at B0 / W35 / cos φ	A / --	2,3 / 0,8	2,9 / 0,8	3,9 / 0,8
6.8	Power consumption of compressor protection (per compressor)	W	--	--	--
6.9	Power consumption of heat circulating pump	W	Max. 70	Max. 70	Max. 70
6.10	Power consumption brine circulating pump	W	Max. 87	Max. 87	Max. 87
6.11	Electrical pipe heater (2nd heat generator)	kW	2.4 or 6[4]	2.4 or 6[4]	2.4 or 6[4]
7	**Complies with the European safety regulations**		[5]	[5]	[5]
8	**Additional model features**				
8.1	Water in device is protected against freezing [6]		Yes	Yes	Yes
8.2	Max. operating overpressure (heat source/heat sink)	bar	3,0	3,0	3,0
9	**Domestic hot water cylinders**				
	Material		Enamelled steel complying with DIN 4753	Enamelled steel complying with DIN 4753	Enamelled steel complying with DIN 4753
9.1	cylinder volume	in litres	170	170	170
9.2	nominal volumen	in litres	156	156	156
9.3	Max. operating pressure	bar	6	6	6
9.4	Heat exchanger area	m²	2,1	2,1	2,1
9.5	Heat loss at 50°C cylinder temperature 20°C room temperature	kW/h24h	0,69	0,69	0,69
9.6	Draw-off rate (without re-heating)[7]	Litres	213	213	213
10	**Heat output / COP [3]**		EN 14511	EN 14511	EN 14511
	at B-5 / W45	kW / ---	4,9 / 3,2	6,4 / 3,3	8,7 / 3,3
	at B0 / W55	kW / ---	5,4 / 2,9	7,1 / 2,9	9,5 / 2,9
	at B0 / W45	kW / ---	5,6 / 3,6	7,3 / 3,7	9,9 / 3,8
	at B0 / W35	kW / ---	5,9 / 4,7	7,8 / 4,8	10,5 / 5,0

1. The specified sound pressure level corresponds to the operating noise of the heat pump in heating operation with a flow temperature of 35 °C.
   The specified sound pressure level represents the free sound area level. The measured value can deviate by up to 16 dB(A), depending on the installation location.
2. Please note that additional space is required for pipe connections, operation and maintenance.
3. These data indicate the size and capacity of the system according to EN 14511. For an analysis of the economic and energy efficiency of the system, the bivalence point and regulation should be taken into consideration. These specifications can only be achieved with clean heat exchangers. Information on maintenance, commissioning and operation can be found in the respective sections of the installation and operating instructions. The specified values have the following meaning, e.g. B0 / W35: Heat source temperature 0 °C and heating water flow temperature 35 °C.
4. Condition as received 6kW.
5. See CE declaration of conformity
6. The heat circulating pump and the heat pump manager must always be ready for operation.
7. Mixed water withdrawal temperature 38 °C and cylinder temperature 45 °C.

13 Product information as per Regulation (EU) No 813/ 2013, Annex II, Table 2

Information requirements for heat pump space heaters and heat pump combination heaters

Model	SIW 6TES
Air-to-water heat pump	no
Water-to-water heat pump	no
Brine-to-water heat pump	yes
Low-temperature heat pump	no
Equipped with a supplementary heater	yes
Heat pump combination heater	yes

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

Parameters shall be declared for average climate conditions:

Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Prated	5	kW	**Seasonal space heating energy efficiency**	η_s	130	%
Declared capacity for heating foer part load at indoor temperature 20°C and outdoor temperature T*j*				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T*j*			
Tj = - 7°C	P*dh*	5,4	kW	Tj = - 7°C	COP*d*	2,98	-
Tj = + 2°C	P*dh*	5,6	kW	Tj = + 2°C	COP*d*	3,50	-
Tj = + 7°C	P*dh*	5,7	kW	Tj = + 7°C	COP*d*	3,89	-
Tj = + 12°C	P*dh*	5,8	kW	Tj = + 12°C	COP*d*	4,38	-
Tj = bivalent temperature	P*dh*	5,4	kW	Tj = bivalent temperature	COP*d*	2,85	-
Tj = operation limit temperature	P*dh*	5,4	kW	Tj = operation limit temperature	COP*d*	2,85	-
For air-to-water heat pumps				For air-to-water heat pumps:			
Tj = -15°C (if TOL < -20°C)	P*dh*	--	kW	Tj = -15°C (if TOL < -20°C)	COP*d*	--	-
Bivalent temperature	T_{biv}	-10	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval capacity for heating	P*cych*	-	kW	Cycling interval efficiency	COP*cyc*	-	-
Degradation co-efficient (**)	C*dh*	0,90	-	Heating water operating limit temperature	WTOL	62	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P_{OFF}	0,015	kW	Rated heat output (*)	P*sup*	0	kW
Thermostat-off mode	P_{TO}	0,020	kW	Type of energy input		eletrical	
Standby mode	P_{SB}	0,015	kW				
Crankcase heater mode	P_{CK}	0,000	kW				
Other items							
Capacity control		fixed		For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m³ /h
Sound power level, indoors/ outdoors	L_{WA}	42/-	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,1	m³ /h
Emissions of nitrogen oxides	NO_x	-	mg/kWh				
For heat pump combination heater:							
Declared load profile		L		**Water heating energy efficiency**	η_{wh}	102	%
Daily electricity consumption	Q_{elec}	4,80	kWh	Daily fuel consumption	Q_{fuel}	-	kWh
Contact details	Glen Dimplex Deutschland GmbH, Am Goldenen Feld 18, 95326 Kulmbach						

(*) For heat pump space heaters and heat pump combination heaters, the rated output P*rated* is equal to the design load for heating P*designh* , and the rated heat output of a supplementary capacity for heating sup(*Tj*).

(**) If C*dh* is not determined by measurement nthen the default degradation is C*dh* = 0,9
(--) not applicable

Information requirements for heat pump space heaters and heat pump combination heaters

Model	SIW 8TES
Air-to-water heat pump	no
Water-to-water heat pump	no
Brine-to-water heat pump	yes
Low-temperature heat pump	no
Equipped with a supplementary heater	yes
Heat pump combination heater	yes

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

Parameters shall be declared for average climate conditions:

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	8	kW
Declared capacity for heating foer part load at indoor temperature 20°C and outdoor temperature T*j*			
Tj = - 7°C	P*dh*	8,0	kW
Tj = + 2°C	P*dh*	7,9	kW
Tj = + 7°C	P*dh*	7,9	kW
Tj = + 12°C	P*dh*	7,8	kW
Tj = bivalent temperature	P*dh*	8,0	kW
Tj = operation limit temperature	P*dh*	8,0	kW
For air-to-water heat pumps			
Tj = -15°C (if TOL < -20°C)	P*dh*	--	kW
Bivalent temperature	T_{biv}	-10	°C
Cycling interval capacity for heating	P*cych*	-	kW
Degradation co-efficient (**)	C*dh*	0,90	-
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0,015	kW
Thermostat-off mode	P_{TO}	0,020	kW
Standby mode	P_{SB}	0,015	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control		fixed	
Sound power level, indoors/ outdoors	L_{WA}	42/-	dB
Emissions of nitrogen oxides	NO_x	-	mg/kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	145	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T*j*			
Tj = - 7°C	COP*d*	3,39	-
Tj = + 2°C	COP*d*	3,85	-
Tj = + 7°C	COP*d*	4,22	-
Tj = + 12°C	COP*d*	4,67	-
Tj = bivalent temperature	COP*d*	3,28	-
Tj = operation limit temperature	COP*d*	3,28	-
For air-to-water heat pumps:			
Tj = -15°C (if TOL < -20°C)	COP*d*	--	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP*cyc*	-	-
Heating water operating limit temperature	WTOL	62	°C
Supplementary heater			
Rated heat output (*)	P*sup*	0	kW
Type of energy input		eletrical	
For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m³ /h
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	1,5	m³ /h

For heat pump combination heater:

Declared load profile		L		**Water heating energy efficiency**	η_{wh}	98	%
Daily electricity consumption	Q_{elec}	4,96	kWh	Daily fuel consumption	Q_{fuel}	-	kWh

Contact details	Glen Dimplex Deutschland GmbH, Am Goldenen Feld 18, 95326 Kulmbach

(*) For heat pump space heaters and heat pump combination heaters, the rated output P*rated* is equal to the design load for heating P*designh* , and the rated heat output of a supplementary capacity for heating sup(*Tj*).

(**) If C*dh* is not determined by measurement nthen the default degradation is C*dh* = 0,9
(--) not applicable

Information requirements for heat pump space heaters and heat pump combination heaters

Model	SIW 11TES
Air-to-water heat pump	no
Water-to-water heat pump	no
Brine-to-water heat pump	yes
Low-temperature heat pump	no
Equipped with a supplementary heater	yes
Heat pump combination heater	yes

Parameters shall be declared for medium-temperature application, except for low-temperature heat pumps. For low- temperature heat pumps, parameters shall be declared for low-temperature application.

