

Operating manual/installation manual

AIR BASIC 109

AIR BASIC 211

AIR BASIC 416

AIR BASIC 618



Air/water heat pump
Heating/cooling/DHW

Contents

1	General information.....4	6	Electrical connection..... 48
1.1	Information on documentation.....4	6.1	Cable cross-sections/ screened cable.....48
1.2	Safety regulations.....4	6.2	PSU control contact.....48
1.3	CE designation.....4	6.3	Wiring diagrams.....50
2	Appliance description.....5	6.3.1	AIR BASIC 109.....50
2.1	Available models.....5	6.3.2	AIR BASIC 109 interruptible tariff.....51
3	Outdoor unit.....6	6.3.3	AIR BASIC 211.....52
3.1	Main components.....6	6.3.4	AIR BASIC 211 interruptible tariff.....53
3.2	Dimensions.....7	6.3.5	AIR BASIC 416.....54
3.3	Outdoor unit installation.....9	6.3.6	AIR BASIC 618.....55
3.3.1	Outdoor unit minimum clearances.....9	6.3.7	Sensor.....56
3.4	Foundation for floorstanding installation.....10	7	AIR BASIC with ECO tank..... 58
3.4.1	Securing with floor bracket.....11	8	Dealing with minor faults..... 59
3.4.2	Mounting without floor bracket.....11	9	Maintenance..... 60
3.4.3	Outdoor unit foundation AIR BASIC 109.....12	9.1	Service.....60
3.4.4	Outdoor unit foundation AIR BASIC 211.....12	9.2	Cleaning and care.....60
3.4.1	AIR BASIC 416 and AIR BASIC 618 outdoor unit foundation.....13	9.3	Customer service.....60
3.5	Wall bracket for wall mounting.....14	9.4	Maintenance contract.....60
3.5.1	Requirements for wall mounting.....14	10	Decommissioning..... 62
3.5.2	Installing the wall bracket.....14	10.1	Disposal of packaging.....62
4	Indoor unit.....16	10.2	Decommissioning.....62
4.1	Golf Midi indoor unit.....16	10.3	Disposal of the appliance.....62
4.1.1	Indoor unit installation.....16	11	Appendix..... 63
4.1.2	Main components.....17	11.1	Specification.....63
4.1.3	Dimensions.....18	11.2	Performance figures.....69
4.1.4	Expansion vessel.....19	11.2.1	AIR BASIC 109.....69
4.1.5	Venting the system.....19	11.2.2	AIR BASIC 211.....70
4.1.6	System pressure/heating water.....20	11.2.3	AIR BASIC 416.....71
4.1.7	Electrical connection.....21	11.2.4	AIR BASIC 618.....72
4.1.8	Hydraulic connection versions.....23	11.3	Details of energy consumption.....73
4.2	T200 indoor unit.....31	11.4	Voltage quality in island mode.....74
4.2.1	Appliance description.....31	11.5	Limits of use.....75
4.2.2	Main components.....32	11.1	Golf Midi indoor unit hydraulic residual head.....76
4.2.3	Installation.....32	11.2	T200 indoor unit hydraulic residual head.....76
4.2.4	Using T200 with a heating circuit with mixing valve.....40	11.3	Recommended flow rates:.....77
4.2.5	Cooling with T200.....40	11.4	Declaration of conformity.....78
4.2.6	T200 electrical connection.....41	11.5	ERP-Data.....82
4.2.7	T200 maintenance.....42	11.6	List of figures.....88
5	Refrigerant lines.....44	11.7	List of tables.....89
5.1	Outdoor unit connection.....46		
5.2	Indoor unit connections.....47		
5.3	Leakage test.....47		

1 General information

1.1 Information on documentation

The following information is a guideline for the complete documentation.

Please read your heat pump's operating manual carefully from beginning to end. This will help you to operate your heat pump better. This manual is to be kept readily accessible near the heat pump. The precautionary information provided below is used in this document.



WARNING

Failure to observe this information poses a risk of injury or death and may lead to material damage. This information must be observed without fail.



CAUTION

Failure to observe this information may lead to an appliance fault or material damage. This information should be observed.



NOTE



CAUTION

Information for work on electrical systems. This information must be observed without fail.

Caution - risk to life



Turn off all mains fuses of the system before carrying out any work on plug-in strips or electrical connections (wires).



Commissioning and servicing of the appliances may only be carried out by personnel authorised by OCHSNER.



Installation of the appliances and their wiring may only be carried out by a specialist in accordance with local regulations.



The controller can be used to enable functions to protect the heat pump. However, since the controller is not certified as a safety device, safety measures in case of failure of or damage to the heat pump (e.g. additional external switching of the safety devices in use) must comply with local regulations.



WARNING

Note that there is a risk of injury when touching the outdoor unit. This applies in particular to AIR BASIC 618 and AIR BASIC 416 without a cover grille.



WARNING

Do not use the appliance as a step or platform. Do not climb on the appliance or place any loads on it.

In the event of upgrades/updates to the controller software, all function parameters of the heat pump should be checked.

1.2 Safety regulations

Read this manual through carefully before commissioning the heat pump or making settings!



The appliance must not be converted or modified in any way. Work on the appliance (repairs, modifications) may only be carried out by authorised bodies.

1.3 CE designation

The product you have purchased conforms to the technical regulations valid at the time and is compliant with CE standards.

2 Appliance description

2.1 Available models

AIR BASIC 109 C11B G1-1



AIR BASIC 109 C11B T200



AIR BASIC 211 C11B G1-1



AIR BASIC 211 C11B T200



AIR BASIC 618 C12B G1-1
AIR BASIC 416 C12A G1-1

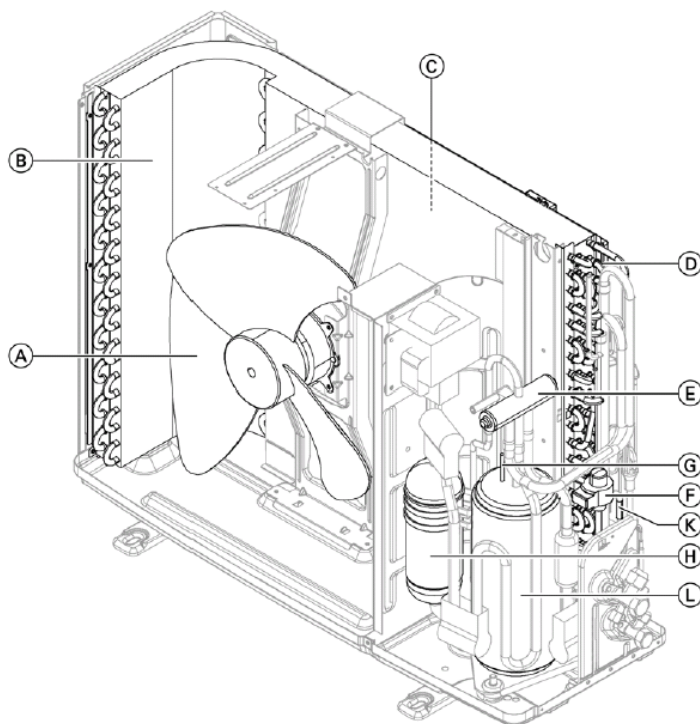


AIR BASIC 618 C12B T200
AIR BASIC 416 C12A T200



3 Outdoor unit

3.1 Main components



- A. Fan
- B. Evaporator
- C. Temperature sensor, air inlet, evaporator (OAT)
- D. Temperature sensor, evaporator (OMT)
- E. 4-way switching valve
- F. Electronic expansion valve (EEV)
- G. Temperature sensor, compressor head (CTT)
- H. Liquid separator
- K. Temperature sensor, refrigerant inlet, evaporator (OCT)
- L. Compressor

Figure 1: Outdoor unit detailed view

3.2 Dimensions

AIR BASIC 109

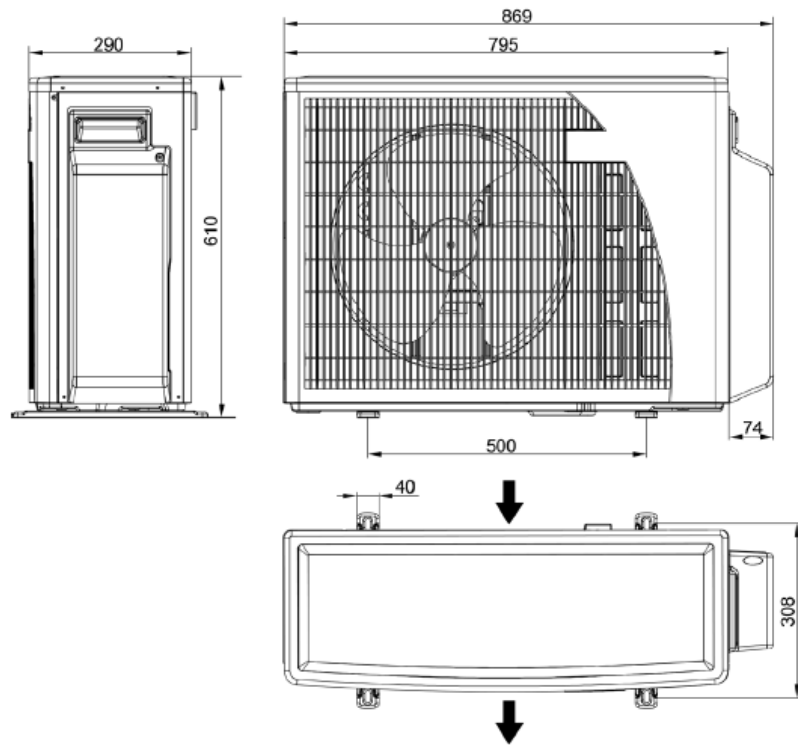


Figure 2: Outdoor unit dimensions AIR BASIC 109

AIR BASIC 211

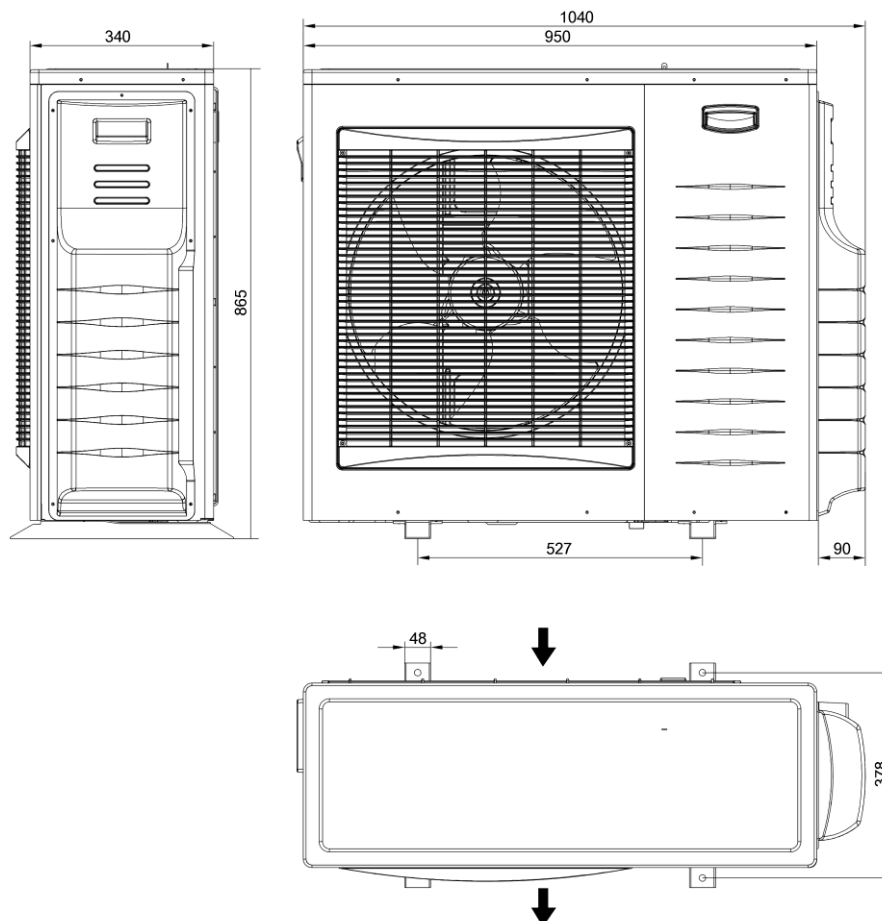


Figure 3: Outdoor unit dimensions AIR BASIC 211

AIR BASIC 416

AIR BASIC 618

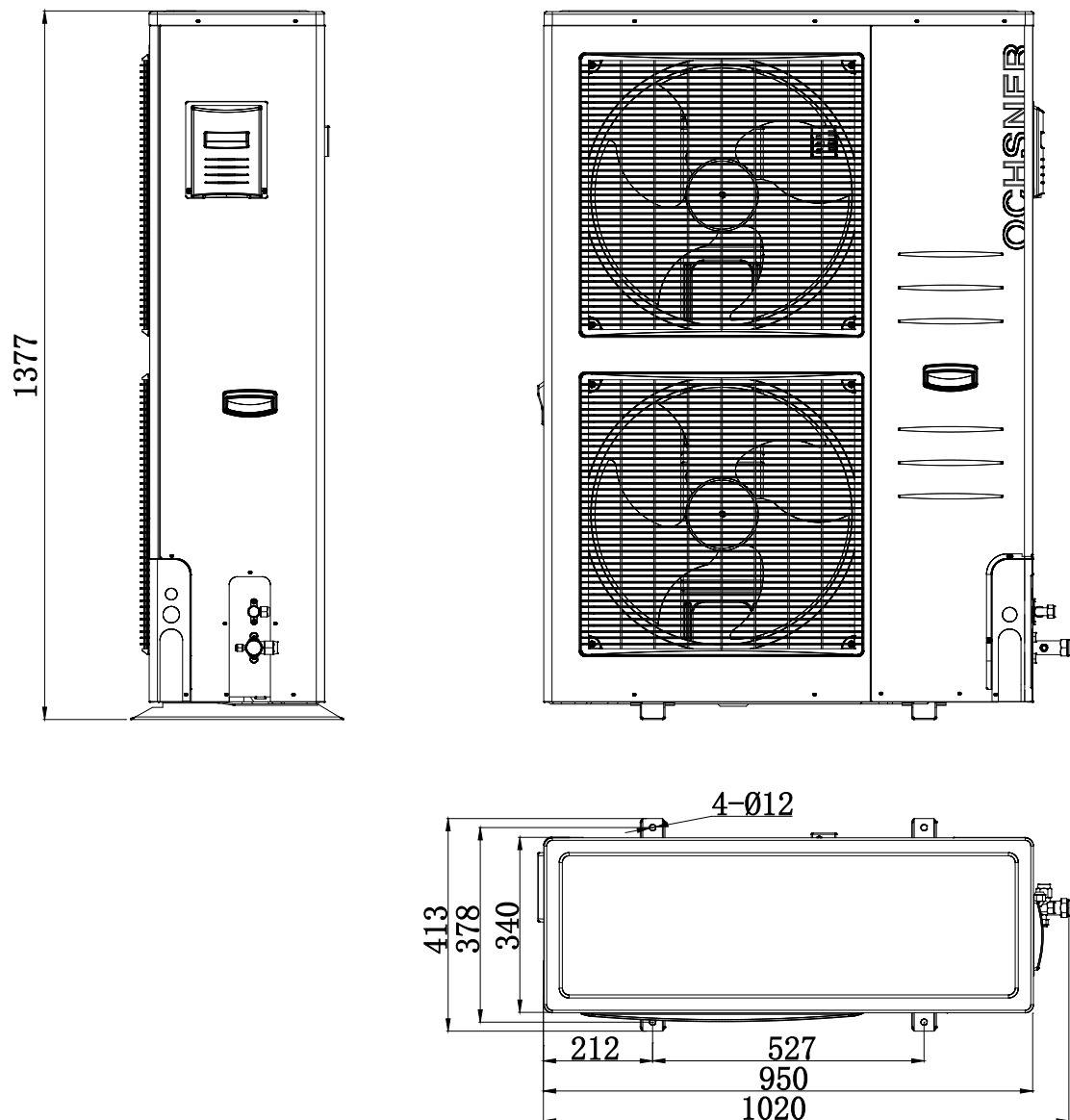


Figure 4: AIR BASIC 416 and AIR BASIC 618 outdoor unit dimensions

3.3 Outdoor unit installation

The outdoor unit can be wall mounted or installed on the floor.



WARNING: Slipping hazard

If drainage for condensation is inadequate, ice can build up in winter in the area around the outdoor unit.

- Ensure drainage for condensation is sufficient even at low temperatures.
- Ensure that no ice is formed, especially around walking surfaces and entrances around the outdoor unit.



NOTE

Avoid installation with the broad side of the outdoor unit facing the prevailing wind direction. Also avoid installing the outdoor unit in an open and exposed location, e.g. on a flat roof. Wind can cause problems with de-icing on the outdoor unit in defrosting mode due to increased heat dissipation. We recommend installing the outdoor unit with the rear facing a wall.

3.3.1 Outdoor unit minimum clearances

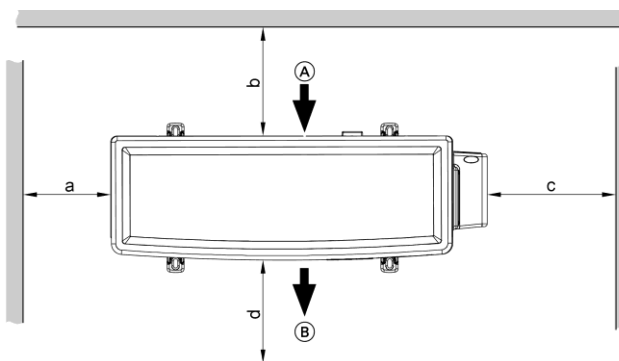


Figure 5: Outdoor unit minimum clearances

	AIR BASIC 109	AIR BASIC 211	AIR BASIC 416, AIR BASIC 618
a	>200	>200	>200
b	>100	>100	>200
c	>700	>700	>700
d	>1500	>1500	>2000

Table 1: Outdoor unit minimum clearances (in mm)

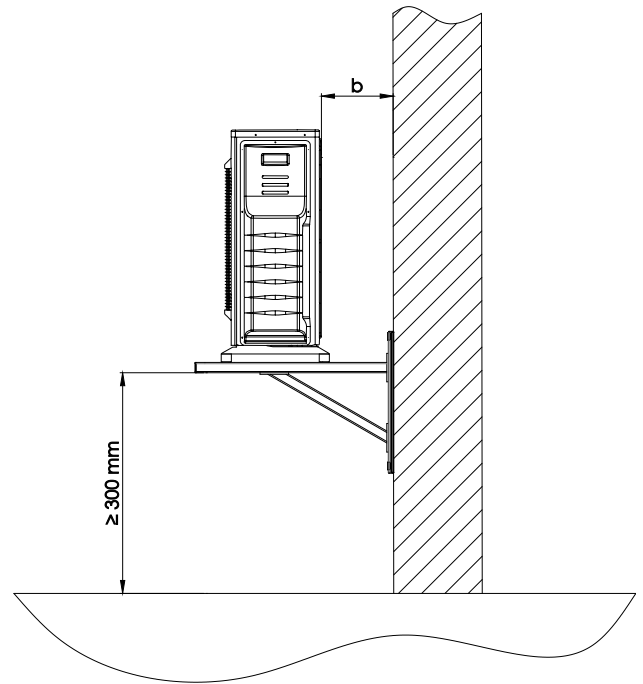


Figure 6: Outdoor unit minimum clearances for wall mounting

When installing the AIR BASIC 109 or AIR BASIC 211 outdoor unit, acoustic reflections from the wall can be avoided by maintaining clearance c between the connection side and the wall. See illustration below.

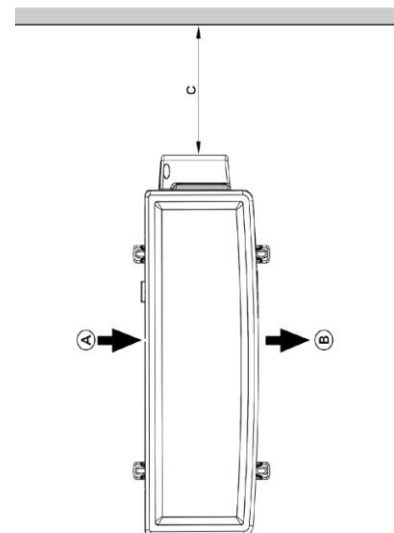


Figure 7: Possible installation of AIR BASIC 109 or AIR BASIC 211 outdoor unit



WARNING

Risk of injury due to the evaporator fins on the rear of the AIR BASIC 416 and AIR BASIC 618 outdoor units. Always install the outdoor unit with the rear parallel to a wall with clearance b (see Figure 5).

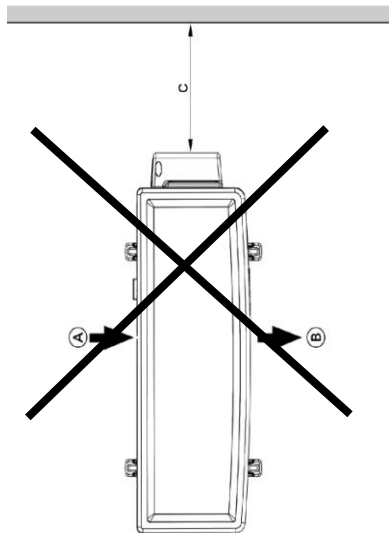


Figure 8: Inadmissible installation of AIR BASIC 416 or AIR BASIC 618 outdoor unit

3.4 Foundation for floorstanding installation



NOTE

Observe the minimum clearances in section 3.3.1.



CAUTION

A load bearing base is required for the outdoor unit.

We recommend erecting foundation strips on site. These must be horizontal and extend at right angles to the front view (= side of the appliance with access to refrigerant pipe connections and electrical connection) of the outdoor unit to be installed.

The thicknesses of cover are average values and should be matched to local conditions. This must be done in accordance with the applicable engineering standards!



Installation on a foundation according to the description is mandatory as ice may form underneath the outdoor unit after defrosting if meltwater cannot drain into the gravel bed.



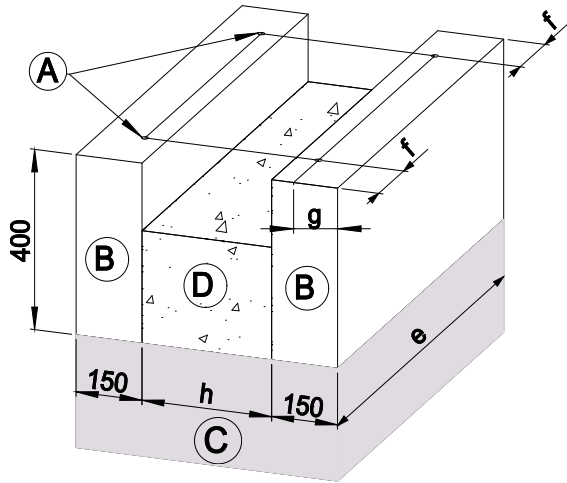
The outdoor unit must be firmly bolted to the foundation to ensure that it cannot tip over due to wind (see 3.4.3, 3.4.4 and 3.4.1).



Ensure that the mounting feet of the outdoor unit are at least 300 mm clear of the surrounding terrain. Take the expected snow depth at the installation site into consideration.

3.4.1 Securing with floor bracket

Floor brackets isolate noise and vibrations between the foundation and the outdoor unit.



	Description
A	Fixing holes
B	Foundation strips
C	Frost protection for foundation (compacted mineral concrete)
D	Gravel
e	Foundation length (> 1 m)
f,g,h	Foundation strip dimensions (see table)

Type	Dimension e	Dimension f	Dimension g	Dimension h
AIR BASIC 109	800	150	65	295
AIR BASIC 211	1000	237	65	295
AIR BASIC 416, AIR BASIC 618	1000	237	65	295

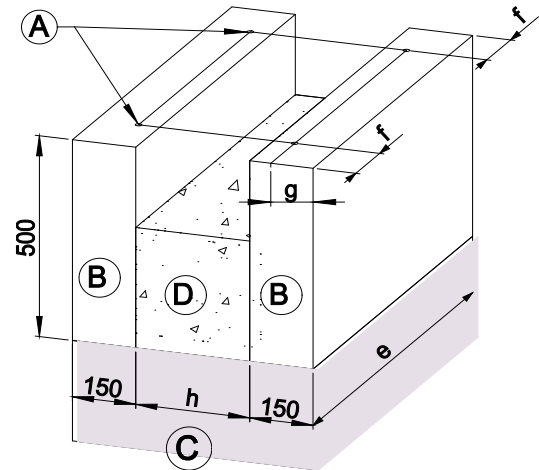
Figure 9: Foundation for securing with floor bracket (dimensions in mm)

The floor brackets must be anchored on site using long screws in the fully cured foundation strips (tipping protection).

Recommendation:

Drill 2 holes in each of the floor brackets at the appropriate locations (hole diameter 14 mm) and anchor in the foundation using 4 V2A hexagon screws (12 x 180), V2A washers A 13 and S 12 plugs.

3.4.2 Mounting without floor bracket



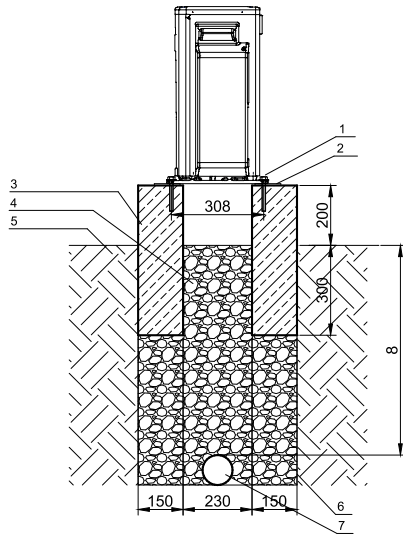
	Description
A	Fixing holes
B	Foundation strips
C	Frost protection for foundation (compacted mineral concrete)
D	Gravel
e	Foundation length (> 1 m)
f,g,h	Foundation strip dimensions (see table)

Type	Dimension e	Dimension f	Dimension g	Dimension h
AIR BASIC 109	800	150	111	230
AIR BASIC 211	1000	237	96	270
AIR BASIC 416, AIR BASIC 618	1000	237	96	270

Figure 10: Foundation for mounting without floor bracket (dimensions in mm)

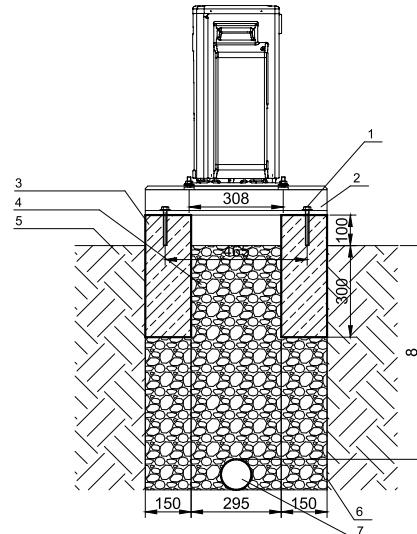
3.4.3 Outdoor unit foundation AIR BASIC 109

Installation without floor bracket



- 1) Screw, e.g. 12x100 V2A with washer
- 2) Rubber support (supplied with product)
- 3) Foundation strips
- 4) Gravel
- 5) Topsoil
- 6) Non-woven geotextile for cohesive soil
- 7) Drainage pipe
- 8) Frost penetration depth

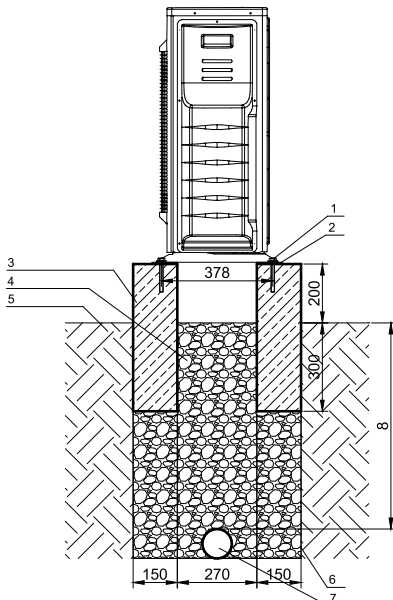
Installation with floor bracket



- 1) Screw, e.g. 12x180 V2A with washer
- 2) Floor bracket (order no. 912633)
- 3) Foundation strips
- 4) Gravel
- 5) Topsoil
- 6) Non-woven geotextile for cohesive soil
- 7) Drainage pipe
- 8) Frost penetration depth

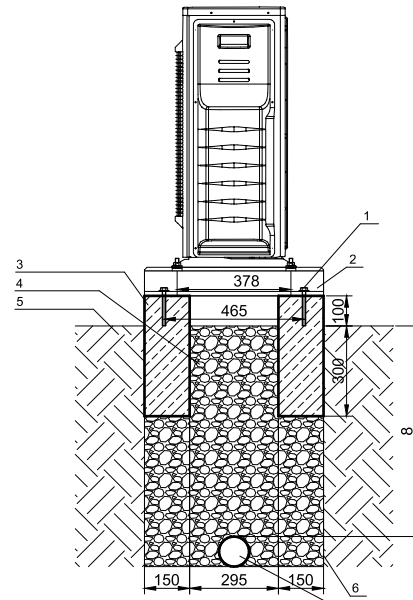
3.4.4 Outdoor unit foundation AIR BASIC 211

Installation without floor bracket



- 1) Screw, e.g. 12x100 V2A with washer
- 2) Rubber support (supplied with product)
- 3) Foundation strips
- 4) Gravel
- 5) Topsoil
- 6) Non-woven geotextile for cohesive soil
- 7) Drainage pipe
- 8) Frost penetration depth

Installation with floor bracket



- 1) Screw e.g. 12x180 V2A with washer
- 2) Floor bracket (order no. 912633)
- 3) Foundation strips
- 4) Gravel
- 5) Topsoil
- 6) Non-woven geotextile for cohesive soil
- 7) Drainage pipe
- 8) Frost penetration depth

3.5 Wall bracket for wall mounting



NOTE

Observe the minimum clearances in section 3.3.1.



Ensure that the mounting feet of the outdoor unit are at least 300 mm clear of the surrounding terrain. Take the expected snow depth at the installation site into consideration.

The outdoor units can be wall mounted using a wall bracket.

The wall bracket consists of:

- 2 x wall bracket 600
- 4 x M10 threaded plate
- 4 x M10 washers
- 4 x M10 nuts
- 4 x rubber/metal buffers (A 40/30 M10) for sound insulation

3.5.1 Requirements for wall mounting

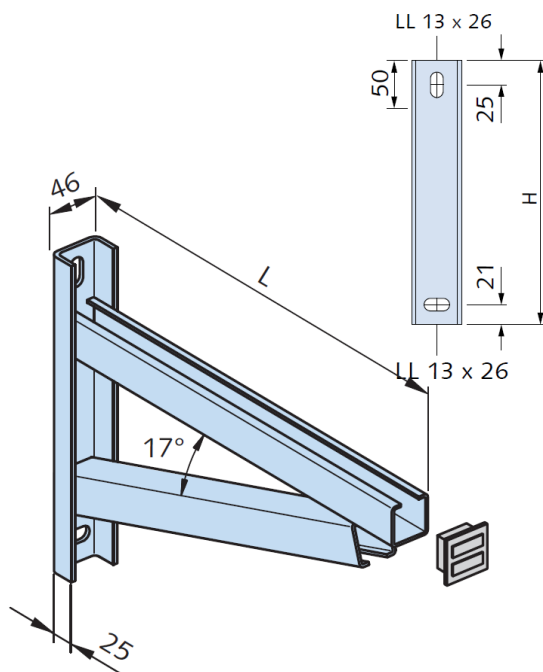
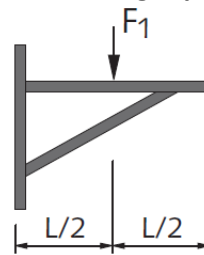


Figure 11: Wall bracket dimensions

$L = 600 \text{ mm}$, $H = 340 \text{ mm}$

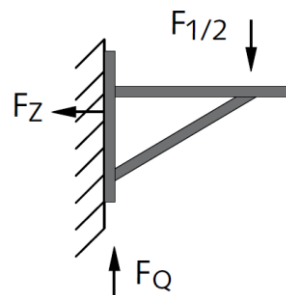
Material S235JR (RST 37-2), galvanised, zinc coating min. 50 µm

Load bearing capacity:



$$F_1 = 2.55 \text{ kN}$$

Connection forces:



$$F_Z = 7.95 \text{ kN}$$

$$F_Q = 4.00 \text{ kN}$$

	Weight [kg]
AIR BASIC 109	38
AIR BASIC 211	66
AIR BASIC 416	130
AIR BASIC 618	130

3.5.2 Installing the wall bracket



CAUTION

The wall bracket must only be used for installing the outdoor unit.



CAUTION

Before securing the wall bracket, ensure that the wall has been tested according to the specified loads for the respective outdoor unit. The applicable engineering standards must be observed.



