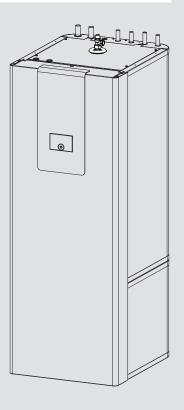
## **OPERATION AND INSTALLATION**

Integral cylinder

» HSBC 200 S (AU)



STIEBEL ELTRON

#### **SPECIAL INFORMATION**

#### **OPERATION**

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#### **GUARANTEE**

#### **ENVIRONMENT AND RECYCLING**

## SPECIAL INFORMATION

- The appliance may be used by children aged 8 and older and persons with reduced physical, sensory or mental capabilities or a lack of experience and know-how, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the resulting risks. Children must never play with the appliance. Children must never clean the appliance or perform user maintenance unless they are supervised.
- The connection to the power supply must be in the form of a permanent connection. Ensure the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation.
- Observe all applicable national and regional regulations and instructions.
- Observe minimum distances (see chapter "Installation / Preparations / Installation site").
- Only a qualified contractor should carry out installation, commissioning, maintenance and repair of the appliance.

#### DHW cylinder

- Drain the appliance as described in chapter "Installation / Maintenance / Draining the DHW cylinder".
- Observe the maximum permissible pressure (see chapter "Installation / Specification / Data table").
- The appliance is pressurised. During the heat-up process, expansion water will drip from the safety valve.
- Regularly activate the safety valve to prevent it from becoming blocked, e.g. by limescale deposits.
- The safety valve discharge aperture must remain open to atmosphere.

### General information

## **OPERATION**

#### **General information** 1.

The chapters "Special Information" and "Operation" are intended for both the user and qualified contractors.

The chapter "Installation" is intended for qualified contractors.

Note
Read these instructions carefully before using the appliance and retain them for future reference.

Pass on the instructions to a new user if required.

#### **Relevant documents** 1.1

- Operating and installation instructions for the WPM heat pump manager
- Operating and installation instructions for the connected heat pump
- Operating and installation instructions for all other system components

#### 1.2 Safety instructions

#### 1.2.1 Structure of safety instructions



#### **KEYWORD Type of risk**

Here, possible consequences are listed that may result from failure to observe the safety instructions.

► Steps to prevent the risk are listed.

#### 1.2.2 Symbols, type of risk

Symbol	Type of risk
$\triangle$	Injury
<u>A</u>	Electrocution
	Burns (burns, scalding)

#### 1.2.3 Keywords

KEYWORD	Meaning
DANGER	Failure to observe this information will result in serious injury or death.
WARNING	Failure to observe this information may result in serious injury or death.
CAUTION	Failure to observe this information may result in non-serious or minor injury.

#### Other symbols in this documentation 1.3

General information is identified by the adjacent symbol. ► Read these texts carefully.

Symbol	Meaning
!	Material losses (appliance damage, consequential losses and environmen- tal pollution)
	Appliance disposal

- ► This symbol indicates that you have to do something. The action you need to take is described step by step.
- □ □ These symbols show you the software menu level (in this example level 3).

#### 1.4 Information on the appliance

#### **Connections**

Symbol	Meaning	
<u> </u>	Inlet / intake	Red arrow: Hot Blue arrow: Cold Green arrow: Neutral
<b>G</b>	Drain / outlet	Red arrow: Hot Blue arrow: Cold Green arrow: Neutral
	Domestic hot water	
	DHW circulation	
	Heat pump	
	Central heating	

#### **Units of measurement** 1.5



All measurements are given in mm unless stated otherwise.

### Safety

### 2. Safety

#### 2.1 Intended use

This appliance is intended to be used for heating and cooling interiors (area cooling 18 °C / 23 °C) and for DHW heating.

This appliance is intended for domestic use. It can be used safely by untrained persons. The appliance can also be used in a non-domestic environment, e.g. in a small business, as long as it is used in the same way.

Any other use beyond that described shall be deemed inappropriate. Observation of these instructions and of instructions for any accessories used is also part of the correct use of this appliance.

#### 2.2 General safety instructions



#### **WARNING Burns**

There is a risk of scalding at outlet temperatures in excess of 43 °C.



#### **WARNING Injury**

The appliance may be used by children aged 8 and older and persons with reduced physical, sensory or mental capabilities or a lack of experience and know-how, provided that they are supervised or they have been instructed on how to use the appliance safely and have understood the resulting risks. Children must never play with the appliance. Children must never clean the appliance or perform user maintenance unless they are supervised.



#### **WARNING Injury**

For safety reasons, only operate the appliance with the front casing closed.



#### Note

The DHW cylinder is under supply pressure. During the heat-up process, expansion water will drip from the safety valve.

► If water continues to drip when heating is completed, please inform your qualified contractor.

#### 2.3 Test symbols

See type plate on the appliance.

### 3. Appliance compatibility

The appliance can be operated in conjunction with the following air | water heat pumps:

- WPI 13 F
- WPL 10 AC (S)
- WPL 15-25 AC (S), WPL 15-25 A (S)
- WPL 19/24 IK
- WPL 07-17 ACS classic
- HPA-0 7-13 (C/S/CS) Premium

### 4. Appliance description

The buffer cylinder and DHW cylinder with indirect coil are arranged one above the other and can be separated for easier handling.

The appliance has a plastic jacket with foam insulation and is equipped with a removable front casing. The appliance is connected hydraulically and electrically to the heat pump. All hydraulic connections are made at the top.

In addition to the DHW cylinder and the buffer cylinder, further system components are integrated:

- Heat pump manager
- Cylinder primary pump
- Highly efficient circulation pump for a heating circuit without mixer
- Multifunction assembly with safety valve and 3-way diverter valve
- Emergency/booster heater for mono energetic operation

#### DHW cylinder

The steel cylinder is coated on the inside with special direct enamel and is equipped with a signal anode. The anode with consumption indicator protects the cylinder interior from corrosion.

The heating water heated by the heat pump is pumped through an indirect coil inside the DHW cylinder. The heat channelled through the indirect coil is thus transferred to the domestic hot water. The integral heat pump manager regulates the DHW heating to the required temperature.

#### **Buffer cylinder**

The steel cylinder provides hydraulic separation between the flow rates of heat pump and heating circuit. The heating water heated by the heat pump is transferred into the buffer cylinder by the cylinder charging pump. When a demand is issued, the integral heating circuit pump delivers the heating water to the heating circuit.

#### Heat pump manager (WPM)

The system is controlled by means of the integral heat pump manager.

The heat pump manager is suitable for the control of a direct heating circuit and a heating circuit with mixer.

You can set the times and temperatures for heating operation and heating DHW. Remote controls for controlling the direct heating circuit and the heating circuit with mixer are available as accessories.

For detailed information, see the enclosed operating and installation instructions for the WPM heat pump manager.

#### Multifunction assembly (MFG)

The multifunction assembly switches between heating circuit and DHW heating.

### **OPERATION**

## Settings

### 5. Settings



#### **Material losses**

The system's active frost protection is not guaranteed if the power supply is interrupted.

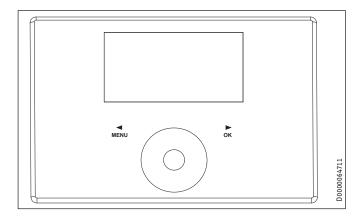
► Never interrupt the power supply even outside the heating season.



#### Note

The heat pump manager has an automatic summer/winter changeover so you can leave the system switched on in summer.

The system is controlled by means of the integral heat pump manager. Please observe the heat pump manager operating and installation instructions.



### 6. Cleaning, care and maintenance

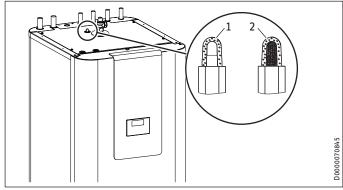
- ► Have the electrical safety of the appliance and the function of the safety assembly regularly checked by a qualified contractor.
- Never use abrasive or corrosive cleaning agents. A damp cloth is sufficient for cleaning the appliance.

#### Signal anode with consumption indicator



#### **Material losses**

If the consumption indicator changes colour from white to red, have the signal anode checked by a qualified contractor and if necessary replaced.



- 1 White = Anode OK
- 2 Red = Requires checking by qualified contractor

#### **Scaling**

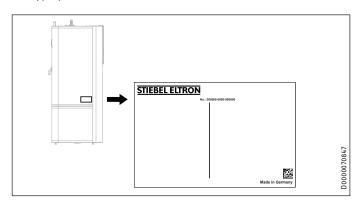
Almost every type of water will deposit limescale at high temperatures. This settles inside the appliance and affects both the performance and service life. A qualified contractor who knows the local water quality will tell you when the next service is due.