Parameters shall be declared for average climate conditions:

Item	Symbol	Value	Unit
Rated heat output (*)	Prated	10	kW
Declared capacity for heating foer part load at indoor temperature 20°C and outdoor temperature T*j*			
Tj = - 7°C	P*dh*	9,9	kW
Tj = + 2°C	P*dh*	10,2	kW
Tj = + 7°C	P*dh*	10,4	kW
Tj = + 12°C	P*dh*	10,5	kW
Tj = bivalent temperature	P*dh*	9,8	kW
Tj = operation limit temperature	P*dh*	9,8	kW
For air-to-water heat pumps			
Tj = -15°C (if TOL < -20°C)	P*dh*	--	kW
Bivalent temperature	T_{biv}	-10	°C
Cycling interval capacity for heating	P*cych*	-	kW
Degradation co-efficient (**)	C*dh*	0,90	-
Power consumption in modes other than active mode			
Off mode	P_{OFF}	0,015	kW
Thermostat-off mode	P_{TO}	0,020	kW
Standby mode	P_{SB}	0,015	kW
Crankcase heater mode	P_{CK}	0,000	kW
Other items			
Capacity control		fixed	
Sound power level, indoors/ outdoors	L_{WA}	43/-	dB
Emissions of nitrogen oxides	NO_x	-	mg/kWh

Item	Symbol	Value	Unit
Seasonal space heating energy efficiency	η_s	142	%
Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature T*j*			
Tj = - 7°C	COP*d*	3,19	-
Tj = + 2°C	COP*d*	3,74	-
Tj = + 7°C	COP*d*	4,16	-
Tj = + 12°C	COP*d*	4,67	-
Tj = bivalent temperature	COP*d*	3,06	-
Tj = operation limit temperature	COP*d*	3,06	-
For air-to-water heat pumps:			
Tj = -15°C (if TOL < -20°C)	COP*d*	--	-
For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C
Cycling interval efficiency	COP*cyc*	-	-
Heating water operating limit temperature	WTOL	62	°C
Supplementary heater			
Rated heat output (*)	P*sup*	0	kW
Type of energy input		eletrical	
For air-to-water heat pumps: Rated air flow rate, outdoors	-	-	m³ /h
For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	-	2,2	m³ /h

For heat pump combination heater:

Declared load profile		L		**Water heating energy efficiency**	η_{wh}	94	%
Daily electricity consumption	Q_{elec}	5,18	kWh	Daily fuel consumption	Q_{fuel}	-	kWh

Contact details	Glen Dimplex Deutschland GmbH, Am Goldenen Feld 18, 95326 Kulmbach

(*) For heat pump space heaters and heat pump combination heaters, the rated output P*rated* is equal to the design load for heating P*designh* , and the rated heat output of a supplementary capacity for heating sup(*Tj*).

(**) If C*dh* is not determined by measurement nthen the default degradation is C*dh* = 0,9

(--) not applicable

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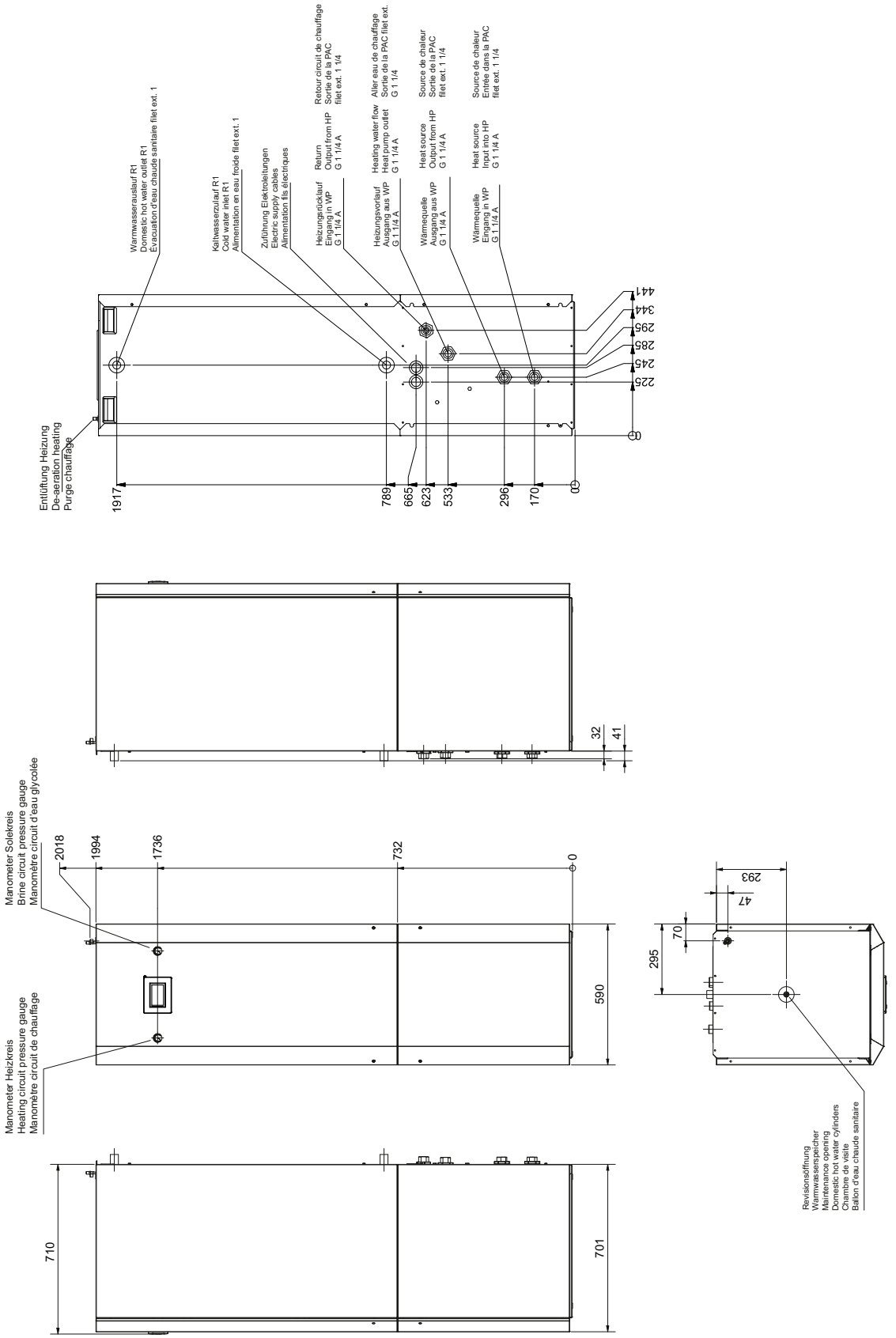
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4.2 Einbindungsschema für einen Heizkreis Reihen-Pufferspeicher und Warmwasserbereitung / Integration diagram for one heating circuit with buffer tank connected in series and DHW preparation / Schéma d'intégration d'un ballon tampon série d'un circuit de chauffage et production d'eau chaude sanitaire ..... A-XV
4.3 Legende / Legend / Légende ..... A-XVI

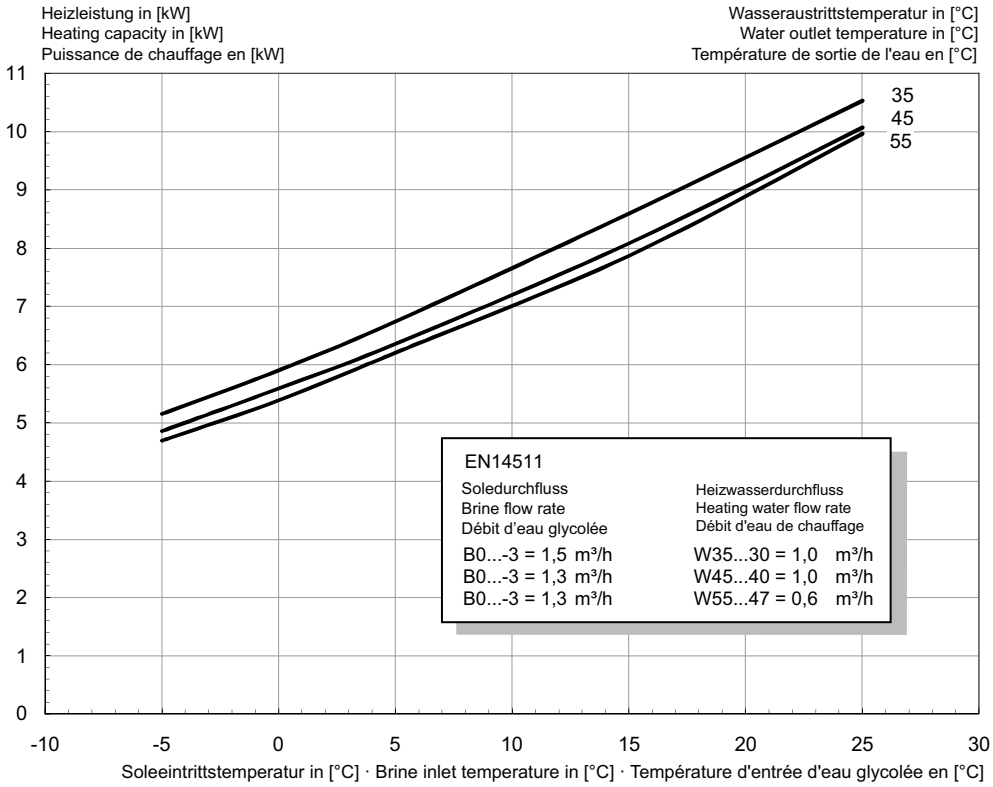
5 Konformitätserklärung / Declaration of Conformity / Déclaration de conformité ..... A-XVII