NOTE

Ensure that the heat pump outdoor unit is accessible for service and maintenance work throughout the year.

Installation procedure:

- Observe the distances between mounting feet specific to the outdoor unit (see 3.2 Dimensions). The distances for the holes required in the wall are derived from these.
- Drill the holes in the wall.
- Install the wall brackets.
- Install the 4 rubber/metal buffers for sound insulation to the wall brackets. Observe the distances between holes for the outdoor unit mounting feet.
- Place the outdoor unit mounting feet on the rubber/metal buffers.
- Screw the outdoor unit to the rubber/metal buffers.



Figure 12: Wall bracket side view

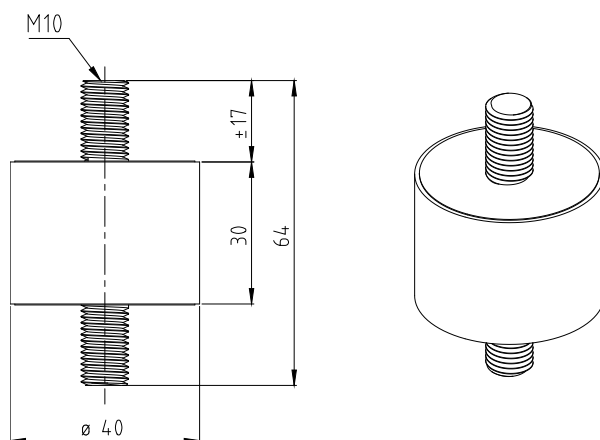


Figure 13: Rubber/metal buffer dimensions

4 Indoor unit

Two different indoor units are available for the air/water heat pump:

- Golf Midi indoor unit
- T200 MULTI TOWER indoor unit

4.1 Golf Midi indoor unit

4.1.1 Indoor unit installation

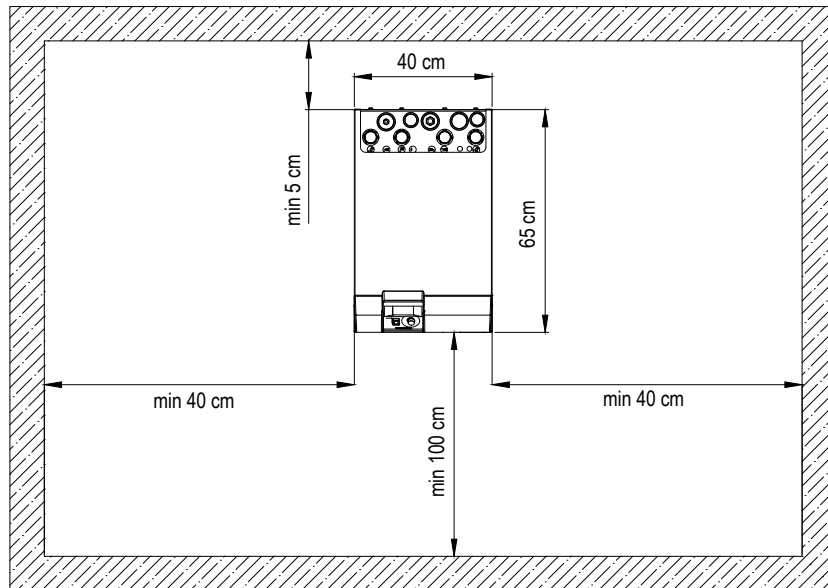


Figure 14: Indoor unit dimensions and minimum clearances

The heat pump must be acoustically insulated from the floor. Reverberant (sound-reflecting) rooms can increase the perceived noise emission. There is always a possibility of transmitting vibrations/noise to adjacent rooms, which should be considered when engineering the installation. The higher the heating output of the heat pump, the higher the sound emissions from the appliance compressor.

4.1.2 Main components

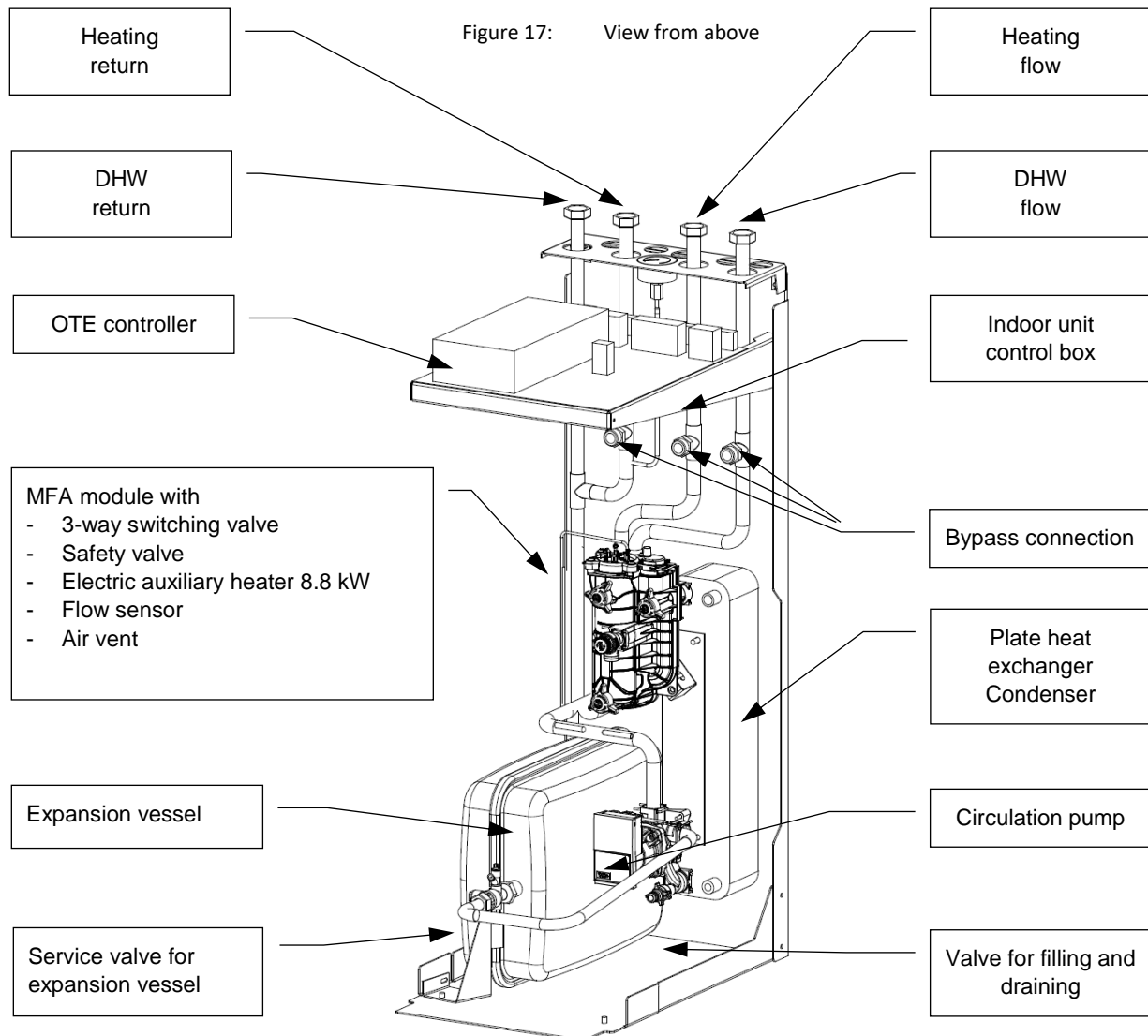
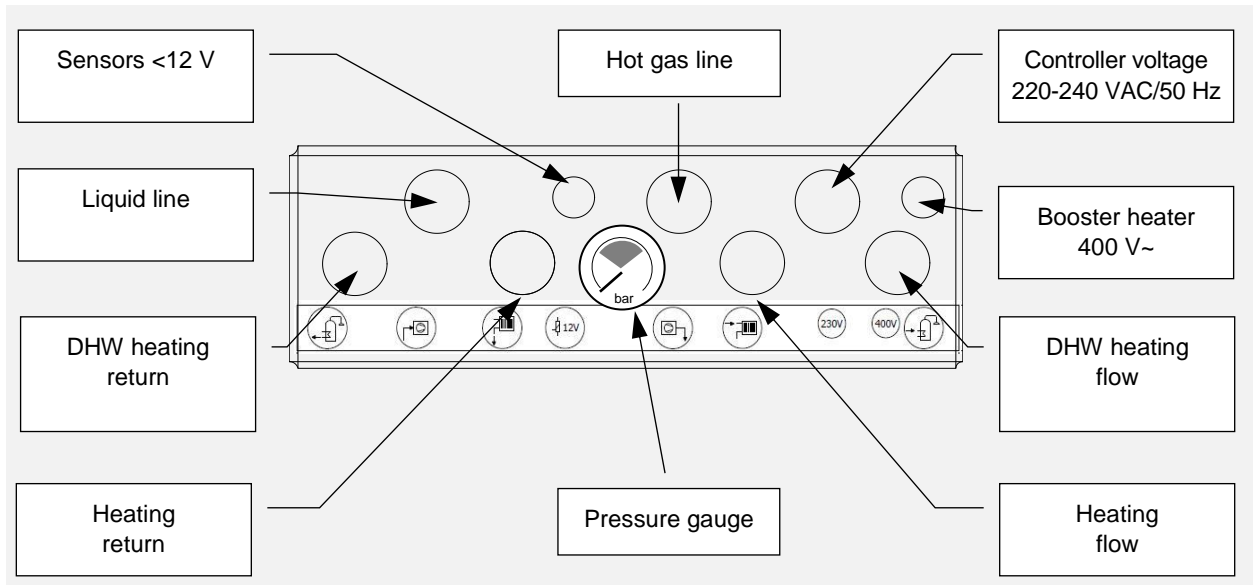


Figure 18: Indoor unit detailed view

4.1.3 Dimensions

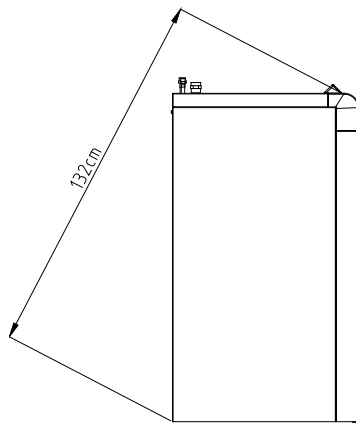


Figure 19: Indoor unit tilt height

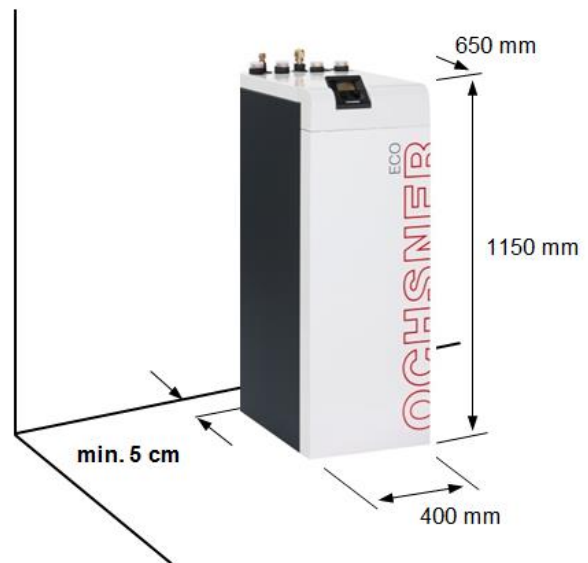


Figure 20: Indoor unit dimensions

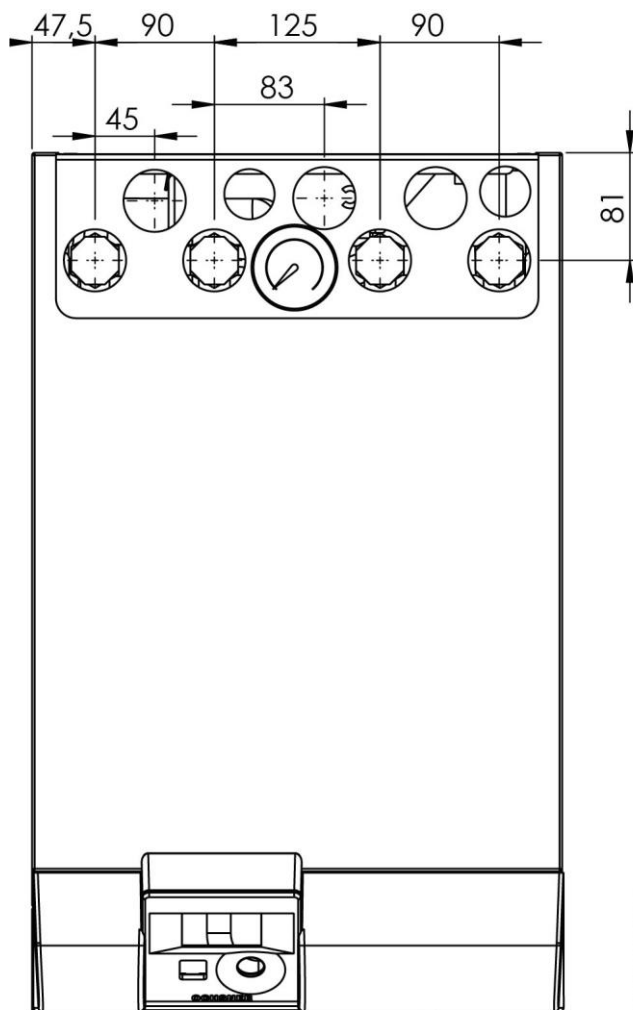


Figure 21: Indoor unit connection dimensions

11_02_200_202_05_02

4.1.4 Expansion vessel

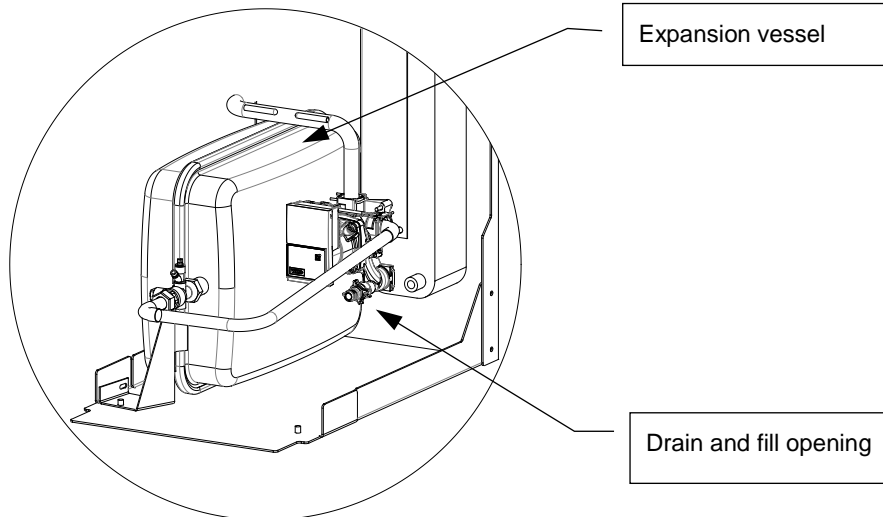


Figure 22: Draining and filling detailed view

➔ NOTE

For larger system volumes, the expansion vessel has to be re-calculated. If the integral 24 l vessel is not adequate, install an additional expansion vessel externally. See **EN 12828**

4.1.5 Venting the system

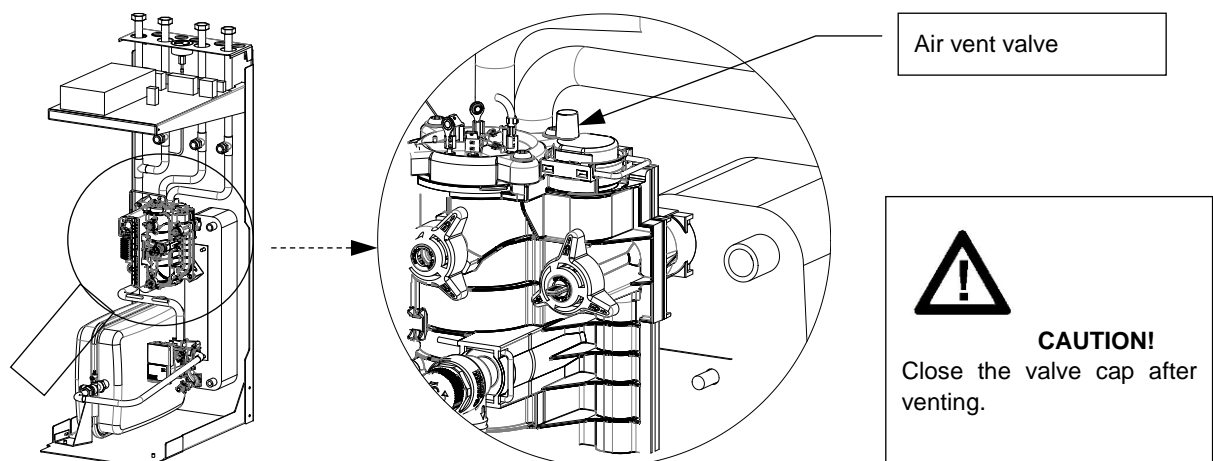


Figure 23: Indoor unit air vent valve

➔ NOTE

Water will escape when the safety valve is opened.
Route the plastic hose at the rear of the heat pump into the sewage drain. Ensure proper drainage. The drain must not be permanently connected to the sewage drain! A funnel with a siphon must be provided.

4.1.6 System pressure/heating water

Preparation for filling:

A 24 l expansion vessel is installed in the heat pump indoor unit. In buffer systems or systems with higher capacity, check this vessel and, if necessary, install an additional expansion vessel in the system (externally, not inside the appliance).

Before filling the system, check the pre-charge pressure in the expansion vessel. This must be matched to the building height.

Static head: Difference between highest and lowest points in the system

Pre-charge pressure = static head + 0.3 bar

System charge pressure = pre-charge pressure + 0.5 bar (when cold)

Max. permissible operating pressure: 3.0 bar (safety valve)

- Flush the heating system thoroughly before filling.
- Only fill with water of potable quality.
- Fill water harder than 16.8 °dH (3.0 mol/m³) must be softened.



NOTE

Unsuitable fill- and top-up water promotes deposits and rust formation and can damage the system. With regard to the quality and quantity of heating water, including filling and top-up water, observe VDI 2035 or ÖNORM H5195-1 and 2.

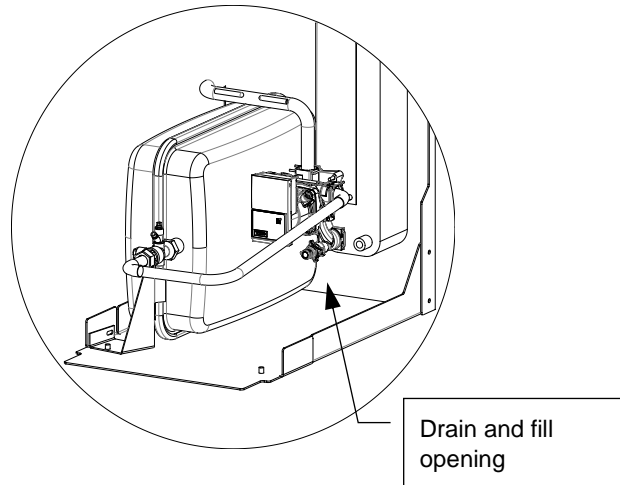
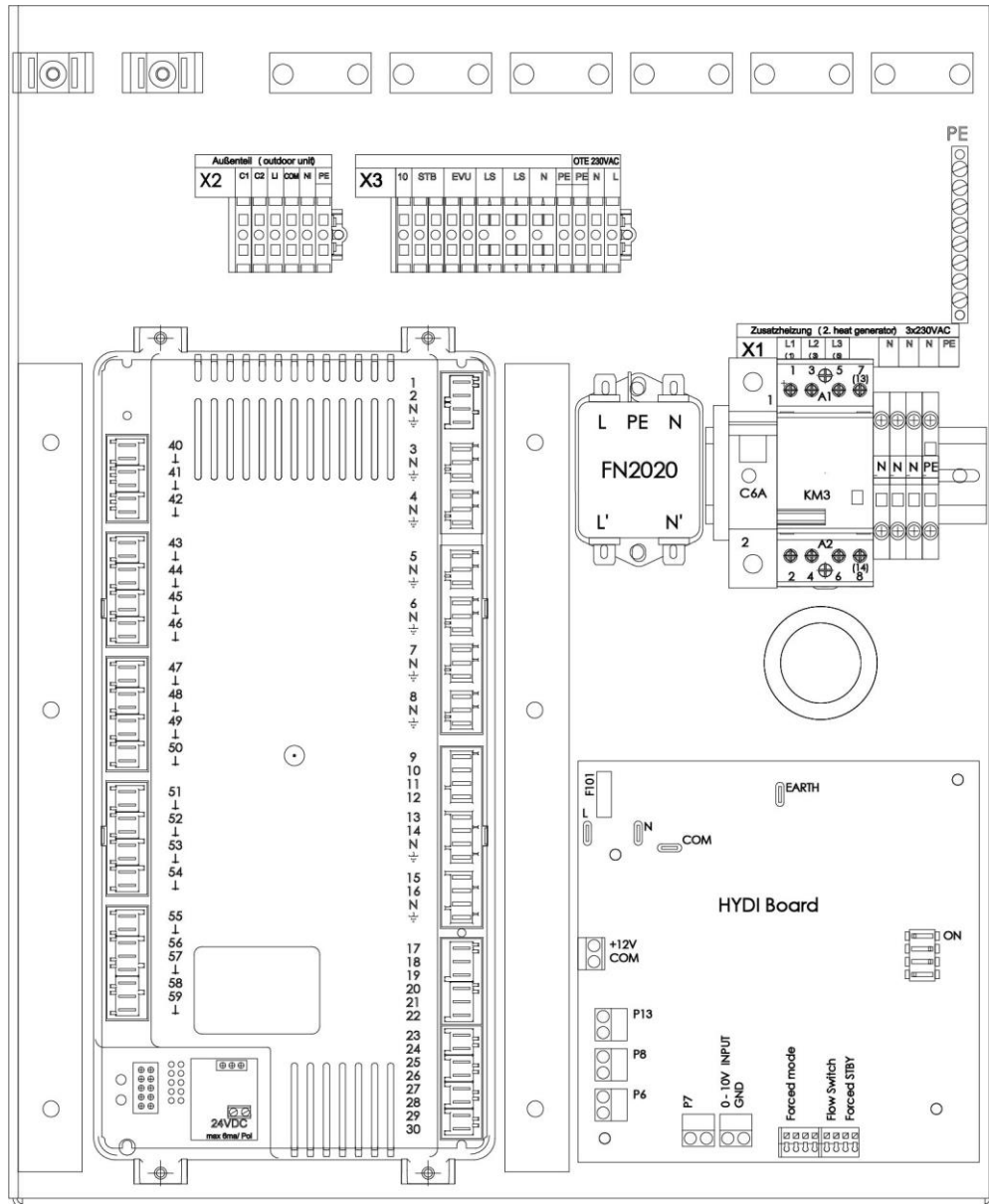


Figure 24: Detailed view of indoor unit drain & fill valve

4.1.7 Electrical connection

The appliance junction box is located on the upper part of the indoor unit.

Observe the regulations and information in **Section 6 Electrical connection**



11_02_200_202_05_05

	Terminal	Description
X1	L1/L2/L3	Electr. booster heater
	N/N/N/PE	
X2	PE	Connection to outdoor unit
	Ni/COM/Li	
X3	C1/C2	External high limit safety cut-out (heat sink)
	L/N/PE	
	EVU/EVU	
	HLSC/HLSC	
	Pin 10	

Terminal	Description
7	Heating circuit pump 1, direct (HCP 1)
8	Heating circuit pump 2, with mixer valve (HCP 2)
13/14	DHW charging pump ON/OFF (WWL)
15/16	Heating circuit mixing valve (MVH)
41/42	Control elements (eBus)
43	Mixer sensor (TMK)
44	Outdoor temperature sensor (TA)
46	DHW sensor (TB)
55	Default target value, building management system (BMS)

Figure 25: Golf Midi indoor unit connection terminals

4.1.8 Hydraulic connection versions

**NOTE****CAUTION!**

Do **not** set a night setback for the system as it is designed to run uninterrupted during cold temperatures in winter.

PLEASE NOTE

Due to the compressor output control, the heat pump can be operated without a buffer tank.

CAUTION!

When using **individual room controllers** or if the fill water capacity is less than 100 litres, for heating/cooling application and when connected to **Smart Grid**, a buffer tank with 30 to 50 litres/kW is required depending on the type of operation. If this buffer is not installed, the system must be built according to schematic 7.1.1 or 7.2.1.

**NOTE****A buffer of at least 200 l is recommended for AIR BASIC 416 and AIR BASIC 618 systems**

(e.g.: Ochsner PU200). Size and install all WNA pipe sizes according to the nominal flow rates. Observe the limits of use as shown in the diagram. In systems with cooling function, ensure adequate insulation to prevent condensation.

For operational reliability, especially in defrosting or cooling mode, it is important that the hydraulic safety and pressure maintaining devices are sufficiently sized and inspected annually according to the relevant standards.

Rule of thumb: System charge pressure for heating and cooling mode [bar] = DEV pre-charge pressure + 0.5 [bar].

**CAUTION!**

The closures provided are only for transport. Replace them with suitable plugs if the DHW flow or return is not being used!

Heating / cooling without buffer tank without DHW heating (Golf Midi indoor unit)

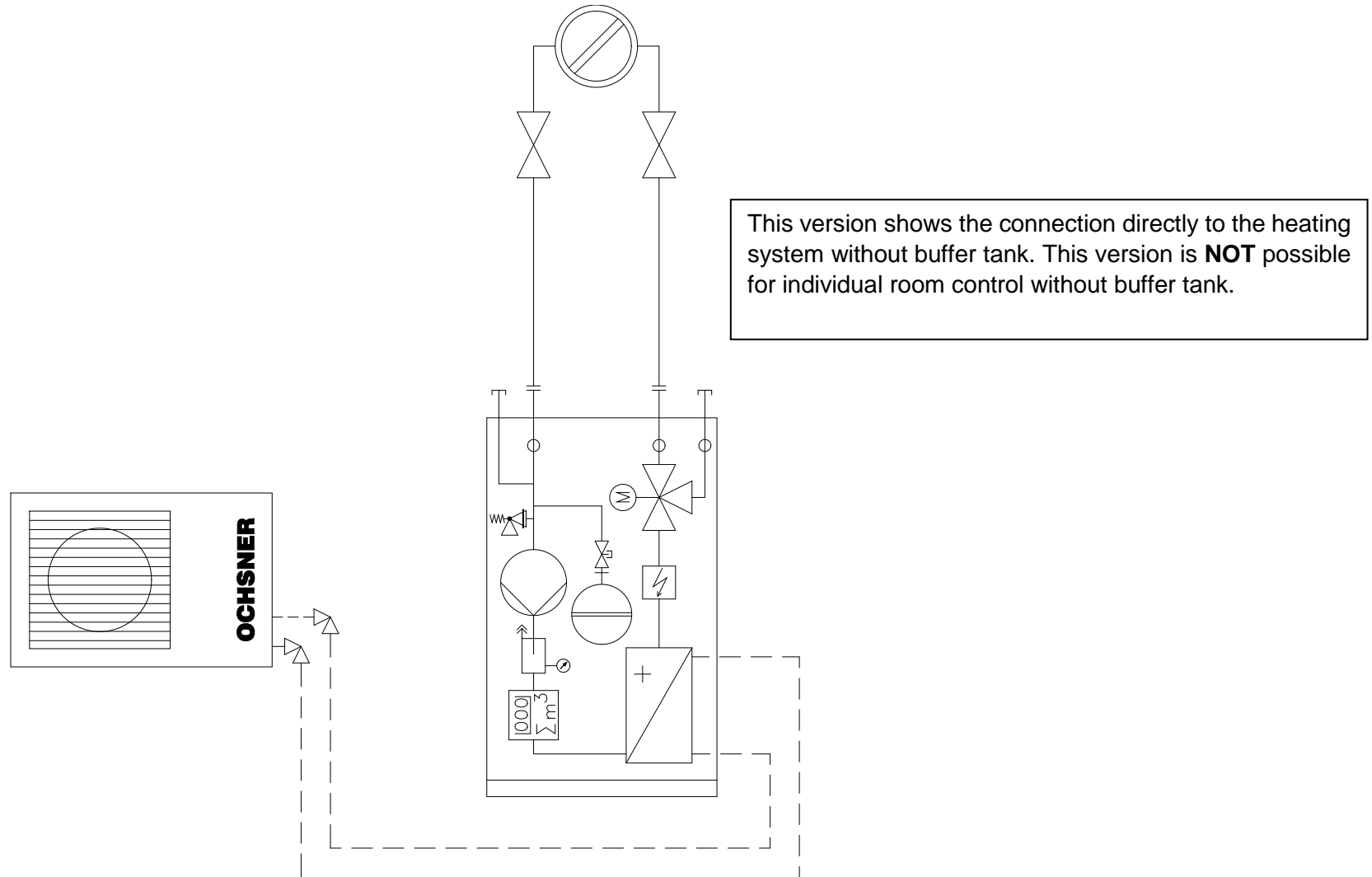


Figure 26 System schematic hydraulic version I

4.1.8.2 Version Ia:

Heating / cooling without buffer tank without DHW heating with individual room control
(Golf Midi indoor unit)

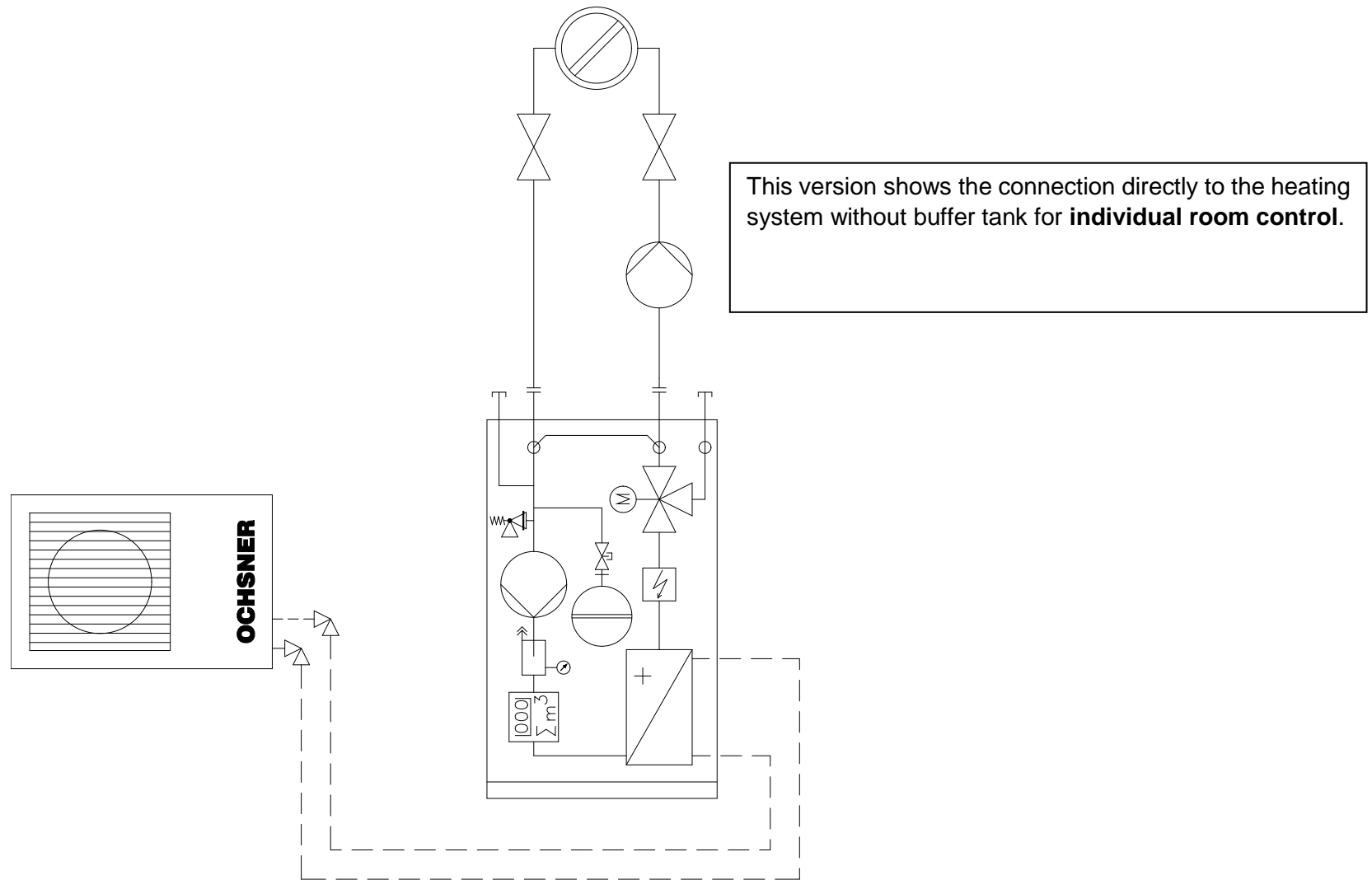


Figure 27: System schematic hydraulic version Ia

Heating / cooling without buffer with DHW tank (with ECO tank)