- ► Check the taps regularly. Limescale deposits at the tap outlets can be removed using commercially available descaling agents.
- ► Regularly activate the safety valve to prevent it from becoming blocked, e.g. by limescale deposits.

### 7. Troubleshooting

Problem	Cause	Remedy
The water does not heat up. The heating does not work.	There is no power.	Check the fuses/MCBs in your fuse box/distribution panel.

If you cannot remedy the fault, notify your qualified contractor. To facilitate and speed up your request, provide the number from the type plate (000000-0000-000000).



## Safety

# **INSTALLATION**

### 8. Safety

Only a qualified contractor should carry out installation, commissioning, maintenance and repair of the appliance.

#### 8.1 General safety instructions

We guarantee trouble-free function and operational reliability only if original accessories and spare parts intended for the appliance are used.

#### 8.2 Instructions, standards and regulations



#### Note

Observe all applicable national and regional regulations and instructions.

### 9. Appliance description

### 9.1 Standard delivery

The following are delivered with the appliance:

- Operating and installation instructions for the WPM heat pump manager
- Outside temperature sensor AF PT
- 4 adjustable feet

#### 9.2 Accessories

#### Required accessories

Safety assemblies and pressure reducing valves are available to suit the prevailing supply pressure. These type-tested safety assemblies protect the appliance against impermissible excess pressure.

Required for area cooling:

- Temperature sensor PT1000
- FET remote control

#### **Further accessories**

- Pump assembly for a heating circuit with mixer HSBC-HKM
- Remote control for heating operation
- High limit safety cut-out STB-FB
- Pressure hoses
- Water softener HZEA

### 10. Preparations

#### 10.1 Installation site



#### Material losses

Never install the appliance in wet rooms.

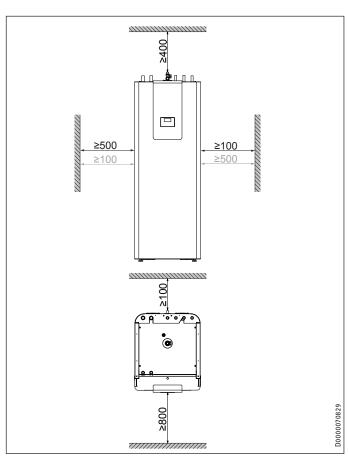
Install the appliance near the draw-off point in a dry room free from the risk of frost. To reduce line losses, keep the distance short between the appliance and the heat pump.

Ensure the floor has sufficient load-bearing capacity and evenness (for weight, see chapter "Specification / Data table").

The room must not be subject to a risk of explosions arising from dust, gases or vapours.

If you are installing the appliance in a boiler room together with other heating equipment, ensure that the operation of other heating equipment will not be impaired.

#### Minimum clearances



The minimum side clearances can be swapped to left or right.

## **Preparations**

### 10.2 Transport and handling

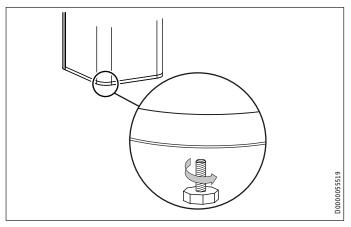


#### **Material losses**

Store and transport the appliance at temperatures of -20  $^{\circ}\text{C}$  to +60  $^{\circ}\text{C}$ .

#### Handling

▶ Undo the 4 screws from the non-returnable pallet.

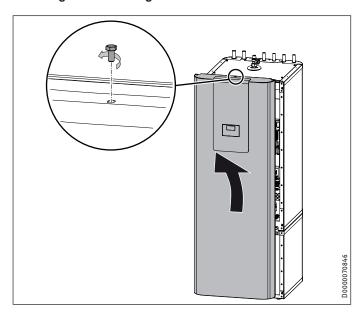


- ► Tilt the appliance and wind the 4 adjustable feet into the appliance.
- ► Lift the appliance off the pallet. For a better hold during transport, use the recessed grips on the underside and rear of the appliance.

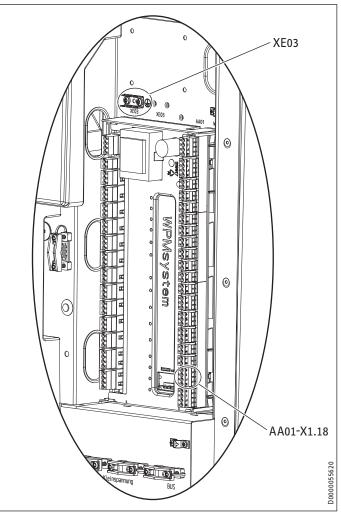
If narrow doors or hallways hinder handling, you can separate the upper and lower sections of the appliance as described in the following chapters.

#### 10.2.1 Removing / fitting the front casing

#### Removing the front casing



- ► Remove the screw at the top in the middle of the appliance.
- ▶ Unhook the front casing towards the top.



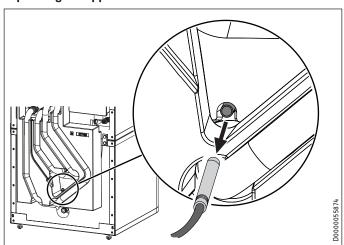
► Detach the plug of the electronic assembly for operation (AA01-X1.18) and the earth connection (XE03) on the heat pump manager.

#### Fitting the front casing

Fit the front casing in reverse order.

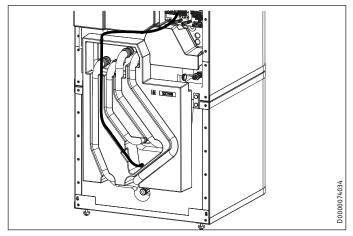
### 10.2.2 Separating / joining the appliance sections

#### Separating the appliance sections

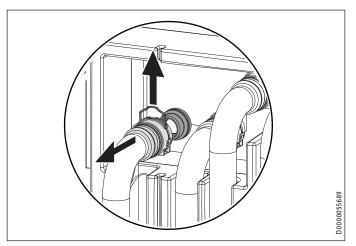


▶ Pull the "heating sensor" out of the buffer cylinder.

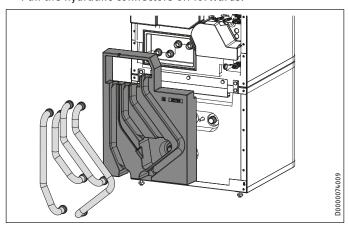
## **Preparations**



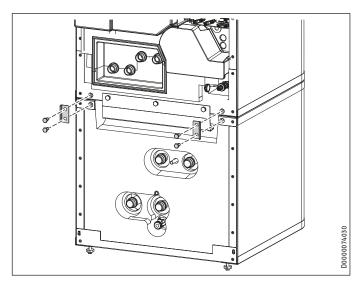
► Release the sensor lead from the guide groove in the insulation segment.



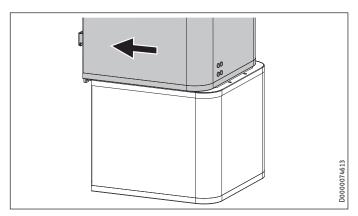
- ▶ Disconnect the push-fit connectors of the 4 hydraulic connections. To do this, pull the spring clips fully out with a screwdriver.
- ► Pull the hydraulic connectors off forwards.



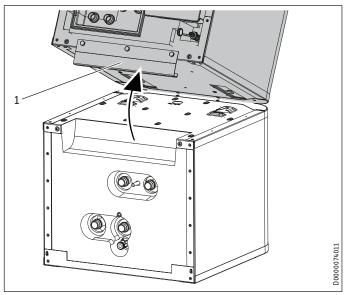
▶ Remove the 4 hydraulic hoses and the insulation segment.



▶ Release the 4 screws on the tabs at the front of the appliance.

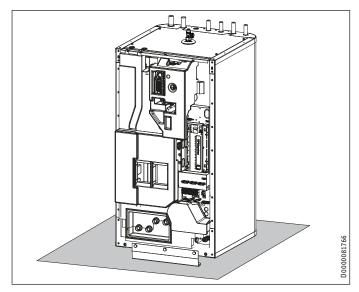


▶ Pull the upper section of the appliance towards the front.



- 1 Handle
- ► Tip the upper section of the appliance backwards. Use the handle for improved grip.

## **Preparations**

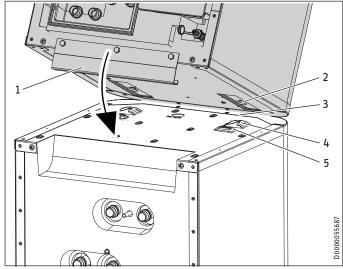


► Place the upper section of the appliance on a base to prevent damage.