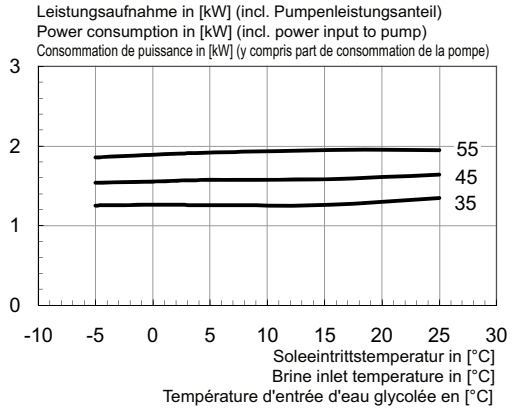
1 Maßbild / Dimension Drawing / Schéma coté

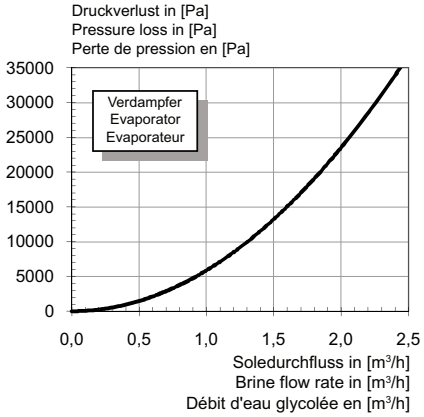


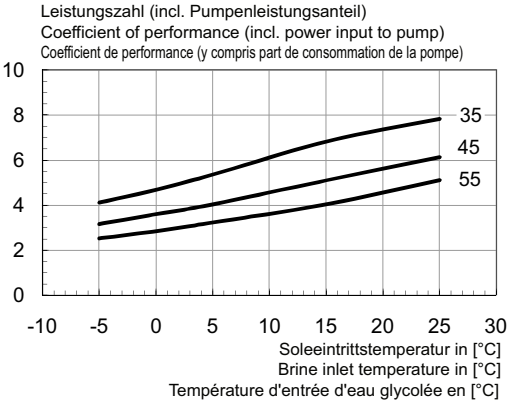
2 Diagramme / Diagrams / Diagrammes

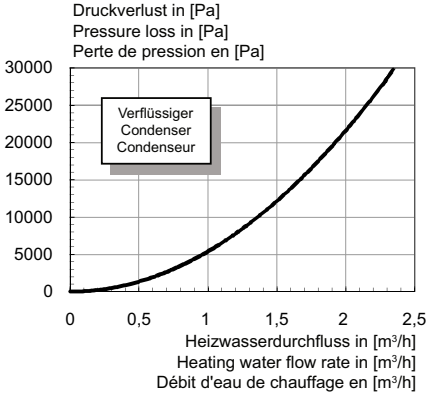
2.1 Kennlinien / Characteristic Curves / Courbes caractéristiques SIW 6TES