See also ECO tank installation manual

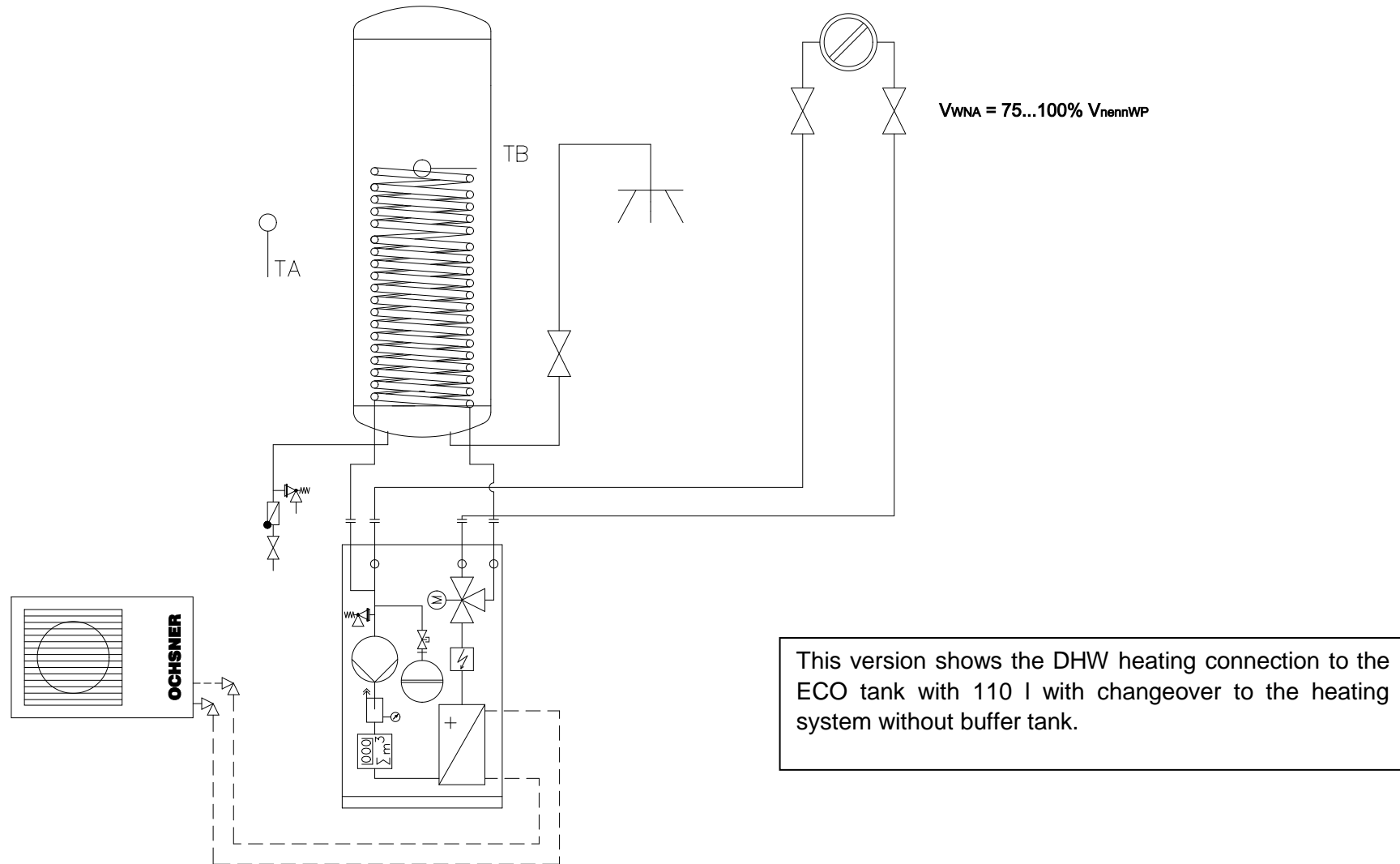


Figure 28: System schematic hydraulic version II

4.1.8.4 Version IIa:

Heating/cooling without DHW tank (With ECO tank) and individual room control

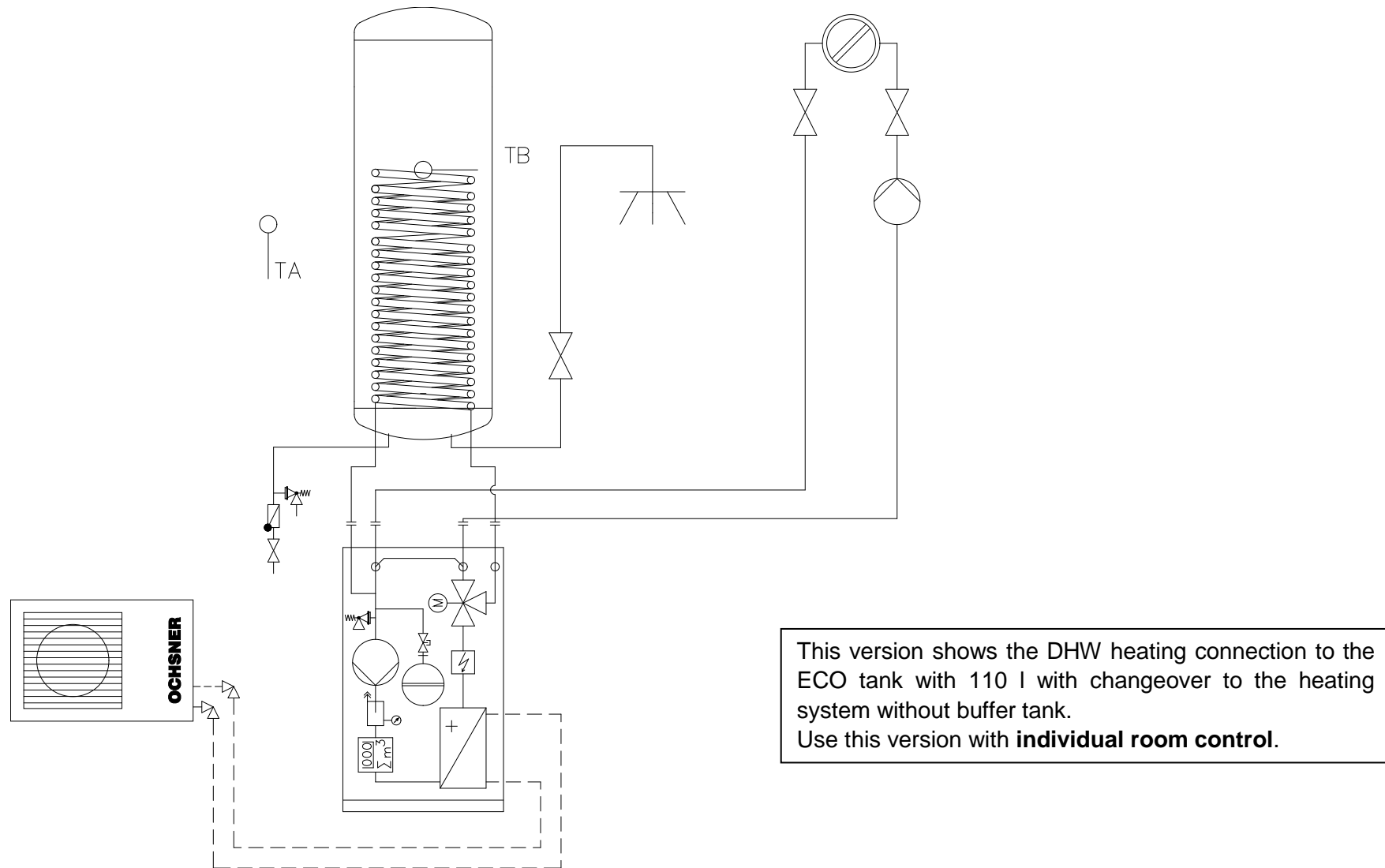


Figure 29: System schematic hydraulic version IIa

4.1.8.5 Version IIIu:

Heating and DHW heating with UNI800

This version shows the connection to a buffer tank that is coupled to the heating system and DHW. The buffer tank is loaded differently for heating and DHW heating via the 3-way valve.

To minimise the switching frequency, operation with a heat pump buffer tank is recommended, especially for AIR BASIC 416 and AIR BASIC 618.

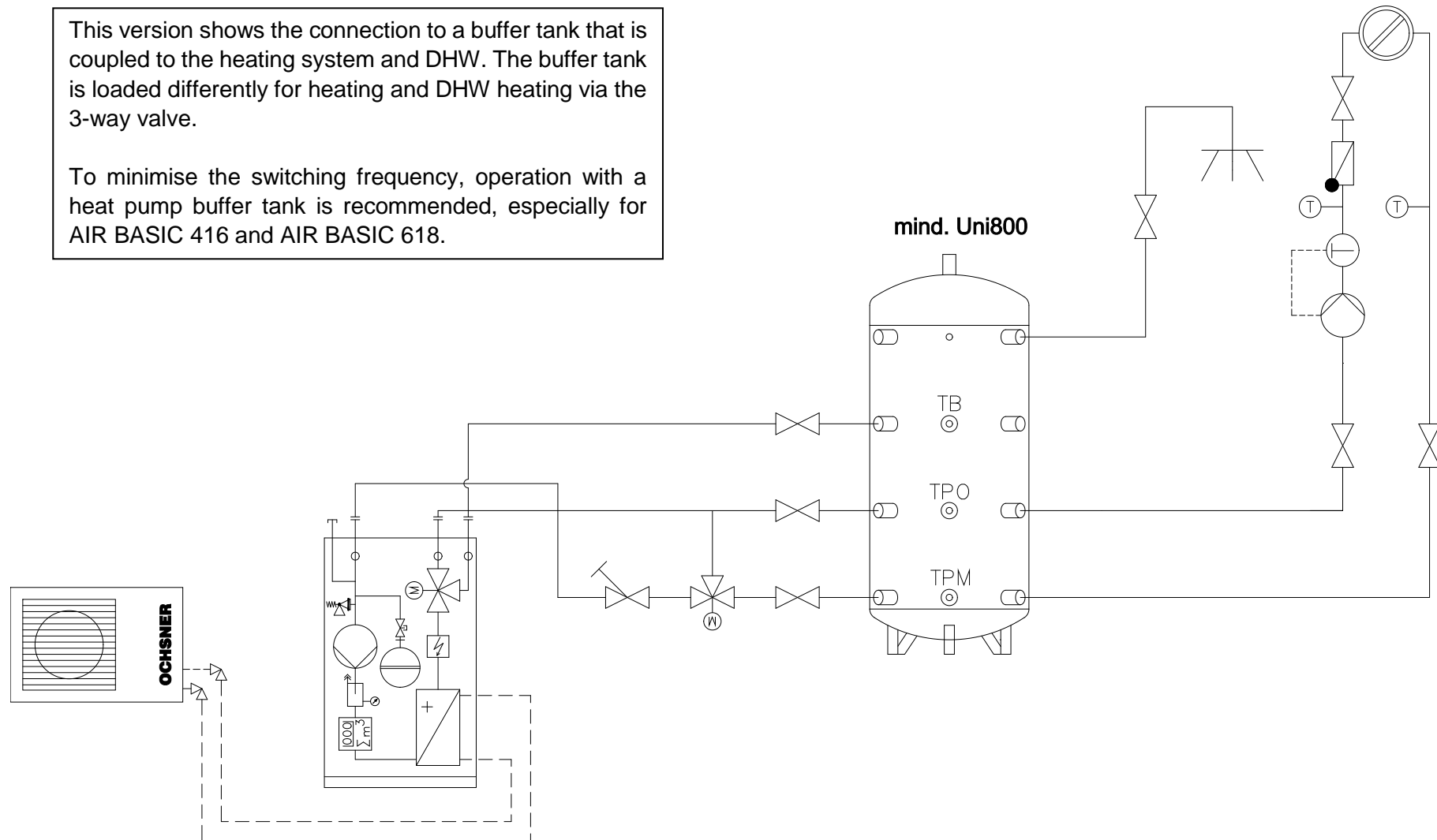


Figure 30: System schematic hydraulic version IIIu

4.1.8.6 Version IV:

Heating and DHW heating via non-pressurised distributor (cooling mode not possible)

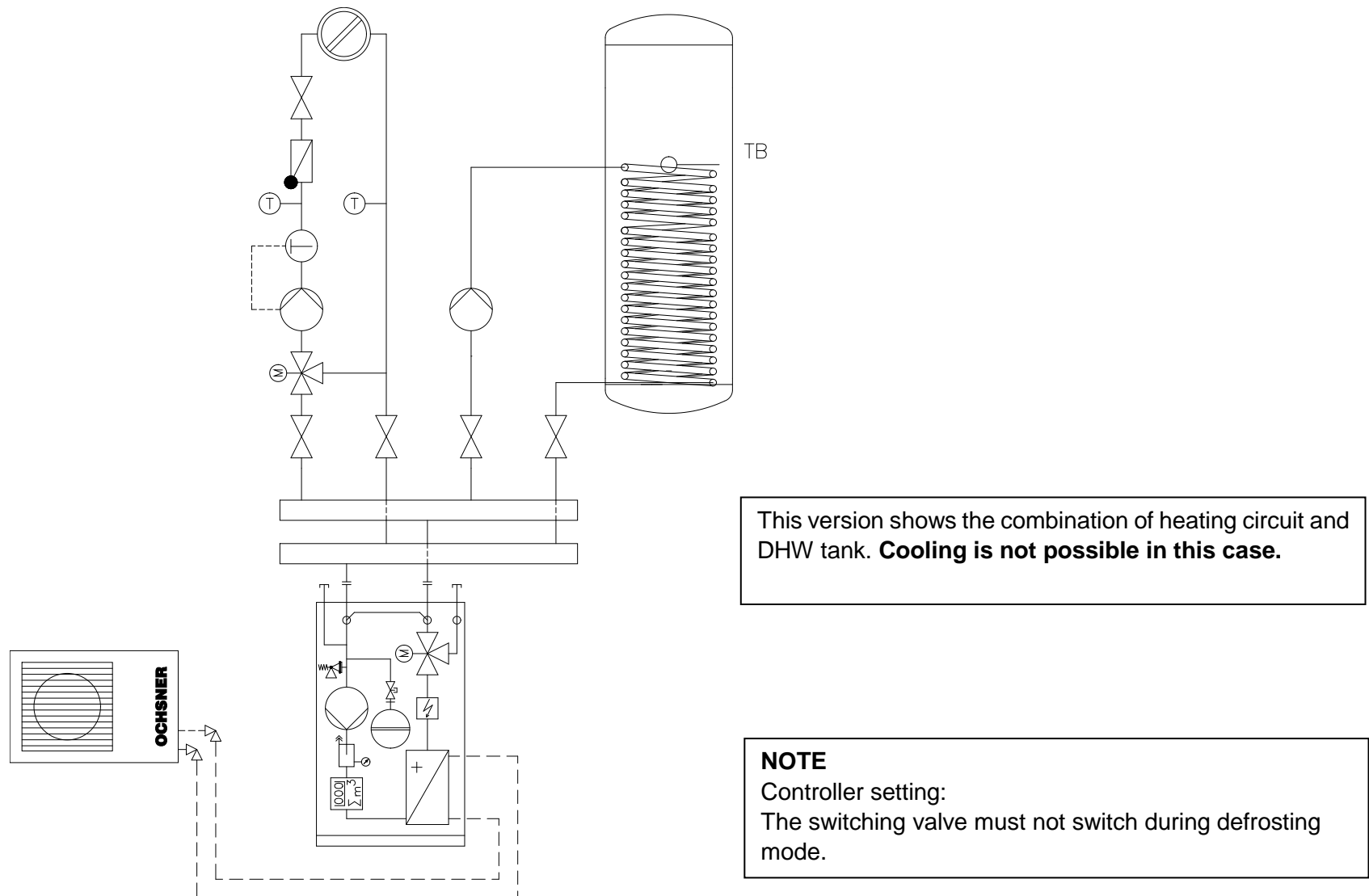


Figure 31: System schematic hydraulic version IV

To minimise the switching frequency, operation with a heat pump buffer tank is recommended, especially for AIR BASIC 416 and AIR BASIC 618.

Controller setting:
The switching valve must not switch during defrosting mode.

Figure 32: System schematic hydraulic version V

4.2 T200 indoor unit

4.2.1 Appliance description

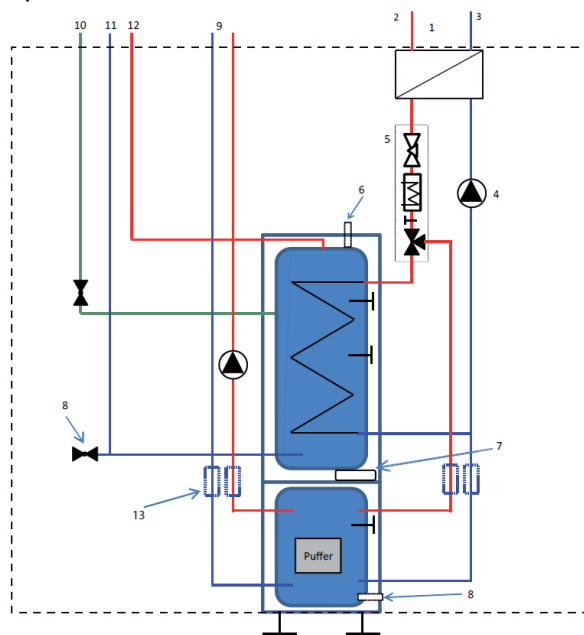
The buffer tank and the DHW tank with heat exchanger are arranged on top of each other and can be separated for handling.

The appliance is fitted with a plastic foam outer casing and a removable front panel. The appliance is connected hydraulically and electrically to the heat pump. All hydraulic connections are at the top.

Further system components are integrated alongside the DHW tank and the buffer tank:

Heat pump manager, tank charging pump, high efficiency circulation pump for one direct heating circuit, multifunctional assembly with safety valve and 3-way switching valve, emergency/booster heater for mono energetic operation

Hydraulic schematic:



- 1 Heat pump
- 2 Hot gas
- 3 Liquid
- 4 Buffer charging pump
- 5 Multifunctional assembly
- 6 Magnesium anode
- 7 Cable entry
- 8 Drain stopcock
- 9 Heating circuit
- 10 DHW circulation
- 11 Cold water
- 12 DHW
- 13 Connecting hoses

Figure 33: T200 hydraulic schematic

4.2.1.1 DHW tank

The steel tank is fitted internally with a special direct enamel and a sacrificial anode. The anode with wear indicator protects the inside of the tank against corrosion.

The heating water heated by the heat pump is pumped through an internal indirect coil in the DHW tank. The internal indirect coil transfers the absorbed heat to the DHW. The integral heat pump manager controls DHW heating to the required temperature.

4.2.1.2 Buffer tank

The steel tank serves to hydraulically separate the flow rates of the heat pump and the heating circuit. The heating water heated by the heat pump is transported to the buffer tank by the tank charging pump. When there is a demand, the heating water is supplied to the heating circuit by the integral heating circuit circulation pump.

4.2.1.3 Heat pump manager (OTE)

The system is controlled via the integral OTE3 heat pump manager. For adjustment options, see the controller operating manual.

4.2.1.4 Multifunctional assembly (MFA)

The multifunctional assembly switches between heating circuit and DHW heating. It also includes the safety valve, an air vent valve the flow sensor and the electric emergency heater.

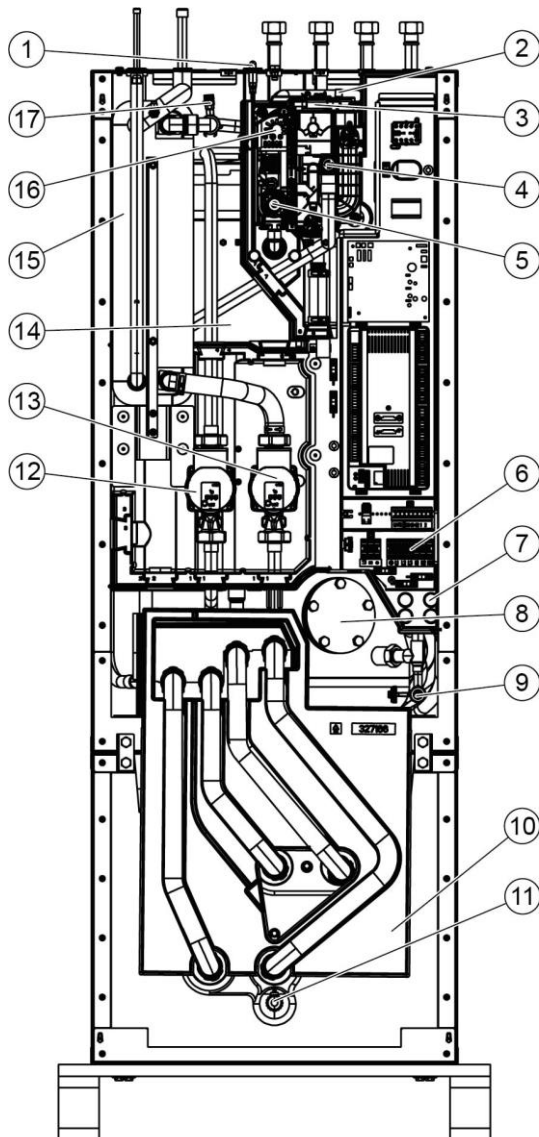
4.2.1.5 Accessories pack

The following components are packed inside the MULTI TOWER, next to the two pumps:

- Outside temperature sensor
- Adjustable feet
- Drain hose
- Operating manual

Gaskets for the hydraulic connection (heating circuit flow, heating circuit return, cold water, DHW) are attached directly at the connections.

4.2.2 Main components



- 1 Magnesium anode
- 2 Air vent valve (MFA)
- 3 Electric booster heater 8.8 kW (MFA)
- 4 Safety valve (MFA)
- 5 3-way switching valve (MFA)
- 6 Electrical connection
- 7 Cable entries
- 8 Maintenance flange
- 9 Drain stopcock
- 10 Buffer tank (100 l)
- 11 Drain stopcock
- 12 Heating circuit pump
- 13 Buffer charging pump
- 14 DHW tank (168 l)
- 15 Condenser (plate heat exchanger)
- 16 High limit safety cut-out (MFA)
- 17 Air vent valve

11_02_200_200_05_01

4.2.3 Installation

4.2.3.1 Installation location



CAUTION

Do not install the appliance in damp rooms!

Install the appliance in a frost free and dry room near the draw-off point. In order to reduce line losses, keep the distance between appliance and heat pump small.

Ensure that the floor has adequate load bearing capacity and is sufficiently level (for weight, see section "Specification / Data table"). The room must not be endangered by explosive dust, gases or vapours.

If installing the appliance in a boiler room with other heating appliances, ensure that their operation is not affected.

Minimum clearances:

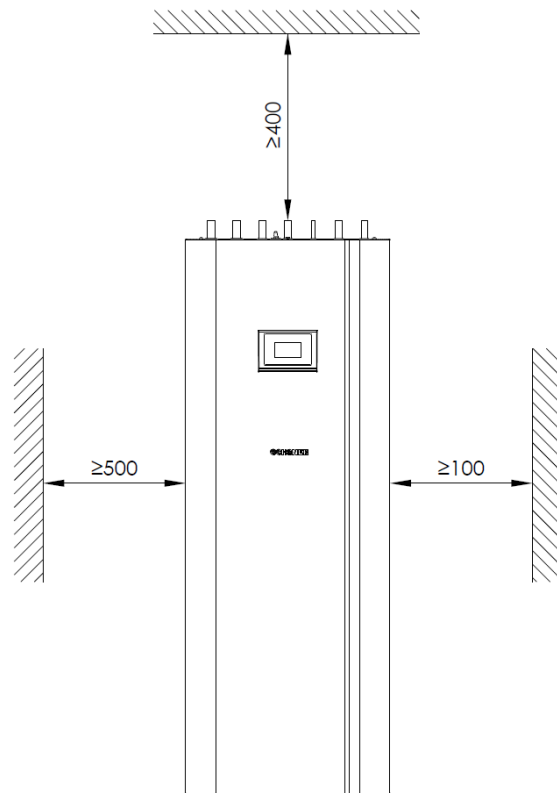
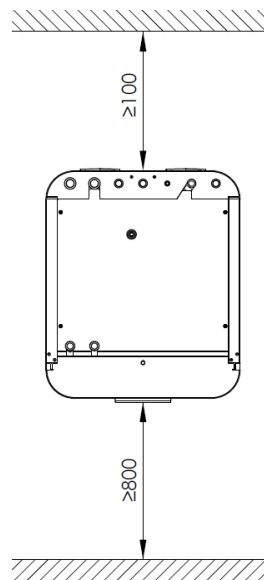


Figure 34: Main components in T200 indoor unit



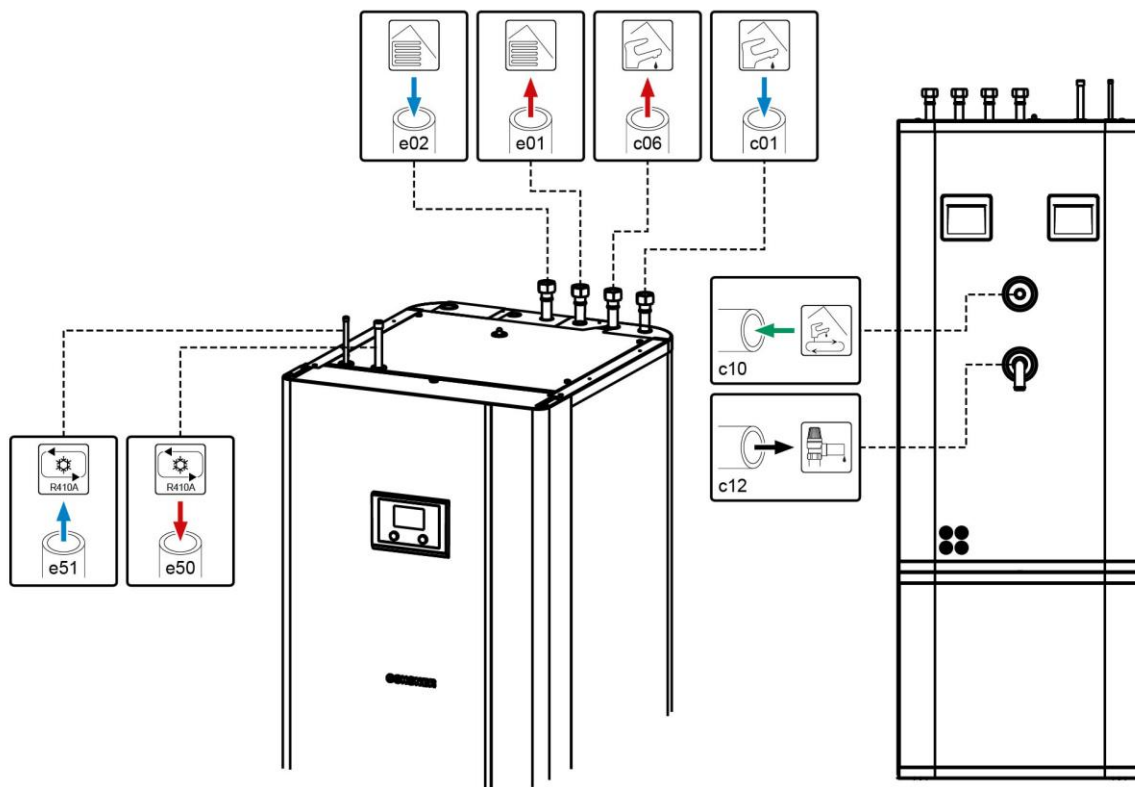
Minimum clearances to the side can be either to the right or the left.

Figure 35: T200 minimum clearances

4.2.3.2 Connection

Connection

Hydraulics and refrigeration:



- e01 Heating circuit flow 1" union nut with flat
- e02 Heating return 1" union nut with flat gasket
- e50 Hot gas line
- e51 Liquid line
- c01 Cold water inlet 1" union nut with flat gasket
- c06 DHW outlet 1" union nut with flat gasket
- c10 DHW circulation 12 mm copper
- c12 Safety valve drain

Figure 36: Hydraulic connections, T200 refrigeration

Dimensions:

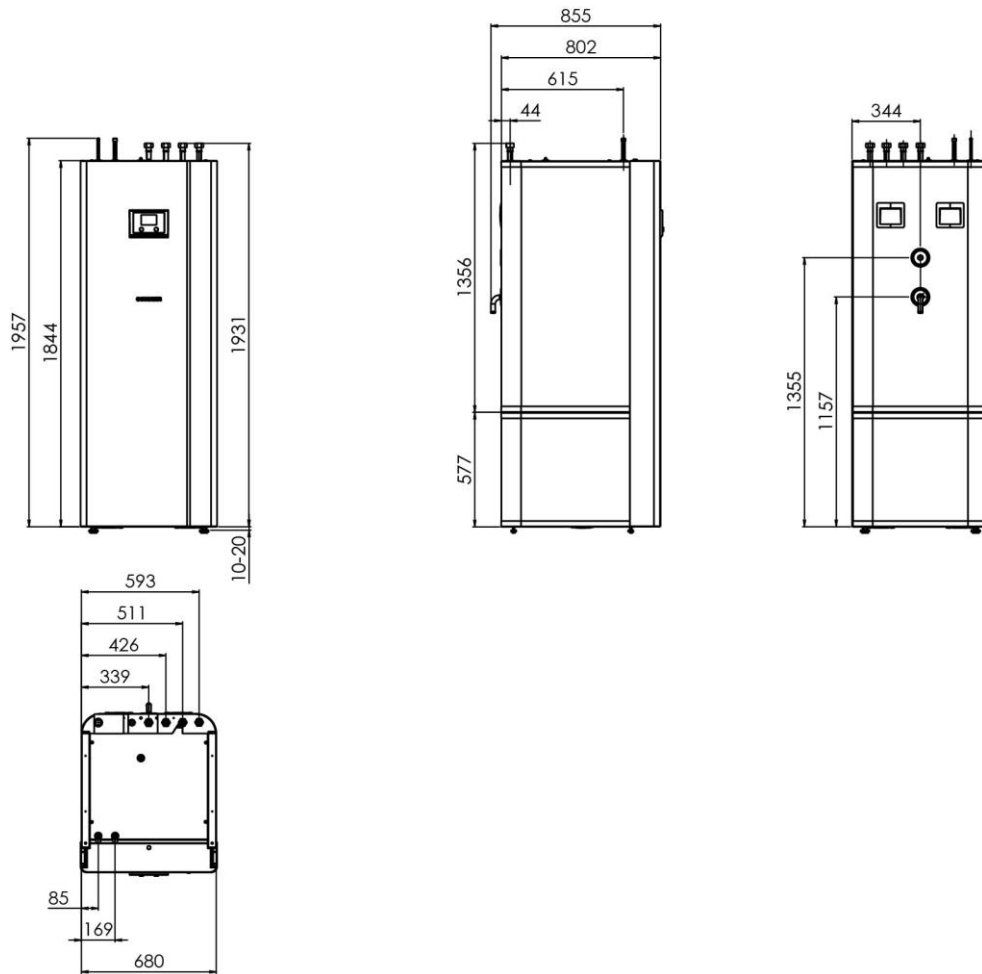


Figure 37: T200 dimensions

11_02_200_202_04_03

4.2.3.3 Transport and handling

- Remove the 4 screws from the non-returnable pallet.

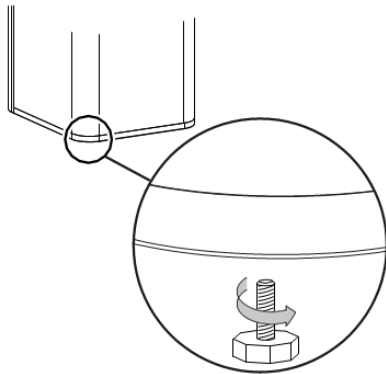
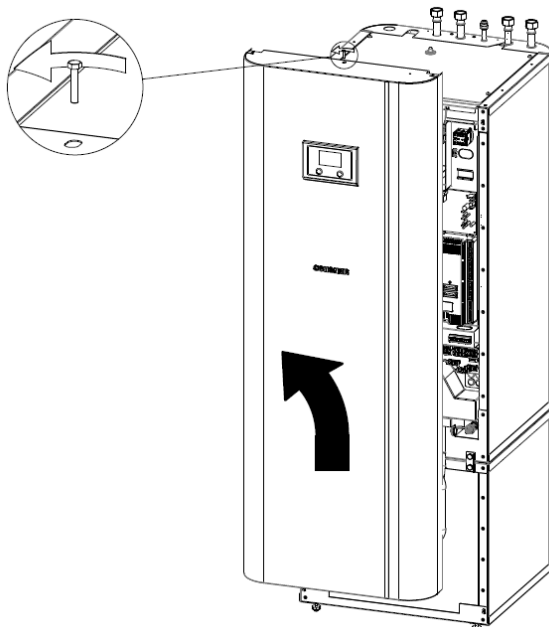


Figure 38: Removing the fixing screw

- Slightly tilt the appliance and screw in the 4 adjustable feet supplied.
- Lift the appliance from the pallet.