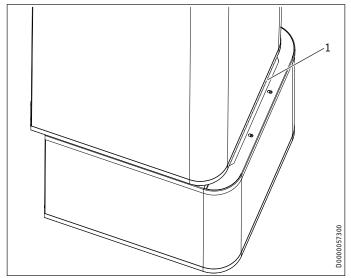
#### Joining appliance sections

Rejoin the appliance sections in reverse order.

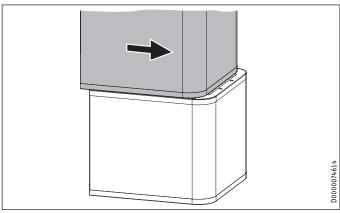
The positioning aids and the dotted line marking provide assistance when positioning and inserting the upper appliance section into the guide groove on the lower section:



- 1 Handle
- 2 Guide pin
- 3 Dotted line (perforation in the panel)
- 4 Guide groove
- 5 Positioning aid



- 1 Dotted line (perforation in the panel)
- ► Place the upper appliance section onto the lower appliance section along the dotted line.



- ► Slide the upper appliance section to the back until it is flush with the lower appliance section. If the appliance sections are joined correctly, the final position is determined by the guide groove and guide pin.
- ► Secure the tabs on the appliance front.
- Fit the insulation segment and the 4 hydraulic hoses.
- ► Connect the push-fit connectors of the 4 hydraulic connections. Ensure that the spring clips click into place.
- ► Insert the "heating sensor" into the buffer cylinder.
- ► Lay the sensor lead in the guide groove provided for this purpose in the insulation segment.

### Installation

### 11. Installation

#### 11.1 Positioning the equipment

- ► When positioning the appliance, observe minimum clearances (see chapter "Preparations / Installation site").
- Use the adjustable feet to compensate for any unevenness in the floor.

#### 11.2 Heating water connection and safety valve

#### 11.2.1 Safety instructions



#### **Material losses**

The heating system to which the appliance is connected must be installed by a qualified contractor in accordance with the water installation drawings in the technical guides.



#### **Material losses**

When fitting additional shut-off valves, install a further safety valve in an accessible location on the heat generator itself or in the flow line in close proximity to the heat generator.

There must be no shut-off valve between the heat generator and the safety valve.

#### Oxygen diffusion



#### **Material losses**

Avoid open heating systems and plastic pipes in underfloor heating systems which are permeable to oxygen.

In underfloor heating systems with plastic pipes that are permeable to oxygen and in open vented heating systems, oxygen diffusion may lead to corrosion on the steel components of the heating system (e.g. on the indirect coil of the DHW cylinder, on buffer cylinders, steel heating elements or steel pipes).



#### **Material losses**

The products of corrosion (e.g. rusty sludge) can settle in the heating system components and can result in a lower output or fault shutdowns due to reduced cross-sections.

#### **Supply lines**

- ► The maximum permissible line length between the appliance and the heat pump will vary, depending on the version of the heating system (pressure drop). As a standard value, assume a maximum line length of 10 m and a pipe diameter of 22-28 mm.
- ► Protect the flow and return lines against frost with sufficient thermal insulation.
- ► Also protect all supply lines/cables against humidity, damage and UV radiation by means of a conduit.
- ► Connect the hydraulic connections with flat gaskets.

Pressure hoses against structure-borne sound transmission:

The appliance and the heat pump are connected to each other hydraulically via pipes carrying heating water. To reduce the transmission of structure-borne sound on the water side, connect the appliance to the heat pump with pressure hoses (not required for WPL 15-25 A).

#### Pressure differential:

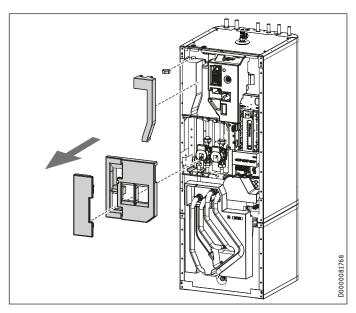
If the available external pressure difference is exceeded, the pressure drop in the heating system could result in a reduced heating output.

- ► When sizing the pipes, ensure that the available external pressure differential is not exceeded (see chapter "Specification / Data table").
- When calculating the pressure drop, take account of the flow and return lines and the pressure drop of the heat pump. The pressure drop must be covered by the available pressure differential.

#### 11.2.2 Fitting the pump assembly (accessory) if required

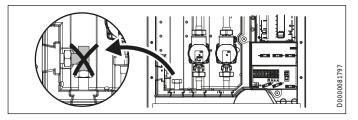
To extend the appliance with a heating circuit with mixer, you can install pump assembly HSBC-HKM (available as accessory).

- Connection pipes
- Pre-fitted contact thermostat
- Heating circuit pump
- 3-way mixer with servomotor
- 2 plastic fixing aids
- Operating and installation instructions for the heating circuit pump

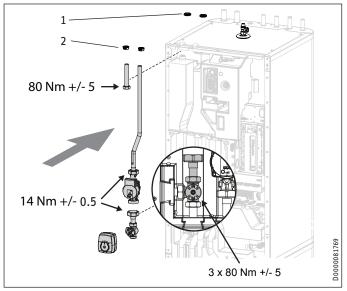


- ► Remove the EPS profiles from the HSBC side.
- Remove the union nut at the mixed heating return connection.

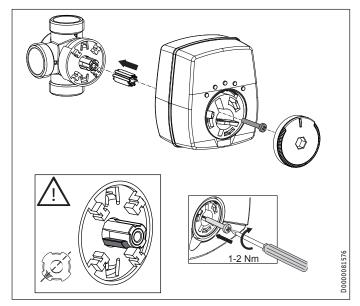
### Installation



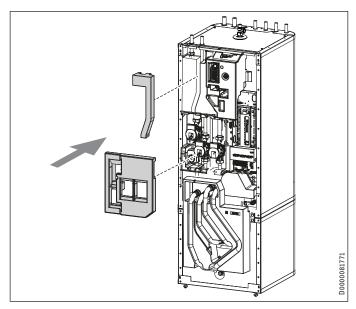
► Remove the tee at the mixed heating flow connection of the buffer cylinder.



- 1 Dummy plug
- 2 Plastic fixing aid
- ► Replace the dummy plugs with the enclosed plastic fixing aids at the mixed heating flow and return connections.
- Fit the pump assembly connection pipes.



► When installing the servomotor, ensure the drive cam is positioned correctly.



► Insert the EPS profiles on the HSBC side.

Observe the parameter settings in menu "SETTINGS / HEATING / HEATING CIRCUIT 2" in the enclosed operating and installation instructions for the heat pump manager.

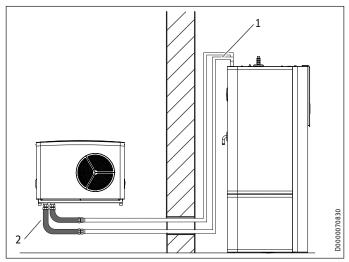
#### Electrical connection of pump assembly

► See chapter "Installation / Electrical connection / Control voltage".

### Installation

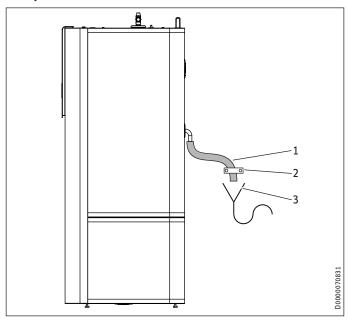
#### 11.2.3 Connection

Installation example:



- 1 Pipes carrying heating water
- 2 Pressure hose (available as accessory)
- ► Thoroughly flush the pipes before connecting the heat pump. Foreign bodies (e.g. welding pearls, rust, sand, sealant, etc.) can impair the operational reliability of the heat pump.
- ► Install the heating water pipes (see chapter "Specification / Dimensions and connections").

#### Safety valve



- 1 Drain hose
- 2 Fasteners (not part of the standard delivery)
- 3 Drain (not part of the standard delivery)
- Size the drain hose so that water can drain off unimpeded when the safety valve is fully opened.
- Ensure that the safety valve drain hose is open to the outside.
- ► Lay the safety valve drain hose with a constant fall to the drain.
- Secure the drain hose to prevent any hose movement while water is discharged.

#### 11.3 DHW connection and safety assembly

#### 11.3.1 Safety instructions

(!)

#### **Material losses**

The maximum permissible pressure must not be exceeded (see chapter "Specification / Data table").