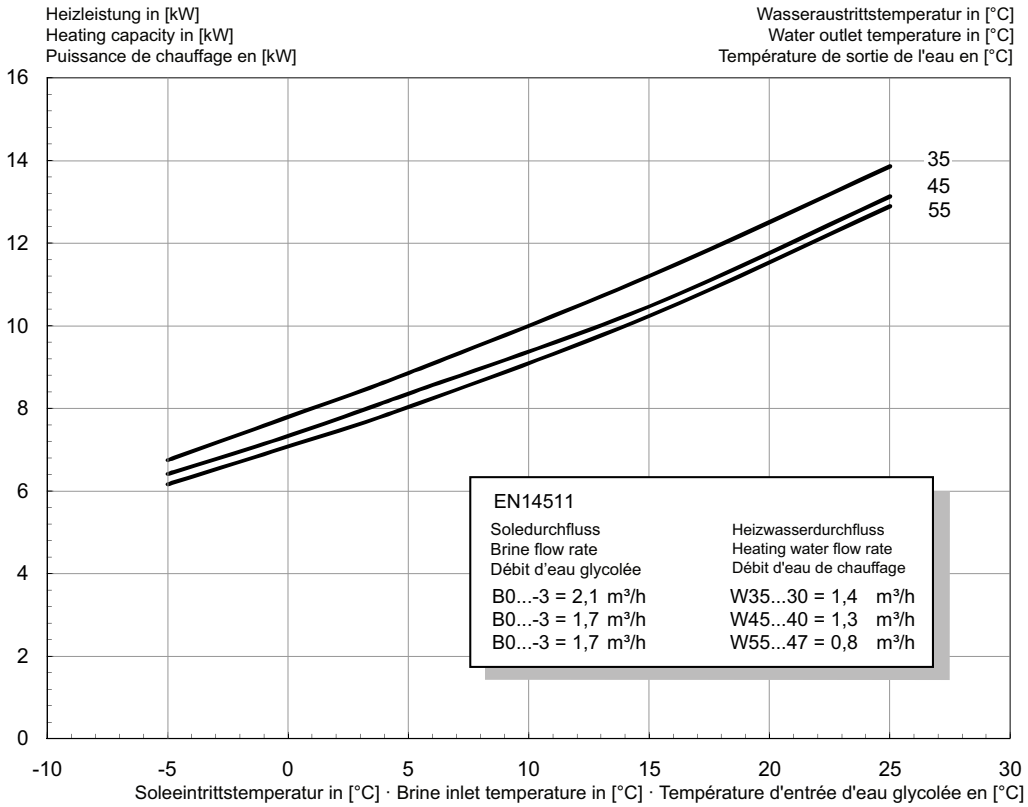


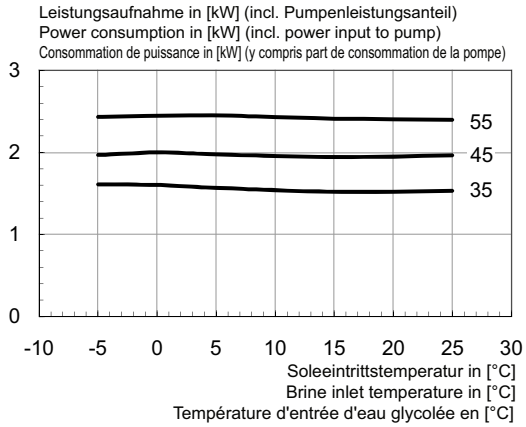


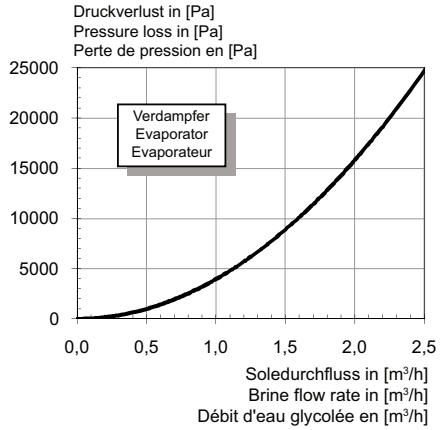


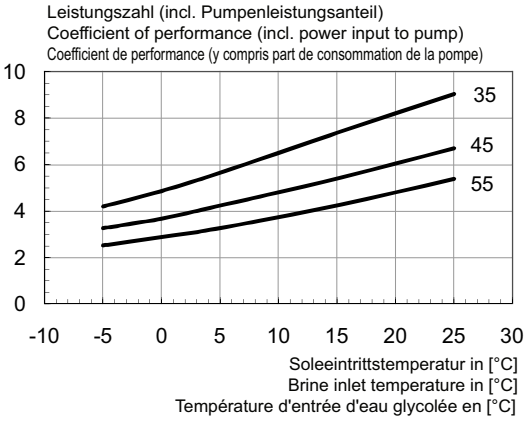


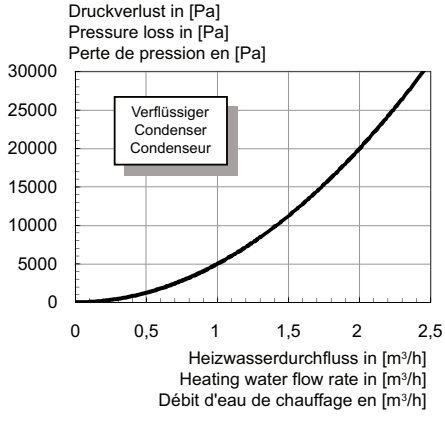
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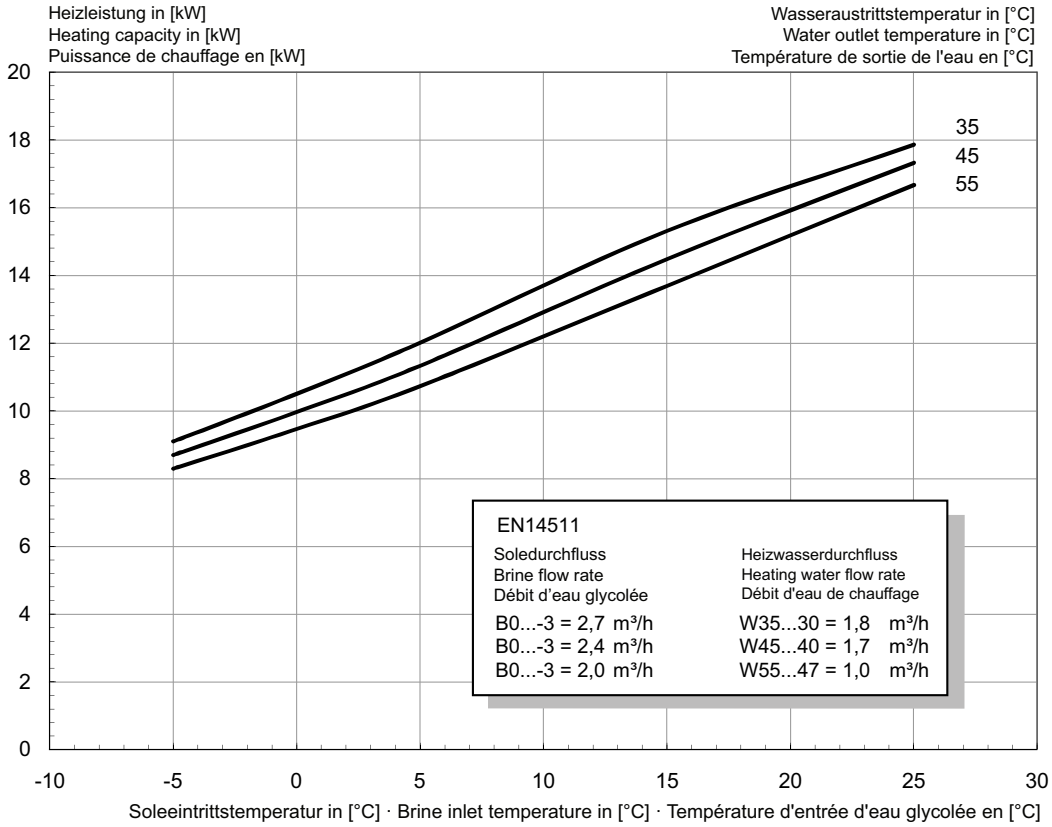


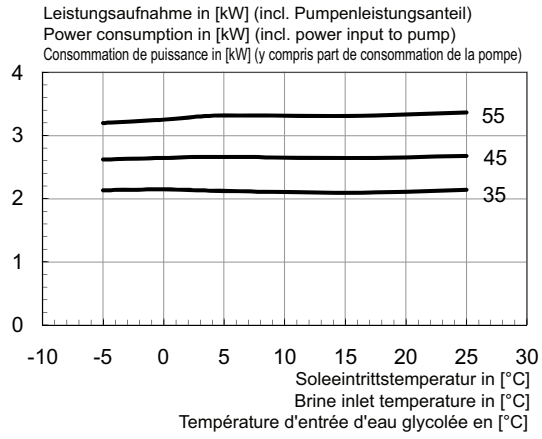


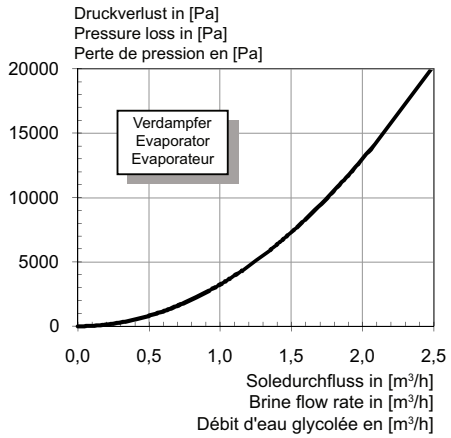


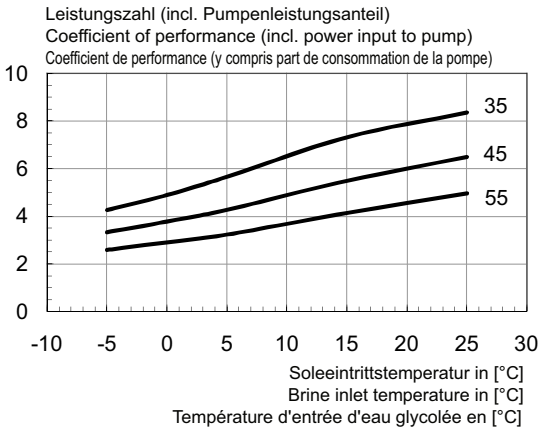


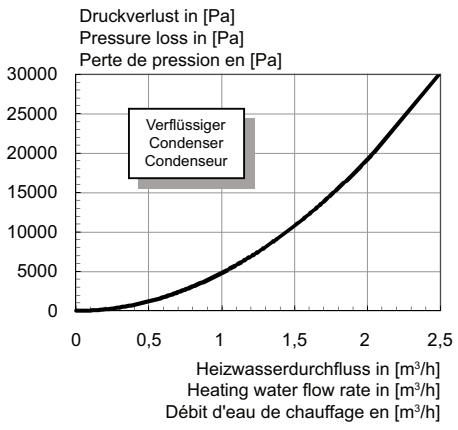
2.3 Kennlinien / Characteristic Curves / Courbes caractéristiques SIW 11TES