Should narrow doors or corridors impede handling, the top and bottom sections of the appliance can be separated as described in the following sections.

Removing the front cladding:



- Remove the screw from the top centre of the appliance.
- Unhook the front cladding towards the top.
- Disconnect the control panel plug and the front panel earth wire.

Installing the front cladding

Install the front cladding in reverse order.

Separating the appliance sections:

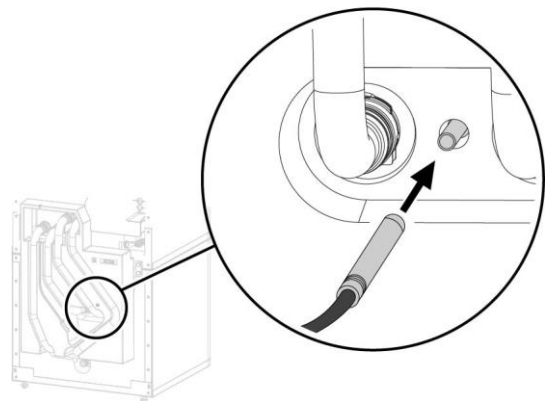


Figure 39: Pull the sensor from the buffer tank.

- Pull out the sensor on the buffer tank.
- Remove the sensor cable from the guiding groove in the insulation element.

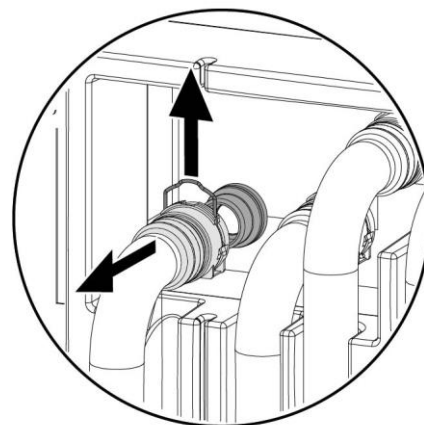
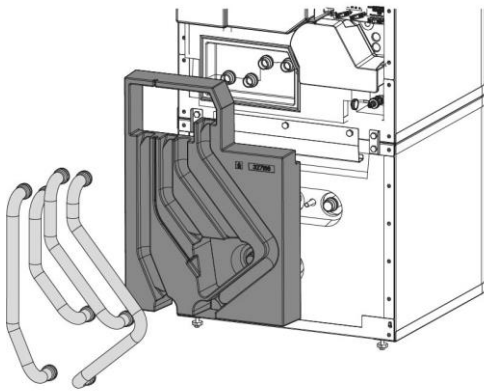


Figure 40: Undoing the plug-in connectors

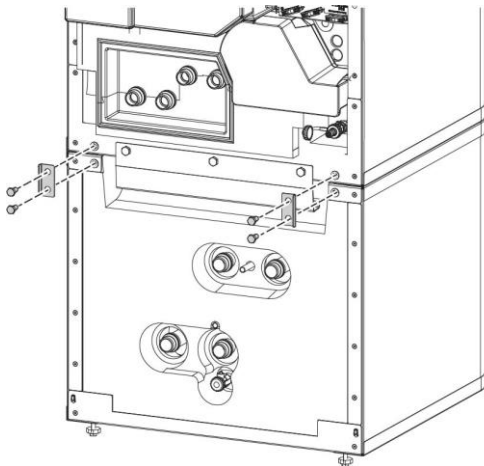
- Undo the plug-in connectors of the 4 hydraulic connections. Pull out the spring clips fully using a screwdriver.
- Pull off the hydraulic connections towards the front.



11_02_200_202_04_06

Figure 41: Removing the hydraulic hoses

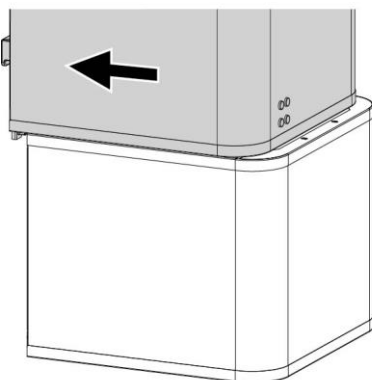
- Remove the 4 hydraulic hoses and the thermal insulation element.



11_02_200_202_04_07

Figure 42: Undoing the connecting screws

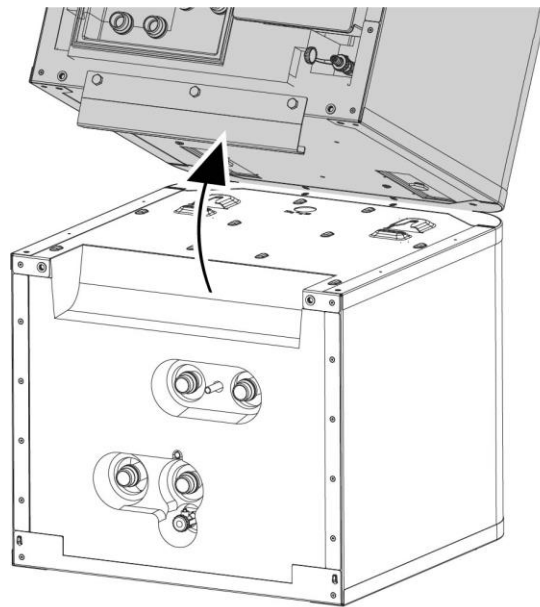
- Undo the 4 screws on the tabs at the front of the appliance.



11_02_200_202_04_08

Figure 43: Separating the appliance sections 1

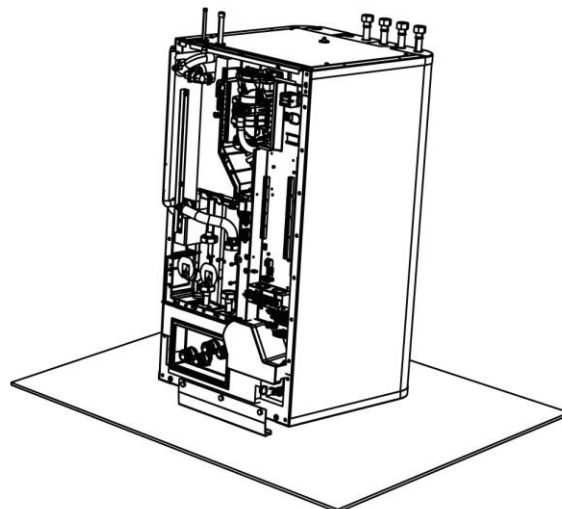
- Pull the top section towards the front.



11_02_200_202_04_09

Figure 44: Separating the appliance sections 2

- Tilt the top section towards the back. Use the grip rail for better grip during transport.



11_02_200_202_04_13

Figure 45: Setting down the T200 top section

- Set the top appliance section on a pad or mat to avoid damage.

Assembling the appliance sections:

Assemble the appliance sections in reverse order.

The positioning aids and dotted line markings facilitate sliding the top appliance section into the guide on the lower section.

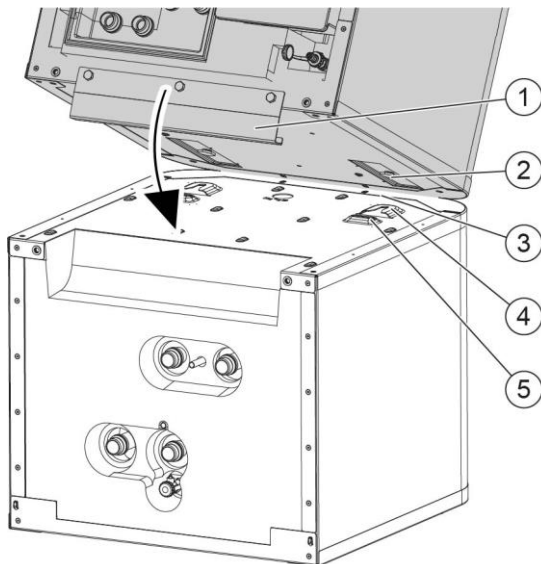


Figure 46: Assembling the appliance sections 1

- 1 Grip rail
- 2 Guide pin
- 3 dotted line (perforation in the metal plate)
- 4 Guide groove
- 5 Positioning aid

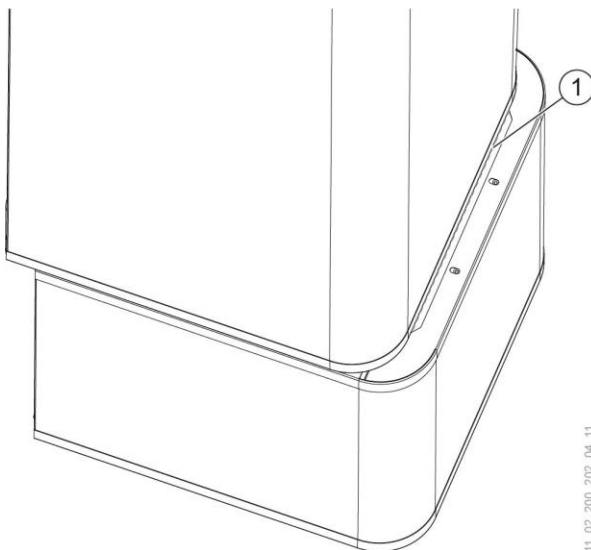


Figure 47: Positioning aid

1 dotted line (perforation in the metal plate)

- Place the top appliance section onto the bottom appliance section at the dotted line.

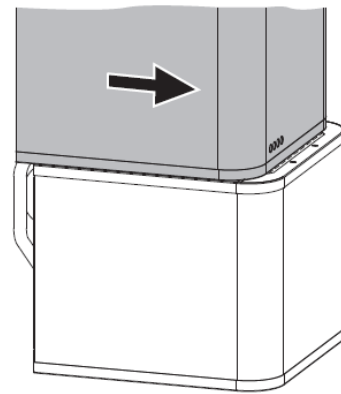


Figure 48: Assembling the appliance sections 2

- Slide the top appliance section towards the rear until it is flush with the bottom section. When the appliance sections are assembled correctly, the end position is given by the guide groove and the guide pin.
- Fasten the tabs at the front of the appliance.
- Fit the thermal insulation element and the 4 hydraulic hoses.
- Fit the plug-in connectors of the 4 hydraulic connections. Ensure that the spring clips engage.
- Plug in the sensor on the buffer tank.
- Route the sensor cable in the guiding groove in the thermal insulation element.

4.2.3.4 Safety valve

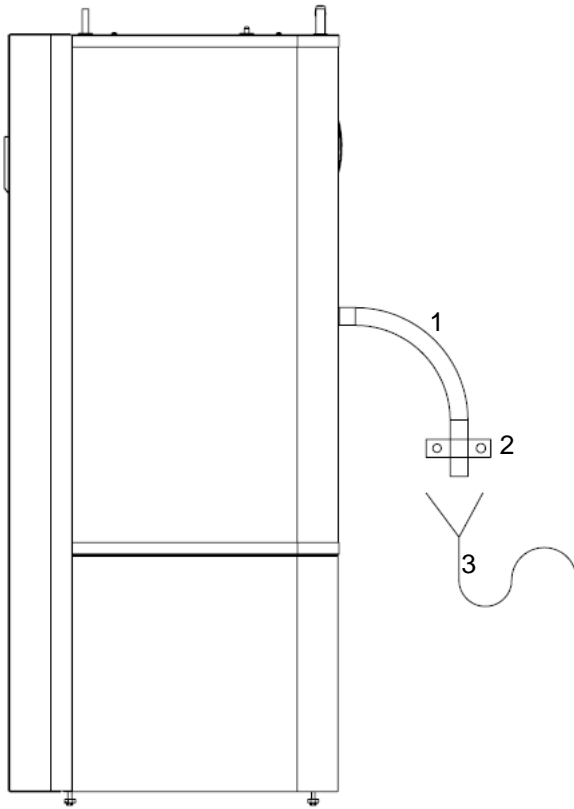


Figure 49: Drain hose, safety valve

1 Drain pipe

2 Fixing

3 Drain

- Size the drain hose to ensure water can drain freely when the safety valve is fully open.
- Ensure that the safety valve drain hose is open to the atmosphere.
- Route the safety valve drain hose with a continuous slope to the drain.
- Secure the drain hose to prevent movement when water is running out.

4.2.3.5 DHW connection and safety assembly

Cold water pipe:

Permitted materials are galvanised steel, stainless steel, copper and plastic.



CAUTION

A safety valve is required.

DHW pipe

Permitted materials are stainless steel, copper and plastic.

Connection:

- Thoroughly flush the pipes.
- Install the DHW outlet pipe and the cold water inlet pipe. (see Specification / Dimensions and connections)
- Install a type-tested safety valve in the cold water inlet pipe. Note that, depending on the supply pressure, a pressure reducing valve may be additionally required.
- Size the drain pipe to ensure water can drain freely when the safety valve is fully open.
- The safety valve drain opening must remain open to the atmosphere.
- Route the safety valve drain pipe with a continuous slope.



CAUTION

Do not exceed the maximum pressure.
(See Specification)



CAUTION

The appliance must be operated with
pressure fittings.

4.2.3.6 Filling the system

Filling the heating system:

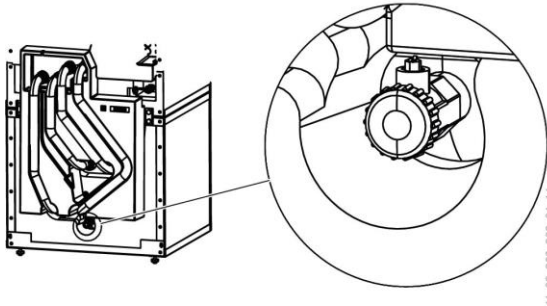


Figure 50: Filling the heating system

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



NOTE

For easier filling, the 3-way switching valve (multifunctional assembly) is set to a position suitable for filling at the factory. The cable from the switching valve to the OTE controller has been disconnected at the factory.

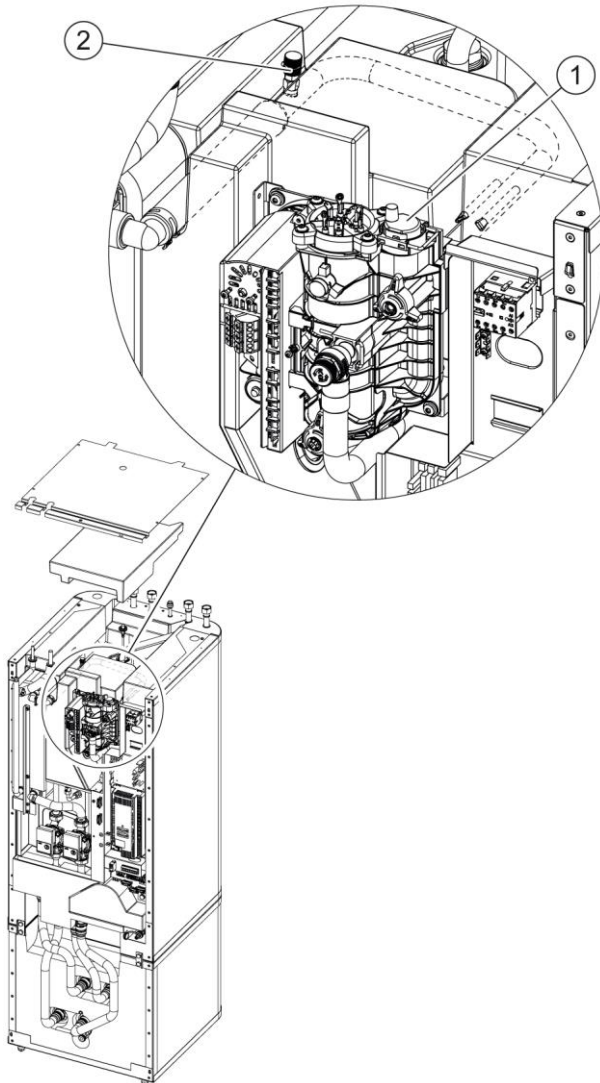
➔ Once the system is successfully filled, connect the plugs **PIN3/N/PE** and **PIN4/N/PE** on the OTE controller.

Filling the DHW tank:

- Fill the DHW tank via the cold water connection.
- Open all downstream draw-off valves until the appliance is filled and the pipework is free from air.
- Adjust the flow rate. Observe the maximum permissible flow rate with fully opened valve (see Specification). If necessary, reduce the flow rate at the throttle on the safety assembly.
- Carry out a leakage test.
- Test the safety valve.

4.2.3.7 Venting the system

- To vent the system, temporarily open the air vent valve (1) on the multifunctional assembly.



There is another air vent valve underneath the top appliance cladding.

- Remove the top appliance cladding.
- Remove the thermal insulation material underneath.
- To vent the system, temporarily open the air vent valve (2).



-CAUTION

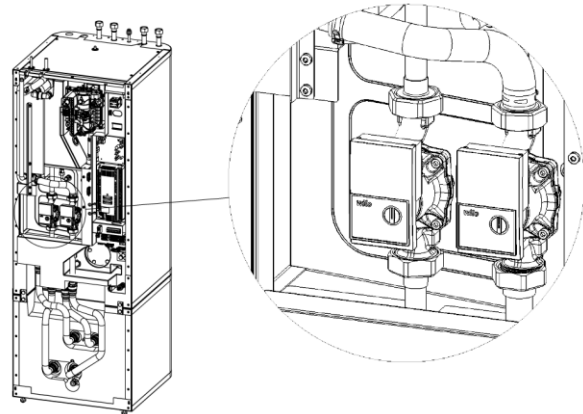
-Close the air vent valves after venting.

4.2.4 Using T200 with a heating circuit with mixing valve

To use the T200 indoor unit with a heating circuit with mixing valve, the internal heat circuit pump must be replaced with an adaptor.

Heating circuit pump position:

The heating circuit pump is the left-hand pump in the upper section of the T200.



Adaptor:

The adaptor needs to have the following dimensions:

- Connections 2 x 1½" MT, with flat gasket
- Length 180 mm
- Nominal diameter DN 25 (1")

The adaptor is available from OCHSNER as an accessory with the item number 914383.

Subsequently, the heating circuit (or several) can be set up externally.

Connect the components of the mixed circuit to the following connections on the controller:

- Mixer: **PIN 15/16/N/PE**
- Mixed circuit sensor: **PIN 43/GND**
- Mixed circuit pump: **PIN 8/N/PE**

Recommission the controller with heating circuit 2 in mixed configuration.

In case of more than one mixed circuit, an auxiliary module (order no. 290197) is required.

4.2.5 Cooling with T200

Only gentle cooling down to a flow temperature of 18°C is permitted with the T200 indoor unit!!!

4.2.6 T200 electrical connection

Electrical connection:

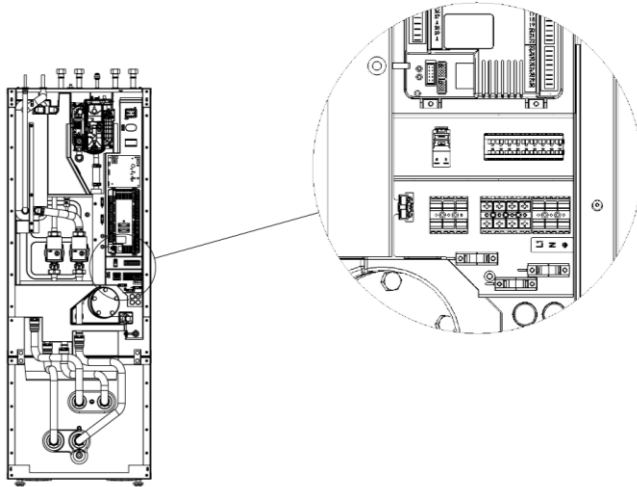


Figure 51: T200 electrical connection

The appliance junction box is located behind the front panel.

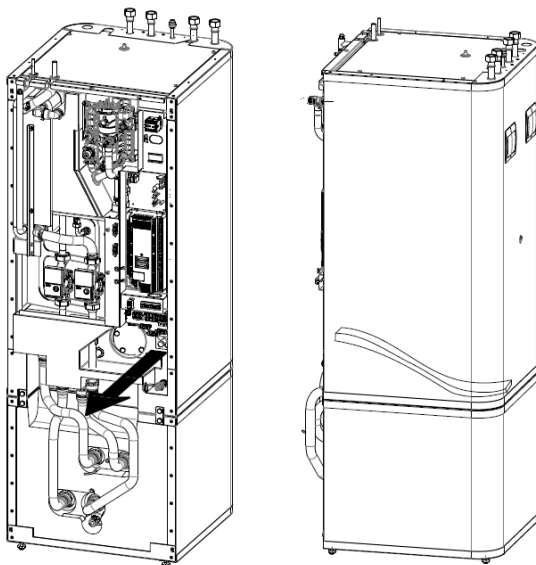
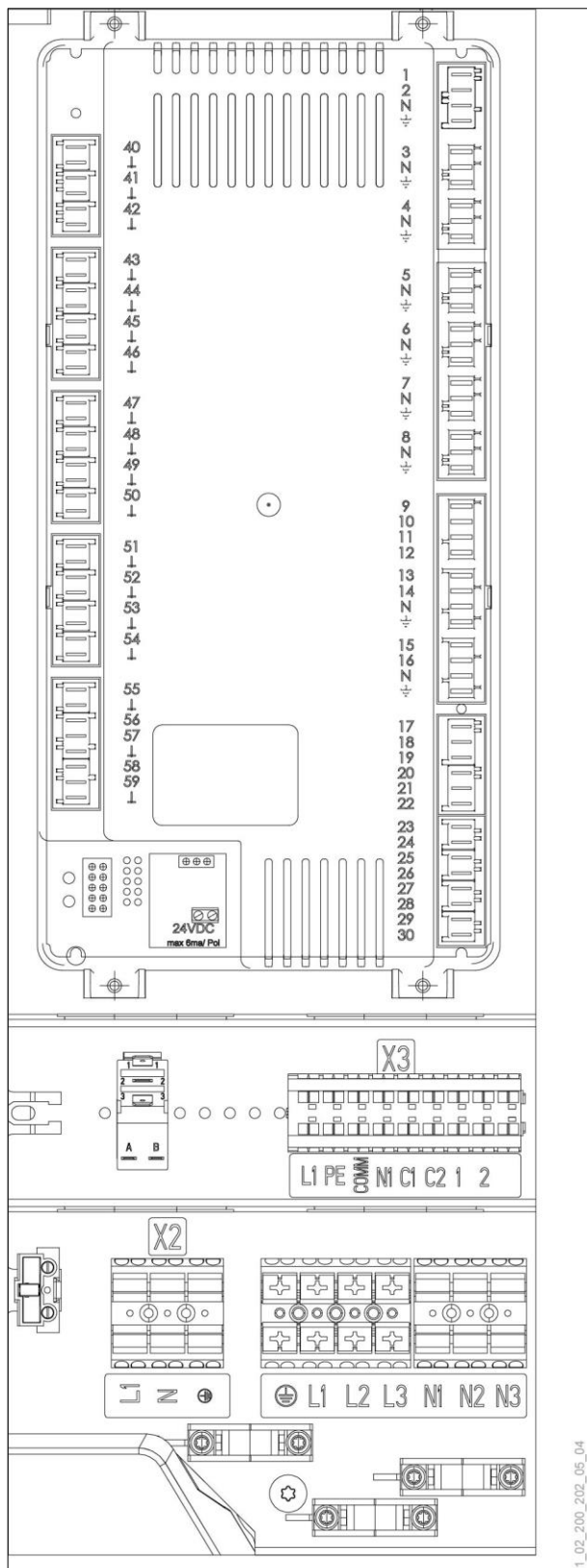


Figure 52: T200 indoor unit cable entry

- Route all mains and sensor cables through the cable entry into the appliance.
- Observe the regulations and information in **Section 6 Electrical connection**.

T200 control box:



	Terminal	Description
X1	L1/L2/L3	Electr. booster heater 8.8 kW
	N1/N2/N3	
X2	L/N/PE	OTE controller supply
X3	L1/PE/COMM	Connection to outdoor unit
	N1/C1/C2	
	1/2	PSU signal contact

Figure 53: T200 indoor unit connection terminals

OTE pin	Description
8	Heating circuit pump 2, with mixer valve (HCP 2)
15/16	Heating circuit mixing valve (MVH)
41/42	Control elements (eBus)
43	Mixer sensor (TMK)
44	Outdoor temperature sensor (TA)
55	Default target value, building management system (BMS)

4.2.7 T200 maintenance



CAUTION

Before any work is carried out, all electrical connections to the appliance must be isolated from the mains across all poles.

Draining the buffer tank:

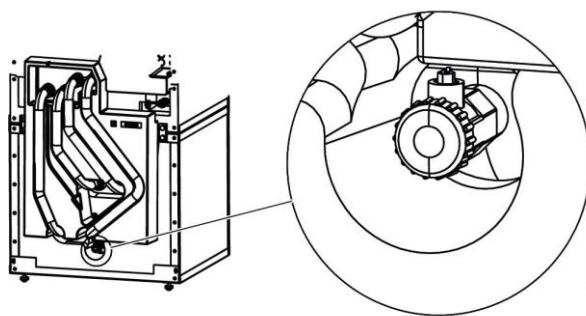


Figure 54: Draining the buffer tank

- Drain the buffer tank via the drain valve.

Draining the DHW tank:



CAUTION Scalding

Hot water can escape when draining the DHW tank.

- Close the shut-off valve in the cold water inlet pipe.
- Open the DHW valves on all draw-off points.

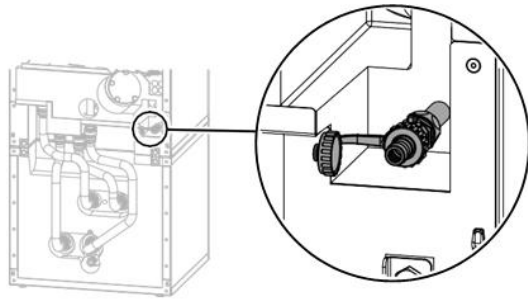


Figure 55: Draining the DHW tank

- Drain the DHW tank via the drain valve.

Cleaning and descaling the DHW tank:



CAUTION

Do not use a descaling pump or descaling agent to clean the tank.

- Clean the appliance via the inspection flange.
- For tightening torques and flange bolts, see Specification.

Sacrificial anode:



CAUTION!

If the wear indicator has changed from a white to red colour, let a qualified contractor check the sacrificial anode and replace it if necessary.

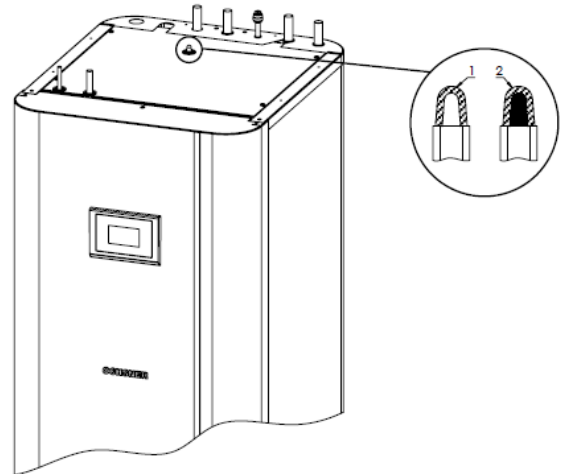


Figure 56: T200 DHW tank sacrificial anode

1 white = anode OK

2 red = requires checking by qualified contractor

- Replace the sacrificial anode when it has been used up.

5 Refrigerant lines



WARNING

Work on the refrigerant circuit may be carried out only by an authorised and suitably qualified contractor.

- When handling refrigerant, wear appropriate gloves, protective clothing and protective glasses.

	Unit	AIR BASIC 109	AIR BASIC 211	AIR BASIC 416	AIR BASIC 618
max. length	m	< 20	< 20	< 20	< 20
max. height differential	m	10	15	15	15
Refrigerant		R410A	R410A	R410A	R410A
Charge	kg	1.2	2.15	2.95	2.95
top-up charge for line lengths > 12 m to < 20 m	g/m	20	60	60	60
max. operating pressure	bar	43	43	43	43
Hot gas line	mm	12	16	16	16
Liquid line	mm	6	10	10	10

Table 2: Refrigerant lines

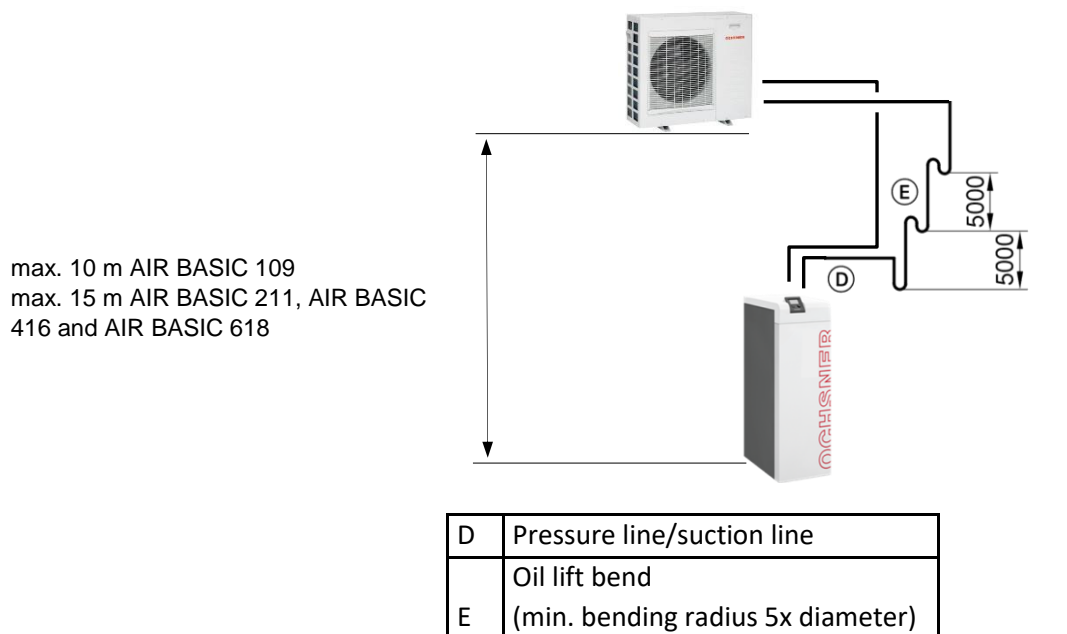
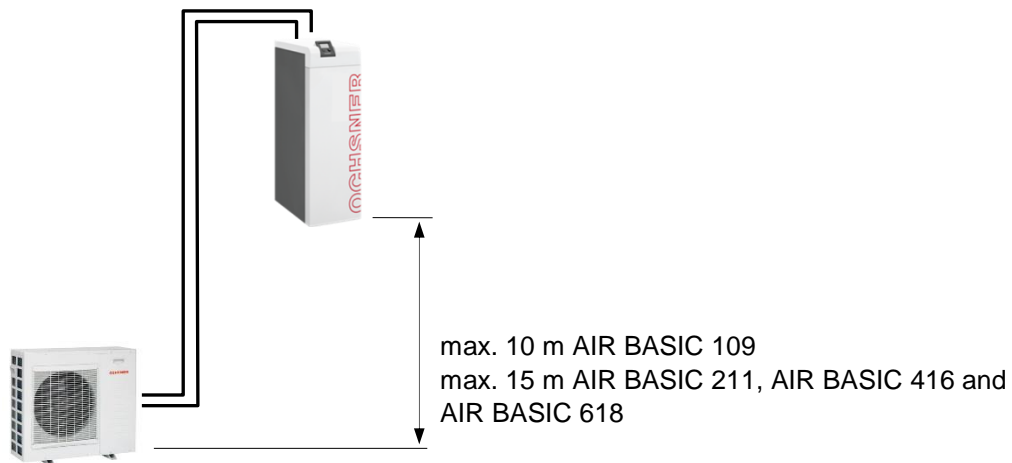


Figure 57: Refrigerant line routing

5.1 Outdoor unit connection



NOTE

If the appliance, the refrigerant lines, the fixing points and the wall conduits are not properly installed, structure-borne sound may be transmitted to the building.

→ Ensure the refrigerant lines are secured in a way to minimise structure-borne sound. The system installer carrying out the work is responsible for this.

Fit damp-proof and diffusion-proof insulation to the refrigerant lines!

Use refrigerant pipes for the refrigeration connection of the outdoor unit. OCHSNER recommends using the solder-crimp fittings supplied. If these have not been supplied with the product, customer service will provide them when commissioning the system.

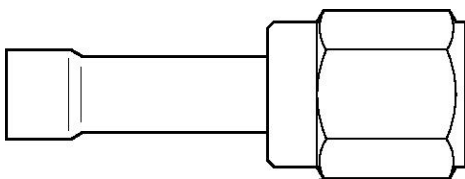


Figure 58: View of solder-crimp fitting

The solder-crimp fittings provide a better seal than crimps made on site.