#### **Material losses**

Operate the appliance only with pressure-tested taps.



#### Material losses

Install the T&P valve.



#### **Material losses**

The tundish and the discharge pipe should be installed away from electrical devices.



#### Note

If secondary return circuits are used then an additional expansion vessel may be required.



#### Note

The use of non-return valves in the charging circuits between the heat generator and the buffer or DHW cylinder can impair the function of the integral multifunction assembly (MFG) and lead to faults in the heating system.

► Only use our standard hydraulic solutions for the installation of the appliances.

#### Cold water line

Galvanised steel, stainless steel, copper and plastic are approved materials.



#### Material losses

A safety valve is required.

#### DHW line. DHW circulation line

Stainless steel, copper and plastic are approved materials.

#### 11.3.2 Installing the DHW circulation line, if applicable

A DHW circulation line with external DHW circulation pump can be fitted to the DHW circulation connection (see chapter "Specification / Dimensions and connections").

- Remove the sealing cap from the DHW circulation connection (see chapter "Specification / Dimensions and connections").
- ► Connect the DHW circulation line.

### Installation

#### 11.3.3 DHW connection and safety assembly

- Flush the pipes thoroughly.
- ► Install the DHW outlet line and the cold water inlet line (see chapter "Specification / Dimensions and connections"). Connect the hydraulic connections with flat gaskets.
- ► Install a type-tested safety valve in the cold water inlet line. Please note that, depending on the supply pressure, you may also need a pressure reducing valve.
- ► Size the drain pipe so that water can drain off unimpeded when the safety valve is fully opened.
- ► The safety valve discharge aperture must remain open to atmosphere.
- ► Install the safety valve drain pipe with a constant fall to the drain.

#### 11.4 Filling the system

#### Heating circuit water quality

Carry out a fill water analysis before the system is filled. This analysis may, for example, be requested from the relevant water supply utility.

To avoid damage as a result of scaling, it may be necessary to soften or desalinate the fill water. The fill water limits specified in chapter "Specification / Data table" must always be observed.

Recheck these limits 8-12 weeks after commissioning and during the annual system service.



#### Note

With a conductivity >1000  $\mu$ S/cm, desalination treatment is recommended in order to avoid corrosion.



#### Note

If you treat the fill water with inhibitors or additives, the same limits as for desalination apply.



#### Note

Suitable appliances for water softening, as well as for filling and flushing heating systems, can be obtained via trade suppliers.



#### Material losses

Never switch on the power before filling the system.

#### 11.4.1 Flushing out the hot water system

Before turning on the water supply, open all taps. Allow the system to fill and flush out all flux and debris from the installation.

#### 11.4.2 Filling the heating system



#### Note

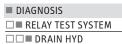
Fill the heating system only via the lower drain valve on the buffer cylinder.

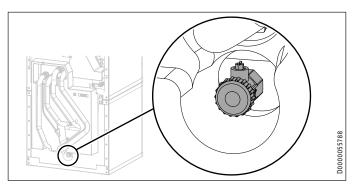
In the delivered condition, the 3-way diverter valve of the multifunction assembly is in its middle position, so that the heating circuit and the heat exchanger for DHW heating are filled evenly. When power is switched on, the 3-way diverter valve automatically switches to heating mode.

To fill or drain the system later, you must first place the 3-way diverter valve into its centre position.

To set the heat pump manager:

- ▶ With the MENU key, call up the main menu.
- ► Select the menu or value and confirm with OK:





- Fill the heating system via the drain valve.
- ► Vent the pipework.

#### 11.4.3 Filling the DHW cylinder



#### **Material losses**

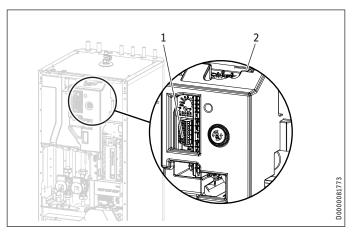
Some fluxes used to solder pipes and fittings need to be flushed out with hot water.

- ► Heat the cylinder to its normal operating temperature and flush all pipe work with hot water to ensure all flux and debris is removed from the system.
- ► Fill the DHW cylinder via the the drain valve in compliance with the UK Water Supply (Water Fittings) Regulations 1999, Section 8 G24.
- ► Open all downstream draw-off valves/taps until the appliance is full and the pipework is free of air.
- ► Adjust the flow rate. For this, observe the maximum permissible flow rate with a fully opened tap (see chapter "Specification / Data table"). If necessary reduce the flow rate at the butterfly valve of the safety assembly.
- ► Carry out a tightness check.
- ► Check the safety valve.

### Power supply

### 11.5 Venting the appliance

► To ventilate, temporarily open the quick-action air vent valve in the multifunction assembly.



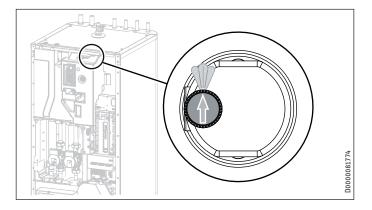
- 1 PCB
- 2 Quick-action air vent valve



#### **Material losses**

The air vent in the knurled cap of the quick-action air vent valve must not point towards the multifunction assembly PCB.

Turn the air vent in the direction shown in the following diagram.





#### **Material losses**

Close the quick-action air vent valve again after venting.

### 12. Power supply



#### **WARNING Electrocution**

Carry out all electrical connection and installation work in accordance with relevant regulations.

Before any work on the appliance, disconnect all poles

from the power supply.



#### **WARNING Electrocution**

Only use a permanent connection to the power supply. Ensure the appliance can be separated from the power supply by an isolator that disconnects all poles with at least 3 mm contact separation. This requirement can be met with contactors, circuit breakers, fuses/MCBs, etc.



#### **Material losses**

Provide separate fuses for the two power circuits of the appliance and the control unit.



#### **Material losses**

Provide separate fuses/MCBs for the two power circuits, i.e. for the compressor and the electric emergency/booster heater circuits.



#### **Material losses**

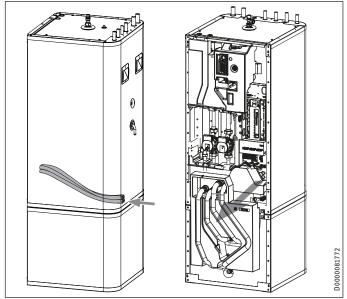
Observe the type plate. The specified voltage must match the mains voltage.



#### Note

Permission to connect the appliance may need to be obtained from your local power supply utility.

The terminal box of the appliance is located behind the front casing (see chapter "Preparations / Transport and handling / Removing / fitting the front casing").



- Route all power cables and sensor leads into the appliance through the cable entry.
- Connect the power cables and sensor leads as detailed below.

## Power supply

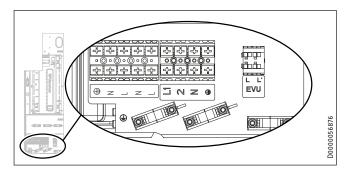
Install cables with the following cross-sections in accordance with the respective fuse rating:

MCB/fuse rating	Assignment	Cable cross-section
B 16 A	Electric emergency/ booster heater (DHC)	2.5 mm <sup>2</sup> 1.5 mm <sup>2</sup> when routing a multi-core cable on a wall or in an electrical conduit on a wall
B 16 A	Control unit	1.5 mm <sup>2</sup>

# 12.1 Electric emergency/booster heater and control voltage

Appliance function	Effect of the electric emergency/booster heater
Mono energetic operation	If the heat pump undershoots the dual mode point, the electric emergency/booster heater safeguards both the heating operation and the delivery of high DHW temperatures.
Emergency mode	Should the heat pump suffer a fault that prevents its continued operation, the heating output will be covered by the electric emergency/booster heater.

#### **Electrical connection**



XDO2 Electric emergency/booster heater (DHC)

Connected load	Cable cross-section	Tern	ninal	assig	nment	t
2.9 kW	2.5 mm <sup>2</sup>	PE			N	L
5.9 kW	2.5 mm <sup>2</sup>	PE			N	<u>L</u>
	2.5 mm <sup>2</sup>	PE	N			

► Connect the cables for the electrical emergency/booster heater with the desired rating as in the table.

#### **Control voltage**

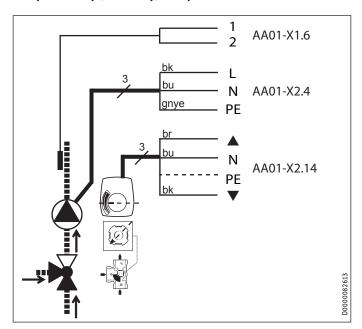


#### **Material losses**

► Only connect energy efficient circulation pumps approved by us to the pump connections.