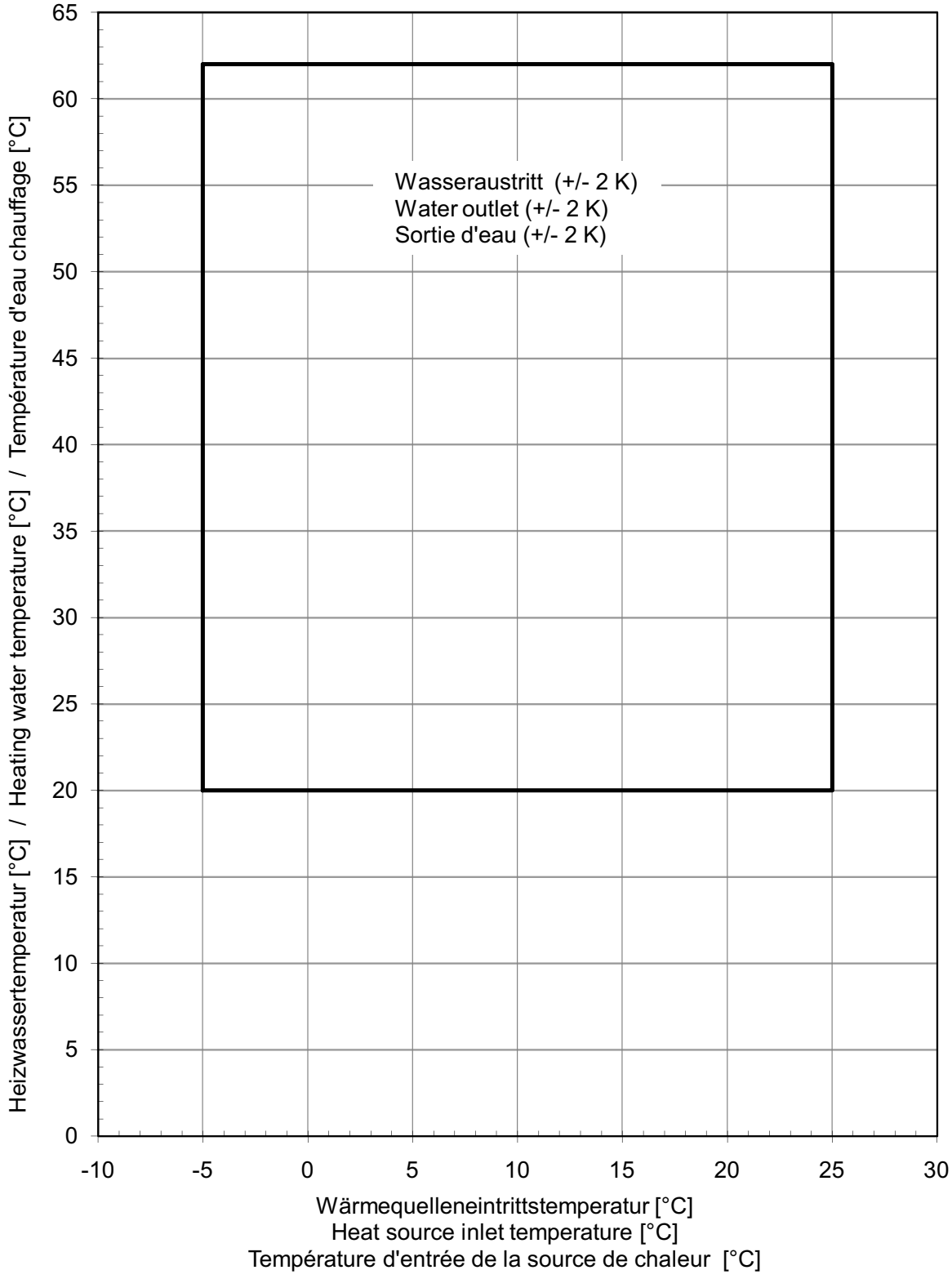






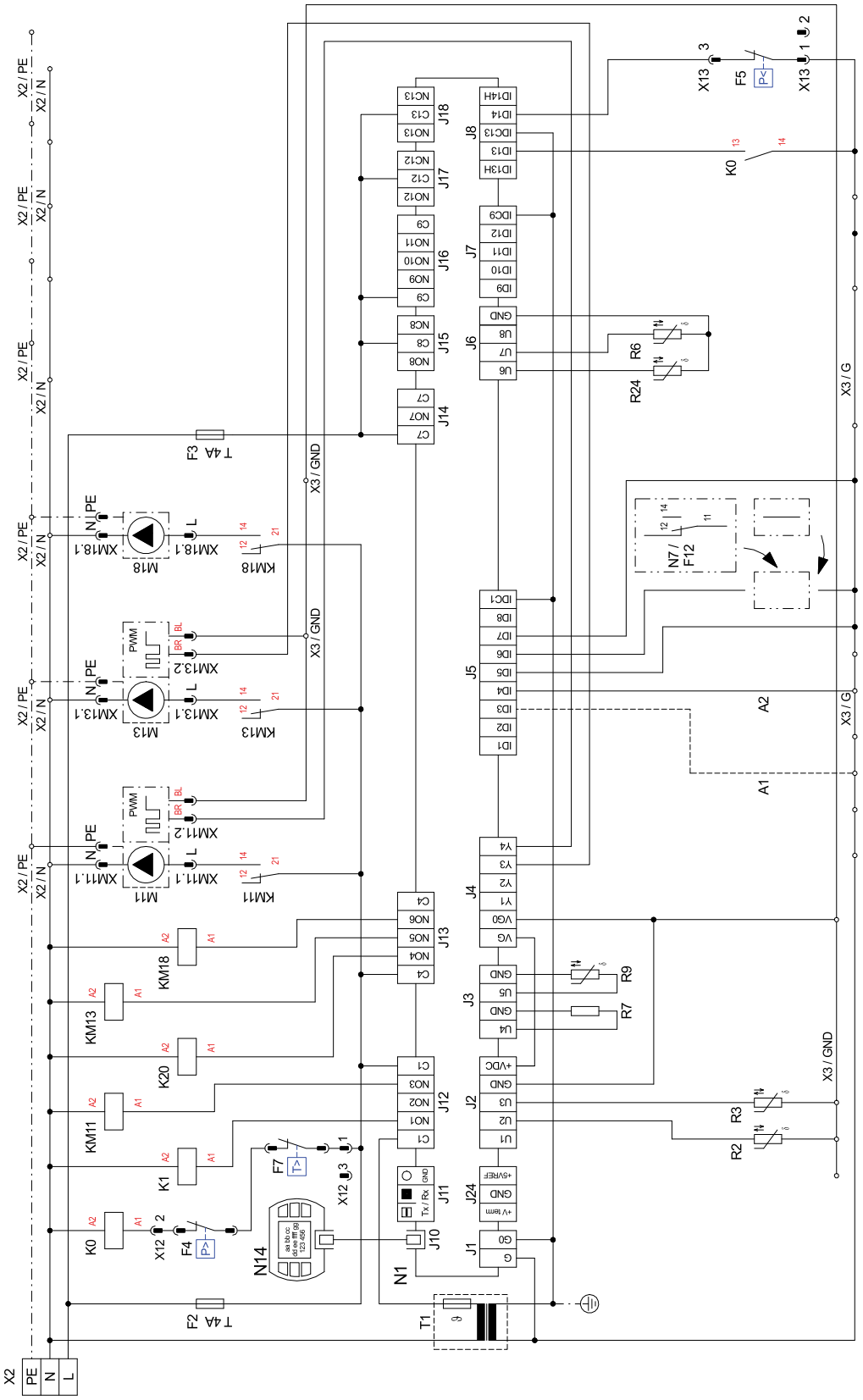


2.4 Einsatzgrenzendiagramm / Operating limits diagram / Diagramme des seuils d'utilisation

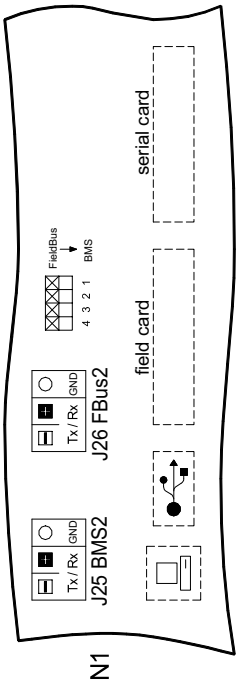


3 Stromlaufpläne / Circuit diagrams / Schémas électriques

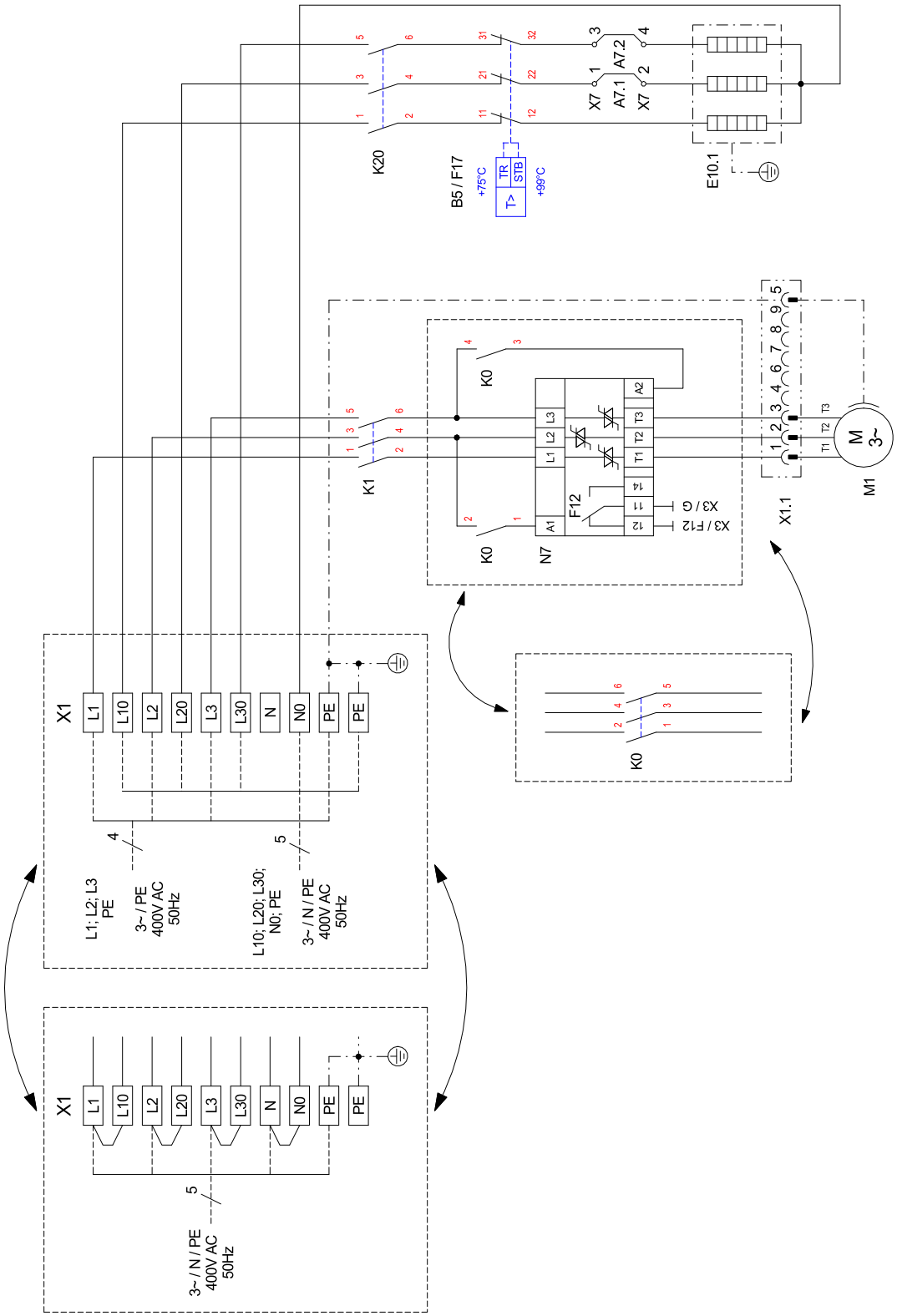
3.1 Steuerung / Control / Commande



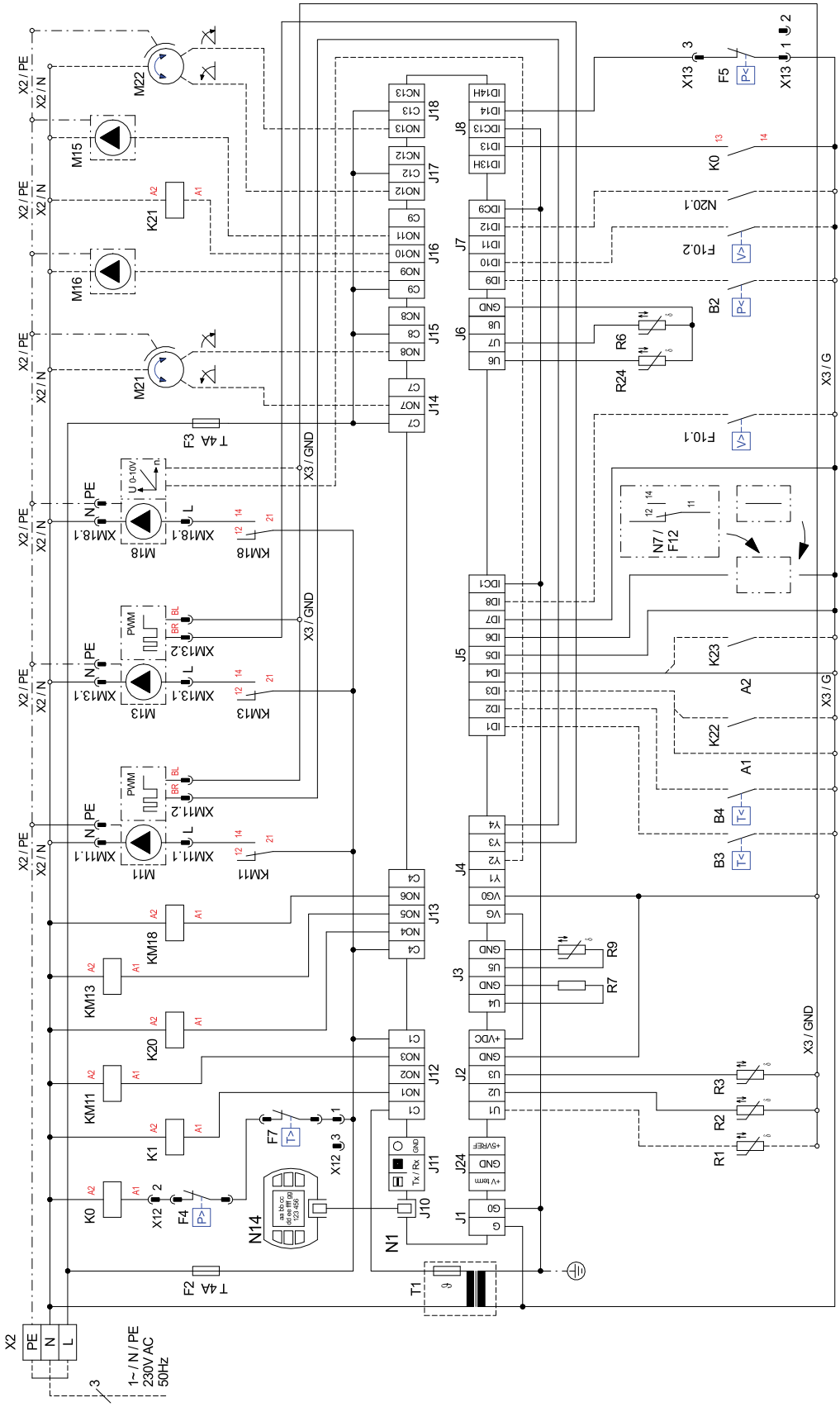
3.2 Steuerung / Control / Commande



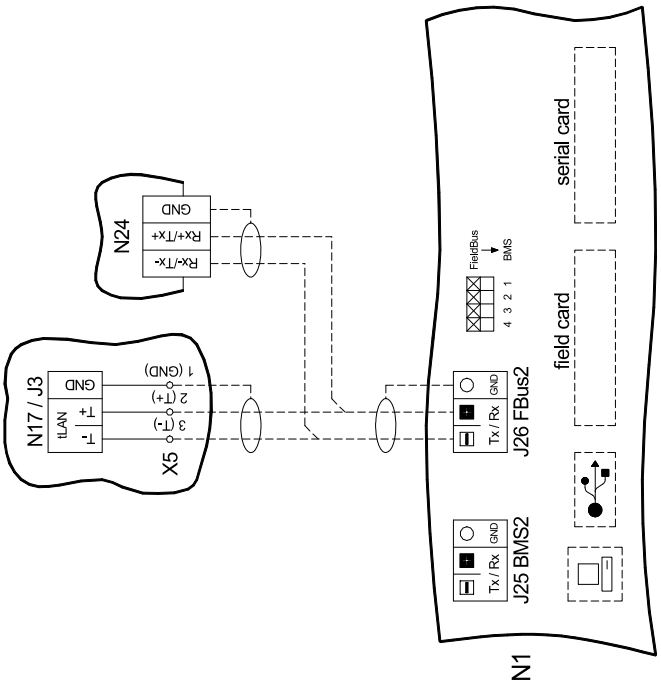
3.3 Last / Load / Charge



3.4 Anschlussplan / Circuit Diagram / Schéma électrique



3.5 Anschlussplan / Circuit Diagram / Schéma électrique



3.6 Legende / Legend / Légende

A1	Brücke EVU-Sperre: muss eingelegt werden, wenn kein EVU-Sperreschütz vorhanden ist (Kontakt offen = EVU-Sperre)	Utility block (EVU) bridge: Must be inserted if no utility blocking contactor is fitted (contact open = utility block).	Pont de blocage de la société d'électricité : à insérer en absence de contacteur de blocage de la société d'électricité (contact ouvert = blocage de la société d'électricité).
A2	Brücke Sperre:muss entfernt werden, wenn der Eingang genutzt wird (Eingangoffen = WP gesperrt)	Blocking bridge: Must be removed when the input is in use (input open = HP blocked).	Pont de blocage : à retirer si l'entrée est utilisée (entrée ouverte = pompe à chaleur bloquée).
A7.1/2	Brücke E10.1: Bei entfernen einer Brücke vermindert sich die Leistung um jeweils 2 kW	Link cable E10.1: When one link cable is removed, the output is reduced by 2 kW	Pont E10.1 : lorsqu'un pont est retiré, la puissance diminue de 2 kW
B2*	Niederdruckpressostat Primärkreis	Low pressure switch, primary circuit	Pressostat basse pression circuit primaire
B3*	Thermostat Warmwasser	Hot water thermostat	Thermostat d'eau chaude sanitaire
B4*	Thermostat Schwimmbadwasser	Swimming pool water thermostat	Thermostat eau de piscine
B5	Thermostat E10.1	Thermostat E10.1	Thermostat E10.1
E9*	Tauchheizkörper Warmwasser	Immersion heater, hot water	Résistance immergée eau chaude sanitaire
E10.1*	2. Wärmeerzeuger 2, 4, (6) kW	2nd heat generator 2, 4, (6) kW	2ème générateur de chaleur 2, 4, (6) kW
F2	Sicherung für Steckklemmen J12 und J13 5x20 / 4,0 AT	Load fuse for plug-in terminals J12 and J13 5x20 / 4.0 AT	Coupe-circuit de charge pour bornes enfichables J12 et J13 5 x 20 / 4,0 AT
F3	Sicherung für Steckklemmen J1 bis J18 5x20 / 4,0 AT	Load fuse for plug-in terminals J15 to J18 5x20 / 4.0 AT	Coupe-circuit de charge pour bornes enfichables J15 à J18 5x20 / 4,0 AT
F4	Hochdruckpressostat	Pressostato alta pressione	Pressostat haute pression
F5	Niederdruckpressostat	Pressostato bassa pressione	Pressostat basse pression
F7	Heißgasthermostat	Termostato gas caldo	Thermostat gaz chaud
F10.1*	Durchflussschalter Primärkreis	Flow rate switch for primary circuit	Commutateur de débit circuit primaire
F10.2*	Durchflussschalter Sekundärkreis	Flow rate switch for secondary circuit	Commutateur de débit circuit secondaire
F15	Motorschutz M11	Motor protection M11	Protection moteur M11