Leak rate < 1 g/year



CAUTION

OCHSNER customer service will solder the crimp fittings professionally during commissioning.

Tighten the screws with the following tightening torques:

Tightening torques for solder-crimp fittings		
Pipe	Connection	Torque
Liquid line Ø1/4"~6 mm	7/16 UNF	20 Nm
Liquid line Ø3/8"~10 mm	5/8 UNF	30 Nm
Hot gas line Ø1/2" ~12 mm	3/4 UNF	60 Nm
Hot gas line Ø5/8" ~16 mm	7/8 UNF	70 Nm

Table 3: Tightening torques of solder-crimp fitting



NOTE

Refrigerant pipe laying work will be charged separately.

Procedure when NOT using the supplied solder-crimp fittings

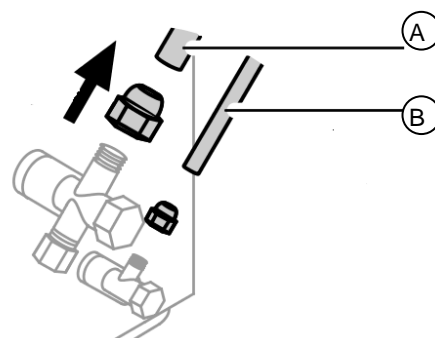
Step 1 of 3:

Undo the nuts from connections A (hot gas line) and B (liquid line) of the refrigerant lines.



CAUTION

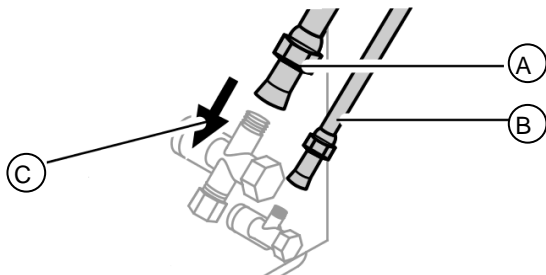
Ensure that no contamination (e.g. metal swarf) or moisture enters the copper pipes. Therefore, hold the pipe openings downwards and close them.



Step 2 of 3

Flare the pipe ends. The pipe ends must be deburred before flaring!

Step 3 of 3



Push on the flared pipes (C) and screw on.

Figure 59: Connecting the flared fitting

5.2 Indoor unit connections



CAUTION

The refrigeration connections are located on the top of the indoor unit. Customer service will solder them in this location during commissioning. Do not bend these pipes. Bend the pipes coming from the outdoor unit for connection.



Figure 60: View of indoor unit Golf Midi



Figure 61: View of T200 indoor unit

Soldering is performed by customer service during commissioning.



NOTE

Fit heat-proof and vapour diffusion-proof insulation to the refrigerant lines.

5.3 Leakage test

OCHSNER customer service will perform and record the leakage test during commissioning.

6 Electrical connection



CAUTION

Long-term operation of a three-phase drive (compressor, pumps, fans) via a three-phase power supply with incorrect phasing will damage the drive.

- Ensure that all three-phase motors are connected to a three-phase supply with a clockwise rotating field.

6.1 Cable cross-sections/ screened cable

Cables should be selected by the electrician taking into account the output and cable lengths. Conventional cables with multi-strand cores should be used for wiring sensors and actuators. The following guidelines should be followed:


Position	min. cross-section
Connection cables 220-240 VAC (pumps, actuators) Always size connection cables according to the local conditions.	1.5 mm ²
Sensor cables: (outdoor sensor, etc.) Always route sensor cables away (min. 20 cm) from 240 V/400 V cables. The maximum cable length must not exceed 50 m.	1.0 mm ²
Bus cables (eBus e.g.: room remote controls, auxiliary modules, bus connections for cascades, etc.) must always be routed in a screened configuration. Only earth the screen once → on the heat pump to PE. OCHSNER recommends the following conventional cable: Y(ST)Y 2x2x0.8 CAUTION: OCHSNER accepts no liability for damage caused by insufficient protection against electric emissions.	0.8 mm ² 

Table 4: Cable cross-sections

6.2 PSU control contact

In the case of tariff switching (with interrupted power supply), the heat pump is temporarily shut down by the PSU. A control input (jumper on terminal PSU, terminal strip) is provided on the controller for this. Where tariff switching takes place inside the meter (night tariff), the PSU contact must not be made. In case of shutdown by the tariff contactor (sealed by the PSU, installed on site), the heat pump power supply is disconnected. The heat pump signal contact must be made via the tariff contactor auxiliary contact.

High limit safety cut-out (HLSC)

If an on-site high limit safety cut-out is installed, it can be connected to the HLSC contact on the terminal strip. This shuts down the feed pump. This only applies for hydraulic connection versions 7.1 and 7.2. In all other versions the HLSC must interrupt the power supply of the on-site heating circuit pump **directly**.



NOTE

Observe minimum distances between sensor cables and 240 V/400 V. If this is not possible, use screened cables. Connect the screen to the heat pump on PE. This is particularly important for the outdoor sensor wiring. **All wiring/cables must be flexible (Ölflex)!**

**NOTE****Information regarding mains connection in Austria:**

The AIR BASIC is equipped with a single phase inverter > 1.3 kVA. According to TAEV, part III or TOR, part D1, operation of these appliances requires the written permission of the grid operator. This permission should be obtained by an electrician. Operators of non-registered appliances could be required to decommission the system or held liable for any damage and cost to the grid operator or other grid users.

6.3.3 AIR BASIC 211

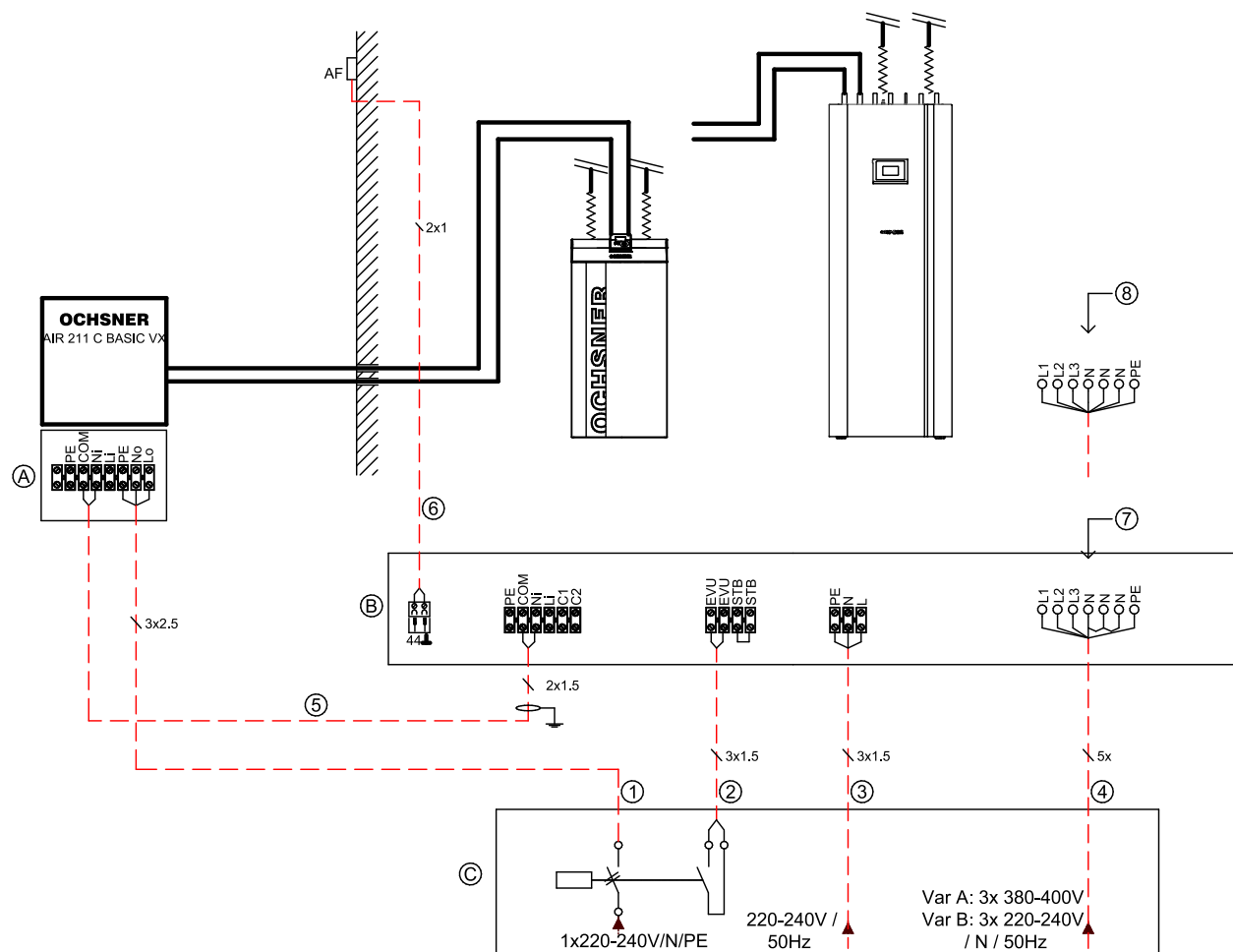


Figure 64: Wiring diagram AIR BASIC 211

All wiring/cables must be flexible (ÖLFLEX).

CAUTION Schematic diagram: The schematic does not include all fittings/safety elements/components required for installation. Install the system according to the relevant standards and local guidelines!

KEY:

A) Outdoor unit terminal box

B) Indoor unit

C) Meter/distributor

1) Outdoor unit supply

1x 220-240 VAC 50 Hz /N/PE

2) PSU cable (remove the factory-fitted jumper)

3) Control cable 240 V

4) Supply of integral 8.8 kW E-rod

5) Bus connection between indoor and outdoor units,
lay the screen on both sides!

6) Outdoor sensor

7) Vers.A: Booster heater with 3~ supply

8) Vers.B: Booster heater with 1~ supply

Protection of 1 with 16 A C fuse protection.

Protection of 4 with 16 A C fuse protection.

When tariff switching by the PSU (power supply utility) is active, the signal contact must always be connected!

Provide wiring at A) with 50 cm excess length. This allows removal of the switching plate and thus enables servicing.

PLEASE NOTE

All cables should be sized by the electrical contractor according to local conditions.

6.3.4 AIR BASIC 211 interruptible tariff

(interruptible supply of indoor unit via outdoor unit with 2 separate RCDs)

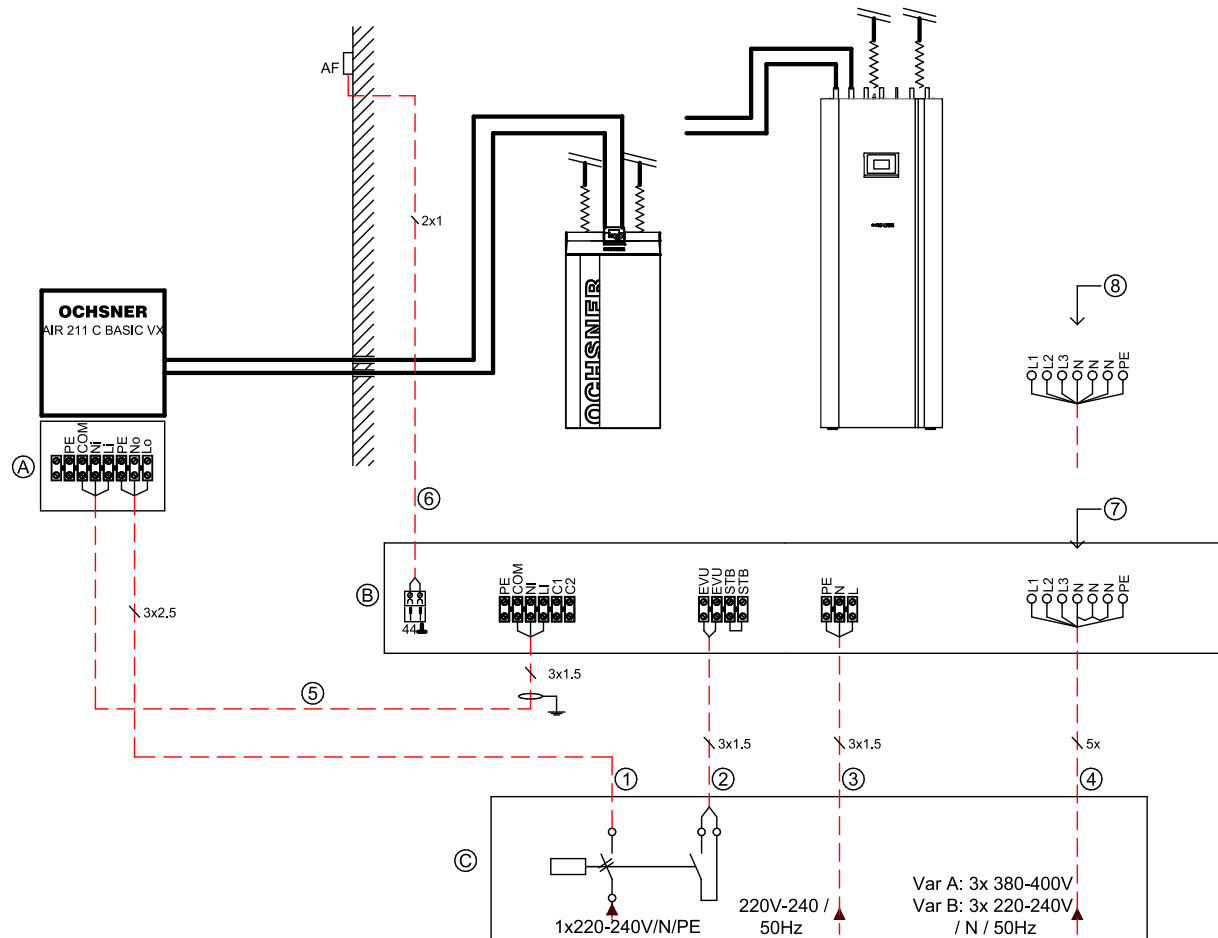


Figure 65: AIR BASIC 211 wiring diagram (interruptible supply of indoor unit via outdoor unit)

All wiring/cables must be flexible (ÖLFLEX).

CAUTION Schematic diagram: The schematic does not include all fittings/safety elements/components required for installation. Install the system according to relevant standards and local guidelines!

KEY:

- A) Outdoor unit terminal box
- B) Indoor unit
- C) Meter/distributor

- 1) Outdoor unit supply
- 1x 220-240 VAC 50 Hz /N/PE
- 2) PSU cable (remove the factory-fitted jumper)
- 3) Control cable 240 V
- 4) Supply of integral 8.8 kW E-rod
- 5) Bus connection between indoor and outdoor unit, lay the screen on both sides!
- 6) Outdoor sensor
- 7) Vers.A: Booster heater with 3~ supply
- 8) Vers.B: Booster heater with 1~ supply

Protection of 1 with 16 A C fuse protection.
Protection of 4 with 16 A C fuse protection

Always make the signal contact when tariff switching by the PSU (power supply utility) is in operation!

Provide wiring at A with 50 cm excess length. This allows removal of the switching plate and thus enables servicing.

NOTE

All cables should be sized by the electrical contractor according to local conditions

6.3.5 AIR BASIC 416

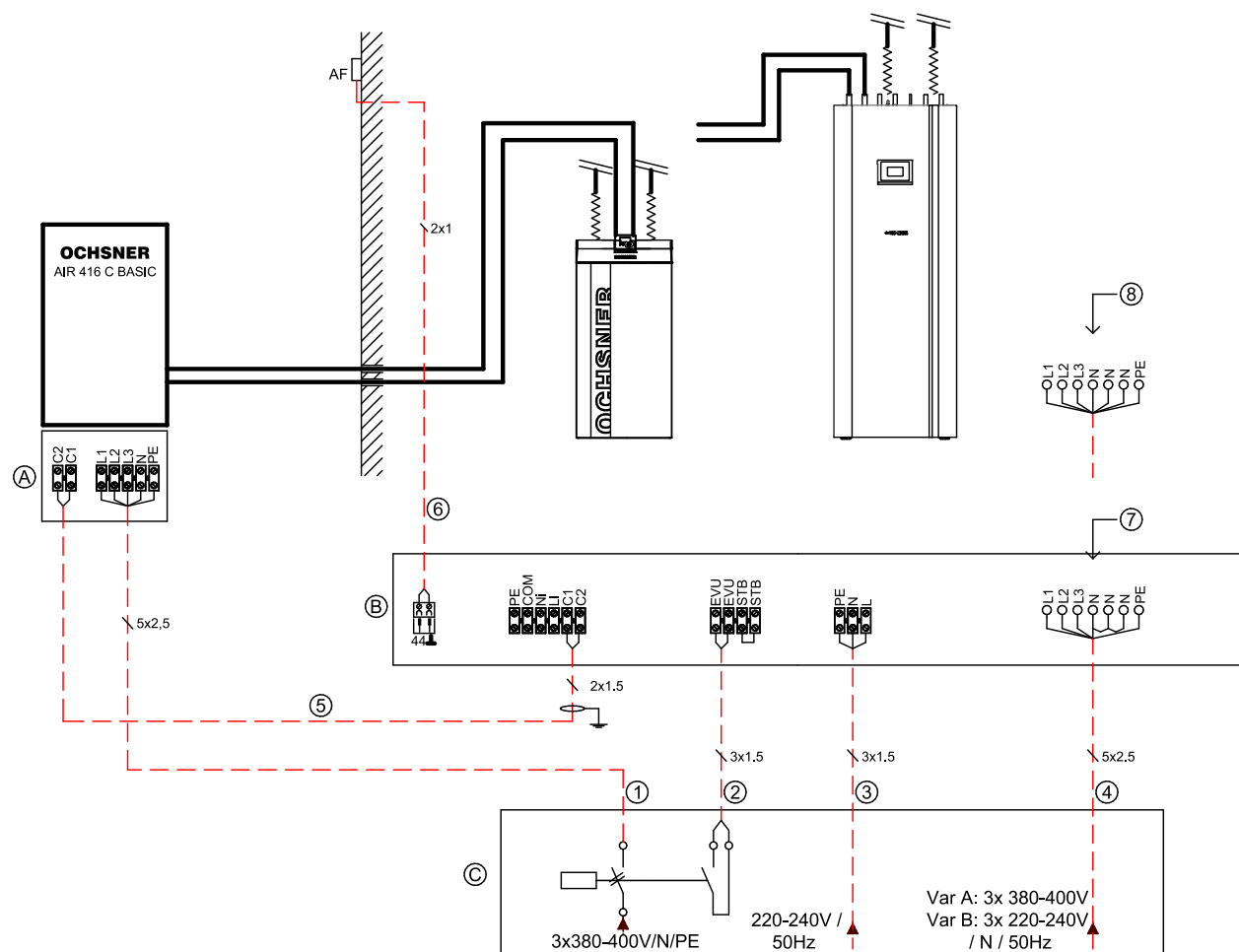


Figure 66: Wiring diagramAIR BASIC 416

All wiring/cables must be flexible (ÖLFLEX).

CAUTION Schematic diagram: The schematic does not include all fittings/safety elements/components required for installation. Install the system according to the relevant standards and local guidelines!

KEY:

- A) Outdoor unit terminal box
- B) Indoor unit
- C) Meter/distributor

- 1) Outdoor unit supply
3x380-400 VAC 50 Hz /N/PE
- 2) PSU cable (remove the factory-fitted jumper)
- 3) Control cable 220-240 V
- 4) Supply of integral 8.8 kW E-rod
- 5) Bus connection between indoor and outdoor units,
lay the screen on both sides!
- 6) Outdoor sensor
- 7) Vers.A: Booster heater with 3~ supply
- 8) Vers.B: Booster heater with 1~ supply

Protection of 1 with 20 A C fuse protection.
Protection of 4 with 16 A C fuse protection.

Always make the signal contact when tariff switching by the PSU (power supply utility) is in operation!

Provide wiring at A) with 50 cm excess length. This allows removal of the switching plate and thus enables easy servicing.

PLEASE NOTE

All cables should be sized by the electrical contractor according to local conditions.

6.3.6 AIR BASIC 618

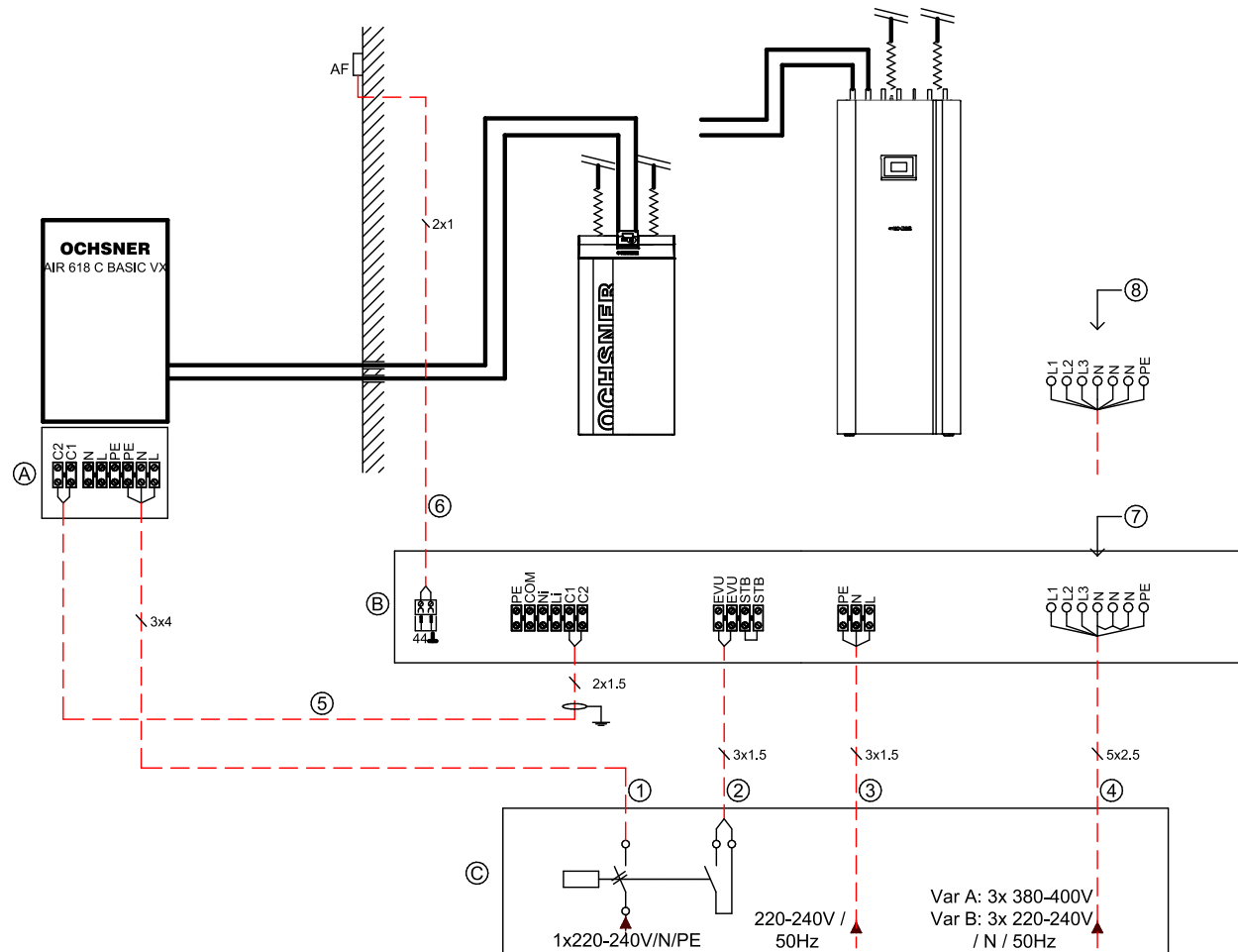


Figure 67: AIR BASIC 618 wiring diagram

All wiring/cables must be flexible (ÖLFLEX).

CAUTION Schematic diagram: The schematic does not include all fittings/safety elements/components required for installation. Install the system according to the relevant standards and local guidelines!

KEY:

A) Outdoor unit terminal box

B) Indoor unit

C) Meter/distributor

1) Outdoor unit supply

1x220-240 VAC 50 Hz /N/PE

2) PSU cable (remove the factory-fitted jumper)

3) Control cable 240 V

4) Supply of integral 8.8 kW E-rod

5) Bus connection between indoor and outdoor units,
lay the screen on both sides!

6) Outdoor sensor

7) Vers.A: Booster heater with 3~ supply

8) Vers.B: Booster heater with 1~ supply

Protection of 1 with 32 A C fuse protection.

Protection of 4 with 16 A C fuse protection.

Always make the signal contact when tariff switching by the PSU (power supply utility) is in operation!

Provide wiring at A) with 50 cm excess length. This allows removal of the switching plate and thus enables easy servicing.

NOTE

All cables should be sized by the electrical contractor according to local conditions.

6.3.7 Sensor

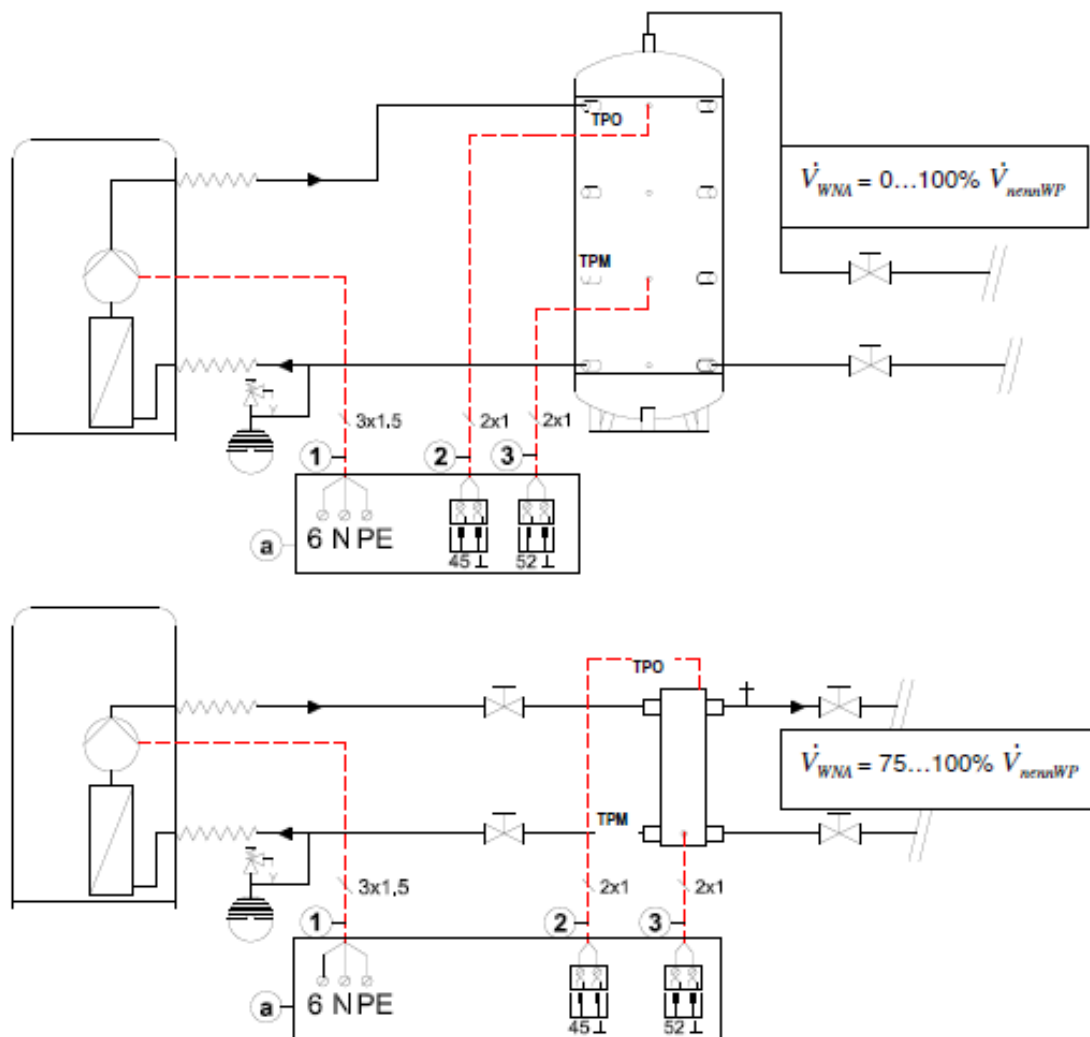


Figure 68: Electric schematic with buffer tank/low loss header

CAUTION Schematic diagram: The schematic does not include all fittings/safety elements/components required for installation. Install the system according to the relevant standards and local guidelines!

KEY:



Low voltage cables must be routed away from 240 V/400 V cables!

a) Heat pump terminal strip

- 1) Wiring, charging pump buffer/low-loss header
- 2) Top buffer sensor TPO
- 3) Middle buffer sensor TPM

Configuration with buffer or low loss header:

06-076 HEAT DISTRIBUTOR

Heat manager application type

2: Buffer 2 sensor

ESC

ENTER

Buffer sensor (TPO, TPM)

Two buffer sensors are required in the buffer tank. The heat pump is switched on based on readings from the TPO and switched off based on those from the TPM.

- Install a sensor pocket in the female socket provided for the upper buffer sensor (TPO)
- Install a sensor pocket in the female socket provided for the lower buffer sensor (TPM)

**NOTE**

In systems with **direct heating circuit**, install the TPO sensor in the heating flow of the heat pump indoor unit.

- Install the TPO sensor in the indoor unit at the marked location on the heating flow pipe, downstream from the electric booster heater (MFA).
- The required controller parameters are set by OCHSNER customer service or specialist personnel authorised by OCHSNER.

In systems with a buffer tank, a bypass or a low loss header or a heating circuit with mixing valve, the TPO sensor must **not be installed in the indoor unit**.

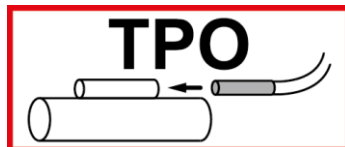


Figure 69: Pipe marking in the heat pump indoor unit

7 AIR BASIC with ECO tank

Installation instructions



This combination requires a minimum room height of 250 cm.



NOTE

Install the mounting rail approx. 240 cm above floor level.

Installation of Golf Midi indoor unit with ECO tank

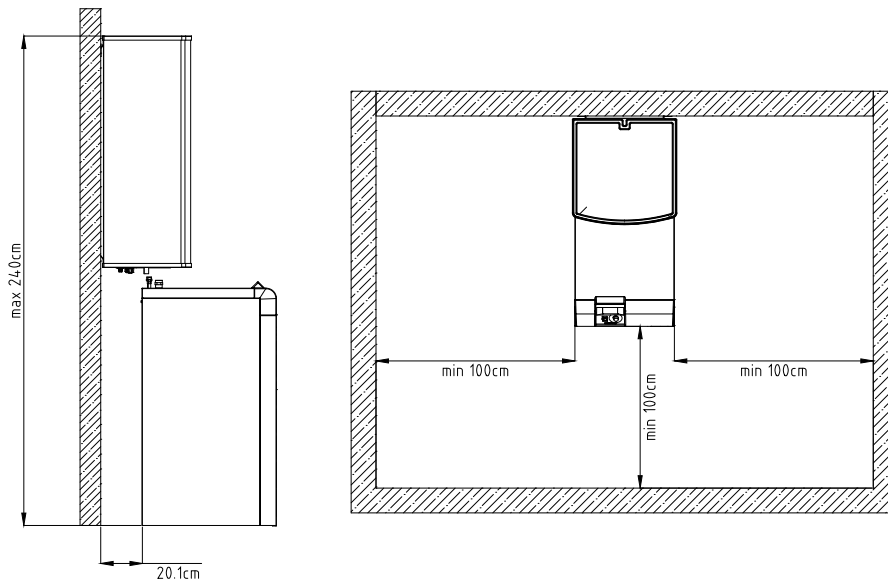


Figure 70: Installation instructions for AIR BASIC with ECO tank

Mounting the rail

The Eco tank is mounted with a mounting rail. This has to be mounted on the wall with screws and wall plugs (consider the load bearing capacity and strength of the wall). The connection between indoor unit and Eco tank is made using corrugated pipe connections. These are supplied with the product.