XD01.2	Heat pum	o enable signal
	EVU	Enable signal

#### Pump assembly (accessory) if required



## Power supply

#### Heat pump manager terminal assignment

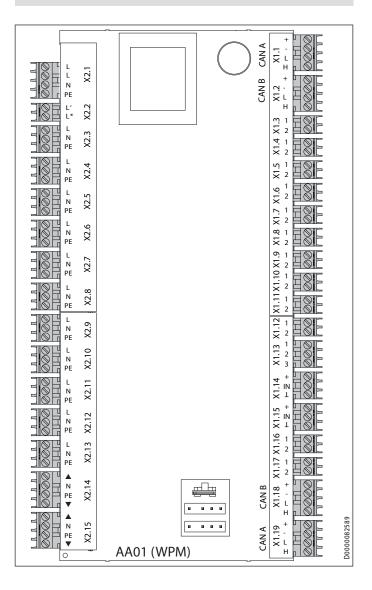


#### **WARNING Electrocution**

Only components that operate with safety extra low voltage (SELV) and that ensure secure separation from the mains voltage supply may be connected to the low voltage terminals of the appliance.

Connecting other components can make parts of the appliance and connected components live.

Only use components which have been approved by us.



Safety	extra low vol	tage	
X1.1	+	+	CAN (connection for heat pump and WPE heat
CAN A	-	-	pump extension)
	L	L	
	H	<u> H</u>	
X1.2	+	+	CAN (connection for FET remote control and
CAN B	-	-	ISG Internet Service Gateway)
	L H	L H	
V1.2			0
X1.3	Signal Earth	1 2	Outside temperature sensor
X1.4	Signal	- <u>-</u>	Buffer sensor (heating circuit sensor 1)
X1.4	Earth	2	bullet sellsof (heating circuit sellsof 1)
X1.5	Signal	- <del>-</del> -	Flow sensor
7(1.5	Earth	2	Trow sensor
X1.6	Signal	- <u>-</u>	Heating circuit sensor 2
	Earth	2	C
X1.7	Signal	1	Heating circuit sensor 3
	Earth	22	
X1.8	Signal	1	DHW cylinder sensor
	Earth	2	
X1.9	Signal	1	Source sensor
	Earth	_ 2	
X1.10	Signal	1	Heat generator 2
	Earth	_ 2	
X1.11	Signal	1	Cooling flow
X1.12	Earth	$-\frac{2}{1}$	DHW circulation sensor
Λ1.12	Signal Earth	2	DHW Circulation Sensor
X1.13	Signal	- <del>2</del>	FE7 remote control / telephone remote
X1.13	Earth	2	switch / heating curve optimisation / SG Ready
	Signal	3	Juneary Searce optimization / 50 means
X1.14	Constant 12 V	+	Analogue input 0-10 V
	Input	IN	
	GND		
X1.15	Constant 12 V	+	Analogue input 0-10 V
	Input	IN	
	GND		
X1.16	Signal	1	PWM output 1
	Earth	_ 2	-
X1.17	Signal Earth	1 2	PWM output 2
V1 10	+		CAN (
X1.18 CAN B	-	+	CAN (connection for FET remote control and ISG Internet Service Gateway)
CAND	L	L	130 micriet service dateway)
	H	H	
X1.19	+	+	CAN (connection for heat pump and WPE heat
CAN A	-	-	pump extension)
	L	L	
	П	ш	

## Power supply

Mains	voltage		
X2.1	L L N PE	L L N	Power supply
X2.2	L' (power supply utility input)	Ľ	L' (power supply utility input)
	_ L* (pumps L)	<u>L* (pumps L)</u>	L* (pumps L)
X2.3	L N PE	L N ⊕ PE	Heating circuit pump 1
X2.4	L N PE	L N PE	Heating circuit pump 2
X2.5	L N PE	L N PE	Heating circuit pump 3
X2.6	L N PE	L N ⊕ PE	Buffer charging pump 1
X2.7	L N PE	L N PE	Buffer charging pump 2
X2.8	L N PE	L N ⊕ PE	DHW charging pump
X2.9	L N PE	L N PE	Source pump/defrost
X2.10	L N PE	L N ⊕ PE	Fault output
X2.11	L N PE	L N ④ PE	DHW circulation pump / 2nd heat source DHW
X2.12	L N PE	L N ⊕ PE	2nd heat source heating
X2.13	L N PE	L N ⊕ PE	Cooling
X2.14	Mixer OPEN N PE Mixer CLOSE	N ⊕ PE	Mixer heating circuit 2 (X2.14.1 Mixer OPEN X2.14.2 Mixer CLOSE)
X2.15	Mixer OPEN N PE Mixer CLOSE	N ⊕ PE ▼	Mixer heating circuit 3 (X2.15.1 Mixer OPEN X2.15.2 Mixer CLOSE)



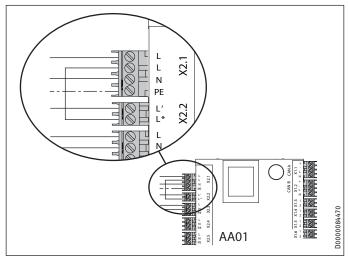
### Note

For every appliance fault, output X2.10 issues a 230 V signal.

In the case of temporary faults, the output switches the signal through for a specific time.

In the case of faults that result in a permanent appliance shutdown, the output switches through permanently.

# If required, STB-FB high limit safety cut-out accessory for underfloor heating systems



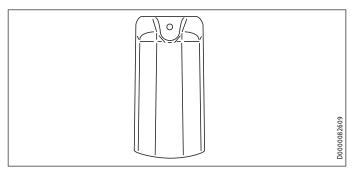
- ► Remove the jumper at AA 01 between X 2.1 (L) and X 2.2 (L\*).
- ► Connect the STB-FB high limit safety cut-out to AA 01 between X 2.1 (L) and X 2.2 (L\*).

### Power supply

#### 12.2 Sensor installation

#### 12.2.1 Outside temperature sensor AF PT

The outside temperature sensors have a significant influence on the function of your heating system. Therefore ensure that the outside temperature sensors are correctly positioned and well insulated.



- Install the outside temperature sensor on a north or north-eastern wall.
- Ensure that the outside temperature sensor is freely exposed to the elements but not placed in direct sunlight.
- Never mount the outside temperature sensor above windows, doors or air ducts.
- Observe the following minimum clearances: 2.5 m above the ground and 1 m to the side of windows and doors

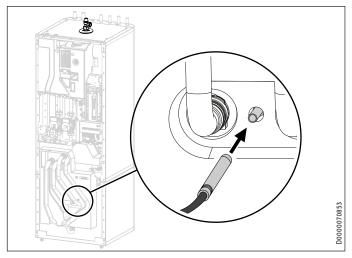
#### Installation

- ► Remove the cover.
- ► Secure the base with the screw supplied.
- ► Connect the outside temperature sensor to AA01-X1.3.
- ► Replace the cover. The cover must audibly click into place.

## 12.2.2 Fitting the temperature sensor (accessory) for area cooling

Area cooling requires the fitting of a temperature sensor, available as an accessory.

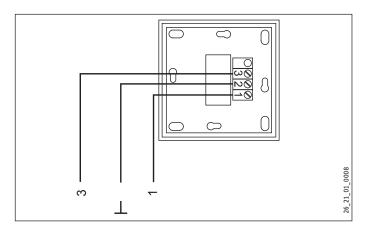
► Remove the front casing (see chapter "Preparations / Transport and handling / Removing / fitting the front casing").



- ► Insert the temperature sensor into the sensor well "Sensor heat pump cooling, optional".
- ► Connect the temperature sensor to AA01-X1.11.

#### 12.3 Remote control

#### 12.3.1 FE 7 remote control

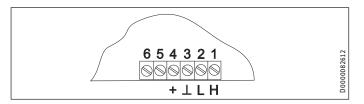


With the FE 7 remote control you can adjust the set room temperature for heating circuit 1 or heating circuit 2 by  $\pm$  5 °C in automatic mode only. You can also select the operating mode.

► Connect the remote control to terminal AA01-X1.13.

## Commissioning

#### 12.3.2 FET remote control



With the FET remote control you can select the operating mode and change the set room temperature for heating circuit 1 or heating circuit 2 by ± 5 °C.

► Connect the remote control to terminal AA01-X1.2.

### 13. Commissioning

Our customer support can assist with commissioning, which is a chargeable service.

If the appliance is intended for commercial use, observe the rules of the relevant Health & Safety at Work Act during commissioning. For further details, check with your local authorising body.