F17	Sicherheitstemperaturbegrenzer E10.1	Safety temperature limiter E10.1	Thermostat limiteur E10.1
[H5]*	Leuchte Störfernanzeige	Remote fault indicator lamp	Voyant de télédétection de pannes
J1	Spannungsversorgung	Voltage supply	Alimentation en tension
J2 - 3	Analogeingänge	Analogue inputs	Entrées analogiques
J4	Analogausgänge	Analogue outputs	Sorties analogiques
J5	Digitaleingänge	Digital inputs	Entrées numériques
J6	Analogausgänge	Analogue outputs	Sorties analogiques
J7 - 8	Digitaleingänge	Digital inputs	Entrées numériques
J10	Bedienteil	Control panel	Unité de commande
J11	frei	free	libre
J12 - J18	230 V AC - Ausgänge	230 V AC - outputs	Sorties 230 V AC pour
J24	Spannungsversorgung für Komponenten	Power supply for components	Alimentation en tension des composants
j25	Schnittstelle	Interfaccia	Interface
J26	Bus-Verbindung intern	Collegamento bus interno	Raccordement interne au bus
K0	Sicherheitsschütz	Safety contactor	Contacteur de sécurité
K1	Schütz M1	Contactor M1	Contacteur M1
K20	Schütz E10.1	Contactor E10.1	Contacteur E10.1
K21*	Schütz E9	Contactor E9	Contacteur E9
K22*	EVU- Sperrschütz	Utility blocking contactor	Contacteur de blocage de la société d'électricité
K23*	Hilfsrelais für Sperreingang	Auxiliary relay for disable contactor	Relais auxiliaire pour entrée du contacteur de blocage
K31.1*	Anforderung Zirkulation Warmwasser	Domestic hot water circulation request	Demande circulation ECS
KM11	Hilfsrelais M11	Auxiliary relay M11	Relais auxiliaire M11
KM13	Hilfsrelais M13	Auxiliary relay M13	Relais auxiliaire M13
KM18	Hilfsrelais M18	Auxiliary relay M18	Relais auxiliaire M18
M1	Verdichter	Compressor	Compresseur
M11	Primärkreispumpe	Primary circuit pump	Pompe circuit primaire
M13*	Heizungsumwälzpumpe	Heat circulating pump	Circulateur du circuit de chauffage
M15*	Heizungsumwälzpumpe 2. Heizkreis	Heat circulating pump heating circuit 2	Circulateur du 2ème circuit de chauffage
M16*	Zusatzumwälzpumpe	Auxiliary circulating pump	Circulateur supplémentaire
M18	Warmwasserladepumpe	Pompa di caricamento acqua calda sanitaria	Pompe de charge eau chaude sanitaire
M21*	Mischer Hauptkreis oder 3. Heizkreis	Mixer for main circuit or heating circuit 3	Mélangeur circuit principal ou 3e circuit de chauffage
M22*	Mischer 2. Heizkreis	Mixer for heating circuit 2	Mélangeur 2e circuit de chauffage
[M19]*	Schwimmbadwasserumwälzpumpe	Swimming pool circulating pump	Circulateur de la piscine
[M24]*	Zirkulationspumpe Warmwasser	Domestic hot water circulating pump	Pompe de circulation eau chaude sanitaire
N1	Regeleinheit	Control unit	Unité de régulation
field card	Schnittstelle zu N23	Interface to N23	Interface vers N23
N7	Sanftanlasser M1	Softstarter M1	Démarreur progressif M1
N14	Bedienteil	Control panel	Unité de commande
N17*	pCOe- Modul	pCOe module	Module pCOe
N20*	Wärmemengenzähler	Thermal energy meter	Calorimètre
N23*	Ansteuerung elektronisches Expansionsventil E*V connection (1=grün, 2=gelb, 3=braun, 4=weiß)	Activation of the electronic expansion valve E*V connection (1=green, 2=yellow, 3=brown, 4=white)	Commande détendeur électronique Connexion dét. (1=vert, 2=jaune, 3=marron, 4=blanc)