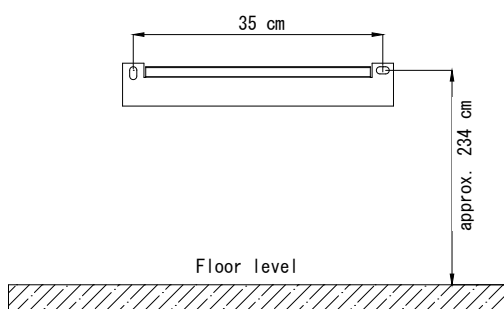


Figure 71: View of mounting rail and rear view of tank with mounting rail

8 Dealing with minor faults



NOTE

Let only trained specialist personnel carry out adjustments and troubleshooting. Standard settings for the controller are made by the contractor during commissioning. The operator / maintainer is responsible for any corrections and program adjustments! (See the following table)

Fault/display	Cause	Solution
Energy generator fault high pressure (Er 36)	Energy transfer not ensured	Open shut-off valves
	Heating circuits excessively restricted	
	one or more circulation pumps are not pumping	Re-establish function
	Speed (output level) of heating circulation pump too low	Increase pump speed (stepper switch), delta t = 5 K flow/return
	Air in heating circuit	Vent heating circuit
	3-way switching valve faulty	replace
	Non-return valve stays shut	loosen, replace
	with optional external DHW heating: - Heat exchanger too small - Heat exchanger scaled up or silted up	increase Notify heating contractor, clean, descale
	Controller set too high	Correct switch-off point downwards, 55°C is the highest temperature!!!!
	Loose terminal connections	Establish firm terminal connections
Heating system is not hot, heat pump is hot up to buffer tank/low loss header	Energy transfer is interrupted or too low	Replace circulation pump, vent heating circuit, open gate valve, open control valves, increase output level of DHW circulation pump
Heat pump is running, heating output too low	Excessive heat demand	Reduce heat load
	Source system overstretched	Reduce heat load
	Heat pump is switched to boiler priority	Check controller setting for DHW
	Building design specification (e.g. thermal insulation of building)	Ensure building meets its design specification
Heat pump only produces DHW but does not heat or heats too late	DHW target temperature is too high	Reduce switch-off point
	Controller is in summer mode	Set controller to heating mode
	Heat exchanger for DHW too small	Increase size of heat exchanger
	DHW heat exchanger scaled up	Notify heating contractor, clean, descale heat exchanger
DHW temperature not reached or no longer reached	Heat exchanger for DHW is too small	Increase size of heat exchanger
	Heat exchanger is scaled up	Descale heat exchanger
	Sensor positioned incorrectly	Position correctly
	Pipework too small	Install larger pipes
	Faulty DHW sensor	replace
	DHW charging pump faulty	replace
	DHW charging pump output level set too low	Set higher output levels
	3-way switching valve faulty	replace
Heat pump runs continually and yields only low temperature; traces of oil in the appliance	<u>Refrigerant leak</u> Loose fittings, refrigerant line leaking	Switch off heat pump, notify customer service
Power-off operating state	A PSU lockout time from the energy supplier is active	
insufficient flow rate (Er 91)	The minimum flow rate at the heat pump is not being reached.	Buffer charging pump faulty, diverter valve faulty, insufficient system pressure, flow sensor faulty

Table 5: Troubleshooting

9 Maintenance

9.1 Service



For maintenance work, disconnect the power supply to the indoor unit and the outdoor unit of your heat pump.



NOTE

Ensure that the refrigerant circuit of your heat pump is tested for leaks once a year (in acc. with Regulation (EU) no. 517/2014).

- Ensure year-round access to soldered joints in the refrigerant circuit.
- Document the results of the leakage test in the system test report.

We recommend arranging for an inspection and if necessary a service on the heat pump to be conducted once a year. We draw your attention to the fact that statutory regulations require regular testing of heating systems by the system user.

The refrigerants used in OCHSNER heat pumps are non-flammable, non-toxic and ozone neutral. However, heat pumps are refrigeration equipment and are subject to the provisions of the F-gas Regulations (Regulation (EU) no. 517/2014). OCHSNER Customer Service will be pleased to help in carrying out maintenance and testing, in particular as required by the F-gas Regulations. For more information, see www.ochsner.com.

We recommend testing the heating water system pressure and correcting it if necessary (pressure too high/low).

We recommend adjusting the pre-charge pressure in the diaphragm expansion vessel (DEV) on the system accordingly (system height).

We recommend monitoring the flow rate of the heat sink system (WNA) and if necessary the heat source system (WQA) using the flow meters specified by OCHSNER.

We recommend that when non-routine work takes place requiring refilling (e.g. system alteration or pipe breakage), a current water assessment be prepared and the heat sink system be refilled on the basis of this.

9.2 Cleaning and care

Indoor unit

Clean the indoor unit with conventional household cleaning agents (water, mild soapy solution). Do not use corrosive cleaning agents!

Outdoor unit

As indoor unit. Do not use coarse tools to remove dirt from between the evaporator fins in the outdoor unit. Use compressed air (max. 8 bar) against the normal airflow direction to clean the evaporator fins. **In case of heavy contamination, we recommend notifying customer service or your system partner.**

Ensure that no ice is formed, especially around walking surfaces and entrances around the outdoor unit.

9.3 Customer service

Should defects occur on your appliance despite the high quality components used and the care taken during production, please notify your supplier or OCHSNER customer service under the telephone number below, giving the serial number and the heat pump type.

Customer Service hotline for Austria:

Tel: +43 (0) 504245 – 499

Email: kundendienst@ochsner.at

Customer Service hotline for Germany:

Tel: +49 (0) 69 256694 - 495

Email: kundendienst@ochsner.de

Customer Service hotline for Switzerland:

Tel: +41 (0) 800 100 911

Email: kontakt@ochsner.com

The heat pump model and serial number are given on the type plate. The type plate is located externally on the rear panel.

9.4 Maintenance contract

OCHSNER offers a wide range of maintenance contracts. For more information, see www.ochsner.com.

Benefits of a maintenance contract

- Annual inspections fulfil the statutory requirements of the F-gas regulations.
- A correctly performed service not only helps to save energy but also protects the environment.
- In addition, correct care of the heating system is necessary to ensure many years of service life and indeed to extend the service life of the system.
- For the system user, this reduces the risk of system failure.

For more information about customer service and the scope of the maintenance contracts, see www.ochsner.com.

10 Decommissioning

10.1 Disposal of packaging

The transport packaging for the heat pump consists of recyclable raw materials. Waste transport packaging should be sorted and recycled.

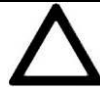
Leave disposal of transport packaging to the authorised contractor who has installed the appliance.

10.2 Decommissioning



Before decommissioning, all 'live' connections should be isolated from the power supply by an authorised contractor.

Appliances with refrigerant or brine must only be decommissioned by an authorised specialist contractor (refrigeration/air conditioning/heating). The refrigerant or brine should be drained/removed and properly recycled or disposed of by the contractor.



Improper disposal of refrigerant or brine can cause significant damage to the environment!

10.3 Disposal of the appliance

The old heat pump should be disposed of at regional waste collection facilities in accordance with applicable regional environmental regulations and standards.



No part of the heat pump may be disposed of with domestic waste!

The appliance is not covered by the Electrical and Electronic Appliances Act [Austria]. The appliance is not intended for disposal free of charge at a local collection facility.

11 Appendix

11.1 Specification

OCHSNER appliance type		AIR BASIC 109 C11B	AIR BASIC 211 C11B	AIR BASIC 416 C12A	AIR BASIC 618 C12B
Dimensions of outdoor unit (HxWxD)	mm	610 x 869 x 290	865 x 1040 x 340	1377 x 950 x 340	1377 x 950 x 340
Weight of outdoor unit	kg	38	66	130	130
Dimensions of indoor unit Golf Midi G1-1 (HxWxD)	mm	1150 x 400 x 650	1150 x 400 x 650	1150 x 400 x 650	1150 x 400 x 650
Weight of indoor unit Golf Midi G1-1	kg	75	75	75	75
Hydraulics					
Permiss. operating pressure	bar	3	3	3	3
Heating system connection	inch	1"	1"	1"	1"
DHW connection	inch	1"	1"	1"	1"
Condenser		Stainless steel PHE mat. 1.4301	Stainless steel PHE mat. 1.4301	Stainless steel PHE mat. 1.4301	Stainless steel PHE mat. 1.4301
Temperature differential	K	5	5	5	5
Flow rate	m ³ /h	0.8	1.43	1.9	1.9
Buffer tank					
Required		NO	NO	NO	NO
Heating mode performance figures					
Standard point A10/W35					
Heating output range	kW	3.25 - 6.78	1.90 - 11.20	7.58 - 18.09	7.58 - 18.09
Heating output EN 14511	kW	4.88	8.00	14.22	14.22
Total power consumption EN 14511	kW	1.01	1.70	3.06	3.06
Coefficient of performance EN 14511		4.83	4.70	4.70	4.70
Operating point A7/W35					
Heating output range	kW	3.08 - 6.24	1.90 - 10.20	7.26 - 16.58	7.26 - 16.58
Heating output EN 14511	kW	4.37	7.00	13.45	13.45
Total power consumption EN 14511	kW	0.94	1.60	3.11	3.11
Coefficient of performance EN 14511		4.63	4.40	4.33	4.33
Standard point A2/W35					
Heating output range	kW	1.25 - 3.30	1.30 - 8.50	4.86 - 10.54	4.86 - 10.54
Heating output EN 14511	kW	3.09	5.50	9.27	9.27
Total power consumption EN 14511	kW	0.92	1.50	2.87	2.87
Coefficient of performance EN 14511		3.35	3.70	3.23	3.23

Standard point A-7/W35					
Heating output range	kW	1.30 - 2.95	1.20 - 6.80	3.63 - 8.67	3.63 - 8.67
Heating output EN 14511	kW	2.59	4.20	5.38	5.38
Total power consumption EN 14511	kW	0.98	1.40	2.31	2.31
Coefficient of performance EN 14511		2.64	3.00	2.32	2.32
Operating point A-10/W35					
Heating output range	kW	1.27 - 2.73	1.00 - 6.20	3.85 - 7.16	3.85 - 7.16
Heating output EN 14511	kW	2.51	3.70	5.02	5.02
Total power consumption EN 14511	kW	1.05	1.30	2.61	2.61
Coefficient of performance EN 14511		2.39	2.90	1.92	1.92
Operating point A2/W50					
Heating output range	kW	2.09 - 3.33	1.30 - 7.30	3.40 - 9.50	3.40 - 9.50
Heating output EN 14511	kW	3.04	5.40	6.70	6.70
Total power consumption EN 14511	kW	1.27	2.50	3.32	3.32
Coefficient of performance EN 14511		2.40	2.20	2.22	2.22
Cooling mode performance figures					
Operating point A35/W18					
Cooling capacity range	kW	2.22 - 6.46	1.80 - 11.10	5.49 - 13.89	5.49 - 13.89
Nominal cooling capacity	kW	4.91	7.90	12.62	12.62
Total nominal power consumption	kW	1.02	2.60	4.19	4.19
Energy efficiency ratio EER at nominal output		4.81	3.00	3.27	3.27
Operating point A35/W12					
Cooling capacity range	kW	1.85 - 5.18	1.60 - 10.00	5.60 - 12.61	5.60 - 12.61
Nominal cooling capacity	kW	3.14	7.00	10.19	10.19
Total nominal power consumption	kW	1.04	2.50	3.41	3.41
Energy efficiency ratio EER at nominal output		3.02	2.80	2.99	2.99
Operating point A35/W7⁽¹⁾					
Cooling capacity range	kW	2.22 - 4.21	1.40 - 9.10	2.80 - 10.51	2.80 - 10.51
Nominal cooling capacity	kW	3.30	6.20	10.22	10.22
Total nominal power consumption	kW	1.09	2.40	3.99	3.99
Energy efficiency ratio EER at nominal output		3.01	2.60	2.56	2.56
Compressor (outdoor unit)					
Number		1	1	1	1
Type		Rotary piston	Rotary piston	Scroll	Scroll
Output control / inverter technology		Infinitely variable	Infinitely variable	Infinitely variable	Infinitely variable
Min. compressor frequency (at min. output)	Hz	40	15	30	30

Max. compressor frequency (at max. output)	Hz	84	95	75	75
Nominal air flow rate	m ³ /h	2500	4590	7000	7000
Number of fans		1	1	2	2
Cumulative output level (measured with reference to EN 12102, EN ISO 9614-2 Assessed total sound power level at A7/W35 at nominal compressor frequency (at partial load))	dB(A)	60	62	64	64

Distance-dependent sound pressure level (audible sound) of outdoor units at nominal compressor frequency (at partial load) and installation in a free field					
Distance 1 metre	dB(A)	52	54	56	56
Distance 5 metres	dB(A)	38	40	42	42
Distance 10 metres	dB(A)	32	34	36	36
Air intake temperature					
Heating mode min.	°C	-20	-20	-20	-20
Heating mode max.	°C	35	35	35	35
Cooling mode min.	°C	15	15	15	15
Cooling mode max.	°C	45	45	45	45
Electrical values, outdoor unit					
Compressor phases/nominal voltage/frequency	~/V/Hz	1/220-240/50		3/380-400/50	1/220-240/50
Operating power consumption A7/W35	A	4.5	8.8		
Operating power consumption (max.) A-7/W55	A	7.4	12.2		
Starting current, compressor	A	10.5	15	15	10
Starting current, compressor with stalled armature	A	20	25	20	32
Starting current (charging of DC capacitor)	A	45	<35		
Fuse protection tripping curve "C"	A	16	16	20	32
Fan (max.)	W	35	70	90	90
Controller PCB, outdoor unit	W	150	150	150	150
Electrical values, indoor unit					
Nominal voltage, electric booster heater	V/Hz	2/380-400/50 or 1/220-240/50	3/380-400/50 or 1/220-240/50		
Output, electric booster heater	kW	5.9 (2.95/2.95)	8.8 (2.95/2.95/ 2.95)	8.8 (2.95/2.95/2. 95)	8.8 (2.95/2.95/2. 95)
Fuse protection, mains voltage	A	3 x C16	3 x C16	3 x B16	3 x B16
Nominal voltage, indoor unit controller	~/V/Hz	1/220-240/50			
Fuse protection, indoor unit controller	A	6.3	6.3	6.3	6.3
Heating water					
Minimum flow rate	l/h	400	715	950	950
Nominal flow rate	l/h	800	1430	1900	1900
Max. flow temperature	°C	55	55	55	55
Min. temperature water outlet, cooling mode					
Without buffer tank	°C	12	12	12	12
With buffer tank	°C	7	7	7	7

Refrigerant circuit					
Refrigerant		R410A	R410A	R410A	R410A
Refrigerant charge	kg	1.2	2.15	2.95	2.95
Top-up charge for line lengths > 12 m to 20 m	g/m	20	60	60	60
Permiss. operating pressure high pressure side/low pressure side	bar	43	43	43	43
Liquid line	mm	6 x 1	10 x 1	10 x 1	10 x 1
Hot gas line	mm	12 x 1	16 x 1	16 x 1	16 x 1
Max. cable length	m	20	20	20	20

(1) Only possible with buffer tank

Table 6: Specification

Specification for T200 indoor unit		
Height	mm	1931
Width	mm	680
Depth	mm	855
Tilt height	mm	2121
Empty weight	kg	203
Filled weight	kg	471
IP rating		IP 20
Tank thermal insulation	mm	90
Heat exchanger area	m ²	3.3
Heat exchanger capacity	l	21
DHW tank		
Nominal capacity	l	168
Material		Enamelled steel
Energy efficiency class		C
Standby losses	W	65
Tank volume	l	189
Standby power consumption at 65°C	kWh/d	1.9
Standby power consumption at 65°C	W	79
Area of smooth tube coil	m ²	3.2
Max. operating pressure	bar	10
Test pressure	bar	15
Draw-off rate of DHW tank	l/min	25
Buffer tank		
Nominal capacity	l	100
Material		Steel
Max. operating pressure	bar	3
Test pressure	bar	4.5
Max. permissible temperature	°C	95
Water hardness	°dH	≤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 (desalinated)	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 (desalination)	mg/l	<0.1
Max. power consumption of charging pump	W	72
Max. power consumption of heating circuit pump	W	72
Connection		
Connections on the heating side	inch	1" union nut
Cold water connection	inch	1" union nut
DHW connection	inch	1" union nut
DHW circulation connection	mm	12

Table 7: Specification for T200 indoor unit

11.2 Performance figures

11.2.1 AIR BASIC 109

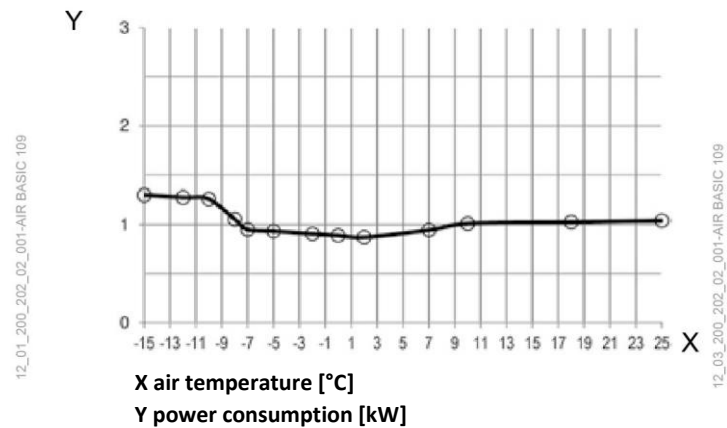
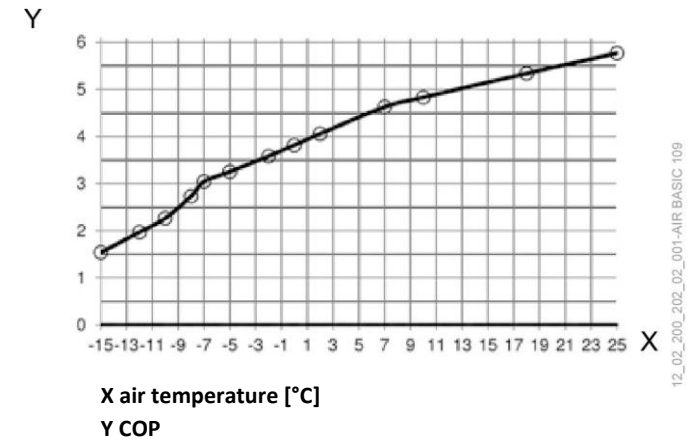
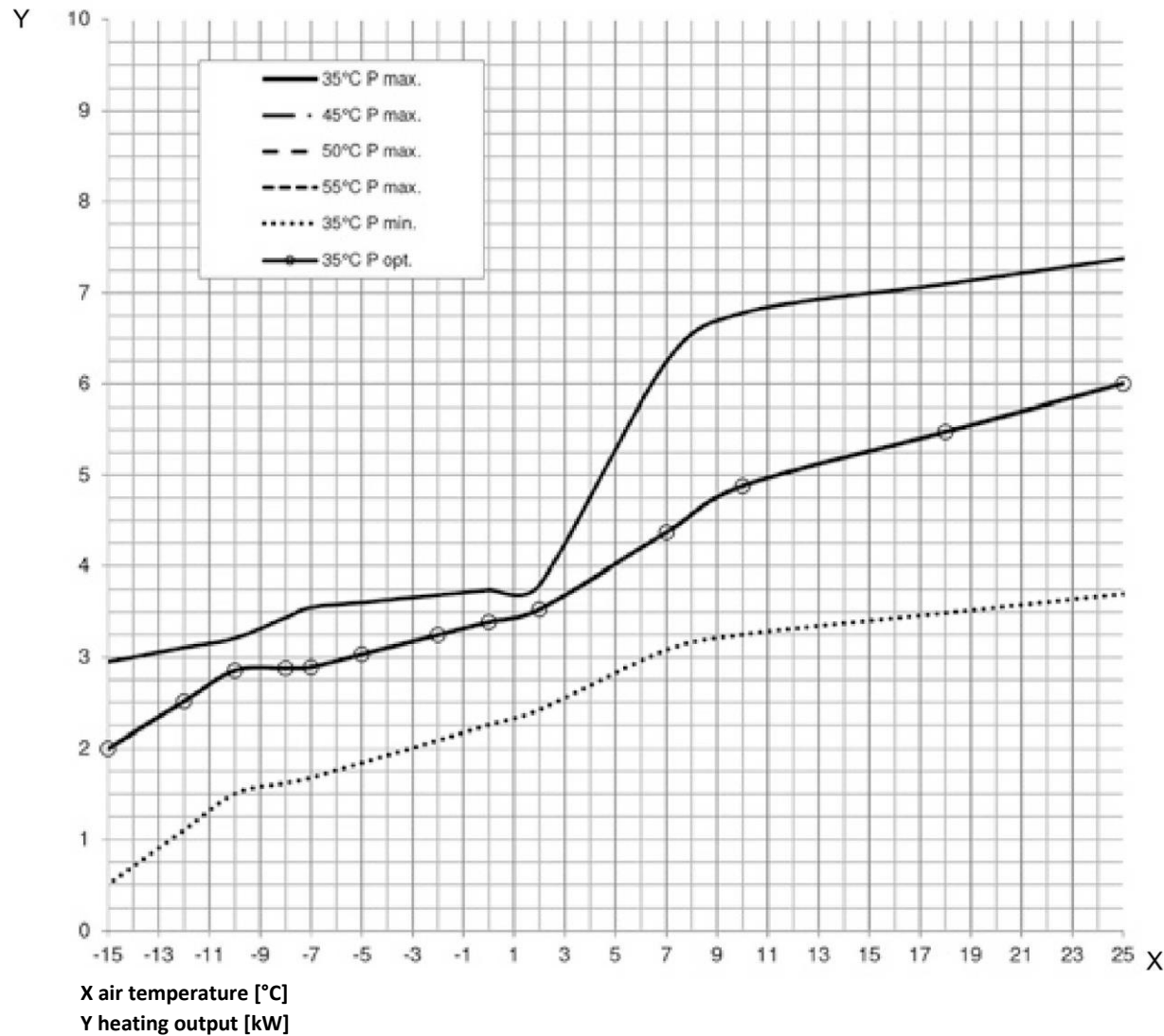


Figure 72: Performance curveAIR BASIC 109

11.2.2 AIR BASIC 211

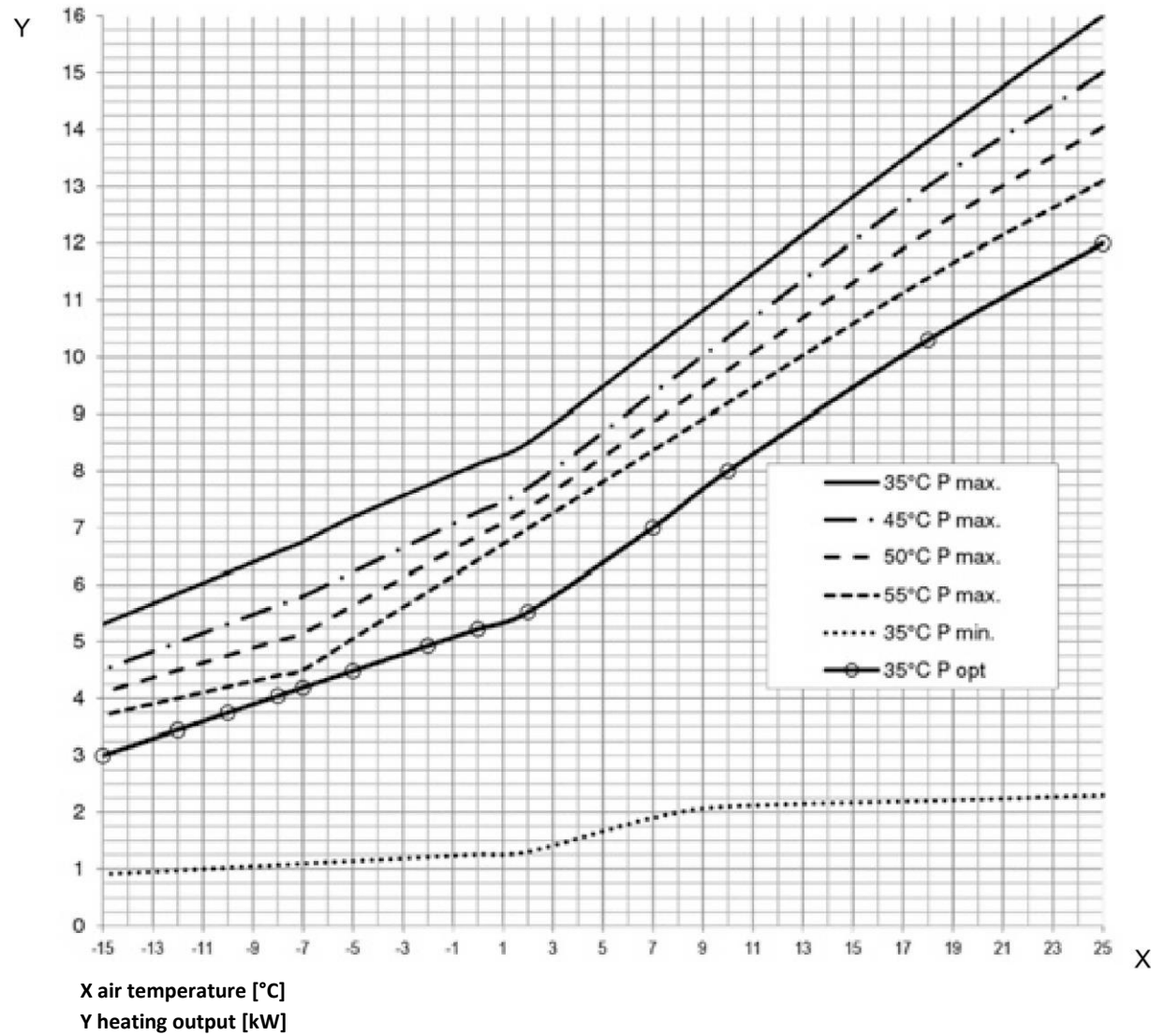
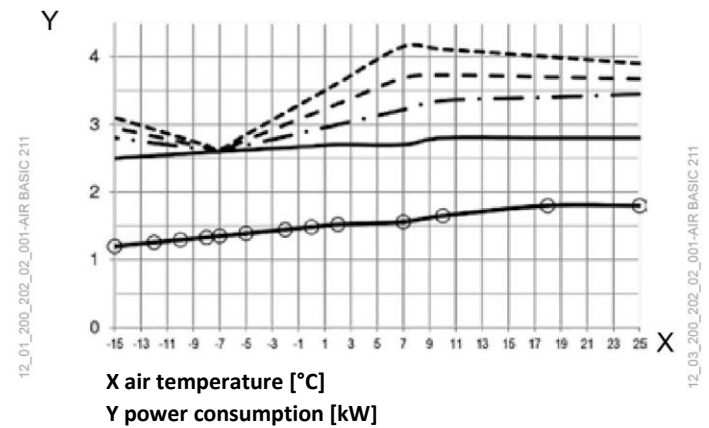
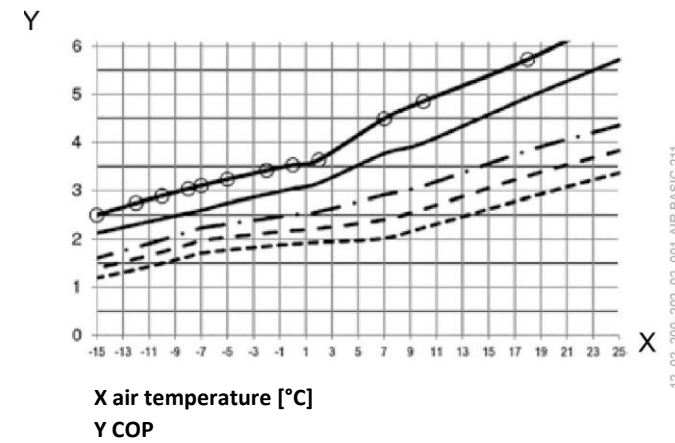


Figure 73: Performance curveAIR BASIC 211



11.2.3 AIR BASIC 416

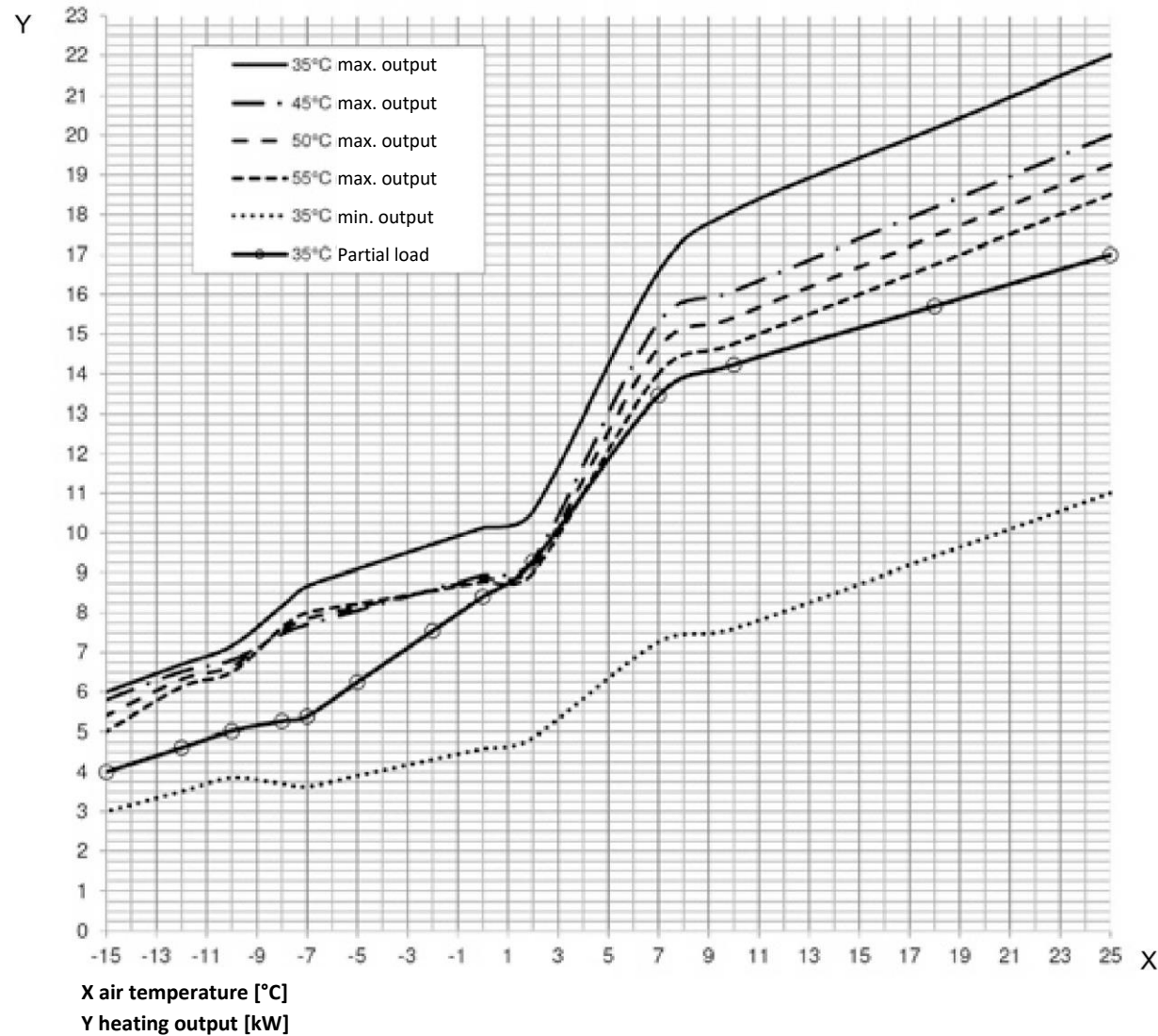
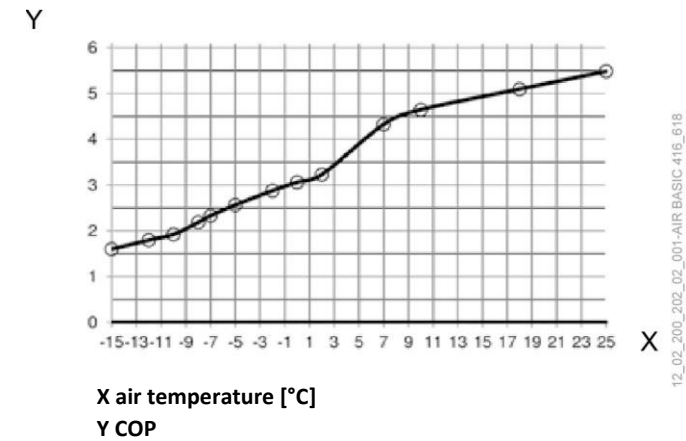
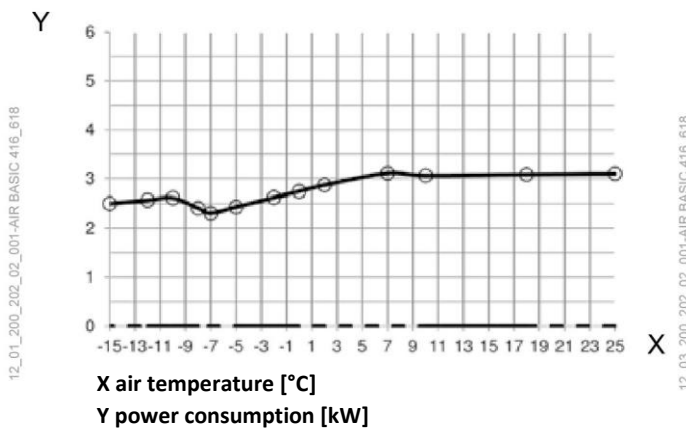