### 13.1 Checks before commissioning the heat pump manager



#### **Material losses**

Observe the maximum system temperature in underfloor heating systems.

- ► Check that the heating system is filled to the correct pressure and the quick-action air vent valve is closed.
- ► Check whether the outside temperature sensor is correctly placed and connected.
- ► Check whether the power supply is connected correctly.
- ► Check whether the signal cable to the heat pump (bus cable) is correctly connected.

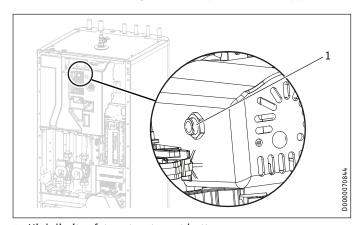
#### High limit safety cut-out



#### Note

At temperatures below -15 °C the high limit safety cut-out may respond. The appliance may be subjected to these temperatures during storage or transport.

► Check whether the high limit safety cut-out has tripped.



1 High limit safety cut-out reset button

#### 13.2 Commissioning the heat pump manager

Commission the heat pump manager and make all settings in accordance with the operating and installation instructions for the heat pump manager.



Note
For DHW mode, ensure that the PARALLEL OPERATION option is set in the heat pump manager. With this setting the primary pump is also active in DHW mode.

To set the heat pump manager:

- ▶ With the MENU key, call up the main menu.
- ► Select the menu or value and confirm with OK:

■ SETTINGS	Value
□■DHW	
□□■ STANDARD SETTING	
□□□■ DHW MODE	PARALLEL OPERATION



On appliances with a single phase connection, set the heat pump manager as follows for calculating the amount of heat.

To set the heat pump manager:

- ▶ With the MENU key, call up the main menu.
- ► Select the menu or value and confirm with OK:

■ SETTINGS	Value
□ ■ HEATING	
□□■ ELECTRIC REHEATING	
□□□■ NUMBER OF STAGES	2

#### Area cooling setting



#### **Material losses**

Condensation caused by the temperature falling below the dew point can lead to material losses. HSBC is therefore exclusively approved for area cooling.

Adjusting the heat pump manager settings for area cooling:

- ▶ With the MENU key, call up the main menu.
- ► Select the menu or value and confirm with OK:

■ SETTINGS	Value
□ ■ COOLING	
□□■ COOLING	ON
□□■ STANDARD SETTING	
□□□■ COOLING CAPACITY	system specific
□□■ ACTIVE COOLING	
□□□■ AREA COOLING	ON
□□□□■ SET FLOW TEMPERATURE	system specific
□□□□■ FLOW TEMP HYSTERESIS	system specific
□□□□■ SET ROOM TEMPERATURE	system specific

## Commissioning

### 13.3 Circulation pumps Wilo-Para .../Sc

#### Indicator lights (LEDs)

	Signal display: LED is lit up in green in normal operation LED lights up/flashes in case of a fault
	Display of selected control mode Δp-v, Δp-c and constant speed
_ = =	Display of selected pump curve (I, II, III) within the control mode
	LED indicator combinations during the pump venting function, manual restart and key lock
- = =	

#### Operating button



#### Press

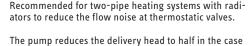
Select control mode Select pump curve (I, II, III) within the control mode

#### Press and hold

Activate the pump venting function (press for 3 seconds) Activate manual restart (press for 5 seconds) Lock/unlock button (press for 8 seconds)

#### **Control modes and functions**

Variable differential pressure ∆p-v (I, II, III)





of decreasing volume flow in the pipe network. Electrical energy saving by adjusting the delivery head to the volume flow requirement and lower flow rates. There are three pre-defined pump curves (I, II, III) to choose from.

Constant differential pressure ∆p-c (I, II, III)

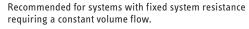


Recommended for underfloor heating for large-sized pipes or all applications without a variable pipe network curve (e.g. storage charge pumps), as well as single-pipe heating systems with radiators.

The control keeps the set delivery head constant irrespective of the pumped volume flow.

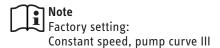
There are three pre-defined pump curves (I, II, III) to choose from.

Constant speed (I, II, III)





The pump runs in three prescribed fixed speed stages (I, II, III).



#### **Venting**



Fill and vent the system correctly.



If the pump does not vent automatically: Activate the pump venting function via the operating button: press and hold for 3 seconds, then release. The pump venting function is initiated and lasts 10 minutes.

The top and bottom LED rows flash in turn at 1 second intervals.



To cancel, press and hold the operating button for 3 seconds.



#### Note

After venting, the LED display shows the previously set values of the pump.

#### Setting the control mode

#### Select control mode



The LED selection of control modes and corresponding pump curves takes place in clockwise succession.

Press the operating button briefly (approx. 1 second). LEDs display the set control mode and pump curve.

The following shows the various possible settings:

Operating button	LED-Display	Control mode	Pump curve
1x		Constant speed	II
2x	- = =	Constant speed	1
3x	- = E	Variable differential pressure Δp-v	III
4x	- = = = = = = = = = = = = = = = = = = =	Variable differential pressure Δp-v	II
5x		Variable differential pressure Δp-v	I
6x	- = =	Constant differential pressure Δp-c	III
7x	- = = = = = = = = = = = = = = = = = = =	Constant differential pressure Δp-c	II
8x	- = = = = = = = = = = = = = = = = = = =	Constant differential pressure Δp-c	I
*9x		Constant speed	III
		-	

(\*) Pressing the button for the 9th time returns to the basic setting (constant speed / characteristic curve III).

### Shutdown

#### 13.4 Appliance handover

- Explain the appliance function to users and familiarise them with its operation.
- ► Make users aware of potential dangers.
- ► Hand over these instructions.

### 14. Shutdown



#### **Material losses**

Observe the temperature application limits and the minimum circulation volume on the heat consumer side (see chapter "Specification / Data table").



#### **Material losses**

If the heat pump and frost protection are completely switched off, drain the system (see chapter "Maintenance / Draining the DHW cylinder").

► If you take the system out of use, set the heat pump manager to standby so that the safety functions that protect the appliance (e.g. frost protection) remain active.

### 15. Maintenance



#### **WARNING Electrocution**

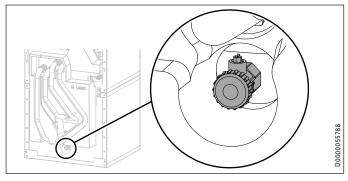
Carry out all electrical connection and installation work in accordance with relevant regulations.



#### WARNING Electrocution

Before any work on the appliance, disconnect all poles of the appliance from the power supply.

#### Draining the buffer cylinder



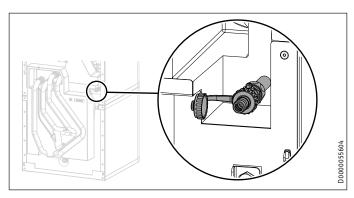
▶ Drain the buffer cylinder via the drain valve.

#### **Draining the DHW cylinder**



#### CAUTION Burns Hot water may escape during draining.

- ► Close the shut-off valve in the cold water inlet line.
- ▶ Open the hot water taps on all draw-off points.



▶ Drain the DHW cylinder via the drain valve.

#### Cleaning and descaling the DHW cylinder



#### **Material losses**

Never use descaling pumps or descaling agents to clean the cylinder.

► Clean the appliance through the inspection flange.

For the torque of the flange screws, see chapter "Specification / Dimensions and connections".

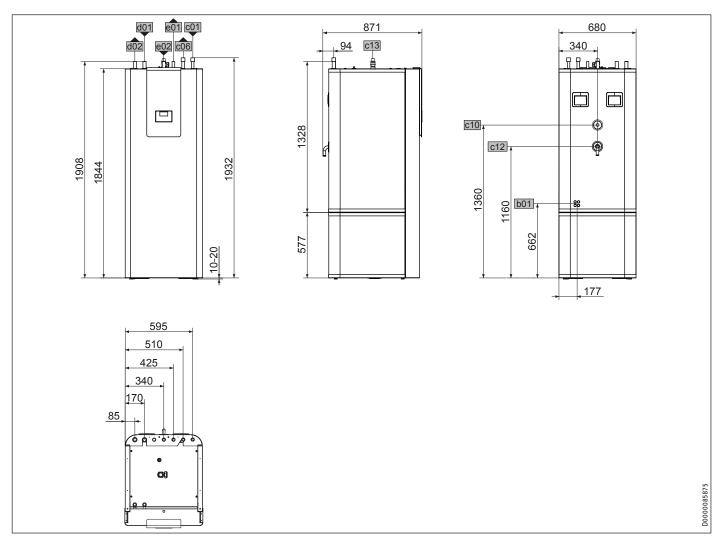
#### Replacing the signal anode

▶ Replace the signal anode if it becomes depleted.