N24*	Smart - RTC	Smart RTC	Smart - RTC
R1*	Außenfühler	External sensor	Sonde extérieure
R2	Rücklauffühler Heizkreis	Return sensor for heating circuit	Sonde de retour circuit de chauffage
R3	Warmwasserfühler	Hot water sensor	Sonde sur circuit d'eau chaude sanitaire
R5*	Fühler 2. Heizkreis	Sensor for heating circuit 2	Sonde pour 2e circuit de chauffage
R6	Vorlauffühler Primärkreis	Flow sensor, primary circuit	Sonde du circuit de départ circuit primaire
R7	Codierwiderstand	Coding resistor	Résistance de codage

R9	Vorlauffühler Heizkreis	Flow sensor for heating circuit	Sonde départ circuit de chauffage
R24	Rücklauffühler Primärkreis	Return sensor, primary circuit	Sonde retour circuit primaire
T1	Sicherheitstransformator 230 / 24 V AC - Regelung	Safety transformer 230 / 24 V AC - Regulation	Transformateur de sécurité 230 / 24 V AC - Régulatio
X1	Klemmleiste Einspeisung Last	Terminal strip infeed load	Alimentation bornier charge
X1.1	Stecker Lastspannung	Plug supply voltage	Connecteur tension de puissance
X2	Klemmleiste Spannung = 230 V AC Schaltkasten	Terminal strip voltage = 230 V AC	Tension bornier = 230 V AC
X3	Klemmleiste Kleinspannung < 25 V AC Schaltkasten	Terminal strip extra-low voltage < 25 V AC Switch box	Faible tension bornier < 25 V AC Boîtier électrique
X7	Klemmleiste Leistungsanpassung E10.1	Terminal strip output adjustment E10.1	Bornier adaptation de puissance E10.1
X12	Stecker Steuerspannung 230 V	Plug control voltage 230 V	Connecteur tension de commande 230 V
X13	Stecker Kleinspannung <25 V	Plug extra-low voltage <25 V	Connecteur faible tension < 25 V
XM11.1	Stecker Primärkreispumpe Last	Connector primary circuit pump load	Connecteur pompe circuit primaire charge
XM11.2	Stecker Primärkeispumpe Steuerung	Connector primary circuit pump control	Connecteur pompe circuit primaire commande
KM13.1	Stecker Heizungsumwälzpumpe Last	Connector heat circulating pump load	Connecteur circulateur du circuit de chauffage charge
KM13.2	Stecker Heizungsumwälzpumpe Steuerung	Connector heat circulating pump control	Connecteur circulateur du circuit de chauffage commande
XM18.1	Stecker Warmwasserladepumpe Last	Connector domestic hot water circulating pump load	Connecteur pompe de charge d'eau chaude sanitaire charge
*	Bauteile sind bauseits anzuschließen / beizustellen	Components must be connected / supplied by the customer.	Les pièces sont à raccorder / à fournir par le client
[]	Flexible Beschaltung - siehe Vorkonfiguration (Änderung nur durch Kundendienst)	Flexible circuitry - see pre-configuration (changes by after-sales service)	Commande flexible - voir pré-configuration (modification uniquement par le SAV)
____	werkseitig verdrahtet	Wired ready for use	câblé en usine
------	bauseits nach Bedarf anzuschliessen	to be connected on site if required	à raccorder par le client si besoin

⚠ ACHTUNG!

An den Steckklemmen N1-J1 bis J11, -24 bis J26 und der Klemmleiste X3 liegt Kleinspannung an. Auf keinen Fall darf hier eine höhere Spannung angelegt werden.

⚠ ATTENTION!