Figure 74: Performance curve AIR BASIC 416



12_02_200_202_02_001-AIR BASIC 416_618



12_03_200_202_02_001-AIR BASIC 416_618

11.2.4 AIR BASIC 618

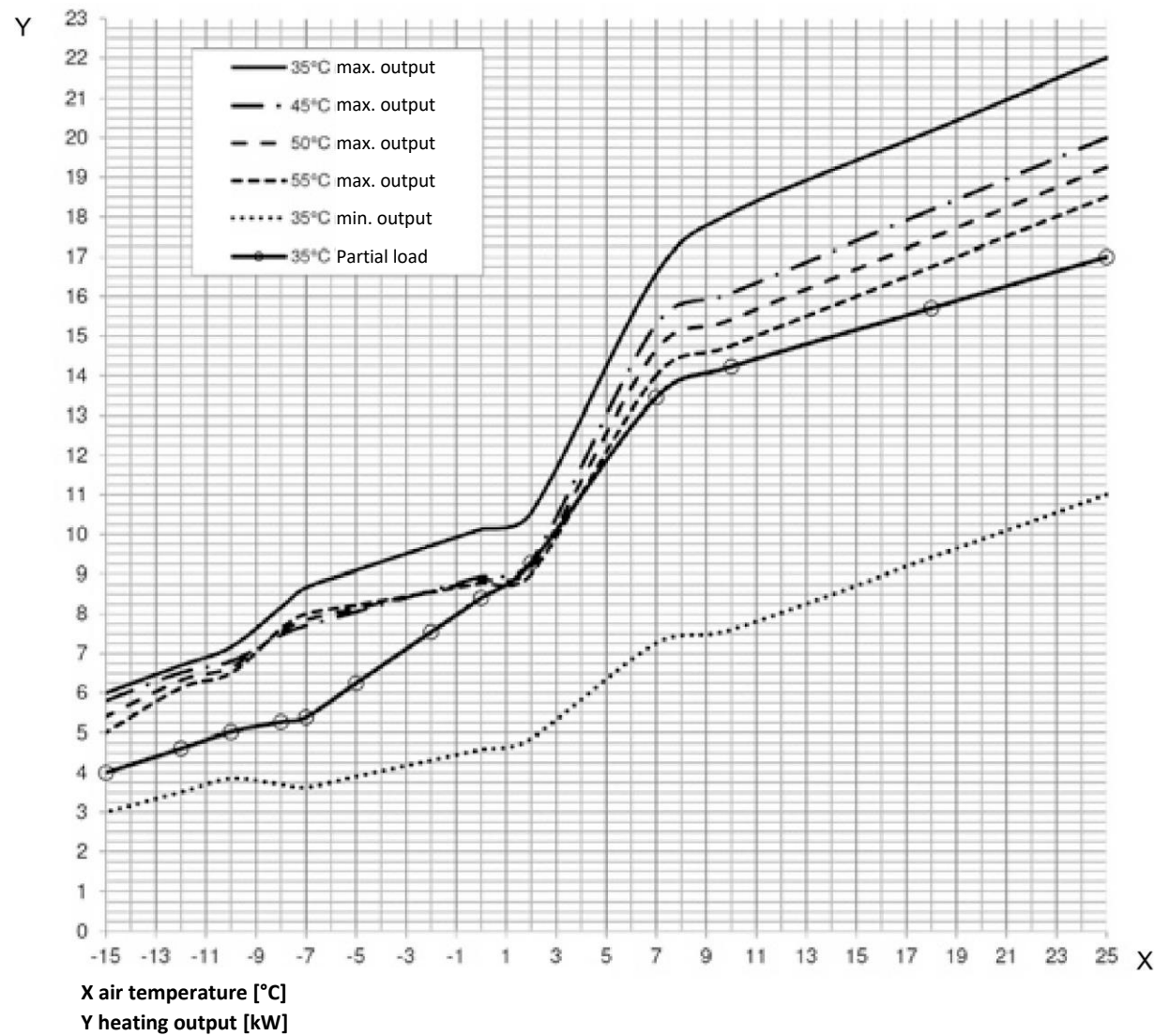
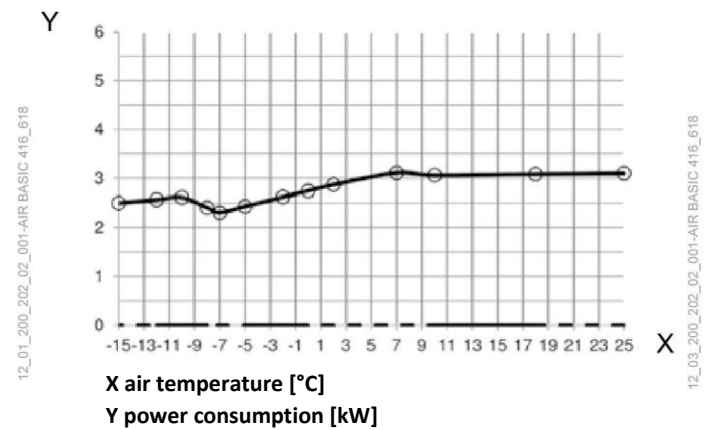
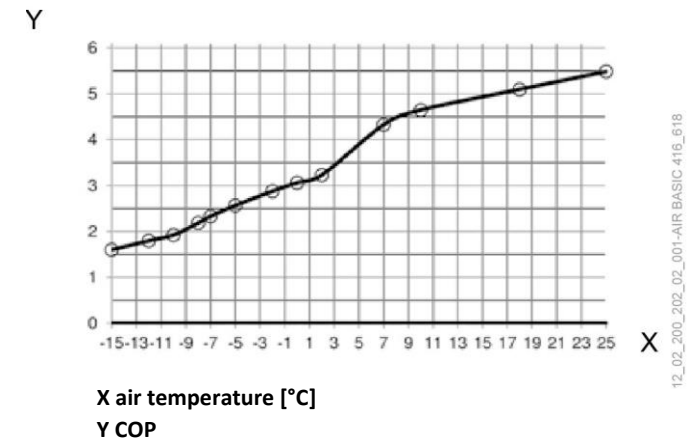


Figure 75: Performance curve AIR BASIC 618



11.3 Details of energy consumption

Product data conform to EU regulations on the Directive for Ecodesign of Energy Related Devices.

AIR BASIC 109 C11B G1-1

Low temperature	35°C			
A++		Colder	Medium	Warmer
ηs		142	155	181
Energy consumption	[kWh]	3257	1782	669
P rated	[kW]	5	3	2
SCOP	[-]	3.63	3.95	4.60
Medium temperature	55°C			
A+		Colder	Medium	Warmer
ηs		95	105	127
Energy consumption	[kWh]	4571	2368	741
P rated	[kW]	5	3	2
SCOP	[-]	2.45	2.71	3.25
DHW	SP300			
B		Colder	Medium	Warmer
ηWH		68	74	86
Energy consumption	[kWh]	2098	1917	1664
Draw-off profile	XL			
Tank losses	[W]	94		
	indoor		outdoor	
Sound power level	[dBA]	-	60	
Controller class with room remote control	VI	Controller contribution [%]		4
Controller class without room remote control	II	Controller contribution [%]		2

AIR BASIC 109 C11B T200

Low temperature	35°C			
A++	Colder	Medium	Warmer	
ηs	142	155	181	
Energy consumption	[kWh]	3257	1782	669
P rated	[kW]	5	3	2
SCOP	[-]	3.63	3.95	4.60
Medium temperature	55°C			
A+	Colder	Medium	Warmer	
ηs	95	105	127	
Energy consumption	[kWh]	4571	2368	741
P rated	[kW]	5	3	2
SCOP	[-]	2.45	2.71	3.25
DHW	T200			
B	Colder	Medium	Warmer	
ηWH	65	71	82	
Energy consumption	[kWh]	1282	1172	1017
Draw-off profile	L			
Tank losses	[W]	79		
	indoor	outdoor		
Sound power level	[dBA]	-	60	

Controller class with room remote control	VI	Controller contribution [%]	4
Controller class without room remote control	II	Controller contribution [%]	2

AIR BASIC 211 C11B G1-1

Low temperature	35°C			
A++		Colder	Medium	Warmer
ηs		133	159	180
Energy consumption	[kWh]	6997	3969	1602
P rated	[kW]	10	8	6
SCOP	[-]	3.41	4.04	4.59
Medium temperature	55°C			
A+		Colder	Medium	Warmer
ηs		97	110	138
Energy consumption	[kWh]	7285	3941	1741
P rated	[kW]	7	5	5
SCOP	[-]	2.50	2.82	3.53
DHW	SP300			
B		Colder	Medium	Warmer
ηWH		69	75	87
Energy consumption	[kWh]	2067	1889	1639
Draw-off profile	XL			
Tank losses	[W]	94		
	indoor		outdoor	
Sound power level	[dBA]	-	62	
Controller class with room remote control	VI	Controller contribution [%]		4
Controller class without room remote control	II	Controller contribution [%]		2

AIR BASIC 211 C11B T200

Low temperature	35°C			
A++		Colder	Medium	Warmer
ηs		133	159	180
Energy consumption	[kWh]	6997	3969	1602
P rated	[kW]	10	8	6
SCOP	[-]	3.41	4.04	4.59
Medium temperature	55°C			
A+		Colder	Medium	Warmer
ηs		97	110	138
Energy consumption	[kWh]	7285	3941	1741
P rated	[kW]	7	5	5
SCOP	[-]	2.50	2.82	3.53
DHW	T200			
B		Colder	Medium	Warmer
nWH		66	73	84

Energy consumption	[kWh]	1263	1155	1002
Draw-off profile		L		
Tank losses	[W]	79		
		indoor	outdoor	
Sound power level	[dBA]	-	62	
Controller class with room remote control	VI	Controller contribution [%]		4
Controller class without room remote control	II	Controller contribution [%]		2

AIR BASIC 416 C12A G1-1 / AIR BASIC 618 C12B G1-1

Low temperature	35°C			
A++		Colder	Medium	Warmer
η _s		142	173	228
Energy consumption	[kWh]	9917	4627	1240
P rated	[kW]	15	10	5
SCOP	[-]	3.63	4.41	5.76
Medium temperature	55°C			
A++		Colder	Medium	Warmer
η _s		107	127	149
Energy consumption	[kWh]	12157	5825	1885
P rated	[kW]	14	9	5
SCOP	[-]	2.75	3.25	3.79
DHW	SP300			
A		Colder	Medium	Warmer
η _{WH}		77	84	97
Energy consumption	[kWh]	1853	1694	1470
Draw-off profile		XL		
Tank losses	[W]	94		
		indoor	outdoor	
Sound power level	[dBA]	-	64	

Controller class with room remote control	VI	Controller contribution [%]	4
Controller class without room remote control	II	Controller contribution [%]	2

AIR BASIC 416 C12A T200 / AIR BASIC 618 C12B T200

Low temperature	35°C			
A++		Colder	Medium	Warmer
η _s		142	173	228
Energy consumption	[kWh]	9917	4627	1240
P rated	[kW]	15	10	5
SCOP	[-]	3.63	4.41	5.76
Medium temperature	55°C			
A++		Colder	Medium	Warmer
η _s		107	127	149
Energy consumption	[kWh]	12157	5825	1885
P rated	[kW]	14	9	5
SCOP	[-]	2.75	3.25	3.79
DHW	T200			
A		Colder	Medium	Warmer
η _{WH}		74	81	93
Energy consumption	[kWh]	1133	1035	898
Draw-off profile		L		
Tank losses	[W]	79		
		indoor	outdoor	
Sound power level	[dBA]	-	64	
Controller class with room remote control	VI	Controller contribution [%]	4	
Controller class without room remote control	II	Controller contribution [%]	2	

11.4 Voltage quality in island mode

The following table shows voltage quality requirements in island mode (in mains mode, the relevant standards apply):

Harmonic	Maximum proportion
2	2.00%
3	5.00%
4	1.00%
5	6.00%
6	0.50%
7	5.00%
8	0.50%
9	1.50%
10	0.50%
11	3.50%
12	0.50%
13	3.00%
14	0.50%
15	0.50%
16	0.50%

17	2.00%
18	0.50%
19	1.50%
20	0.50%
21	0.50%
22	0.50%
23	1.50%
25	1.50%
>25	0.50%

Table 8: Voltage quality in island mode

- Total harmonic content (THC) 8%
- Frequency 49.5 Hz to 50.5 Hz

- Slow voltage changes 230 VAC \pm 10%
(integration interval 10 ms)
- Rapid voltage changes 230 VAC \pm 5%
(integration interval 10 ms)
- Voltage asymmetry 2%

11.5 Limits of use

The maximum outdoor temperature (TA) for heat pumps of type OCHSNER AIR BASIC is defined as -20°C with a maximum flow temperature of 50°C.

The maximum flow temperature (TWV) of the heat pumps is +55°C at \Rightarrow -15°C outdoor temperature. Therefore, a **max. system temperature of 50°C** is recommended when designing the system!

Limits of use for outdoor temperature:

- for heating -20°C > OT < +35°C
- for cooling +15°C > OT < +35°C

Limits of use
Heat pump flow temperature

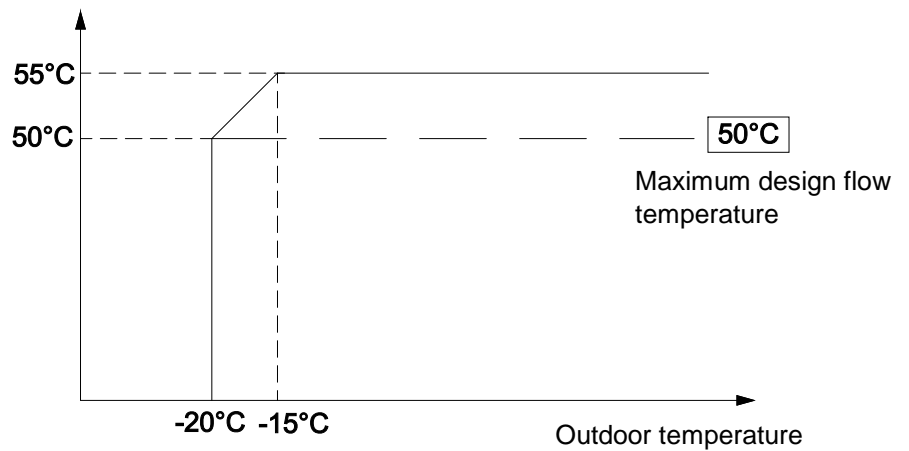
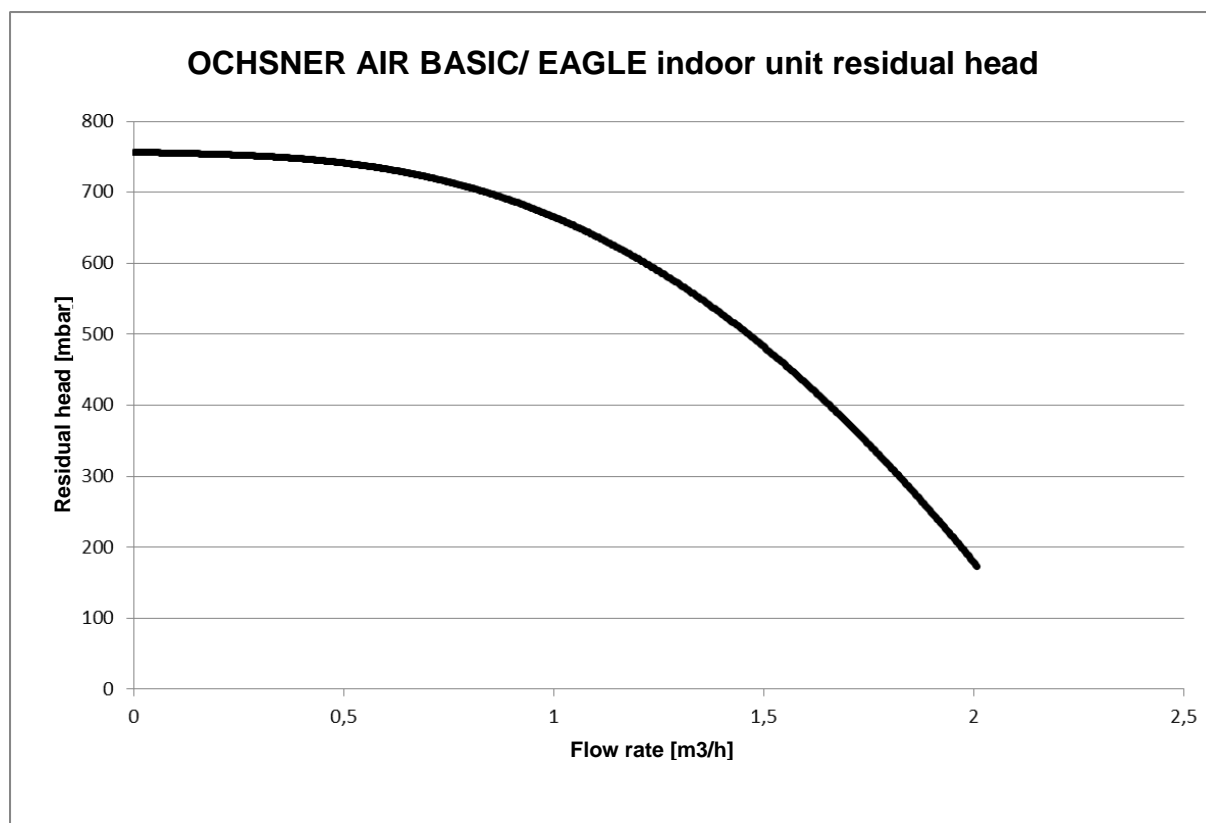


Figure 76: Limits of use OCHSNER AIR BASIC

11.1 Golf Midi indoor unit hydraulic residual head



Pump: Wilo Yonos Para HPS25/7.5, output level III

Figure 77: AIR BASIC / EAGLE indoor unit residual head

11.2 T200 indoor unit hydraulic residual head

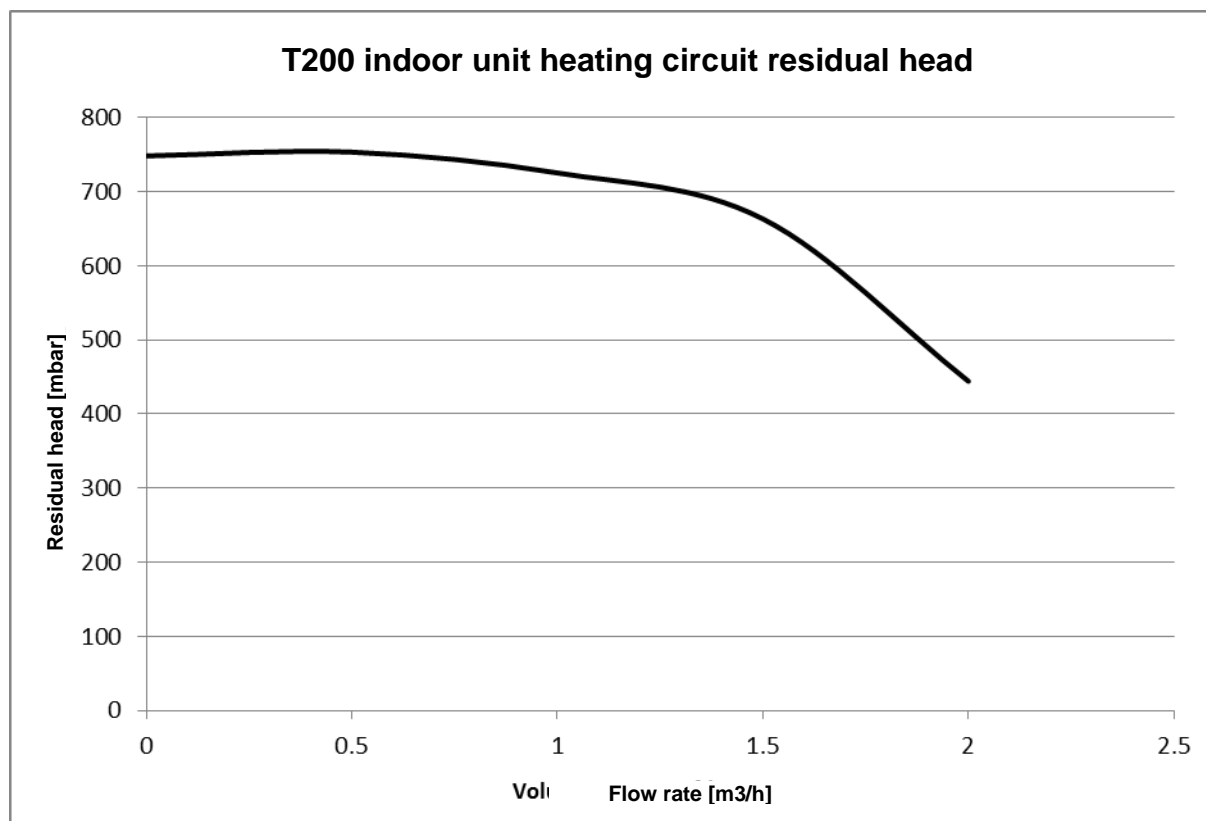


Figure 78: T200 indoor unit heating circuit residual head

11.3 Recommended flow rates:

AIR BASIC 109 C11B G1-1	0.8 m ³ /h
AIR BASIC 211 C11B G1-1	1.4 m ³ /h
AIR BASIC 416 C12A G1-1	1.9 m ³ /h
AIR BASIC 618 C12B G1-1	1.9 m ³ /h
AIR BASIC 109 C11B T200	0.8 m ³ /h
AIR BASIC 211 C11B T200	1.4 m ³ /h
AIR BASIC 416 C12A T200	1.9 m ³ /h
AIR BASIC 618 C12B T200	1.9 m ³ /h

11.4 Declaration of conformity

DE EU-KONFORMITÄTSERKLÄRUNG
EN EU DECLARATION OF CONFORMITY
FR DÉCLARATION DE CONFORMITÉ UE
PL DEKLARACJA ZGODNOŚCI UE
IT DICHIARAZIONE DI CONFORMITÀ UE

ES DECLARACIÓN DE CONFORMIDAD DE LA UE
PT DECLARAÇÃO DE CONFORMIDADE CE
NL EU-CONFORMITEITSVERKLARING
CS PROHLÁŠENÍ O SHODĚ EU

DE	Produktmodell/Produkt:		D-A	CH	EXP	UK		D-A	CH	EXP	UK
EN	Product model / product:	AIR BASIC 109 C11B G1-1	285600	285600	285600	-	GMLW 14 PLUS	-	-	-	284597
FR	Modèle/Modèle / Produit :	AIR BASIC 211 C11B G1-1	285610	285610	285610	285610	GMLW 19 PLUS	-	-	-	284649
PL	Model produktu/produkt:	AIR BASIC 109 C11B T200	285920	285920	285922	-					
IT	Modello/prodotto:	AIR BASIC 211 C11B T200	285930	285930	285932	-					
ES	Modelo de producto/producto:	AIR BASIC 211 C11B T201	-	-	-	286600					
PT	Modelo de produto/produto:										
NL	Productmodel/product:										
CS	Model výrobku/výrobek:										

DE	Name und Anschrift des Herstellers oder seines Bevollmächtigten:	OCHSNER Wärmepumpen GmbH Krackowizerstraße 4 A 4020 Linz Werk A-3350 Haag
EN	Name and address of manufacturer or its authorised representative:	
FR	Nom et adresse du fabricant ou de son représentant :	
PL	Nazwa i adres producenta lub pełnomocnika:	
IT	Nome e indirizzo del produttore o del suo rappresentante legale:	
ES	Nombre y dirección del fabricante o de su representante autorizado:	
PT	Nome e endereço do fabricante ou do seu mandatário:	
NL	Naam en adres van de fabrikant of zijn gevolmachtigde:	
CS	Název a adresa výrobce nebo jeho zplnomocněného zástupce:	

DE Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
EN This declaration of conformity is issued under the sole responsibility of the manufacturer.
FR La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
PL Wyłączną odpowiedzialność za wystawienie niniejszej deklaracji zgodności ponosi producent.
IT Il produttore si assume la responsabilità esclusiva dell'emissione della presente dichiarazione di conformità.
ES El fabricante es el único responsable de la elaboración de esta declaración de conformidad.
PT A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante.
NL De fabrikant is als enige verantwoordelijk voor het opstellen van deze conformiteitsverklaring.
CS Odpovědnost za vystavení tohoto prohlášení o shodě nese výlučně výrobce.

DE	Gegenstand der Erklärung:	Luft-Wasser-Wärmepumpe	AIR BASIC 109 C11B G1-1	GMLW 14 PLUS
EN	Object of the declaration:	Air/water heat pump	AIR BASIC 211 C11B G1-1	GMLW 19 PLUS
FR	Objet de la déclaration :	Pompe à chaleur air/eau	AIR BASIC 109 C11B T200	
PL	Przedmiot deklaracji:	Pompa ciepła typu powietrze-woda	AIR BASIC 211 C11B T200	
IT	Oggetto della dichiarazione:	Pompa di calore-aria/acqua	AIR BASIC 211 C11B T201	
ES	Objeto de la declaración:	Bomba de calor de aire/agua		
PT	Objeto da declaração:	Bomba de calor ar/água		
NL	Voorwerp van de verklaring:	Lucht-water-warmtepomp		
CS	Předmět prohlášení:	Teplené čerpadlo vzduch-voda		

DE Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union.
EN The object of the declaration described above is in conformity with the relevant harmonisation legislation of the European Union.
FR L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation en vigueur de la communauté européenne.
PL Opisany powyżej produkt objęty deklaracją spełnia obowiązujące przepisy harmonizacyjne Unii Europejskiej.
IT L'oggetto della dichiarazione sopra specificato è conforme ai requisiti delle normative di armonizzazione applicabili dell'Unione.
ES El objeto de la declaración descrita anteriormente se ajusta a la legislación de armonización pertinente de la Unión.
PT O objeto da declaração acima citado preenche os requisitos constantes da legislação correspondente da União em matéria de harmonização.
NL Het bovengenoemde voorwerp van de verklaring voldoet aan de geldende voorschriften van het harmonisatierecht van de Unie.
CS Výše popsany předmět prohlášení splňuje příslušné harmonizační právní předpisy Unie.

Machinery (MD) Directive 2006/42/EC	Regulation (EU) Fluorinated Greenhouse Gases 517/2014
Electromagnetic Compatibility (EMC) Directive 2014/30/EU	Regulation (EU) Ecodesign Requirements 813/2013
Energy-related Products Directive (ErP) 2009/125/EC	Delegated Regulation (EU) 811/2013 (energy efficiency labelling)
Pressure equipment (PED) Directive 2014/68/EU	Regulation (EU) 2017/1369 (energy consumption labelling)
Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU	

DE	Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der anderen technischen Spezifikationen, in Bezug auf die die Konformität erklärt wird:
EN	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared
FR	Indication des normes harmonisées en vigueur ou indication d'autres spécifications techniques servant de référence à la présente déclaration de conformité :
PL	Wskazanie odnośnych zastosowanych norm zharmonizowanych lub innych specyfikacji technicznych, w odniesieniu do których deklarowana jest zgodność:
IT	Indicazione delle normative di armonizzazione applicabili sulle quali si è basato il prodotto, o indicazione delle altre specifiche tecniche in riferimento alle quali si dichiara la conformità:
ES	Indicación de las normas armonizadas pertinentes utilizadas o de las demás especificaciones técnicas con respecto a las cuales se declara la conformidad
PT	Indicação da legislação de harmonização pertinente que serviu de base ou indicação das outras especificações técnicas em relação às quais é declarada a conformidade:
NL	Vermelding van de geldende, geharmoniseerde normen die daaraan ten grondslag liggen, of vermelding van de andere technische specificaties op basis waarvan de conformiteit verklaard wordt:
CS	Uvedení příslušných harmonizovaných norem použitých jako základ nebo uvedení jiných technických specifikací, s ohledem na které je vystaveno prohlášení o shodě:

EN 378-1: 2018-07	EN 61000-3-2: 2015-04	EN ISO 12100: 2013-10
EN 378-2: 2018-07	EN 61000-3-3: 2014-04	
EN 14825: 2016-09	EN 61000-6-2 2006-05+AC:2011-08	
EN 12102: 2018-01	EN 61000-6-3 2011-10	
	EN 60204-1: 2009-12	

DE	Zusatzangaben:	Diese Erklärung beinhaltet keine Zusicherung von Eigenschaften. Bitte beachten Sie die Sicherheitshinweise in der mitgelieferten Produktdokumentation. Bei einer nicht mit uns abgestimmten Änderung des (der) Gerät(e)s verliert diese Erklärung ihre Gültigkeit.
EN	Additional information:	This declaration contains no warranties of any product characteristics. Please observe the safety information in the product documentation supplied. Any modification to the appliance(s) that has not been approved by us effectively voids this statement.
FR	Indications supplémentaires :	La présente déclaration n'apporte aucune garantie quant aux propriétés. Veuillez tenir compte des consignes de sécurité fournies dans la documentation du produit. En cas de modification du ou des appareils sans notre accord préalable, la présente déclaration perd sa validité.
PL	Informacje dodatkowe:	Niniejsza deklaracja nie stanowi przyrzeczenia właściwości. Należy przestrzegać wskazań dotyczących bezpieczeństwa podanych w dołączonej dokumentacji produktu. W przypadku zmiany wprowadzonej w urządzeniu (urządzeniach) niezgodnionej z nami niniejsza deklaracja traci ważność.
IT	Dati aggiuntivi:	La presente dichiarazione non comporta alcuna garanzia di caratteristiche. Si prega di attenersi alle avvertenze di sicurezza indicate nella documentazione fornita con il prodotto. Questa dichiarazione perde di validità in caso di modifiche del(l) dispositivo(i) apportate senza la nostra approvazione.
ES	Información adicional:	Esta declaración no incluye ninguna garantía de propiedades. Tenga en cuenta las instrucciones de seguridad de la documentación del producto suministrada. En caso de que se produzca un cambio en los aparatos no acordado con nosotros, esta declaración perderá su validez.
PT	Indicações complementares:	A presente declaração não contém qualquer garantia de características. Queira levar em conta as indicações de segurança contidas na documentação do produto fornecida com o conjunto. No caso de uma alteração do(s) aparelho(s) que não tenha sido efetuada em coordenação com os nossos serviços, a presente declaração perderá a sua validade.
NL	Aanvullende gegevens:	Deze verklaring bevat geen verzekering van eigenschappen. Neem de veiligheidsaanwijzingen in de meegeleverde productdocumentatie in acht. Deze verklaring is niet meer geldig bij een verandering van het (de) apparaat(en) die niet met ons overlegd is.
CS	Doplňující údaje:	Toto prohlášení neslouží jako záruka vlastností. Dodržujte bezpečnostní pokyny v dodané dokumentaci k výrobku. Provedením jakékoliv úpravy přístroje/ přístrojů bez předchozí konzultace s námi pozbývá toto prohlášení platnosti.