## Specification

## 16. Specification

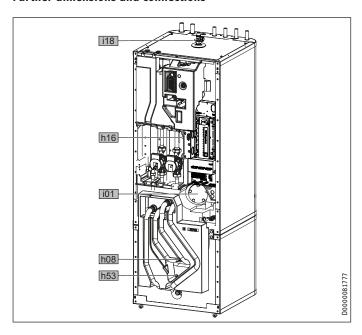
## **16.1** Dimensions and connections



				HSBC 200 S (AU)
b01	Entry electrical cables			
c01	Cold water inlet	Female thread		Rp 1
c06	DHW outlet	Female thread		Rp 1
c10	DHW circulation	Male thread		G 1/2
c12	Safety assembly drain	Diameter		22
c13	T&P valve	Female thread		Rp 3/4
d01	Heat pump flow	Diameter	mm	28
d02	Heat pump return	Diameter		28
e01	Heating flow	Diameter	mm	22
e02	Heating return	Diameter		22

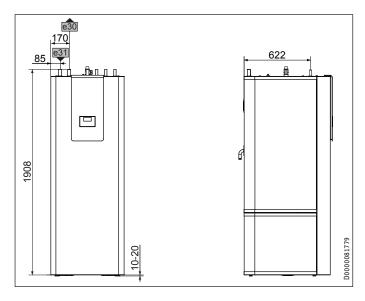
# Specification

#### **Further dimensions and connections**



				HSBC 200 S (AU)
h08	Sensor heat pump cooling, optional	Diameter	mm	9.5
h16	Sensor DHW	Diameter	mm	9.5
h53	Sensor heating	Diameter	mm	9.5
i01	Flange	Diameter	mm	140
		Pitch circle diameter	mm	120
		Screws		M 10
		Torque	Nm	55
i18	Protective anode			

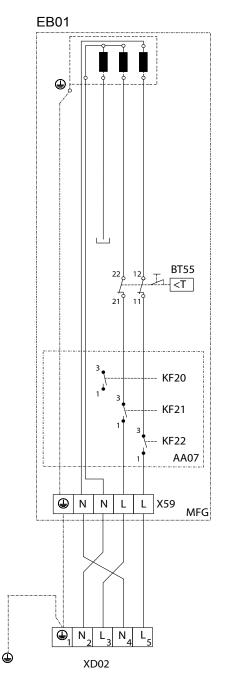
### 16.1.1 HSBC-HKM accessories

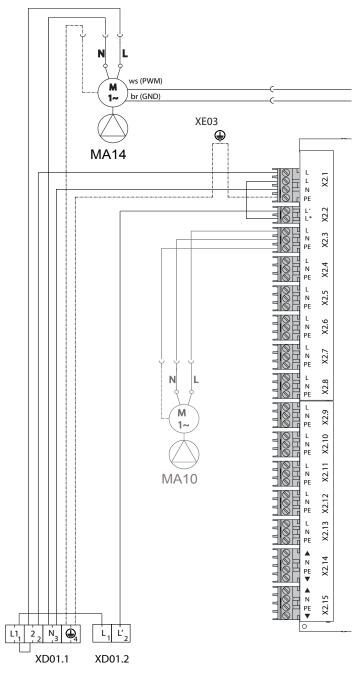


				HSBC-HKM
e30	Heating flow, mixed	Diameter	mm	22
e31	Heating return, mixed	Diameter	mm	22

## Specification

### 16.2 Wiring diagram

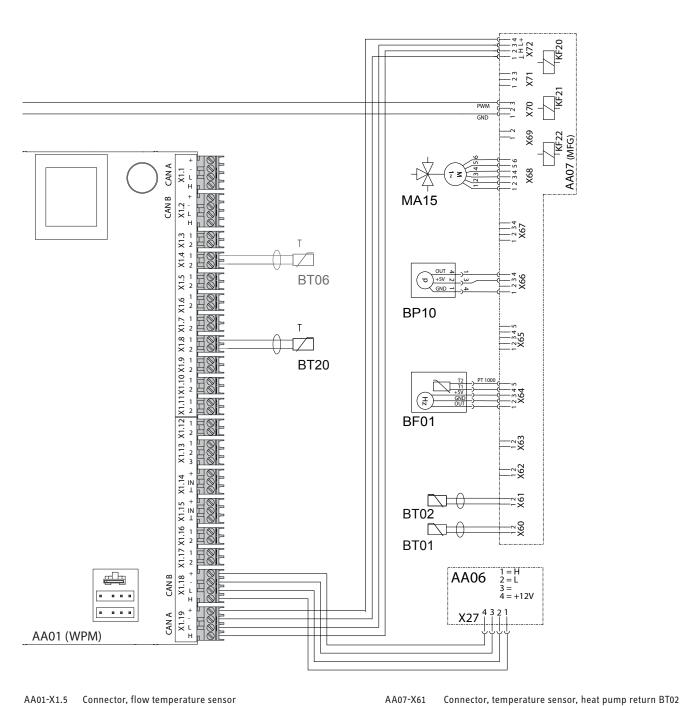




AA01	Extra low voltage (WPM heat pump manager)
AA06	Programming unit
AA07	PCB, booster heater MFG
EB01	Booster heater MFG (not for HSBB/HSBC 200 S BE)
BF01	Flow rate and temperature, heating circuit
BP10	Pressure sensor, heating circuit
BT01	Temperature sensor, heat pump flow
BT02	Temperature sensor, heat pump return
BT06	Temperature sensor, heat pump buffer cylinder (not for HSBB or TSBB eco)
BT20	Temperature sensor, DHW cylinder
BT55	High limit safety cut-out MFG (manual reset)
MA10	Motor, heating circuit pump (not for HSBB or TSBB eco)
MA14	Motor, buffer charging pump (PWM/1-10V)
MA15	Motor, diverter valve, heating/DHW
KEan	Ralay hooster heater MEG

KF21	Relay, booster heater MFG
KF22	Relay, booster heater MFG
XD01.1	Terminal, power supply
XD01.2	Terminal, power-OFF contact
XD02	Terminal, MFG power supply
XD04.2	Terminal, external low voltage
XD05	Terminal, bus
XD11	Control terminal
XD20	Terminal, power supply connection, internal
XE03	Earth terminal, control unit
AA01-X1.1	Connector, CAN A (WP connection)
AA01-X1.2	Connector, CAN B (FET/ISG connection)
AA01-X1.3	Connector, outside temperature sensor
AA01-X1.4	Connector, buffer temperature sensor BT06 (not for HSBB or TSBB eco)

## Specification



AA01-X1.6 AA07-X62 Connector, heating circuit temperature sensor 2 Not assigned - connector, temperature sensor, heat pump return AA01-X1.7 Connector, heating circuit temperature sensor 3 AA07-X63 Not assigned - connector, temperature sensor, DHW cylinder, internal AA01-X1.8 Connector, DHW cylinder sensor BT20 AA07-X64 Connector, temperature and flow rate, heating circuit, BF01 AA01-X1.9 Connector, source sensor AA07-X65 Not assigned AA01-X1.10 Connector, heat source 2 AA07-X66 Rast 2.5 connector (heating system pressure) BP01 AA01-X1.11 Connector, flow, cooling AA07-X67 Not assigned AA01-X1.12 Connector, DHW circulation sensor AA07-X68 Connector, switching, motor, diverter valve central heating / AA01-X1.13 Connector, remote control FE7 AA01-X1.14 Connector, analogue input 0-10 V AA07-X69 Not assigned AA01-X2.14 Connector, mixer, heating circuit 2 AA07-X70 Connector, switching, pump, heating circuit PWM/1-10V (X2.14.1 Mixer OPEN/X2.14.2 Mixer CLOSE) AA07-X71 Not assigned AA01-X2.15 Connector, mixer, heating circuit 3 (X2.15.1 Mixer OPEN/X2.15.2 Mixer CLOSE) AA07-X72 Connector, CAN bus AA06-X27 EB01-X59 Terminal, MFG Terminal, programming unit AA07-X60 Connector, temperature sensor, heat pump flow BT01