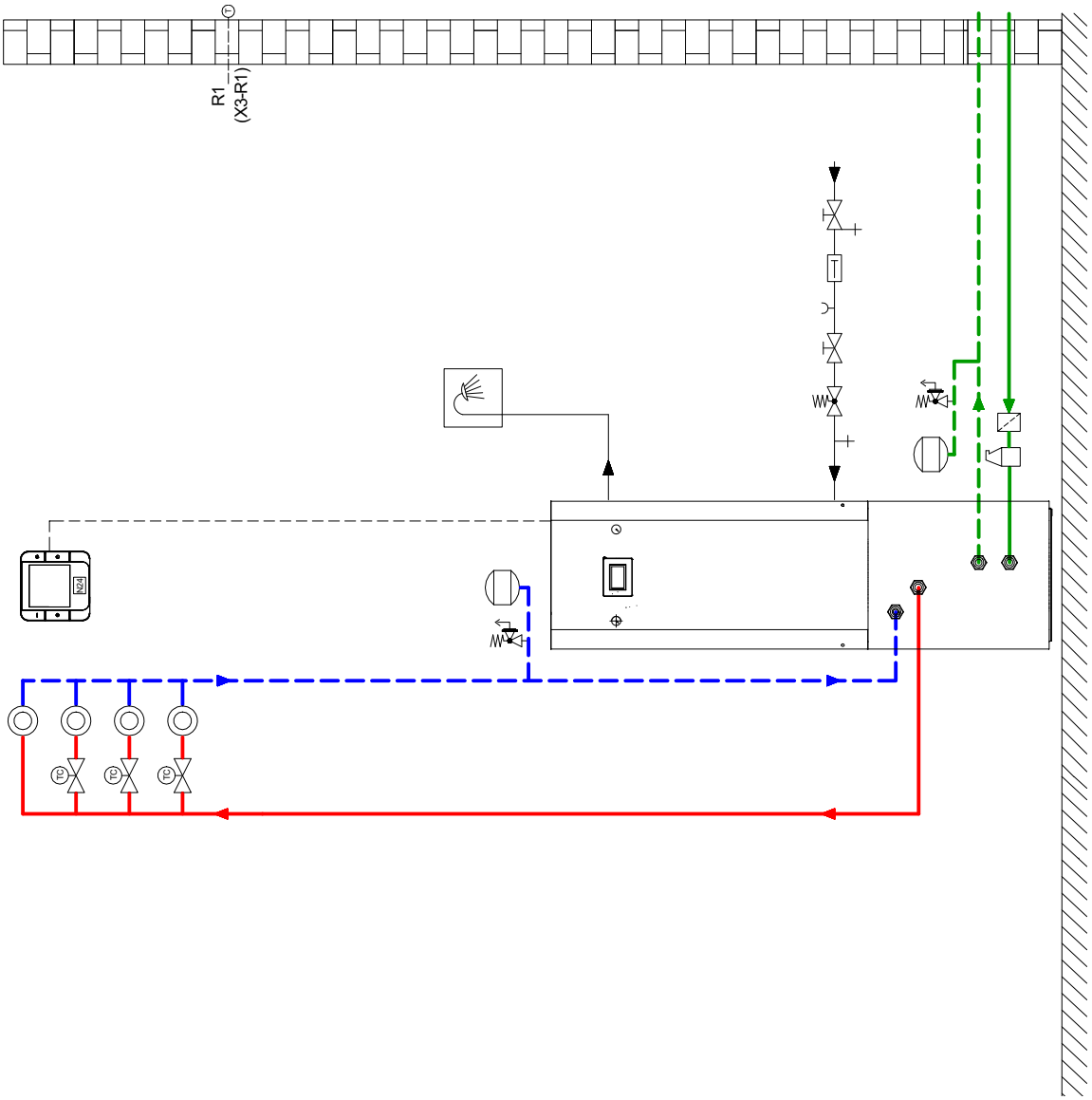
Extra-low voltage is supplied to plug-in terminals N1-J1 to J11, J23 to J26 and the terminal strip X3. Higher voltage must not be supplied here under any circumstances.

⚠ ATTENTION !

Une faible tension est appliquée aux bornes enfichables N1-J1 à J11, J23 à J26 des bornier X3. Ne jamais appliquer une tension plus élevée.

4 Hydraulisches Einbindungsschema / Hydraulic integration diagram / Schéma d'intégration hydraulique

4.1 Einbindungsschema für einen Heizkreis mit Fußbodenheizung und Raumtemperaturregelung über Smart-RTC, Warmwasserbereitung / Integration diagram for one heating circuit with underfloor heating and room temperature regulation via Smart RTC and DHW preparation / Schéma d'intégration pour un circuit de chauffage avec chauffage par le sol et régulation de température ambiante via Smart-RTC, production d'eau chaude sanitaire

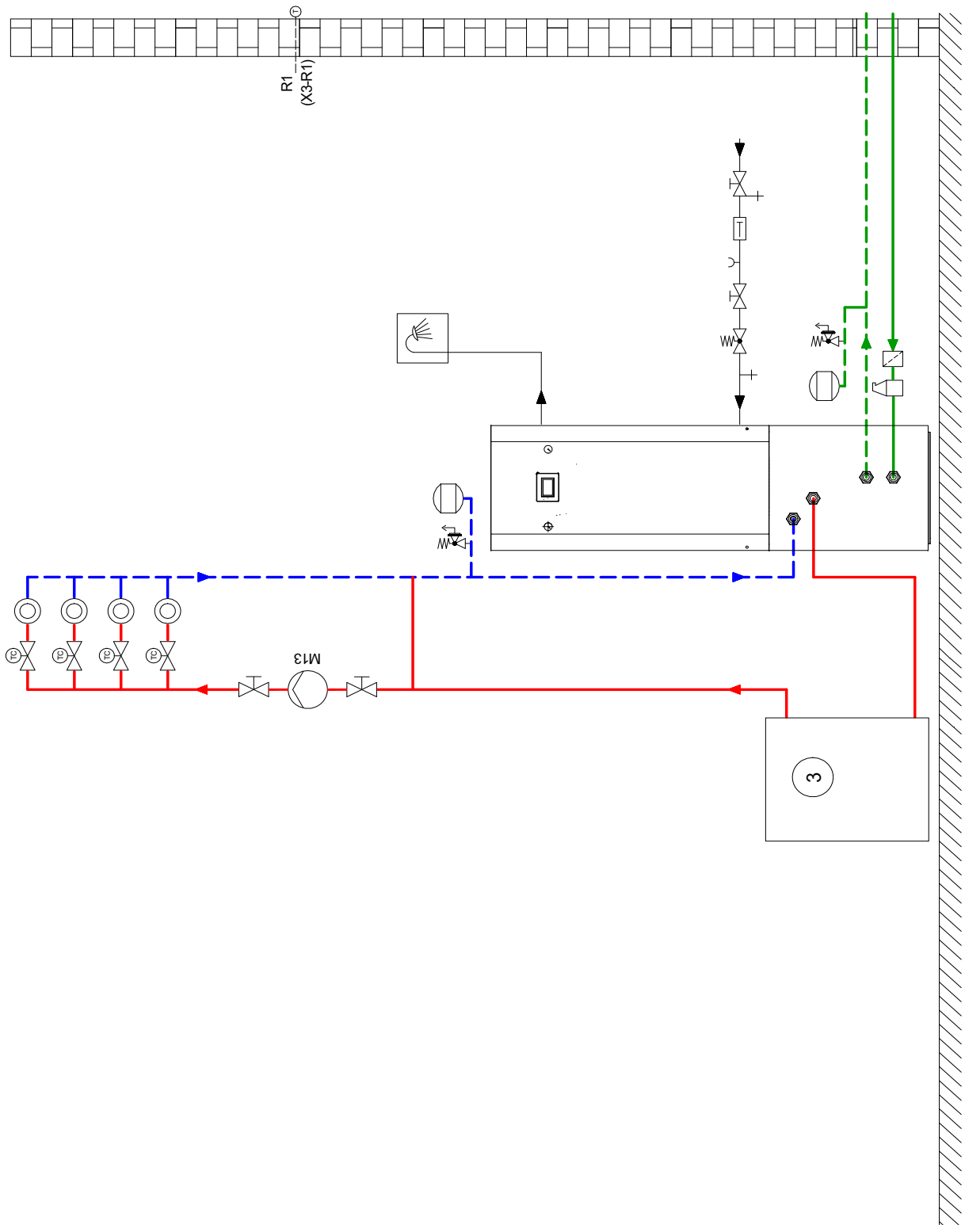


⚠ ACHTUNG!
Mindestheizwasserduchsatz beachten (siehe Kap. 7.2 auf S. 8).

⚠ ATTENTION!
Comply with the minimum domestic hot water flow (Cap. 7.2 on page 8)

⚠ ATTENTION !
respecter le débit minimum d'eau de chauffage (voir Chap. 7.2 - page 8)

4.2 Einbindungsschema für einen Heizkreis Reihen-Pufferspeicher und Warmwasserbereitung / Integration diagram for one heating circuit with buffer tank connected in series and DHW preparation /Schéma d'intégration d'un ballon tampon série d'un circuit de chauffage et production d'eau chaude sanitaire



4.3 Legende / Legend / Légende

	Absperrventil	Shutoff valve	Robinet d’arrêt
	Überstromventil	Overflow valve	Vanne de trop-plein
	Sicherheitsventilkombination	Safety valve combination	Groupe de valves de sécurité
	Umwälzpumpe	Circulating pump	Circulateur
	Ausdehnungsgefäß	Expansion vessel	Vase d´expansion
	Raumtemperaturgesteuertes Ventil	Room temperature-controlled valve	Valve commandée par température
	Hochleistungslüfter mit Microluftblasenabschalter	High-performance ventilator Micro air bubble trap	Ventilateur haute performance avec séparateur de microbulles d’air
	Wärmeverbraucher	Heat consumer	Consommateur de chaleur
	Temperaturfühler	Temperature sensor	Sonde de température
	Pufferspeicher	Buffer tank	Ballon tampon
M13	Heizungsumwälzpumpe	Heat circulating pump	Circulateur de chauffage
N1	Wärmepumpenmanager	Heat pump manager	Gestionnaire de pompe à chaleur
R1	Außentemperaturfühler	External temperature sensor	Sonde de température extérieure

5 Konformitätserklärung / Declaration of Conformity / Déclaration de conformité

Die aktuelle CE-Konformitätserklärung finden sie als Download unter:
You can find and download the current CE conformity declaration at:
Vous pouvez télécharger la déclaration de conformité CE actuelle sous :

https://glendimplex.de/siw6tes

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https://glendimplex.de/siw11tes



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