DE	Unterzeichnet für und im Namen von:	DE	Ort und Datum der Ausstellung:
EN	Signed for and on behalf of:	EN	Place and date of issue:
FR	Signé pour et au nom de :	FR	Lieu et date de l'implantation :
PL	Podpisano w imieniu i na rzecz:	PL	miejsce i data wystawienia:
IT	Firma per e per conto di:	IT	Luogo e data di emissione:
ES	Firmado por y en nombre de:	ES	Lugar y fecha de elaboración:
PT	Assinado para e em nome de:	PT	Local e data da emissão:
NL	Ondertekend voor en in naam van:	NL	Plaats en datum van opmaak:
CS	Podepsán/a za a jménem:	CS	Místo a datum vystavení:

DE	Name, Funktion, Unterschrift:	DE	Ort und Datum der Ausstellung:
EN	Name, position, signature:	EN	Place and date of issue:
FR	Nom, fonction, signature :	FR	Lieu et date de l'implantation :
PL	Imię i nazwisko, stanowisko, podpis:	PL	miejsce i data wystawienia:
IT	Nome, funzione, firma:	IT	Luogo e data di emissione:
ES	Nombre, función, firma:	ES	Lugar y fecha de elaboración:
PT	Nome, função, assinatura:	PT	Local e data da emissão:
NL	Naam, functie, handtekening:	NL	Plaats en datum van opmaak:
CS	Jméno, funkce, podpis:	CS	Místo a datum vystavení:

Karl Ochsner
CEO - Chief Executive Officer

Clemens Birkbauer
CTO - Chief Technology Officer

DE EU-KONFORMITÄTSEKTLÄRUNG
EN EU DECLARATION OF CONFORMITY
FR DÉCLARATION DE CONFORMITÉ UE
PL DEKLARACJA ZGODNOŚCI UE
IT DICHIARAZIONE DI CONFORMITÀ UE

ES DECLARACIÓN DE CONFORMIDAD DE LA UE
PT DECLARAÇÃO DE CONFORMIDADE CE
NL EU-CONFORMITEITSVERKLARING
CS PROHLÁŠENÍ O SHODĚ EU

DE	Produktmodell/Produkt:		D-A	CH	EXP	UK		D-A	CH	EXP	UK
EN	Product model / product:	AIR BASIC 416 C12A G1-1	285615	285615	285615	-	AIR 7 C11A	287010	287010	287010	-
FR	Modèle/Modèle / Produit :	AIR BASIC 416 C12A T200	285935	285935	285937	-	AIR 11 C11A	287020	287020	287020	-
PL	Model produktu/produkt:	AIR BASIC 618 C12B G1-1	-	-	285620	285620	AIR 23 C12A	287040	287040	287040	-
IT	Modello/prodotto:	AIR BASIC 618 C12B T201	-	-	-	286610	AIR 29 C12A	287050	287050	287050	-
ES	Modelo de producto/producto:	AIR 18 C11A	287030	287030	287030	-	AIR 41 C12A	287060	287060	287060	-
PT	Modelo de produto/produto:	AIR 11 C11B	-	-	287022	-	AIR 80 C13A	288600	288600	288600	-
NL	Productmodel/product:	AIR 18 C11B	-	-	287032	-	AIR 80 C22A	288610	288610	288610	-
CS	Model výrobku/výrobek:	AIR BASIC 618 C12B T200	-	-	285942	-	GMLW 9 PLUS VX	-	-	-	284547
		GMLW 25 PLUS	-	-	-	284699	GMLW 35 PLUS	-	-	-	284749

DE	Name und Anschrift des Herstellers oder seines Bevollmächtigten:	
EN	Name and address of manufacturer or its authorised representative:	
FR	Nom et adresse du fabricant ou de son représentant :	
PL	Nazwa i adres producenta lub pełnomocnika:	
IT	Nome e indirizzo del produttore o del suo rappresentante legale:	
ES	Nombre y dirección del fabricante o de su representante autorizado:	
PT	Nome e endereço do fabricante ou do seu mandatário:	
NL	Naam en adres van de fabrikant of zijn gevolmachtigde:	
CS	Název a adresa výrobce nebo jeho zplnomocněného zástupce:	

OCHSNER Wärmepumpen GmbH
Krackowizerstraße 4
A 4020 Linz
Werk A-3350 Haag

DE Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
EN This declaration of conformity is issued under the sole responsibility of the manufacturer.
FR La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
PL Wyłączną odpowiedzialność za wystawienie niniejszej deklaracji zgodności ponosi producent.
IT Il produttore si assume la responsabilità esclusiva dell'emissione della presente dichiarazione di conformità.
ES El fabricante es el único responsable de la elaboración de esta declaración de conformidad.
PT A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante.
NL De fabrikant is als enige verantwoordelijk voor het opstellen van deze conformiteitsverklaring.
CS Odpovědnost za vystavení tohoto prohlášení o shodě nese výlučně výrobce.

DE	Gegenstand der Erklärung	Luft-Wasser-Wärmepumpe	AIR BASIC 416 C12A G1-1	AIR 7 C11A
EN	Object of the declaration:	Air/water heat pump	AIR BASIC 416 C12A T200	AIR 11 C11A
FR	Objet de la déclaration :	Pompe à chaleur air/eau	AIR BASIC 618 C12B G1-1	AIR 23 C12A
PL	Przedmiot deklaracji	Pompa ciepła typu powietrze-woda	AIR BASIC 618 C12B T201	AIR 29 C12A
IT	Oggetto della dichiarazione:	Pompa di calore-aria/acqua	AIR 18 C11A	AIR 41 C12A
ES	Objeto de la declaración:	Bomba de calor de aire/agua	AIR 11 C11B	AIR 80 C13A
PT	Objeto da declaração:	Bomba de calor ar/água	AIR 18 C11B	AIR 80 C22A
NL	Voorwerp van de verklaring:	Lucht-water-warmtepomp	AIR BASIC 618 C12B T200	GMLW 9 PLUS VX
CS	Předmět prohlášení:	Tepelné čerpadlo vzduch-voda	GMLW 25 PLUS	GMLW 35 PLUS

DE Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union.
EN The object of the declaration described above is in conformity with the relevant harmonisation legislation of the European Union.
FR L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation en vigueur de la communauté européenne.
PL Opisany powyżej produkt objęty deklaracją spełnia obowiązujące przepisy harmonizacyjne Unii Europejskiej.
IT L'oggetto della dichiarazione sopra specificato è conforme ai requisiti delle normative di armonizzazione applicabili dell'Unione.
ES El objeto de la declaración descrita anteriormente se ajusta a la legislación de armonización pertinente de la Unión.
PT O objeto da declaração acima citado preenche os requisitos constantes da legislação correspondente da União em matéria de harmonização.
NL Het bovengenoemde voorwerp van de verklaring voldoet aan de geldende voorschriften van het harmonisatierecht van de Unie.
CS Vyše popsaný předmět prohlášení splňuje příslušné harmonizační právní předpisy Unie.

Machinery (MD) Directive 2006/42/EC	Regulation (EU) Fluorinated Greenhouse Gases 517/2014
Electromagnetic Compatibility (EMC) Directive 2014/30/EU	Regulation (EU) Ecodesign Requirements 813/2013
Energy-related Products Directive (ErP) 2009/125/EC	Delegated Regulation (EU) 811/2013 (energy efficiency labelling)
Pressure equipment (PED) Directive 2014/68/EU	Regulation (EU) 2017/1369 (energy consumption labelling)
Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU	

DE	Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der anderen technischen Spezifikationen, in Bezug auf die die Konformität erklärt wird.
EN	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared.
FR	Indication des normes harmonisées en vigueur ou indication d'autres spécifications techniques servant de référence à la présente déclaration de conformité :
PL	Wskazanie odnośnych zastosowanych norm zharmonizowanych lub innych specyfikacji technicznych, w odniesieniu do których deklarowana jest zgodność.
IT	Indicazione delle normative di armonizzazione applicabili sulle quali si è basato il prodotto, o indicazione delle altre specifiche tecniche in riferimento alle quali si dichiara la conformità.
ES	Indicación de las normas armonizadas pertinentes utilizadas o de las demás especificaciones técnicas con respecto a las cuales se declara la conformidad.
PT	Indicação da legislação de harmonização pertinente que serviu de base ou indicação das outras especificações técnicas em relação às quais é declarada a conformidade.
NL	Vermelding van de geldende, geharmoniseerde normen die daaraan ten grondslag liggen, of vermelding van de andere technische specificaties op basis waarvan de conformiteit verklaard wordt.
CS	Uvedení příslušných harmonizovaných norem použitých jako základ nebo uvedení jiných technických specifikací, s ohledem na které je vystaveno prohlášení o shodě.

EN 378-1: 2018-07	EN 61000-3-11: 2017-04	EN ISO 12100: 2013-10
EN 378-2: 2018-07	EN 61000-3-12: 2012-07	
EN 14825: 2016-09	EN 61000-6-2 2006-05+AC: 2011-08	
EN 12102: 2018-01	EN 61000-6-3 2011-10	
	EN 60204-1: 2009-12	

DE	Zusatzangaben:	Diese Erklärung beinhaltet keine Zusicherung von Eigenschaften. Bitte beachten Sie die Sicherheitshinweise in der mitgelieferten Produktdokumentation. Bei einer nicht mit uns abgestimmten Änderung des (der) Gerät(e)s verliert diese Erklärung ihre Gültigkeit.
EN	Additional information:	This declaration contains no warranties of any product characteristics. Please observe the safety information in the product documentation supplied. Any modification to the appliance(s) that has not been approved by us effectively voids this statement.
FR	Indications supplémentaires :	La présente déclaration n'apporte aucune garantie quant aux propriétés. Veuillez tenir compte des consignes de sécurité fournies dans la documentation du produit. En cas de modification du ou des appareils sans notre accord préalable, la présente déclaration perd sa validité.
PL	Informacje dodatkowe:	Niniejsza deklaracja nie stanowi przyrzeczenia właściwości. Należy przestrzegać wskazań dotyczących bezpieczeństwa podanych w dołączonej dokumentacji produktu. W przypadku zmiany wprowadzonej w urządzeniu (urządzeniach) niezgodnionej z nami niniejsza deklaracja traci ważność.
IT	Dati aggiuntivi	La presente dichiarazione non comporta alcuna garanzia di caratteristiche. Si prega di attenersi alle avvertenze di sicurezza indicate nella documentazione fornita con il prodotto. Questa dichiarazione perde di validità in caso di modifiche del(i) dispositivo(i) apportate senza la nostra approvazione.
ES	Información adicional:	Esta declaración no incluye ninguna garantía de propiedades. Tenga en cuenta las instrucciones de seguridad de la documentación del producto suministrada. En caso de que se produzca un cambio en los aparatos no acordado con nosotros, esta declaración perderá su validez.
PT	Indicações complementares:	A presente declaração não contém qualquer garantia de características. Queira levar em conta as indicações de segurança contidas na documentação do produto fornecida com o conjunto. No caso de uma alteração do(s) aparelho(s) que não tenha sido efetuada em coordenação com os nossos serviços, a presente declaração perderá a sua validade.
NL	Aanvullende gegevens:	Deze verklaring bevat geen verzekering van eigenschappen. Neem de veiligheidsaanwijzingen in de meegeleverde productdocumentatie in acht. Deze verklaring is niet meer geldig bij een verandering van het (de) apparaat(en) die niet met ons overlegd is.
CS	Doplňující údaje:	Toto prohlášení neslouží jako záruka vlastností. Dodržujte bezpečnostní pokyny v dodané dokumentaci k výrobku. Provedením jakékoliv úpravy přístroje/ přístrojů bez předchozí konzultace s námi pozbývá toto prohlášení platnosti.

DE	Unterzeichnet für und im Namen von:	DE	Ort und Datum der Ausstellung:
EN	Signed for and on behalf of:	EN	Place and date of issue:
FR	Signé pour et au nom de :	FR	Lieu et date de l'implantation :
PL	Podpisano w imieniu i na rzecz:	PL	miejsceowość i data wystawienia:
IT	Firma per e per conto di:	IT	Luogo e data di emissione:
ES	Firmado por y en nombre de:	ES	Lugar y fecha de elaboración:
PT	Assinado para e em nome de:	PT	Local e data da emissão:
NL	Ondertekend voor en in naam van:	NL	Plaats en datum van opmaak:
CS	Podepsán/a za a jménem:	CS	Místo a datum vystavení:

DE	Name, Funktion, Unterschrift:		
EN	Name, position, signature:		
FR	Nom, fonction, signature :		
PL	Imię i nazwisko, stanowisko, podpis:		
IT	Nome, funzione, firma:		
ES	Nombre, función, firma:		
PT	Nome, função, assinatura:		
NL	Naam, functie, handtekening:		
CS	Jméno, funkce, podpis:		

Karl Ochsner
CEO - Chief Executive Officer

Clemens Birkbauer
CTO - Chief Technology Officer

11.5 ERP-Data

Model:				AIR BASIC 109 C11B G1-1							
Air-to-water heat pump:				yes							
Water-to-water heat pump:				no							
Brine-to-water heat pump:				no							
Low-temperature heat pump:				no							
Equipped with a supplementary heater:				yes							
Heat pump combination heater:				no							
Temperature application:				medium							
Climate conditions:				average							
Item		Symbol	Value	Unit	Item		Symbol	Value	Unit		
Rated heat output (*)		Prated	3.2	kW	Seasonal space heating energy efficiency		ηs	110	%		
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj							
Tj = -7 °C		Pdh	2.8	kW	Tj = -7 °C		COPd	2.04			
Tj = +2 °C		Pdh	1.7	kW	Tj = +2 °C		COPd	2.75			
Tj = +7 °C		Pdh	1.3	kW	Tj = +7 °C		COPd	3.54			
Tj = +12 °C		Pdh	1.7	kW	Tj = +12 °C		COPd	5.08			
Tj = bivalent temperature		Pdh	2.8	kW	Tj = bivalent temperature		COPd	2.04			
Tj = operation limit temperature		Pdh	2.7	kW	Tj = operation limit temperature		COPd	1.27			
For air-to-water heat pumps: Tj = -15 °C (if TOL < - 20 °C)		Pdh	—	kW	For air-to-water heat pumps:For air-to-water heat pumps: Tj = -15 °C (if TOL < - 20 °C)		COPd	—			
Bivalent temperature		Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	-10	°C		
Power input „compressor off“			0	W	Heating water operating limit temperature		WTOL	55	°C		
Power consumption in modes other than active mode				Supplementary heater							
Off mode		P _{OFF}	15	kW	Rated heat output (*)		Psup	0.49	kW		
Thermostat-off mode		P _{TO}	15	kW	Type of energy input		electricity				
Standby mode		P _{SB}	15	kW							
Crankcase heater mode		P _{CK}	0	kW							
Other items											
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors		—	2500	m³/h		
Sound power level	indoors	L _{WA}	—	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		—	—	m³/h		
	outdoors		60								
Annual energy consumption		Q _{HE}	2307	kWh							
For heat pump combination heater:											
Declared load profile		—			Water heating energy efficiency		η _{wh}	—	%		
Daily electricity consumption		Q _{elec}	—	kWh	Daily fuel consumption		Q _{fuel}	—	kWh		
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag							
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heatingPdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).											

Model:				AIR BASIC 211 C11B G1-1			
Air-to-water heat pump:				yes			
Water-to-water heat pump:				no			
Brine-to-water heat pump:				no			
Low-temperature heat pump:				no			
Equipped with a supplementary heater:				yes			
Heat pump combination heater:				no			
Temperature application:				medium			
Climate conditions:				average			
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit
Rated heat output (*)	Praded	6	kW	Seasonal space heating energy efficiency	η_s	110	%
Declared capacity for heating for 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			
$T_j = -7\text{ °C}$	Pdh	4.8	kW	$T_j = -7\text{ °C}$	COPd	1.86	
$T_j = +2\text{ °C}$	Pdh	5.1	kW	$T_j = +2\text{ °C}$	COPd	2.67	
$T_j = +7\text{ °C}$	Pdh	5.5	kW	$T_j = +7\text{ °C}$	COPd	4.07	
$T_j = +12\text{ °C}$	Pdh	7.2	kW	$T_j = +12\text{ °C}$	COPd	4.82	
$T_j =$ bivalent temperature	Pdh	4.9	kW	$T_j =$ bivalent temperature	COPd	1.95	
$T_j =$ operation limit temperature	Pdh	4.1	kW	$T_j =$ operation limit temperature	COPd	1.50	
For air-to-water heat pumps:	Pdh	3.3	kW	For air-to-water heat pumps:For air-to-water heat pumps:	COPd	1.02	
$T_j = -15\text{ °C}$ (if TOL < - 20 °C)				$T_j = -15\text{ °C}$ (if TOL < - 20 °C)			
Bivalent temperature	T_{biv}	-6	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-20	°C
Power input „compressor off“		0	W	Heating water operating limit temperature	WTOL	55	°C
Power consumption in modes other than active mode				Supplementary heater			
Off mode	P _{OFF}	20	kW	Rated heat output (*)	P _{sup}	1.62	kW
Thermostat-off mode	P _{TO}	20	kW	Type of energy input	electricity		
Standby mode	P _{SB}	20	kW				
Crankcase heater mode	P _{CK}	0	kW				
Other items							
Capacity control		variable		For air-to-water heat pumps:			
Sound power level	indoors	L _{WA}	—	Rated air flow rate, outdoors			
	outdoors		62				
Annual energy consumption		Q _{HE}	3941	kWh	For water-/brine-to-water heat pumps:		
For heat pump combination heater:				Rated brine or water flow rate, outdoor heat exchanger			
Declared load profile				—			
Daily electricity consumption		Q _{elec}	—	kWh	Water heating energy efficiency		
				η_{wh} — %			
				Daily fuel consumption			
				Q _{fuel} — kWh			
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag			
(*) For heat pump space heaters and heat pump combination heaters, the rated heat at output Prated is equal to the design load for heatingPdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).							

Model:				AIR BASIC 416 C12A G1-1 / AIR BASIC 618 C12B G1-1					
Air-to-water heat pump:				yes					
Water-to-water heat pump:				no					
Brine-to-water heat pump:				no					
Low-temperature heat pump:				no					
Equipped with a supplementary heater:				yes					
Heat pump combination heater:				no					
Temperature application:				medium					
Climate conditions:				average					
Item		Symbol	Value	Unit	Item		Symbol	Value	Unit
Rated heat output (*)		Prated	8	kW	Seasonal space heating energy efficiency		η_s	112	%
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj					
Tj = -7 °C		Pdh	7.2	kW	Tj = -7 °C		COPd	1.43	
Tj = +2 °C		Pdh	5.3	kW	Tj = +2 °C		COPd	2.94	
Tj = +7 °C		Pdh	4.6	kW	Tj = +7 °C		COPd	4.24	
Tj = +12 °C		Pdh	5.7	kW	Tj = +12 °C		COPd	5.82	
Tj = bivalent temperature		Pdh	7.2	kW	Tj = bivalent temperature		COPd	1.43	
Tj = operation limit temperature		Pdh	7.2	kW	Tj = operation limit temperature		COPd	1.43	
For air-to-water heat pumps: Tj = -15 °C (if TOL < - 20 °C)		Pdh	—	kW	For air-to-water heat pumps:For air-to-water heat pumps: Tj = -15 °C (if TOL < - 20 °C)		COPd	—	
Bivalent temperature		Tbiv	-7	°C	For air-to-water heat pumps: Operation limit temperature		TOL	-7	°C
Power input „compressor off“			0	W	Heating water operating limit temperature		WTOL	55	°C
Power consumption in modes other than active mode				Supplementary heater					
Off mode		P _{OFF}	28.7	kW	Rated heat output (*)		P _{sup}	8.11	kW
Thermostat-off mode		P _{TO}	28.7	kW	Type of energy input		electricity		
Standby mode		P _{SB}	28.7	kW					
Crankcase heater mode		P _{CK}	0	kW					
Other items									
Capacity control		variable			For air-to-water heat pumps: Rated air flow rate, outdoors		—	2500	m³/h
Sound power level	indoors	L _{WA}	—	dB	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger		—	—	m³/h
	outdoors		64						
Annual energy consumption		Q _{HE}	5856	kWh					
For heat pump combination heater:									
Declared load profile		—			Water heating energy efficiency		η_{wh}	—	%
Daily electricity consumption		Q _{elec}	—	kWh	Daily fuel consumption		Q _{fuel}	—	kWh
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag					
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heatingPdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).									

Model:				AIR BASIC 109 C11B T200					
Air-to-water heat pump:				yes					
Water-to-water heat pump:				no					
Brine-to-water heat pump:				no					
Low-temperature heat pump:				no					
Equipped with a supplementary heater:				yes					
Heat pump combination heater:				no					
Temperature application:				medium					
Climate conditions:				average					
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit		
Rated heat output (*)	Praded	3.2	kW	Seasonal space heating energy efficiency	η_s	110	%		
Declared capacity for heating for 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					
$T_j = -7\text{ °C}$	Pdh	2.8	kW	$T_j = -7\text{ °C}$	COPd	2.04			
$T_j = +2\text{ °C}$	Pdh	1.7	kW	$T_j = +2\text{ °C}$	COPd	2.75			
$T_j = +7\text{ °C}$	Pdh	1.3	kW	$T_j = +7\text{ °C}$	COPd	3.54			
$T_j = +12\text{ °C}$	Pdh	1.7	kW	$T_j = +12\text{ °C}$	COPd	5.08			
$T_j =$ bivalent temperature	Pdh	2.8	kW	$T_j =$ bivalent temperature	COPd	2.04			
$T_j =$ operation limit temperature	Pdh	2.7	kW	$T_j =$ operation limit temperature	COPd	1.27			
For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < - 20 °C)	Pdh	—	kW	For air-to-water heat pumps:For air-to-water heat pumps: $T_j = -15\text{ °C}$ (if TOL < - 20 °C)	COPd	—			
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-10	°C		
Power input „compressor off“		0	W	Heating water operating limit temperature	WTOL	55	°C		
Power consumption in modes other than active mode				Supplementary heater					
Off mode	P_{OFF}	15	kW	Rated heat output (*)	P_{sup}	0.49	kW		
Thermostat-off mode	P_{TO}	15	kW	Type of energy input	electricity				
Standby mode	P_{SB}	15	kW						
Crankcase heater mode	P_{CK}	0	kW						
Other items									
Capacity control		variable		For air-to-water heat pumps: Rated air flow rate, outdoors					
Sound power level	indoors	L_{WA}	—	For water-/brine-to-water heat pumps: Rated brine or water flow rate, outdoor heat exchanger	—	—	m³/h		
	outdoors		60						
Annual energy consumption		Q_{HE}	2307	kWh					
For heat pump combination heater:									
Declared load profile		L		Water heating energy efficiency		η_{wh}	80	%	
Daily electricity consumption		Q_{elec}	4.781	kWh	Daily fuel consumption		Q_{fuel}	—	kWh
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag					
(*) For heat pump space heaters and heat pump combination heaters, the rated heat at output Prated is equal to the design load for heatingPdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).									

Model:				AIR BASIC 211 C11B T200						
Air-to-water heat pump:				yes						
Water-to-water heat pump:				no						
Brine-to-water heat pump:				no						
Low-temperature heat pump:				no						
Equipped with a supplementary heater:				yes						
Heat pump combination heater:				no						
Temperature application:				medium						
Climate conditions:				average						
Item		Symbol	Value	Unit	Item		Symbol	Value	Unit	
Rated heat output (*)		Prated	5	kW	Seasonal space heating energy efficiency		ηs	110	%	
Declared capacity for heating for part load at indoor temperature 20 °C and outdoor temperature Tj				Declared coefficient of performance or primary energy ratio for part load at indoor temperature 20 °C and outdoor temperature Tj						
Tj = -7 °C		Pdh	4.8	kW	Tj = -7 °C		COPd	1.86		
Tj = +2 °C		Pdh	5.0	kW	Tj = +2 °C		COPd	2.65		
Tj = +7 °C		Pdh	5.5	kW	Tj = +7 °C		COPd	4.06		
Tj = +12 °C		Pdh	7.2	kW	Tj = +12 °C		COPd	4.81		
Tj = bivalent temperature		Pdh	4.8	kW	Tj = bivalent temperature		COPd	1.86		
Tj = operation limit temperature		Pdh	4.1	kW	Tj = operation limit temperature		COPd	1.50		
For air-to-water heat pumps:		Pdh	3.3	kW	For air-to-water heat pumps:For air-to-water heat pumps:		COPd	1.02		
Tj = -15 °C (if TOL < - 20 °C)					Tj = -15 °C (if TOL < - 20 °C)					
Bivalent temperature		Tbiv	-7	°C	For air-to-water heat pumps:		TOL	-20	°C	
					Operation limit temperature					
Power input „compressor off“			0	W	Heating water operating limit temperature		WTOL	55	°C	
Power consumption in modes other than active mode				Supplementary heater						
Off mode		P _{OFF}	20	kW	Rated heat output (*)		P _{sup}	1.23	kW	
Thermostat-off mode		P _{TO}	20	kW						
Standby mode		P _{SB}	20	kW	Type of energy input		electricity			
Crankcase heater mode		P _{CK}	0	kW						
Other items										
Capacity control		variable			For air-to-water heat pumps:		—	4590	m³/h	
Sound power level	indoors	L _{WA}	—	dB	Rated air flow rate, outdoors					
	outdoors		62							
Annual energy consumption		Q _{HE}	3941	kWh	For water-/brine-to-water heat pumps:		—	—	m³/h	
					Rated brine or water flow rate, outdoor heat exchanger					
For heat pump combination heater:										
Declared load profile		L			Water heating energy efficiency		η _{wh}	73	%	
Daily electricity consumption		Q _{elec}	5.260	kWh	Daily fuel consumption		Q _{fuel}	—	kWh	
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag						
(*) For heat pump space heaters and heat pump combination heaters, the rated heat output Prated is equal to the design load for heatingPde-sighn, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).										

Model:				AIR BASIC 416 C12A T200 / AIR BASIC 618 C12B T200				
Air-to-water heat pump:				yes				
Water-to-water heat pump:				no				
Brine-to-water heat pump:				no				
Low-temperature heat pump:				no				
Equipped with a supplementary heater:				yes				
Heat pump combination heater:				no				
Temperature application:				medium				
Climate conditions:				average				
Item	Symbol	Value	Unit	Item	Symbol	Value	Unit	
Rated heat output (*)	Praded	8	kW	Seasonal space heating energy efficiency	η_s	112	%	
Declared capacity for heating for 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				
$T_j = -7\text{ °C}$	Pdh	7.2	kW	$T_j = -7\text{ °C}$	COPd	1.43		
$T_j = +2\text{ °C}$	Pdh	5.3	kW	$T_j = +2\text{ °C}$	COPd	2.94		
$T_j = +7\text{ °C}$	Pdh	4.6	kW	$T_j = +7\text{ °C}$	COPd	4.24		
$T_j = +12\text{ °C}$	Pdh	5.7	kW	$T_j = +12\text{ °C}$	COPd	5.82		
$T_j =$ bivalent temperature	Pdh	7.2	kW	$T_j =$ bivalent temperature	COPd	1.43		
$T_j =$ operation limit temperature	Pdh	7.2	kW	$T_j =$ operation limit temperature	COPd	1.43		
For air-to-water heat pumps:	Pdh	—	kW	For air-to-water heat pumps:For air-to-water heat pumps:	COPd	—		
$T_j = -15\text{ °C}$ (if TOL < - 20 °C)				$T_j = -15\text{ °C}$ (if TOL < - 20 °C)				
Bivalent temperature	T_{biv}	-7	°C	For air-to-water heat pumps: Operation limit temperature	TOL	-7	°C	
Power input „compressor off“		0	W	Heating water operating limit temperature	WTOL	55	°C	
Power consumption in modes other than active mode				Supplementary heater				
Off mode	P_{OFF}	28.7	kW	Rated heat output (*)	P_{sup}	8.11	kW	
Thermostat-off mode	P_{TO}	28.7	kW	Type of energy input	electricity			
Standby mode	P_{SB}	28.7	kW					
Crankcase heater mode	P_{CK}	0	kW					
Other items								
Capacity control		variable						
Sound power level	indoors	L_{WA}	—	For air-to-water heat pumps: Rated air flow rate, outdoors	—	2500	m³/h	
	outdoors		64					
Annual energy consumption		Q_{HE}	5856	kWh				
For heat pump combination heater:								
Declared load profile		L		Water heating energy efficiency				
Daily electricity consumption		Q_{elec}	5,182	kWh	Daily fuel consumption			
Contact details:				OCHSNER Wärmepumpen GmbH, Ochsner-Straße 1, A-3350 Haag				
(*) For heat pump space heaters and heat pump combination heaters, the rated heat at output Prated is equal to the design load for heatingPdesignh, and the rated heat output of a supplementary heater Psup is equal to the supplementary capacity for heating sup(Tj).								

11.6 List of figures

Figure 1:	Outdoor unit detailed view	6
Figure 2:	Outdoor unit dimensionsAIR BASIC 109	7
Figure 3:	Outdoor unit dimensionsAIR BASIC 211	7
Figure 4:	AIR BASIC 416 and AIR BASIC 618 outdoor unit dimensions	8
Figure 5:	Outdoor unit minimum clearances	9
Figure 6:	Outdoor unit minimum clearances for wall mounting	9
Figure 7:	Possible installation of AIR BASIC 109 or AIR BASIC 211 outdoor unit	9
Figure 8:	Inadmissible installation of AIR BASIC 416 or AIR BASIC 618 outdoor unit.....	10
Figure 9:	Foundation for securing with floor bracket (dimensions in mm)	11
Figure 10:	Foundation for mounting without floor bracket (dimensions in mm)	11
Figure 11:	Wall bracket dimensions	14
Figure 12:	Wall bracket side view	15
Figure 13:	Rubber/metal buffer dimensions	15
Figure 14:	Indoor unit dimensions and minimum clearances	16
Figure 15:	Indoor unit tilt height.....	16
Figure 16:	Indoor unit dimensions.....	16
Figure 17:	View from above	17
Figure 18:	Indoor unit detailed view	17
Figure 19:	Indoor unit tilt height.....	18
Figure 20:	Indoor unit dimensions.....	18
Figure 21:	Indoor unit connection dimensions.....	18
Figure 22:	Draining and filling detailed view	19
Figure 23:	Indoor unit air vent valve	19
Figure 24:	Detailed view of indoor unit drain & fill valve	20
Figure 25:	Golf Midi indoor unit connection terminals	21
Figure 26:	System schematic hydraulic version I	24
Figure 27:	System schematic hydraulic version Ia	25
Figure 28:	System schematic hydraulic version II	26
Figure 29:	System schematic hydraulic version IIa	27
Figure 30:	System schematic hydraulic version IIIu	28
Figure 31:	System schematic hydraulic version IV	29
Figure 32:	System schematic hydraulic version V	30
Figure 33:	T200 hydraulic schematic	31
Figure 34:	Main components in T200 indoor unit	32
Figure 35:	T200 minimum clearances	33
Figure 36:	Hydraulic connections, T200 refrigeration.....	33
Figure 37:	T200 dimensions.....	34
Figure 38:	Removing the fixing screw	35
Figure 39:	Pull the sensor from the buffer tank.	35
Figure 40:	Undoing the plug-in connectors	35
Figure 41:	Removing the hydraulic hoses	36
Figure 42:	Undoing the connecting screws	36
Figure 43:	Separating the appliance sections 1	36
Figure 44:	Separating the appliance sections 2	36
Figure 45:	Setting down the T200 top section.....	36
Figure 46:	Assembling the appliance sections 1	37
Figure 47:	Positioning aid.....	37
Figure 48:	Assembling the appliance sections 2	37
Figure 49:	Drain hose, safety valve.....	38
Figure 50:	Filling the heating system.....	39
Figure 51:	T200 electrical connection	41
Figure 52:	T200 indoor unit cable entry.....	41
Figure 53:	T200 indoor unit connection terminals	42
Figure 54:	Draining the buffer tank.....	42
Figure 55:	Draining the DHW tank	43
Figure 56:	T200 DHW tank sacrificial anode.....	43
Figure 57:	Refrigerant line routing.....	45
Figure 58:	View of solder-crimp fitting	46
Figure 59:	Connecting the flared fitting	47
Figure 60:	View of indoor unit Golf Midi	47
Figure 61:	View of T200 indoor unit	47
Figure 62:	AIR BASIC 109 wiring diagram	50
Figure 63:	AIR BASIC 109 wiring diagram (interruptible supply).....	51

Figure 64:	Wiring diagram AIR BASIC 211	52
Figure 65:	AIR BASIC 211 wiring diagram (interruptible supply of indoor unit via outdoor unit)	53
Figure 66:	Wiring diagramAIR BASIC 416.....	54
Figure 67:	AIR BASIC 618 wiring diagram.....	55
Figure 68:	Electric schematic with buffer tank/low loss header	56
Figure 69:	Pipe marking in the heat pump indoor unit	57
Figure 70:	Installation instructions for AIR BASIC with ECO tank.....	58
Figure 71:	View of mounting rail and rear view of tank with mounting rail	58
Figure 72:	Performance curveAIR BASIC 109.....	69
Figure 73:	Performance curveAIR BASIC 211	70
Figure 74:	Performance curve AIR BASIC 416.....	71
Figure 75:	Performance curve AIR BASIC 618.....	72
Figure 76:	Limits of useOCHSNER AIR BASIC	75
Figure 77:	AIR BASIC / EAGLE indoor unit residual head	76
Figure 78:	T200 indoor unit heating circuit residual head	76

11.7 List of tables

Table 1:	Outdoor unit minimum clearances (in mm)	9
Table 2:	Refrigerant lines	44
Table 3:	Tightening torques of solder-crimp fitting	46
Table 4:	Cable cross-sections	48
Table 5:	Troubleshooting.....	59
Table 6:	Specification	67
Table 7:	Specification for T200 indoor unit	68
Table 8:	Voltage quality in island mode	74

Subject to technical modifications! This manual describes equipment not included in the standard scope of delivery. There may therefore be differences to your specific heat pump.

System installer: Company name

Address

.....

Tel.

Service engineer.....

OCHSNER

Wärmepumpen GmbH Austria

(Commercial register)

Krackowizerstraße 4

A-4020 Linz

kontakt@ochsner.at

www.ochsner.com

OCHSNER

Wärmepumpen GmbH Germany

D-60314 Frankfurt a. M.

Riederhofstraße 27

Hotline for system partners: +49 (0) 1805

832840

Customer service hotline: +49 (0) 69 256694-495

kontakt@ochsner.de

www.ochsner.com

OCHSNER

Wärmepumpen GmbH Schweiz

CH-8001 Zürich

Uraniastrasse 18

Customer service hotline: +41 (0) 800

100911

kontakt@ochsner.com

www.ochsner.com

Head Office/Factory

Ochsner-Strasse 1

A-3350 Haag

Hotline for system partners: +43 (0) 820 201020

Customer service hotline: +43 (0) 5 04245-499

kontakt@ochsner.at

www.ochsner.com

OCHSNER East

PL 31-302 Kraków,

ul. Pod Fortem Nr. 19

Tel: +48 (0)12 4214527

kontakt@ochsner.pl

www.ochsner.pl