# Specification

### 16.3 Data table

		HSBC 200 S (AU)
		200024
Hydraulic data		
Nominal capacity, DHW cylinder	<u></u>	168
Nominal capacity, buffer cylinder	<u></u>	100
Surface, indirect coil	<u></u>	3,3
Content, indirect coil	<u></u>	21
External available pressure differential, circulation pump / heat pump at 1.0 m³/h	hPa	656
External available pressure differential, circulation pump / heat pump at 1.5 m³/h	hPa	527
External available pressure differential, circulation pump / heat pump at 2.0 m³/h	hPa	210
External available pressure differential, circulation pump / heating circuit 1 at 1.0 m³/h	hPa	725
External available pressure differential, circulation pump / heating circuit 1 at 1.5 m³/h	hPa	663
External available pressure differential, circulation pump / heating circuit 1 at 2.0 m³/h	hPa	444
External available pressure differential, circulation pump / heating circuit 2 (optional) at 1.0 m³/h	<u>hPa</u>	665
External available pressure differential, circulation pump / heating circuit 2 (optional) at 1.5 m³/h	<u>hPa</u>	518
External available pressure differential, circulation pump / heating circuit 2 (optional) at 2.0 m³/h	hPa	189
Application limits		
Max. permissible pressure, DHW cylinder	MPa	1,00
Test pressure, DHW cylinder	MPa	1,50
Max. throughput	<u>  I/min</u>	25
Max. permissible pressure, buffer cylinder	MPa	0,30
Test pressure, buffer cylinder	MPa	0,45
Max. permissible temperature	°C	95
Max. permissible temperature, primary side	°C	75
Heating water quality requirements		
Water hardness	<u>"dH</u>	≤3
pH value (with aluminium compounds)		8,0-8,5
pH value (without aluminium compounds)		8,0-10,0
Conductivity (softening)	μS/cm	<1000
Conductivity (desalinating)	μS/cm	20-100
Chloride	mg/l	<30
Oxygen 8-12 weeks after filling (softening)	mg/l	<0,02
Oxygen 8-12 weeks after filling (desalinating)	<u>mg/l</u>	<0,1
Power consumption	• • • • • • • • • • • • • • • • • • • •	
Power consumption, emergency/booster heater	kW	5,9
Max. power consumption, charging pump	<u>W</u>	60
Max. power consumption, circulation pump, heating side	W	60
Energy data	1,44	
Standby energy consumption/24 h at 65 °C	<u>kWh</u>	1,30
Electrical details		
Rated control voltage	V	230
Control phases		1/N/PE
Control circuit fuse	A	1 x B 16
Rated voltage, emergency/booster heater		230
Phases, emergency/booster heater		2/N/PE
Emergency/booster heater fuse	<u>A</u> Hz	2 x B 16
Frequency Versions	HZ	50
		IP20
IP-Rating Values	<u> </u>	1720
	MPa	0.05
T&P valve, nominal set pressure T&P valve, nominal set temperature		0,85
Dimensions		99
Height	mm	1908
Width		
Depth Depth		680 871
Height of unit when tilted	<u> mm</u>	2107
Weights		2107
Weight (wet)	ka	471
Weight (dry)	<u>kg</u> kg	203
recigne (un y)	<u></u>	203

# Specification

### **Further details**

		HSBC 200 S (AU)
		200024
Maximum altitude for installation	m	2000

### GUARANTEE | ENVIRONMENT AND RECYCLING

### **Guarantee**

The guarantee conditions of our German companies do not apply to appliances acquired outside of Germany. In countries where our subsidiaries sell our products a guarantee can only be issued by those subsidiaries. Such guarantee is only granted if the subsidiary has issued its own terms of guarantee. No other guarantee will be granted.

We shall not provide any guarantee for appliances acquired in countries where we have no subsidiary to sell our products. This will not affect warranties issued by any importers.

### **Environment and recycling**

We would ask you to help protect the environment. After use, dispose of the various materials in accordance with national regulations.

# Stiebel Eltron Warranty for Water Heaters - Model HSBC 200 S (AU)

#### Who gives the warranty

 The warranty is given by Stiebel Eltron (Aust) Pty Ltd (A.B.N. 82 066 271 083) of 294 Salmon Street, Port Melbourne, Victoria, 3207 ("we", "us" or "our").

#### The warranty

- This warranty applies to Stiebel Eltron Water Heaters Model HSBC 200 S (AU) (the "unit").
- Subject to the warranty exclusions we will repair or replace, at our absolute discretion, a faulty component in your unit free of charge if it fails to operate in accordance with its specifications during the warranty period.
- 4. If we repair or replace a faulty component to your unit under this warranty, the warranty period is not extended from the time of the repair or replacement.
- 5. The warranty period commences on the date of completion of the installation of the unit. Where the date of completion of installation is not known, then the warranty period will commence 2 months after the date of manufacture.
- The warranty period for a unit used for domestic purposes is shown in the table below. Domestic purposes means that the unit is used in a domestic dwelling.

Component	Warranty period
All components, excluding PTR valve	5 years from the date of completion of the installation of the unit.

7. The warranty period for a unit used for commercial purposes is shown in the table below. Commercial purposes means that the unit is used for a non-domestic purpose and includes but not limited to being used in a motel, hotel, mining camp or nursing home.

Component	Warranty period
All components, excluding PTR valve	1 year from the date of completion of the installation of the unit.

### GUARANTEE | ENVIRONMENT AND RECYCLING

#### Your entitlement to make a warranty claim

- 8. You are entitled to make a warranty claim if:
- 8.1. you own the unit or if you have the owner's consent to represent the owner of the unit;
- 8.2. you contact us within a reasonable time of discovering the problem with the unit;

#### How you make a warranty claim

- 9. To make a warranty claim you must provide us with the following information:
- 9.1. The model number of the unit;
- 9.2. A description of the problem with the unit;
- 9.3. The name, address and contact details (such as phone number and e-mail address) of the owner;
- 9.4. The address where the unit is installed and the location (e.g. in laundry);
- 9.5. The serial number of the unit:
- 9.6. The date of purchase of the unit and the name of the seller of the unit;
- 9.7. The date of installation of the unit;
- 9.8. A copy of the certificate of compliance when the unit was installed.
- The contact details for you to make your warranty claim are:

Name:	Stiebel Eltron (Aust) Pty Ltd
Address:	294 Salmon Street, Port Melbourne, Victoria, 3207
Telephone:	1800 153 351 (8.00 am to 5.00 pm AEST Monday to Friday)
Contact person:	Customer Service Representative
E-mail:	service@stiebel.com.au

 We will arrange a suitable time with you to inspect and test the unit.

#### Warranty exclusions

- 12. We may reject your warranty claim if:
- 12.1. The unit was not installed by registered and qualified tradespeople.
- 12.2. The unit was not installed and commissioned:
  - a) in Australia;
  - b) in accordance with the Operating and Installation Guide; and
  - in accordance with the relevant statutory and local requirements of the State or Territory in which the unit is installed.
- 12.3. The unit has not been operated or maintained in accordance with the Operating and Installation Guide.
- 12.4. The unit does not bear its original Serial Number or Rating Label.
- 12.5. The unit was damaged by any or any combination of the following:
  - a) normal fair wear and tear;
  - b) connection to an incorrect water supply;
  - c) connection to water from a bore, dam or swimming pool;
  - d) connection to an incorrect power supply;
  - e) connection to faulty equipment, such as damaged valves:
  - f) foreign matter in the water supply, such as sludge or sediment:
  - g) corrosive elements in the water supply;
  - h) accidental damage;
  - act of God, including damage by flood, storm, fire, lightning strike and the like;
  - j) excessive water pressure, negative water pressure (partial vacuum) or water pressure pulsation.
- 12.6. The unit was damaged before it was installed e.g. it was damaged in transit.
- 12.7. An unauthorised person has modified, serviced, repaired or attempted to repair the unit without our consent.
- 12.8. Non genuine parts other than those manufactured or approved by us have been used on the unit.

### GUARANTEE | ENVIRONMENT AND RECYCLING

- 13. We may charge you:
- 13.1. for any additional transport costs if the unit is installed more than 30 kilometres from our closest authorised service technician.
- 13.2. for the extra time it takes our authorised service technician to access the unit for inspection and testing if it is not sited in accordance with the Operating and Installation Guide and not readily accessible for inspection.
- 13.3. for any extra costs of our authorised service technician to make the unit safe for inspection.
- You must ensure that access to the unit by our authorised service technician is safe and free from obstruction.
- 15. Our authorised service technician may refuse to inspect and test the unit until you provide safe and free access to it, at your cost.
- 16. If we reject your warranty claim in accordance with clause 12, we may charge you for our authorised service technician's labour costs to inspect and test the unit.
- 17. In order to properly test the unit we may remove it to another location for testing.

#### **Australian Consumer Law**

- 18. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.
- The Stiebel Eltron warranty for the unit is in addition to any rights and remedies you may have under the Australian Consumer Law.

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